



Village of Montpelier

211 N. Jonesville Street • PO Box 148
Montpelier, Ohio 43543
Phone (419) 485-5543
Fax (419) 485-4947

AGENDA NO. 6 - 2026

Agenda for Monday, March 23, 2026

**Regular Meeting – 6:00pm
at the Montpelier Police Department**

1. Call to Order
2. Roll call
3. Prayer
4. Pledge of Allegiance
5. Approve the Agenda for March 23, 2026 (Motion)
6. Approve the Minutes from March 9, 2026, Council Meeting (Motion)
7. Comments from Audience
8. Comments from Council/Committee Reports
9. Brian Fristch Discuss Fire Truck Purchase
10. Ordinance 2292 Rezone Parcel 072-110-63-007.000 on West Wabash from R-2 to R-3 (Tabled from 3/9/2026)
11. Village Manager's Report
12. Adjourn



VILLAGE OF MONTPELIER COUNCIL MEETING

MONTPELIER, OHIO

MONDAY, MARCH 09, 2026

Call to Order	Mayor Steve Yagelski called the Montpelier Village Council's regular meeting to order at 6:00 pm on Monday, March 9, 2026.
Roll Call	A roll call was conducted, and the following Council members were present: Mr. Chris Kannel, Mr. Nathan Thompson, Mr. Kevin Motter, Mrs. Heather Freese, and Ms. Melissa Ewers. Mr. Don Schlosser was absent.
Prayer/Pledge	Pastor Kevin Doseck offered a prayer, followed by those in attendance reciting the Pledge of Allegiance.
Agenda 03/09/2026	Mrs. Heather Freese moved, and Mr. Kevin Motter seconded a motion to approve the agenda for March 9, 2026. Vote on motion: All ayes
Minutes 02/23/2026	Mr. Kevin Motter moved, and Mrs. Heather Freese seconded a motion to approve the minutes from the February 23, 2026, meeting. Vote on motion: All ayes
Approve February 2026 Financials	Mr. Chris Kannel moved, and Ms. Melissa Ewers seconded a motion to approve the February 2026 Financials. Vote on motion: All ayes
Welcome	Mayor Steve Yagelski welcomed the media and the public to the meeting and welcomed attendees to ask questions.
Council Comments	Mr. Nathan Thompson stated that there will be a change in the capital funds the Village is requesting from Senator McColley's office and Representative Hoop's office, instead of funds for engineering for Phases 2 and 3 of the Iron Horse River Trail, and to apply for design engineering for the pool renovation. Council is asking for letters of support from members and business owners. Mr. Kevin Motter, on behalf of the American Legion, completed an application for the Montpelier Area Foundation for a small grant to enhance the signage over the POW/MIA Memorial Viaduct and the Gold and Blue Star Family Bridge over the St. Joe River. The signs will have flags added. Jason Rockey stated that the Purple Heart sign at Maplehurst was damaged by a snowplow and that the Street Department will repair it. Mr. Kevin Motter stated the Veteran Memorial Building is planting a red oak tree in commemoration of the 250th anniversary of July 4th, 1776. Ms. Melissa Ewers asked when the pedestrian crosswalks would be repainted. Jason Rockey stated that they are painted in the downtown area every year before Bean Days. Ms. Melissa Ewers asked if all other areas would be painted. Jason Rockey stated that time and weather permitting. Mayor Steve Yagelski would like all residents to be aware that, as the weather gets warmer, more bikes, walkers, and scooters will be on the streets.



**Approve
Resignation of
Sharon Tarr from
the Board of
Health**

Mayor Steve Yagelski presented council with the resignation of Sharon Tarr from the Board of Health, effective April 30, 2026. Mayor Steve Yagelski is working on a replacement for Sharon Tarr on the board and will bring it to council for approval.

Mr. Chris Kannel moved, and Mr. Kevin Motter seconded a motion to approve the resignation of Sharon Tarr from the Board of Health effective April 30, 2026.
Vote on motion: All ayes

**Approve Jefferson
Township 2026
Fire Contract**

Jason Rockey presented council with the Jefferson Township 2026 Fire Contract. Jefferson Township would like to discuss the cost of the fire contract before the 2027 fire contracts are mailed out.

Mr. Kevin Motter moved, and Mr. Don Schlosser seconded a motion to approve the resignation of Sharon Tarr from the Board of Health effective April 30, 2026.
Vote on motion: All ayes

**Resolution 1449 –
Purchase
Vacpumps and
Control Panel for
the Sewer Vacuum
Station**

RESOLUTION 1449

**A RESOLUTION AUTHORIZING THE VILLAGE MANAGER TO
PURCHASE TWO (2) P13000 VACPUMPS, THE CONTROL PANEL
REPLACEMENT, ACCESSORIES AND INSTALLATION FROM
AIRVAC FOR THE SEWER VACUUM STATION**

Jason Rockey presented council with Resolution 1449. Resolution 1449 is to approve the purchase of two P13000 Vacpumps and a control panel for the sewer vacuum station. Jason Rockey stated that this system is 30 years old and that the manufacturer recommends replacing the pumps, which have been rebuilt several times. This was the most cost-effective approach to improving the system. AirVac is the sole provider of vacuum pumps. AirVac will install the pumps and the control panel. Ms. Melissa Ewers asked about the life span of the vac station. Mr. Kevin Motter asked the Village to compare the funds spent on the vac station to those spent on a regular life station for maintenance. Jason Rockey stated that there is no comparison of maintenance funds spent on the two systems, and Kevin Sommer would have that answer.

**Resolution 1449 –
Motion to Suspend
Three-Reading
Rule**

Mr. Kevin Motter moved, and Mr. Nathan Thompson seconded a motion to suspend the rules requiring three separate readings of Resolution 1449. Roll call on motion: Mr. Chris Kannel, yes; Mr. Kevin Motter, yes; Mr. Nathan Thompson, yes; Ms. Melissa Ewer, yes; and Mrs. Heather Freese, yes.

Resolution 1449 was read by title.

**Resolution 1449 –
Motion to Pass**

Mr. Don Schlosser moved, and Mr. Nathan Thompson seconded a motion to pass Resolution 1449. Roll call on motion: Mrs. Heather Freese, yes; Ms. Melissa Ewer, yes; Mr. Chris Kannel, yes; Mr. Kevin Motter, yes; and Mr. Nathan Thompson, yes.

Resolution 1449 passed

**Resolution 1450 –
Amend Resolution
1415 Village
Compensation Plan
Structure**

RESOLUTION 1450

**A RESOLUTION AMENDING RESOLUTION 1415, THE VILLAGE OF
MONTPELIER COMPENSATION PLAN STRUCTURE AND
ADMINISTRATION**

Justin Houk presented council with Resolution 1450. Resolution 1450 amends Resolution 1415, adopted in 2024. The Village contracted with Clemans Nelson to update employees' pay scales. Under resolution 1415, there were eleven pay scales, and the new amendment would reduce them to ten. The study found that the Village was under the minimum on all pay scales, and the top of the pay scales did not change. Mr. Chris Kannel asked if any employees are moving to a high pay scale. Jason Rockey stated there were four or five, and most of the electrical positions are moving up. Mr. Chris Kannel asked: if an employee is at the 20% mark, will the employee's pay stay at the 20% mark or remain the same? Jason Rokcey stated that Nikki Uribe and he would review after the council approved raises go into effect, since raises are based on performance. Jason Rockey stated that the Village tries to keep employees at or near the midpoint after they have been with the Village for 3 to 4 years.

**Resolution 1450 –
Motion to Suspend
Three-Reading
Rule**

Mr. Kevin Motter moved, and Mr. Nathan Thompson seconded a motion to suspend the rules requiring three separate readings of Resolution 1450. Roll call on motion: Mr. Chris Kannel, yes; Mr. Kevin Motter, yes; Mr. Nathan Thompson, yes; Mrs. Heather Freese, yes; and Ms. Melissa Ewers, yes.

Resolution 1450 was read by title.

**Resolution 1450 –
Motion to Pass**

Mr. Kevin Motter moved, and Ms. Melissa Ewers seconded a motion to pass Resolution 1450. Roll call on motion: Mr. Chris Kannel, yes; Ms. Melissa Ewers, yes; Mrs. Heather Freese, yes; Mr. Kevin Motter, yes; and Mr. Nathan Thompson, yes.

Resolution 1450 passed

**Ordinance 2292 –
Rezoning Parcel
072-110-63-007.000
from R-2 to R-3**

ORDINANCE 2292

**AN ORDINANCE TO REZONE CERTAIN PROPERTY IN THE
VILLAGE OF MONTPELIER FROM R-2 ONE AND TWO
RESIDENTIAL DISTRICT TO R-3 MULTIPLE RESIDENTIAL
BUILDINGS**

Jason Rockey presented council with Ordinance 2292. Mr. Sean Rupp is requesting that parcel 072-110-63-007.000 be zoned from R-2 to R-3 to build triplexes on the property for the Port Authority of Williams County. Planning and Zoning voted to support the change from R-2 to R-3. Jason Rockey handed out the plans Mr. Sean Rupp sent in late that afternoon. Jason Rockey stated that Ordinance 1153.14 states that no more than one multi-family dwelling may be on a lot zoned R-3. The new site plan does not work because the lots north and south are split, and the buildings are east-west, which puts the two triplexes across the lots. Jason Rockey stated that legal counsel needs to be consulted on what needs to be done to make the new plan work with the Villages' Planning and Zoning

ordinances, and having the lot split in the other direction. The plans the Port Authority drew up use that alleyway to the east of the property as an entrance. Mr. Chris Kannel stated that if the Village rezones and the project is not completed, then whoever owns the property next can do as they please without Village approval. Mr. Chris Kannel would like to see setbacks on plans and is concerned about how the trash truck moves around in the parking area. Council is concerned about the separation of parking and walkways. Mrs. Heather Freese asked if the Port Authority has an investor for the project. Mr. Sean Rupp stated that they do have an investor. Mr. Chris Kannel stated that he is not confident that all the questions asked were answered, and if the new plan is legal according to the Villages' Planning and Zoning code. Mr. Chris Kannel would like Jason Rockey to consult with legal counsel to determine whether there could be stipulations for changing the zoning. Mr. Kevin Motter asked whether, if the rezoning were approved, the Village could change it back to R-2. Jason Rockey stated the Village could do that. Jason Rockey is also concerned about frontage.

**Ordinance 2292 –
Motion to Table**

Mr. Chris Kannel moved, and Mr. Nathan Thompson seconded a motion to table Ordinance 2292 until March 23, 2026. Vote on motion: All ayes

Income Tax Report

Jason Rockey reported income tax collections at the end of February 2026 as \$197,595.99, compared to \$295,773.34 and \$345,007.20 in 2025 and 2024, respectively. The previous three-year average is \$341,225.06. This is down 12.04% from the average of the previous three years.

Manager's Report

Jason Rockey presented the Village Manager's report. The following points were noted:

- Downtown lighting has been delivered, and the lights will be installed after modifications to the arms are complete.
- The Safe Routes to School application was completed and submitted last Thursday. Should hear by July if the Village will receive the funds.
- Six property owners will receive letters for water meters in basements for apartments, and the meters will be moved out to the road. The owners will have an option to put a second pit in. The second pit would allow the water to stay in the tenant's name.

Mr. Chris Kannel would like to see a permanent barrier for the parking lot next to Ring's on Main Street. Jason Rockey stated that the street department has concrete barriers to place there. Mr. Chris Kannel stated that if the Village could place concrete planters later.

Adjourn

With no further business before Council, Mrs. Heather Freese moved, and Mr. Chris Kannel seconded a motion to adjourn at 7:05 pm. Vote on motion: All ayes

Clerk of Council

Mayor Pro Tem



MONTPELIER AREA CHAMBER OF COMMERCE

114 ½ Broad Street

Montpelier, Ohio 43543

Phone: (419) 485-4416

March 20, 2026

Montpelier Village Council
Village of Montpelier Police Department

RE: Request to continue Montpelier Tuesday Night Cruise-In for 2026 as follows:

The Tuesday Night Cruise-In and the Farmers Market in the Alley are planned for the second and fourth Tuesdays in June, July, and August 2026. The specific dates are June 9 and 23, July 14 and 28, and August 11 and 25. This year, there is an emphasis on increasing participation from downtown businesses, with more shops expected to be open during the events. Additionally, there will be expanded options for food and beverages available to attendees.

The proposal for this year's event includes backing vehicles into both first blocks of S Jonesville and Empire Streets. Food trucks will be set up on Washington Street, between Jonesville and Empire. If additional space is required, Empire Street in front of the police station may also be utilized to accommodate vehicles.

Approval is requested to continue hosting the cruise-ins with these outlined changes to scheduling and event layout.

Thank you.

Kelly L Herzog
Executive Director
Montpelier Area Chamber of Commerce

From: [fire](mailto:fire@montpelieroh.org)
To: [Molly Collert](mailto:Molly.Collert)
Subject: FW: Pierce Enforcer PUC 107" Single Axle Aerial
Date: Tuesday, March 17, 2026 4:19:35 PM
Attachments: [image001.png](#)
[Montpelier FD Enforcer PUC 107" Aerial Ladder Preliminary Specification 3.13.2026.docx](#)
[Montpelier FD Enforcer PUC 107" Aerial Ladder Preliminary Component List 3.13.2026.pdf](#)
[73396 Drawing - Montpelier FD \(2\).pdf](#)
[image001.png](#)

Here is the information that I received from Richard Browne regarding the new aerial ladder. You will see that the apparatus is being quoted at \$2,055,000.00. This represents an approximate 3% to 5% price increase from 2025. The lead time for the truck has also increased by 3 months.

I am attaching a component list, sample drawing, and preliminary specifications. You will also see in the message from Richard that there are discounts available on the price of the truck if money is put down at the signing of the contract. I will be happy to discuss this with you and talk about proceeding with the purchase of this apparatus. Thank you

Brian D. Fritsch
Fire Chief
Montpelier Fire Department
419-485-3940
fire@montpelieroh.org



From: Richard Browne <rbrowne@atlanticemergency.com>
Sent: Sunday, March 15, 2026 3:30 PM
To: fire <fire@montpelieroh.org>
Subject: Pierce Enforcer PUC 107' Single Axle Aerial

Chief,

Attached is the latest detailed specification and component list for the Pierce Enforcer PUC 107' Single Axle Aerial Ladder we have been discussing.

The selling price for this configuration is: \$2,055,000.00

1. This price is the Sourcewell Purchasing Consortium price

The current BPM lead time for this truck is: 37 – 40 Months

As we have been discussed, we would be able to offer a prepayment discount should you want to put any money down when the contract is signed. In order to calculate this prepay discount amount, I would need to know how much you would be able to prepay.

Please look this information over and let me know if you have any questions or need anything further.

I look forward to hearing from you!

Richard Browne

Regional Account Manager – Northwest Ohio

Equipment Sales: Allen, Auglaize, Defiance, Fulton, Hancock, Hardin, Henry, Lucas, Mercer, Ottawa, Paulding, Putnam, Sandusky, Seneca, Van Wert, Williams & Wood Counties

Findlay Service Center

1120 Lima Ave.

Findlay, Ohio 45840

Cell: (419) 351-1291

Confidentiality Notice: The information contained in this electronic mail message is confidential information and intended only for the use of the individual or entity named above, and may be privileged. If the reader of this message is not the intended recipient, you are hereby notified that any dissemination, distribution or copying of this communication is strictly prohibited. If you have received this transmission in error, please contact the sender immediately, delete this material from your computer and destroy all related paper media.

CONTENTS

GENERAL DESIGN AND CONSTRUCTION.....	19
QUALITY AND WORKMANSHIP	19
DELIVERY	20
MANUAL AND SERVICE INFORMATION	20
SAFETY VIDEO	20
PERFORMANCE TESTS.....	20
SERVICE AND WARRANTY SUPPORT.....	20
LIABILITY.....	21
INSURANCE PROVIDED BY BIDDER.....	21
Commercial General Liability Insurance.....	21
Commercial Automobile Liability Insurance.....	22
Umbrella/Excess Liability Insurance.....	22
INSURANCE PROVIDED BY MANUFACTURER	22
Product Liability Insurance	22
Umbrella/Excess Liability Insurance.....	23
SINGLE SOURCE MANUFACTURER	23
NFPA 2024 STANDARDS.....	23
NFPA COMPLIANCY	24
INSPECTION CERTIFICATE	24
PUMP TEST	24
GENERATOR TEST	25
BREATHING AIR TEST	25
VEHICLE INSPECTION PROGRAM CERTIFICATION.....	25
INSPECTION TRIP(S)	25
BID BOND.....	25
PERFORMANCE BOND	26
APPROVAL DRAWING.....	26
ELECTRICAL WIRING DIAGRAMS	26
ENFORCER CHASSIS	26
MAXIMUM OVERALL HEIGHT	27
WHEELBASE.....	27

GVW RATING	27
FRAME	27
FRAME REINFORCEMENT	27
FRONT NON DRIVE AXLE	27
SUSPENSION.....	28
FRONT SHOCK ABSORBERS	28
FRONT OIL SEALS.....	28
FRONT TIRES	28
REAR AXLE	29
TOP SPEED OF VEHICLE.....	29
REAR SUSPENSION.....	29
REAR OIL SEALS	29
REAR TIRES.....	29
TIRE BALANCE	30
TIRE PRESSURE MANAGEMENT	30
CHROME LUG NUT COVERS.....	30
FRONT HUB COVERS	30
REAR HUB COVERS.....	30
FULL WIDTH REAR MUD FLAP	30
MUD FLAPS	30
WHEEL CHOCKS	30
Wheel Chock Brackets.....	30
ELECTRONIC STABILITY CONTROL	30
ANTI-LOCK BRAKE SYSTEM	31
AUTOMATIC TRACTION CONTROL.....	31
BRAKES	31
BRAKE SYSTEM AIR COMPRESSOR.....	31
BRAKE SYSTEM	31
BRAKE SYSTEM AIR DRYER	32
BRAKE LINES.....	32
AIR INLET WITH AUTOMATIC EJECT	32
ALL WHEEL LOCK-UP	32
AIR COMPRESSOR - BRAKE SYSTEM MAINTENANCE	32

AUXILIARY AIR COMPRESSOR COVER	33
ENGINE	33
HIGH IDLE	33
ENGINE BRAKE	33
CLUTCH FAN	34
ENGINE AIR INTAKE.....	34
EXHAUST SYSTEM.....	34
RADIATOR	34
COOLANT LINES	35
FUEL TANK	35
DIESEL EXHAUST FLUID TANK.....	35
FUEL PRIMING PUMP	36
FUEL SHUTOFF	36
TRANSMISSION.....	36
TRANSMISSION SHIFTER.....	36
TRANSMISSION PROGRAMMING	36
TRANSMISSION COOLER.....	36
DRIVELINE	36
STEERING.....	37
STEERING WHEEL	37
LOGO AND CUSTOMER DESIGNATION ON DASH.....	37
BUMPER.....	37
Gravel Pan.....	38
CENTER HOSE TRAY	38
Center Hose Tray Cover	38
TOW EYES	38
FRONT BUMPER NOTCH	38
SIDE ZONE LIGHT MOUNTING	38
FRONT BUMPER UL-LX COATING	39
CAB	39
CAB ROOF DRIP RAIL	40
CAB PUMP ENCLOSURE	40
FENDER LINERS	40

PANORAMIC WINDSHIELD	40
WINDSHIELD WIPERS.....	41
ENGINE TUNNEL	41
INTERIOR CAB INSULATION	42
CAB REAR WALL EXTERIOR COVERING	42
CAB LIFT	42
Cab Lift Interlock.....	43
GRILLE	43
DOOR JAMB SCUFFPLATES	43
TRIM BAND ON CAB FACE	43
SIDE OF CAB MOLDING.....	43
MIRRORS	43
DOORS.....	43
Door Panels.....	44
ELECTRIC OPERATED CAB DOOR WINDOWS	45
CAB STEPS	45
CAB EXTERIOR HANDRAILS	45
STIRRUP STEPS.....	45
STEP LIGHTS.....	45
FENDER CROWNS	46
GRAB HANDLE(S).....	46
LIGHTED HANDRAIL BELOW CAB WINDSHIELD.....	46
WINDOW PROTECTOR BARS, CREW CAB DOORS.....	46
CAB DASH.....	46
MOUNTING PLATE ON ENGINE TUNNEL	46
CAB INTERIOR.....	46
CAB INTERIOR UPHOLSTERY	47
CAB INTERIOR PAINT	47
CAB FLOOR	47
DEFROST/AIR CONDITIONING SYSTEM	47
Cab Defroster	47
Cab/Crew Auxiliary Heater.....	48
Air Conditioning	48

Climate Control.....	48
Gravity Drain Tubes.....	49
WINDOW DEFROST FANS	49
SUN VISORS	49
GRAB HANDLE	49
ENGINE COMPARTMENT LIGHTS.....	49
ACCESS TO ENGINE DIPSTICKS	49
MAP BOX.....	50
VELCRO STRAP(S) FOR MAP BOX	50
CAB SAFETY SYSTEM	50
Frontal Impact Protection.....	50
Side Roll Protection	51
SEATING CAPACITY.....	51
DRIVER SEAT	51
OFFICER SEAT	51
RADIO COMPARTMENT	52
REAR FACING LEFT SIDE CABINET.....	52
Cabinet Light	52
REAR FACING RIGHT SIDE CABINET	53
Cabinet Light	53
FORWARD FACING DRIVER SIDE OUTBOARD SEAT.....	53
FORWARD FACING CENTER SEAT.....	54
FORWARD FACING PASSENGER SIDE OUTBOARD SEAT	54
DOOR PAN SCUFFPLATE	54
SEAT UPHOLSTERY.....	54
AIR BOTTLE HOLDERS	54
SEAT BELTS	55
HELMET STORAGE PROVIDED BY FIRE DEPARTMENT	55
CAB DOME LIGHTS	55
ENHANCED SOFTWARE FOR CAB AND CREW CAB DOME LIGHTS.....	55
HAND HELD LIGHT	56
CAB INSTRUMENTATION.....	56
Gauges.....	56

Indicator Lamps	57
Alarms	58
Indicator Lamp and Alarm Prove-Out.....	58
Control Switches.....	58
Custom Switch Panels	60
Diagnostic Panel.....	60
Cab LCD Display	61
AIR RESTRICTION INDICATOR.....	61
"DO NOT MOVE APPARATUS" INDICATOR	61
DO NOT MOVE TRUCK MESSAGES.....	61
SWITCH PANELS	62
WIPER CONTROL.....	62
HOURLMETER - AERIAL DEVICE	62
AERIAL MASTER	62
AERIAL PTO SWITCH	62
CAB USB	62
CUSTOMER SUPPLIED RADIO WIRING.....	63
SPARE CIRCUIT	63
INFORMATION CENTER.....	63
General Screen Design.....	64
Home/Transit Screen.....	64
On Scene Screen	64
Virtual Buttons	65
Page Screen.....	65
COLLISION MITIGATION	67
VEHICLE DATA RECORDER	67
Seat Belt Monitoring System.....	68
RADIO ANTENNA MOUNT	68
VEHICLE CAMERA SYSTEM	68
Camera Switcher	69
ELECTRICAL POWER CONTROL SYSTEM.....	69
Solid-State Control System.....	69
Circuit Protection and Control Diagram.....	70

On-Board Electrical System Diagnostics.....	70
TCU Module with WiFi	71
Indicator Light and Alarm Prove-Out System	71
Voltage Monitor System.....	71
Dedicated Radio Equipment Connection Points.....	71
EMI/RFI Protection	71
ELECTRICAL SYSTEM PROGNOSTICS	72
ELECTRICAL	72
BATTERY SYSTEM	73
BATTERY SYSTEM	73
MASTER BATTERY SWITCH	73
BATTERY COMPARTMENTS	74
JUMPER STUDS	74
BATTERY CHARGER.....	74
REMOTE CONTROL PANEL - BATTERY CHARGER.....	74
AUTO EJECT FOR SHORELINE	74
ALTERNATOR.....	75
ELECTRONIC LOAD MANAGER.....	75
SEQUENCER	76
HEADLIGHTS	76
DIRECTIONAL LIGHTS	76
INTERMEDIATE LIGHT	77
CAB CLEARANCE LIGHTS	77
FRONT CAB SIDE DIRECTIONAL/MARKER LIGHTS.....	77
REAR CLEARANCE/MARKER/ID LIGHTING	77
MARKER LIGHTS	78
REAR FMVSS LIGHTING	78
LICENSE PLATE BRACKET	78
BACK-UP ALARM.....	78
CAB PERIMETER SCENE LIGHTS	78
PUMP HOUSE PERIMETER LIGHTS.....	78
BODY PERIMETER SCENE LIGHTS	79
ENHANCED SOFTWARE FOR PERIMETER LIGHTS	79

12 VOLT LIGHTING	79
12 VOLT LIGHTING	79
12 VOLT LIGHTING	79
COVER/STEP OVER LIGHT ONTO A HORIZONTAL SURFACE.....	80
12 VOLT LIGHTING	80
12 VOLT LIGHTING	80
HOSE BED LIGHTS.....	80
REAR SCENE LIGHTS	81
WALKING SURFACE LIGHT	81
WATER TANK.....	81
HOSE BED	82
AERIAL HOSE BED HOSE RESTRAINT	82
FIXED DIVIDER IN HOSE BED	82
HOSE BED HOSE RESTRAINT.....	83
RUNNING BOARDS	83
HANDRAILS	83
TURNTABLE STEPS	83
STEP LIGHTS.....	84
SMOOTH ALUMINUM REAR WALL	84
TOW EYES	84
COMPARTMENTATION	84
UNDERBODY SUPPORT SYSTEM.....	84
AGGRESSIVE WALKING SURFACE	85
LOUVERS.....	85
TESTING OF BODY DESIGN	85
LEFT SIDE COMPARTMENTATION	85
RIGHT SIDE COMPARTMENTATION	86
REAR COMPARTMENT	86
SIDE COMPARTMENT DOORS.....	86
ROLL-UP DOOR(S)	87
REAR BUMPER.....	88
SCUFFPLATE.....	88
SCUFFPLATE.....	88

SCUFFPLATE.....	88
SCUFFPLATE.....	88
SCUFFPLATE.....	88
LIFTUP DOOR PULL STRAPS	88
ROLLUP DOOR PULL STRAP	88
COMPARTMENT LIGHTING	88
COMPARTMENT LIGHTING	89
MOUNTING TRACKS	89
ADJUSTABLE SHELVES.....	89
SLIDE-OUT ADJUSTABLE HEIGHT TRAY	89
SLIDE-OUT FLOOR MOUNTED TRAY.....	89
DRAWER ASSEMBLY	90
SWING OUT TOOLBOARD	90
SWING OUT TOOLBOARD	91
SLIDE-OUT TOOLBOARD.....	91
VERTICAL COMPARTMENT PARTITION	92
RUB RAIL	92
BODY FENDER CROWNS	92
HARD SUCTION HOSE.....	92
HANDRAILS	92
ADDITIONAL HANDRAIL.....	92
AIR BOTTLE STORAGE.....	93
AIR PACK STORAGE IN FENDER PANEL CORNER	93
EXTENSION LADDER	93
AERIAL EXTENSION LADDER	93
ROOF LADDER	93
ADDED ROOF LADDER.....	93
AERIAL FOLDING LADDER	93
GROUND LADDER STORAGE	94
PIKE POLES.....	94
8' PIKE POLE.....	94
6' PIKE POLE.....	94
PIKE POLE STORAGE IN TORQUE BOX/LADDER STORAGE.....	94

PIKE POLE STORAGE IN TORQUE BOX/LADDER STORAGE.....	94
PULL-OUT/DROP DOWN STEP	94
PUC MODULE	95
PUMP CONTROL PANELS (Left Side Control).....	95
PASSENGER SIDE PUC MODULE COMPARTMENT	96
PUMP	96
PUMP MOUNTING	97
MECHANICAL SEALS	97
PUMP GEAR CASE	97
CLUTCH	98
LOW PRESSURE/HIGH TEMPERATURE LIGHTS	98
PUMPING MODE.....	98
PUMP SHIFT	98
TRANSMISSION LOCK UP	99
AUXILIARY COOLING SYSTEM.....	99
PUMP INTAKE RELIEF VALVE	99
PIERCE PRESSURE CONTROLLER	99
PRIMING PUMP	101
PUMP MANUALS	101
PLUMBING, STAINLESS STEEL AND HOSE	101
FOAM SYSTEM PLUMBING.....	101
MAIN PUMP INLETS	101
SHORT SUCTION TUBE(S)	102
MAIN PUMP INLET CAP	102
VALVES.....	102
INLET CONTROL	102
LEFT SIDE INLET	102
RIGHT SIDE INLET.....	102
ANODE, INLET	102
INLET BLEEDER VALVE.....	102
TANK TO PUMP	103
TANK REFILL	103
DISCHARGE OUTLET CONTROLS	103

LEFT SIDE DISCHARGE OUTLETS.....	103
RIGHT SIDE DISCHARGE OUTLETS	103
LARGE DIAMETER DISCHARGE OUTLET	104
LARGE DIAMETER OUTLET CAP	104
FRONT DISCHARGE OUTLET	104
DISCHARGE CAPS/ INLET PLUGS	104
OUTLET BLEEDER VALVE	104
AERIAL WATERWAY OUTLET.....	105
CROSSLAY MODULE	105
ROLL-UP DOOR, CROSSLAY ENDS, PUC	105
CROSSLAY COMPARTMENT LIGHTING	105
LOWER CROSSLAY.....	106
1.50" Crosslay	106
Crosslay Hose Tray	106
LONG TOOL STORAGE	106
TRAY, CROSSLAY	106
FOAM PROPORTIONER.....	106
System capacity.....	107
Hydraulic Drive System.....	107
Foam Concentrate Pump.....	107
Control System	107
External Foam Concentrate Connection	108
Panel mounted valved manifold	108
Pick-up hose.....	108
Discharges.....	108
System Electrical Load	108
SINGLE FOAM TANK REFILL	108
FOAM SYSTEM TRAINING	109
FOAM TANK	109
FOAM TANK DRAIN	109
COLOR CODED TAGS.....	109
SPECIAL TEXT/VERBIAGE TAGS	109
PUMP PANEL CONFIGURATION	110

PUMP OPERATOR'S PLATFORM.....	110
PUMP OPERATOR'S PLATFORM PERIMETER LIGHT.....	110
PUMP AND GAUGE PANEL.....	110
PUMP AND PLUMBING ACCESS	110
PUMP COMPARTMENT LIGHT.....	111
THROTTLE READY GREEN INDICATOR LIGHT.....	111
AIR HORN SWITCH.....	112
VACUUM AND PRESSURE GAUGES.....	112
PRESSURE GAUGES	112
WATER LEVEL GAUGE	112
ADDITIONAL WATER LEVEL GAUGE	113
FOAM LEVEL GAUGE.....	113
SIDE CONTROL PUMP OPERATOR'S/PUMP PANEL LIGHTING	114
AIR HORN SYSTEM.....	114
Air Horn Location	114
Air Horn Control.....	114
ELECTRONIC SIREN	114
SPEAKER.....	115
AUXILIARY MECHANICAL SIREN	115
MECHANICAL SIREN CONTROL.....	115
FRONT ZONE UPPER WARNING LIGHTS.....	115
LIGHTS, FRONT ZONE LOWER	116
ROTO RAY LIGHT	116
HEADLIGHT FLASHER	117
SIDE ZONE LOWER LIGHTING	117
INTERIOR CAB DOOR WARNING LIGHTS	117
ELECTRICAL CONNECTORS FOR WARNING LIGHTS.....	117
SIDE WARNING LIGHTS.....	118
REAR ZONE LOWER LIGHTING.....	118
REAR/SIDE ZONE UPPER WARNING LIGHTS	118
TRAFFIC DIRECTING LIGHT	118
120 VOLT RECEPTACLE	118
120 VOLT RECEPTACLE	119

FOUR (4)-SECTION 107 FOOT AERIAL LADDER	119
CONSTRUCTION STANDARDS.....	119
LADDER CONSTRUCTION	120
VERTICAL HEIGHT	121
HORIZONTAL REACH.....	121
TURNTABLE.....	122
ELEVATION SYSTEM	122
EXTENSION/RETRACTION SYSTEM.....	123
MANUAL OVERRIDE CONTROLS	123
LADDER SLIDE MECHANISM.....	123
ROTATION SYSTEM.....	123
ROTATION INTERLOCK	124
LADDER CRADLE INTERLOCK SYSTEM	124
AERIAL TORQUE BOX/PEDESTAL	124
LOAD CAPACITIES	124
35 MPH WIND CONDITIONS/WATERWAY DRY	124
35 MPH WIND CONDITIONS/WATERWAY CHARGED	125
BOOM SUPPORT	125
AERIAL BOOM SUPPORT LIGHT	125
AERIAL BOOM PANEL.....	125
EXTENSION INDICATOR.....	125
FOLDING STEPS	126
AERIAL DEVICE RUNG COVERS.....	126
STABILITY TEST	126
LADDER STORAGE MOUNTING BRACKETS.....	126
PIKE POLE MOUNTING BRACKETS	126
STOKES STORAGE BRACKETS	126
LIGHTS FOR TURNTABLE WALKWAY.....	126
TURNTABLE CONSOLE LIGHTING.....	127
INFORMATION CENTER.....	127
Operation.....	127
General Screen Design.....	127
Page Screens	127

Menu Screens	129
Lower Stabilizer Control Stations	129
Turntable Control Station	130
High Idle	130
REMOTE AERIAL CONTROL	130
STABILIZERS	131
STABILIZER CONTROLS	133
STABILIZER PAN MATERIAL	133
STABILIZER CONTROL BOX DOORS	133
STABILIZER PLACEMENT	133
HYDRAULIC SYSTEM	133
HYDRAULIC CYLINDERS	135
POWER TAKEOFF/HYDRAULIC PUMP	135
EMERGENCY PUMP	135
AERIAL CONTROL VALVE	136
OIL RESERVOIR	136
RETURN FILTER	136
HYDRAULIC SWIVEL	136
ELECTRIC SWIVEL	136
WATER SWIVEL	136
13-BIT ABSOLUTE ENCODER	136
ELECTRICAL SYSTEM	137
TIP LIGHT	138
TRACKING LIGHTS	138
LIGHTING ON AERIAL LADDER	139
STABILIZER WARNING LIGHTS	139
STABILIZER BEAM WARNING LIGHTS	139
STABILIZER SCENE LIGHTS	139
DC POWER CABLE to TIP	140
2-WAY AERIAL COMMUNICATION SYSTEM	140
AERIAL PEDESTAL	140
LIFTING EYE ASSEMBLY - ROPE RESCUE ATTACHMENT	140
AERIAL TURNTABLE MANSAYER™ BARS	140

WATER SYSTEM	140
WATERWAY SEALS.....	141
AERIAL MONITOR.....	141
AERIAL VALVE MANIFOLD UNDER MONITOR	141
WIRELESS REMOTE AERIAL MONITOR CONTROL	142
AERIAL WATERWAY FLOW METER.....	142
REAR INLET	142
WATERWAY LOCKING SYSTEM.....	142
QUICK-LOCK WATER WAY LOCK LABELING	142
TOOLS.....	142
MANUALS.....	142
INITIAL INSTRUCTION.....	143
LOOSE EQUIPMENT.....	143
NFPA LOOSE EQUIPMENT	143
NFPA Required Loose Equipment Provided by Fire Department.....	143
NFPA Loose Equipment That Should be Considered	143
SOFT SUCTION HOSE	144
STRAINER PROVIDED BY FIRE DEPARTMENT	144
DRY CHEMICAL EXTINGUISHER PROVIDED BY FIRE DEPARTMENT	144
WATER EXTINGUISHER PROVIDED BY FIRE DEPARTMENT	144
FLATHEAD AXE PROVIDED BY FIRE DEPARTMENT	144
PICKHEAD AXE PROVIDED BY FIRE DEPARTMENT	144
PAINT PROCESS	144
Environmental Impact.....	145
TWO-TONE CAB PAINT.....	146
BODY PAINT	146
PAINT/SEAL CHASSIS FRAME ASSEMBLY.....	146
AXLE HUB PAINT	147
COMPARTMENT INTERIOR PAINT.....	147
AERIAL DEVICE PAINT COLOR	147
REFLECTIVE STRIPES.....	148
CHEVRON STRIPING ON THE FRONT BUMPER.....	148
REAR CHEVRON STRIPING.....	148

REFLECTIVE STRIPE ON STABILIZERS	149
CAB DOOR REFLECTIVE STRIPE	149
LETTERING	149
LETTERING	149
LETTERING	149
LETTERING	149
LETTERING ON MUD FLAP	149
MALTESE CROSS INSTALLATION.....	149
CAB GRILLE DESIGN	149
CORROSION PREVENTION TREATMENT FOR DISSIMILAR METALS	150
E-COAT - TAK-4® FRONT AXLE.....	150
E-COATING OF STEEL COMPONENTS.....	150
UNDERCOATING FUEL TANK.....	150
UNDERCOATING, CAB & BODY.....	151
FIRE APPARATUS PARTS MANUAL	151
Service Parts Internet Site	151
CHASSIS SERVICE MANUALS.....	152
CHASSIS OPERATION MANUAL.....	152
ONE (1) YEAR MATERIAL AND WORKMANSHIP	152
ENGINE WARRANTY	152
STEERING GEAR WARRANTY.....	152
FIFTY (50) YEAR STRUCTURAL INTEGRITY.....	152
FRONT AXLE THREE (3) YEAR MATERIAL AND WORKMANSHIP WARRANTY	152
SINGLE REAR AXLE FIVE (5) YEAR MATERIAL AND WORKMANSHIP WARRANTY	153
ABS BRAKE SYSTEM THREE (3) YEAR MATERIAL AND WORKMANSHIP WARRANTY	153
TEN (10) YEAR STRUCTURAL INTEGRITY	153
TEN (10) YEAR PRO-RATED PAINT AND CORROSION.....	153
FIVE (5) YEAR MATERIAL AND WORKMANSHIP	153
CAMERA SYSTEM WARRANTY	153
COMPARTMENT LIGHT WARRANTY.....	153
TRANSMISSION WARRANTY	153
TRANSMISSION COOLER WARRANTY	153
WATER TANK WARRANTY	153

TEN (10) YEAR STRUCTURAL INTEGRITY	153
ROLL UP DOOR MATERIAL AND WORKMANSHIP WARRANTY	153
SEVEN (7) YEAR PARTS, ONE (1) YEAR LABOR.....	154
TEN (10) YEAR PUMP PLUMBING WARRANTY	154
FOAM SYSTEM WARRANTY	154
TWENTY (20) YEAR AERIAL DEVICE STRUCTURAL INTEGRITY WARRANTY	154
AERIAL SWIVEL WARRANTY	154
HYDRAULIC SYSTEM COMPONENTS WARRANTY	154
HYDRAULIC SEAL WARRANTY	154
AERIAL WATERWAY WARRANTY	154
FOUR (4) YEAR PRO-RATED PAINT AND CORROSION.....	154
TEN (10) YEAR PRO-RATED PAINT AND CORROSION.....	154
THREE (3) YEAR MATERIAL AND WORKMANSHIP	154
VEHICLE STABILITY CERTIFICATION	155
ENGINE INSTALLATION CERTIFICATION	155
POWER STEERING CERTIFICATION	155
CAB INTEGRITY CERTIFICATION.....	155
Side Impact.....	155
Frontal Impact.....	155
Additional Frontal Impact	155
Roof Crush	155
Additional Roof Crush.....	155
CAB DOOR DURABILITY CERTIFICATION	156
WINDSHIELD WIPER DURABILITY CERTIFICATION	156
ELECTRIC WINDOW DURABILITY CERTIFICATION	156
SEAT BELT ANCHOR STRENGTH	156
SEAT MOUNTING STRENGTH	156
PERFORMANCE CERTIFICATIONS.....	156
Cab Air Conditioning.....	156
Cab Defroster	156
Cab Auxiliary Heater.....	157
AMP DRAW REPORT.....	157

Atlantic Emergency Solutions is pleased to submit a proposal to Montpelier Fire Department for a **Pierce® 107' Heavy Duty Aerial Ladder** per your request for quotation. The following paragraphs will describe in detail the apparatus, construction methods, and equipment proposed. This proposal will indicate size, type, model and make of components parts and equipment, providing proof of compliance with each and every item (except where noted) in the departments advertised specifications.

PIERCE MANUFACTURING was founded in 1913. Since then, we have been building bodies with one philosophy, "BUILD THE FINEST". Our skilled craftsmen take pride in their work, which is reflected, in the final product. We have been building fire apparatus since the early "forties" giving Pierce Manufacturing over 110 years of experience in the fire apparatus market. Pierce Manufacturing has built and put into service more than 75,000 apparatus. Our Wisconsin facilities have over 1.6 million total square feet of floor space situated on approximately 162 acres of land. Our Bradenton, Florida facilities have 410,000 square feet of floor space situated on approximately 35 acres of land.

Our beliefs in high ethical standards are carried through in all of our commitments and to everyone with whom we do business. Honesty, Integrity, Accountability and Citizenship are global tenets by which we all live and work. Consequently, we neither engage in, nor have we ever been convicted of price fixing, bid rigging, or collusion in any domestic or international fire apparatus market.

Pierce has only one brand of fire apparatus "Pierce", ensuring you are receiving top of the line product that meets your specification.

In accordance with the current edition of applicable NFPA standards, this proposal will specify whether the fire department, manufacturer, or apparatus dealership will provide required loose equipment.

Images and illustrative material in this proposal are as accurate as known at the time of publication, but are subject to change without notice. Images and illustrative material is for reference only, and may include optional equipment and accessories and may not include all standard equipment.

GENERAL DESIGN AND CONSTRUCTION

To control quality, ensure compatibility, and provide a single source for service and warranty, the custom cab, chassis, pump module and body will be entirely designed, assembled/welded and painted in Pierce owned manufacturing facilities. This includes, but not limited to the cab weldment, the pumphouse module assembly, the chassis assembly, the body and the electrical system.

QUALITY AND WORKMANSHIP

Pierce has set the pace for quality and workmanship in the fire apparatus field. Our tradition of building the highest quality units with craftsmen second to none has been the rule right from the beginning and we demonstrate that ongoing commitment by: Ensuring all steel welding follows American Welding Society D1.1-2025 recommendations for structural steel welding. All aluminum welding follows American Welding society and ANSI D1.2-2014 requirements for structural welding of aluminum. All sheet metal welding follows American welding Society D1.3 2018 requirements for structural welding of sheet metal. Our flux core arc welding uses Hobart FabCO Excel-Arc 71, AWS A5.20, E71T1C/M and is performed to American Welding Society standards A5.20-E70T1. Furthermore, all employees classified as welders are tested and certified to meet the American welding Society codes upon hire.

Pierce also employs an American Welding Society certified welding inspector in plant during working hours to monitor weld quality.

Pierce Manufacturing operates a Quality Management System under the requirements of ISO 9001. A copy of the certificate of compliance is included with this proposal.

In addition to the Quality Management system, we also employ a Quality Achievement Supplier program to insure the vendors and suppliers that we utilize meet the high standards we demand. That is just part of our overall "Quality at the Source" program at Pierce.

To demonstrate the quality of our products and services, a list of at least two (2) fire departments/municipalities that have purchased vehicles for a second time is provided.

DELIVERY

The apparatus will be delivered under its own power to insure proper break-in of all components while the apparatus is still under warranty. A qualified delivery representative shall deliver the apparatus and remain for a sufficient length of time to instruct personnel in proper operation, care and maintenance of the equipment delivered.

MANUAL AND SERVICE INFORMATION

At time of delivery, complete operation and maintenance manuals covering the apparatus will be provided. A permanent plate will be mounted in the driver's compartment specifying the quantity and type of fluids required including engine oil, engine coolant, transmission, pump transmission lubrication, pump primer and drive axle.

SAFETY VIDEO

At the time of delivery Pierce will also provide one (1) 39-minute, professionally produced apparatus safety video, in DVD format. A link to the video is also available at www.Pierceparts.com. This video will address key safety considerations for personnel to follow when they are driving, operating, and maintaining the apparatus, including the following: vehicle pre-trip inspection, chassis operation, pump operation, aerial operation, and safety during maintenance.

PERFORMANCE TESTS

A road test will be conducted with the apparatus fully loaded and a continuous run of no less than ten (10) miles. During that time the apparatus will show no loss of power nor will it overheat. The transmission drive shaft or shafts and the axles will run quietly and be free of abnormal vibration or noise. The apparatus when fully loaded will not have less than 25 percent nor more than 50 percent on the front axle, and not less than 50 percent nor more than 75 percent on the rear axle. The apparatus will meet the current edition of applicable NFPA standards acceleration and braking requirements.

SERVICE AND WARRANTY SUPPORT

Pierce dealership support will be provided by Atlantic Emergency Solutions by operating a Pierce authorized service center. The service center will have factory-trained mechanics on staff versed in Pierce fire apparatus. The service facility will be located within one hundred (100) miles of the fire department.

In addition to the dealership, Pierce has service facilities located in both, Weyauwega, Wisconsin and Bradenton, Florida. Pierce also maintains a dedicated parts facility of over 100,000 square feet in Appleton, Wisconsin. The parts facility stocks in excess of \$15,000,000 in parts dedicated to service and replacement parts. The parts facility employs a staff dedicated solely for the distribution and shipment of service and replacement parts.

Service parts for the apparatus being proposed can be found via Pierceparts.com which, is an interactive online tool that delivers information regarding your specific apparatus as well as the opportunity to register for training classes.

As a Pierce customer you have the ability to view the complete bill of materials for your specific apparatus, including assembly drawings, piece part drawings, and beneficial parts notations. You will also have the ability to search the complete Pierce item master through a parts search function which offers all Pierce SKU's and descriptions offered on all Pierce apparatus. Published component catalogs, which include proprietary systems along with an extensive operators manual library is available for easy reference.

Pierce Manufacturing maintains a dedicated service and warranty staff of over 80 personnel dedicated to customer support. Technical support is available 24/7/365 via the toll free hot line and has four (4) on staff EVT's that offer hands-on repair and maintenance training classes multiple times a year.

LIABILITY

The successful bidder will defend any and all suits and assume all liability for the use of any patented process including any device or article forming a part of the apparatus or any appliance furnished under the contract.

INSURANCE PROVIDED BY BIDDER

Commercial General Liability Insurance

The successful bidder will, during the performance of the contract and for three (3) years following acceptance of the product, keep in force at least the following minimum limits of commercial general liability insurance:

Each Occurrence:	\$1,000,000
Products/Completed Operations Aggregate:	\$1,000,000
Personal and Advertising Injury:	\$1,000,000
General Aggregate:	\$2,000,000

Coverage will be written on a Commercial General Liability form. The policy will be written on an occurrence form and will include Contractual Liability coverage for bodily injury and property damage subject to the terms and conditions of the policy. The policy will include Owner as an additional insured when required by written contract.

Commercial Automobile Liability Insurance

The successful bidder will, during the performance of the contract, keep in force at least the following minimum limits of commercial automobile liability insurance and coverage will be written on a Commercial Automobile liability form:

Each Accident Combined Single Limit:	\$1,000,000
--------------------------------------	-------------

Umbrella/Excess Liability Insurance

The successful bidder will, during the performance of the contract and for three (3) years following acceptance of the product, keep in force at least the following minimum limits of umbrella liability insurance:

Aggregate:	\$3,000,000
Each Occurrence:	\$3,000,000

The umbrella policy will be written on an occurrence basis and at a minimum provide excess to the bidder's General Liability and Automobile Liability policies.

The required limits can be provided by one (1) or more policies provided all other insurance requirements are met.

Coverage will be provided by a carrier(s) rated A- or better by A.M. Best.

All policies will provide a 30-day notice of cancellation to the named insured. The Certificate of Insurance will provide the following cancellation clause: Should any of the above described policies be cancelled before the expiration date thereof, notice will be delivered in accordance with the policy provisions.

Bidder agrees to furnish owner with a current Certificate of Insurance with the coverages listed above along with the bid. The certificate will show the purchaser as certificate holder.

INSURANCE PROVIDED BY MANUFACTURER**Product Liability Insurance**

The manufacturer will, during the performance of the contract and for three (3) years following acceptance of the product, keep in force at least the following minimum limits of Product Liability insurance:

Each Occurrence:	\$1,000,000
Products/Completed Operations Aggregate:	\$1,000,000

Coverage will be written on a Commercial General Liability form. The policy will be written on an occurrence form. The manufacturer's policy will include the owner as additional insured when required by written contract between the Owner and a Pierce authorized dealer.

Umbrella/Excess Liability Insurance

The manufacturer will, during the performance of the contract and for three (3) years following acceptance of the product, keep in force at least the following minimum limits of umbrella liability insurance:

Each Occurrence:	\$25,000,000
Aggregate:	\$25,000,000

The umbrella policy will be written on an occurrence basis and provide excess to the manufacturer's General Liability/Products policies.

The required limits can be provided by one (1) or more policies provided all other insurance requirements are met.

Coverage will be provided by a carrier(s) rated A- or better by A.M. Best.

All policies will provide a 30-day notice of cancellation to the named insured. The Certificate of Insurance will provide the following cancellation clause: Should any of the above described policies be cancelled before the expiration date thereof, notice will be delivered in accordance with the policy provisions.

Manufacturer agrees to furnish owner with a current Certificate of Insurance with the coverages listed above along with the bid. The certificate will show the purchaser as the certificate holder.

SINGLE SOURCE MANUFACTURER

Pierce Manufacturing, Inc. provides an integrated approach to the design and manufacture of our products that delivers superior apparatus and a dedicated support team. From our facilities, the chassis, cab weldment, cab, pump house (including the sheet metal enclosure, valve controls, piping and operators panel) body and aerial device will be entirely designed, tested, and hand assembled to the customer's exact specifications. The electrical system either hardwired or multiplexed, will be both designed and integrated by Pierce Manufacturing. The warranties relative to these major components (excluding component warranties such as engine, transmission, axles, pump, etc.) will be provided by Pierce as a single source manufacturer. Pierce's single source solution adds value by providing a fully engineered product that offers durability, reliability, maintainability, performance, and a high level of quality.

Your apparatus will be manufactured in Appleton, Wisconsin.

NFPA 2024 STANDARDS

This unit will comply with the NFPA standards effective January 1, 2024, except for fire department directed exceptions. These exceptions will be set forth in the Statement of Exceptions.

Certification of slip resistance of all stepping, standing and walking surfaces will be supplied with delivery of the apparatus.

All horizontal surfaces designated as a standing or walking surface that are greater than 48.00" above the ground must be defined by a 1.00" wide line along its outside perimeter. Perimeter markings and

designated access paths to destination points will be identified on the customer approval print and are shown as approximate. Actual location(s) will be determined based on materials used and actual conditions at final build. Access paths may pass through hose storage areas and opening or removal of covers or restraints may be required. Access paths may require the operation of devices and equipment such as the aerial device or ladder rack.

A plate that is highly visible to the driver while seated will be provided. This plate will show the overall height, length, and gross vehicle weight rating.

The manufacturer will have programs in place for training, proficiency testing and performance for any staff involved with certifications.

An official of the company will designate, in writing, who is qualified to witness and certify test results.

NFPA COMPLIANCY

Apparatus proposed by the bidder will meet the applicable requirements of the National Fire Protection Association (NFPA) as stated in current edition at time of contract execution. Fire department's specifications that differ from NFPA specifications will be indicated in the proposal as "non-NFPA".

INSPECTION CERTIFICATE

A third party inspection certificate for the aerial device will be furnished upon delivery of the aerial device. The certificate will be Underwriters Laboratories Inc. Type 1 and will indicate that the aerial device has been inspected on the production line and after final assembly.

Visual structural inspections will be performed on all welds on both aluminum and steel ladders.

On critical weld areas, or on any suspected defective area, the following tests will be conducted:

- Magnetic particle inspection will be conducted on steel aerials to assure the integrity of the weldments and to detect any flaws or weaknesses. Magnets will be placed on each side of the weld while iron powder is placed on the weld itself. The powder will detect any crack that may exist. This test will conform to ASTM E709 and be performed prior to assembly of the aerial device.
- A liquid penetrant test will be conducted on aluminum aerials to assure the integrity of the weldments and to detect any flaws or weaknesses. This test will conform to ASTM E165 and be performed prior to assembly of the aerial device.
- Ultrasonic inspection will be conducted on all aerials to detect any flaws in pins, bolts and other critical mounting components.

In addition to the tests above, functional tests, load tests, and stability tests will be performed on all aerials. These tests will determine any unusual deflection, noise, vibration, or instability characteristics of the unit.

PUMP TEST

The pump will be tested, approved and certified by Underwriter's Laboratory at the manufacturer's expense. The test results and the pump manufacturer's certification of hydrostatic test; the engine

manufacturer's certified brake horsepower curve; and the manufacturer's record of pump construction details will be forwarded to the Fire Department.

GENERATOR TEST

If the unit has a generator, the generator will be tested, approved, and certified by Underwriters Laboratories at the manufacturer's expense. The test results will be provided to the Fire Department at the time of delivery.

BREATHING AIR TEST

If the unit has breathing air, Pierce Manufacturing will draw an air sample from the air system and certify that the air quality meets the requirements of NFPA 1989, *Standard on Breathing Air Quality for Fire and Emergency Services Respiratory Protection*.

VEHICLE INSPECTION PROGRAM CERTIFICATION

To assure the vehicle is built to current NFPA 1900 standards, the apparatus, in its entirety, will be third-party, independent, audit-certified through Underwriters Laboratory (UL) that it is built and complies to all applicable standards in the current edition. The certification includes: all design, production, operational, and performance testing of not only the apparatus, but those components that are installed on the apparatus.

A placard will be affixed in the driver's side area stating the third party agency, the date, the standard and the certificate number of the whole vehicle audit.

INSPECTION TRIP(S)

The bidder will provide two (2) factory inspection trip(s) for Five (5) customer representative(s). The inspection trip(s) will be scheduled at times mutually agreed upon between the manufacturer's representative and the customer. All costs such as travel, lodging and meals will be the responsibility of the bidder.

BID BOND

A bid bond as security for the bid in the form of a 10 percent bid bond will be provided with the proposal. This bid bond will be issued by a Surety Company who is listed on the U.S. Treasury Departments list of acceptable sureties as published in Department Circular 570. The bid bond will be issued by an authorized representative of the Surety Company and will be accompanied by a certified power of attorney dated on or before the date of bid. The bid bond will include language which assures that the bidder/principal will give a bond or bonds, as may be specified in the bidding or contract documents, with good and sufficient surety for the faithful performance of the contract, including the Basic One (1) Year Limited Warranty, and for the prompt payment of labor and material furnished in the prosecution of the contract.

Notwithstanding any document or assertion to the contrary, any surety bond related to the sale of a vehicle will apply only to the Basic One (1) Year Limited Warranty for such vehicle. Any surety bond related to the sale of a vehicle will not apply to any other warranties that are included within this bid (OEM or otherwise) or to the warranties (if any) of any third party of any part, component, attachment or accessory that is incorporated into or attached to the vehicle. In the event of any contradiction or inconsistency between this provision and any other document or assertion, this provision will prevail.

PERFORMANCE BOND

Notwithstanding any document or assertion to the contrary, any surety bond related to the sale of a vehicle will apply only to the Basic One (1) Year Limited Warranty for such vehicle. Any surety bond related to the sale of a vehicle will not apply to any other warranties that are included within this bid (OEM or otherwise) or to the warranties (if any) of any third party of any part, component, attachment or accessory that is incorporated into or attached to the vehicle. In the event of any contradiction or inconsistency between this provision and any other document or assertion, this provision will prevail.

Due to global supply chain constraints, any delivery date contained herein is a good faith estimate as of the date of this order/contract, and merely an approximation based on current information. Delivery updates will be made available, and a final firm delivery date will be provided as soon as possible.

If the Producer Price Index of Components for Manufacturing [www.bls.gov Series ID: WPUID6112] ("PPI") has increased at a compounded annual growth rate of 5.0 percent or more between the month Pierce accepts our order ("Order Month") and a month 14 months prior to the then predicted Ready For Pickup date ("Evaluation Month"), then pricing may be updated in an amount equal to the increase in PPI over 5.0 percent for each year or fractional year between the Order Month and the Evaluation Month.

The seller will document any such updated price for the customer's approval before proceeding and provide an option to cancel the order.

If the Producer Price Index of Components for Manufacturing [www.bls.gov Series ID: WPUID6112] ("PPI") has increased at a compounded annual growth rate of 5.0 percent or more between the month Pierce accepts the order ("Order Month") and a month 14 months prior to the then predicted Ready For Pickup date ("Evaluation Month"), then pricing may be updated in an amount equal to the increase in PPI over 5.0 percent for each year or fractional year between the Order Month and the Evaluation Month.

The seller will document any such updated price for the customer's approval before proceeding and provide an option to cancel the order.

APPROVAL DRAWING

A drawing of the proposed apparatus will be prepared and provided to the purchaser for approval before construction begins. The Pierce sales representative will also be provided with a copy of the same drawing. The finalized and approved drawing will become part of the contract documents. This drawing will indicate the chassis make and model, location of the lights, siren, horns, compartments, major components, etc.

A "revised" approval drawing of the apparatus will be prepared and submitted by Pierce to the purchaser showing any changes made to the approval drawing.

ELECTRICAL WIRING DIAGRAMS

Two (2) electrical wiring diagrams, prepared for the model of chassis and body, will be provided.

ENFORCER CHASSIS

The Pierce Enforcer™ is the custom chassis developed exclusively for the fire service. Chassis provided will be a new, tilt-type custom fire apparatus. The chassis will be manufactured in the

apparatus body builder's facility eliminating any split responsibility. The chassis will be designed and manufactured for heavy-duty service, with adequate strength, capacity for the intended load to be sustained, and the type of service required. The chassis will be the manufacturer's first line tilt cab.

MAXIMUM OVERALL HEIGHT

The maximum overall height of the apparatus will be 11' 8".

WHEELBASE

The wheelbase of the vehicle will be 234.5".

GVW RATING

The gross vehicle weight rating will be 57,500#.

FRAME

The chassis frame will be built with two (2) steel channels bolted to five (5) cross members or more, depending on other options of the apparatus. The side rails will have a 13.38" tall web over the front and mid sections of the chassis, with a continuous smooth taper to 10.75" over the rear axle. Each rail will have a section modulus of 25.992 cubic inches and a resisting bending moment (rbm) of 3,119,040 in-lb over the critical regions of the frame assembly, with a section modulus of 18.96 cubic inches with an rbm of 2,275,200 in-lb over the rear axle. The frame rails will be constructed of 120,000 psi yield strength heat-treated 0.38" thick steel with 3.50" wide flanges.

FRAME REINFORCEMENT

In addition, a mainframe internal liner will be provided. The liner will be an internal "C" design that steps to an internal "L" design over the rear axle. It will be heat-treated steel measuring 12.50" x 3.00" x 0.25" through the front portion of the liner, stepping to 9.38" x 3.00" x 0.25" through the rear portion of the liner. Each liner will have a section modulus of 13.58 cubic inches, yield strength of 110,000 psi, and rbm of 1,494,042 in-lb. Total rbm at wheelbase center will be 4,391,869 in-lb.

The frame liner will be mounted inside of the chassis frame rail and extend the full length of the frame.

FRONT NON DRIVE AXLE

The Oshkosh TAK-4® front axle will be of the independent suspension design with a ground rating of 24,000 lb.

Upper and lower control arms will be used on each side of the axle. Upper control arm castings will be made of 100,000-psi yield strength 8630 steel and the lower control arm casting will be made of 55,000-psi yield ductile iron.

The center cross members and side plates will be constructed out of 80,000-psi yield strength steel.

Each control arm will be mounted to the center section using elastomer bushings. These rubber bushings will rotate on low friction plain bearings and be lubricated for life. Each bushing will also have a flange end to absorb longitudinal impact loads, reducing noise and vibrations.

There will be nine (9) grease fittings supplied, one (1) on each control arm pivot and one (1) on the steering gear extension.

The upper control arm will be shorter than the lower arm so that wheel end geometry provides positive camber when deflected below rated load and negative camber above rated load.

Camber at load will be 0 degrees for optimum tire life.

The ball joint bearing will be of low friction design and be maintenance free.

Toe links that are adjustable for alignment of the wheel to the center of the chassis will be provided.

The wheel ends will have little to no bump steer when the chassis encounters a hole or obstacle.

The steering linkage will provide proper steering angles for the inside and outside wheel, based on the vehicle wheelbase.

The axle will have a turning angle of up to 45 degrees.

SUSPENSION

Front Oshkosh TAK-4™ independent suspension will be provided with a minimum ground rating of 24,000 pounds.

The independent suspension system has been designed to provide maximum ride comfort. The design will allow the vehicle to travel at highway speeds over improved road surfaces, and at moderate speeds over rough terrain with minimal transfer of road shock and vibration to the vehicle's crew compartment.

Each wheel will have torsion bar type spring. In addition, each front wheel end will also have energy absorbing jounce bumpers to prevent bottoming of the suspension. The suspension and jounce bumpers will have increased rates to accommodate the reduced jounce travel. These modifications will provide a stiffer ride which may affect ride quality when compared to trucks set up with standard ride height.

The suspension design will be such that there is at least 10.00" of total wheel travel and a minimum of 2.75" before suspension bottoms.

The torsion bar anchor lock system allows for simple lean adjustments, without the use of shims. One can adjust for a lean within 15 minutes per side. Anchor adjustment design is such that it allows for ride height adjustment on each side.

The independent suspension was put through a durability test that simulated 140,000 miles of inner city driving.

FRONT SHOCK ABSORBERS

KONI heavy-duty telescoping shock absorbers will be provided on the front suspension.

FRONT OIL SEALS

Oil seals with viewing window will be provided on the front axle.

FRONT TIRES

Front tires will be Goodyear radials 445/65R22.50, 20 ply all-position Armor Max MSA tread, rated for 24,600 lb maximum axle load and 68 mph maximum speed.

The tires will be mounted on Alcoa 22.50" x 13.00" polished aluminum disc type wheels with a ten (10) stud, 11.25" bolt circle.

REAR AXLE

The rear axle will be a Meritor™, Model RS-30-185, with a capacity of 33,500 lb.

TOP SPEED OF VEHICLE

NFPA 1900 and ULC 515, 2024 edition requires limits on the top speed of vehicles. NFPA 7.16.1 requires that the maximum top speed of fire apparatus with a GVWR over 33,000 lb will not exceed either 68 mph or the manufacturer's maximum fire service speed rating for the tires installed on the apparatus, whichever is lower. NFPA 7.16.2 requires that if the combined water tank and foam agent tank on the fire apparatus exceed 1250 gallons or the GVWR of the vehicle is over 50,000 lb, the maximum top speed of the apparatus will not exceed either 60 mph or the manufacturer's maximum fire service speed rating for the tires installed on the apparatus, whichever is lower. It is the intention of the standard to improve safety by limiting the speed of all apparatus to 68 mph, and tankers or heavy apparatus to 60 mph. By requesting an exception to this requirement, the purchasing authority is consciously choosing to operate their apparatus at speeds above the limits designated as safe speeds by the NFPA Technical Committee on Fire Department Apparatus.

The top speed of the apparatus as manufactured exceeds the NFPA requirements. Per fire department specification of a top speed that exceeds NFPA requirements, the apparatus will be non-compliant to NFPA 1900 and ULC 515 standards at time of contract execution.

The rear tires being specified have a top speed limit of 68 mph / 109 kph from the tire manufacturer.

REAR SUSPENSION

Rear suspension will be a Reyco Model 102AR-HD, air ride with a ground rating of 33,500 lb. The suspension will have the following features:

- Outboard vertical mounted heavy-duty shock absorbers
- Adjustable torque and track rods
- Heavy duty extra strength trailing beam for excellent roll stability
- Low rate air spring for excellent ride
- Weight control valves to compensate for weight difference

REAR OIL SEALS

Oil seals will be provided on the rear axle(s).

REAR TIRES

Rear tires will be four (4) Goodyear 315/80R22.50 radials with 20 ply G289 WHA tread, rated for 36,360 lb maximum axle load and 68 mph maximum speed.

The tires will be mounted on Alcoa 22.50" x 9.00" polished aluminum disc wheels with a ten (10) stud 11.25" bolt circle.

TIRE BALANCE

All tires will be balanced with Counteract balancing beads. The beads will be inserted into the tire and eliminate the need for wheel weights.

TIRE PRESSURE MANAGEMENT

There will be a RealWheels LED AirSecure™ tire alert pressure management system provided, that will monitor each tire's pressure. A sensor will be provided on the valve stem of each tire for a total of six (6) tires.

The sensor will calibrate to the tire pressure when installed on the valve stem for pressures between 10 and 200 psi. The sensor will activate an integral battery operated LED when the pressure of that tire drops 5 to 8 psi.

Removing the cap from the sensor will indicate the functionality of the sensor and battery. If the sensor and battery are in working condition, the LED will immediately start to flash.

CHROME LUG NUT COVERS

Chrome plastic lug nut covers will be supplied on front and rear wheels.

FRONT HUB COVERS

Stainless steel hub covers will be provided on the front axle. An oil level viewing window will be provided.

REAR HUB COVERS

A pair of stainless steel high hat hub covers will be provided on rear axle hubs.

FULL WIDTH REAR MUD FLAP

A full width, black mud flap with a custom logo will be installed behind the rear wheels of the apparatus.

MUD FLAPS

Mud flaps with a Pierce logo will be installed behind the front and rear wheels.

WHEEL CHOCKS

There will be one (1) pair of folding Ziamatic, Model SAC-44-E, aluminum alloy, Quick-Choc wheel blocks, with easy-grip handle provided.

Wheel Chock Brackets

There will be one (1) pair of Zico, Model SQCH-44-H, horizontal mounting wheel chock brackets provided for the Ziamatic, Model SAC-44-E, folding wheel chocks. The brackets will be made of aluminum and consist of a quick release spring loaded rod to hold the wheel chocks in place. The brackets will be mounted forward of the left side rear tire and rearward of the left side rear tire.

ELECTRONIC STABILITY CONTROL

A vehicle control system will be provided as an integral part of the ABS brake system from Meritor Wabco.

The system will monitor and update the lateral acceleration of the vehicle and compare it to a critical threshold where a side roll event may occur. If the critical threshold is met, the vehicle control system will automatically reduce engine RPM, engage the engine retarder (if equipped), and selectively apply brakes to the individual wheel ends of the front and rear axles to reduce the possibility of a side roll event.

The system will monitor directional stability through a lateral accelerometer, steer angle sensor and yaw rate sensor. If spinout or drift out is detected, the vehicle control system will selectively apply brakes to the individual wheel ends of the front and rear axles to bring the vehicle back to its intended direction.

ANTI-LOCK BRAKE SYSTEM

The vehicle will be equipped with a Wabco 4S4M, anti-lock braking system. The ABS will provide a four (4) channel anti-lock braking control on both the front and rear wheels. A digitally controlled system that utilizes microprocessor technology will control the anti-lock braking system. Each wheel will be monitored by the system. When any wheel begins to lockup, a signal will be sent to the control unit. This control unit will then reduce the braking of that wheel for a fraction of a second and then reapply the brake. This anti-lock brake system will eliminate the lockup of any wheel thus helping to prevent the apparatus from skidding out of control.

AUTOMATIC TRACTION CONTROL

An anti-slip feature will be included with the ABS. The Automatic Traction Control will be used for traction in poor road and weather conditions. The Automatic Traction Control will act as an electronic differential lock that will not allow a driving wheel to spin, thereby supplying traction at all times. The ABS electronic control unit (ECU) will work with the engine ECU, sharing information concerning wheel slip. Engine ECU will use information to control engine speed, allowing only as much throttle application as required for the available traction, regardless of how much the driver is asking for. An "off road traction" switch will be provided on the instrument panel. Activation of the switch will allow additional tire slip to let the truck climb out and get on top of deep snow or mud.

BRAKES

The service brake system will be full air type.

The front brakes will be Knorr/Bendix disc type with a 17.00" ventilated rotor for improved stopping distance.

The brake system will be certified, third party inspected, for improved stopping distance.

The rear brakes will be Meritor™ 16.50" x 8.63" cam operated with automatic slack adjusters. Dust shields cannot be provided.

BRAKE SYSTEM AIR COMPRESSOR

The air compressor will be a Cummins/WABCO with 18.7 cubic feet per minute output.

BRAKE SYSTEM

The brake system will include:

- Brake treadle valve

- Heated automatic moisture ejector on air dryer
- Total air system minimum capacity of 4,272 cubic inches
- Two (2) air pressure gauges with a red warning light and an audible alarm, that activates when air pressure falls below 60 psi
- Spring set parking brake system
- Parking brake operated by a push-pull style control valve
- A parking "brake on" indicator light on instrument panel
- Park brake relay/inversion and anti-compounding valve, in conjunction with a double check valve system, with an automatic spring brake application at 40 psi
- A pressure protection valve to prevent all air operated accessories from drawing air from the air system when the system pressure drops below 80 psi (550 kPa)
- 1/4 turn drain valves on each air tank

The air tank will be primed and painted to meet a minimum 750 hour salt spray test.

The air tanks will be painted black #98.

To reduce the effects of corrosion, the air tank will be mounted with stainless steel brackets.

BRAKE SYSTEM AIR DRYER

The air dryer will be WABCO System Saver 1200 with spin-on coalescing filter cartridge and 100 watt heater.

BRAKE LINES

Color-coded nylon brake lines will be provided. The lines will be wrapped in a heat protective loom in the chassis areas that are subject to excessive heat.

AIR INLET WITH AUTOMATIC EJECT

One (1) air inlet with Kussmaul Air Eject will be provided. It will allow station air to be supplied to the apparatus brake system through a shoreline hose. The inlet will automatically disconnect the air line when the truck is started. It will be equipped with a male coupling and be located on the driver side exterior of cab, behind crew cab door. A check valve will be provided to prevent reverse flow of air. The inlet will discharge into the "wet" tank of the brake system. A mating female coupling will also be provided with the loose equipment.

ALL WHEEL LOCK-UP

An additional all wheel lock-up system will be installed which applies air to the front brakes only. The standard spring brake control valve system will be used for the rear.

AIR COMPRESSOR - BRAKE SYSTEM MAINTENANCE

A Kussmaul, Model 091-9, air compressor will be provided. It will be electric motor driven by the 12-volt chassis electrical system and will be located Behind Drivers Seat. Compressor will maintain the air pressure in the chassis air brake system while the vehicle is not in use. A pressure switch will sense when the system pressure drops and automatically start the compressor, which will then run until pressure is restored.

There will be an auto pump timer installed between the pressure switch and the pump that will allow the pump to run for 1 hour than shut down for 1 hour.

AUXILIARY AIR COMPRESSOR COVER

A ventilated aluminum treadplate cover will be fabricated and installed over the auxiliary air compressor for protection, Behind Drivers Seat.

ENGINE

The chassis will be powered by an electronically controlled engine as described below:

Make:	Cummins
Model:	X10
Power:	450 hp at 2100 rpm
Torque:	1250 lb-ft at 1200 rpm
Governed Speed:	2200 rpm
Emissions Level:	EPA 2027
Fuel:	Diesel
Cylinders:	Six (6)
Displacement:	604 cubic inches (9.9L)
Starter:	Delco 39MT™
Fuel Filters:	Spin-on style primary filter with water separator and water-in-fuel sensor. Secondary spin-on style filter.

The engine will include On-board diagnostics (OBD), which provides self diagnostic and reporting. The system will give the owner or repair technician access to state of health information for various vehicle sub systems. The system will monitor vehicle systems, engine and after treatment. The system will illuminate a malfunction indicator light on the dash console if a problem is detected.

The engine will be filled with FA-4 10W30 oil as required by Cummins.

HIGH IDLE

A high idle switch will be provided, inside the cab, on the instrument panel, that will automatically maintain a preset engine rpm. A switch will be installed, at the cab instrument panel, for activation/deactivation.

The high idle will be operational only when the parking brake is on and the truck transmission is in neutral. A green indicator light will be provided, adjacent to the switch. The light will illuminate when the above conditions are met. The light will be labeled "OK to Engage High Idle."

ENGINE BRAKE

A Jacobs® engine brake is to be installed with the controls located on the instrument panel within easy reach of the driver.

The driver will be able to turn the engine brake system on/off and have a high, medium and low setting.

The engine brake will activate when the system is on and the throttle is released.

The high setting of the brake application will activate and work simultaneously with the variable geometry turbo (VGT) provided on the engine.

The engine brake will be installed in such a manner that when the engine brake is slowing the vehicle the brake lights are activated.

The ABS system will automatically disengage the auxiliary braking device, when required.

CLUTCH FAN

A fan clutch will be provided. The fan clutch will be automatic when the pump transmission is in "Road" position, and constantly engaged when in "Pump" position.

ENGINE AIR INTAKE

The engine air intake will be located above the engine cooling package. It will draw fresh air from the front of the apparatus through the radiator grille.

The ember separator is designed to prevent road dirt and recirculating hot air from entering the engine.

The ember separator will be easily accessible by tilting the cab.

EXHAUST SYSTEM

The exhaust system will be stainless steel from the turbo to the engine's aftertreatment device. The exhaust system will include an aftertreatment device to meet current EPA standards. An insulation wrap will be provided on all exhaust pipe between the turbo and the aftertreatment device to minimize the transfer of heat to the cab.

The exhaust will terminate horizontally ahead of the right side rear wheels and will extend 2.00" past the body rub rail. The exhaust pipes will be aluminized steel.

There will be an aluminized steel exhaust diffuser with a standard straight tip on the end provided to reduce the temperature of the exhaust as it exits. Heat deflector shields will be provided to isolate chassis and body components from the heat of the tailpipe diffuser.

RADIATOR

The radiator and the complete cooling system will meet or exceed the current edition of applicable NFPA and engine manufacturer cooling system standards.

For maximum corrosion resistance and cooling performance, the entire radiator core will be constructed using long life aluminum alloy. The radiator core will consist of aluminum fins, having a serpentine design, brazed to aluminum tubes.

The radiator core will have a minimum front area of 1060 square inches.

Supply tank will be made of heavy duty glass-reinforced nylon and the return tank will be made of aluminum. Both tanks will be crimped onto the core assembly using header tabs and a compression gasket to complete the radiator core assembly. There will be a full steel frame around the inserts to enhance cooling system durability and reliability.

The radiator will be compatible with commercial antifreeze solutions.

The radiator assembly will be isolated from the chassis frame rails with rubber isolators to prevent the development of leaks caused by twisting or straining when the apparatus operates over uneven terrain.

The radiator will include a de-aeration/expansion tank. For visual coolant level inspection, the radiator will have a built-in sight glass. The radiator will be equipped with a 15 psi pressure relief cap.

A drain port will be located at the lowest point of the cooling system and/or the bottom of the radiator to permit complete flushing of the coolant from the system.

Shields or baffles will be provided to prevent recirculation of hot air to the inlet side of the radiator.

COOLANT LINES

Gates, or Goodyear, rubber hose will be used for all engine coolant lines installed by Pierce Manufacturing.

Hose clamps will be stainless steel constant torque type to prevent coolant leakage. They will expand and contract according to coolant system temperature thereby keeping a constant clamping pressure on the hose.

FUEL TANK

A 65 gallon fuel tank will be provided and mounted at the rear of the chassis. The tank will be constructed of 12-gauge, hot rolled steel. It will be equipped with swash partitions and a vent. To reduce the effects of corrosion, the fuel tank will be mounted with stainless steel straps.

A 0.75" drain plug will be provided in a low point of the tank for drainage.

A fill inlet will be located on the left hand side of the body and be covered with a hinged, spring loaded, stainless steel door that is marked "Ultra Low Sulfur - Diesel Fuel Only".

A 0.50" diameter vent will be provided running from top of tank to just below fuel fill inlet.

The tank will meet all FHWA 393.67 requirements, including a fill capacity of 95 percent of tank volume.

All fuel lines will be provided as recommended by the engine manufacturer.

DIESEL EXHAUST FLUID TANK

A 4.5 gallon diesel exhaust fluid (DEF) tank will be provided and mounted in the left side body forward of the rear axle.

A 0.50" drain plug will be provided in a low point of the tank for drainage.

A fill inlet will be located on the left side of the body and be covered with a hinged, spring loaded, painted door that is marked "Diesel Exhaust Fluid Only".

The tank will meet the engine manufacturers requirement for 10 percent expansion space in the event of tank freezing.

The tank will include an integrated heater unit that utilizes engine coolant to thaw the DEF in the event of freezing.

FUEL PRIMING PUMP

A Cummins automatic electronic fuel priming pump will be integrated as part of the engine.

FUEL SHUTOFF

A fuel line shutoff valve will be installed on both the inlet and outlet of the primary fuel filter.

TRANSMISSION

An Allison 6th generation, Model EVS 3000P, electronic torque converting automatic transmission will be provided.

The transmission will be equipped with prognostics to monitor oil life, filter life, and transmission health. A wrench icon on the shift selector's digital display will indicate when service is due.

Two (2) PTO openings will be located on both sides of converter housing (positions 4 o'clock and 8 o'clock) as viewed from the rear.

A transmission temperature gauge with amber light and audible alarm will be installed on the cab dash.

TRANSMISSION SHIFTER

A five (5)-speed push button shift module will be mounted to right of driver on console. Shift position indicator will be indirectly lit for after dark operation.

The transmission ratio will be:

1st	3.49 to 1.00
2nd	1.86 to 1.00
3rd	1.41 to 1.00
4th	1.00 to 1.00
5th	0.75 to 1.00
R	5.03 to 1.00

TRANSMISSION PROGRAMMING

The transmission will be programmed to automatically shift the transmission to neutral when the parking brake is set to simplify operation and increase operational safety.

TRANSMISSION COOLER

A Modine plate and fin transmission oil cooler will be provided using engine coolant to control the transmission oil temperature.

DRIVELINE

Drivelines will be a heavy-duty metal tube and be equipped with Spicer® 1710 universal joints.

The shafts will be dynamically balanced before installation.

A splined slip joint will be provided in each driveshaft where the driveline design requires it. The slip joint will be coated with Glidecoat® or equivalent.

STEERING

Dual Sheppard, Model M110, steering gears, with integral heavy-duty power steering, will be provided. For reduced system temperatures, the power steering will incorporate an air to oil cooler and an Eaton, Model VN20, hydraulic pump with integral pressure and flow control. All power steering lines will have wire braded lines with crimped fittings.

A tilt and telescopic steering column will be provided to improve fit for a broader range of driver configurations.

STEERING WHEEL

The steering wheel will be 18.00" in diameter, have tilting and telescoping capabilities, and a four (4)-spoke design.

There will be a switch pod provided on the left side of the steering wheel between the spokes. The switch pods will be an integral part of the steering wheel.

The following switches will be provided:

- Windshield wash
- Wiper intermittent speed increase
- Wiper intermittent speed decrease
- Hi/Lo wiper speed
- Wiper off

LOGO AND CUSTOMER DESIGNATION ON DASH

The dash panel will have an emblem containing the Pierce logo and customer name. The emblem will have three (3) rows of text for the customer's department name. There will be a maximum of eight (8) characters in the first row, 11 characters in the second row and 11 characters in the third row.

The first row of text will be: MONTPELIER

The second row of text will be: FIRE

The third row of text will be: DEPARTMENT

BUMPER

A one (1)-piece bumper manufactured from 0.25" formed steel with a 0.38" bend radius will be provided. The bumper will be a minimum of 10.00" high with a 1.50" top and bottom flange, and will extend 19.00" from the face of the cab. The bumper will be 95.28" wide with 45 degree corners and side plates.

To provide adequate support strength, the bumper will be mounted directly to the front of the C channel frame. The frame will be a bolted modular extension frame constructed of 50,000 psi tensile steel.

The bumper will be metal finished and painted to match the lower job color of the apparatus.

Gravel Pan

A gravel pan, constructed of bright aluminum treadplate, will be furnished between the bumper and the cab face. The pan will be properly supported from the underside to prevent flexing and vibration.

CENTER HOSE TRAY

A hose tray, constructed of aluminum, will be placed in the center of the bumper extension.

The tray will have a capacity of 125' of 1.75" double jacket cotton-polyester hose.

Black rubber grating will be provided at the bottom of the tray. Drain holes are also provided.

Center Hose Tray Cover

A bright aluminum treadplate cover will be provided over the center hose tray.

The cover will be attached with a stainless steel hinge.

One (1) D-ring latch will secure the cover in the closed position and a pneumatic stay arm on each side will hold the cover in the open position.

TOW EYES

Two (2) tow eyes will be mounted through the front face of the bumper.

The inner and outer edges of the tow eyes will have a .25" radius.

The tow eyes will be mounted directly to the bumper frame.

Cutouts will be provided in the front face of the stainless steel bumper to allow the tow eyes to extend out the front.

The tow eyes will be designed and positioned to allow up to a 9,000 lb straight horizontal pull in line with the centerline of the vehicle. The tow eyes will not be used for lifting of the apparatus.

The tow eyes will be painted #40 lime yellow .

FRONT BUMPER NOTCH

The front bumper will be notched for recessing of the Q2B siren. The notch will be designed so that the bumper is one continuous piece. The notch will be welded in place for strength with a continuous top and bottom flange. All welds will be metal finished for appearance. The siren will be located Left Side of the bumper.

SIDE ZONE LIGHT MOUNTING

The front lower warning lights on each side will be recessed into the side of the bumper extension to protect the light from damage.

The recessed bracket will be made of painted smooth aluminum.

FRONT BUMPER UL-LX COATING

Protective black UL-LX® coating will be provided on the outside exterior of the top front bumper flange. It will not be sprayed on the underside of the flange.

The lining will be properly installed by an authorized UL-LX dealer.

CAB

The Enforcer cab will be designed specifically for the fire service and manufactured by the chassis builder.

The cab will be built by the apparatus manufacturer in a facility located on the manufacturer's premises.

For reasons of structural integrity and enhanced occupant protection, the cab will be a heavy duty design, constructed to the following minimal standards.

The cab will have 12 main vertical structural members located in the A-pillar (front cab corner posts), B-pillar (side center posts), C-pillar (rear corner posts), and rear wall areas. The A-pillar will be constructed of solid A356-T5 aluminum castings. The B-pillar and C-pillar will be constructed from 0.13" wall extrusions. The rear wall will be constructed of two (2) 2.00" x 2.00" outer aluminum extrusions and two (2) 2.00" x 1.00" inner aluminum extrusions. All main vertical structural members will run from the floor to 4.625" x 3.864" x 0.090" thick roof extrusions to provide a cage-like structure with the A-pillar and roof extrusions being welded into a 0.25" thick corner casting at each of the front corners of the roof assembly.

The front of the cab will be constructed of a 0.13" firewall plate, covered with a minimum 0.090" front skin thickness, and reinforced with a full width x 0.50" thick cross-cab support located just below the windshield and fully welded to the engine tunnel. The cross-cab support will run the full width of the cab and weld to each A-pillar, the 0.13" firewall plate, and the front skin.

The cab floors will be constructed of 0.125" thick aluminum plate and reinforced at the firewall with an additional 0.375" thick cross-floor support providing a total thickness of 0.50" of structural material at the front floor area. The front floor area will also be supported with two (2) triangular 0.30" wall extrusions that also provides the mounting point for the cab lift. This tubing will run from the floor wireway of the cab to the engine tunnel side plates, creating the structure to support the forces created when lifting the cab.

The cab will be 96.00" wide (outside door skin to outside door skin) to maintain maximum maneuverability.

The centerline of front axle to the rear of the cab will be 70.00" long.

The forward cab section will have an overall height (from the cab roof to the ground) of approximately 99.00". The crew cab section will have a 10.00" raised roof, with an overall cab height of approximately 109.00". The overall height listed will be calculated based on a truck configuration with the lowest suspension weight rating, the smallest diameter tires for the suspension, no water weight, no loose equipment weight, and no personnel weight. Larger tires, wheels, and suspension will increase the overall height listed.

The raised roof section of the crew cab will have a 58.00" wide x 10.00" high square notch in the center section of the roof. This will allow the aerial device to be bedded in the same location as a non-raised roof.

The floor to ceiling height inside the crew cab will be 44.50" in the center position and 63.50" in the outboard positions.

The crew cab floor will measure 46.00" from the rear wall to the back side of the rear facing seat risers.

The medium block engine tunnel, at the rearward highest point (knee level), will measure 61.50" to the rear wall. The big block engine tunnel will measure between 45.00" and 51.50" to the rear wall.

The crew cab will be a totally enclosed design with the interior area completely open to improve visibility and verbal communication between the occupants.

The cab will be a full tilt cab style.

A 3-point cab mount system with rubber isolators will improve ride quality by isolating chassis vibrations from the cab.

CAB ROOF DRIP RAIL

For enhanced protection from inclement weather, a drip rail will be furnished on the sides of the cab. The drip rail will be painted to match the cab roof, and bonded to the sides of the cab. The drip rail will extend the full length of the cab roof.

CAB PUMP ENCLOSURE

The rear of the cab will be made to house the fire pump below the forward facing crew cab seats. The cab side panels will be notched to accommodate the pump panel.

FENDER LINERS

Full circular inner fender liners in the wheel wells will be provided.

PANORAMIC WINDSHIELD

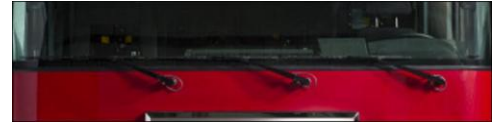
A one (1)-piece safety glass windshield will be provided with over 2,775 square inches of clear viewing area. The windshield will be full width and will provide the occupants with a panoramic view. The windshield will consist of three (3) layers: outer light, middle safety laminate, and inner light. The outer light layer will provide superior chip resistance. The middle safety laminate layer will prevent the windshield glass pieces from detaching in the event of breakage. The inner light will provide yet another chip resistant layer. The cab windshield will be bonded to the aluminum windshield frame using a urethane adhesive. A custom frit pattern will be applied on the outside perimeter of the windshield for a finished automotive appearance.



WINDSHIELD WIPERS

Three (3) electric windshield wipers with washer will be provided that meet FMVSS and SAE requirements.

The washer reservoir will be able to be filled without raising the cab.



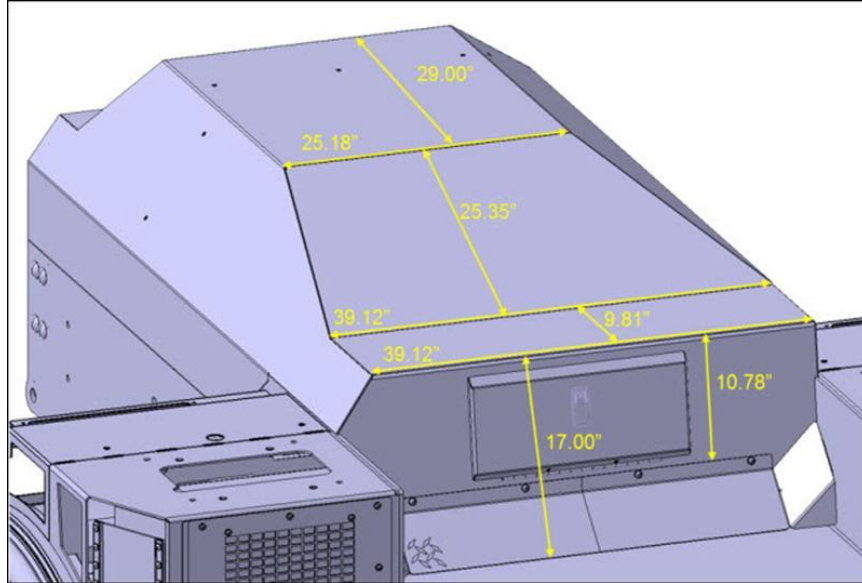
[Washer Reservoir Location]

ENGINE TUNNEL

Engine hood side walls will be constructed of 0.375" aluminum. The top will be constructed of 0.125" aluminum and will be tapered at the top to allow for more driver and passenger elbow room.

The engine hood will be insulated for protection from heat and sound. The noise insulation keeps the dBA level within the limits stated in the current edition of applicable NFPA standards.

The engine tunnel will be no higher than 17.00" off the crew cab floor.



INTERIOR CAB INSULATION

The cab will include 1.00" insulation in the ceiling, 1.50" insulation in the side walls, a minimum of 1.00" insulation in the crew cab floor, and 2.00" insulation in the rear wall to maximize acoustic absorption and thermal insulation.

CAB REAR WALL EXTERIOR COVERING

The exterior surface of the rear wall of the cab will be overlaid with bright aluminum treadplate except for areas that are not typically visible when the cab is lowered.

CAB LIFT

A hydraulic cab lift system will be provided consisting of an electric powered hydraulic pump, dual lift cylinders, and necessary hoses and valves.

Hydraulic pump will have a manual override for backup in the event of electrical failure.

Lift controls will be located on the right side pump panel or front area of the body in a convenient location.

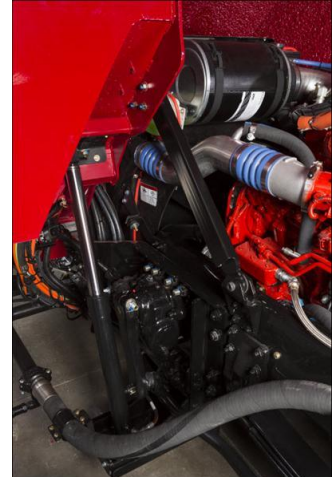
The cab will be capable of tilting 43 degrees to accommodate engine maintenance and removal.



The cab will be locked down by a 2-point normally closed spring loaded hook type latch that fully engages after the cab has been lowered. The system will be hydraulically actuated to release the normally closed locks when the cab lift control is in the raised position and cab lift system is under pressure. When the cab is completely lowered and system pressure has been relieved, the spring loaded latch mechanisms will return to the normally closed and locked position.

The hydraulic cylinders will be equipped with a velocity fuse that protects the cab from accidentally descending when the control is located in the tilt position.

For increased safety, a redundant mechanical stay arm will be provided that must be manually put in place on the left side between the chassis and cab frame when the cab is in the raised position. This device will be manually stowed to its original position before the cab can be lowered.



Cab Lift Interlock

The cab lift system will be interlocked to the parking brake. The cab tilt mechanism will be active only when the parking brake is set and the ignition switch is in the on position. If the parking brake is released, the cab tilt mechanism will be disabled.

GRILLE

A bright finished aluminum mesh grille screen, inserted behind a bright finished grille surround, will be provided on the front center of the cab.

DOOR JAMB SCUFFPLATES

All cab door jambs will be furnished with a 1.00" brushed stainless steel scuffplate, mounted on the striker side of the jamb.

TRIM BAND ON CAB FACE

A band of 22 gauge brushed stainless steel trim will be installed across the front of the cab, from door hinge to door hinge. The trim band will be centered on the headlights and applied with two-sided tape. A 0.625" self-adhesive trim strip will be applied around the perimeter of the trim band.

SIDE OF CAB MOLDING

Chrome molding will be provided on both sides of cab.

MIRRORS

A Retrac, Model 613423, dual vision, motorized, west coast style mirror, with chrome finish, will be mounted on each side of the front cab door with spring loaded retractable arms. The flat glass and convex glass will be heated and adjustable with remote control within reach of the driver.

DOORS

To enhance entry and egress to the cab, the forward cab doors will be a minimum of 37.50" wide x 75.50" high. The crew cab doors will be located on the sides of the cab and will be constructed in the

same manner as the forward cab doors. The crew cab door openings will be a minimum of 34.30" wide x 85.50" high.

The forward cab and crew cab doors will be constructed of extruded aluminum with a nominal material thickness of 0.093". The exterior door skins will be constructed from 0.090" aluminum.

A customized, vertical, pull-down type door handle will be provided on the exterior of each cab door. The finish of the door handle will be chrome/black. The exterior handle will be designed specifically for the fire service to prevent accidental activation and will provide 4.00" wide x 2.00" deep hand clearance for ease of use with heavy gloved hands.



[Exterior Door Handle]

Each door will also be provided with an interior flush, open style paddle handle that will be readily operable from fore and aft positions and designed to prevent accidental activation. The interior handles will provide 4.00" wide x 1.25" deep hand clearance for ease of use with heavy gloved hands.

The cab doors will be provided with both interior (rotary knob) and exterior (keyed) locks exceeding FMVSS standards. The keys will be Model 751. The locks will be capable of activating when the doors are open or closed. The doors will remain locked if locks are activated when the doors are opened, then closed.



[Interior Door Handle]

A full length, heavy duty, stainless steel, piano-type hinge with a 0.38" pin and 11 gauge leaf will be provided on all cab doors. There will be double automotive-type rubber seals around the perimeter of the door framing and door edges to ensure a weather-tight fit.

A chrome grab handle will be provided on the inside of each cab door for ease of entry.

A red webbed grab handle will be installed on the crew cab door stop strap. The grab handles will be securely mounted.

The cab steps at each cab door location will be located inside the cab doors to protect the steps from weather elements.

Door Panels

The inner cab door panels will be constructed out of brushed stainless steel.

ELECTRIC OPERATED CAB DOOR WINDOWS

All four (4) cab doors will be equipped with electric operated windows with one (1) flush mounted automotive style switch on each door. The driver's door will have four (4) switches, one (1) to control each door window.

Each switch will allow intermittent or auto down operation for ease of use. Auto down operation will be actuated by holding the window down switch for approximately 1 second.

CAB STEPS

The forward cab and crew cab access steps will be a full size two (2) step design to provide largest possible stepping surfaces for safe ingress and egress. The bottom steps will be designed with a grip pattern punched into bright aluminum treadplate material to provide support, slip resistance, and drainage. The bottom steps will be a bolt-in design to minimize repair costs should they need to be replaced. The forward cab steps will be a minimum 25.00" wide, and the crew cab steps will be 21.65" wide with an 8.00" minimum depth. The inside cab steps will not exceed 16.50" in height.

The vertical surfaces of the step well will be aluminum treadplate.

CAB EXTERIOR HANDRAILS

A Hansen knurled aluminum, black anodized handrail will be provided adjacent to each cab and crew cab door opening to assist during cab ingress and egress. The handrails will be e-coated and have black powder coated stanchions. Each handrail will be provided with red LED lights. The lights will be activated when the parking brake is applied. The LED lights may be load managed.

STIRRUP STEPS

A stirrup step will be provided below each cab and crew cab door. The steps will be designed with a grip pattern punched into bright aluminum treadplate material providing support, slip resistance, and drainage. The steps will be a bolt-on design and provide a 5.00" deep stepping surface. Each step will provide a step height of 8.25" from the top of the stirrup step to the first step of the cab.

The stirrup step will be lit by a white 12 volt DC LED light provided on the step.

The step light will be activated automatically when the battery switch is on and the exit doors are opened or by the same means as the body step lights.

STEP LIGHTS

There will be six (6) white LED step lights with chrome housing installed for cab and crew cab access steps.

- One (1) light for the left side cab access steps.
- Two (2) lights for the left side crew cab access steps.
- Two (2) lights for the right side crew cab access steps.
- One (1) light for the right side cab access step.

In order to ensure exceptional illumination, each light will provide a minimum of 25 foot-candles (fc) covering an entire 15" x 15" square placed ten (10) inches below the light and a minimum of 1.5 fc covering an entire 30" x 30" square at the same ten (10) inch distance below the light.

The lights will be activated when the battery switch is on and the adjacent door is opened.

FENDER CROWNS

Stainless steel fender crowns will be installed at the cab wheel openings.

GRAB HANDLE(S)

There will be two (2) chrome grab handle(s) mounted in the interior of the cab LS & RS front cab doors (upper forward corner to assist getting in the truck). The grab handle(s) will be securely mounted.

LIGHTED HANDRAIL BELOW CAB WINDSHIELD

A 10.00" long Hansen LED backlit knurled black anodized aluminum handrail will be mounted below the front cab windshield, one (1) on each side. The handrails will have e-coated and black powder coated stanchions.

Each handrail will be provided with red back lighted LED lights.

The lights will be activated when the parking brake is applied.

WINDOW PROTECTOR BARS, CREW CAB DOORS

A knurled window protector bar will be installed on each crew cab door, 2.00" above the bottom of the window opening. The bar will extend from the front of the crew cab door to the rear of the crew cab door, mounted as close to the door frame as possible.

CAB DASH

The driver side dash, switch panel located to the right of the driver, and center console will be an easily removable high impact resistant polymer cover.

The instrument gauge cluster will be surrounded with a high impact ABS plastic contoured to the same shape of the instrument gauge cluster.

The officer side dash will be a flat top design with an upper beveled edge to provide easy maintenance and will be constructed out of aluminum and painted to match the cab interior.

MOUNTING PLATE ON ENGINE TUNNEL

Equipment installation provisions will be installed on the engine tunnel.

A 0.188" smooth aluminum plate will be bolted to the top surface of the engine tunnel. The plate will follow the contour of the engine tunnel and will run the entire length of the engine tunnel. The plate will be spaced off the engine tunnel 1.00" to allow for wire routing below the plate.

The mounting surface will be painted fire smoke gray.

CAB INTERIOR

The cab interior will be constructed of primarily metal (painted aluminum) to withstand the severe duty cycles of the fire service.

The engine tunnel will be padded and covered, on the top and sides, with dark silver gray 36 ounce leather grain vinyl resistant to oil, grease, and mildew.

For durability and ease of maintenance, the cab interior side walls will be painted aluminum. The rear wall will be painted aluminum.

The headliner will be installed in both forward and rear cab sections. Headliner material will be vinyl. A sound barrier will be part of its composition. Material will be installed on an aluminum sheet and securely fastened to interior cab ceiling.

The forward portion of the cab headliner will permit easy access for service of electrical wiring or other maintenance needs.

All wiring will be placed in metal raceways.

CAB INTERIOR UPHOLSTERY

The cab interior upholstery will be 36 oz dark silver gray vinyl.

CAB INTERIOR PAINT

The cab interior metal surfaces, excluding the rear heater panels, will be painted fire smoke gray, vinyl texture paint.

The rear heater panels will be painted black, vinyl textured paint.

CAB FLOOR

A small blister will be provided at the rear of the engine tunnel for chassis components.

The cab and crew cab floor areas will be covered with Polydamp™ acoustical floor mat consisting of a black pyramid rubber facing and closed cell foam decoupler.

The top surface of the material has a series of raised pyramid shapes evenly spaced, which offer a superior grip surface. Additionally, the material has a 0.25" thick closed cell foam (no water absorption) which offers a sound dampening material for reducing sound levels.

DEFROST/AIR CONDITIONING SYSTEM

A ceiling mounted combination heater, defroster and air conditioning system will be installed in the cab above the engine tunnel area.

Cab Defroster

A 54,000 BTU heater-defroster unit with 690 SCFM of air flow will be provided inside the cab. The heater-defrost will be installed in the forward portion of the cab ceiling. Air outlets will be strategically located in the cab header extrusion per the following:

- One (1) adjustable outlet directed towards the left side cab window.
- One (1) adjustable outlet directed towards the right side cab window.
- Six (6) fixed outlets directed at the windshield.

The defroster will be capable of clearing 98 percent of the windshield and side glass when tested under conditions where the cab has been cold soaked at 0 degrees Fahrenheit for 10 hours, and a 2 ounce per square inch layer of frost/ice has been able to build up on the exterior windshield. The defroster system will meet or exceed SAE J382 requirements.

Cab/Crew Auxiliary Heater

There will be one (1) 31,000 BTU auxiliary heater with 560 SCFM of air flow provided in each outboard rear facing seat riser with a dual scroll blower. An aluminum plenum incorporated into the cab structure to be used to transfer heat to the forward positions.

Air Conditioning

A 19.10 cubic inch compressor will be installed on the engine.

A roof-mounted condenser with a 78,000 BTU output at 2,400 SCFM that meets and exceeds the performance specification will be installed on the cab roof. Mounting the condenser below the cab or body would reduce the performance of the system and will not be acceptable. The condenser cover to be painted to match the cab roof.

The air conditioning system will be capable of cooling the average cab temperature from 100 degrees Fahrenheit to 75 degrees Fahrenheit at 50 percent relative humidity within 30 minutes. The cooling performance test will be run only after the cab has been heat soaked at 100 degrees Fahrenheit for a minimum of 4 hours.

The evaporator unit will be installed in the rear portion of the cab ceiling over the engine tunnel. The evaporator will include one (1) high performance heating core, one (1) high performance cooling core with (1) plenum directed to the front and one (1) plenum directed to the rear of the cab. The rear plenum will be covered with a formed plastic cover.

The evaporator unit will have a 52,000 BTU at 690 SCFM rating that meets and exceeds the performance specifications.

Adjustable air outlets will be strategically located on the forward plenum cover per the following:

- Four (4) outlets directed towards the seating position on the left side of the cab.
- Four (4) outlets directed towards the seating position on the right side of the cab.

Adjustable air outlets will be strategically located on the rear plenum cover per the following:

- Minimum of five (5) outlets directed towards crew cab area.

A high efficiency particulate air (HEPA) filter will be included for the system. Access to the filter cover will be secured with four (4) screws.

The air conditioner refrigerant will be R-134A and will be installed by a certified technician.

Climate Control

An automotive style controller will be provided to control the heat and air conditioning system within the cab. The controller will have three (3) functional knobs for fan speed, temperature, and air flow distribution (front to rear) control.

The system will control the temperature of the cab and crew cab automatically by pushing the center of the fan speed control knob. Rotate the center temperature control knob to set the cab and crew cab temperature.

The AC system will be manually activated by pushing the center of the temperature control knob. Pushing the center of the air flow distribution knob will engage the AC for max defrost, setting the fan speeds to 100 percent and directing all air flow to the overhead forward position.

The system controller will be located within panel position #12.

Gravity Drain Tubes

Two (2) condensate drain tubes will be provided for the air conditioning evaporator. The drip pan will have two (2) drain tubes plumbed separately to allow for the condensate to exit the drip pan. No pumps will be provided.

WINDOW DEFROST FANS

Two (2) window defrost fans will be mounted on the ceiling of the cab, one (1) on each side of the cab.

SUN VISORS

Two (2) smoked Lexan™ sun visors will be provided. The sun visors will be located above the windshield with one (1) mounted on each side of the cab.

There will be a black plastic thumb latch provided to help secure each sun visor in the stowed position.

GRAB HANDLE

A black rubber covered grab handle will be mounted on the door post of the driver and officer's side cab door to assist in entering the cab. The officer's side grab handle will be mounted on the lower portion of the door post. The grab handle will be securely mounted to the post area between the door and windshield.

ENGINE COMPARTMENT LIGHTS

There will be one (1) Whelen®, Model 3SC0CDCR, 12 volt DC, 3.00" white LED light(s) with Model 3FLANGEC, chrome flange kit(s) installed under the cab to be used as engine compartment illumination.

These light(s) will be activated automatically when the cab is raised or when the dip stick door is opened.

ACCESS TO ENGINE DIPSTICKS

For access to the engine oil and transmission fluid dipsticks, there will be a door on the engine tunnel, inside the crew cab. The door will be on the rear wall of the engine tunnel, on the vertical surface.

The engine oil dipstick will allow for checking only. The transmission dipstick will allow for both checking and filling.

The door will have a rubber seal for thermal and acoustic insulation. One (1) flush lift and turn latch will be provided on the access door.



MAP BOX

There will be one (1) map box(es) with three (3) bins, open at top. The map box(es) will be installed at final inspection. The map box(es) will be divided into three (3) bins, each being 12.50" wide x 3.00" high x 12.00" deep. Each bin will slant 30 degrees from horizontal. The map box(es) will be constructed of 0.125" aluminum and will be painted to match the cab interior.

VELCRO STRAP(S) FOR MAP BOX

There will be one (1) Velcro® strap(s) installed at final inspection.

CAB SAFETY SYSTEM

The cab will be provided with a safety system designed to protect occupants in the event of a side roll or frontal impact, and will include the following:

- A supplemental restraint system (SRS) sensor will be installed on a structural cab member behind the instrument panel. The SRS sensor will perform real time diagnostics of all critical subsystems and will record sensory inputs immediately before and during a side roll or frontal impact event.
- A fault-indicating light will be provided on the vehicle's instrument panel allowing the driver to monitor the operational status of the SRS system.
- A driver side front air bag will be mounted in the steering wheel and will be designed to protect the head and upper torso of the occupant, when used in combination with the 3-point seat belt.
- A passenger side knee bolster air bag will be mounted in the modesty panel below the dash panel and will be designed to protect the legs of the occupant, when used in combination with the 3-point seat belt.
- Air curtains will be provided in the outboard bolster of outboard seat backs to provide a cushion between occupant and the cab wall.
- Suspension seats will be provided with devices to retract them to the lowest travel position during a side roll or frontal impact event.
- Seat belts will be provided with pre-tensioners to remove slack from the seat belt during a side roll or frontal impact event (with the exception of command chairs located in the command cab).

Frontal Impact Protection

The SRS system will provide protection during a frontal or oblique impact event. The system will activate when the vehicle decelerates at a predetermined G force known to cause injury to the occupants. The cab and chassis will have been subjected, via third party test facility, to a crash impact during frontal and oblique impact testing. Testing included all major chassis and cab components such as mounting straps for fuel and air tanks, suspension mounts, front suspension components, rear suspensions components, frame rail cross members, engine and transmission and their mounts, pump house and mounts, frame extensions and body mounts. The testing provided configuration specific information used to optimize the timing for firing the safety restraint system. The sensor will activate the pyrotechnic devices when the correct crash algorithm, wave form, is detected.

The SRS system will deploy the following components in the event of a frontal or oblique impact event:

- Driver side front air bag
- Passenger side knee bolster air bag

- Air curtains mounted in the outboard bolster of outboard seat backs
- Suspension seats will be retracted to the lowest travel position
- Seat belts will be pre-tensioned to firmly hold the occupant in place

Side Roll Protection

The SRS system will provide protection during a fast or slow 90 degree roll to the side, in which the vehicle comes to rest on its side. The system will analyze the vehicle's angle and rate of roll to determine the optimal activation of the advanced occupant restraints.

The SRS system will deploy the following components in the event of a side roll:

- Air curtains mounted in the outboard bolster of outboard seat backs
- Suspension seats will be retracted to the lowest travel position
- Seat belts will be pre-tensioned to firmly hold the occupant in place

SEATING CAPACITY

The seating capacity of the vehicle (including tiller cab and belted seat positions in the rescue body) will be five (5).

DRIVER SEAT

A seat will be provided in the cab for the driver. The seat design will be a cam action type, with air suspension. For increased convenience, the seat will include a manual control to adjust the horizontal position (6.00" travel). The manual horizontal control will be a towel-bar style located below the forward part of the seat cushion. To provide flexibility for multiple driver configurations, the seat will have an adjustable reclining back. The seat back will be a high back style with side bolster pads for maximum support. For optimal comfort, the seat will be provided with 17.00" deep foam cushions designed with EVC (elastomeric vibration control).

The seat will include the following features incorporated into the side roll protection system:

- Side air curtain will be mounted integral to the outboard bolster of the seat back. The air curtain will be covered by a decorative panel when in the stowed position.
- A suspension seat safety system will be included. When activated in the event of a side roll, this system will pretension the seat belt and retract the seat to its lowest travel position.

The seat will be furnished with a 3-point, shoulder type seat belt.

OFFICER SEAT

A seat will be provided in the cab for the passenger. The seat will be a fixed type, with no suspension. For optimal comfort, the seat will be provided with 17.00" deep foam cushions designed with EVC (elastomeric vibration control).

The seat back will be an SCBA back style with 95 degree fixed recline angle. The SCBA cavity will be adjustable from front to rear in 1.00" increments, to accommodate different sized SCBA cylinders. Moving the SCBA cavity will be accomplished by unbolting, relocating, and re-bolting it in the desired location.

The seat will include the following features incorporated into the side roll protection system:

- Side air curtain will be mounted integral to the outboard bolster of the seat back. The air curtain will be covered by a decorative panel when in the stowed position.
- A seat safety system will be included. When activated, this system will pretension the seat belt.

The seat will be furnished with a 3-point, shoulder type seat belt.

RADIO COMPARTMENT

A radio compartment will be provided under the officer's seat.

The inside compartment dimensions will be 14.00" wide x 7.50" high x 15.00" deep, with the back of the compartment angled up to match the cab structure.

A drop-down door with one (1) lift and turn latch will be provided for access.

The compartment will be constructed of smooth aluminum and painted to match the cab interior.

REAR FACING LEFT SIDE CABINET

A rear facing cabinet will be provided in the crew cab at the left side outboard position.

The cabinet will be 23.00" wide x 40.25" high x 26.75" deep with one (1) Amdor rollup door with anodized finish, locking with #751 key. The frame to frame opening will be 16.00" wide x 35.00" high. The minimum clear door opening of the cabinet will be 13.25" wide x 29.12" high.

CLEAR DOOR OPENINGS (F-F = Frame to Frame)					
AMDOR		GORTITE		ROM	
HORIZONTAL	VERTICAL	HORIZONTAL	VERTICAL	HORIZONTAL	VERTICAL
Subtract 2.00" from F-F	Subtract 5.88" from F-F	Subtract 2.75" from F-F	Subtract 4.75" from F-F	Subtract 2.56" from F-F	Subtract 4.50" from F-F

The cabinet will also provide access from outside the cab with one (1) double pan door painted to match the cab exterior with a non-locking D-ring latch. A web strap will be provided as a door stop. The door will be located on the side of the cab over the wheelwell. The clear door opening will be 17.00" wide x 34.00" high.

The cabinet will include two (2) infinitely adjustable shelves with a 0.75" flanged down lipped painted to match the cab interior.

The cabinet will include no louvers.

The exterior access will be provided with a polished stainless steel scuffplate on the lower door frame.

The cabinet will be constructed of smooth aluminum and painted to match the cab interior.

Cabinet Light

There will be one (1) white LED strip light installed on the left side of the exterior cabinet door opening, one (1) white LED strip light installed on the right side of the interior cabinet door opening and one (1)

white LED strip light installed on the left side of the interior cabinet door opening. The lights will be controlled by an automatic door switch.

REAR FACING RIGHT SIDE CABINET

A rear facing cabinet will be provided in the crew cab at the right side outboard position.

The cabinet will be 22.00" wide x 40.25" high x 26.75" deep with one (1) Amdor rollup door with anodized finish, non-locking. The frame to frame opening will be 19.50" wide x 35.00" high. The minimum clear door opening of the cabinet will be 16.75" wide x 29.12" high.

CLEAR DOOR OPENINGS (F-F = Frame to Frame)					
AMDOR		GORTITE		ROM	
HORIZONTAL	VERTICAL	HORIZONTAL	VERTICAL	HORIZONTAL	VERTICAL
Subtract 2.00" from F-F	Subtract 5.88" from F-F	Subtract 2.75" from F-F	Subtract 4.75" from F-F	Subtract 2.56" from F-F	Subtract 4.50" from F-F

The cabinet will include two (2) infinitely adjustable shelves with a 0.75" flanged down lipped painted to match the cab interior.

The cabinet will include no louvers.

The cabinet will be constructed of smooth aluminum, and painted to match the cab interior.

Cabinet Light

There will be one (1) white LED strip light installed on the right side of the interior cabinet door opening and one (1) white LED strip light installed on the left side of the interior cabinet door opening. The lights will be controlled by an automatic door switch.

FORWARD FACING DRIVER SIDE OUTBOARD SEAT

There will be one (1) forward facing, foldup seat provided at the driver side outboard position in the crew cab. For optimal comfort, the seat will be a minimum of 17.00" from the front of the cushion to the face of the seat back and designed with EVC (elastomeric vibration control).

The seat back will be an SCBA style with 90 degree back. The SCBA cavity will be adjustable from front to rear in 1.00" increments, to accommodate different sized SCBA cylinders. Moving the SCBA cavity will be accomplished by unbolting, relocating, and re-bolting it in the desired location.

The seat will include the following features incorporated into the side roll protection system:

- Side air curtain will be mounted integral to the outboard bolster of the seat back. The air curtain will be covered by a decorative panel when in the stowed position.
- A seat safety system will be included. When activated, this system will pretension the seat belt around the occupant to firmly hold them in place in the event of a side roll.

The seat will be furnished with a 3-point, shoulder type seat belt.

FORWARD FACING CENTER SEAT

There will be one (1) forward facing seat provided at the center position in the crew cab. For optimal comfort, the seat will be provided with 17.00" deep foam cushions designed with EVC (elastomeric vibration control).

The seat back will be an SCBA style with 90 degree back. The SCBA cavity will be adjustable from front to rear in 1.00" increments, to accommodate different sized SCBA cylinders. Moving the SCBA cavity will be accomplished by unbolting, relocating, and re-bolting it in the desired location.

The seat will include the following feature incorporated into the side roll protection system:

- A seat safety system will be included. When activated, this system will pretension the seat belt around the occupant to firmly hold them in place in the event of a side roll.

The seat will be furnished with a 3-point, shoulder type seat belt.

FORWARD FACING PASSENGER SIDE OUTBOARD SEAT

There will be one (1) forward facing, foldup seat provided at the passenger side outboard position in the crew cab. For optimal comfort, the seat will be a minimum of 17.00" from the front of the cushion to the face of the seat back and designed with EVC (elastomeric vibration control).

The seat back will be an SCBA style with 90 degree back. The SCBA cavity will be adjustable from front to rear in 1.00" increments, to accommodate different sized SCBA cylinders. Moving the SCBA cavity will be accomplished by unbolting, relocating, and re-bolting it in the desired location.

The seat will include the following features incorporated into the side roll protection system:

- Side air curtain will be mounted integral to the outboard bolster of the seat back. The air curtain will be covered by a decorative panel when in the stowed position.
- A seat safety system will be included. When activated, this system will pretension the seat belt around the occupant to firmly hold them in place in the event of a side roll.

The seat will be furnished with a 3-point, shoulder type seat belt.

DOOR PAN SCUFFPLATE

There will be a brushed stainless steel scuffplate on the interior door pan of one (1) cabinet door(s) located Around LS Exterior EMS Cabinet Door.

SEAT UPHOLSTERY

All seat upholstery will be leather grain 36 oz dark silver gray vinyl resistant to oil, grease and mildew. The cab and tiller cab (if applicable) will have five (5) seating positions.

AIR BOTTLE HOLDERS

All SCBA type seats in the cab will have a "Hands-Free" auto clamp style bracket in its backrest. For efficiency and convenience, the bracket will include an automatic spring clamp that allows the occupant to store the SCBA bottle by simply pushing it into the seat back. For protection of all occupants in the cab, in the event of an accident, the inertial components within the clamp will constrain the SCBA bottle in the seat and will exceed the NFPA standard of 9G.

There will be a quantity of four (4) SCBA brackets.

SEAT BELTS

All cab and tiller cab (if applicable) seating positions will have red seat belts. To provide quick, easy use for occupants wearing bunker gear, the female buckle and seat belt webbing length will meet or exceed the current edition of applicable NFPA and CAN/ULC - S515 standards.

The 3-point shoulder type seat belts will include height adjustment. This adjustment will optimize the belts effectiveness and comfort for the seated firefighter. The 3-point shoulder type seat belts will be furnished with dual automatic retractors that will provide ease of operation in the normal seating position.

The 3-point shoulder type belts will also include the ReadyReach® D-loop assembly to the shoulder belt system. The ReadyReach feature adds an extender arm to the D-loop location placing the D-loop in a closer, easier to reach location.

Any flip up seats will include a 3-point shoulder type belts only.

To ensure safe operation, the seats will be equipped with seat belt sensors in the seat cushion and belt receptacle that will activate an alarm indicating a seat is occupied but not buckled.

HELMET STORAGE PROVIDED BY FIRE DEPARTMENT

NFPA 1900, 2024 edition, section 11.1.8.4.1 and CAN/ULC 515:2024 edition, section 5.2, requires a location for helmet storage be provided.

There is no helmet storage on the apparatus as manufactured. The fire department will provide a location for storage of helmets.

CAB DOME LIGHTS

There will be four (4) dual LED dome lights with black bezels provided. Two (2) lights will be mounted above the inside shoulder of the driver and officer and two (2) lights will be installed and located, one (1) on each side of the crew cab.

The color of the LED's will be red and white.

The white LED's will be controlled by the door switches and the lens switch.

The color LED's will be controlled by the lens switch.

All dome lights on the apparatus will be illuminated per the current edition of applicable NFPA standards per seating position.

ENHANCED SOFTWARE FOR CAB AND CREW CAB DOME LIGHTS

The cab and crew cab dome lights will remain on for 10 seconds for improved visibility after the doors are closed.

The dome lights will dim after 10 seconds or immediately if the vehicle's transmission is put into gear.

HAND HELD LIGHT

There will be four (4) Streamlight, Fire Vulcan, Model #44311, hand lights provided with a vehicle mount with 12VDC direct wire charging rack and quick release buckle strap mounted Mounted at Final Inspection.

Each light housing will be orange in color and be provided with three (3) white LED's and two (2) "ultra bright blue tail light LEDs". The tail light LEDs will have a dual mode of blinking or steady.

CAB INSTRUMENTATION

The cab instrument panel include gauges, an LCD display, telltale indicator lamps, control switches, alarms, and a diagnostic panel. The function of the instrument panel controls and switches will be identified by a label adjacent to each item. Actuation of the headlight switch will illuminate the labels in low light conditions. Telltale indicator lamps will not be illuminated unless necessary. The cab instruments and controls will be conveniently located within the forward cab section, forward of the driver. The gauge assembly and switch panels are designed to be removable for ease of service and low cost of ownership.

Gauges

The gauge panel will include the following ten (10) black faced gauges with black bezels to monitor vehicle performance:

- Voltmeter gauge (volts):
 - Low volts (11.8 VDC)
 - Amber caution indicator on the information center with intermittent alarm
 - Amber caution light on gauge assembly
 - High volts (15.5 VDC)
 - Amber caution indicator on the information center with intermittent alarm
 - Amber caution light on gauge assembly
 - Very low volts (11.3 VDC)
 - Red warning indicator on the information center with a steady alarm
 - Amber caution light on gauge assembly
 - Very high volts (16.0 VDC)
 - Red warning indicator on the information center with a steady alarm
 - Amber caution light on gauge assembly
- Engine Tachometer (RPM)
- Speedometer MPH (Major Scale), KM/H (Minor Scale)
- Fuel level gauge (Empty - Full in fractions):
 - Low fuel (1/8 full)
 - Amber caution indicator on the information center with intermittent alarm
 - Amber caution light on gauge assembly
 - Very low fuel (1/32 full)
 - Red caution indicator on the information center with steady alarm
 - Amber caution light on gauge assembly
- Engine Oil pressure Gauge (PSI):
 - Low oil pressure to activate engine warning lights and alarms

- Red caution indicator on the information center with steady alarm
 - Amber caution light on gauge assembly
- Front Air Pressure Gauges (PSI):
 - Low air pressure to activate warning lights and alarm
 - Red warning indicator on the information center with a steady alarm
 - Amber caution light on gauge assembly
- Rear Air Pressure Gauges (PSI):
 - Low air pressure to activate warning lights and alarm
 - Red warning indicator on the information center with a steady alarm
 - Amber caution light on gauge assembly
- Transmission Oil Temperature Gauge (Fahrenheit):
 - High transmission oil temperature activates warning lights and alarm
 - Amber caution indicator on the information center with intermittent alarm
 - Amber caution light on gauge assembly
- Engine Coolant Temperature Gauge (Fahrenheit):
 - High engine temperature activates an engine warning light and alarms
 - Amber caution indicator on the information center with intermittent alarm
 - Amber caution light on gauge assembly
- Diesel Exhaust Fluid Level Gauge (Empty - Full in fractions):
 - Low fluid (1/8 full)
 - Amber indicator light in gauge dial

All gauges will perform prove out at initial power-up to ensure proper performance.

Indicator Lamps

To promote safety, the following telltale indicator lamps will be located on the instrument panel in clear view of the driver. The indicator lamps will be "dead-front" design that is only visible when active. The colored indicator lights will have descriptive text or symbols.

The following amber telltale lamps will be present:

- Low coolant
- Trac cntl (traction control) (where applicable)
- Check engine
- Check trans (check transmission)
- Aux brake overheat (Auxiliary brake overheat)
- Air rest (air restriction)
- Caution (triangle symbol)
- Water in fuel
- DPF (engine diesel particulate filter regeneration)
- Trailer ABS (where applicable)
- Wait to start (where applicable)
- HET (engine high exhaust temperature) (where applicable)
- ABS (antilock brake system)

- MIL (engine emissions system malfunction indicator lamp) (where applicable)
- Side roll fault (where applicable)
- Front air bag fault (where applicable)

The following red telltale lamps will be present:

- Warning (stop sign symbol)
- Seat belt
- Parking brake
- Stop engine
- Rack down

The following green telltale lamps will be provided:

- Left turn
- Right turn
- Battery on

The following blue telltale lamp will be provided:

- High beam

Alarms

Audible steady tone warning alarm: A steady audible tone alarm will be provided whenever a warning message is present.

Audible pulsing tone caution alarm: A pulsing audible tone alarm (chime/chirp) will be provided whenever a caution message is present without a warning message being present.

Alarm silence: Any active audible alarm will be able to be silenced by holding the ignition switch at the top position for three (3) to five (5) seconds. For improved safety, silenced audible alarms will intermittently chirp every 30 seconds until the alarm condition no longer exists. The intermittent chirp will act as a reminder to the operator that a caution or warning condition still exists. Any new warning or caution condition will enable the steady or pulsing tones respectively.

Indicator Lamp and Alarm Prove-Out

A system will be provided which automatically tests telltale indicator lights and alarms located on the cab instrument panel. Telltale indicators and alarms will perform prove-out at initial power-up to ensure proper performance.

Control Switches

For ease of use, the following controls will be provided immediately adjacent to the cab instrument panel within easy reach of the driver. All switches will have backlit labels for low light applications.

Headlight/Parking light switch: A three (3)-position maintained rocker switch will be provided. The first switch position will deactivate all parking and headlights. The second switch position will activate the parking lights. The third switch will activate the headlights.

Panel back lighting intensity control switch: A three (3)-position momentary rocker switch will be provided. Pressing the top half of the switch, "Panel Up" increases the panel back lighting intensity and pressing the bottom half of the switch, "Panel Down" decreases the panel back lighting intensity. Pressing the half or bottom half of the switch several times will allow back lighting intensity to be gradually varied from minimum to maximum intensity level for ease of use.

Ignition switch: A three (3)-position maintained/momentary rocker switch will be provided. The first switch position will turn off and deactivate vehicle ignition. The second switch position will activate vehicle ignition and will perform prove-out on the telltale indicators and alarms for 3 to 5 seconds after the switch is turned on. A green indicator lamp is activated with vehicle ignition. The third momentary position will temporarily silence all active cab alarms. An alarm "chirp" may continue as long as alarm condition exists. Switching ignition to off position will terminate the alarm silence feature and reset function of cab alarm system.

Engine start switch: A two (2)-position momentary rocker switch will be provided. The first switch position is the default switch position. The second switch position will activate the vehicle's engine. The switch actuator is designed to prevent accidental activation.

Hazard switch will be provided on the instrument panel or on the steering column.

Heater, defroster, and air conditioning control panel.

Turn signal arm: A self-canceling turn signal with high beam headlight controls will be provided.

Windshield wiper control will have high, low and intermittent modes.

Parking brake control: An air actuated push/pull park brake control valve will be provided.

Chassis horn control: Activation of the chassis horn control will be provided through the center of the steering wheel.

High idle engagement switch: A momentary rocker switch with integral indicator lamp will be provided. The switch will activate and deactivate the high idle function. The "OK To Engage High Idle" indicator lamp must be active for the high idle function to engage. A green indicator lamp integral to the high idle engagement switch will indicate when the high idle function is engaged.

"OK To Engage High Idle" indicator lamp: A green indicator light will be provided next to the high idle activation switch to indicate that the interlocks have been met to allow high idle engagement.

Emergency switching will be controlled by multiple individual warning light switches for various groups or areas of emergency warning lights. An Emergency Master switch provided on the instrument panel that enables or disables all individual warning light switches is included.

An additional "Emergency Master" button will be provided on the lower left hand corner of the gauge panel to allow convenient control of the "Emergency Master" system from inside the driver's door when standing on the ground.

Custom Switch Panels

The design of cab instrumentation will allow for emergency lighting and other switches to be placed within easy reach of the operator thus improving safety. There will be positions for up to four (4) switch panels in the lower instrument console and up to six (6) switch panels in the overhead visor console. All switches have backlit labels for low light conditions.



Diagnostic Panel

A diagnostic panel will be accessible while standing on the ground and located inside the driver's side door left of the steering column. The diagnostic panel will allow diagnostic tools such as computers to connect to various vehicle systems for improved troubleshooting providing a lower cost of ownership. Diagnostic switches will allow ABS systems to provide blink codes should a problem exist.

The diagnostic panel will include the following:

- Engine diagnostic port
- Transmission diagnostic port
- ABS diagnostic port
- Roll sensor diagnostic port
- Command Zone USB diagnostic port

- ABS diagnostic switch (blink codes flashed on ABS telltale indicator)
- Diesel particulate filter regeneration switch (where applicable)
- Diesel particulate filter regeneration inhibit switch (where applicable)

Cab LCD Display

A digital four (4)-row by 20-character dot matrix display will be integral to the gauge panel. The display will be capable of showing simple graphical images as well as text. The display will be split into three (3) sections. Each section will have a dedicated function. The upper left section will display the outside ambient temperature.

The upper right section will display the following, along with other configuration specific information:

- Odometer
- Trip mileage
- PTO hours
- Fuel consumption
- Engine hours

The bottom section will display INFO, CAUTION, and WARNING messages. Text messages will automatically activate to describe the cause of an audible caution or warning alarm. The LCD will be capable of displaying multiple text messages should more than one caution or warning condition exist.

AIR RESTRICTION INDICATOR

A high air restriction warning indicator light LCD message with amber warning indicator and audible alarm will be provided.

"DO NOT MOVE APPARATUS" INDICATOR

A flashing red indicator light, located in the driving compartment, will be illuminated automatically per the current NFPA requirements. The light will be labeled "Do Not Move Apparatus If Light Is On."

The same circuit that activates the Do Not Move Apparatus indicator will activate a pulsing alarm when the parking brake is released.

DO NOT MOVE TRUCK MESSAGES

Messages will be displayed on the Command Zone™, color display located within sight of the driver whenever the Do Not Move Truck light is active. The messages will designate the item or items not in the stowed for vehicle travel position (parking brake disengaged).

The following messages will be displayed (where applicable):

- Do Not Move Truck
- DS Cab Door Open (Driver Side Cab Door Open)
- PS Cab Door Open (Passenger's Side Cab Door Open)
- DS Crew Cab Door Open (Driver Side Crew Cab Door Open)
- PS Crew Cab Door Open (Passenger's Side Crew Cab Door Open)
- DS Body Door Open (Driver Side Body Door Open)
- PS Body Door Open (Passenger's Side Body Door Open)

- Rear Body Door Open
- DS Ladder Rack Down (Driver Side Ladder Rack Down)
- PS Ladder Rack Down (Passenger Side Ladder Rack Down)
- Deck Gun Not Stowed
- Lt Tower Not Stowed (Light Tower Not Stowed)
- Fold Tank Not Stowed (Fold-A-Tank Not Stowed)
- Aerial Not Stowed (Aerial Device Not Stowed)
- Stabilizer Not Stowed
- Steps Not Stowed
- Handrail Not Stowed

Any other device that is opened, extended, or deployed that creates a hazard or is likely to cause major damage to the apparatus if the apparatus is moved will be displayed as a caution message after the parking brake is disengaged.

SWITCH PANELS

The built-in switch panels will be located in the lower console or overhead console of the cab.

The switches will be rocker-type and include an integral indicator light. For quick, visual indication the switch will be illuminated whenever the switch is active. A 2-ply, scratch resistant laser engraved Gravoply label indicating the use of each switch will be placed below the switches. The label will allow light to pass through the letters for improved visibility in low light conditions. Switches and light source are integral to the switch panel assembly.

WIPER CONTROL

Wiper control will consist of a two (2)-speed windshield wiper control with intermittent feature and windshield washer controls. The control will be located in the left hand pod of the steering wheel.

HOURLY METER - AERIAL DEVICE

The following aerial hour meter messages will be included in the information centers:

- Aerial Hours, that keeps track of the time the aerial device is in motion.
- Aerial PTO Hours, that keeps track of the time the aerial master switch is on and the aerial PTO is engaged.

AERIAL MASTER

There will be a master switch for the aerial operating electrical system provided.

AERIAL PTO SWITCH

A PTO switch for the aerial with indicator light will be provided.

CAB USB

There will be four (4) USB terminations with a combination USB type A & C, wired to switched battery power, provided per the following:

- One (1) within reach of the driver
- One (1) within reach of the passenger
- Two (2) on the rear of the engine tunnel, one (1) each side.

This circuit may be load managed.

CUSTOMER SUPPLIED RADIO WIRING

There will be one (1) 12 volt combination wiring leads of which each will include one (1) battery switched, one (1) ignition and one (1) negative for use with radio equipment.

Each lead will be 18.00" long and be provided TBD at Drawing Approval. The leads will be clearly marked in a coil and terminate with butt splices.

A breaker rated for 30 amps will be provided for circuit protection of the battery switched lead with a minimum of 10 gauge wire.

A breaker rated for 7.5 amps will be provided for circuit protection of the ignition lead.

The wires will be colored coded as follows:

- red for battery switched
- yellow for ignition
- black for ground

SPARE CIRCUIT

There will be one (1) pair of wires, including a positive and a negative, installed on the apparatus.

The wires will have the following features:

- The positive wire will be connected directly to the battery power.
- The negative wire will be connected to ground.
- Wires will be capable of carrying 15 amps.
- Power and ground will terminate behind officer seat.
- Termination will be with a 10-place bus bar with screws and removable cover.
- Wires will be protected to meet the NFPA Automotive Fire Apparatus standard.

Battery direct loads cannot be Load Managed.

INFORMATION CENTER

An information center employing a 7.00" diagonal touch screen color LCD display will be encased in an ABS plastic housing.

The information center will have the following specifications:

- Operate in temperatures from -40 to 158 degrees Fahrenheit
- LCD optically bonded to hardened AR glass lens
- Five weather resistant user interface switches
- Grey with black accents

- Sunlight Readable
- Linux operating system
- Minimum of 1000nits rated display
- Display can be changed to an available foreign language
- A LCD display integral to the cab gauge panel will be included as outlined in the cab instrumentation area.
- Programmed to read US Customary

General Screen Design

Where possible, background colors will be used to provide "At a Glance" vehicle information. If information provided on a screen is within acceptable limits, a green background will be used.

If a caution or warning situation arises the following will occur:

- An amber background/text color will indicate a caution condition
- A red background/text color will indicate a warning condition
- The information center will utilize an "Alert Center" to display text messages for audible alarm tones. The text messages will be written to identify the item(s) causing the audible alarm to sound. If more than one (1) text message occurs, the messages will cycle every second until the problem(s) have been resolved. The background color for the "Alert Center" will change to indicate the severity of the "warning" message. If a warning and a caution condition occur simultaneously, the red background color will be shown for all alert center messages.
- A label for each button will exist. The label will indicate the function for each active button for each screen. Buttons that are not utilized on specific screens will have a button label with no text or symbol.

Home/Transit Screen

This screen will display the following:

- Vehicle Mitigation (if equipped)
- Water Level (if the water level system includes compatible communications to the information center)
- Foam Level (if the foam level system includes compatible communications to the information center)
- Seat Belt Monitoring Screen
- Tire Pressure Monitoring (if equipped)
- Digital Speedometer
- Active Alarms

On Scene Screen

This screen will display the following and will be auto activated with pump engaged (if equipped):

- Battery Voltage
- Fuel
- Oil Pressure

- Coolant Temperature
- RPM
- Water Level (if equipped)
- Foam Level (if equipped)
- Foam Concentration (if equipped)
- Water Flow Rate (if equipped)
- Water Used (if equipped)
- Active Alarms

Virtual Buttons

There will be four (4) virtual switch panel screens that match the overhead and lower lighting and HVAC switch panels.

Page Screen

The page screen will display the following and allow the user to progress into other screens for further functionality:

- Diagnostics
 - Faults
 - Listed by order of occurrence
 - Allows to sort by system
 - Interlock
 - Throttle Interlocks
 - Pump Interlocks (if equipped)
 - Aerial Interlocks (if equipped)
 - PTO Interlocks (if equipped)
 - Load Manager
 - A list of items to be load managed will be provided. The list will provide a description of the load.
 - The lower the priority numbers the earlier the device will be shed should a low voltage condition occur.
 - The screen will indicate if a load has been shed (disabled) or not shed.
 - "At a glance" color features are utilized on this screen.
 - Systems
 - Command Zone
 - Module type and ID number
 - Module Version
 - Input or output number
 - Circuit number connected to that input or output
 - Status of the input or output
 - Power and Constant Current module diagnostic information
 - Foam (if equipped)
 - Pressure Controller (if equipped)
 - Generator Frequency (if equipped)

- Live Data
 - General Truck Data
- Maintenance
 - Engine oil and filter
 - Transmission oil and filter
 - Pump oil (if equipped)
 - Foam (if equipped)
 - Aerial (if equipped)
- Setup
 - Clock Setup
 - Date & Time
 - 12 or 24 hour format
 - Set time and date
 - Backlight
 - Daytime
 - Night time
 - Sensitivity
 - Unit Selection
 - Home Screen
 - Virtual Button Setup
 - On Scene Screen Setup
 - Configure Video Mode
 - Set Video Contrast
 - Set Video Color
 - Set Video Tint
- Do Not Move
 - The screen will indicate the approximate location and type of item that is open or is not stowed for travel. The actual status of the following devices will be indicated
 - Driver Side Cab Door
 - Passenger's Side Cab Door
 - Driver Side Crew Cab Door
 - Passenger's Side Crew Cab Door
 - Driver Side Body Doors
 - Passenger's Side Body Doors
 - Rear Body Door(s)
 - Ladder Rack (if applicable)
 - Deck Gun (if applicable)
 - Light Tower (if applicable)
 - Hatch Door (if applicable)
 - Stabilizers (if applicable)
 - Steps (if applicable)
- Notifications
 - View Active Alarms

- Shows a list of all active alarms including date and time of the occurrence is shown with each alarm
- Silence Alarms - All alarms are silenced
- Timer Screen
- HVAC (if equipped)
- Tire Information (if equipped)
- Ascendant Set Up Confirmation (if equipped)

Button functions and button labels may change with each screen.

COLLISION MITIGATION

There will be a HAAS Alert®, Model HA7 Responder-to-Vehicle (R2V) collision avoidance system provided on the apparatus. The HA7 cellular transponder module will be installed behind the cab windshield, as high and near to the center as practical, to allow clear visibility to the sky. The module dimensions are 5.40" long x 2.70" wide x 1.30" high, and operating temperature range is -40 degrees Celsius to 85 degrees Celsius.

The transponder will be connected to the vehicle's emergency master circuit and battery direct power and ground.

While responding with emergency lights on, the HA7 transponder sends alert messages via cellular network to motorists in the vicinity of the responding truck that are equipped with the WAZE app.

While on scene with emergency lights on, the HA7 transponder sends road hazard alerts to motorists in the vicinity of the truck that are equipped with the WAZE app.

The HA7 Responder-to-Vehicle (R2V) collision avoidance system will include the transponder and a 5 year cellular plan subscription.

Activation of the HAAS Alert system requires a representative of the customer to accept the End User License Agreement (EULA) via an on-line portal.

VEHICLE DATA RECORDER

There will be a vehicle data recorder (VDR) capable of reading and storing vehicle information provided.

The information stored on the VDR can be downloaded through a USB port mounted in a convenient location determined by cab model. A USB cable can be used to connect the VDR to a laptop to retrieve required information. The program to download the information from the VDR will be available to download on-line.

The vehicle data recorder will be capable of recording the following data via hardwired and/or CAN inputs:

- Vehicle Speed - MPH
- Acceleration - MPH/sec
- Deceleration - MPH/sec

- Engine Speed - RPM
- Engine Throttle Position - % of Full Throttle
- ABS Event - On/Off
- Seat Occupied Status - Yes/No by Position
- Seat Belt Buckled Status - Yes/No by Position
- Master Optical Warning Device Switch - On/Off
- Internal clock syncs the time and date when a laptop is connected

Seat Belt Monitoring System

A seat belt monitoring system (SBMS) will be provided on the Command Zone™ color display and in the center overhead of the cab instrument panel. The SBMS will be capable of monitoring up to 10 seating positions indicating the status of each seat position per the following:

- Seat Occupied & Buckled = Green LED indicator illuminated
- Seat Occupied & Unbuckled = Red LED indicator with audible alarm
- No Occupant & Buckled = Red LED indicator with audible alarm
- No Occupant & Unbuckled = No indicator and no alarm
- FAULT = Blue LED indicator illuminated

The seat belt monitoring screen will become active on the Command Zone color display when:

- The home screen is active:
 - and there is any occupant seated but not buckled or any belt buckled with an occupant.
 - and there are no other Do Not Move Apparatus conditions present. As soon as all Do Not Move Apparatus conditions are cleared, the SBMS will be activated.

The SBMS will include an audible alarm that will warn that an unbuckled occupant condition exists and the parking brake is released, or the transmission is not in park.

RADIO ANTENNA MOUNT

There will be two (2) standard 1.125", 18 thread antenna-mounting base(s) installed one (1) on the left side and one (1) on the right side on the cab roof with high efficiency, low loss, coaxial cable(s) routed to the instrument panel area. A weatherproof cap will be installed on the mount.



VEHICLE CAMERA SYSTEM

There will be a color vehicle camera system provided with the following:

- One (1) Analog High Definition (AHD) camera located on the right side of the apparatus, pointing rearward, displayed automatically with the right side turn signal.
- One (1) AHD, black camera located at the rear of the apparatus, pointing rearward, displayed automatically with the vehicle in reverse.

The camera images will be displayed on the left side vehicle information center display. Audio from the microphone on the rear camera will be emitted by an amplified speaker on the ceiling behind the driver.

The following components will be included:

- One (1) 1080P Rear Camera
- One (1) 1080P Side Cameras
- All necessary cables

Camera Switcher

There will be one (1), HMU318 HD Image Processor multiplexer, 4 channel camera video switcher with remote control provided to allow single, dual, triplex, quad, trefoil, Y split and PIP view display modes on the vehicle information center display provided. The switcher will have one (1) CVBS, Composite Video Blanking and Sync, standard Definition video output and one (1) AHD, Analog High Definition video output for High Definition cameras.

ELECTRICAL POWER CONTROL SYSTEM

The primary power distribution will be located forward of the officer's seating position and be easily accessible while standing on the ground for simplified maintenance and troubleshooting. Additional electrical distribution centers will be provided throughout the vehicle to house the vehicle's electrical power, circuit protection, and control components. The electrical distribution centers will be located strategically throughout the vehicle to minimize wire length. For ease of maintenance, all electrical distribution centers will be easily accessible. All distribution centers containing fuses, circuit breakers and/or relays will be easily accessible.

Distribution centers located throughout the vehicle will contain battery powered studs for supplying customer installed equipment thus providing a lower cost of ownership.

Circuit protection devices, which conform to SAE standards, will be utilized to protect electrical circuits. All circuit protection devices will be rated per NFPA requirements to prevent wire and component damage when subjected to extreme current overload. General protection circuit breakers will be Type-I automatic reset (continuously resetting). When required, automotive type fuses will be utilized to protect electronic equipment. Control relays and solenoid will have a direct current rating of 125 percent of the maximum current for which the circuit is protected per NFPA.

Solid-State Control System

A solid-state electronics based control system will be utilized to achieve advanced operation and control of the vehicle components. A fully computerized vehicle network will consist of electronic modules, electronic control modules to include a see through housing, a power indicator, a status indicator and circuit indicators located near their point of use to reduce harness lengths and improve reliability. The control system will comply with SAE J1939-11 recommended practices.

The control system will operate as a master-slave system whereas the main control module instructs all other system components. The system will contain patented Mission Critical software that maintains critical vehicle operations in the unlikely event of a main controller error. The system will utilize a Real Time Operating System (RTOS) fully compliant with OSEK/VDX™ specifications providing a lower cost of ownership.

For increased reliability and simplified use the control system modules will include the following attributes:

- Green LED indicator light for module power
- Red LED indicator light for network communication stability status
- Control system self test at activation and continually throughout vehicle operation
- No moving parts due to transistor logic
- Software logic control for NFPA mandated safety interlocks and indicators
- Integrated electrical system load management without additional components
- Integrated electrical load sequencing system without additional components
- Customized control software to the vehicle's configuration
- Factory and field programmable to accommodate changes to the vehicle's operating parameters

To assure long life and operation in a broad range of environmental conditions, the solid-state control system modules will meet the following specifications:

- Module circuit board will meet SAE J771 specifications
- Operating temperature from -40 degrees Celsius to +70 degrees Celsius (-40 degrees Fahrenheit to +158 degrees Fahrenheit)
- Storage temperature from -40 degrees Celsius to +70 degrees Celsius (-40 degrees Fahrenheit to +158 degrees Fahrenheit)
- Vibration to 50g
- IP67 rated enclosure (Totally protected against dust and also protected against the effect of temporary immersion between 15 centimeters and one (1) meter)
- Operating voltage from eight (8) volts to 32 volts DC

The main controller will activate status indicators and audible alarms designed to provide warning of problems before they become critical.

Circuit Protection and Control Diagram

Copies of all job-specific, computer network input and output (I/O) connections will be provided with each chassis. The sheets will indicate the function of each module connection point, circuit protection information (where applicable), wire numbers, wire colors and load management information.

On-Board Electrical System Diagnostics

The on-board information center will include the following diagnostic information:

- Text description of active warning or caution alarms
- Simplified warning indicators
- Amber caution indication with intermittent alarm
- Red warning indication with steady tone alarm

Advanced diagnostic feature will be provided in this control system. From the Command Zone display or connected wireless device, these features allow the user to monitor the real-time status of every input or output on the vehicle. It also allows users logged in as an administrator to force on inputs or outputs to assist the troubleshooting process.

TCU Module with WiFi

An in cab module will provide WiFi wireless interface and data logging capability. The WiFi interface will comply with IEEE 802.11 b/g/n capabilities while communicating at 2.4 Gigahertz. The module will communicate through a black WiFi antenna allowing a line of site communication range of up to 300 feet with a roof mounted antenna.

The module will transmit a password protected web page to a WiFi enabled device (i.e. most smart phones, tablets or laptops) allowing two levels of user interaction. The firefighter level will allow vehicle monitoring of the vehicle and firefighting systems on the apparatus. The technician level will allow diagnostic access to inputs and outputs installed on the Command Zone™, control and information system.

The TCU capability will record faults from the engine, transmission, ABS and Command Zone™, control and information systems as they occur. No other data will be recorded at the time the fault occurs. The data TCU will provide up to 2 Gigabytes of data storage.

The TCU will provide a means to download the TCU information and update software in the device.

Indicator Light and Alarm Prove-Out System

A system will be provided which automatically tests basic indicator lights and alarms located on the cab instrument panel.

Voltage Monitor System

A voltage monitoring system will be provided to indicate the status of the battery system connected to the vehicle's electrical load. The system will provide visual and audible warning when the system voltage is below or above optimum levels.

The alarm will activate if the system falls below 11.8 volts DC for more than two (2) minutes.

Dedicated Radio Equipment Connection Points

There will be three (3) studs provided in the primary power distribution center located in front of the officer for two-way radio equipment. The studs will consist of the following:

- 12-volt 40-amp battery switched power
- 12-volt 60-amp ignition switched power
- 12-volt 60-amp direct battery power

There will also be a 12-volt 100-amp ground stud located in or adjacent to the power distribution center.

EMI/RFI Protection

To prevent erroneous signals from crosstalk contamination and interference, the electrical system will meet, at a minimum, SAE J551/2, thus reducing undesired electromagnetic and radio frequency emissions. An advanced electrical system will be used to ensure radiated and conducted electromagnetic interference (EMI) or radio frequency interference (RFI) emissions are suppressed at their source.

The apparatus will have the ability to operate in the electromagnetic environment typically found in fire ground operations to ensure clean operations. The electrical system will meet, without exceptions, electromagnetic susceptibility conforming to SAE J1113/25 Region 1, Class C EMR for 10KHz-1GHz to 100 Volts/Meter. The vehicle OEM, upon request, will provide EMC testing reports from testing conducted on an entire apparatus and will certify that the vehicle meets SAE J551/2 and SAE J1113/25 Region 1, Class C EMR for 10KHz-1GHz to 100 Volts/Meter requirements. Component and partial (incomplete) vehicle testing is not adequate as overall vehicle design can impact test results and thus is not acceptable by itself.

EMI/RFI susceptibility will be controlled by applying appropriate circuit designs and shielding. The electrical system will be designed for full compatibility with low-level control signals and high-powered two-way radio communication systems. Harness and cable routing will be given careful attention to minimize the potential for conducting and radiated EMI/RFI susceptibility.

ELECTRICAL SYSTEM PROGNOSTICS

There will be a software based vehicle tool provided to predict remaining life of the vehicles critical fluid and events.

The system will send automatic indications to the Command Zone™ information center and/or wireless enabled devices to proactively alert of upcoming service intervals.

Prognostics will include the following:

- Engine oil and filter
- Transmission oil and filter

ELECTRICAL

All 12-volt electrical equipment installed by the apparatus manufacturer will conform to modern automotive practices. All wiring will be high temperature crosslink type. Wiring will be run, in loom or conduit, where exposed and have grommets where wire passes through sheet metal. Automatic reset circuit breakers will be provided which conform to SAE Standards. Wiring will be color, function and number coded. Function and number codes will be continuously imprinted on all wiring harness conductors at 2.00" intervals. Exterior exposed wire connectors will be positive locking, and environmentally sealed to withstand elements such as temperature extremes, moisture and automotive fluids.

Electrical wiring and equipment will be installed utilizing the following guidelines:

1. All holes made in the roof will be caulked with silicon. Large fender washers, liberally caulked, will be used when fastening equipment to the underside of the cab roof.
2. Any electrical component that is installed in an exposed area will be mounted in a manner that will not allow moisture to accumulate in it. Exposed area will be defined as any location outside of the cab or body.
3. Electrical components designed to be removed for maintenance will not be fastened with nuts and bolts. Metal screws will be used in mounting these devices. Also a coil of wire will be provided behind the appliance to allow them to be pulled away from mounting area for inspection and service work.

4. Corrosion preventative compound will be applied to all terminal plugs located outside of the cab or body. All non-waterproof connections will require this compound in the plug to prevent corrosion and for easy separation (of the plug).
5. All lights that have their sockets in a weather exposed area will have corrosion preventative compound added to the socket terminal area.
6. All electrical terminals in exposed areas will have silicon applied completely over the metal portion of the terminal.

All lights and reflectors, required to comply with Federal Motor Vehicle Safety Standard #108, will be furnished. Rear identification lights will be recessed mounted for protection. Lights and wiring mounted in the rear bulkheads will be protected from damage by installing a false bulkhead inside the rear compartments.

An operational test will be conducted to ensure that any equipment that is permanently attached to the electrical system is properly connected and in working order.

The results of the tests will be recorded and provided to the purchaser at time of delivery.

BATTERY SYSTEM

There will be six (6) 12 volt Stryten/Exide®, Model 31S950X3W, batteries that include the following features will be provided:

- 950 CCA, cold cranking amps
- 190 amp reserve capacity
- High cycle
- Group 31
- Rating of 5700 CCA at 0 degrees Fahrenheit
- 1140 minutes of reserve capacity
- Threaded stainless steel studs

Each battery case will be a black polypropylene material with a vertically ribbed container for increased vibration resistance. The cover will be manifold vented with a central venting location to allow a 45 degree tilt capacity.

The inside of each battery will consist of a "maintenance free" grid construction with poly wrapped separators and a flooded epoxy bottom anchoring for maximum vibration resistance.

BATTERY SYSTEM

There will be a single starting system with an ignition switch and starter button provided and located on the cab instrument panel.

MASTER BATTERY SWITCH

There will be a master battery switch provided within the cab within easy reach of the driver to activate the battery system.

An indicator light will be provided on the instrument panel to notify the driver of the status of the battery system.

BATTERY COMPARTMENTS

Batteries will be placed on non-corrosive mats and be stored in well ventilated compartments located under the cab and bolted directly to the chassis frame. The battery boxes will have reinforced sides. The battery compartments will be constructed of 0.188" steel plate and be designed to accommodate a maximum of three (3) group 31 batteries in each compartment. The battery hold-downs will be of a non-corrosive material. All bolts and nuts will be stainless steel.

Heavy-duty, 2/0 gauge, color coded battery cables will be provided. Battery terminal connections will be coated with anti-corrosion compound.

Battery solenoid terminal connections will be encapsulated with semi-permanent rubberized compound.

JUMPER STUDS

One (1) set of battery jumper studs with plastic color-coded covers will be included on the battery compartments.

BATTERY CHARGER

There will be a Kussmaul™, Chief Series Smart Charger 6012, product code 091-266-12-60, 60 amp battery charger with build-in touch screen display provided.

The battery charger will be wired to the AC shoreline inlet through a junction box located near the battery charger.

The battery charger will be located in the cab behind the driver seat.

REMOTE CONTROL PANEL - BATTERY CHARGER

There will be a Kussmaul™, Chief Series Smart Charger remote control panel, product code 091-266-RCP included.

The battery charger indicator will be located on the driver's seat riser.

AUTO EJECT FOR SHORELINE

There will be one (1) Kussmaul™, Model 091-55-20-120, 20 amp 120 volt AC shoreline inlet(s) provided to operate the dedicated 120 volt AC circuits on the apparatus.

The shoreline inlet(s) will include red weatherproof flip up cover(s).

There will be a release solenoid wired to the vehicle's starter to eject the AC connector when the engine is starting.

The shoreline(s) will be connected to the battery charger.

There will be a mating connector body supplied with the loose equipment.

There will be a label installed near the inlet(s) that state the following:

- Line Voltage

- Current Rating (amps)
- Phase
- Frequency

The shoreline receptacle will be located on the driver side exterior of cab, behind crew cab door.

ALTERNATOR

A Delco Remy®, Model 55SI, alternator will be provided. It will have a rated output current of 430 amps, as measured by SAE method J56. The alternator will feature an integral regulator and rectifier system that has been tested and qualified to an ambient temperature of 257 degrees Fahrenheit (125 degrees Celsius). The alternator will be connected to the power and ground distribution system with heavy-duty cables sized to carry the full rated alternator output.

ELECTRONIC LOAD MANAGER

An electronic load management (ELM) system will be provided that monitors the vehicles 12-volt electrical system, automatically reducing the electrical load in the event of a low voltage condition, and automatically restoring the shed electrical loads when a low voltage condition expires. This ensures the integrity of the electrical system.

For improved reliability and ease of use, the load manager system will be an integral part of the vehicle's solid state control system requiring no additional components to perform load management tasks. Load management systems which require additional components will not be allowed.

The system will include the following features:

- System voltage monitoring.
- A shed load will remain inactive for a minimum of five minutes to prevent the load from cycling on and off.
- Sixteen available electronic load shedding levels.
- Priority levels can be set for individual outputs.
- High Idle to activate before any electric loads are shed and deactivate with the service brake.
 - If enabled:
 - "Load Man Hi-Idle On" will display on the information center.
 - Hi-Idle will not activate until 30 seconds after engine start up.
- Individual switch "on" indicator to flash when the particular load has been shed.
- The information center indicates system voltage.

The information center, where applicable, includes a "Load Manager" screen indicating the following:

- Load managed items list, with priority levels and item condition.
- Individual load managed item condition:
 - ON = not shed
 - SHED = shed

SEQUENCER

A sequencer will be provided that automatically activates and deactivates vehicle loads in a preset sequence thereby protecting the alternator from power surges. This sequencer operation will allow a gradual increase or decrease in alternator output, rather than loading or dumping the entire 12 volt load to prolong the life of the alternator.

For improved reliability and ease of use, the load sequencing system will be an integral part of the vehicle's solid state control system requiring no additional components to perform load sequencing tasks. Load sequencing systems which require additional components will not be allowed.

Emergency light sequencing will operate in conjunction with the emergency master light switch. When the emergency master switch is activated, the emergency lights will be activated one by one at half-second intervals. Sequenced emergency light switch indicators will flash while waiting for activation.

When the emergency master switch is deactivated, the sequencer will deactivate the warning light loads in the reverse order.

Sequencing of the following items will also occur, in conjunction with the ignition switch, at half-second intervals:

- Cab Heater and Air Conditioning
- Crew Cab Heater (if applicable)
- Crew Cab Air Conditioning (if applicable)
- Exhaust Fans (if applicable)
- Third Evaporator (if applicable)

HEADLIGHTS

There will be four (4) JW Speaker®, Model 8800, 4" x 6" rectangular LED lights with heated lens mounted in the front quad style, chrome housing on each side of the cab grille:

- the outside light on each side will contain a part number 055***1 low beam module
- the inside light on each side will contain a part number 055***1 high beam module
- the headlights to include chrome bezels

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

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

DIRECTIONAL LIGHTS

There will be two (2) Whelen® 600 series, amber LED combination directional/marker lights provided. The lights will be located next to the headlights in a triple light wrap around bezel, with chrome trim on the outside cab corners, one each side.

The lens color(s) to be clear.

INTERMEDIATE LIGHT

There will be two (2) Weldon, Model 9186-8580-29, amber LED turn signal marker lights furnished, one (1) each side, in the rear fender panel. The light will double as a turn signal and marker light.

CAB CLEARANCE LIGHTS

There will be two (2) amber LED lights provided to indicate the overall width of the vehicle, one (1) on each outboard side of the cab above the windshield.

FRONT CAB SIDE DIRECTIONAL/MARKER LIGHTS

There will be two (2) Truck-Lite®, Model 19036Y, amber LED lights installed to the outside of the chrome wrap around bezel, one (1) on each side of the cab.

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

REAR CLEARANCE/MARKER/ID LIGHTING

There will be three (3) LED identification lights located at the rear installed per the following:

- As close as practical to the vertical centerline
- Centers spaced not less than 6.00" or more than 12.00" apart
- Red in color
- All at the same height

There will be two (2) LED lights installed at the rear of the apparatus used as clearance lights located at the rear of the apparatus per the following:

- To indicate the overall width of the vehicle
- One (1) each side of the vertical centerline
- As near the top as practical
- Red in color
- To be visible from the rear
- All at the same height

There will be two (2) LED lights installed on the side of the apparatus used as marker lights as close to the rear as practical per the following:

- To indicate the overall length of the vehicle
- One (1) each side of the vertical centerline
- As near the top as practical
- Red in color
- To be visible from the side
- All at the same height

The lights will be mounted with no guard.

There will be two (2) red reflectors located on the rear of the truck facing to the rear. One (1) each side, as far to the outside as practical, at a minimum of 15.00", but no more than 60.00", above the ground.

There will be two (2) red reflectors located on the side of the truck facing to the side. One (1) each side, as far to the rear as practical, at a minimum of 15.00", but no more than 60.00", above the ground.

Per FMVSS 108 and CMVSS 108 requirements.

MARKER LIGHTS

There will be one (1) pair of amber and red LED marker lights with rubber arm, located at the rear most lower corner of the body. The amber lens will face the front and the red lens will face the rear of the truck.

These lights will be activated with the running lights of the vehicle.

REAR FMVSS LIGHTING

There will be two (2) wrap around tri-cluster LED modules provided on the face of the rear body compartments.

Each tri-cluster will include the following:

- One (1) LED stop/tail light
- One (1) LED directional light
- One (1) LED backup light

LICENSE PLATE BRACKET

There will be one (1) license plate bracket located below the tailboard on a removable bolt-on bracket located Left Side.

A white LED light will 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.

BACK-UP ALARM

A PRECO, Model 1040, solid-state electronic audible back-up alarm that actuates when the truck is shifted into reverse will be provided. The device will sound at 60 pulses per minute and automatically adjust its volume to maintain a minimum ten (10) dBA above surrounding environmental noise levels.

CAB PERIMETER SCENE LIGHTS

There will be four (4) Truck-Lite, Model 6060C, white LED lights with grommets provided, one (1) for each cab and crew cab door.

These lights will be activated automatically when the battery switch is on and the exit doors are opened or by the same means as the body perimeter scene lights.

PUMP HOUSE PERIMETER LIGHTS

There will be two (2) Truck-Lite, Model 6060C, white LED lights with grommets provided under the pump panel running boards, one (1) each side.

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

BODY PERIMETER SCENE LIGHTS

There will be one (1) Truck-Lite, Model 6060C, 6.00" x 2.00" oval LED 12 volt DC lights with Model 60700, grommets provided under the side turntable access steps.

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

ENHANCED SOFTWARE FOR PERIMETER LIGHTS

All perimeter lights will be deactivated when the parking brake is released unless alternate control is selected.

The cab and crew cab perimeter lights will remain on for ten (10) seconds for improved visibility after the doors closed.

12 VOLT LIGHTING

There will be a HiViz Model FT-B-72-ML-*, 2.56" high x 75.00" long x 2.45" deep 21,407 effective lumens 12 volt DC light on brackets in front of the cab roof per the following:

- 54 white scene LEDs configured in spot and flood optics
- three (3) amber LED identification lights
- two (2) amber LED clearance lights

The painted parts of the light housing and brackets to be black.

The light will be activated by a switch at the driver's side switch panel, by a switch at the left side pump panel and by a switch at the passenger's side switch panel.

The scene LEDs may be load managed when the parking brake is applied.

12 VOLT LIGHTING

There will be one (1) HiViz®, Model FT-GESM, 20,500 equivalent lumens 8.65" high x 10.61" wide x 2.78" deep light(s) with white LEDs installed on the cab LS Cab - over window between cab doors. The light(s) to include black optic holders, black bezels and black fixture body.

The light(s) will be activated by a switch at the driver's side switch panel, by a switch at the left side pump panel, by a switch at the passenger's side switch panel and by the same switching that has been selected for the other side scene light(s) on the apparatus.

The light(s) may be load managed when the parking brake is applied.

12 VOLT LIGHTING

There will be one (1) HiViz®, Model FT-GESM, 20,500 equivalent lumens 8.65" high x 10.61" wide x 2.78" deep light(s) with white LEDs installed on the cab RS Cab - over window between cab doors. The light(s) to include black optic holders, black bezels and black fixture body.

The light(s) will be activated by a switch at the driver's side switch panel, by a switch at the left side pump panel, by a switch at the passenger's side switch panel and by the same switching that has been selected for the other side scene light(s) on the apparatus.

The light(s) may be load managed when the parking brake is applied.

COVER/STEP OVER LIGHT ONTO A HORIZONTAL SURFACE

There will be two (2) housings fabricated from aluminum treadplate installed on the apparatus LS & RS Body Catwalk for the lights. The cover will be removable for light adjustment and wire protection. The cover will be sized accordingly so to be used as a stepping surface.

12 VOLT LIGHTING

There will one (1) HiViz Model FT-B-65-*, 18,849.6 effective lumens 2.06" high x 65.23" long x 2.45" deep 12 volt DC light(s) with white LEDs and a combination of spot, and flood optics installed on the apparatus located, LS Body Catwalk.

The painted parts of the light housing and brackets to be black.

The light(s) will be controlled by a switch at the driver's side switch panel, by a switch at the left side pump panel, by a switch at the passenger's side switch panel and by the same switching that has been selected for the other side scene light(s) on the apparatus.

The light(s) may be load managed when the parking brake is applied.

12 VOLT LIGHTING

There will one (1) HiViz Model FT-B-65-*, 18,849.6 effective lumens 2.06" high x 65.23" long x 2.45" deep 12 volt DC light(s) with white LEDs and a combination of spot, and flood optics installed on the apparatus located, RS Body Catwalk.

The painted parts of the light housing and brackets to be black.

The light(s) will be controlled by a switch at the driver's side switch panel, by a switch at the left side pump panel, by a switch at the passenger's side switch panel and by the same switching that has been selected for the other side scene light(s) on the apparatus.

The light(s) may be load managed when the parking brake is applied.

HOSE BED LIGHTS

There will be two (2) 40.00" long 12 volt DC light strips with white LED's provided to illuminate the hose bed per the following.

- One (1) light installed on the left side of the hose bed.
- One (1) light installed on the right side of the hose bed.

There will be a 16 gauge bright stainless steel overhead cover with 45 degreed ends provided over the light to protect the light from the hose and the hose from damaging snags.

The lights will be activated by a cup switch at the rear of the apparatus no more than 72.00" from the ground.

REAR SCENE LIGHTS

There will be two (2) HiViz item FT-GSMJR, 5.04" high x 7.40" wide x 1.54" deep 3,125 effective lumens lights with white LEDs and chrome trim installed at the rear of the apparatus, LS & RS Rear Body Corners.

The lights will be controlled by a switch at the driver's side switch panel, by a switch at the passenger's side switch panel, by a switch in a stainless steel cup located at the rear of the apparatus no more than 72.00" from the ground and when the emergency master switch is activated and the transmission is shifted into reverse.

WALKING SURFACE LIGHT

There will be Model FRP, 4.00" round black 12 volt DC LED floodlight(s) with bolt mount provided to illuminate the entire designated walking surface on top of the body.

The light(s) will be activated when the body step lights are on.

WATER TANK

It will have a capacity of 500 gallons and will be constructed of polypropylene plastic in a rectangular shape.

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

The tank will be baffled in accordance with the current edition of applicable NFPA standards.

The baffles will have vent openings at both the top and bottom of each baffle to permit movement of air and water between compartments.

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

The transverse partitions extend from 4" off the bottom to the underside of the top cover.

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

The 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.

It will be 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 of the dowels will be drilled and tapped (.50" diameter, 13.00" deep) to accommodate lifting eyes.

A sump will be provided at the bottom of the water tank. The 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 are provided to properly support bottom of tank.

Crossmembers are constructed of steel bar channel or rectangular tubing.

Tank "floats" 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 are provided to prevent an empty tank from bouncing excessively while moving vehicle.

Tank mounting system is approved by the manufacturer.

Fill tower will be constructed of 0.50" polypropylene and will be a minimum of 8.00" wide x 14.00" long.

Fill tower will be furnished with a 0.25" thick polypropylene screen and a hinged cover.

An overflow pipe, constructed of 4.00" schedule 40 polypropylene, will be installed approximately halfway down the fill tower and extend through the water tank and exit to the rear of the rear axle.

HOSE BED

The hose bed will be fabricated of 0.125" 5052-H32 aluminum with a tensile strength range of 31,000 to 38,000 psi.

The sides of the hose bed will not form any portion of the fender compartments.

The upper and rear edges of the hose bed side panels will have a double break for rigidity.

The hose bed will be located ahead of the ladder turntable.

There will be a hose chute to the side and rear of the hose bed on both the left and right side to allow for payout/removal of the hose.

The hose bed flooring will consist of removable aluminum grating with a top surface that is perforated to aid in hose aeration.

The hose bed/cargo area walls will be unpainted and dual action finished.

Hose capacity will be a minimum of 600' - 5" (RS) & 500' - 3" (LS).

AERIAL HOSE BED HOSE RESTRAINT

The hose in the hose beds will be restrained by black nylon Velcro® straps at the top of the hose bed and 1.00" black nylon web design with a 2.00" box pattern at the rear of the hose beds. The Velcro strap will be installed to the top of the hose bed side sheets. The rear webbing will have 1.00" web straps that loop through footman loops and fasten with spring clip and hook fasteners.

FIXED DIVIDER IN HOSE BED

A fixed divider will be provided in the hose bed. The divider will run from the front of the water tank grating to the rear on the left side of the water tank. This divider will be gusseted to the tank grating at the front and rear for strength.

HOSE BED HOSE RESTRAINT

A black hose bed cover will be furnished with velcro with snaps fasteners at the front and velcro with jacket snaps in each corner fasteners on the sides.

RUNNING BOARDS

A running board will be provided on each side of the front body to allow access to the backboard/crosslay storage area. The running boards will be designed with a grip pattern punched into .125" bright aluminum treadplate material providing support, slip resistance, and drainage.

The runningboard will have a flip out section design that allows easier access to the full width equipment area above. The flip out section will be tied to the "do not move truck indicator" with a sensor when it is flipped out. There will be a latch provided that secures the flip out section when not in use.

HANDRAILS

The handrails will be 1.25" diameter anodized aluminum extrusion, with a ribbed design, to provide a positive gripping surface.

Chrome plated end stanchions will support the handrail. Plastic gaskets will be used between end stanchions and any painted surfaces.

Drain holes will be provided in the bottom of all vertically mounted handrails.

- Two (2) handrails will be provided, one above each running board.

TURNTABLE STEPS

Access to the turntable will be provided by a set of swing-down steps on the left side of the truck. The bottom step to be a flip down, stirrup step. The bottom step will have a step height not exceeding 24.00" from the ground to the top surface of the step at any time. All steps will have a height no greater than 14.00" from top surface to top surface.

The access steps will be located rearward of the compartmentation.

The swing down step assembly will be constructed of D/A finished aluminum with bright aluminum treadplate steps. The steps to have a punched grip pattern design.

The stepwell will be lined with bright aluminum treadplate to act as scuffplates.

There will be a Southco raised trigger C2 chrome lever latch provided on the access door within the step well.

The step assembly will be stowed with black rubber plungers.

A knurled aluminum handrail will be provided on each side of the access steps.

Holes will be provided in each side step plate for hand holds.

The steps will be connected to the "Do Not Move Truck" indicator in the cab.

STEP LIGHTS

There will be three (3) white P25 LED step lights provided for the aerial turntable access steps.

In order to ensure exceptional illumination, each light will provide a minimum of 25 foot-candles (fc) covering an entire 15" x 15" square placed ten (10) inches below the light and a minimum of 1.5 fc covering an entire 30" x 30" square at the same ten (10) inch distance below the light.

The step lights will be activated by when the parking brake is applied.

SMOOTH ALUMINUM REAR WALL

The rear wall will be smooth aluminum.

TOW EYES

Two (2) rear painted tow eyes will be located at the rear of the apparatus and will be mounted directly to the frame rails. The inner and outer edges of the tow eyes will be radiused. Each tow eye will be rated for 9000 lb. The tow eyes will be painted to match the lower job color.

COMPARTMENTATION

Compartmentation will be fabricated of 0.125" 5052 aluminum.

Side compartments will be an integral assembly with the rear fenders.

Circular fender liners will be provided. For prevention of rust pockets and ease of maintenance, the fender liners will be formed from aluminum and removable for maintenance.

Compartment flooring will be of the sweep out design with the floor higher than the compartment door lip.

Drip protection will be provided above the doors by means of bright aluminum extrusion, formed bright aluminum treadplate or polished stainless steel.

The top of the compartment will be covered with bright aluminum treadplate rolled over the edges on the front, rear and outward side. These covers will have the corners welded.

Side compartment covers will be separate from the compartment tops.

All screws and bolts, which are not Grade 8, will be stainless steel and where they protrude into a compartment will have acorn nuts on the ends to prevent injury.

UNDERBODY SUPPORT SYSTEM

The backbone of the body support system will begin with the aerial torque box which is the strongest component of the apparatus and is designed for sustaining maximum loads.

An aluminum body structure will be mounted to the aerial torque box at three (3) points to create a floating substructure which will result in an 800 lb equipment support rating per lower compartment and provide up to 0.31" accumulative floor thickness.

The three (3) point body mounting system will consist of two (2) points in the front and one (1) in the rear. The front mounts will attach to the top of the stabilizer H-box, and the rear mount will attach to the rear of the torque box at the chassis centerline.

The body structure will be mounted with neoprene elastomer isolators. These isolators will have a broad load range, proven viability in vehicular applications, be of a fail-safe design and allow for all necessary movement in three (3) transitional and rotational modes.

The combination of the three (3) point mounting system and elastomer isolators allow the chassis and torque box to flex without driving loads into the body.

AGGRESSIVE WALKING SURFACE

All exterior surfaces designated as stepping, standing, and walking areas will comply with the required average slip resistance of the current NFPA standards.

LOUVERS

All body compartments will be vented to provide one (1) way airflow out of the compartment that prevents water and dirt from gaining access to the compartment.

TESTING OF BODY DESIGN

Body structural analysis will be fully tested. Proven engineering and test techniques such as finite element analysis, model analysis, and strain gauging have been performed with special attention given to fatigue, life and structural integrity of the body and substructure.

The body will be tested while loaded to its greatest in-service weight.

The criteria used during the testing procedure will include:

- Raising opposite corners of the vehicle tires 9.00" to simulate the twisting a truck may experience when driving over a curb.
- Making a 90 degree turn, while driving at 20 mph to simulate aggressive driving conditions.
- Driving the vehicle on at 35 mph on a washboard road.
- Driving the vehicle at 55 mph on a smooth road.
- Accelerating the vehicle fully, until reaching the approximate speed of 45 mph on rough pavement.

LEFT SIDE COMPARTMENTATION

The full height roll-up door compartment ahead of the rear wheels will be 39.19" wide x 63.00" high x 26.00" deep inside the lower 26.38" and 12.00" deep inside the upper portion with a clear door opening of 36.44" wide x 56.00" high.

There will be one (1) lift-up door compartment above the wheelwell and stabilizer. The compartment will be 83.88" wide x 25.25" high x 12.00" deep inside with a clear door opening of 81.12" wide x 22.25" high.

All roll door compartments will include a drip pan below the roll of the door.

The full height roll-up door compartment behind the rear wheel will be 45.12" wide x 57.00" high x 26.00" deep inside the lower 25.50" and 12.00" deep in the upper portion with a clear door opening of 43.38" wide x 50.00" high.

The compartment will include a drip pan below the roll of the door.

RIGHT SIDE COMPARTMENTATION

The full height roll-up door compartment ahead of the rear wheels will be 39.19" wide x 64.00" high x 26.00" deep inside the lower 27.38" and 12.00" deep inside the upper portion with a clear door opening of 36.44" wide x 57.00" high.

There will be one (1) lift-up door compartment above the wheelwell and stabilizer. The compartment will be 83.88" wide x 25.25" high x 12.00" deep inside with a clear door opening of 81.12" wide x 22.25" high.

All roll door compartments will include a drip pan below the roll of the door.

The full height roll-up door compartment behind the rear wheel will be 69.00" wide x 57.00" high x 26.00" deep inside the lower 25.50" and 12.00" deep in the upper portion with a clear door opening of 67.25" wide x 50.00" high.

The compartment will include a drip pan below the roll of the door.

REAR COMPARTMENT

A compartment will be provided at the rear of the unit.

Compartment will be 27.75" wide x 35.00" high x 26.25" deep with a clear door opening of 25.00" wide x 29.50" high.

The compartment will be furnished with a satin aluminum roll-up door.

A stainless steel lift bar to be provided for opening the door and located at the bottom of each door with latches on the outer extrusion of the door frame. A ledge to be supplied over lift bar for additional area to aid in closing the door. The lift bar will be located at the bottom of door with striker latches installed at the base of the side frames. Side frame mounted door strikers will include support beneath the stainless steel lift bar to prevent door curtain bounce, improve bottom seal life expectancy and to avoid false door ajar signals.

SIDE COMPARTMENT DOORS

All hinged compartment doors will be lap style with double panel construction and fabricated of .09" 5052H32 aluminum. Doors will be a minimum of 1.50" thick. To provide additional door strength, a C section reinforcement will be installed between the outer and interior panels.

Doors will be provided with a closed cell rubber gasket around the surface that laps onto the body. A second heavy-duty automotive rubber molding with a hollow core will be installed on the door framing that seals onto the interior panel, to ensure a weather resisting compartment.

All lap compartment doors will have polished stainless steel continuous hinge with a pin diameter of .25", that is bolted or screwed on with stainless steel fasteners. A dielectric substance will be applied to each hinge fastener.

All door lock mechanisms will be fully enclosed within the door panels to prevent fouling of the lock in the event equipment inside shifts into the lock area.

Doors will be latched with recessed, polished stainless steel D ring handles and Eberhard 106 locks.

To prevent corrosion caused by dissimilar metals, compartment door handles will not be attached to outer door panel with screws. A rubber gasket will be provided between the D ring handle and the door.

ROLL-UP DOOR(S)

There will be six (6) compartment doors installed on the side compartments, double faced, aluminum construction, painted one (1) color to match the lower portion of the body and manufactured by AMDOR™ brand roll-up doors.

Door(s) will be constructed using 1.00" extruded double wall aluminum slats which will feature a flat smooth interior surface to provide maximum protection against equipment hang-up. The slats will be connected with a structural driven ball and socket hinge designed to provide maximum curtain diaphragm strength. Mounting and adjusting the curtain will be done with a clip system that connects the curtain to the balancer drum allowing for easy tension adjustment without tools. The slats will be mounted in reusable slat shoes with positive snap-lock securement.

Each slat will incorporate weather tight recessed dual durometer seals. One (1) fin will be designed to locate the seal within the extrusion. The second will serve as a wiping seal which will also allow for compression to prevent water ingress.

The doors will be mounted in a one (1)-piece aluminum side frame with recessed side seals to minimize seal damage during equipment deployment. All seals including side frames, top gutters and bottom panel are to be manufactured utilizing non-marring materials.

Bottom panel flange of roll-up door will be equipped with two (2) cut-outs to allow for easier access with gloved hands.

A stainless steel lift bar to be provided for opening the door and located at the bottom of each door with latches on the outer extrusion of the door frame. A ledge to be supplied over lift bar for additional area to aid in closing the door. The lift bar will be located at the bottom of door with striker latches installed at the base of the side frames. Side frame mounted door strikers will include support beneath the stainless steel lift bar to prevent door curtain bounce, improve bottom seal life expectancy and to avoid false door ajar signals.

All injection molded roll-up door wear components will be constructed of Type 6 nylon.

Each roll-up door will have a 3.00 inch diameter balancer/tensioner drum to assist in lifting the door.

The header for the roll-up door assembly will not exceed 4.00".

A heavy-duty magnetic switch will be used for control of open compartment door warning lights.

REAR BUMPER

An aluminum rub rail will be provided at the rear of the unit. It will extend the full width of the body.

SCUFFPLATE

A brushed stainless steel scuffplate will be furnished around the opening for the DEF fill door to prevent chipping and stain.

SCUFFPLATE

A brushed stainless steel scuffplate will be provided around the ladder storage compartment opening.

SCUFFPLATE

A brushed stainless steel scuffplate will be provided around the stabilizer control box compartment door. There will be a total of two (2) scuffplate(s) provided, one for each stabilizer control box door.

SCUFFPLATE

A polished stainless steel scuffplate will be furnished around the opening for the fuel fill door to prevent chipping and fuel stain.

SCUFFPLATE

Four (4) scuffplates will be furnished around the opening for the air bottle compartment(s). The scuffplate(s) will be constructed of brushed stainless steel and provided for the on the left side forward of the rear wheels, on the left side rearward of the rear wheels, on the right side forward of the rear wheels and on the right side rearward of the rear wheels air bottle compartment(s).

LIFTUP DOOR PULL STRAPS

There will be two (2) compartment doors provided with pull straps. The pull straps will be 18.00" long and black in color.

The straps will be installed directly to the inside of the liftup door. Hook and loop fabric will be mounted to the inside of the liftup door and on the pull straps to allow the strap to be retained inside the compartment while being closed.

The liftup door compartments to have these straps will be LS2 & RS2.

ROLLUP DOOR PULL STRAP

There will be six (6) compartment doors provided with Amdor Flex-HD pull straps. The compartment door(s) to be provided with a pull strap will be LS4, LS3, LS1, RS4, RS3 & RS1

COMPARTMENT LIGHTING

There will be seven (7) compartment(s) 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 compartment(s).

Any remaining compartments without light strips will have a 6.00" diameter Truck-Lite, Model 79384, light. Each light will have a number 1076 one filament, two wire bulb.

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

COMPARTMENT LIGHTING

Metal clamps will be used to retain the strip lighting in all body compartments.

MOUNTING TRACKS

There will be recessed tracks installed vertically to support the adjustable shelf(s).

Tracks will not protrude into any compartment in order to provide the greatest compartment space and widest shelves possible.

The tracks will be provided in each compartment except for the one that contains the pump operator's panel.

ADJUSTABLE SHELVES

There will be eight (8) shelves with a capacity of 500 lb provided.

The shelf construction will consist of .188" aluminum painted spatter gray with 2.00" sides.

Each shelf will be infinitely adjustable by means of a threaded fastener, which slides in a track.

The shelves will be held in place by .12" thick stamped plated brackets and bolts.

The location(s) will be determined at a later date.

SLIDE-OUT ADJUSTABLE HEIGHT TRAY

There will be two (2) slide-out trays provided.

Each tray will have 2.00" high sides and a minimum capacity rating of 500 lb in the extended position.

Each tray will be constructed of aluminum painted spatter gray.

Each tray will be mounted on a pair of side mounted slides. The slide mechanisms will have ball bearings for ease of operation and years of dependable service. The slides will be mounted to shelf tracks to allow the tray to be adjustable up and down within the designated mounting location.

An automatic lock will be provided for both the in and out tray positions. The lock trip mechanism will be located at the front of the tray and will be easily operated with a gloved hand.

The location(s) will be determined at a later date

SLIDE-OUT FLOOR MOUNTED TRAY

There will be five (5) floor mounted slide-out tray(s) provided.

Each tray will have 2.00" high sides and a minimum capacity rating of 500 lb in the extended position.

Each tray will be constructed of aluminum painted spatter gray.

There will be two undermount-roller bearing type slides rated at 250 lb each provided. The pair of slides will have a safety factor rating of 2.

To ensure years of dependable service, the slides will be coated with a finish that is tested to withstand a minimum of 1,000 hours of salt spray per ASTM B117.

To ensure years of easy operation, the slides will require no more than a 50lb force for push-in or pull-out movement when fully loaded after having been subjected to a 40 hour vibration (shaker) test under full load. The vibration drive file will have been generated from accelerometer data collected from a heavy truck chassis driven over rough gravel roads in an unloaded condition. Proof of compliance will be provided upon request.

Automatic locks will be provided for both the "in" and "out" positions. The trip mechanism for the locks will be located at the front of the tray for ease of use with a gloved hand.

The location(s) will be RS1, RS3, LS1, LS4 and LS3.

DRAWER ASSEMBLY

A slide-out drawer assembly will be installed TBD at Drawing Approval.

The clear dimensions starting at the top of the cabinet with the first drawer will be 4.00" with a face plate that is 5.00" high x 21.00" deep. The clear dimensions of the second drawer will be 4.75" with a face plate that is 5.00" high x 21.00" deep. The clear dimensions of the third drawer will be 6.75" with a face plate that is 7.00" high x 21.00" deep. The clear dimensions of the fourth drawer will be 8.75" with a face plate that is 9.00" high x 21.00" deep. Each drawer will be the same width and not exceed 48.00".

The drawers will have a capacity of 250 pounds.

The drawers will be mounted in a cabinet housing constructed of light gray powder coated aluminum with anodized aluminum frames. The housing will be 24.00" deep, and completely enclose the drawer.

A full-length aluminum extruded rail will be provided at the top edge of each drawer. This rail will act as the latching mechanism as well as the handle for each drawer.

There will be a total of one (1) provided.

SWING OUT TOOLBOARD

A swing out aluminum toolboard will be provided.

It will be a minimum of 0.188" thick with .203" diameter holes in a pegboard pattern with 1.00" centers between holes.

A 1.00" x 1.00" aluminum tube frame will be welded to the edge of the pegboard.

The board will be mounted on a pivoting device at the back of the compartment on the top and bottom to allow easy movement in and out of the compartment. The maximum tool load will be 400 lb.

The board will have positive lock in the stowed and extended position.

The board will have a D-ring handle to secure it in the stowed position.

The board will be mounted on adjustable tracks from front to back within the compartment.

One (1) toolboard(s) will be provided. The toolboard(s) will be spatter gray painted and installed in LS2 full height and width.

SWING OUT TOOLBOARD

A swing out aluminum toolboard will be provided.

It will be a minimum of .188" thick with .203" diameter holes in a pegboard pattern with 1.00" centers between holes.

A 1.00" x 1.00" aluminum tube frame will be welded to the edge of the pegboard.

The board will be mounted on a pivoting device at the front of the compartment on the top and bottom to allow easy movement in and out of the compartment. The maximum tool load will be 400 pounds.

The board will have positive lock in the stowed and extended position.

The board will have a D-ring handle to secure it in the stowed position.

The board will be mounted on adjustable tracks from front to back within the compartment.

One (1) toolboard(s) will be provided spatter gray painted and installed RS2 full height and width.

SLIDE-OUT TOOLBOARD

There will be two (2) slide-out toolboard(s) provided.

The toolboard will be a minimum of 0.188" thick with .203" diameter holes in a pegboard pattern with 1.00" centers between holes.

A 1.00" x 1.00" aluminum tube frame will be welded to the edge of the pegboard. A handhold cutout will be provided on the outboard edge of the toolboard.

The board will be mounted on an under-mount roller bearing type slide rated at 250 lb with a factor of safety of 2.

To ensure years of dependable service the slides will be coated with a finish that is tested to withstand a minimum of 1,000 hours of salt spray per ASTM B117.

To ensure years of easy operation, the slides will require no more than a 50 lb force for push-in or pull-out movement when fully loaded after having been subjected to a 40 hour vibration (shaker) test under full load. The vibration drive file will have been generated from accelerometer data collected from a heavy truck chassis driven over rough gravel roads in an unloaded condition. Proof of compliance will be provided upon request.

The slide will be mounted on adjustable tracks side to side within the compartment.

The board will have positive lock in the stowed and extended position.

The toolboard(s) will be spatter gray painted and installed determined at a later date.

VERTICAL COMPARTMENT PARTITION

Two (2) partitions will be provided.

The partition construction will consist of body material painted spatter gray. Each partition will be the full vertical height of the compartment.

The location(s) will be determined at a later date.

RUB RAIL

Bottom edge of the side compartments will be trimmed with a bright aluminum extruded rub rail.

Trim will be 3.12" high with 1.50" flanges turned outward for rigidity.

The rub rails will not be an integral part of the body construction, which allows replacement in the event of damage.

BODY FENDER CROWNS

Polished stainless steel fender crowns will be provided around the rear wheel openings.

An unpainted fender liner will be provided to avoid paint chipping. The liners will be removable to aid in the maintenance of rear suspension components.

A dielectric barrier will be provided between the fender crown fasteners (screws) and the fender sheet metal to prevent corrosion.

The fender crowns will be held in place with stainless steel screws that thread directly into a composite nut and not directly into the parent body sheet metal to eliminate dissimilar metals contact and greatly reduce the chance for corrosion.

HARD SUCTION HOSE

Hard suction hose will not be required.

HANDRAILS

Hansen handrails will be located on the front of the body in positions needed to meet NFPA requirements.

The handrails will be Hansen LED black anodized backlit knurled aluminum. The handrails will be lit with a red LED light. The handrail lighting will be activated with the application of the parking brake.

E-coated and black powder coated end stanchions will support the handrail. Plastic gaskets will be used between end stanchions and any painted surfaces.

Drain holes will be provided in the bottom of all vertically mounted handrails.

ADDITIONAL HANDRAIL

Six (6) handrails will be provided mounted TBD at Drawing approval for any extra handrails needed.

The handrail will be 1.25" diameter black anodized aluminum extrusion, with a ribbed design, to provide a positive gripping surface.

E-coated and black powder coated stanchions will support the handrail. Plastic gaskets will be used between end stanchions and any painted surfaces.

The handrails will be Hansen LED backlit. The handrails will be lit with a red LED light. The handrails will be activated with the application of the parking brake.

Drain holes will be provided in the bottom of all vertically mounted handrails.

AIR BOTTLE STORAGE

A total of three (3) air bottle compartments will be provided and located on the left side ahead of the rear wheel, on the left side behind the rear wheel and on the right side ahead of the rear wheel. The air bottle compartment will be a minimum of 15.00" wide x 7.50" tall x 26.00" deep. A painted stainless steel door with a Southco raised trigger C2 chrome lever latch will be provided to contain the air bottle. A dielectric barrier will be provided between the door hinge, hinge fasteners and the body sheet metal.

Inside the compartment, black rubber matting will be provided.

AIR PACK STORAGE IN FENDER PANEL CORNER

There will be one (1) air pack compartment(s) provided on the right side ahead of the rear wheel. Each compartment will be tapered to match the profile of the space available in the fender. The compartment will be approximately 15.50" wide at the top and 5.00" wide at the bottom for the wheel cutout. The compartment(s) will be 14.50" tall at the body side compartment and 5.00" tall at the wheel cutout. The compartment(s) will be 26.00" deep and have a drain hole.

A vertically hinged door with tapered corners and a Southco raised trigger C2 chrome lever latch. The door will be painted to match the lower body stainless steel. A dielectric barrier will be provided between the door hinge, hinge fasteners and the body sheet metal.

EXTENSION LADDER

There will be a 35' three (3) section aluminum Duo-Safety Series 1225-A extension ladder provided.

AERIAL EXTENSION LADDER

There will be one (1) 24' two (2) section aluminum Series 900-A extension ladder(s) provided and located in the ladder storage compartment.

ROOF LADDER

There will be two (2), 16' aluminum, Duo-Safety, Series 875-DR roof ladders provided. The ladders will have hooks on both ends.

ADDED ROOF LADDER

There will be one (1) 14' roof, aluminum Series 775-DR with roof hooks on both ends provided and located on the base section of the aerial device..

AERIAL FOLDING LADDER

There will be one (1) 10' aluminum Duo-Safety Series 585-A folding ladder(s) provided and located in the ladder storage compartment.

GROUND LADDER STORAGE

Ladder tunnels will be provided at the rear of the apparatus on either side of the turntable.

Tunnels will be capable of holding up to two (2) two-section pumper style ladders on each side not in excess of 22.00" wide or 5-13/16" in thickness.

The ladders will be held captive top and bottom by stainless steel tracks. A polyethylene wear plate will be provided to prevent ladders from being scuffed by contacting metal parts. The plate will be mounted to the bottom of the entrance area of the ladder tunnels.

All ladders will be removable individually without having to remove any other ladder.

A Velcro® strap will be provided to help contain the ladders.

A smooth aluminum door with a chrome D-Ring latch will be provided on each ladder tunnel.

PIKE POLES

There will be two (2) Fire Hooks Unlimited MPH-12, 12' pike pole(s) with fiberglass handles and ram knob end provided. The pike pole(s) will be stored on the apparatus.

8' PIKE POLE

There will be two (2) Fire Hooks Unlimited RH-8, New York Roof hook(s) with an 8' long fiberglass pole and chisel end provided.

6' PIKE POLE

There will be two (2) Fire Hooks Unlimited NY roof hook RH-6, 6' pike pole(s) with steel handles and pry end provided Ladder storage.

PIKE POLE STORAGE IN TORQUE BOX/LADDER STORAGE

There will be aluminum tubing provided in the torque box/ladder storage area for a total of six (6) pike poles. The pike pole tube(s) will be notched to allow a New York style pike pole to fit in the tube.

If the head of a pike pole can come into contact with a painted surface, a stainless steel scuffplate will be provided.

PIKE POLE STORAGE IN TORQUE BOX/LADDER STORAGE

There will be ABS tubing provided in the torque box/ladder storage area for a total of six (6) pike poles.

If the head of a pike pole can come into contact with a painted surface, a stainless steel scuffplate will be provided.

PULL-OUT/DROP DOWN STEP

A total of two (2) pull-out and drop down, camper style step(s) will be provided on the rear wall of the body, located on the left and right side to provide easy access to the rear hose bed(s).

Each step will be 19.00" wide x 8.00" deep. The stepping surface will be bright aluminum treadplate.

Each step will include a TecNiq T10-LC00-1, 1.21" high x 15.52" wide x 0.50" deep to illuminate the ground area beneath the step.

Each step will include a white 12 volt DC LED light to illuminate the stepping surface.

A rubber draw latch will be provided to retain the step in the stowed position.

PUC MODULE

The pump module will be separate from the hose body and compartments so that each may flex independently of the other. It will be a fabricated assembly of aluminum tubing, angles and channels which supports both the plumbing and the side running boards.

The pump module will be mounted on the chassis frame rails with standard body angles in four places to allow for chassis frame twist.

Pump module, plumbing and gauge panels will be removable from the chassis in a single assembly.

PUMP CONTROL PANELS (LEFT SIDE CONTROL)

Pump controls and gauges will be located midship at the left side of the apparatus and properly identified.

The main pump operator's control panel will be completely enclosed and located in the forward section of the body compartment. There will be a roll up door to protect against road debris and weather elements. This roll-up door compartment will include a drip pan below the roll of the door. The pump operator's panels will be no more than 31.00" wide, and made in four (4) sections with the center section easily removable with simple hand tools. For the safety of the pump operator, there will be no discharge outlets or pump inlets located on the main pump operators panel.



Layout of the pump control panel will be ergonomically efficient and systematically organized. The upper section will contain the master gauges. This section will be angled down for easy visibility. The center section will contain the pump controls aligned in two horizontal rows. The pressure control device, engine monitoring gauges, electrical switches, and foam controls (if applicable) will be located on or adjacent to the center panel, on the side walls for easy operation and visibility. The lower section will contain the outlet drains.

Manual controls will be easy moving 8" long lever style controls that operate in a vertical, up and down swing motion. These handles will have a 2.25" diameter knob and be able to lock in place to prevent valve creep under any pressure. Bright finish bezels will encompass the opening, be securely mounted to the pump operator's panel, and will incorporate the discharge gauge bezel. Bezels will be bolted to the panel for easy removal and gauge service. The driver's side discharges will be controlled directly at the valve. There will be no push-pull style control handles.

Identification tags for the discharge controls will be recessed within the same bezel. 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.

All discharge outlets will be color coded and labeled to correspond with the discharge identification tag.

The pump panels for the discharge and intake ports will be located ahead of the pump module with no side discharge or intake higher than the frame rail. The pump panels will be easily removable with simple hand tools.

A recessed cargo area will be provided at the front of the body, ahead of the water tank above the plumbing.

PASSENGER SIDE PUC MODULE COMPARTMENT

A full height compartment with a roll-up door ahead of the front stabilizer will be provided, as convenient large storage compartment for often used items for the crew. The interior dimensions of this compartment will be 30.25" wide x 52.00" high x 25.13" deep. The depth of the compartment will be calculated with the compartment door closed. The compartment interior will be fully open from the compartment ceiling to the compartment floor and designed so that no permanent dividers are required between the upper and lower sections. The clear door opening of this compartment will be 28.00" wide x 52.00 high.

Closing of the door will not require releasing, unlocking, or unlatching any mechanism and will easily be accomplished with one hand.

This roll-up door compartment will include a drip pan below the roll of the door.

PUMP

Pump will be a Pierce, low profile, 2000 gpm single stage midship mounted centrifugal type, mounted below the cab. The pump will have a 15 percent reserve capacity to allow for extended time between pump rebuild. To ensure efficient pump/vehicle design the capacity to weight ratio will not be less than 1.5:1.

The pump casing will consist of three (3) discharge outlets, one (1) to each side in line with the impeller and one (1) to the rear. The pump casing will incorporate two (2) water strippers to maintain radial balance.

Pump will be the Class A type.

Pump will be certified to deliver the percentage of rated discharge from draft at pressure indicated below:

- 100 percent of rated capacity at 150 psi net pump pressure
- 70 percent of rated capacity at 200 psi net pump pressure
- 50 percent of rated capacity at 250 psi net pump pressure

The pump will have the capacity to deliver the percentage of rated discharge from a pressurized source as indicated below:

- 135 percent of rated capacity at 100 psi net pump pressure from a 5 psi source

Pump body will be fine-grained gray iron. Pump will incorporate a heater/cooling jacket integral to the pump housing.

The impeller will be high strength vacuum cast bronze alloy accurately machine balanced and splined to a ten (10) spline stainless steel pump shaft for precision fit, exceptional durability, and efficiency. Double replaceable reverse flow labyrinth type bronze wear ring design will help to minimize end thrust. The impeller will be a twisted vane design to create higher lift. No keyed shafts will be acceptable.

The pump will include o-ring gaskets throughout the pump.

Deep groove radial type oversize ball bearings will be provided. The bearings will be protected at the openings from road dirt and water with an oil seal and water slinger.

The pump will have a flat, patterned area on the top of the pump intake wye to allow standing for plumbing maintenance. The main inlet manifold will be 6.00" in diameter and will have a low profile design to facilitate low crosslays and high flows.

For ease of service, the pump housing, intake wye, impeller, mechanical seal, and gear case will be accessible from above the chassis frame by tilting the cab. Removal of the main inlet wyes will provide access to the impeller, mechanical seal, and wear ring.

The tank to pump line and the primary discharge line will be the only piping required to be removed for overhaul.

For ease of service and overhaul there will be no piping or manifolding located directly over the pump.

PUMP MOUNTING

Pump will be mounted to the chassis frame rails directly below the crew cab, to minimize wheelbase and facilitate service, using rubber isolators in a modified V pattern that include one (1) central mounted isolator located between the frame rails and one (1) on each side outside the frame rails. The mounting will allow chassis frame rails to flex independently without damage to the fire pump. Each isolator will be 2.55" in total outside diameter and will be rated at 490 lb. The pump will be completely accessible by tilting the cab with no piping located directly above the pump.

MECHANICAL SEALS

Silicon carbide mechanical seals will be provided. The seals will be spring loaded and self-adjusting. The seals will have a minimum thermal conductivity of 126 W/m*K to run cooler. Seals will have a minimum hardness of 2800 kg/mm² to be more resistant to wear, and have thermal expansion characteristics of no more than 4.0 X10⁻⁶mm/mm*K to be more resistant to thermal shock.

PUMP GEAR CASE

The integrated pump transmission gear case will use a pressure-lubricated system to cool, lubricate, and filter the oil. The gear case will be constructed of lightweight aluminum, and impregnated with resin in accordance to MIL Spec MIL-I-17563. A sight glass, accessible by tilting the cab, will be provided for easy fluid level checks.

The gear case will consist of three (3) gears to drive the pump.

CLUTCH

There will be a heavy-duty hydraulic clutch mounted directly to the integrated pump transmission to engage and disengage the pump without gear clash. The clutch will be a multiple disc design for maximum torque. The clutch will be fully self-adjusting to provide automatic wear compensation, and consistent torque throughout the life of the clutch. Positive engagement and disengagement will be provided through a high efficient and dependable hydraulic system to assure superior performance.

LOW PRESSURE/HIGH TEMPERATURE LIGHTS

Lights will be provided to indicate when a high temperature or low pressure situation occurs. Lights will be provided next to the master gauges at the pump panel as well as on the control panel in the cab. A pair of lights will be provided in each location. One (1) light will be provided to indicate high temperature. The second light will be provided to indicate a low pressure. All lights will be labeled accordingly.

PUMPING MODE

Pump will provide for both pump and roll mode and stationary pumping mode.

Stationary pumping mode will be accomplished by stopping the vehicle, setting the parking brake and engaging the water pump switch on the cab switch panel. The transmission will shift to "Neutral" range automatically when the parking brake is set. The "OK to Stationary Pump" indicator will also illuminate when the parking brake is set.

If the vehicle is equipped with a suitable Husky foam system or Hercules CAFS system, these systems will be engaged from the cab switch panel as well.

Pump and roll mode will be accomplished by the use of the main pump and will not require the use of a secondary pump. pump and roll mode will use the same operation sequence as stationary pumping mode with a few additional steps. After the vehicle is setup for stationary pumping, the operator will leave the cab and setup the pump panel to discharge at the desired outlet(s). Upon returning to the cab, the operator will disengage the parking brake. An "OK to pump and roll" indicator will illuminate on the cab switch panel. First gear on the transmission gear selector will be selected by the operator for pump and roll operations. The operator as needed will apply the foot throttle. pump and roll mode will be maintained unless the transmission shifts out of first gear.

Stopping either stationary pumping mode or pump and roll mode will be accomplished by pressing the "Water Pump" switch down to disengage the pump.

A pump pressure reading will be displayed in view of the driver.

PUMP SHIFT

Pump will be engaged in not more than two steps, by simply setting the parking brake, which will automatically put the transmission into neutral, and activating a rocker switch in the cab. Switches in the cab will also allow for water, foam, or CAFS if equipped, and activate the appropriate system to preset parameters. The engagement will provide simple two-step operation, enhance reliability, and completely eliminate gear clash. The shift will include the indicator lights as mandated by NFPA. A direct override switch will be located behind a door in the pump operator's panel. The switch will automatically disengage when the door is closed.

As the parking brake is applied, the pump panel throttle will be activated and deactivate the chassis foot throttle for stationary operation.

TRANSMISSION LOCK UP

Transmission lock up is not required as transmission will automatically shift to neutral as soon as the parking brake is set.

AUXILIARY COOLING SYSTEM

A supplementary heat exchange cooling system will be provided to allow the use of water from the discharge side of the pump for cooling the engine water. A water-to-coolant heat exchanger will be used.

PUMP INTAKE RELIEF VALVE

An Akron Style 53 relief valve will be installed on the suction side of the pump preset at 125 psig.

The relief valve will have a working range of 50 psi to 250 psi.

The outlet will terminate below the frame rails with a 2.50" National Standard hose thread adapter and will have a "do not cap" warning tag.

The relief valve pressure control will be located behind the right side pump panel with a stainless steel access door.

PIERCE PRESSURE CONTROLLER

A Pierce electronic pressure controller will be provided.

A pressure transducer will be installed in the discharge side of the water pump. The transducer continuously monitors pump pressure sending a signal to the electronic pressure controller.

The pressure controller can be used in two (2) modes of operation, RPM mode and pressure modes. The controller will be programmed to turn on/default to No Mode/Default Press Setting mode.

In the RPM mode, the controller can be activated after vehicle parking brake has been set. When in this mode, the controller will maintain the set engine speed, regardless of engine load (within engine operation capabilities).

In the pressure mode, the controller can be activated after vehicle parking brake has been set. When in this mode, the controller will automatically maintain the discharge pressure set by the operator (within the discharge capabilities of the pump and water supply) regardless of flow.

A 2.00" diameter throttle control knob with no mechanical stops, a serrated grip, and a red idle push button in the center will be a integrated/part of the pressure controller. The throttle control knob will be programmed for Clockwise rotation to increase engine speed.

Individual LED indicators for ok to pump, throttle ready, pressure mode and rpm mode will be located on the pressure controller for easy viewing.

A pump cavitation protection feature will also be provided which will return the engine to idle should the pump cavitate. Cavitation is sensed by the combination of pump pressure below 30 psi and engine speed above 2000 rpm for more than five (5) seconds.

Other safety features include recognition of low water and no water conditions with an automatic programmed response and a push button to return the engine to idle.

The pressure controller LCD screen will be 4.20" in size with a minimum brightness of 750 nits. The LCD screen and LED intensity will automatically adjust for day and nighttime operation. The LCD screen intensity can also be manually adjusted if needed.

The following information will be provided/displayed on the LCD screen:

- Engine RPM
- Check engine and stop engine warning indicators
- Engine oil pressure
- Engine coolant temperature
- Water pump transmission temperature
- Fuel Level
- Water tank level
- Battery voltage
- Operating mode (RPM or pressure)
- Pressure or RPM setting

On screen messaging show diagnostic and warning messages as they occur. It will show apparatus information, stored data, and program options when selected by the operator. It will monitor inputs outputs and support audible and visual warning alarms for the following conditions:

- High battery voltage
- Low battery voltage/engine off
- Low battery voltage/engine running
- High water pump temperature
- Low fuel
- Low engine oil pressure
- High engine coolant temperature
- Water tank out of water (visual alarm only)
- No engine response (visual alarm only)

The pressure controller will store the accumulated operating hours for the pump and engine. These items are to be displayed within the pressure controller menu.

The pressure controller will include a USB port on the back of the controller for easy software upgrades if needed.

PRIMING PUMP

The priming pump will be a Trident Emergency Products compressed air powered, high efficiency, multistage venturi based AirPrime System, conforming to standards outlined in the current edition of applicable NFPA standards.

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. The control will have a three position switch for automatic, off or test. In the sentry mode (automatic) the primer will sense when the pump losses discharge pressure and start the pump primer. The primer will automatically stop once the pump has pressure.

PUMP MANUALS

There will be a total of two (2) pump manuals provided by the pump manufacturer and furnished with the apparatus. The manuals will be provided by the pump manufacturer in the form of two (2) electronic copies. Each manual will cover pump operation, maintenance, and parts.

PLUMBING, STAINLESS STEEL AND HOSE

All inlet and outlet lines will be plumbed with either stainless steel pipe, flexible polypropylene tubing or synthetic rubber hose reinforced with hi-tensile polyester braid. All hose's will be equipped with brass or stainless steel couplings. All stainless steel hard plumbing will be a minimum of a schedule 10 wall thickness.

Where vibration or chassis flexing may damage or loosen piping or where a coupling is required for servicing, the piping will be equipped with victaulic or rubber couplings.

Plumbing manifold bodies will be ductile cast iron or stainless steel.

All piping lines are to be drained through a master drain valve or will be equipped with individual drain valves. All drain lines will be extended with a hose to drain below the chassis frame.

All water carrying gauge lines will be of flexible polypropylene tubing.

All piping, hose and fittings will have a minimum of a 500 PSI hydrodynamic pressure rating.

FOAM SYSTEM PLUMBING

All piping that is in contact with the foam concentrate or foam/water solution will be stainless steel. The fittings will be stainless steel or brass. Cast iron pump manifolds will be allowed.

MAIN PUMP INLETS

A 6.00" pump manifold inlet will be provided on each side of the vehicle. The suction inlets will include removable die cast zinc screens that are designed to provide cathodic protection for the pump, thus reducing corrosion in the pump.

Main pump inlets will not be located on the main operator's panel and will maintain a low connection height by terminating below the top of the chassis frame rail.

SHORT SUCTION TUBE(S)

The suction tube(s) on the water pump will have short suction tube(s) installed to allow for installation of adapters, elbows or intake valves without excessive overhang.

MAIN PUMP INLET CAP

The main pump inlets will have National Standard Threads with a long handle chrome cap.

The cap will be the Pierce VLH, which incorporates an exclusive thread design to automatically relieve stored pressure in the line when disconnected.



VALVES

All ball valves will be Akron® Brass. The Akron valves will be the 8000 series heavy-duty style with a stainless steel ball and a simple two-seat design. No lubrication or regular maintenance is required on the valve.

Valves will have a **ten (10) year** warranty.

The location of the valve for the one (1) inlet will be recessed behind the pump panel.

INLET CONTROL

The side auxiliary inlet(s) will incorporate a quarter-turn ball valve with the control located at the inlet valve. The valve operating mechanism will indicate the position of the valve.

LEFT SIDE INLET

There will be one (1) auxiliary inlet with a 2.50" valve at the left side pump panel, terminating with a 2.50" (F) National Standard hose thread adapter.

The auxiliary inlet will be provided with a strainer, chrome swivel and plug.

RIGHT SIDE INLET

There will be one (1) auxiliary inlet with a 2.50" valve at the right side pump panel, terminating with a 2.50" (F) National Standard hose thread adapter.

The auxiliary inlet will be provided with a strainer, chrome swivel and plug.

ANODE, INLET

A pair of sacrificial zinc anodes will be provided in the water pump inlets to protect the pump from corrosion.

INLET BLEEDER VALVE

A 0.75" bleeder valve will be provided for each side gated inlet.

The valves will be located behind the panel with a "T" swing style handle control extended to the outside of the panel.

The handles will be chrome plated and provide a visual indication of valve position. The swing handle will provide an ergonomic position for operating the valve without twisting the wrist and provides excellent leverage.

The water discharged by the bleeders will be routed below the chassis frame rails.

TANK TO PUMP

The booster tank will be connected to the intake side of the pump with heavy duty 4.00" piping and a quarter turn 3.00" full flow line valve with the control located at the operator's panel. A rubber coupling will be included in this line to prevent damage from vibration or chassis flexing.

A check valve will be provided in the tank to pump supply line to prevent the possibility of "back filling" the water tank.

TANK REFILL

A 1.50" combination tank refill and pump re-circulation line will be provided, using a quarter-turn full flow ball valve controlled from the pump operator's panel.

DISCHARGE OUTLET CONTROLS

The right side discharges will incorporate a quarter-turn ball valve and be controlled by Akron 9345 electric valve controllers provided on the pump operators 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 their corresponding 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. In addition to the valve controls, the electric valve controllers will include a pressure display

All other outlets will have manual swing handles that operate in a vertical up and down motion. These handles will be able to lock in place to prevent valve creep under pressure.

LEFT SIDE DISCHARGE OUTLETS

There will be two (2) discharges with a 2.50" valves on the left side of the apparatus, terminating with a 2.50" (M) National Standard hose thread adapter. Discharges will be located below the cab, and will be no higher than the top of the chassis frame rail. Discharges will not be located on the pump operator's panel. Lever controls will be provided at the valve.

RIGHT SIDE DISCHARGE OUTLETS

One (1) discharge outlet with a 2.50" valve will be provided on the right side of the apparatus, terminating with a 2.50" MNST adapter. The discharge(s) will be located below the crew cab and will be no higher than the top of the chassis frame rail.

There will be Akron 9345 electric valve controller(s) provided on the pump operators panel. The electric control(s) must be of a true position feedback design, requiring no clutches in the motor or current limiting. The unit(s) 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(s) 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.

In addition to valve position, each controller will include a pressure display.

LARGE DIAMETER DISCHARGE OUTLET

There will be an Akron 8800 4.00" flat ball valve with 4.00" plumbing terminating with a 4.00" MNST chrome adapter on the right side pump panel.

The valve will be controlled with a(n) Akron 9345 with pressure located at the pump operator's panel.

LARGE DIAMETER OUTLET CAP

The large diameter outlet will have a National Standard hose thread adapter with a 4.00" rocker lug chrome plated cap and chain.

The cap will be the Pierce VLH, which incorporates a patent pending thread design to automatically relieve stored pressure in the line when disconnected.

FRONT DISCHARGE OUTLET

There will be one (1) 1.50" discharge outlet piped to the front of the apparatus and located in the center bumper tray.

Plumbing will consist of 2.00" piping and flexible hose with a 2.00" ball valve with control at the pump operator's panel. A fabricated weldment made of stainless steel pipe will be used in the plumbing where appropriate. The piping will terminate with a 1.50" NST with 90 degree stainless steel swivel.

There will be automatic drains provided at all low points of the piping.

DISCHARGE CAPS/ INLET PLUGS

Chrome plated, rocker lug, caps with chain will be furnished for all discharge outlets 1.00" thru 3.00" in size, besides the pre-connected hose outlets.

Chrome plated, rocker lug, plugs with chain will be furnished for all auxiliary inlets 1.00" thru 3.00" in size.

The caps and plugs will incorporate a thread design to automatically relieve stored pressure in the line when disconnected.

OUTLET BLEEDER VALVE

A 0.75" bleeder valve will be provided for each outlet 1.50" or larger. Automatic drain valves are acceptable with some outlets if deemed appropriate with the application.

The valves will be located behind the panel with a T swing style handle control extended to the outside of the side pump panel.

The handles will be chrome plated and provide a visual indication of valve position.

The T swing handle will provide an ergonomic position for operating the valve without twisting the wrist and provides excellent leverage.

Bleeders will be located at the bottom of the pump panel. They will be properly labeled identifying the discharge they are plumbed in to.

The water discharged by the bleeders will be routed below the chassis frame rails.

AERIAL WATERWAY OUTLET

The aerial waterway will be plumbed from the water pump to the aerial device waterway with 4.00" pipe and a 4.00" Akron valve.

The valve will be controlled with a Pierce large handwheel with indicator located at the pump operator's panel.

CROSSLAY MODULE

The crosslay module will be full width of the rear body.

The crosslay module will include a boom support compartment. The interior of the boom support compartment will be a DA finish.

The forward, upper corners of the module will have full body corners.

The crosslay module will be manufactured for installation of roll up doors on each side to include the boom support compartment with on common roll up door.

ROLL-UP DOOR, CROSSLAY ENDS, PUC

All compartment doors will be roll-up style double faced, aluminum construction, painted one (1) color to match the lower portion of the body and manufactured by AMDOR™. The crosslay enclosure will be full width of the body.

The track will be the flanged track with the screws installed to the rear of the track guide.

The slats will be double wall box frame extrusion. The exterior surface will be flat and the interior surface will be concave to help loose equipment fall to the ground and prevent it from jamming the door.

Between each slat will be a PVC inner seal to prevent metal to metal contact and prevent dirt or moisture from entering the compartments.

Each door will have a 4.00" counter balance to assist in lifting.

A polished stainless steel lift bar to be provided for each roll-up door. The lift bar will be located at the bottom of door with striker latches installed at the base of the side frames. Side frame mounted door strikers will include support beneath the stainless steel lift bar to prevent door curtain bounce, improve bottom seal life expectancy and to avoid false door ajar signals.

The crosslays will have a standard drip pan below the roll of the door.

CROSSLAY COMPARTMENT LIGHTING

There will be two (2) 12 volt DC light strips with white LEDs and mechanical fasteners, provide behind the front door frame on the crosslay compartments per the following:

- One (1) strip light for the left side crosslay compartment door
- One (1) strip light for the right side crosslay compartment door

The lights will be activated when the battery switch is on and the respective door is opened.

LOWER CROSSLAY

There will be two (2) lower crosslays provided.

1.50" Crosslay

There will be two (2) 1.50" crosslays plumbed with 2.00" welded or formed schedule 10 304L stainless steel pipe.

The crosslays will be low mounted with the bottom of both crosslay trays no more than 11.00" above the frame rails for simple, safe reloading and deployment.

There will be a 1.50" National Standard hose thread 90-degree swivel provided in each hose bed, so that the hose may be removed from either side of apparatus. The swivel will be as far outbound as possible for ease of changing hose.

Each crosslay will be gated with a 2.00" quarter turn ball valve with the controls located at the pump operator's panel.

Each hose bed will be capable of carrying 200' of 1.75" double jacket hose.

Crosslay Hose Tray

A removable tray will be provided for each crosslay hose bed. The crosslay tray will be constructed of black poly to provide a lightweight sturdy tray. Two (2) hand holes will be in the floor and additional hand holes will be provided in the sides for easy removal and installation from the compartment. The floor of the trays will be perforated to allow for drainage and hose drying.

Trays will be held in place by a mechanical spring-loaded stainless-steel latch that automatically deploys upon loading the trays to hold the trays in place during transit.

LONG TOOL STORAGE

A quantity of One (1) smooth aluminum U-shaped trough(s) will be provided and located Upper portion of the Storage area in the upper crosslay module. The trough will be To fill the top area of the crosslay compartment in size. The stored items will be accessible from either side.

TRAY, CROSSLAY

There will be two (2) additional poly tray(s) provided for the crosslays. The trays will be identical in design and size to fit in Width to be finalized at Drawing approval .

FOAM PROPORTIONER

A foam proportioning system will be provided that is an on demand, automatic proportioning, single point, direct injection system suitable for all types of Class A and B foam concentrates, including the high viscosity (6000 cps), alcohol resistant Class B foams. Operations will be based on direct measurement of water flow and remain consistent within the specified flows and pressures. The system will automatically proportion foam at rates from 0.1 percent to 3 percent regardless of variations in water pressure and flow, up to the maximum rated capacity of the foam concentrate pump.

The design of the system will allow operation from draft, hydrant, or relay operation.

System capacity

The system will have the ability to deliver the following minimum foam solution flow rates at accuracies that meet or exceed NFPA requirements at a pump rating of 150 psi.

- 100 gpm @ 3 percent
- 300 gpm @ 1 percent
- 600 gpm @ 0.5 percent

Class A foam setting in 0.1 percent increments from 0.1 percent to 3 percent. Typical settings of 1 percent, 0.5 percent and 0.3 percent (maximum capacity will be limited to the plumbing and water pump capacity).

The percentage of injection will have a preset. This preset can be changed by the end user as desired. The percentage of foam injected will be changed through the display screen.

Hydraulic Drive System

The foam concentrate pump will be powered by an electric over hydraulic drive system. The hydraulic system and motor will be integrated into one (1) unit.

Foam Concentrate Pump

The foam concentrate pump will be of positive displacement, self-priming; linear actuated design, driven by the hydraulic system. The pump will be constructed of brass body; chrome plated stainless steel shaft, with a stainless-steel piston.

A relief system is provided to protect the drive system components and prevent over pressurizing of the foam concentrate pump.

One (1) check valve will be installed in the foam discharge plumbing to prevent foam from contaminating the water pump.

The foam concentrate pump will have minimum capacity for 3 gpm with all types of foam concentrates with a viscosity at or below 6000 cps including protein, fluor protein, AFFF, FFFP, or AR-AFFF. The system will deliver only the amount of foam concentrate flow required, without recirculating foam back to the storage tank. Recirculating foam concentrates back to the storage tank can cause agitation and premature foaming of the concentrate resulting in system failure. The foam concentrate pump will be self-priming with the ability to draw foam concentrate from external sources, such as drums or pails.

Control System

Control System

The system will be equipped with an LCD display located on the pump operator's panel and a control. Both the display and control will use a can network. The display will use a USB interface for software updates. The LCD display will have adjustment for screen brightness.

The control will house a microprocessor, which receives input from the systems water flow meter while also monitoring the position of the foam concentrate pump. The microprocessor will compare the

values of the water flow versus the position/rate of the foam pump, to ensure the proportion rate is accurate.

Push button controls will be integrated into the LCD control for.

- System On/Off
- Foam Percentage Control
- Foam Pump Prime
- Paddle Wheel Auto/Manual Mode

The LCD control will display

- Foam Pump Stroke Position
- Foam Inject Percentage
- Tank or Draft Mode Selection
- Foam Tank Low Level
- Inject/Fill Mode Selection
- Tank Refill

The display will have access to menu options for calibration and diagnostic needs.

External Foam Concentrate Connection

A 0.75" male connection GHT (garden hose thread) external foam pick-up will be provided on the pump panel to enable use of a foam agent that is not stored on the vehicle. The external foam pick-up will be designed to allow continued operation after the on-board foam tank is empty, or the use of foam which is different than that stored in the foam tank.

Panel mounted valved manifold

A valved manifold (with an instruction plaque) will be mounted to the pump panel. The valved manifold will function as the foam system draft/tank foam inject source and inject/foam tank fill mode.

Pick-up hose

A 0.75" flexible hose with an end for insertion into foam containers will be provided. The hose will be supplied with a 0.75" female swivel GHT (garden hose thread) swivel connector. The hose will be shipped loose.

Discharges

The foam system will be plumbed to lower rear crosslay, lower front crosslay and center of front bumper discharge(s).

System Electrical Load

The maximum current draw of the electric motor and system will be no more than 55 amperes at 12 VDC.

SINGLE FOAM TANK REFILL

The foam system's proportioning pump will be used to fill the foam tank. This will allow use of the auxiliary foam pick-up to pump the foam from pails or a drum on the ground into the foam tank. A foam

shut-off switch will be installed in the fill dome of the tank to shut the system down when the tank is full. The fill operation will be controlled by a mode in the foam system controller. While the proportioner pump is filling the tank, the controller that the tank is filling. When the tank is full, as determined by the float switch in the tank dome, the pump will stop. If it attempted to use tank fill and the refill valve and suction valve are in the wrong position(s), the display will indicate the improper valve position(s). When the valves are positioned properly, then filling will commence.

FOAM SYSTEM TRAINING

The fire department will order one (1) vehicle with this foam system. A demonstration will be provided at the apparatus manufacturers facility on the operation of the foam system.

This demonstration will include:

- A review of the foam system manual emphasizing key areas
- A walk around review of the system components on the finished truck
- A hands-on foam system start-up and foam discharge session
- Instructions on the use of the manual overrides
- The proper way to shut down and flush the foam system.

FOAM TANK

The foam tank will be an integral portion of the polypropylene water tank. The cell will have a capacity of 20 gallons of foam with the intended use of Class A foam. The foam cell will reduce the capacity of the water tank. The foam cell will have a screen in the fill dome and a breather in the lid.

FOAM TANK DRAIN

The foam tank drain will be a 1.00" quarter turn drain valve located inside the pump/plumbing compartment.

COLOR CODED TAGS

A detailed drawing/chart of the colors used on all of the inlet(s) and outlet(s) will be provided for the customer to review. The customer will be allowed to make changes and/or mark-ups to this approval drawing/chart. The fire apparatus manufacturer will make revisions (If needed) to the drawing per the customer changes and/or mark-ups as long as the changes are physically possible within a specific product line.

The finalized and signed customer approved drawing/chart of the colors will become part of the contract documents.

SPECIAL TEXT/VERBIAGE TAGS

A detailed drawing/chart of the text/verbiage used on all of the inlet(s) and outlet(s) will be provided for the customer to review. The customer will be allowed to make changes and/or mark-ups to this approval drawing/chart. The fire apparatus manufacturer will make revisions (If needed) to the drawing per the customer changes and/or mark-ups as long as the changes are physically possible within a specific product line.

The finalized and signed customer approved drawing/chart of the text/verbiage will become part of the contract documents.

PUMP PANEL CONFIGURATION

The pump panel configuration will be arranged and installed in an organized manner that will provide user-friendly operation.

PUMP OPERATOR'S PLATFORM

A pull out, flip down platform will be provided at the pump operator's control panel.

The front edge and the top surface of the platform will be made of DA finished aluminum with a Morton Cass insert.

The platform will be approximately 13.75" deep when in the stowed position and approximately 22.00" deep when extended. The platform will be as wide as possible. The platform will lock in the retracted and the extended position.

The sides, bottom and rear portions of the support assembly will be painted to match lower job color.

The platform will be wired to the "step not stowed" indicator in the cab.

PUMP OPERATOR'S PLATFORM PERIMETER LIGHT

There will be an On Scene Solutions, Model Night Stick Access, 20.00" white 12 volt DC LED strip light provided to illuminate the ground area.

PUMP AND GAUGE PANEL

The pump operator's panel and gauge panels will be aluminum with black vinyl finish.

The side panels will be aluminum with black UL-LX finish.

PUMP AND PLUMBING ACCESS

Simple access to the plumbing will be provided through the front of the body area by raising the cab for complete plumbing service and valve maintenance. Access to valves will not require removal of operator panels or pump panels. Access for rebuilding of the pump will not require removal of more than the tank to pump line and a single discharge line. This access will allow for fast, easy valve or pump rebuilding, making for reduced out of service times. Steps will be provided for access to the top of the pump.



Access to the pump will be provided by raising the cab. The pump will be positioned such that all maintenance and overhaul work can be performed above the frame and under the tilted cab. The service and overhaul work on the pump will not require the removal of operator panels or pump panels. Complete pump casing and gear case removal will require no more than removal of the intake and discharge manifolds, driveline, coolers and a single discharge line. The pump case and gear case will be able to be removed by lifting upward without interference from piping and be removable in less than 3 hours.

PUMP COMPARTMENT LIGHT

There will be one (1) Whelen®, Model 3SC0CDCR, 3.00" white 12 volt DC LED light(s) with Whelen, Model 3FLANGEC, flange(s) installed in the plumbing area.

The light(s) will be activated by a toggle switch located in the pump compartment area.

Engine monitoring graduated LED indicators will be incorporated with the pressure controller.

THROTTLE READY GREEN INDICATOR LIGHT

There will be a green indicator light integrated with the pressure governor and/or engine throttle installed on the pump operators panel that is activated when the pump is in throttle ready mode.

AIR HORN SWITCH

An air horn control switch will be provided at the pump operator's control panel. This switch will be momentary red and properly labeled. The switch will be located within easy reach of the operator in the electrical switch panel.

VACUUM AND PRESSURE GAUGES

The pump vacuum and pressure gauges will be liquid filled and manufactured by Class 1 Incorporated.

The gauges will be a minimum of 4.00" in diameter and will have white faces with black lettering, with a pressure range of 30.00"-0-600#.

Gauge construction will include a Zytel nylon case with adhesive mounting gasket and threaded retaining nut.

The pump pressure and vacuum gauges will be installed adjacent to each other at the pump operator's control panel.

Test port connections will be provided at the pump operator's panel. One (1) will be connected to the intake side of the pump, and the other to the discharge manifold of the pump. They will have 0.25 in. standard pipe thread connections and non-corrosive polished stainless steel or brass plugs. They will be marked with a label.

This gauge will include a 10 year warranty against leakage, pointer defect, and defective bourdon tube.

PRESSURE GAUGES

The individual "line" pressure gauges for the discharges will be Class 1 interlube filled.

They will be a minimum of 2.00" in diameter and have white faces with black lettering.

Gauge construction will include a Zytel nylon case with adhesive mounting gasket and threaded retaining nut.

Gauges will have a pressure range of 30"-0-400#.

The individual pressure gauge will be installed as close to the outlet control as practical.

This gauge will include a 10 year warranty against leakage, pointer defect, and defective bourdon tube.

WATER LEVEL GAUGE

An electric water level gauge will be incorporated in the pressure controller that registers water level by means of 9 LEDs. They will be at 1/8 level increments with a tank empty LED. The LEDs will be a bright type that is readable in sunlight and have a full 180-degree of clear viewing.

To further alert the pump operator, the gauge will have a warning flash when the tank volume is less than 25 percent and will have "Down Chasing LEDs when the tank is almost empty.

The level measurement will be ascertained by sensing the head pressure of the fluid in the tank or cell.

ADDITIONAL WATER LEVEL GAUGE

There will be two (2) additional Fire Research MaxVision, model WLA280-A00, water tank remote indicator(s) provided and installed LS & RS Cab Extension - mounted high. The indicators will show the volume of water in the tank on 96 easy to see super bright Tri-color LEDs. The indicator case will be waterproof and manufactured of Polycarbonate material with an integrated lens.

The remote indicator will indicate the level as a single color:

- Red for 25 percent or less
- Amber for up to 50 percent volume
- Blue for up to 75 percent volume
- Green for up to 100 percent volume

When the level reaches 25 percent, the red LEDs will begin flashing. When the level is empty, the red LEDs will scroll in a down-chasing motion and then flash three (3) times.

The flash rate will be determined by the main water tank sensor.

It will have the program capability to adjust the brightness level for day time and night time viewing. The LEDs can also be programmed for different colors.

This module will be activated when the parking brake is applied.

FOAM LEVEL GAUGE

An electronic foam level gauge will be provided on the operator's panel that registers foam level by means of five (5) colored LED lights. The lights will be durable, ultra-bright five (5) LED design viewable through 180 degrees. The foam level indicators will be as follows:

- 100 percent = Green
- 75 percent = Yellow
- 50 percent = Yellow
- 25 percent = Yellow
- Refill = Red

The light will flash when the level drops below the given level indicator to provide an eighth of a tank indication. To further alert the pump operator, the lights will flash sequentially when the foam tank is empty.

The level measurement will be based on the sensing of head pressure of the fluid in the tank.

The display will be constructed of a solid plastic material with a chrome plated die cast bezel to reduce vibrations that can cause broken wires and loose electronic components. The encapsulated design will provide complete protection from foam and environmental elements. An industrial pressure transducer will be mounted to the outside of the tank. The display will be able to be calibrated in the field and will measure head pressure to accurately show the tank level.

SIDE CONTROL PUMP OPERATOR'S/PUMP PANEL LIGHTING

Illumination will be provided for controls, switches, essential instructions, gauges, and instruments necessary for the operation of the apparatus and the equipment provided on it. Internal and external lights on the apparatus will be illuminated per the current edition of applicable NFPA standards.

The pump panels will be illuminated by two (2) Truck-Lite, Model 60354C, 6.00" x 2.00" oval white LED lights with Model 60700, grommets and chrome covers installed on the back of the cab, one (1) on the driver's side and one (1) on the passenger's side.

The pump operator's panel will utilize the same LED strip lighting at the forward doorframe as all other compartment lighting.

There will be a small white LED pump engaged indicator light installed overhead.

AIR HORN SYSTEM

Two (2) Grover air horns will be recessed in the front bumper.

The air horns will be chrome.

The air horn system will be piped to the air brake system wet tank utilizing 0.38" tubing. A pressure protection valve will be installed to prevent the loss of air in the brake system.

Air Horn Location

The air horns will be located on the right side of the bumper, outside of the frame rail.

Air Horn Control

The air horn(s) will be activated by the following:

- Left side lanyard. The lanyard to be a nylon rope.
- Right side chrome push button switch

- Right side lanyard. The lanyard to be a nylon rope.

ELECTRONIC SIREN

There will be a Whelen, Model: 295SL101, 100 or 200 watt electronic siren with noise canceling plug-in microphone will be provided.

This siren to be active when the battery switch is on and that emergency master switch is on.

NFPA 1900, 2024 edition, Section 10.8.1.1 requires the siren manufacturer to certify the siren as meeting the requirements of SAE J1849, *Emergency Vehicle Sirens*.

Per the fire department specification, the siren and siren speaker come from separate manufacturers and a certification is therefore valid. The apparatus will be non compliant to NFPA 1900 standards at time of contract execution.

Electronic siren head will be recessed in the driver side center switch panel.

The electronic siren will be controlled on the siren head only. No horn button or foot switches will be provided.

SPEAKER

There will be one (1) Whelen®, Model SA315P, black nylon composite, 100-watt, speaker with through bumper mounting brackets and polished stainless steel grille provided. The speaker will be connected to the siren amplifier.

The speaker(s) will be recessed in the center of the front bumper.

AUXILIARY MECHANICAL SIREN

There will be a Federal Signal Model Q2B mechanical siren furnished and installed in the front of the apparatus.

The Q2B will be chrome finish.

The siren will have a 2-gauge cable connected to a power solenoid that is connected by a 2-gauge cable ran battery direct to the primary chassis batteries and will be labeled Q2B+ at the battery. The power solenoid will only be enabled when the emergency master switch is on.

The siren will have a 2-gauge ground wire connected to the chassis battery stud. The cable will be labeled Q2B- at the battery.

The mechanical siren will be recessed in the front bumper on the left side. The siren will be properly supported using the bumper framework.

MECHANICAL SIREN CONTROL

The mechanical siren will be activated by the following:

- Left side foot switch.
- Steering wheel horn ring with horn/siren selector switch.
- Right side chrome push button switch.

A momentary chrome push button switch will be included in the right side dash panel to activate the siren brake.

FRONT ZONE UPPER WARNING LIGHTS

There will be two (2) 21.50" Whelen® Freedom™ IV LED lightbars mounted on the cab roof, one (1) on each side, above the left and right door, at a 30 degree angle.

The left side lightbar will include the following:

- One (1) red flashing LED module in the outside end position.
- One (1) red flashing LED module in the outside front corner position.
- One (1) red flashing LED module in the outside front position.
- One (1) white flashing LED module in the inside front position.

- One (1) red flashing LED module in the inside front corner position.

The right side lightbar will include the following:

- One (1) red flashing LED module in the inside front corner position.
- One (1) white flashing LED module in the inside front position.
- One (1) red flashing LED module in the outside front position.
- One (1) red flashing LED module in the outside front corner position.
- One (1) red flashing LED module in the outside end position.

There will be clear lenses included on the lightbar.

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

The white LED's will be disabled when the parking brake is applied.

The two (2) red flashing LED modules in the inside front and the two red flashing LED modules in the inside front corner positions may be load managed when the parking brake is applied.

LIGHTS, FRONT ZONE LOWER

There will be four (4), Whelen® Model M6** 4.32" high x 6.75" wide x 1.37" deep flashing LED warning lights installed on the cab face above the headlights in twin bezels.

- The left side outside warning light to include red LEDs
- The left side inside warning light to include red LEDs
- The right side inside warning light to include red LEDs
- The right side outside warning light to include red LEDs
- The warning light lens color(s) to be clear
- The housing to be polished and the trim shall be chrome

The lights may be controlled per the following:

- A switch on the cab instrument panel will control the lights
- White LEDs will be deactivated when the parking brake is applied
- Amber LEDs will be activated when the parking brake is applied
- Amber, blue green or red LEDs in the inside positions may be load managed when the parking brake is applied

ROTO RAY LIGHT

There will be one (1) Roto Ray, Model 4000W rotating warning light provided on the front of the cab mounted through the top section of the front grille.

This warning light will include the following:

- Two (2) PAR46 lights with red LEDs and clear lenses
- One (1) PAR46 light with white LEDs and a clear lens

There will be a switch in the cab on the switch panel to control this light.

The rotation motor and the warning lights will be deactivated when the parking brake is applied.

HEADLIGHT FLASHER

The high beam headlights will flash alternately between the left and right side.

There will be a switch installed in the cab on the switch panel to control the high beam flash. This switch will be live when the battery switch and the emergency master switches are on.

The flashing will automatically cancel when the hi-beam headlight switch is activated or when the parking brake is set.

SIDE ZONE LOWER LIGHTING

There will be six (6) Whelen®, Model M6*C, flashing LED warning lights with chrome trim installed per the following:

- Two (2) lights, one (1) each side on the bumper extension. The side front lights to be red.
- Two (2) lights, one (1) each side, as close to center above the front wheels as possible. The side middle lights to be red.
- Two (2) lights, one (1) each side above rear wheels. The side rear lights to be red.
- The lights will include clear lenses.

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

INTERIOR CAB DOOR WARNING LIGHTS

There will be four (4) Weldon, Model 8401-0000-20, 16.00" long x 0.75" high x 0.625" deep amber 12 volt DC LED flashing strip lights provided.

- One (1) light on the left side cab door.
- One (1) light on the right side cab door.
- One (1) light on the right side crew cab door.
- One (1) light on the left side crew cab door.

Each light will be located over the window as far to the outside as practical.

Each light will be activated when the battery switch is on, respective door is opened and no other controls are on.

Each light will be installed so the flash pattern directs traffic away from the doors.

ELECTRICAL CONNECTORS FOR WARNING LIGHTS

The lights will be installed with a weatherproof insulated crimped Deutsch connectors.

Deutsch connectors of appropriate type will be installed in the cab/crew cab doors where standard "butt splice" connections typically are, in order to provide ease of connection/disconnection of the circuit applied to.

SIDE WARNING LIGHTS

There will be four (4) Whelen, Model WIONSMC* LED light(s) provided and located in the body rub rails
Rub Rails - LS & RS. The lights will only be mounted with the rubber gasket if clearance allows it.

The color of each light will be red LED with a clear lens.

Each light will be provided with a chrome plated ABS flange.

The light(s) will be activated with the side warning switch.

REAR ZONE LOWER LIGHTING

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

- The driver's side rear light to be red
- The passenger's side rear light to be red

Both lights will include a lens that is clear.

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 clear.

TRAFFIC DIRECTING LIGHT

There will be one (1) Whelen®, Model TAL65, 36.00" long x 2.87" high x 2.25" deep, amber LED traffic directing light installed at the rear of the apparatus.

The Whelen, Model TACTL5, control head will be included with this installation.

The controller will be energized when the battery switch is on.

The auxiliary flash not activated.

This traffic directing light will be mounted on top of the body below the turntable with a treadplate box at the rear of the apparatus.

The traffic directing light control head will be located in the driver side overhead switch panel in the right panel position.

120 VOLT RECEPTACLE

There will be four (4), 15/20 amp 120 volt AC three (3) wire straight blade duplex receptacle(s) with interior stainless steel wall plate(s), installed TBD at Drawing Approval. The NEMA configuration for the receptacle(s) will be 5-20R.

The receptacle(s) will be powered from the shoreline inlet.

There will be a label installed near the receptacle(s) that state the following:

- Line Voltage
- Current Rating (amps)
- Phase
- Frequency

120 VOLT RECEPTACLE

There will be eight (8), 15/20 amp 120 volt AC three (3) wire straight blade duplex receptacle(s) with an interior stainless steel wall plate, installed TBD at Drawing Approval. The NEMA configuration for the receptacle(s) will be 5-20R.

The receptacle(s) will be powered from the shoreline inlet.

There will be a label installed near the receptacle(s) that state the following:

- Line Voltage
- Current Rating (amps)
- Phase
- Frequency

FOUR (4)-SECTION 107 FOOT AERIAL LADDER

CONSTRUCTION STANDARDS

The ladder will be constructed to meet all of the requirements as described in the current NFPA standards.

The aerial device will be a true ladder type device; therefore ladders attached to booms will not be considered.

These capabilities will be established in an unsupported configuration.

All structural load supporting elements of the aerial device that are made of a ductile material will have a design stress of not more than 50% of the minimum yield strength of the material based on the combination of the live load and the dead load. This 2:1 structural safety factor meets the current edition of applicable NFPA standards.

All structural load supporting elements of the aerial device that are made of non-ductile material will have a design stress of not more than 20% of the minimum ultimate strength of the material, based on the combination of the rated capacity and the dead load. This 5:1 safety factor meets the current edition of applicable NFPA standards.

Wire ropes and attaching systems used to extend and retract the fly sections will have a 5:1 safety factor based on the ultimate strength under all operating conditions. The factor of safety for the wire rope will remain above 2:1 during any extension or retraction stall. The minimum ratio of the diameter of wire rope used to the diameter of the sheave used will be 1:12. Wire ropes will be constructed of

seven (7) strands over an inner wire core for increased flexibility. The wire rope will be galvanized to reduce corrosion.

The aerial base pivot bearings will be maintenance free type bearings and require no external lubrication.

The aerial device will be capable of sustaining a static load one and one-half times its rated tip load capacity (live load) in every position in which the aerial device can be placed when the vehicle is on a firm level surface.

The aerial device will be capable of sustaining a static load one and one-third times its rated tip load capacity (live load) in every position the aerial device can be placed when the vehicle is on a slope of five degrees downward in the direction most likely to cause overturning.

With the aerial device out of the cradle and in the fully extended position at zero degrees elevation, a test load will be applied in a horizontal direction normal to the centerline of the ladder. The turntable will not rotate and the ladder will not deflect beyond what the product specification allows.

All welding of aerial components, including the aerial ladder sections, turntable, pedestal, and outriggers, will be in compliance with the American Welding Society standards. All welding personnel will be certified, as qualified under AWS welding codes.

The aerial device will be capable of operating with the maximum rated tip load in either of the two (2) following conditions:

- Conditions of high wind up to 35 mph
- Conditions of icing, up to a coating of 0.25" over the entire aerial structure

All of the design criteria must be supported by the following test data:

- Strain gage testing of the complete aerial device
- Analysis of deflection data taken while the aerial device was under test load

The following standards for materials are to be used in the design of the aerial device:

- Materials are to be certified by the mill that manufactured the material
- Material testing that is performed after the mill test will be for verification only and not with the intent of changing the classification
- All welded structural components for the ladder will be traceable to their mill lots

LADDER CONSTRUCTION

The ladder will be comprised of four sections.

The ladder will have the capability to support a minimum of 750 pounds at the tip in the unsupported configuration, based upon 360 degree rotation, up to full extension and from -10 degrees to +77 degrees.

The ladder (handrails, baserails, trusses, K-braces and rungs) will be constructed of high strength low alloy steel, minimum 100,000 pounds per square inch yield, with full traceability on all structural members.

Each section will be trussed vertically and horizontally using welded steel tubing.

All ladder rungs will be welded to each section utilizing "K" bracing for torsional rigidity.

The inside width dimensions of the ladder will be:

- Base Section 41.87"
- Inner-Mid Section 34.88"
- Outer-Mid Section 27.87"
- Fly Section 21.63"

The height of the handrails above the centerline of the rungs will be:

- Base Section 26.28"
- Inner-Mid Section 22.68"
- Outer-Mid Section 20.06"
- Fly Section 17.32"

The ladder will be designed to provide continuous egress for firefighters and civilians from an elevated position to the ground. The end of the fly section will be constructed in a manner that aids personnel in climbing off the ladder.

The egress section will be designed to maintain the rated load of the aerial device. It will be bolted on for easy replacement. There will be a lift eye welded on to each side of the egress.

VERTICAL HEIGHT

The ladder will extend to a minimum height of 107' above the ground at full extension and elevation. The measurement of height will be consistent with NFPA standards.

HORIZONTAL REACH

The rated horizontal reach will be a minimum of 100'. The measurement of horizontal reach will be consistent with NFPA standards.

TURNTABLE

The upper turntable assembly will connect the aerial ladder to the turntable bearing. The steel structure will have a mounting position for the aerial elevation cylinders, ladder connecting pins, and upper turntable operator's position.

The turntable will be coated with a non-skid, chemical resistant material in the walking areas. The stepping surfaces will meet the skid-resistance requirements of the current edition of applicable NFPA standards.

The turntable will be modified at the passenger side to allow for easier access to the hose bed for hose loading. The portion of the turntable outboard of the rotational motor will be omitted, and the handrails will be modified as required.

The turntable handrails will be a minimum 42.00" high and will not increase the overall travel height of the vehicle. The handrails will be constructed from aluminum and have a slip resistant knurled surface.

ELEVATION SYSTEM

Dual 5.50" diameter elevating cylinders will be mounted on the underside of the base section of the ladder, one (1) on each side. One (1) 2.25" diameter stainless steel pin will fasten each cylinder to the ladder and one (1) 2.50" diameter stainless steel pin will fasten each cylinder to the turntable. The pins will have 125,000 psi minimum yield strength and will be secured with 0.50" Grade 8 bolts with castle nut and cotter pin. The bolts are to ensure that the pins do not walk out of the mounting brackets on the turntable and base section.

The elevating cylinders will be mounted utilizing maintenance-free spherical bearings on both ends of the cylinders. The aerial base pivot bearings will be maintenance-free type bearings with no external lubrication required. The cylinders will function only to elevate the ladder and not as a structural member to stabilize the ladder side movement. The elevating cylinders will be provided with pilot-operated check valves on the barrel and rod side of the piston to prevent movement of the ladder in case of a loss of hydraulic pressure.

The operation envelope will be 10 degrees below horizontal to 77 degrees above horizontal.

The elevation system will be designed following NFPA standards. The elevation hydraulic cylinders will incorporate cushions on the upper limit of travel.

The lift cylinders will be equipped with integral holding valves located in the cylinder to prevent the unit from descending should the charged lines be severed, at any point within the hydraulic system and to maintain the ladder in the bedded position during road travel. The integral holding valves will NOT be located in the transfer tubes.

The elevation system will be controlled by the microprocessor. Linear transducers will measure the extension of the elevation cylinder. The microprocessor will provide the following features:

- Collision avoidance of the elevation system to prevent accidental body damage
- Automatic deceleration when the aerial device is lowered into the cradle

- Automatic deceleration at the end of stroke, in maximum raise and lower positions
- Deceleration of the aerial device at the limits of travel.

EXTENSION/RETRACTION SYSTEM

A hydraulically powered, extension and retraction system will be provided through dual hydraulic cylinders and wire ropes. Each set will be capable of operating the ladder in the event of a failure, of the other. The extension cylinder rod will be chrome plated to provide smooth operation of the aerial device and reduce seal wear. The extension/retraction cylinders will be equipped, with integral holding valves, to prevent the unit from retracting should the charged line be severed, at any point within the hydraulic system. The integral holding valves will NOT be located in the transfer tubes.

Wire ropes and attaching systems used to extend and retract the fly sections will have a 5:1 safety factor based on the ultimate strength under all operating conditions. The factor of safety for the wire rope will remain above 2:1 during any extension or retraction stall. The minimum ratio of the diameter of wire rope used to the diameter of the sheave used will be 1:12. Wire ropes will be constructed of seven (7) strands over an inner wire for increased flexibility. The wire rope will be galvanized to reduce corrosion.

The extension/retraction system will be controlled by the microprocessor. Linear transducers will measure the ladder extension. The microprocessor will provide the following features:

- Automatic deceleration at the end of stroke, in maximum extend and retract positions

All sheaves will require lubrication. They will have bronze bushings and grease zerks.

MANUAL OVERRIDE CONTROLS

Manual override controls will be provided for all aerial and stabilizer functions.

LADDER SLIDE MECHANISM

UHMW polyethylene wear pads will be used between the telescoping ladder sections, to provide greater bearing surface area for load transfer. Adjustable slide pads will be used to control side play between the ladder sections.

ROTATION SYSTEM

The aerial will be supplied with a powered rotation system as outlined in NFPA standards. The hydraulic rotation motor will provide continuous rotation under all rated conditions and be supplied with a brake to prevent unintentional rotation. One (1) hydraulically driven, planetary gear box with drive speed reducers will be used to provide infinite and minute rotation control throughout the entire rotational travel. One (1) spring applied, hydraulically released disc type swing brake will be furnished to provide positive braking of the turntable assembly. Provisions will be made for emergency operation of the rotation system should complete loss of normal hydraulic power occur. The hydraulic system will be equipped with pressure relief valves which will limit the rotational torque to a nondestructive power. The gearbox will have a minimum continuous torque rating of 80,000 in. lbs. and a minimum intermittent rating of 160,000 in. lbs. The turntable bearing, ring gear teeth, pinion gear, planetary gearbox, and output shaft will be certified by the manufacturer of the components for the application.

The rotation system will be controlled by the microprocessor. The microprocessor will provide the following features:

- Collision avoidance to prevent accidental body damage
- Prevent the aerial from being rotated into an unstable condition.

ROTATION INTERLOCK

The microprocessor will be used to prevent the rotation of the aerial device to the side in which the stabilizers have not been fully deployed (short-jacked). The microprocessor will allow full and unrestricted use of the aerial, in the 180 degree area, on the side(s) where the stabilizers have been fully deployed. The system will also have a manual override, to comply with NFPA. SYSTEMS THAT PERMIT THE AERIAL TO ROTATE TO THE "SHORT JACK" SIDE, WITHOUT AUTOMATICALLY STOPPING THE ROTATION AND/OR WITHOUT ACTUATION OF THE "MANUAL OVERRIDE", will NOT BE ACCEPTED. SYSTEMS THAT ONLY INCLUDE AN ALARM ARE NOT CONSIDERED AN INTERLOCK AND will NOT BE ACCEPTED.

LADDER CRADLE INTERLOCK SYSTEM

A ladder cradle interlock system will be provided through the microprocessor to prevent the lifting of the aerial device from the nested position until the operator places all the stabilizers in a load supporting configuration. A switch will be installed at the boom support to prevent operation of the stabilizers once the aerial has been elevated from the nested position.

AERIAL TORQUE BOX/PEDESTAL

The pedestal assembly will be a welded assembly made of high strength 0.25" plate. The vertical member will be a 0.375" reinforced wall cylinder with a 28.00" outside diameter and will connect the rotation bearing mounting plate to the lower substructure.

The pedestal assembly will be bolted to the chassis frame with 0.88" diameter Grade 8 bolts, and will be utilized to mount the outrigger jacks and reservoir for the aerial hydraulic system.

LOAD CAPACITIES

The following load capacities will be established, with the stabilizers at full horizontal extension and placed in the down position, to level the truck and to relieve the weight from the tires and axles.

Capacities will be based upon full 360 degree rotation with ladder extended to operational limits at 0 degrees elevation.

A load chart, visible at the operator's station will be provided. The load chart will show the recommended safe load at any condition of the aerial device's elevation and extension.

35 MPH WIND CONDITIONS/WATERWAY DRY

Degrees of Elevation	-10 to 9	10 to 19	20 to 29	30 to 39	40 to 49	50 to 59	60 to 69	70 to 77
Egress	750	750	750	750	750	750	750	750
Fly	-	-	-	-	250	250	500	750
Upper Mid	-	-	-	-	250	500	1000	1000

Lower Mid	-	-	-	500	500	750	1000	1000
Base	-	-	500	500	500	1000	1000	1000

35 MPH WIND CONDITIONS/WATERWAY CHARGED

Degrees of Elevation	-10 to 9	10 to 19	20 to 29	30 to 39	40 to 49	50 to 59	60 to 69	70 to 77
Egress	500	500	500	500	500	500	500	500
Fly	-	-	-	-	-	250	500	500
Upper Mid	-	-	-	250	500	500	750	1000
Lower Mid	-	-	-	250	500	750	1000	1000
Base	-	-	250	500	750	1000	1000	1000

Reduced loads at the tip can be redistributed in 250 lb. increments to the fly, mid, or base sections as needed.

The tip capacity will be reduced to zero when flowing water with the nozzle above the waterway centerline.

BOOM SUPPORT

A heavy duty boom support will be provided for support of the ladder in the travel position. On the base section of the ladder, a stainless steel scuffplate will be provided where the ladder comes into contact with the boom support.

The boom support will be located just to the rear of the chassis cab.

AERIAL BOOM SUPPORT LIGHT

There will be one (1) Model CLC-1049-12-AL, 12" long, white LED strip light mounted on the boom support cradle. This light will be activated when the aerial master switch is activated.

AERIAL BOOM PANEL

There will be one boom panel provided on each side of the aerial ladder base section. The boom panel will be painted 509 - Grey Metallic.

The boom panels will be designed so no mounting bolts are in the face of the panel. This will keep the lettering surface free of holes.

EXTENSION INDICATOR

Extension markings and corresponding numerical indicators will be provided along each inside and outside top rail of the base section of the aerial every 10'. They will indicate various positions of extension up to full. Markings and indicators will be clearly visible to the console operator. To aid in visibility during hours of darkness, the markings and numerical indicators will be white reflective material.

FOLDING STEPS

One (1) set of folding steps will be provided at the tip of the ladder. An additional set of folding steps will be provided at the base of the fly section. The steps will be bright finished with a black tread coating on the stepping surface. Each step will have no integrated light.

AERIAL DEVICE RUNG COVERS

Each rung will be covered with a secure, heavy-duty, fiberglass pultrusion that incorporates an aggressive, no-slip coating.

The rung covers will be glued to each rung and will be easily replaceable should the rung cover become damaged.

The center portion of each rung cover will be black and the outside 2.00" edge at each side will be safety yellow.

Under no circumstances will the rung covers be fastened to the rungs using screws or rivets.

The rung covers will have a 10-year, limited warranty.

STABILITY TEST

An aerial stability test will be run on the apparatus using the maximum weight allowance for tip options.

LADDER STORAGE MOUNTING BRACKETS

Mounting brackets for a single roof ladder will be provided on the left side of the aerial device while viewed from the turntable. A total of one (1) roof ladder(s) will be stored on the aerial base section. The bracket(s) will be located inboard of the boom panel at the base section and include straps to secure the ladder(s).

The mounting brackets will accommodate a 14' Duo-Safety 775-DR roof ladder(s) to be stored individually as determined by the type of aerial device and the available space.

PIKE POLE MOUNTING BRACKETS

Mounting will be provided near the end of the fly section of the aerial ladder for one (1) pike pole(s).

The bracket will be sized to hold a Fire Hooks Unlimited 8' all purpose hook model APH-8 with D handle.

STOKES STORAGE BRACKETS

There will be one (1) aluminum bracket(s) provided at the base section of the aerial ladder on the right side of the aerial device while viewed from the turntable. The brackets will be located inboard of the aerial boom panel. The brackets will be painted to match the aerial device and include locking pins to secure the basket.

LIGHTS FOR TURNTABLE WALKWAY

There will be white LED lights provided at the aerial turntable. The lights will be located to illuminate the entire walking surface of the turntable including the area around the turntable console. These lights will be activated by the aerial master switch.

TURNTABLE CONSOLE LIGHTING

There will be one (1) TecNiq, Model T10, white LED light strip mounted in the turntable console cover to illuminate the controls located on both the upper and lower portion of the turntable control station. These lights will be activated by the aerial master switch.

INFORMATION CENTER

There will be an information center provided. The information center will operate in temperatures from -40 to 158 degrees Fahrenheit. The information center will employ a Linux operating system and a 7.00" (diagonal measurement) LCD display. The LCD will have a minimum 1000nits rated, color display. The LCD will be sunlight readable, true digital operation, and will have improved resolution. The LCD display will be encased in an ABS, grey plastic housing. There will be five (5), weather-resistant user interface switches provided. The LCD display can be changed to an available foreign language.

Operation

The information center will be designed for easy operation in everyday use. There will be a page button to cycle from one screen to the next screen in a rotating fashion. A video button will allow an NTSC signal into the information center to be displayed on the LCD. If any button is pressed while viewing a video feed, the information center will return to the vehicle information screens. There will be a menu button to provide access to maintenance, setup, and diagnostic screens. All other button labels will be specific to the information being viewed.

General Screen Design

Where possible, background colors will be used to provide vehicle information *At A Glance*. If the information provided on a screen is within acceptable limits, a black background color will be used. If the information provided on a screen is not within acceptable limits, an amber background color will indicate a caution condition and a red background color will indicate a warning condition.

Every screen in the information center will include the time (12- or 24-hour mode) and a fault alert triangle symbol. The time will be synchronized between all Command Zone color displays located on the vehicle. Once the fault alert triangle is selected, a text message will identify any items causing the audible alarm to sound. If more than one (1) audible alarm is activated, the text message for each alarm will cycle every second until the problems have been resolved. The background for the Alert Center will change to indicate the severity of the warning message. Amber will indicate a caution condition and red will indicate a warning condition. If a warning and a caution condition occur simultaneously, the red background color will be shown for all Alert Center messages.

A label or symbol will be provided for each button. The label or symbol will indicate the function for each active button for each screen. If the button is not utilized on specific screens, it will remain black.

Symbols will accurately depict the aerial device type the information pertains to such as rear mount ladder, rear mount platform, mid-mount ladder or mid-mount platform.

Page Screens

The Information center will include the following pages:

The Aerial Main and Load Chart page will indicate the following information:

Montpelier FD
Ladder

127 of 157 Pierce Enforcer PUC 107' Single Axle Aerial

Rungs Aligned and Rungs Not Aligned will be indicated with respective green or red colored ladder symbols.

Ladder Elevation will be indicated via a fire apparatus vehicle with ladder symbol with the degree of elevation indicated between the vehicle and ladder.

Water Flow (if applicable) will be indicated via a water nozzle symbol and text indicating flow / time.

If applicable, breathing air levels will be indicated via an air bottle symbol and text indicating the percent (%) of air remaining. A green bar graph shown inside the bottle will indicate oxygen levels above 20 percent. A red bar graph will indicate oxygen levels at or below 20 percent. When oxygen levels are at or below 10 percent, the red bar graph will flash.

At A Glance color features will be utilized on this screen. A fault alert triangle symbol in the lower right portion of the screen will indicate any caution faults with a yellow background. Warning type conditions will be indicated via a red background. Conditions operating within acceptable limits will be indicated via a green background.

The Aerial Reach and Hydraulic Systems page will indicate the following information:

If applicable, aerial hydraulic oil temperature will be indicated with symbol and text.

Aerial Hydraulic Oil Pressure will be indicated with a symbol and text.

The following calculations will be indicated on a representative vehicle symbol:

Aerial Device Extension length

Aerial Device Height indicating the height of the aerial device tip from the ground

Aerial Device Angle indicating the angle from the vehicle which the device is at.

At A Glance color features will be utilized on this screen. A fault alert triangle symbol in the lower right portion of the screen will indicate any caution faults with a yellow background. Warning type conditions will be indicated via a red background. Conditions operating within acceptable limits will be indicated via a green background.

The Level Vehicle page will indicate the following information:

The grade of the vehicle will be indicated via a fire apparatus vehicle symbol with the degree of grade shown in text format. The symbol will tilt dependent on the vehicle grade.

The slope of the vehicle will be indicated via a fire apparatus vehicle symbol with the degree of slope shown in text format. The symbol will tilt dependent on the vehicle slope.

Outriggers status will be indicated via a colored symbol for each outrigger present. Each outrigger status will be defined as one of the following:

Outrigger stowed indicated with a silver pan located close to the vehicle

Outrigger fully extended indicated with a fully deployed green outrigger

Outrigger short-jacked indicated by a yellow outrigger partially deployed

Outrigger not set indicated by a red outrigger that is not set on the ground

A bedding assist alert will indicate that the aerial device is being aligned by the Command Zone system as the operator lowers the aerial device into the cradle with the joystick.

At A Glance color features will be utilized on this screen. A fault alert triangle symbol in the lower right portion of the screen will indicate any caution faults with a yellow background. Warning type conditions will be indicated via a red background. Conditions operating within acceptable limits will be indicated via a green background.

The aerial operation envelope page will indicate the following:

- A top view of the aerial operating envelope
- A side view of the aerial operating envelope

Menu Screens

The following screens will be available through the Menu button:

- The View System Information screen will display aerial device hours, aerial PTO hours, ladder aligned for stowing, aerial rotation angle, total water flow (if applicable), and aerial waterway valve status (if applicable).
- The Set Display Brightness screen will allow brightness increase and decrease and include a default setting button.
- The Configure Video Mode screen will allow setting of video contrast, video color and video tint.
- The Set Startup screen allows setting of the screen that will be active at vehicle power-up.
- The Set Date and Time screen has a 12- or 24-hour format, and allows setting of the time and date.
- The View Active Alarms screen shows a list of all active alarms including the date and time of each alarm occurrence, and shows all alarms that are silenced.
- The System Diagnostics screen allows the user to view system status for each module and its respective inputs and outputs. Viewable data will include the module type and ID number; the module version; and module diagnostics information including input or output number, the circuit number connected to that input or output, the circuit name (item connected to the circuit), status of the input or output, and other module diagnostic information.
- Aerial Calibrations screen indicates items that may be calibrated by the user and instructions to follow for proper calibration of the aerial device.

Button functions and button labels may change with each screen.

Lower Stabilizer Control Stations

A lower control station will be located on each side of the rear wall of the apparatus in an easily accessible area. The controls and indication labels will be illuminated for nighttime operation. The

following items will be furnished at the lower control station and will be clearly identified and conveniently located for ease of operation and viewing:

- Level assist switch
- Override switch to override interlocks
- Emergency stop
- Emergency hydraulic power unit switch

The stabilizer controls will include the following:

- Leveling assist toggle switch
- Left and right side stabilizer beam in/out switches
- Left and right side stabilizer beam up/down switches
- Rear stabilizer up/down switch

Turntable Control Station

There will be one (1) device control station located on the left side of the turntable so the operator may easily observe the ladder while operating the controls. All elevation, extension and rotation controls will operate from this location. The controls will permit the operator to regulate the speed of the aerial functions, within the safe limits, as determined by the manufacturer and NFPA standards. Each control will be equipped with a positive lock to hold the control in a neutral position preventing accidental activation. In addition to the neutral lock, a console cover will be provided at the turntable control station. The controls will be so designed to allow the turntable control station to immediately override the tip controls, if equipped, even if the ladder is being operated by the tip controls.

The following items will also be provided at the turntable control station, clearly identified and illuminated for nighttime operation and conveniently located for ease of operation and viewing:

- Intercom controls
- Tip tracking light switch
- Emergency stop switch
- Emergency power unit switch
- Operator's load chart
- Two (2) position switch for selecting aerial operational speed
- Ladder illumination switch (if equipped)
- Aerial monitor switches (if equipped)

High Idle

The high idle will be controlled by the microprocessor. The microprocessor will automatically adjust the engine rpm, to compensate for the amount of load placed upon the system. The system will include a safety device that allows activation of the high idle, only when the parking brake is set and the transmission is placed in neutral.

REMOTE AERIAL CONTROL

A remote control will be provided whereby all ladder movements can be controlled at the ladder tip, in addition to the control console.

The three (3) ladder functions (extension, rotation, elevation) will be controlled individually by means of spring loaded, return to center 12-volt proportional controls.

A momentary switch at the turntable control station will enable the controls at the ladder tip.

The turntable control console ladder controls will override the ladder tip controls.

The remote control aerial speed will be set in accordance with the current edition of applicable NFPA standards.

STABILIZERS

The vehicle will come equipped with an out and down stabilization system. The system will consist of two (2) hydraulically operated out and down style stabilizers mounted above the frame and a rear stabilizer jack that is attached directly to the center rear of the torque box.



The stabilizers will have a maximum spread of 18' from the centerline of the footpads when fully extended. The internal tubes will be 8.00" x 10.00" with 1/2" thick top and bottom plates and 3/8" thick sides of 130,000 psi minimum yield strength steel and will be extended out by hydraulic cylinders. The cylinders will have pilot-operated check valves with thermal relief. This will insure that the beams will be in the stowed during travel. The external tubes will be 9-3/4" x 11-3/4" with 3/8" wall thickness. The internal jack tubes will slide on permanently attached wear pads.

The extension cylinders will be totally enclosed within the extension beams. The horizontal extension cylinders will be of the trombone type to eliminate wear and potential failure of hydraulic hoses.

The stabilizers will have a tip over safety margin of 1 1/2 times its rated load in any position the aerial device can be placed as outlined in the current edition of NFPA. The aerial will be able to sustain a 1 1/3 to 1 rated load on a 5 degree slope downward in the position most likely to cause overturning. The maximum ground slope the apparatus can be set up on is 12 percent. On the 12 percent slope, the apparatus can be leveled within a 6 percent operating range with the apparatus cab facing uphill.

The cylinders will be supplied with dual pilot operated check valves on each stabilizer cylinder to hold the cylinder in the stowed or working position should a charged line be severed at any point in the hydraulic system. Stabilizers will contain safety lock valves and will require no mechanical pins to assure there will be no "leak down" of stabilizer legs.

Each stabilizer leg will have attached to the end of the leg a pan that will be a maximum 13.00" wide to allow the extension of the stabilizer between parked cars. This pan will serve as a protective guard and a mounting surface for warning lights. The top, forward, and rear edges will be flanged back for added strength.

The stabilizer cylinders will be sized to maximize ground penetration. The lift cylinders will be mounted on the end of the stabilizer tube and will have the following dimensions:

4.00" bore

3.50" rod

23.38" stroke

The stabilizer extension cylinders will have the following dimensions

1.75" bore

1.25" rod

64.00" stroke

The rear stabilizer will have the following dimensions:

4.50" bore

4.00" rod

29.00" stroke

Each stabilizer that can be extended from the body will be supplied with a red warning light as outlined in the current edition of NFPA. The stabilizers will be connected to a warning light in the cab to warn the operator if the stabilizers are deployed.

The ground contact area for each stabilizer will be a 12.00" diameter circular stainless steel disc without the auxiliary pads and 24.00" x 24.00" with lightweight composite material pads deployed. The ground pressure will not exceed 75 psi when the apparatus is fully loaded and the aerial device is carrying its rated capacity in every position. This will be accomplished with the stabilizer pads deployed, as outlined in the current edition of NFPA. There will be one (1) pad located on each side of the apparatus in front of the stabilizers.

The auxiliary jack pad for the rear stabilizer will be integral to the stabilizer foot pad.

STABILIZER CONTROLS

One (1) electric solenoid valve will control the stabilizers. The control switches will be located one (1) each side at the rear of the apparatus so the operator may observe the stabilizers during deployment.

The stabilizer controls will include the following:

- Leveling assist toggle switch: The outrigger control system will incorporate a computerized self leveling system in addition to the standard outrigger controls. The operator will have the option to manually or automatically level the truck. The computerized system will ensure full outrigger extension, proper jack penetration, and will level the vehicle within 1/2 a degree of level for safe operation of the aerial device.
- One (1) electric toggle switch for the engaging the emergency power unit.
- Two (2) fully extended beams green indicator lights: these lights will be illuminated when each of the respective stabilizer beams are fully extended.
- Three (3) firm on ground green indicator lights: each light will be illuminated when its respective stabilizer shoe is in the load supporting condition.

Each toggle switch will activate the engine fast idle automatically.

Manual override will be supplied for each stabilizer control valve.

A stabilizer deployment audible warning alarm will be provided and activated by the stabilizer movement.

A "Stabilizers Not Stowed" indicator will be provided in the driver's compartment. It will illuminate automatically whenever the stabilizers are not fully stowed to prevent damage to the apparatus if moved. The stabilizer system will also be wired to the "Do Not Move Indicator Light", which will flash whenever the apparatus parking brake is not fully engaged and the stabilizers are not fully stowed.

STABILIZER PAN MATERIAL

The aerial stabilizer pans will be smooth aluminum, painted to match the lower body color.

STABILIZER CONTROL BOX DOORS

A vertically hinged smooth aluminum door will be provided over each stabilizer control box. The door will be hinged along the outboard edge and be provided with a Southco C2 chrome raised trigger lever latch.

STABILIZER PLACEMENT

There will be two (2) cameras provided and installed on the body, one (1) directly above each stabilizer. The cameras will be activated with a switch in the cab and will provide a picture to specify the fully extended stabilizer position allowing the driver the ability to position the vehicle with the proper clearance for stabilizer deployment.

HYDRAULIC SYSTEM

All hose assemblies will be assembled and crimped by the hose manufacturers certified technician.

All manufacturing employees responsible for the installation of hydraulic components will be properly trained. Training will include: proper handling, installation, torque requirements, cleanliness and quality control procedures for hydraulic components.

Hoses used in the aerial hydraulic system will be of a premium quality hose with a high abrasion resistant cover. All pressure hoses will have a working pressure of 4000 psi and a burst pressure rating of 16,000 psi.

All hydraulic fittings and tubing will be plated to minimize corrosion.

The fitting will use an O-ring seal where possible to minimize hydraulic leaks.

An interlock will be provided that prevents activation of the hydraulic pump until the transmission is placed in neutral and the parking brake is set as outlined in the current NFPA standard.

The system will meet the performance requirement of the current NFPA standard, which requires adequate cooling less than 2.5 hours of operations.

All hydraulic components that are non-sealing whose failure could result in the movement of the aerial will comply with current NFPA standards and have burst strength of 4:1.

Dynamic sealing components whose failure could cause aerial movement will have a margin of 2:1 on maximum operating pressure per the current NFPA standard.

All hydraulic hoses, tubes, and connections will have a minimum burst strength of 4:1 per the current NFPA standard.

A hydraulic oil sight gauge will be supplied at the rear of the unit for easy fluid level verification.

A chassis mounted positive displacement piston pump for consistent pressure and rapid responses will supply hydraulic power for all aerial operations. The positive displacement pump will provide 3,150psi. The hydraulic pump will be solely dedicated to aerial operations.

Each aerial will be evaluated as to the region and climate where it will be used to determine the optimum viscosity and proper oil grade. Oil viscosity will be based on an optimum range of 80 to 1000 SUS during normal aerial use. Before shipment of the unit, an oil sample will be taken and analyzed to confirm the oil is within the allowable ISO grade tolerance.

The aerial hydraulic system will have a minimum oil cleanliness level of ISO 18/15/13 based on the ISO 4406:1999 cleanliness standard. Each customer will receive a certificate of actual cleanliness test results and an explanation of the rating system.

Each aerial will include an oil sample port, identified with a yellow dust cap and a label, for subsequent customer testing.

Ball valves will be provided in the hydraulic suction lines to permit component servicing without draining the oil reservoir.

The aerial will incorporate the use of trombone steel tubes inside the stabilizer beams to eliminate hydraulic hose wear and leaks.

Hydraulic power to the ladder will be transferred from the pedestal by a hydraulic swivel.

The system hydraulic pressure will be displayed on the turntable display.

The hydraulic system will be additionally protected from excessive pressure by a secondary pressure relief valve set at 3,150 psi. In the event the main hydraulic pump compensator malfunctions, the secondary relief will prevent system damage.

HYDRAULIC CYLINDERS

All cylinders used on the aerial device will be produced by a manufacturer that specializes in the manufacture of hydraulic cylinders.

Each cylinder will include integral safety holding cartridges.

Each cylinder will be designed to a minimum safety factor of 4:1 to failure.

All safety holding cartridges will be installed at the cylinder manufacturer, in a controlled clean environment to avoid possible contamination and or failure.

POWER TAKEOFF/HYDRAULIC PUMP

The apparatus will be equipped with a power takeoff driven by the chassis transmission and actuated by an electric shift, located inside the cab. The power takeoff which drives the hydraulic pump will meet all the requirements for the aerial unit operations.

A green indicator light will be installed on the cab instrument panel to notify the operator that the power takeoff is engaged.

An interlock will be provided that allows operation of aerial power only after the chassis spring brake has been set and the chassis transmission has either been placed in the neutral position or drive position after the driveline has been disengaged from the rear axle.

The hydraulic system will be supplied by a variable displacement load and pressure compensating piston pump. The pump will meet the demands of all three simultaneous aerial functions. The pump will provide proper flow for single aerial function with the engine at idle speed. A switch will be provided on the control console to increase the engine speed for multiple function operation.

EMERGENCY PUMP

The hydraulic system will be designed with an auxiliary power unit meeting the guidelines of the current NFPA standard.

The aerial will be equipped with an emergency hydraulic pump, electrically driven from the truck batteries. The pump will be capable of running for 30 minutes for limited aerial functions to stow the unit in case of a main pump or truck system failure. A momentary switch will be located at the stabilizer and aerial control locations to activate the emergency pump.

AERIAL CONTROL VALVE

The aerial hydraulic control valve will be designed with special spool flows, limiting the oil flow for the designed function speed. The valve will be electrically controlled and be located in the control console with the handles oriented downward for manual operation. The activation handles will be spaced a minimum of 3.50" for ease of operation. The valve spools will be designed to bleed off downstream pressure, in the neutral position and allow proper sealing of any cylinder holding cartridge.

OIL RESERVOIR

The oil reservoir will have a minimum capacity of 20 gallons. The oil fill location will be easily accessible and be labeled "Hydraulic Oil Only" and also indicate the grade of oil that is installed in the reservoir. The fill will have a desiccant breather filter with a water capacity of 4 fluid ounces and a 5 micron rating.

Two suction ports will be provided, one for the main hydraulic pump and one for the emergency pump. The main suction will be slightly elevated off the bottom of the reservoir. The emergency suction port will be closer to the bottom of the reservoir to provide some reserve oil for emergency operation.

A temperature sending unit in the reservoir will provide indication of the oil temperature on an electronic display.

The hydraulic oil reservoir will be labeled per the current edition of NFPA standard.

RETURN FILTER

The low pressure oil filter will be integrated with the hydraulic manifold and designed to prevent oil loss during filter change. The system will incorporate the following filter to provide dependable service:

- return filter: beta 200 at 6 micron

HYDRAULIC SWIVEL

The aerial ladder will be equipped with a six (6) port, high pressure hydraulic swivel which will connect the hydraulic lines from the hydraulic pump and reservoir through the rotation point to the aerial control bank. The hydraulic swivel will allow for 360 degree continuous rotation of the aerial.

ELECTRIC SWIVEL

The ladder will be equipped with an electric swivel to allow 360 degrees rotation of the aerial while connecting all electrical circuits through the rotation point. A minimum of 28 collector rings will be provided that are capable of supplying 20 amp continuous service. All collector rings will be enclosed and protected with desiccant plugs against condensation and corrosion. No oil or silicone will be used.

WATER SWIVEL

Water will be transferred to the aerial waterway by means of a 5.00" internal diameter waterway through the swivel, permitting 360 degree continuous rotation.

13-BIT ABSOLUTE ENCODER

The aerial ladder will be equipped with a 13-Bit Absolute Encoder, CAN-based, which provides 8192 counts per shaft turn for position and direction reference.

The 13-Bit Absolute Encoder will provide a unique binary word to reference each position and direction for all 360 degrees of rotation.

If the power is interrupted for any reason, the 13-Bit Absolute Encoder will allow power to be returned to the system without having to re-zero the settings.

The 13-Bit Absolute Encoder will be an integral part of a micro-processor based control system.

ELECTRICAL SYSTEM

The standard 8 conductor cable to the tip contains 10 AWG conductors.

The aerial device will utilize a microprocessor-based control system. The system will consist of the following components:

Control System Modules

Each of the control system modules will be configured as follows:

Sealed to a NEMA 4X rating

Operating range from -40 degrees F to 156 degrees F (-40 degrees C to 70 degrees C)

Communicate using J1939 data link

Two (2) diagnostic LED lights

One (1) green light that illuminates when module has power (B+) and ground

One (1) red light that flashes to indicate the module is capable of communicating via the data link

Up to 16 diagnostic LEDs on each module

Ground matrix identification system

The following control system modules will be used:

Control Module

Main controller for the system

USB connection allows for computer diagnostics

Power Module

Built-in fault sensing

Eight (8) digital outputs

Pulse width modulating (PWM) capable

10A continuous per output

Circuit protection based on actual current draw (not affected by heat)

Current Control Module

Built-in fault sensing

Three (3) analog inputs

Eight (8) digital outputs

Pulse width modulating (PWM) capable

3A continuous per output

Closed Loop System

Circuit protection based on actual current draw (not affected by heat)

Input Module

16 software selectable (digital or analog) inputs

Output Module

16 digital outputs

Input/Output Module

Eight (8) software selectable (digital or analog) inputs

Eight (8) digital outputs

TIP LIGHT

There will be four (4) HiViz Model FT-WL-X-9-*, 5,732 raw lumens 12 volt DC LED lights with adjustable bail mounts installed on the fly section of the aerial device below the handrail height.

- One (1) light on the left side high. The left side tip light to include a combination of spot and flood optics.
- One (1) light on the left side low. The left side lower tip light to include flood optics.
- One (1) light on the right side low. The right side lower tip light to include flood optics.
- One (1) light on the right side high. The right side tip light to include a combination of spot and flood optics.
- The painted parts to be black.

The lights will be controlled with the tracking lights.

TRACKING LIGHTS

There will be two (2) HiViz FT-WL-X-9-*, 5,734 effective lumens 12 volt DC lights with white LEDs and adjustable mounts installed on the base section of the aerial device below the hand rails per the following:

- One (1) located on the left side. The left side tracking light to include a combination of flood and spot optics.
- One (1) located on the right side. The right side tracking light to include a combination of flood and spot optics.
- The painted parts of the light housing and brackets to be black.

The tracking lights will be controlled by a switch located at the platform/tip and turntable.

LIGHTING ON AERIAL LADDER

There will be TecNiq, Model D02, LED rung lighting provided on both sides of the aerial ladder base, lower and upper mid, and fly sections. The lighting will be located adjacent to the ladder rungs along the lower rail of the ladder sections and will run the length of the ladder section.

The color of the aerial device when the device is at full extension will be:

- Top one-third to be red
- Middle one-third to be white
- Bottom one-third to be blue

The LED rung lighting will be activated when a switch at the turntable operator's panel is activated through the aerial master and a switch at the turntable operator's panel is activated through the master battery switch.

The lights may be load managed when the parking brake is applied.

STABILIZER WARNING LIGHTS

There will be two (2) Whelen®, Model M6*, LED flashing warning lights with clear lenses and Whelen, Model M6FC, chrome flanges installed on the stabilizer cover panels, one (1) each side.

- The LED lights will be red.

These warning lights will be activated by the same switch as the side warning lights.

STABILIZER BEAM WARNING LIGHTS

There will be two (2) Whelen®, Model T0R00FRR, 2.00" round red LED flashing lights mounted on each out and down stabilizer, one (1) facing forward and one (1) facing rearward.

The lights will be recessed in the horizontal beam of the stabilizer.

These warning lights will be activated with the aerial master switch.

STABILIZER SCENE LIGHTS

There will be three (3) Truck-Lite Model 6060C LED lights installed illuminate the surrounding area near the stabilizers per the following

- one (1) light near the right front stabilizer
- one (1) light near the left front stabilizer
- one (1) light near the rear stabilizer

The lights will be activated when the battery switch is on and the aerial master switch is on.

DC POWER CABLE TO TIP

There will be a cable installed in the aerial device to provide 13.92 amps @ 12 volts DC to the tip of the aerial device.

2-WAY AERIAL COMMUNICATION SYSTEM

There will be a Fire Research, Model ICA910, two-way intercom system provided. The control module with an LED volume display and push-button volume control will be located on the turntable operator console.

A hands free module will be located at the aerial tip or platform and constantly transmit to the other module unless the control module push-to-talk button is pressed.

Each intercom unit will be weatherproof.

AERIAL PEDESTAL

The aerial pedestal will accommodate the height of the cab.

LIFTING EYE ASSEMBLY - ROPE RESCUE ATTACHMENT

A lifting eye assembly will be provided that is designed to evenly distribute load at the tip of the aerial. The lift eye assembly is retained by two (2) locking pins, one (1) at each end outboard side of the egress. Leveling is maintained by the lifting eye assembly rotating within the egress mounting. The lifting eye assembly rating will match the capacity rating of the aerial device.

AERIAL TURNTABLE MANSAYER™ BARS

Yellow ManSaver™ bars will be installed at the aerial turntable.

WATER SYSTEM

A waterway system will be provided consisting of the following components and features:

A 5.00" pipe will be connected to the water supply on one end and to a 5.00" internal diameter water swivel at the rotation point of the turntable. The water swivel will permit 360 degree continuous rotation of the aerial device.

The 5.00" waterway swivel is to be routed through the rotation point up to the heel pin swivel. The heel pin swivel will allow the water to flow to the ladder pipe while elevating the aerial ladder from -10 degrees to 77 degrees. The heel pivot pin is not integral with the waterway swivel at any point. The design of the waterway will allow complete servicing of the waterway swivel without disturbing the heel pivot pin.

The integral telescopic water system will consist of a 4.50" diameter tube in the base section, a 4.00" diameter tube in the inner mid-section, a 3.50" diameter tube in the outer mid-section, and a 3.00" diameter tube in the fly section. The telescopic waterway will be constructed of anodized aluminum pipe.

The aerial will be capable of discharging up to 1000 gpm at 100 psi parallel to the ladder and 90 degrees to each side of center while maintaining the rated tip load.

The aerial will be capable of discharging between 1001 and up to 1500 gallons per minute at 100 psi parallel to the ladder and 40 degrees to each side of center while maintaining the rated tip load.

The master stream will be capable of flow up to 30 degrees above horizontal.

An adjustable pressure relief valve will be furnished to protect the aerial waterway from a pressure surge.

A 1.50" drain valve will be located at the lowest point of the waterway system.



WATERWAY SEALS

The waterway seals will be of type-B PolyPak design, composed of nitroxile seal and a nitrile wiper, which together offer maximum stability and extrusion resistance on the waterway. The seal will be capable of withstanding pressures up to 2000 psi, temperatures in excess of 250 degrees Fahrenheit and have resistance to all foam generating solutions. The seals will be internally lubricated.

The waterway seals will have automatic centering guides constructed of synthetic thermalpolymer. The guides will provide positive centering of the extendible sections within each other and the base section to insure longer service life and smoother operation.

AERIAL MONITOR

An Akron Model 3486 monitor with stow and deploy will be provided at the tip with a Akron 1500 gpm Model 5178. This monitor will allow for an additional 30 degrees of travel above horizontal at the aerial tip.

The monitor's functions will be controlled electrically from two (2) separate locations. One (1) control will be located at the control console and the other at the ladder tip.

There will be a courtesy light at the tip of the aerial to illuminate the controls.

If the aerial has a quick-lock waterway, a limit switch will be provided to disable the extended vertical travel when the monitor is locked to the lower ladder section.

AERIAL VALVE MANIFOLD UNDER MONITOR

An Akron Aerial Valve Manifold (AVM) valve and manifold will be provided at the aerial waterway monitor inlet. This configuration provides a valve to control flow through the monitor and an additional valve as a discharge connection for hose.

The AVM monitor flow control valve will be manually operated at the tip of the ladder with a slow close gear valve. The valve will have an integral automatic drain valve.

The Akron S1 right side discharge valve will have a 90 degree, 1/4 turn ball valve with 2.50" NH outlet threads. A 2.50" NH cap with chain will be provided.

A pressure relief valve will be installed to prevent incidental damage to the waterway system when both valves are closed.

WIRELESS REMOTE AERIAL MONITOR CONTROL

One (1) handheld wireless remote control will be provided near the pump operator's panel in a protected area or in a body compartment. The remote will include two (2) lithium-ion rechargeable batteries. The frequency of the remote will be 900 MHz (300 feet range). A battery charger will be provided in loose equipment.

AERIAL WATERWAY FLOW METER

Waterway flow, including total water flowed, will be monitored by the microprocessor. An LCD display will be located at the turntable control station.

REAR INLET

A 5.00" NST inlet to the aerial waterway will be provided at the rear of the apparatus. The inlet will have 5.00" aluminum plumbing. It will be furnished with a 5.00" chrome plated adapter and a 5.00" chrome plated, long handle cap.

WATERWAY LOCKING SYSTEM

The aerial ladder waterway monitor will be capable of being positioned at either the fly section or at the next lower section of the ladder.

The monitor location will be changeable by the use of a single handle, located at the side of the ladder.

The handle, attached to a cam bracket, will simply be moved forward to lock the monitor at the fly section and back to lock it to the previous section.

There will be no pins to remove and reinstall.

The monitor will be operational at all times, regardless of its position, without connecting or disconnecting electrical lines.

QUICK-LOCK WATER WAY LOCK LABELING

The Quick-Lock waterway locking mechanism will be labeled "LOWER FLY" "RELEASE" "UPPER FLY". Three (3) labels will be installed on the side of the pinnable waterway release lever mounting bracket.

TOOLS

The following tools will be provided for retorquing of all specified bolts as recommended by the manufacturer:

- Torque Wrench
- All Required Extensions, Sockets and Adapters
- 4-to-1 Multiplier

MANUALS

Two (2) operator maintenance manuals and two (2) wiring diagrams pertaining to the aerial device will be provided with the apparatus at time of pick-up. Manuals will be in the English language.

INITIAL INSTRUCTION

On initial delivery of the fire apparatus, the contractor will supply a qualified representative to demonstrate the apparatus and provide initial instruction to the fire department regarding the operation, care, and maintenance of the apparatus for a period of three (3) consecutive days.

LOOSE EQUIPMENT

The following equipment will be furnished with the completed unit:

- One (1) bag of chrome, stainless steel, or cadmium plated screws, nuts, bolts and washers, as used in the construction of the unit.

NFPA LOOSE EQUIPMENT

NFPA Required Loose Equipment Provided by Fire Department

The following loose equipment as outlined in NFPA 1900, 2024 edition, table 8.1 and CAN/ULC S515:2024 edition, section 5.2 will be provided by the fire department:

- One (1) traffic vest for each seating position, each vest to comply with ANSI/ISEA 107, *American National Standard for High-Visibility Safety Apparel and Accessories*, and have a five-point breakaway feature that includes two (2) at the shoulders, two (2) at the sides, and one (1) at the front.
- Five (5) fluorescent orange traffic cones not less than 28.00" (711 mm) in height, each equipped with a 6.00" (152 mm) retro-reflective white band no more than 4.00" (152 mm) from the top of the cone, and an additional 4.00" (102 mm) retro-reflective white band 2.00" (51 mm) below the 6.00" (152 mm) band.
- Five (5) illuminated warning devices such as highway flares, unless the five (5) fluorescent orange traffic cones have illuminating capabilities.
- Four (4) ladder belts meeting the requirements of NFPA 2500.

NFPA Loose Equipment That Should be Considered

The following loose equipment as outlined in NFPA 1900, 2024 edition, appendix table A.8.4 (a) and CAN/ULC S515:2024 edition, section 5.2 should be considered:

- 800 ft (240 m) of 2.50" (65 mm) or larger fire hose
- 400 ft (120 m) of 1.50" (38 mm), 1.75" (45 mm), or 2.00" (52 mm) fire hose
- One (1) handline nozzle, 200 gpm min
- Two (2) handline nozzles, 95 gpm min
- One (1) playpipe with shutoff and 1", 1.125", and 1.25" tips
- Four (4) SCBA apparatus
- Four (4) SCBA spare cylinders
- One (1) first aid kit.
- Four (4) salvage covers, each a minimum size of 12 ft × 18 ft (3.6 m × 5.5 m).
- Four (4) combination spanner wrenches.
- Two (2) hydrant wrenches.
- One (1) double female 2.50" adapter with national hose (NH) thread.

- One (1) double male 2.50" adapter with national hose (NH) thread.
- One (1) rubber mallet, suitable for use on suction hose connections.
- One (1) 150 ft (45 m) light-use life safety rope meeting the requirements of NFPA 2500.
- One (1) 150 ft (45 m) general-use life safety rope meeting the requirements of NFPA 2500.
- One (1) automatic external defibrillator (AED).

SOFT SUCTION HOSE

There will be no soft suction hose provided.

STRAINER PROVIDED BY FIRE DEPARTMENT

NFPA 1900, 2024 edition, section 8.3 and CAN/ULC S515:2024 edition, section 5.2 requires a suction strainer when suction hose is provided.

The strainer is not on the apparatus as manufactured. The fire department will provide the suction strainer.

DRY CHEMICAL EXTINGUISHER PROVIDED BY FIRE DEPARTMENT

The extinguisher is not on the apparatus as manufactured. The fire department will provide and mount the extinguisher.

WATER EXTINGUISHER PROVIDED BY FIRE DEPARTMENT

The extinguisher is not on the apparatus as manufactured. The fire department will provide and mount the extinguisher.

FLATHEAD AXE PROVIDED BY FIRE DEPARTMENT

The axe is not on the apparatus as manufactured. The fire department will provide and mount the axe.

PICKHEAD AXE PROVIDED BY FIRE DEPARTMENT

The axe is not on the apparatus as manufactured. The fire department will provide and mount the axe.

PAINT PROCESS

The exterior custom cab and body painting procedure will consist of a seven (7) step finishing process as follows:

1. Manual Surface Preparation - All exposed metal surfaces on the custom cab and body will be thoroughly cleaned and prepared for painting. Imperfections on the exterior surfaces will be removed and sanded to a smooth finish. Exterior seams will be sealed before painting. Exterior surfaces that will not be painted include; chrome plating, polished stainless steel, anodized aluminum and bright aluminum treadplate.
2. Chemical Cleaning and Pretreatment - All surfaces will be chemically cleaned to remove dirt, oil, grease, and metal oxides to ensure the subsequent coatings bond well. The aluminum surfaces will be properly cleaned and treated using a high pressure, high temperature 4 step Acid Etch process. The steel and stainless surfaces will be properly cleaned and treated using a high temperature 3 step process specifically designed for steel or stainless. The chemical treatment converts the metal surface to a passive condition to help prevent corrosion.

3. Surfacer Primer - The Surfacer Primer will be applied to a chemically treated metal surface to provide a strong corrosion protective basecoat. A minimum thickness of 2 mils of Surfacer Primer is applied to surfaces that require a Critical aesthetic finish. The Surfacer Primer is a two-component high solids urethane that has excellent sanding properties and an extra smooth finish when sanded.
4. Finish Sanding - The Surfacer Primer will be sanded with a fine grit abrasive to achieve an ultra-smooth finish. This sanding process is critical to produce the smooth mirror like finish in the topcoat.
5. Sealer Primer - The Sealer Primer is applied prior to the Basecoat in all areas that have not been previously primed with the Surfacer Primer. The Sealer Primer is a two-component high solids urethane that goes on smooth and provides excellent gloss hold out when topcoated.
6. Basecoat Paint - Two coats of a high performance, two component high solids polyurethane basecoat will be applied. The Basecoat will be applied to a thickness that will achieve the proper color match. The Basecoat will be used in conjunction with a urethane clear coat to provide protection from the environment.
7. Clear Coat - Two (2) coats of Clear Coat will be applied over the Basecoat color. The Clear Coat is a two-component high solids urethane that provides superior gloss and durability to the exterior surfaces. Lap style and roll-up doors will be Clear Coated to match the body. Paint warranty for the roll-up doors will be provided by the roll-up door manufacturer.

After the cab and body are painted, the color will be verified to make sure that it matches the color standard. Electronic color measuring equipment will be used to compare the color sample to the color standard entered into the computer. Color specifications will be used to determine the color match. A Delta E reading will be used to determine a good color match within each family color.

All removable items such as brackets, compartment doors, door hinges, and trim will be removed and painted separately if required, to ensure paint behind all mounted items. Body assemblies that cannot be finish painted after assembly will be finish painted before assembly.

The paint finish quality levels for critical areas of the apparatus (cab front and sides, body sides and doors, and boom lettering panels) are to meet or exceed Cadillac/General Motors GMW15777 global paint requirements. Orange peel levels are to meet or exceed the #6 A.C.T. standard in critical areas. The manufacture's written paint standards will be available upon request.

Environmental Impact

Contractor will meet or exceed all current state regulations concerning paint operations. Pollution control will include measures to protect the atmosphere, water and soil. Controls will include the following conditions:

- Topcoats and primers will be chrome and lead free.
- Metal treatment chemicals will be chrome free. The wastewater generated in the metal treatment process will be treated on-site to remove any other heavy metals.
- Particulate emission collection from sanding operations will have a 99.99 percent efficiency factor.

- Particulate emissions from painting operations will be collected by a dry filter or water wash process. If the dry filter is used, it will have an efficiency rating of 98 percent. Water wash systems will be 99.97 percent efficient.
- Water from water wash booths will be reused. Solids will be removed on a continual basis to keep the water clean.
- Paint wastes are disposed of in an environmentally safe manner.
- Empty metal paint containers will be recycled to recover the metal.
- Solvents used in clean-up operations will be recycled on-site or sent off-site for distillation and returned for reuse.

Additionally, the finished apparatus will not be manufactured with or contain products that have ozone depleting substances. Contractor will, upon demand, present evidence that the manufacturing facility meets the above conditions and that it is in compliance with his state EPA rules and regulations.

TWO-TONE CAB PAINT

The cab will be painted two-tone with the upper section painted #509 gray metallic and the lower section painted #40 lime yellow. There will be a standard two-tone cab paint break provided.

There will be a standard cab shield provided.

BODY PAINT

The body will be painted to match the lower section of the cab.

PAINT/SEAL CHASSIS FRAME ASSEMBLY

The following components will be treated with epoxy E-coat protection prior to finish paint:

- Two (2) C-channel frame rails
- Two (2) frame liners

The E-coat process will meet the technical properties shown.

Before the frame rails are finish painted, all areas will be sealed with a 3M 2084 metal sealant after the components are torqued to the frame rails:

- The joint between the main frame and the liner
- The joint between all crossmembers and the frame
- The joint between all spring hangers and the frame.

The chassis frame assembly will be finished with a single system black top coat before the installation of the cab and body, and before installation of the engine and transmission assembly, air brake lines, electrical wire harnesses, etc.

Components that are included with the chassis frame assembly that will be finish painted (unless otherwise stated in a secondary option) are:

FILM TECHNICAL PROPERTIES		
PROPERTY	TEST METHOD	PERFORMANCE
Color	—	Black
Film Thickness	—	0.5 - 1.5 Mills
Gloss - 60 Degree	ASTM D523	65 - 85
Pencil Hardness	ASTM D3363	2H Minimum
Direct Impact	ASTM D2794	100 in. - lbs. Minimum
Reverse Impact	ASTM D2794	60 in. - lbs. Minimum
Crosshatch Adhesion	ASTM D3359	4B - 5B
Humidity	ASTM D1735	1000 Hours Minimum
Water Immersion	ASTM D870	250 Hours Minimum
Gravelometer	GM9508P	6 Minimum
Throwpower	GM9535P	12 - 15 in.
Cold rolled steel lab panels, Zinc Phosphate pretreatment, 0.6 mils average film thickness, cured 20 minutes @ 350°F.		
PROPERTY	SUBSTRATE PRETREATMENT	SALT SPRAY* 1000 HOURS
Corrosion Resistance	CRS / Zinc Phos / Non-Chrome	1 - 2 mm
*Salt Spray - ASTM B117, cold rolled steel lab panels cured 20 minutes @ 350°F. (Average Total Scribe Creep)		

- Frame rails
- Frame liners
- Cross members
- Axles
- Suspensions
- Steering gear
- Battery boxes
- Bumper extension weldment
- Frame extensions
- Body mounting angles
- Rear Body support substructure (front and rear)
- Pump house substructure
- Steel fuel tank
- Castings
- Individual piece parts used in chassis and body assembly

After the chassis frame assembly is finish painted, the following non-torqued joints will be sealed with a SG-510A rust-proofing compound:

- All bolted on chassis components that could be vulnerable to rust, i.e. body mounting angles, air tanks, etc.

To summarize, all metal to metal contact components that are prone to rust, will be protected.

AXLE HUB PAINT

All axle hubs will be painted black #101.

COMPARTMENT INTERIOR PAINT

The interior of all compartments will be painted with a gray spatter finish for ease of cleaning and to make it easier to touch up scratches and nicks.

AERIAL DEVICE PAINT COLOR

The aerial device paint procedure will consist of a six (6) step finishing process as follows:

1. Manual Surface Preparation - All exposed metal surfaces on the aerial device structural components above the rotation point will be thoroughly cleaned and mechanically shot-blasted to remove metal impurities and prepare the aerial for painting.
2. Primer/Surfacer Coats - A two (2) component urethane primer/surfacer will be applied to the mechanically shot-blasted metal surfaces to provide a strong corrosion protective base coat and to smooth out the surface. All seams will be caulked with a two (2) component epoxy caulk before painting.
3. Hand Sanding - The primer/surfacer coat of the outer surfaces of the hand rails and base rails will be lightly sanded to a smooth finish.

4. Sealer Primer Coat - A two (2) component sealer primer coat will be applied over the sanded primer.
5. Topcoat Paint - Urethane base coat will be applied to opacity for correct color matching.
6. Clearcoat - Two (2) coats of an automotive grade two (2) component urethane will be applied.

Surfaces that will not be painted include all chrome plated, polished stainless steel, anodized aluminum and bright aluminum treadplate.

All buy out components, such as monitor, nozzle, gauges, etc. will be supplied as received from the vendor.

Removable items such as brackets will be removed and painted separately to ensure paint coverage behind all mounted items.

The stabilizer beams, pedestal and torque box (including water tank cradle) will be treated with E-coat prior to painting to help provide resistance to corrosion and chemicals. The stabilizers and torque box will be painted black.

The aerial device components will be painted as follows using the aforementioned six (6) step finishing process:

- Aerial device ladder sections and extension cylinders: gray metallic 509
- Aerial turntable: lime yellow 40
- Aerial control console: lime yellow 40
- Aerial lift cylinders: lime yellow 40
- Aerial egress: 113 lime yellow (will be a contrasting color to the aerial device)
- Aerial boom support: gray metallic 505

REFLECTIVE STRIPES

Three (3) reflective stripes will be provided across the front of the vehicle and along the sides of the body. The reflective band will consist of a 1.00" black stripe at the top with a 1.00" gap then a 6.00" black stripe with a 1.00" gap and a 1.00" black stripe on the bottom.

CHEVRON STRIPING ON THE FRONT BUMPER

There will be alternating chevron striping located on the front bumper.

The colors will be yellow and black reflective.

The size of the striping will be 4.00".

REAR CHEVRON STRIPING

There will be alternating chevron striping located on the rear-facing vertical surface of the apparatus. Covered surfaces will include the rear wall and aluminum doors. Roll up doors and stainless steel access doors will not be covered in chevron.

The colors will be black and yellow reflective.

Each stripe will be 6.00" in width.

REFLECTIVE STRIPE ON STABILIZERS

There will be a 4.00" wide yellow reflective stripe provided on the forward and rear facing side of all aerial stabilizers.

CAB DOOR REFLECTIVE STRIPE

A 6.00" x 16.00" yellow reflective stripe will be provided across the interior of each cab door. The stripe will be located approximately 1.00" up from the bottom, on the door panel.

This stripe will meet the current edition of applicable NFPA standards.

LETTERING

The lettering will be totally encapsulated between two (2) layers of clear vinyl.

LETTERING

One hundred forty-one (141) to one hundred sixty (160) genuine gold leaf lettering, 3.00" high, with outline and shade will be provided.

LETTERING

Twenty-one (21) to forty (40) genuine gold leaf lettering, 12.00" high, with outline and shade will be provided.

LETTERING

Forty-one (41) to sixty (60) genuine gold leaf lettering, 8.00" high, with outline and shade will be provided.

LETTERING ON MUD FLAP

The full width mud flap will state the following in reflective lettering: TBD at Drawing Approval

There will be two (2) different colors of reflective lettering provided.

The following will be in color 1: TBD at Drawing Approval

The font style of the lettering will be Full Block.

The color of the lettering will be yellow with no outline.

The following will be in color 2: TBD at Drawing Approval

The font style of the lettering will be Full Block.

The color of the lettering will be yellow with yellow outline.

MALTESE CROSS INSTALLATION

There will be one (1) pair of maltese crosses, comprised of genuine gold leaf material, provided and installed TBD at Drawing Approval.

CAB GRILLE DESIGN

An American flag design will be painted on the cab grille.

CORROSION PREVENTION TREATMENT FOR DISSIMILAR METALS

When dissimilar sheet metals are joined together with a threaded fastener, a corrosion preventative material, Eck®, will be applied to either the fastener, counter sink and hole location. This will be applied to both cab and body sheet metal.

E-COAT - TAK-4® FRONT AXLE

The following front axle components will be treated with an epoxy E-coat to provide resistance to corrosion and chemicals:

- TAK-4 weldments (side plates and side plate interconnecting structure members)
- Torsion bar anchor weldments

After being treated with E-coat, components will be finish painted black.

E-COATING OF STEEL COMPONENTS

The following components will be treated with an epoxy E-coat to provide resistance to corrosion and chemicals:

- Cross members
- TAK-4® weldments (side plates and side plate interconnecting structure members) (if applicable)
- Torsion bar anchor weldments (if applicable)
- Battery boxes
- Bumper extension weldment
- Frame extensions
- Body mounting angles
- Rear body support weldment
- Under body support weldments (front and rear)
- Pump house substructure (walkway if applicable)

The following components will not be e-coated:

- Air tanks
- Fuel tank
- Castings
- Individual piece parts used in chassis and body assembly

The e-coated parts will have a black top coat as well to provide an additional layer of protection and provide a consistent finish.

UNDERCOATING FUEL TANK

The apparatus fuel tank will be fully undercoated by an authorized Ziebart dealer.

The fuel tank will be undercoated with an asphalt petroleum based material, dark in color.

The undercoating material utilized on the tank 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 fuel tank prior to tank installation on the apparatus.

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).

FIRE APPARATUS PARTS MANUAL

There will be one (1) custom parts manual(s) in USB flash drive format for the complete fire apparatus provided.

The manual(s) will contain the following:

- Job number
- Part numbers with full descriptions
- Table of contents
- Parts section sorted in functional groups reflecting a major system, component, or assembly
- Parts section sorted in alphabetical order
- Instructions on how to locate parts

Each manual will be specifically written for the chassis and body model being purchased. It will not be a generic manual for a multitude of different chassis and bodies.

Service Parts Internet Site

The service parts information included in these manuals are also available on the Pierce website. The website offers additional functions and features not contained in this manual, such as digital

photographs and line drawings of select items. The website also features electronic search tools to assist in locating parts quickly.

CHASSIS SERVICE MANUALS

There will be one (1) chassis service manuals on USB flash drives containing parts and service information on major components provided with the completed unit.

The manual will contain the following sections:

- Job number
- Table of contents
- Troubleshooting
- Front Axle/Suspension
- Brakes
- Engine
- Tires
- Wheels
- Cab
- Electrical, DC
- Air Systems
- Plumbing
- Appendix

The manual will be specifically written for the chassis model being purchased. It will not be a generic manual for a multitude of different chassis and bodies.

CHASSIS OPERATION MANUAL

The chassis operation manual will be provided on one (1) USB flash drive. The manual will be in the English language.

ONE (1) YEAR MATERIAL AND WORKMANSHIP

A Pierce basic apparatus limited warranty certificate, WA0008, is included with this proposal.

ENGINE WARRANTY

A Cummins **five (5) year** limited engine warranty will be provided. A limited warranty certificate, WA0181, is included with this proposal.

STEERING GEAR WARRANTY

A Sheppard **three (3) year** limited steering gear warranty will be provided. A copy of the warranty certificate will be submitted with this proposal.

FIFTY (50) YEAR STRUCTURAL INTEGRITY

The Pierce custom chassis frame only (does not include crossmembers) limited warranty certificate, WA0013, is included with this proposal.

FRONT AXLE THREE (3) YEAR MATERIAL AND WORKMANSHIP WARRANTY

The Pierce TAK-4 suspension limited warranty certificate, WA0050, is included with this proposal.

SINGLE REAR AXLE FIVE (5) YEAR MATERIAL AND WORKMANSHIP WARRANTY

A Meritor™ Axle 5 year limited warranty will be provided.

ABS BRAKE SYSTEM THREE (3) YEAR MATERIAL AND WORKMANSHIP WARRANTY

A Meritor Wabco™ ABS brake system limited warranty certificate, WA0232, is included with this proposal.

TEN (10) YEAR STRUCTURAL INTEGRITY

The Pierce custom cab limited warranty certificate, WA0012, is included with this proposal.

TEN (10) YEAR PRO-RATED PAINT AND CORROSION

A Pierce cab limited pro-rated paint warranty certificate, WA0055, is included with this proposal.

FIVE (5) YEAR MATERIAL AND WORKMANSHIP

The Pierce Command Zone electronics limited warranty certificate, WA0014, is included with this proposal.

CAMERA SYSTEM WARRANTY

A Pierce fifty four (54) month warranty will be provided for the camera system.

COMPARTMENT LIGHT WARRANTY

The Pierce 12 volt DC LED strip lights limited warranty certificate, WA0203, is included with this proposal.

TRANSMISSION WARRANTY

The transmission will have a **five (5) year/unlimited mileage** warranty covering 100 percent parts and labor. The warranty will be provided by Allison Transmission.

Note: The transmission cooler is not covered under any extended warranty you may be getting on your Allison Transmission. Please review your Allison Transmission warranty for coverage limitations.

TRANSMISSION COOLER WARRANTY

The transmission cooler will carry a five (5) year parts and labor warranty (exclusive to the transmission cooler). In addition, a collateral damage warranty will also be in effect for the first three (3) years of the warranty coverage and will not exceed \$10,000 per occurrence. A copy of the warranty certificate will be included with this proposal.

WATER TANK WARRANTY

A UPF poly water tank limited warranty certificate, WA0195, is included with this proposal.

TEN (10) YEAR STRUCTURAL INTEGRITY

The Pierce apparatus body limited warranty certificate, WA0009, is included with this proposal.

ROLL UP DOOR MATERIAL AND WORKMANSHIP WARRANTY

An AMDOR roll-up door limited warranty will be provided. The roll-up door will be warranted against manufacturing defects for a period of **ten (10) years**. A **five (5) year** limited warranty will be provided on painted roll up doors.

The limited warranty certificate, WA0185, is included with this proposal.

SEVEN (7) YEAR PARTS, ONE (1) YEAR LABOR

The pump and its components will be provided with a seven (7) year parts and one (1) year labor limited warranty. The manufacturer's warranty will provide that the pump and its components will be free from failures caused by defects in material and workmanship that would arise under normal use and service.

A copy of the warranty certificate will be submitted with the bid package.

TEN (10) YEAR PUMP PLUMBING WARRANTY

The Pierce apparatus plumbing limited warranty certificate, WA0035, is included with this proposal.

FOAM SYSTEM WARRANTY

The Husky 3 foam system limited warranty certificate, WA0231, is included with this proposal.

TWENTY (20) YEAR AERIAL DEVICE STRUCTURAL INTEGRITY WARRANTY

The Pierce device limited warranty certificate, WA0052, is included with this proposal.

AERIAL SWIVEL WARRANTY

An Amity five (5) year limited swivel warranty will be provided. A copy of the warranty certificate will be included with this proposal.

HYDRAULIC SYSTEM COMPONENTS WARRANTY

Aerial hydraulic system components will be provided with a five (5) year material and workmanship limited warranty.

HYDRAULIC SEAL WARRANTY

Aerial hydraulic seals will be provided with a three (3) year material and workmanship limited warranty.

A copy of the warranty certificates is included with this proposal.

AERIAL WATERWAY WARRANTY

An Amity ten (10) year limited waterway warranty will be provided. A copy of the warranty certificate is included with this proposal.

FOUR (4) YEAR PRO-RATED PAINT AND CORROSION

A Pierce aerial device limited pro-rated paint warranty certificate, WA0047, is included with this proposal.

TEN (10) YEAR PRO-RATED PAINT AND CORROSION

A Pierce body limited pro-rated paint warranty certificate, WA0057, is included with this proposal.

THREE (3) YEAR MATERIAL AND WORKMANSHIP

The Pierce Goldstar gold leaf lamination limited warranty certificate, WA0018, is included with this proposal.

VEHICLE STABILITY CERTIFICATION

The fire apparatus manufacturer will provide a certification stating the apparatus complies with NFPA 1900, current edition, section 7.14, Vehicle Stability. The certification is included with this proposal.

ENGINE INSTALLATION CERTIFICATION

The fire apparatus manufacturer will provide a certification, along with a letter from the engine manufacturer stating they approve of the engine installation in the bidder's chassis. The certification will be provided at the time of delivery.

POWER STEERING CERTIFICATION

The fire apparatus manufacturer will provide a certification stating the power steering system as installed meets the requirements of the component supplier. The certification is included with this proposal.

CAB INTEGRITY CERTIFICATION

The fire apparatus manufacturer will provide a cab crash test certification with this proposal. The certification will state that a specimen representing the substantial structural configuration of the cab has been tested and certified by an independent third party test facility. Testing events will be documented with photographs, real-time and high-speed video, vehicle accelerometers, cart accelerometers, and a laser speed trap. The fire apparatus manufacturer will provide a state licensed professional engineer to witness and certify all testing events. Testing will meet or exceed the requirements below:

- SAE J2422 Cab Roof Strength Evaluation - Quasi-Static Loading Heavy Trucks.
- European Occupant Protection Standard ECE Regulation No.29.
- SAE J2420 COE Frontal Strength Evaluation - Dynamic Loading Heavy Trucks.

Side Impact

The cab will be subjected to dynamic preload where a 14,320-lb moving barrier is slammed into the side of the cab at 5.50 mph, striking with an impact of 13,000 ft-lb of force. This test is part of the SAE J2422 test procedure and more closely represents the forces a cab will see in a rollover incident.

Frontal Impact

The same cab will withstand a frontal impact of 32,600 ft-lb of force using a moving barrier in accordance with SAE J2420.

Additional Frontal Impact

The same cab will withstand a frontal impact of 65,098 ft-lb of force using a moving barrier. (Twice the force required by SAE J2420)

Roof Crush

The cab will be subjected to a roof crush force of 22,500 lb. This value meets the ECE 29 criteria, and is equivalent to the front axle rating up to a maximum of ten (10) metric tons.

Additional Roof Crush

The same cab will be subjected to a roof crush force of 110,000 lbs. (Four and a half times the load criteria of ECE 29)

The same cab will withstand all tests without any measurable intrusion into the survival space of the occupant area.

CAB DOOR DURABILITY CERTIFICATION

Robust cab doors help protect occupants. Cab doors will survive a 200,000 cycle door slam test where the slamming force exceeds 20 G's of deceleration. The bidder will certify that the sample doors similar to those provided on the apparatus have been tested and have met these criteria without structural damage, latch malfunction, or significant component wear.

WINDSHIELD WIPER DURABILITY CERTIFICATION

Visibility during inclement weather is essential to safe apparatus performance. Windshield wipers will survive a 3 million cycle durability test in accordance with section 6.2 of SAE J198 *Windshield Wiper Systems - Trucks, Buses and Multipurpose Vehicles*. The bidder will certify that the wiper system design has been tested and that the wiper system has met these criteria.

ELECTRIC WINDOW DURABILITY CERTIFICATION

Cab window roll-up systems can cause maintenance problems if not designed for long service life. The window regulator design will complete 30,000 complete up-down cycles and still function normally when finished. The bidder will certify that sample doors and windows similar to those provided on the apparatus have been tested and have met these criteria without malfunction or significant component wear.

SEAT BELT ANCHOR STRENGTH

Seat belt attachment strength is regulated by Federal Motor Vehicle Safety Standards and should be validated through testing. Each seat belt anchor design will withstand 3000 lb of pull on both the lap and shoulder belt in accordance with FMVSS 571.210 Seat Belt Assembly Anchorages. The bidder will certify that each anchor design was pull tested to the required force and met the appropriate criteria.

SEAT MOUNTING STRENGTH

Seat attachment strength is regulated by Federal Motor Vehicle Safety Standards and should be validated through testing. Each seat mounting design will be tested to withstand 20 G's of force in accordance with FMVSS 571.207 Seating Systems. The bidder will certify, at time of delivery, that each seat mount and cab structure design was pull tested to the required force and met the appropriate criteria.

PERFORMANCE CERTIFICATIONS

Cab Air Conditioning

Good cab air conditioning temperature and air flow performance keeps occupants comfortable, reduces humidity, and provides a climate for recuperation while at the scene. The cab air conditioning system will cool the cab from a heat-soaked condition at 100 degrees Fahrenheit to an average of 78 degrees Fahrenheit in 30 minutes. The bidder will certify that a substantially similar cab has been tested and has met these criteria.

Cab Defroster

Visibility during inclement weather is essential to safe apparatus performance. The defroster system will clear the required windshield zones in accordance with SAE J381 Windshield Defrosting Systems

Test Procedure And Performance Requirements - Trucks, Buses, And Multipurpose Vehicles. The bidder will certify that the defrost system design has been tested in a cold chamber and passes the SAE J381 criteria.

Cab Auxiliary Heater

Good cab heat performance and regulation provides a more effective working environment for personnel, whether in-transit, or at a scene. An auxiliary cab heater will warm the cab 77 degrees Fahrenheit from a cold-soak, within 30 minutes when tested using the coolant supply methods found in SAE J381. The bidder will certify, at time of delivery, that a substantially similar cab has been tested and has met these criteria.

AMP DRAW REPORT

The bidder will provide, at the time of bid and delivery, an itemized print out of the expected amp draw of the entire vehicle's electrical system.

The manufacturer of the apparatus will provide the following:

- Documentation of the electrical system performance tests.
- A written load analysis, which will include the following:
 - The nameplate rating of the alternator.
 - The alternator rating under the conditions specified per:
 - Current edition of applicable NFPA standards.
 - The minimum continuous load of each component that is specified per:
 - Current edition of applicable NFPA standards.
 - Additional loads that, when added to the minimum continuous load, determine the total connected load.
 - Each individual intermittent load.

All of the above listed items will be provided by the bidder per the current edition of applicable NFPA standards.



Option List

3/13/2026

Customer:	Montpelier Fire Dept.	Bid Number:	1008
Representative	Browne, Richard	Job Number:	
Organization:	Atlantic Emergency Solutions, Inc	Number of Units:	1
Requirements Manager:		Bid Date:	08/01/2026
Description:	Montpelier FD Enforcer 107' Single Axle (2026)	Stock Number:	
Body:	Aerial, HD Ladder 107' ASL Single, PUC, Quint, Alum Body	Price Level:	54 (Current: 54)
Chassis:	Enforcer Chassis, Aerials, Single Axle, Ascendant PUC-NG	Lane:	Lane 1

Line	Option	Type	Option Description	Qty
1	0766640		Boiler Plates, Aerial 107' ASL	1
			Fire Department/Customer - Montpelier Fire Department	
			Operating/In conjunction W-Service Center - Operating	
			Miles - 100 Miles	
			Number of Fire Dept/Municipalities - 2	
			Bidder/Sales Organization - Atlantic Emergency Solutions	
			Delivery - Delivery representative	
			Dealership/Sales Organization, Service - Atlantic Emergency Solutions	
2	0018180		Single Source Compliance, Aerials	1
3	0584456		Manufacture Location, Appleton, Wisconsin	1
4	0584452		RFP Location: Appleton, Wisconsin	1
5	0588609		Vehicle Destination, US	1
6	0764706	SP	BMP Truck - Pre-Approval at Bid - Approved Option Will Be Required at Booking	1
7	0816491		Comply NFPA 1900 Changes Effective Jan 1, 2024, With Exceptions	1
8	0533351		Quint Fire Apparatus	1
9	0588612		Vehicle Certification, Aerial w/Pump	1
10	0681278		Agency, Apparatus Certification, Aerial w/Pump, U.L.	1
11	0816495		Certification, Vehicle Inspection Program, NFPA 1900	1
12	0000114		Inspection Trip(s)	2
			Qty, - 02	
			Fill in Blank - Five (5)	
13	0766110		Consortium, Sourcewell	1
14	0537375		Unit of Measure, US Gallons	1
15	0529326		Bid Bond, 10%, Pierce Built Chassis	1
16	0816570		Performance Bond, 100% Req'd, PPI Terms	1
17	0000007		Approval Drawing	1
18	0002928		Electrical Diagrams	1
19	0889375		Enforcer Chassis, Aerials, Single Axle, Ascendant PUC-NG	1
20	0021007		Maximum Overall Height	1
			Size - 11' 8"	
21	0000110		Wheelbase	1
			Wheelbase - 234.5"	
22	0000070		GVW Rating	1
			GVW rating - 57,500#	
23	0729280		Frame Rails, 13.38 x 3.50 x .375, Enforcer	1
24	0889469		Frame Liner, "C/Inv L" 12.50" x 3.00" x .25", AXT/Vel/Imp/Enf, 56" QVal	1
25	0796912		Axle, Front, Oshkosh TAK-4, Non Drive, 24,000 lb, Enforcer	1
26	0051596		Suspension, Front TAK-4, 24,000 lb, 3" Jounce, AXT/Imp/Vel/Enf	1
27	0087572		Shock Absorbers, KONI, TAK-4, Qtm/AXT/Imp/Vel/Enf	1
28	0000322		Oil Seals, Front Axle	1
29	0802640		Tires, Front, Goodyear, Armor Max MSA, 445/65R22.50, 20 ply	1
30	0019618		Wheels, Front, Alcoa, 22.50" x 13.00", Aluminum, Hub Pilot	1
31	0603826		Axle, Rear, Meritor RS30-185, 33,500 lb, Saber FR/Enforcer	1
32	0818721		Top Speed of Vehicle, 68 MPH/109 KPH, Non-NFPA/ULC 2024	1
33	0734351		Suspen, Rear, Reyco, 102AR-HD, Air Ride, 33,500 lb, No Sway Bar	1
34	0000485		Oil Seals, Rear Axle	1
35	0585004		Tires, Rear, Goodyear, G289 WHA, 315/80R22.50, 20 ply, Single	1
36	0889830		Wheels, Rear, Alcoa, 22.50" x 9.00", Aluminum, Hub Pilot, Single, 315 GY	1
37	0568081		Tire Balancing, Counteract Beads	1
38	0620570		Tire Pressure Monitoring, RealWheels, AirSecure, Valve Cap, Single Axle	1
			Qty, Tire Pressure Ind - 6	

Line	Option	Type	Option Description	Qty
39	0801909		Lug Nut, Covers, Chrome	1
40	0003245		Axle Hub Covers w/center hole, S/S, Front Axle	1
41	0001960		Axle Hub Covers, Rear, S/S, High Hat (Pair)	1
42	0742343		Mud Flap, Full Width, Rear, Custom Logo	1
43	0002045		Mud Flap, Front and Rear, Pierce Logo	1
44	0544802		Chocks, Wheel, SAC-44-E, Folding, (Up to 44" Diameter Tires)	1
			Qty, Pair - 01	
45	0601009		Mounting Brackets, Chocks, SAC-44-E, Folding, Horizontal, Aerials	1
			Qty, Pair - 01	
			Location, Wheel Chocks - Left Side Rear Tire, Forward and Left Side Rear Tire, Rearward	
46	0820509		ESC/ABS/ATC Wabco Brake System, Single Rear Axle, NFPA 1900/ULC	1
47	0030185		Brakes, Knorr/Bendix 17", Disc, Front, TAK-4	1
48	0803729		Brakes, Meritor, Cam, Rear, 16.50 x 8.63" No Dust Shield	1
49	0020784		Air Compressor, Brake, Cummins/Wabco 18.7 CFM	1
50	0644232		Brake Reservoirs, 4,272 Cubic Inch Minimum Capacity, Saber FR/Enforcer	1
			Paint Color, Air Tanks - Black #98	
51	0568012		Air Dryer, Wabco System Saver 1200, Heater, 2010	1
52	0000790		Brake Lines, Nylon	1
53	0000856		Air Inlet, with Kussmaul Air Eject	1
			Location, Air Coupling(s) - DS Crew Cab	
			Qty, Air Coupling (s) - 1	
54	0070810		All Wheel Lockup (Aerial/Tanker Chassis)	1
55	0000853		Compressor, Air, Kussmaul 091-9 12V Brake System	1
			Location - Behind Drivers Seat	
56	0553242		Cover, Air Compressor, Protection, Ventilated Alum. 4-Way	1
			Location - Behind Drivers Seat	
57	0808535		Engine, Cummins X10, 450 hp, 1250 lb-ft, W/OBD, EPA 2027, Saber FR/Enforcer	1
58	0811409		Not Required, Engine Contingency Adjustment	1
59	0001244		High Idle w/Electronic Engine, Custom	1
60	0687994		Engine Brake, Jacobs Compression Brake, Cummins Engine	1
			Switch, Engine Brake - e) Cummins Hi Med Lo	
61	0644227		Clutch, Fan, Air Actuated, Saber FR/Enforcer	1
62	0644573		Air Intake, Water & Ember Screen, Saber FR/Enforcer	1
63	0814375		Exhaust System, Horizontal, Right Side	1
			Exhaust, Diffuser - Aluminized Steel (Standard)	
			Exhaust, Material/Finish - Aluminized Steel (Standard)	
			Location, Diffuser Termination - 2.00" Past Rub Rail (Standard)	
			Tip, Exhaust - Straight Tip (Standard)	
64	0788765		Radiator, Saber FR/Enforcer	1
65	0001090		Cooling Hoses, Rubber	1
66	0803687		Fuel Tank, 65 Gallon, Left Side Fill, Rear Air Suspension	1
67	0001129		Lines, Fuel	1
68	0595087		DEF Tank, 4.5 Gallon, LS Fill, Forward of Rear Axle	1
			Door, Material & Finish, DEF Tank - Painted	
69	0723716		Fuel Priming Pump, Electronic, Automatic, Cummins, No Swt Req'd	1
70	0582243		Shutoff Valves, Fuel Line @ Primary Filter, Cummins	1
71	0699437		Cooler, Chassis Fuel, Not Req'd.	1
72	0690880		No Selection Required From This Category	1
73	0887559		Trans, Allison 6th Gen, 3000 EVS P, w/Prognostics, Imp/Vel/SFR/Enf	1
74	0625329		Transmission, Shifter, 5-Spd, Push Button, 3000 EVS	1
75	0517604		Transmission Programming, Park to Neutral, PUC	1
76	0684459		Transmission Oil Cooler, Modine, External	1
77	0001370		Driveline, Spicer 1710	1
78	0669988		Steering, Sheppard M110 w/Tilt, TAK-4, Eaton Pump, w/Cooler	1
79	0802950		Steering Wheel, 4 Spoke w/Wiper Control, Saber FR/Enforcer	1
80	0690274		Logo/Emblem, on Dash	1
			Text, Row (1) One - MONTPELIER	
			Text, Row (2) Two - FIRE	
			Text, Row (3) Three - DEPARTMENT	
81	0606441		Bumper, 19" Extended, Steel Painted, Saber FR/Enforcer	1

Line	Option	Type	Option Description	Qty
82	0640197		Tray, Hose, Center, 19" Bumper, Outside Air Horns	1
			Grating, Bumper extension - Grating, Rubber	
			Capacity, Bumper Tray - 20) 125' of 1.75"	
83	0630813		Cover, Aluminum Treadplate, One (1) D-Ring Latch, Hose Tray	1
			Stay arm, Tray Cover - c)Pneumatic Stay Arm, Dual	
84	0614646		No Lift & Tow Package, Imp/Vel, AXT, SFR/Enf	1
85	0612736		Tow Eyes, Painted, Extended Out Front of Bumper, Color Feature	1
			Paint Color, Predefined - #40 Lime Yellow	
86	0558109		Notch, Front For Recessing Of Q2B, Painted Bumper	1
			Location - Left Side	
87	0532853		Recess, Side Zone Warning Light, In Side of Extended Bumper	1
			Material, Brkt, Recess Lt Bumper - Painted Smooth Aluminum	
88	0698960		Coating, Top Flange, Front Bumper, Outside Exterior, UL-LX Coating, Black	1
89	0789614		Cab, Enforcer, 7010 w/Notch, PUC	1
90	0647919		Engine Tunnel, ISL, Spray Insulation, Saber FR/Enforcer	1
91	0887601		Cab Insulation, Enforcer/Saber FR	1
92	0610508		Rear Wall, Interior, Adjustable Seating, Not Available	1
93	0632103		Rear Wall, Exterior, Cab, Saber FR/Enforcer	1
			Material, Exterior Rear Wall - Aluminum Treadplate	
94	0639727		Cab Lift, Elec/Hyd, Manual Override, Saber FR/Enforcer	1
95	0695930		Grille, Bright Finished, Front of Cab, Enforcer	1
96	0002224		Scuffplates, S/S At Cab Door Jambs, 4-Door Cab	1
			Material Trim/Scuffplate - b) S/S, Brushed	
97	0647989		Trim, S/S Band, Across Cab Face, Arrow XT/Saber/Enforcer	1
			Material Trim/Scuffplate - b) S/S, Brushed	
98	0087357		Molding, Chrome on Side of Cab	1
99	0521669		Mirrors, Retractable, West Coast Style, Htd/Rmt, w/Htd/Rmt Convex	1
100	0648172		Door, Full Height, Saber FR/Enforcer 4-Door Cab, Raised Roof	1
			Key Model, Cab Doors - 751	
			Cab, Exterior Door Handle, Finish - 4-Door, Chrome/Black	
101	0655543		Door Panel, Brushed Stainless Steel, Saber/Enforcer 4-Door Cab	1
102	0630636		Controls, Electric Roll-Up Windows, 4dr, 4 Driver Controls, Saber FR/Enforcer	1
103	0633615		Steps, 4-Door Cab, Reduced Bottom Step, Saber FR/Enforcer	1
			Step Well Material - Aluminum Treadplate	
104	0770198		Handrail, Exterior, Hansen, Knurled, Alum, LED Backlit, Black, 4-Dr Cab	1
			Color, Handrail Light - Red	
			Control, Handrail Light - Parking Brake	
105	0560452		Steps, Stirrup, Formed, Cab & Crew Cab Doors, AXT/SFR/Enf	1
			Light, Step, Additional - P25 LED	
106	0892638		Lights, Cab & Crw Cab Acs Stps, P25, LED w/Bezel, 6lts	1
			Color, Trim - Chrome Housing	
107	0583698		Fenders, S/S on cab, Extra Wide, Saber/Enf	1
108	0586967		Grab Handle, Chrome, Specify Location, Qty	2
			Location - LS & RS front cab doors (upper forward corner to assist getting in the truck)	
			Qty, - 02	
109	0771672		Handrail, 10", Below Cab Windshield, Hansen Knurled, LED Backlit, Black, Pair	1
			Color, Handrail Light - Red	
			Control, Handrail Light - Parking Brake	
110	0042105		No Windows, Side of Crew Cab	1
111	0779033		Not Required, Windows Rear of Crew Cab, Saber FR/Enforcer	1
112	0651515		Window Protector Bars, Knurled, Crew Doors, 2" Above Window Sill Plate	1
113	0722796		Dash, Poly, Saber FR/Enforcer	1
114	0607217		Mounting Provisions, 3/16" Alum, Full Engine Tunnel, Saber FR/Enforcer	1
			Mounting Provision Spacing - 1.00"	
			Material Finish, Cab Interior - Fire Smoke Gray	
115	0750824		Cab Interior, Vinyl Headliner, Saber FR/Enforcer, CARE	1
			Color, Cab Interior Vinyl/Fabric - Endure Vinyl - Silver/Gray	
			Engine Tunnel Cover - Dark Silver Gray Endure Vinyl	
			Cab Interior Rear Wall Material - Painted Aluminum	
116	0753903		Cab Interior, Paint Color, Saber FR/Enforcer	1
			Color, Cab Interior Paint - i) fire smoke gray	
117	0888673		Floor, Rubber Padded, Cab & Crew Cab, Blister, Enforcer PUC-NG	1

Line	Option	Type	Option Description	Qty
118	0891411		HVAC, Heavy-Duty, Enforcer, CARE	1
			Paint Color, A/C Condenser - Painted to Match Cab Roof	
			HVAC System, Filter Access - Removable Panel	
			Auxiliary Cab Heater - Both	
			HVAC System, Control Loc. - Panel Position #12	
			Plenum Cover Material - Formed Plastic	
119	0012122		Fans, Window Defrost, One (1) Fan on Each Side	1
120	0639675		Sun Visor, Smoked Lexan, AXT, Imp/Vel, SFR/Enf	1
			Sun Visor Retention - Thumb Latch	
121	0622887		Grab Handles, Driver Door Post, Officer Door Post Low, SFR/Enf	1
122	0693439		Lights, Engine Compt, Custom, Auto Sw, w/Fld Chk Dr WIn 3SC0CDCR, 3" LED Trim	1
			Qty, - 01	
123	0631830		Fluid Check Access, Saber FR/Enforcer, Arrow XT	1
			Latch, Door, Storage - Lift and Turn Latch, Flush	
124	0002508		Map Box, 3 Bin/30 deg Slant, Custom Chassis	1
			Qty, - 1	
			Location, Map Box/Straps - Final Inspection	
125	0599959		Straps, Velcro, Map Box, Custom Chassis	1
			Qty, - 1	
			Location, Map Box/Straps - Final Inspection	
126	0828042		Side Roll and Frontal Impact Protection, SRS	1
127	0622618		Seating Capacity, 5 Belted Seats	1
128	0636955		Seat, Driver, Pierce PSV, Air Ride, High Back, Safety, PRIMARY, SFR/Enf	1
129	0636942		Seat, Officer, Pierce PSV, Fixed, SCBA, Safety, PRIMARY, SFR/Enf	1
130	0620420		Radio Compartment, Below Non-Air Ride Seat, Saber FR/Enforcer	1
			Latch, Door, Storage - Lift and Turn Latch	
131	0757990		Cabinet, Rear Facing, LS, 23 W x 40.25 H x 26.75 D, Roll, Ext Acc, SFR/Enf	1
			Light, Short Cabinet - Pierce, Exterior, Left Side, Pierce, Interior, Right Side and Pierce, Interior, Left Side	
			Scuffplate, Material/Finish - S/S, Polished	
			Material Finish, Shelf - Painted - Cab Interior	
			Shelf/Tray, Cabinet - (2) Shelves, Adjustable, 0.75" Flange Down	
			Door, Cab Exterior Cabinet - Double Pan, Non-Locking	
			Door, Exterior Stop - Web Strap	
			Door, Cab Interior Cabinet - Rollup, Amdor, Anodized, Locking #751	
			Louvers, Cabinet - 0-No Louvers	
132	0102783		Not Required, Seat, Rr Facing C/C, Center	1
133	0757961		Cabinet, Rear Facing, RS, 22 W x 40.25 H x 26.75 D, Roll, SFR/Enf	1
			Light, Short Cabinet - Pierce, Interior, Right Side and Pierce, Interior, Left Side	
			Material Finish, Shelf - Painted - Cab Interior	
			Shelf/Tray, Cabinet - (2) Shelves, Adjustable, 0.75" Flange Down	
			Door, Cab Interior Cabinet - Rollup, Amdor, Anodized, Non-Locking	
			Louvers, Cabinet - 0-No Louvers	
134	0606585		Seat, Fwd Fcng C/C, LS Otbrd, PSV, SCBA, Foldup,17"	1
			Btm,Safety,SECONDARY,SFR/Enf	
135	0606586		Seat, Fwd Fcng C/C, Ctr, (1) Pierce PSV, SCBA, 17" Btm,	1
			Safety,SECONDARY,SFR/Enf	
136	0606584		Seat, Fwd Fcng C/C, RS Otbrd, PSV, SCBA, Foldup,17"	1
			Btm,Safety,SECONDARY,SFR/Enf	
137	0651182		Scuffplate, Cabinet, Interior Door Pan, Cab	1
			Location - Around LS Exterior EMS Cabinet Door	
			Qty, - 1	
			Material Trim/Scuffplate - b) S/S, Brushed	
138	0766467		Upholstery, Seats In Cab, All Vinyl, Seats Inc, CARE	5
			Color, Cab Interior Vinyl/Fabric - Endure Vinyl - Silver/Gray	
			Qty, - 05	
139	0543991		Bracket, Air Bottle, Hands-Free II, Cab Seats	4
			Qty, - 04	
140	0603866		Seat Belt, Dual Retractor, ReadyReach, Saber FR/Enforcer	1
			Seat Belt Color - Red	
141	0817557		Helmet Storage, Provided by Fire Department, NFPA/ULC 2024	1
142	0647647		Lights, Dome, FRP Dual LED 4 Lts	1
			Color, Dome Lt - Red & White	

Line	Option	Type	Option Description	Qty
142			Color, Dome Lt Bzl - Black	
			Control, Dome Lt White - Door Switches and Lens Switch	
			Control, Dome Lt Color - Lens Switch	
143	0896451		Enhanced Software for Cab and Crew Cab Dome Lts	1
144	0898386		Handlts, (4) Streamlight, Fire Vulcan 180, 44311, LED, Tail Lts, 12v, Orange	1
			Location, Portable Hand Light - Mounted at Final Inspection	
145	0622803		Cab Instruments, Black Gauges, Black Bezels, Enforcer MUX	1
			Emergency Switching - Individual Switches	
146	0509511		Air Restriction Indicator, Imp/Vel, AXT, Enf MUX	1
147	0543751		Light, Do Not Move Apparatus	1
			Alarm, Do Not Move Truck - Pulsing Alarm	
148	0509042		Messages, Open Dr/DNMT, Color Dsply,	1
149	0622798		Switching, Cab Instrument Lower Console & Overhead, Rocker MUX, Enforcer	1
150	0802946		Wiper Control, 2-Speed w/Intermittent, Steering Wheel, Left Pod, SFR/Enf	1
151	0731813		Hour Meter, Aerial, Included in Information Centers, ASL, AAT, ASP	1
152	0002615		Switch, Aerial 12V Master	1
153	0002617		PTO switch, w/light - aerial	1
154	0834416		USB, Cab, 4, 12V DC, Dual USB Termination, NFPA1900/ULC	1
			USB, Type - USB Combo A & C	
155	0820894		Wiring, Spare, 15 A 12V DC, Batt Dir, 1st NFPA1900/ULC	1
			Location, Wiring - Behind Officer Seat	
			12vdc power from - Battery direct	
			Wire termination - 10-Place Bus Bar w/Cover	
156	0686687		Wiring, Spare, 37.5 A 12V DC, Customer Install Radio, 30A Sw Bat, 7.5A Ign Grnd	1
			Qty, - 01	
			Location - TBD at Drawing Approval	
157	0814201		Vehicle Information Center, 7" Color Display, Touchscreen, MUX, CL714	1
			System Of Measurement - US Customary	
158	0816633		Collision Mitigation, HAAS Alert (R2V), HA7	1
			Subscription, HAAS R2V - R2V - 5 Year Data Plan Subscription	
159	0606249		Vehicle Data Recorder w/CZ and Overhead Display Seat Belt Monitor	1
160	0696439		Antenna Mount, Custom Chassis, Cable Routed to Instrument Panel Area	2
			Qty, - 02	
			Location, Antenna Mount - Left And Right Side	
161	0832298		Camera, Pierce, LS Mux, RS, R, Cameras, AHD	1
			Color - 1) black	
			Camera System Audio - Speaker on Ceiling Behind Driver	
162	0814861		Camera, Switcher, Pierce, 4 channel, AHD, CVBS	1
163	0890416		Pierce Command Zone, Advanced Electronics & Control System, Enforcer, WiFi CZT	1
			Color, Antenna - Black Antenna	
			Module Housings - See Through Housings with LED Cuircuit Indicators	
164	0896456		Prognostics, Electrical System	1
165	0624253		Electrical System, Enforcer MUX	1
166	0079211		Batteries, (6) Stryten/Exide Grp 31, 950 CCA each, Threaded Stud	1
167	0008621		Battery System, Single Start, All Custom Chassis	1
168	0002698		Battery Compartment, Saber/Enforcer	1
169	0812586		Charger, Sngl Sys, Kussmaul, Chief 091-266-12-60, 60 Amp	1
170	0814869		Location, Cab, Charger, Behind Driver Seat	1
171	0811943		Panel, Remote Control, Kussmaul, Chief 091-266-RCP	1
172	0814939		Location, Cab, Ind/Remote, Driver's Seat Riser	1
173	0811952		Not Required, Indicator/Remote Status	1
174	0824337		Not Required, Location Ind/Remote	1
175	0016857		Shoreline, 20A 120V, Kussmaul Auto Eject, 091-55-20-120, Super	1
			Qty, - 01	
			Color, Kussmaul Cover - b) red	
			Shoreline Connection - Battery Charger	
176	0026800		Shoreline Location	1
			Location, Shoreline(s) - DS Crew Cab	
177	0647728		Alternator, 430 amp, Delco Remy 55SI	1
178	0092582		Load Manager/Sequencer, MUX	1
			Enable/Disable Hi-Idle - e)High Idle enable	

Line	Option	Type	Option Description	Qty
179	0783157		Headlights, Rect LED, JW Spkr Evo 2, Heat, AXT/Enf/Imp/Sab/Vel	1
			Color, Headlight Bez - Chrome Bezel	
180	0840415		Light, Directional, Wln 600 Cmb, Cab Crn, Wrp Bzl Out HD Lts, Enf/Sab	1
			Color, Lens, LED's - Clear	
			Color, Trim - Chrome Trim	
181	0620054		Light, Directional/Marker, Intermediate, Weldon 9186-8580-29 LED 2lts	1
182	0771584		Lights, Clearance, Front, P25 LED 2 Lts, Id Lts with Visor Lt, Saber FR/Enforce	1
183	0647929		Lights, Directional/Marker, Cab Front Side, Truck-Lite 19036YLED, AXT/Enf MUX	1
184	0511569		Lights, Clearance/Marker/ID, Rear, P25 LED 7Lts	1
			Light Guard - Without Guard	
185	0602938		Light, Marker End Outline, Rubber Arm, LED Marker Lamp, Rear Body	1
			Qty, Lights, Pair - 1	
186	0517025		Lights, Tail, Wrap-around, Stop/Tail, Turn & Backup LED, Tri-Cluster	1
187	0085910		Lights, Backup Included in Signal Cluster	1
188	0663884		Bracket, License Plate & Light, P25 LED, Temp Under Tailbrd	1
			Location - Left Side	
189	0589905		Alarm, Back-up Warning, PRECO 1040	1
190	0687604		Lights, Perimeter Cab, Truck-Lite 6060C LED 4Dr, Grommet Mt	1
191	0617866		Lights, Perimeter Pump House, Truck-Lite 6060C LED 2lts	1
192	0615866		Lights, Perimeter Body, Truck-Lite 6060C LED 1lt, Turntable Access	1
			Control, Perimeter Lts - Parking Brake Applied	
193	0896454		Enhanced Software for Perimeter Lts	1
194	0764324		Light, Visor, HiViz, FT-B-72-ML-*, Cnt Feature	1
			Control, Scene Lts - Cab Sw Panel DS, Pump Panel Sw LS and Cab Sw Panel PS	
			Color, Lt Housing HiViz - Black	
195	0736731		Lights, HiViz FT-GESM LED 1st	1
			Location - LS Cab - over window between cab doors	
			Qty, - 01	
			Control, Scene Lts - Cab Sw Panel DS, Pump Panel Sw LS, Cab Sw Panel PS and Side Scene Controls	
			Color, Lt Housing HiViz - Blk Opt Hold, Blk Bez, Blk Fix	
196	0736729		Lights, HiViz FT-GESM LED 2nd	1
			Location - RS Cab - over window between cab doors	
			Qty, - 01	
			Control, Scene Lts - Cab Sw Panel DS, Pump Panel Sw LS, Cab Sw Panel PS and Side Scene Controls	
			Color, Lt Housing HiViz - Blk Opt Hold, Blk Bez, Blk Fix	
197	0757717		Lights, HiViz FT-B-65-* LED, 2nd	1
			Location - RS Body Catwalk	
			Qty, - 01	
			Control, Scene Lts - Cab Sw Panel DS, Pump Panel Sw LS, Cab Sw Panel PS and Side Scene Controls	
			Color, Lt Housing HiViz - Black	
198	0766291		Cover/Step, Over Light, Horizontal Mt	2
			Location - LS & RS Body Catwalk	
			Qty, - 02	
199	0757722		Lights, HiViz FT-B-65-* LED, 1st	1
			Location - LS Body Catwalk	
			Qty, - 01	
			Control, Scene Lts - Cab Sw Panel DS, Pump Panel Sw LS, Cab Sw Panel PS and Side Scene Controls	
			Color, Lt Housing HiViz - Black	
200	0721287		Lights, Hose Bed, Sides, Dual Strips, 40", 45 Ends	1
			Control, Hose Bed Lts - Cup Switch At Rear	
201	0763552		Lights, Rear Scene, HiViz, FT-GSMJR 2Lts	1
			Location, Lights - LS & RS Rear Body Corners	
			Control, Rear Scene Lts - Cab Switch Panel DS, Cab Switch Panel PS, Cup Switch At Rear SS and Reverse w/E-Master	
202	0709438		Lights, Walk Surf, FRP Flood, LED	1
203	0612611		Aerial, HD Ladder 107' ASL Single, PUC, Quint, Alum Body	1
204	0554271		Body Skirt Height, 20"	1
205	0552511		Tank, Water, 500 Gallon, Poly, Ascendant Single Axle, PAL, PUC	1
206	0003405		Overflow, 4.00" Water Tank, Poly	1

Line	Option	Type	Option Description	Qty
207	0028104		Foam Cell Required	1
208	0003429		Not Required, Direct Tank Fill	1
209	0624711		Hose Bed, Alum, LS/RS, Ascendant Single Axle	1
210	0723546		DA Finished Hose Bed/Cargo Area	1
211	0003492		Hose Bed Capacity, Special Amount, Ascendant, 100AAT, PAP, PAL Capacity, Hose Bed - 600' - 5" (RS) & 500' - 3" (LS)	1
212	0604069		Hose Restraint, Two (2) Hose Beds, Aerial, Front Strap, 1" Heavy Nylon Web Rear	1
213	0578797		Divider, Fixed, In Hose Bed, Left Side, 75' HAL, Ascendant Single Axle	1
214	0581819		Hose Restraint, Hose Bed, Vinyl, Top, Aerial Color, Vinyl Cover - c) black Type of Fastener - Velcro/Snaps - Sides of Hosebed Type of fastener, Front - Velcro with snaps - Front Hosebed	1
215	0670766		Running Boards, Flip Out, PUC, Aerial	1
216	0735739		Turntable Steps, Swing-Down, LS Only, Non-TCO, Ascendant Single Axle Step, Flip - Flip Step, One Step Assembly Body Handrail Finish - knurled aluminum Step Retention - black rubber plungers Step Surface, Turntable - Punched Grip Latch, Step Well - Southco C2 Chrome Raised	1
217	0889980		Lights, Step (3), P25 LED, One Side Control, Scene Lts - Park Brake	1
218	0690023		Wall, Rear, Smooth Aluminum	1
219	0074515		Tow Eyes (2), Painted Lower Job Color, 100AAT, Ascendant Single Axle, 75' HAL	1
220	0624701		Construction, Compt, Alum, 3rd Gen, Ascendant Single Axle	1
221	0779245		Compt, LS F/H, Roll/Lift Drs, Ascendant Single Axle	1
222	0624694		Compt, LS Turntable, F/H, Roll Dr, Ascendant Single Axle	1
223	0023672		Compt, IPO Stairs, Not Required, LS	1
224	0779244		Compt, RS F/H, Roll/Lift Drs, Ascendant Single Axle	1
225	0708788		Compt, RS Turntable, F/H, Roll Dr, One (1) Large Rear Compt, Ascendant Single Axle	1
226	0708767		Compt, IPO Stairs, Not Required, RS, Ascendant Single Axle	1
227	0624691		Compt, Rear, Amdor Rollup Door, Ascendant Single Axle Color, Roll-up Door - AMDOR Satin Aluminum Latch, Roll-up Door - Non-Locking Liftbar	1
228	0666813		Doors, Lap/Amdor Rollup, Aluminum, Side Compartments Qty, Door Accessory - 06 Color, Roll-up Door - AMDOR Painted to Match Lower Body Latch, Roll-up Door - Non-Locking Liftbar	6
229	0624690		Bumper, Rear, Aluminum Rub Rail, Ascendant Single Axle	1
230	0690523		Scuffplate, S/S Around DEF Fill Opening Material Trim/Scuffplate - b) S/S, Brushed	1
231	0644828		Scuffplate, S/S, Around Ladder Storage Compt Opening Material Trim/Scuffplate - b) S/S, Brushed	1
232	0636341		Scuffplate, S/S, Around Stabilizer Control Box Door, Aerial Qty, - 02 Material Trim/Scuffplate - b) S/S, Brushed	2
233	0650792		Scuffplate, S/S Around Air Bottle Compt Openings, Qty Qty, Scuffplates - 04 Material Trim/Scuffplate - b) S/S, Brushed Location, Fender Compt - Single - LS Fwd, Single - LS Rear, Single - RS Fwd and Single - RS Rear	4
234	0026026		Scuffplate, S/S Around Fuel Fill Opening Material Trim/Scuffplate - c) S/S, Polished	1
235	0731558		Pull Strap for Liftup Doors Qty, Door Accessory - 02 Location, Door Accessory - LS2 & RS2 Color, Strap - Black Length, Pull Strap - 18.00"	2
236	0795390		Pull Strap for Rollup Doors, Amdor Flex-HD Location - LS4, LS3, LS1, RS4, RS3 & RS1 Qty, Door Accessory - 06	6
237	0603086		Lights, Compt, Pierce LED, Dual Light Strips, Each Side of Door, Ascendant SA Qty, - 07	7

Line	Option	Type	Option Description	Qty
237			Location, Compartment Lights - All Body Compts	
238	0562348		Fasteners, Mechanical, Strip Lighting In Compartments	1
239	0687145		Shelf Tracks, Recessed, PUC/3rd Generation	1
240	0600289		Shelves, Adj, 500 lb Capacity, Full Width/Depth, Predefined Locations, Aerial	8
			Qty, Shelf - 08	
			Material Finish, Shelf - Painted - Spatter Gray	
			Location, Shelves/Trays, Predefined - * Locations To Be Determined At A	
			Later Date	
241	0709689		Tray, 500 lb Slide-out, 2" Sides - Adj. Height, Predefined Locations	2
			Qty, Tray (slide-out) - 02	
			Location, Shelves/Trays, Predefined - * Locations To Be Determined At A	
			Later Date	
			Material Finish, Tray - Painted - Spatter Gray	
242	0603179		Tray, Floor Mounted, Slide-Out, 500lb, 2.00" Sides, 3G, Ascendant Single Axle	5
			Qty, - 05	
			Location, Tray Slide-Out, Floor Mounted - RS1, RS3, LS1, LS4 and LS3	
			Material Finish, Tray - Painted - Spatter Gray	
243	0725634		Cabinet, Drawer Assembly, CTECH, Four Drawers, Up To 48" Wide, 24" Deep	1
			Qty, - 01	
			Location - TBD at Drawing Approval	
			Size, Drawer Height 1 (Top) - 4.00"	
			Size, Drawer Height 2 - 4.75"	
			Size, Drawer Height 3 - 6.75"	
			Size, Drawer Height 4 - 8.75"	
244	0544614		Toolboard, Swing-out, Alum, .188", Peg Board, 3G	1
			Qty - 1	
			Location, Pivot - Back	
			Mounting, Toolboard - Adjustable Frt-back	
			Hole Diameter, Pegboard/Toolboard - .203" diameter	
			Finish, Pegboard/Toolboard - Painted - Spatter Gray	
			Location, Toolboard - LS2 - Full Height/Width	
245	0673867		Toolboard, Swing-out, Alum, .188", Peg Board, 3G, Add'l	1
			Qty - 1	
			Location, Pivot - Front	
			Mounting, Toolboard - Adjustable Frt-back	
			Hole Diameter, Pegboard/Toolboard - .203" diameter	
			Finish, Pegboard/Toolboard - Painted - Spatter Gray	
			Location, Toolboard - RS2 - Full Height/Width	
246	0709346		Toolboard, Slide-out, Alum, .188", Peg Board, Predefined Locations	2
			Qty, - 02	
			Mounting, Toolboard - Adjustable side-side	
			Hole Diameter, Pegboard/Toolboard - .203" diameter	
			Finish, Pegboard/Toolboard - Painted - Spatter Gray	
			Location, Partition/Toolboard, Predefined - * Locations To Be Determined	
			At A Later Date	
247	0726457		Partition, Vertical Compt, Predefined Locations	2
			Qty, Partition - 02	
			Location, Partition/Toolboard, Predefined - * Locations To Be Determined	
			At A Later Date	
			Material Finish, Partition - Painted - Spatter Gray	
248	0061917		Rub Rail, Aluminum Extruded, 3.12", Side of Body	1
249	0565606		Fender Crowns, Rear, S/S, w/Removable Fender Liner, Aerial, 3G	1
250	0519849		Not Required, Hose, Hard Suction	1
251	0759459		Handrails Located @ Front Body, Hansen Knurled Alum LED Backlit, Black	1
			Switch, Handrail Light Control - Park Brake	
			Color, Light, Hansen Handrail - Red	
252	0753717		Handrail, Extra - 15-20" Long, Hansen Tubing, Knurled Alum LED Backlit, Black	6
			Location, Handrails - TBD at Drawing approval for any extra handrails needed	
			Qty, Handrails - 06	
			Switch, Handrail Light Control - Park Brake	
			Color, Light, Hansen Handrail - Red	
253	0789952		Compt, Air Pack Fender Panel Corner, Ascendant SA	1
			Qty, - 01	
			Location, Air Bottle - (1) RS Ahead Rr Wheel	

Line	Option	Type	Option Description	Qty
253			Door Finish, Fender Compt - painted to match lower body Latch, Air Bottle Compt - Southco C2 Chrome Raised Door Type - vertically hinged	
254	0074030		Compt, Air Bottle, Double, Fender Panel, Bolt-In, 3rd Gen Qty, Air Bottle Comp - 3 Location, Air Bottle - (1) LS Ahead Rr Wheel, (1) LS Behind Rr Wheel and (1) RS Ahead Rr Wheel Door Finish, Fender Compt - Painted Latch, Air Bottle Compt - Southco C2 Chrome Raised Insert, Air Bottle Compt - Rubber Matting	3
255	0004220		Ladder, 35' Duo-Safety 1225-A 3-Sect	1
256	0600821		Ladder, 24' Duo-Safety 900A 2-Section, Ascendant Single Axle, 75' HAL Qty, - 01 Location, Extension Ladder - ladder storage	1
257	0652176		Ladder, (2) 16' Duo-Safety 875-DR Roof	1
258	0678786		Ladder, 14' Duo-Safety 775-DR Roof Qty, - 01 Location, Roof Ladder - base section	1
259	0024233		Not Required, Attic Extension Ladder	1
260	0600819		Ladder, 10' Duo-Safety Folding, 585A, Ascendant Single Axle, 75' HAL Qty, - 01 Location, Folding Ladder Aerial - ladder storage	1
261	0624687		Ladders Stored at Rear, Ascendant Single Axle, Smooth Aluminum Doors Latch, Ladder Storage - D-Ring latch, chrome	1
262	0600674		Lights, Torque Box Ladder Storage, Not Required, Ascendant Single, 75' HAL	1
263	0067336		Pike Pole, 12' Fire Hooks Unlimited, Fiberglass, MPH-12, Ram Knob Qty, - 02	2
264	0588018		Pike Pole, 8' Fire Hooks Unlimited, New York Roof Hook, Fiberglass, Pry End, RH-8 Qty, - 02	2
265	0552649		Pike Pole, 6' Fire Hooks Unlimited, New York Roof Hook, Steel, Pry End, RH-6 Qty, - 02 Location - Ladder storage	2
266	0548410		Not Required, Pole, Pike, 3'	1
267	0770572		Pike Pole Tubes, in Torque Box/Ladder Storage, Alum, Special Notch, NY Style Qty, - 06	6
268	0770578		Pike Pole Tubes, in Torque Box/Ladder Storage, ABS Qty, - 06	6
269	0024388		No Steps Required, Front Of Body	1
270	0760981		Step, Camper Style, Pull-Out & Drop Down, Rear Wall, Ascendant SA Rear Wall Qty, - 02 Location, driver's/passenger's/center - Left & Right Light, Short Step - TecNiq T10-LC00-1 Light, Step, Additional - P25 LED	2
271	0553873		Pump Operators Panel & Module, Aluminum, Control Zone, Ascendant/PAL/PAP PUC	1
272	0520016		Not Required, Pumphouse Structure, PUC	1
273	0889383		Pump, Pierce, 2000 GPM, Single Stage, PUC-NG	1
274	0515822		Seal, Mechanical, Silicon Carbide, PUC Pump	1
275	0802234		Gear Case, Integrated Pump Transmission, PUC-NG, Cummins	1
276	0721196		Pumping Mode, Pump and Roll/Stationary, Basic, MUX, PUC	1
277	0515829		Pump Shift, Sure-Shift	1
278	0515833		Transmission Lock-up, Not Req'd, Park to Neutral, Pump, PUC	1
279	0515835		Auxiliary Cooling System, PUC	1
280	0014486		Not Required, Transfer Valve, Single Stage Pump	1
281	0777650		Valve, Relief Intake, Akron Pressure Setting - 125 psig Intake Relief Valve Control - Behind Right Side Pump Panel	1
282	0724463		Controller, Pressure, Pierce LCD, PUC Pressure Governor Throttle Control - Clockwise Pressure Governor Default Mode - No Mode/Default Press Setting	1
283	0673872		Primer, Trident, Air Prime, Air Operated, Automatic	1
284	0780359		Manuals, Pump, (2) Total, Electronic Copies, Pierce PUC Pump	1
285	0602496		Plumbing, Stainless Steel and Hose, Single Stage Pump, PUC	1

Line	Option	Type	Option Description	Qty
286	0795135		Plumbing, Stainless Steel, w/Foam System	1
287	0517852		Inlets, 6.00" - 1250-2000 GPM, Pierce PUC Pump	1
288	0014650		Pump Suction Tube(s), Short, All	1
289	0004646		Cap, Main Pump Inlet, Long Handle, NST, VLH	1
290	0084610		Valves, Akron 8000 series- All	1
291	0520002		Valve, Inlet(s) Recessed, Side Cntrl, PUC	1
			Qty, Inlets - 1	
292	0004700		Control, Inlet, at Valve	1
293	0004660		Inlet (1), Left Side, 2.50"	1
294	0004680		Inlet, Right Side, 2.50"	1
295	0521137		Anode, Zinc, Pair, Pump Inlets, PUC	1
296	0092569		No Rear Inlet (Large Dia) Requested	1
297	0064116		No Rear Inlet Actuation Required	1
298	0092696		Not Required, Cap, Rear Inlet	1
299	0009648		No Rear Intake Relief Valve Required on Rear Inlet	1
300	0092568		No Rear Auxiliary Inlet Requested	1
301	0723049		Valve, .75" Bleeder, Aux. Side Inlet, "T" Swing Handle	1
302	0520277		Tank to Pump, (1) 3.00" Valve, 4.00" Plumbing, PUC	1
303	0595508		Outlet, Tank Fill, 1.50", PUC	1
304	0837421		Control, Outlets, Swing Handle, Elec Right Outlets Akron 9345 w/Press Disp, PUC	1
305	0516755		Outlet, Left Side, 2.50" (2), PUC	1
306	0055095		Not Required, Elbow, Left Side Outlets, 2.50"	1
307	0092570		Not Required, Outlets, Left Side Additional	1
308	0035094		Not Required, Elbow, Left Side Outlets, Additional	1
309	0837372		Outlet, Right Side, 2.50", (1), Electric Akron 9345 Controller, PUC	1
			Qty, Discharges - 01	
310	0021134		Not Required, Elbow, Right Side Outlets, 2.50"	1
311	0092571		Not Required, Outlets, Right Side Additional	1
312	0089584		Not Required, Elbow, Right Side Outlets, Additional	1
313	0818640		Outlet, Large Diameter, Right Side, Akron Valve, PUC	1
			Outlet, Large Diameter, Plumbing - 4.00"	
			Outlet, Large Diameter, NST Adapter - 4.00" MNST	
			Outlet, Large Diameter, Valve Actuation - PUC Akron 9345 w/PSI	
314	0527969		Cap, Large Dia Outlet, 4.00", IPO Elbow	1
315	0649939		Outlet, Front, 1.50" w/2" Plumbing	1
			Fitting, Outlet - 1.50" NST with 90 degree swivel	
			Drain, Front Outlet - Automatic	
			Location, Front, Single - in center bumper tray	
316	0092575		Not Required, Outlet, Rear	1
317	0045099		Not Required, Elbow, Rear Outlets	1
318	0092574		Not Required, Outlet, Rear, Additional	1
319	0085695		Not Required, Elbow, Rear Outlets, Large, Additional	1
320	0092573		Not Required, Outlet, Hose Bed/Running Board Tray	1
321	0752097		Caps/Plugs for 1.00" to 3.00" Discharges/Inlets, Chain	1
322	0723042		Valve, 0.75" Bleeder, Discharges, "T" Swing Handle	1
323	0029106		Not Required, Deluge Outlet	1
324	0029302		No Monitor Requested	1
325	0029304		No Nozzle Req'd	1
326	0029107		No Deluge Mount	1
327	0826319		Waterway Outlet & Control, Akron Valve, PUC	1
			Outlet, Waterway (Aerial), Valve Actuation - Pierce large handwheel	
328	0739945		Crosslay Module, Full Width, Boom Compartment, Roll Up Doors, Aerial, PUC	1
329	0750897		Doors, Crosslay, Roll-up Amdor, Each End, Full Height, PUC	1
			Color, Roll-up Door - AMDOR Painted to Match Lower Body	
			Latch, Roll-up Door - Non-Locking Liftbar	
			Drip Pan - Drip Pan (Standard)	
330	0747660		Lights, Crosslay Compt, Forward LED, 2Lts	1
331	0750916		Crosslays, (2) 1.50", W/Poly Trays, PUC	1
			Crosslay/Deadlay/Speedlay Capacity 1 - 200' of 1.75" double jacket hose	
332	0747055		Not Required, 2.50" Crosslay	1
333	0746688		Trough, Aluminum, Long Tool Storage, Upper Crosslay Module, Special Size, PUC	1
			Size - To fill the top area of the crosslay compartment	

Line	Option	Type	Option Description	Qty
333			Qty - 1	
			Location, Trough - Upper portion of the Storage area	
334	0729271		Tray(s), Poly, Additional, Crosslays, PUC	2
			Qty, - 02	
			Fill in Blank - Width to be finalized at Drawing approval	
335	0836583		Foam Sys, Husky 3 LCD, Single Agent, PUC, Multi Select Feature	1
			Discharge, Foam Locations - Crosslay Lower Rear, Crosslay Lower Front and Front Bumper Center	
336	0012126		Not Required, CAF Compressor	1
337	0592527		Refill, Foam Tank, Integral, Husky 3	1
338	0031894		Demonstration, Foam System, At Pierce	1
			Vehicle, Qty, Training, P - 1 vehicle	
339	0535798		Foam Cell, 20 Gallon, Reduce Water, PUC	1
			Type of Foam - Class "A"	
340	0697589		Drain, 1.00", Foam Tank #1, Husky 3 Foam System, Quarter Turn	1
341	0091079		Not Required, Foam Tank #2	1
342	0091112		Not Required, Foam Tank #2 Drain	1
343	0746444		Approval Dwg, Color And Label Tags Only	1
344	0032479		Pump Panel Configuration, Control Zone	1
345	0579545		Step, Slide-Out/Fold-Out, Pump Operator Platform, Aerial PUC	1
346	0667186		Light, Slide-Out Pump Operator Step, OSS Access LED, Short Step	1
347	0831515		Material/Finish, Pump Panels, PUC	1
			Material/Finish, Pump Panels, Operator Panels, PUC - Aluminum with Black Vinyl	
			Material/Finish, Pump Panels, Side Panels, PUC - Aluminum with Black UL-LX	
348	0516978		Pump and Plumbing Access, Simple Tilt Service, PUC	1
349	0618458		Light, Pump Compt, Wln 3SC0CDCR LED White, PUC	1
			Qty, - 01	
350	0516983		Gauges, Engine, Included With Pressure Controller, PUC	1
351	0005601		Throttle, Engine, Incl'd w/Press Controller	1
352	0739224		Indicator Light @ Pump Panel, Throttle Ready, Incl w/Pressure Gov/Throttle,Green	1
353	0549333		Indicators, Engine, Included with Pressure Controller	1
354	0553643		Control, Air Horn at Pmp Pnl, Red Switch, Momentary	1
355	0511078		Gauges, 4.00" Master, Class 1, 30"-0-600psi	1
356	0511100		Gauge, 2.00" Pressure, Class 1, 30"-0-400psi	1
357	0536428		Gauge, Water Level, Pierce, In pressure Controller	1
358	0604028		Water Level Gauge, FRC, MaxVision WLA280-A00 Programmable Remote Display	2
			Location - LS & RS Cab Extension - mounted high	
			Qty, - 02	
			Activation, Water Level G - pb) parking brake is applied	
359	0062992		Gauge, Foam Level, (1) Tank, Class 1, GAAAR 5lt	1
360	0653081		Light, Pump Operator & Panel, Side Ctrl, PUC, 60354C LED Cab & LED OH Chr Cvr	1
361	0837187		Air Horns, (2) Grover Stuttertone, 6" Round, In Bumper	1
			Finish, Air Horns - Grover, Chrome	
362	0606831		Location, Air Horns, Bumper, Right Side, Outside Frame, Same Side (Pos #1 & #2)	1
363	0757092		Control, Air Horn, Multi Select	1
364	0757077		Control, Air Horn, Lanyard, LS	1
			Lanyard - Nylon Rope	
365	0757076		Control, Air Horn, Lanyard, RS	1
			Lanyard - Nylon Rope	
366	0723391		Control, Air Horn, Chrome Push Button Sw, RS	1
367	0819028		Siren, Wln 295SL101, 100W or 200W, Other Spkr, Removable Mic, Non-NFPA 2024	1
368	0510206		Location, Elect Siren, Recessed Overhead In Console	1
			Location, Elec Siren - Overhead, DS Center Sw Pnl	
369	0076156		Control, Elec Siren, Head Only	1
370	0601306		Speaker, (1) Wln, SA315P, w/Pierce Polished Stainless Steel Grille, 100 watt	1
			Connection, Speaker - siren head	
371	0601565		Location, Speaker, Frt Bumper, Recessed, Center (Pos 4)	1
372	0895310		Siren, Federal Q2B	1
			Finish, Q2B Siren - Chrome	

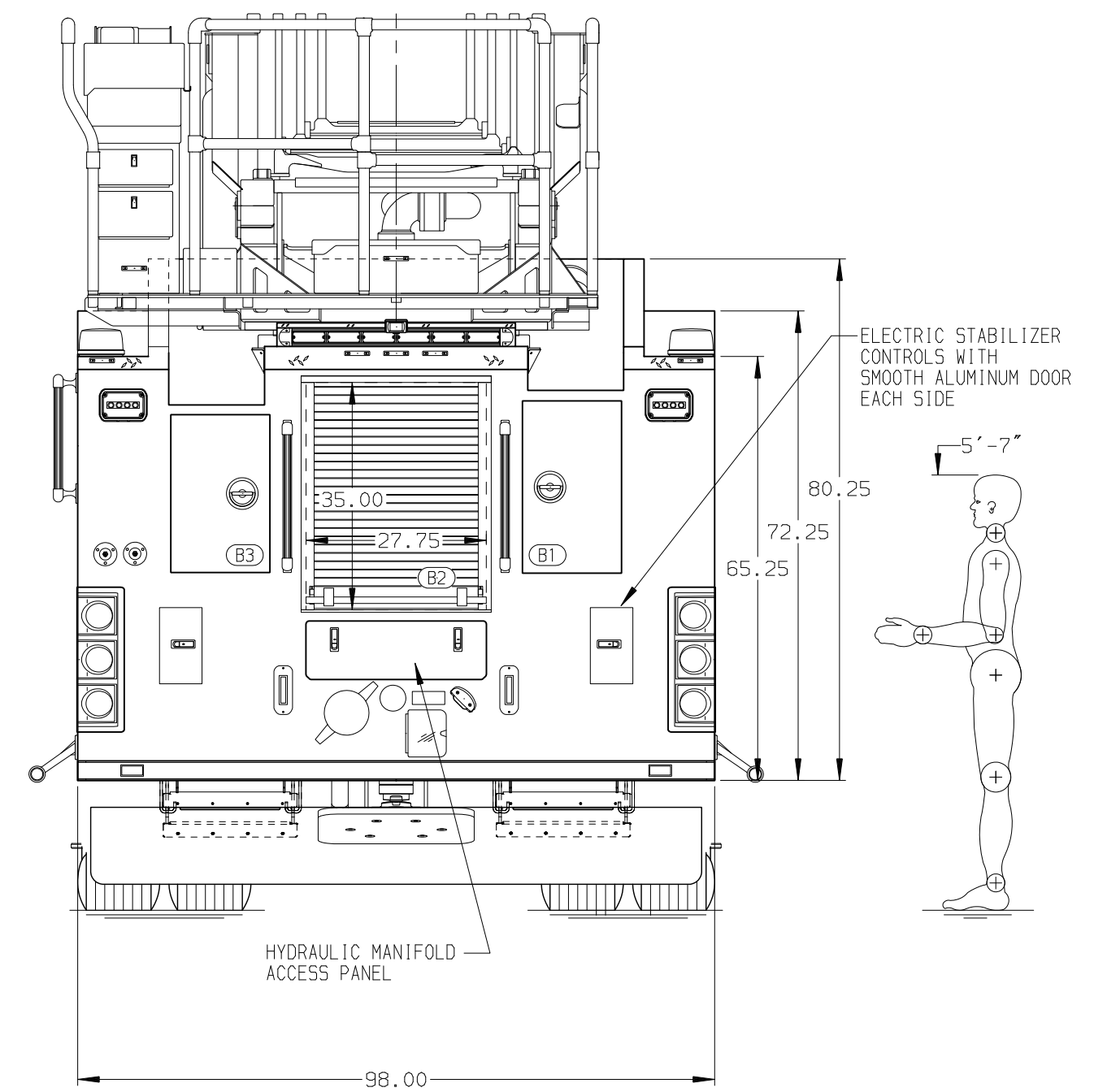
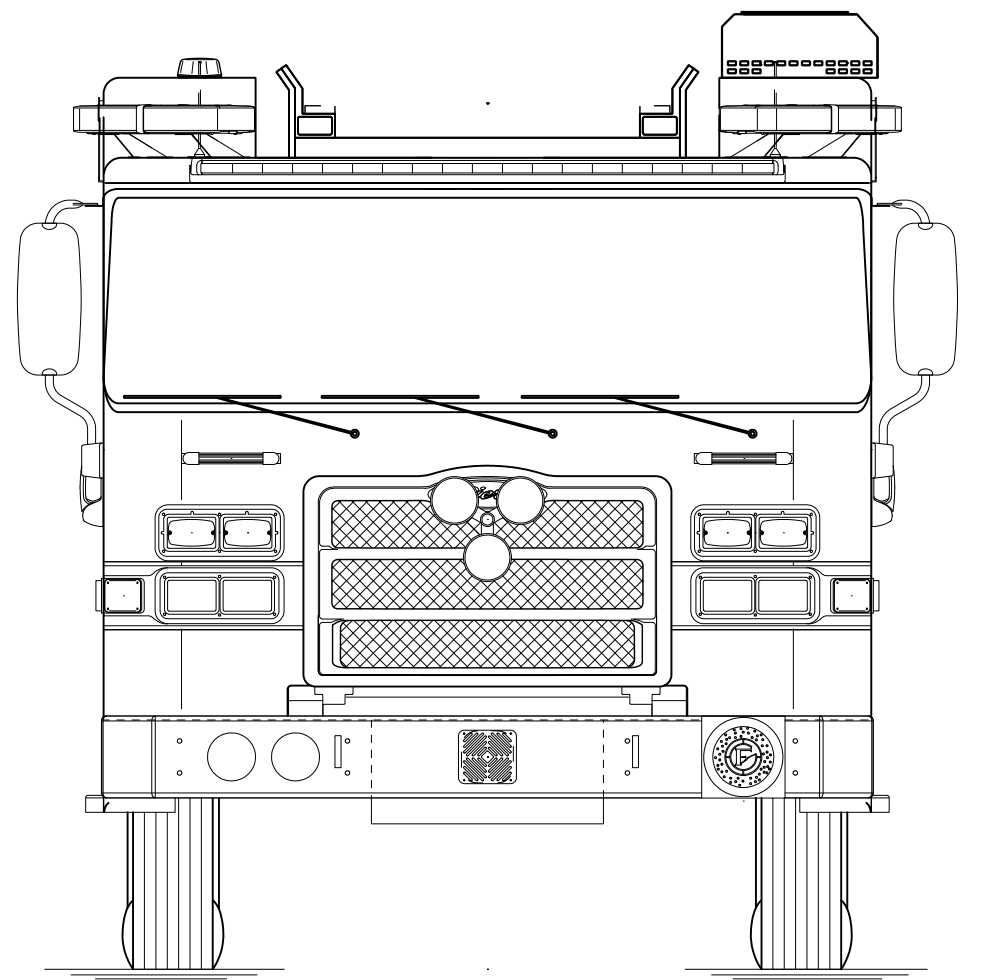
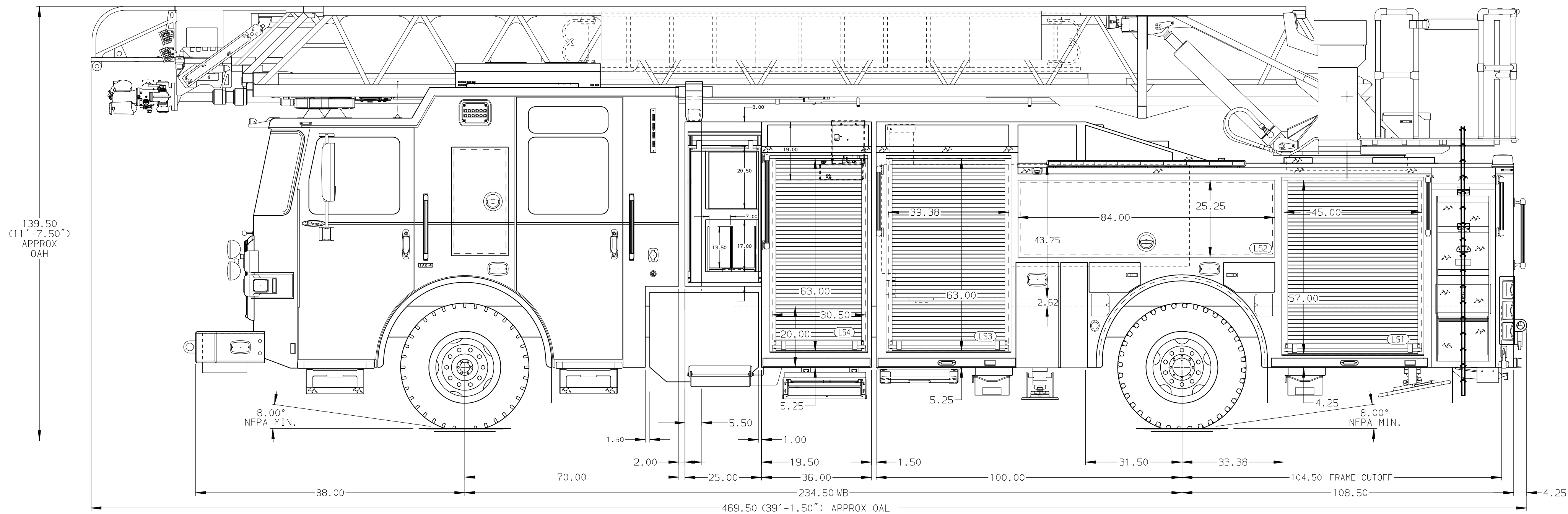
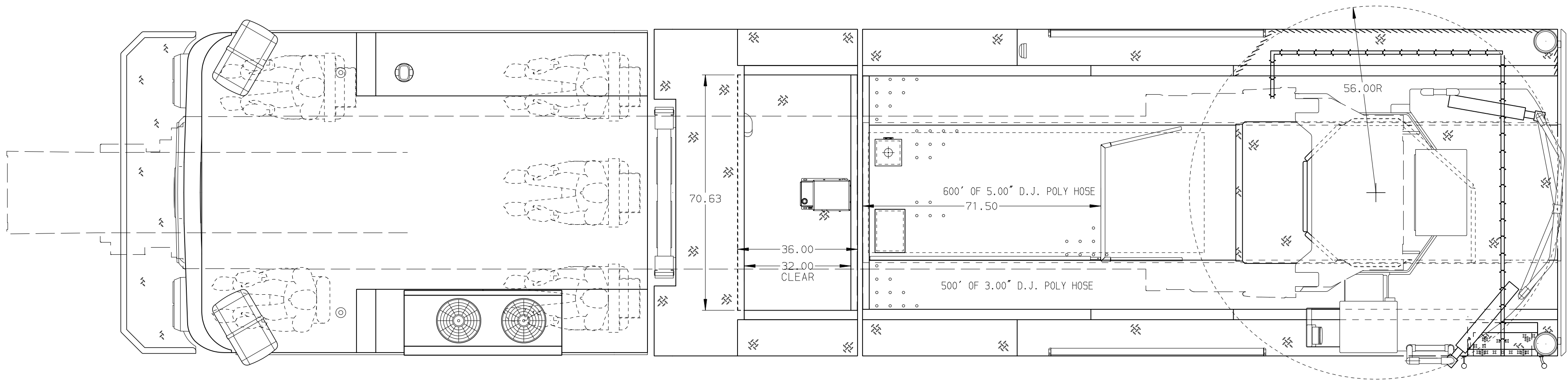
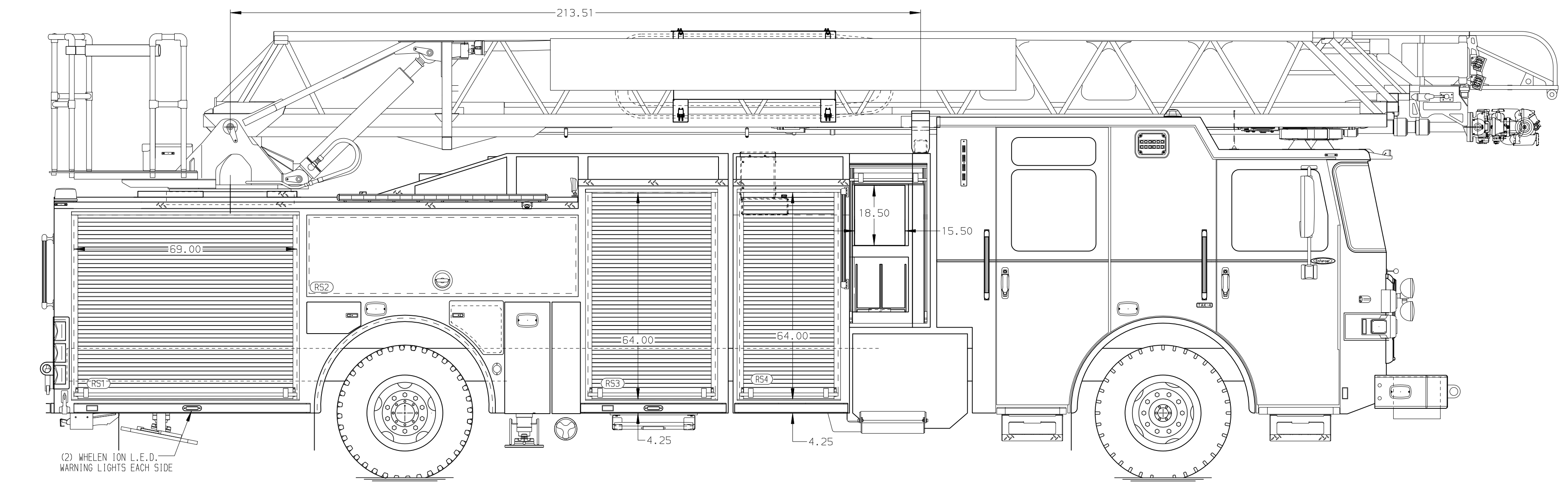
Line	Option	Type	Option Description	Qty
373	0006097		Location of Siren, Recessed in Bumper	1
			Location, Siren, Mech - a) Left	
374	0748305		Control, Mech Siren, Multi Select	1
375	0748282		Control Mech Siren, Ft Sw LS	1
376	0731979		Control Mech Siren, Push Button Sw, Chrome, RS	1
377	0748280		Control Mech Siren, Horn Ring	1
378	0740391		Sw, Siren Brake, Momentary Chrome Push Button, RS	1
379	0746353		Not Required, Warning Lights Intensity	1
380	0794679		Lightbar, Wln, Freedom IV-Q, 2-21.5", RRRWR RWRRR, 30 deg	1
			Filter, Whl Freedom Ltbrs - No Filters	
381	0016380		No Additional Lights Req'd, Side Zone Upper	1
382	0734071		Lights, Front Zone, Wln M6** M6** M6** M6** LED, Q Bzl, 4lts	1
			Color, Lens, LED's - Clear	
			Color, Lt DS Frnt Outside - Left Red	
			Color, Lt PS Frnt Outside - Right Red	
			Color, Lt DS Front Inside - Left Red	
			Color, Lt PS Front Inside - Right Red	
			Color, Q Bezel and Trim - Polished Chrome	
383	0757440		Light, Front, Roto Ray 4000W, PAR46 LED, 2-R, 1-W, Hidden Mt Top Section Grl	1
384	0653937		Flasher, Headlight Alternating	1
			Headlt flash deactivation - a)w/high beam	
385	0540692		Lights, Side Zone Lower, Wln M6*C LED, Clear Lens, 3pr, Ovr 25	1
			Location, Lights Front Side - b)each side bumper	
			Color, Lt Side Front - Red	
			Color, Lt Side Middle - Red	
			Color, Lt Side Rear - Red	
			Location, Lights Mid Side - Over Front Wheels - Centered	
			Location, Lights Rear Side - Over Rear Wheels	
386	0896616		Lights, Door Interior Flash, 4 Dr Cab, Weldon 8401-0000-20 Strip Light	1
			Control, Door Int Flash - None (Doors only)	
			Location, Light, Door Int Flash - Over Window Outside	
387	0895435		Connectors, Door Interior Flash, 4Dr Cab, Deutsch Connectors	1
388	0672937		Lights, Side, Wln WIONSMC* LED, Chrome Flange, Mtd In Rub Rail, 1st	4
			Location, Lights - Rub Rails - LS & RS	
			Qty, - 04	
			Color, Lights, Warning - gla) red	
			Control, Light - b) side warning	
389	0564655		Lights, Rear Zn Lwr, Wln M6*C LED, Clear Lens, For Tail Lt Housing	1
			Color, Lt DS Rear - r) DS Rear Lt Red	
			Color, Lt PS Rear - r) PS Rear Lt Red	
390	0088745		Light, Rear Zone Up, Wln L31H*F LED Beacon, Red LED	1
			Color, Dome, Rear Warning - j) both domes clear	
391	0006551		Not Required, Lights, Rear Upper Zone Blocking	1
392	0791501		Light, Traffic Directing, Wln TAL65, 36" Long LED, Aerials	1
			Activation, Traffic Dir L - Not Connected	
393	0530074		Location, TDL, On Top of Body Below Turntable w/Treadplate Box	1
394	0530282		Location, Traf Dir Lt Controller, Overhead Switch Panel DS Right End	1
395	0781579		Receptacle, 15/20A 120V 3-Pr 3-Wr, NEMA 5-20R SB Dup, 1st, Interior Cab	4
			Qty, - 04	
			Location 1 - TBD at Drawing Approval	
			AC Power Source - Shoreline	
			Cover, Receptacle - Interior SS Wall Plate(s)	
396	0779722		Receptacle, 15/20A 120V 3-Pr 3-Wr, NEMA 5-20R SB Dup, 1st, Interior Body	8
			Qty, - 08	
			Location 1 - TBD at Drawing Approval	
			AC Power Source - Shoreline	
			Cover, Receptacle - Interior SS Wall plate	
397	0519934		Not Required, Brand, Hydraulic Tool System	1
398	0649753		Not Required, PTO Driven Hydraulic Tool System	1
399	0755098		Aerial, 107' ASL Single Axle, 750/500 Tip, 35 MPH Wind	1
400	0000042		Boom Support, Rear of the Chassis Cab	1
401	0758287		Light, Boom Support, CLC-1049-12-AL, 12" LED	1

Line	Option	Type	Option Description	Qty
402	0799581		Boom Support Compt Incl w/PUC Xlay Module Picked Separate, Ascendant SA PUC	1
403	0680821		Boom Panel, Pair	1
404	0526885		Paint Color, Predefined - 509 - Grey Metallic Indicator, Extension, Inside and Outside Handrails, Every 10'	1
405	0723719		Color - 4) white Steps, Folding, Four, Aerial Device, Trident	1
406	0688232		Coating, Step - black Light, Aerial Device Folding Step - no integrated light Finish, Aerial Device Folding Step - bright finish Rung Covers, Aerial Device	1
407	0678711		Rung Cover Color - Safety Yellow Brackets, Stokes Storage, Base Section, Inboard of Boom Panel	1
408	0678641		Qty, - 01 Finish - Painted, Aerial Device Color Location, Aerial Device - right side Brackets Only, Pike Pole, Aerial Fly Section	1
409	0623645		Qty, - 01 Pike Pole Make/Model - Fire Hooks Unlimited 8' All Purpose Hook D Handle Aerial Stability Test, Maximum Tip Options	1
410	0784202		Brackets Only, Roof Ladder, Base Section, Inboard of Boom Panel, Ascendant	1
411	0601972		Qty, - 01 Location, Aerial Device - left side Roof Ladder, Make/Model, Multi-Select - 14' Duo-Safety 775-DR Lights, Turntable Walkway, P25, LED	1
412	0601949		Light, Turntable Console, TecNiq T-10, LED Strip Light	1
413	0814209		Control Stations, ASL Single Axle, MUX, Color Display, CL714	1
414	0743299		Remote Tip Controls, ASL/105' MUX	1
415	0624682		Stabilizers, One Set, Ascendant Single Axle	1
416	0728961		Material, Stabilizer Pad - Composite Stabilizer Pan Material	1
417	0809973		Stabilizer Panels - smooth aluminum, painted to match lower body color Doors, Stabilizer Control Box, Controls Each Side MUX Aerials	1
418	0615058		Latch, Door, Storage - Southco C2 Chrome Raised Hinge Location - Outboard Door, Material & Finish, Stabilizer - Smooth aluminum Stabilizer Placement, Cameras w/Command Zone Color Display, 1 Set	1
419	0624678		Hydraulic System, Ascendant Single Axle	1
420	0615180		Swivels, w/Encoder, ASL Single Axle, (28 Collector Rings)	1
421	0805188		Electrical System, ASL Single Axle, MUX, 10/8 Cable	1
422	0804781		Aerial Scene Lts Separated into Aerial Tip Category and Aerial Tracking Category	1
423	0803245		Lights, Tip, HiViz FT-WL-X-9-* LED, ASL 4lt	1
424	0764346		Color, Lt Housing - Black Scene Lt Optics LH Fly - Combination Left Scene Lt Optics RH Fly - Combination Right Scene Lt Optics LH Fly Low - Flood Left Scene Lt Optics RH Fly Low - Flood Right Lights, Tracking, HiViz FT-WL-X-9-* LED, 2lts	1
425	0618906		Location, Sw, Arl DC Lts - m) 2 locations Color, Lt Housing HiViz - Black Scene Lt Optics LH Base - Left Combination Flood and Spot Scene Lt Optics RH Base - Right Combination Flood and Spot Lighting, Rung, LED, TecNiq, 4 Section, Base, Lower/Upper Mid, Fly, 3 Colors RWB	1
426	0540737		Control, Aerial Rung Lighting - Turntable Sw w/Aerial Mstr and Turntable Sw w/Master Batt Sw Lights, Stabilizer Warn (1) Set, WIn M6*C LED, Clear Lens	1
427	0617469		Color, Lt Rr Stabilizr Pan - r) Pan Light Red Lights, WIn T0R00FRR LED 2", Stabilizer Beam (1) Set, Ascendant	1
428	0776986		Lights, Stabilizer Scene, (1) set, Truck-Lite 6060C, LED, Ascendant Single, 3lts	1
429	0783034		DC Power To Aerial Tip, 13.92 Amps @ 12 Volt DC, ASL	1
430	0737181		Intercom, 2-Way Fire Research ICA910 Hands Free	1
431	0540895		Not Required, Breathing Air to Tip, Aerial Ladder	1
432	0024742		Not Required, Mask, Breathing Air To Tip	1

Line	Option	Type	Option Description	Qty
433	0610887		Aerial Pedestal, Ascendant Single Axle	1
434	0604457		Lifting Eye Assembly, Rope Rescue Attachment, ASL, LSL	1
435	0530826		Turntable Access, ManSaver Bars, Yellow	1
436	0624672		Waterway, High Flow, 1500 GPM, ASL	1
437	0729475		Monitor, Akron 3486 StreamMaster II Electric, Extended Vertical Travel, w/ManualAVM	1
			Nozzle, Monitor 1 PAL - Akron 5178 Electric 1500 gpm	
			Location, Valve - Akron S1 right side discharge	
438	0805802		Wireless Monitor Remote Control, Model 6047, w/Charger, Akron	1
			Wireless Remote Frequency, Akron - 900 MHz (300 feet range)	
439	0010758		Flow Meter, Waterway, PAL, 110' Ascendant, MUX	1
440	0624671		Inlet, 5.00" w/5.00" Aluminum, Plumbing at Rear, w/Pump, Ascendant Single Axle	1
441	0673128		Quick-Lock Waterway Locking System, 100' HDL, 105' HDL, ASL	1
442	0768548		Label, Pinnable Waterway Lock, Ascendant	1
443	0047897		Tools, Aerial	1
444	0559494		Manuals and Training, 3 Consecutive Days, Ascendant Ladder, PAL, English	1
445	0007150		Bag of Nuts and Bolts	1
			Qty, Bag Nuts and Bolts - 1	
446	0816502		NFPA Required Loose Equipment, Quint, NFPA/ULC 2024, Provided by Fire Dept	1
447	0820489		Not Required, Soft Suction Hose, Fire Department Omits, NFPA/ULC 2024	1
448	0821565		Strainer, Provided by Fire Department, Pumper NFPA/ULC 2024 Classification	1
449	0816939		Extinguisher, Dry Chemical, NFPA 2024, Provided by Fire Department	1
450	0816937		Extinguisher, 2.5 Gal. Pressurized Water, NFPA/ULC 2024, Provided by Fire Dept	1
451	0007482		Not Required, Crowbars	1
452	0007484		Not Required, Claw Tools	1
453	0816998		Axe, Flathead, Provided by Fire Department	1
454	0817000		Axe, Pickhead, Provided by Fire Department	1
455	0007494		Not Required, Sledgehammers	1
456	0741569		Paint Process / Environmental Requirements, Appleton	1
457	0709566		Paint, Two-Tone Color, Enforcer	1
			Paint Color, Upper Area, Predefined - #509 Gray Metallic	
			Shield, Cab - Standard Shield	
			Paint Color, Lower Area, Predefined - #40 Lime Yellow	
			Paint Break, Cab - Standard Two-Tone Cab Break	
458	0709845		Paint, Single Color, Body	1
			Paint, Body - Match Lower Cab	
459	0645807		Paint Chassis Frame Assy, With Liner, E-Coat, All Joints Sealed	1
			Paint Color, Frame Assembly, Predefined - Standard Black	
460	0693797		No Paint Required, Aluminum Front Wheels	1
461	0693792		No Paint Required, Aluminum Rear Wheels	1
462	0733739		Paint, Axle Hubs	1
			Paint, Axle Hub - Black #101	
463	0007230		Compartment, Painted, Spatter Gray	1
464	0792617		Aerial Ladder Paint, ASL-Single Axle, E-Coat	1
			Paint Color, Aerial Device - Gray metallic 509	
			Paint Color, Egress - #113 lime yellow	
			Paint Color, Turntable - lime yellow 40	
			Paint Color, Boom Support - gray metallic 505	
			Paint Color, Cylinders - lime yellow 40	
			Paint Color, Aerial Control Console - lime yellow 40	
465	0544129		Reflective Band, 1"-6"-1"	1
			Color, Reflect Band - A - e) black	
			Color, Reflect Band - B - p) black	
			Color, Reflect Band - C - za) black	
466	0568574		Stripe, Reflective, Chevron, Front Bumper	1
			Color, Reflect Band - A - g) yellow	
			Color, Reflect Band - B - p) black	
			Size, Chevron Striping - 04	
467	0820085		Stripe, Chevron, Rear, Reflective, NFPA/ULC 2024, Aerial, Ascendant Single Axle	1
			Color, Reflect Band - A - e) black	
			Color, Reflect Band - B - r) yellow	
468	0598754		Stripe, Reflective/Diamond Grade, 4.00" on Stabilizers	1
			Color, Reflect Band - A - g) yellow	

Line	Option	Type	Option Description	Qty
469	0065687		Stripe, Reflective, Cab Doors Interior	1
			Color, Reflective - g) yellow	
470	0027372		Lettering Specifications, (GOLD STAR Process)	1
471	0686421		Lettering, Gold Leaf, 3.00", (141-160)	1
			Outline, Lettering - Outline and Shade	
472	0686212		Lettering, Gold Leaf, 8.00", (41-60)	1
			Outline, Lettering - Outline and Shade	
473	0686191		Lettering, Gold Leaf, 12.00", (21-40)	1
			Outline, Lettering - Outline and Shade	
474	0741840		Lettering, Reflective, Full Width Mud Flap, 2 Colors	1
			Fill in Blank - TBD at Drawing Approval	
			Configuration - TBD at Drawing Approval	
			Fill in Blank 2 - TBD at Drawing Approval	
			Font, Lettering, Mud Flap - Full Block	
			Outline, Lettering, Mud Flap - No Outline	
			Color, Lettering, Mud Flap - Yellow	
			Color, Lettering, Mud Flap, 2nd - Yellow	
			Outline, Lettering, Mud Flap, 2nd - Yellow Outline	
			Font, Lettering, Mud Flap, 2nd - Full Block	
475	0684203		Emblem, Maltese Cross, Gold Leaf, 24"-26", Pair	1
			Qty, - 01	
			Location, Emblem - TBD at Drawing Approval	
476	0769753		Emblem, American Flag Painted on Cab Grille, All Custom Chassis	1
477	0025070		Corrosion Prevention Treatment, ECK, Dissimilar Metal	1
478	0652945		E-Coat, Under Body/Chassis Component Package	1
			Paint Color, E-Coat - Black	
479	0631674		E-Coat, TAK-4 Components, Front Axle, Black	1
480	0073192		Undercoating, Fuel Tank, Complete Before Installation, Ziebart	1
481	0002838		Undercoating, Cab & Body, Ziebart	1
482	0772003		Manual, Fire Apparatus Parts, USB Flash Drive, Custom	1
			Qty, - 01	
483	0772037		Manual, Chassis Service, USB Flash Drive, Custom	1
			Qty, - 01	
484	0773381		Manual, Chassis Operation, (1) USB Flash Drive, Custom, English	1
485	0030008		Warranty, Basic, 1 Year, Apparatus, WA0008	1
486	0696698		Warranty, Engine, Cummins, 5 Year, WA0181	1
487	0684953		Warranty, Steering Gear, Sheppard M110, 3 Year WA0201	1
488	0596017		Warranty, Frame, 50 Year, Custom Chassis, WA0013	1
489	0595698		Warranty, Axle, 3 Year, TAK-4, WA0050	1
490	0733306		Warranty, Single Axle, 5 Year, Meritor, General Service, WA0384	1
491	0652758		Warranty, ABS Brake System, 3 Year, Meritor Wabco, WA0232	1
492	0019914		Warranty, Structure, 10 Year, Custom Cab, WA0012	1
493	0744240		Warranty, Paint, 10 Year, Cab, Pro-Rate, WA0055	1
494	0524627		Warranty, Electronics, 5 Year, MUX, WA0014	1
495	0695416		Warranty, Pierce Camera System, WA0188	1
496	0647720		Warranty, Pierce LED Strip Lights, WA0203	1
497	0046369		Warranty, 5-year EVS Transmission, Standard Custom, WA0187	1
498	0685945		Warranty, Transmission Cooler, WA0216	1
499	0688798		Warranty, Water Tank, Lifetime, UPF, Poly Tank, WA0195	1
500	0596025		Warranty, Structure, 10 Year, Body, WA0009	1
501	0693126		Warranty, AMDOR, Roll-up Door, 10 Year/5 Year Painted, WA0185	1
502	0889364		Warranty, Pump, Pierce, PUC-NG, 7 Year Parts, 1 Year Labor, WA0390	1
503	0648675		Warranty, 10 Year S/S Pumbing, WA0035	1
504	0657990		Warranty, Foam System, Husky 3, WA0231	1
505	0006999		Warranty, Structure, 20 Year, Aerial Device, WA0052	1
506	0687388		Warranty, Swivels, 5 Year, Aerial Device, WA0197	1
507	0685727		Warranty, Hydraulic System and Components, 3 Year/5 Year, WA0200	1
508	0687327		Warranty, Waterway, 10 Year, Aerial Device, WA0198	1
509	0595860		Warranty, Paint, 4 Year, Aerial Device, Pro-Rated, WA0047	1
510	0595820		Warranty, Paint, 10 Year, Body, Pro-Rate, WA0057	1
511	0595421		Warranty, Goldstar, 3 Year, Apparatus, WA0018	1
512	0819254		Certification, Vehicle Stability, CD0196	1

Line	Option	Type	Option Description	Qty
513	0808582		Certification, Engine Installation, Saber FR/Enf, Cummins X10, 2027	1
514	0686786		Certification, Power Steering, CD0098	1
515	0892691		Certification, Cab Integrity, Saber FR/Enforcer, CD0189	1
516	0631973		Certification, Cab Door Durability, Saber FR/Enforcer, CD0137	1
517	0631978		Certification, Windshield Wiper Durability, Saber FR/Enforcer, CD0132	1
518	0631974		Certification, Electric Window Durability, Saber FR/Enforcer, CD0133	1
519	0631977		Certification, Seat Belt Anchors and Mounting, Saber FR/Enforcer, CD0134	1
520	0735949		Certification, Cab HVAC System Performance, SFR/Enf, CD0165/CD0167/CD0174/CD0175	1
521	0545073		Amp Draw Report, NFPA Current Edition	1
522	0002758		Amp Draw, NFPA/ULC Radio Allowance	1
523	0799248		Appleton/Florida BTO	1
524	0000049		Ascendant BODY	1
525	0000012		PIERCE CHASSIS	1
526	0004713		ENGINE, OTHER	1
527	0046395		EVS 3000 Series TRANSMISSION	1
528	0520324		PIERCE PUMP, PUC	1
529	0020009		POLY TANK	1
530	0028048		FOAM SYSTEM	1
531	0020006		SIDE CONTROL	1
532	0020007		AKRON VALVES	1
533	0020015		ABS SYSTEM	1
534	0755453		AERIAL BASE	1



ALUMINUM BODY SIDE ROLL & FRONTAL IMPACT PROTECTION

NOTE
DIMENSIONS SHOWN ARE APPROXIMATE
AND ARE SUBJECT TO MINOR DEVIATIONS
AS MAY OCCUR OR BE NECESSARY IN
CONSTRUCTION.
MINOR DETAILS NOT SHOWN.

REV	DATE	BY	CH	ENFORCER

TITLE 107' ASCENDANT AERIAL LADDER AND BODY ASSEMBLY 500 GALLON TANK, 480 WATER / 20 FOAM FOR MONTPELIER FIRE DEPARTMENT ATLANTIC EMERGENCY SOLUTIONS DWG NO. 73396	Pierce MANUFACTURING INC.		JOB NO.	PRELIM
	SCALE 1:24		DATE	
	DRAWN BY ZMI		CHECKED BY -	24FEB26
	SHEET SIZE D		SHEET NO. 1 OF 1	

ORDINANCE 2292

AN ORDINANCE TO REZONE CERTAIN PROPERTY IN THE VILLAGE OF MONTPELIER FROM R-2 ONE AND TWO RESIDENTIAL DISTRICT TO R-3 MULTIPLE RESIDENTIAL BUILDINGS

Whereas, Williams County Port Authority, current owner of the real estate described in this Ordinance, has applied to have the property rezoned from R-2 one and two Residential District to R-3 Multiple Residential Buildings; and

Whereas, on the 9th day of February, 2026 the Montpelier Planning and Zoning Commission approved the necessary publications and public hearings to rezone the property; and

Whereas, the recommendation of the Planning Commission was duly forwarded to Council and the public hearing was held on February 23, 2026; and

Whereas, Council of the Village of Montpelier, has no objections to rezoning the property to R-3 Multiple Residential Buildings;

Now, Therefore, be it ordained by the Council of the Village of Montpelier that:

Section 1: The following described real estate is hereby rezoned from R-2 one and two Residential District to a R-3 Multiple Residential Buildings:

Situated in the Village of Montpelier, County of Williams and State of Ohio and known as Southwest Quarter of Section 11, Town 7 North, Range 2 East, Montpelier Village, Superior Township, Williams County, Ohio. Located within the North and the East of the First Principal Meridian of the Original Land Subdivisions of Ohio,

Parcel No.: 072-110-63-007.000

Section 2: This Ordinance shall be in full force and effect immediately upon passage.

Dated: _____

Steven L. Yagelski, Mayor

ATTEST

Clerk of Council

- (b) The width of a zoning lot shall be not less than the width required for the type of dwelling or other building permitted in the district in which the lot is located as set forth in this chapter, or as modified in subsequent sections, and shall be measured at the building line. Each one and two family zoning lot shall abut upon a dedicated street for the required lot width, except on curved streets, width at the front line may be less, provided the lot width at the building line meets the required lot width of the particular district.
- (c) The front yard depth, or setback, of a zoning lot shall not be less than the depth set forth in Section 1153.04 for the type of dwelling or other building permitted in the district in which it is located.
- (d) Two side yards shall be provided for every one and two family dwelling on a zoning lot. Width of side yards on a lot shall not be less than the respective dimensions as set forth in Section 1153.04.
- (e) The rear yard depth of a zoning lot for main buildings shall not be less than the depth set forth in Section 1153.04 for the district in which it is located or not less than twenty-five percent (25%) of the depth of the lot, whichever is the lesser. A detached accessory building shall be located in accord with yard regulations as set forth in Section 1153.12. (Ord. 1166. Passed 9-24-01.)

1153.04 SCHEDULE OF AREA, YARD, AND HEIGHT REGULATIONS.

District	Dwelling Type	Minimum lot area per dwelling unit (sq. ft.)	Minimum lot width (in feet)	Maximum Yard Depth Dimensions (in feet)			Maximum building height (in stories)	Minimum dwelling floor area (in sq. ft.)
				Front Yard	Side Yard	Rear Yard		
R-1	one-family	10,000	80	30	10	25	2-1/2	1,200
R-2	one-family	8,000	70	25	10	25	2-1/2	1,000
R-2	two-family	6,000	90	25	10	25	2-1/2	700
R-3	one-family	6,000	50	25	10	25	2-1/2	900
R-3	two-family	4,250	65	25	10	25	2-1/2	600
R-3	three-four family	4,000	80	25	10	25	2-1/2	600
R-4	one-family	6,500	50	25	10	20	2-1/2	900
R-4	two-family	4,250	65	25	10	20	2-1/2	600/unit
R-4	three-four family	4,000/unit	120	25	10	25	2-1/2	500/unit
R-4	apartments	3,000/ unit	150	25	10	25	3	500/unit
R-4	Manufactured Home Park							Per ORC

(Ord. 1166. Passed 9-24-01.)

1185.03 TABLE OF OFF-STREET PARKING REQUIREMENTS.

(a) The minimum number of off-street parking spaces by type of use shall be determined in accordance with the following schedule:

Use	Spaces Per Unit of Measure
1. Residential	
a. Residential, One-Family and Two-Family Dwelling, including mobile homes.	Two (2) for each dwelling unit.
b. Residential, Multiple-Family	One (1) for each efficiency unit, one and one-half (1-1/2) for each one (1) bedroom unit, two (2) for each two (2) bedroom unit, and three (3) for three (3) or more bedroom units.
c. Residential, Multiple-Family Senior Citizen Housing	One (1) for each dwelling unit plus one (1) for each employee. If units revert to general occupancy, then Section 17.03(1)b above applies.
d. Boarding, Rooming, Lodging Establishments	One (1) parking space for each sleeping room and/or occupancy unit plus one (1) parking space for each employee on the largest employment shift.
2. Institutional	
a. Churches, Temples or Synagogues	One (1) for each three (3) seats, based on maximum seating capacity in the main unit of worship.
b. Hospitals	One (1) for each patient bed, plus one (1) additional space for every worker employed during the eight (8) hours shift in which the greatest number of employees are on duty.
c. Foster Care Group Homes, Homes for the Aged, Convalescent Homes and Children Homes	One (1) for each three (3) beds, plus one (1) for each employee on the largest employment shift.
d. Elementary and Junior High School	One (1) for each one (1) teacher, employee or administrator, plus one (1) per classroom for visitor use in addition to the requirements for the auditorium, if provided.
e. Senior High Schools	One (1) for each teacher, employee or administrator, one (1) for each ten (10) students, and one (1) per classroom for visitor use, in addition to the requirements for the auditorium and stadium, if provided.

N

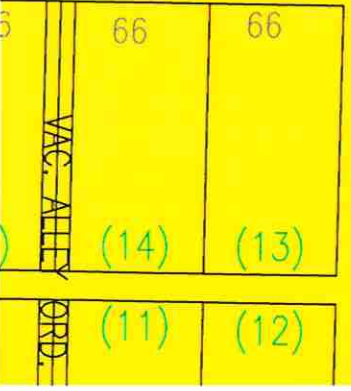
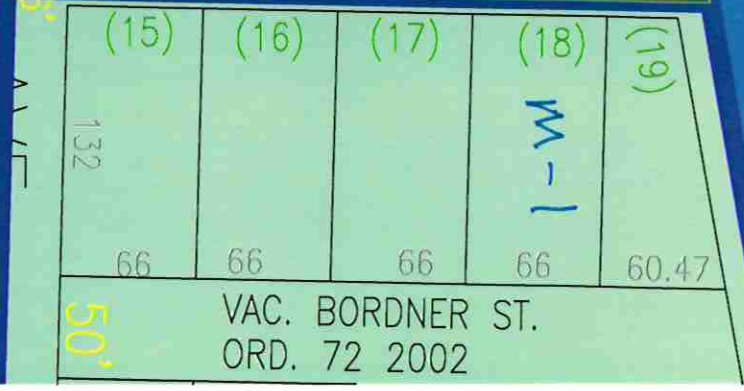
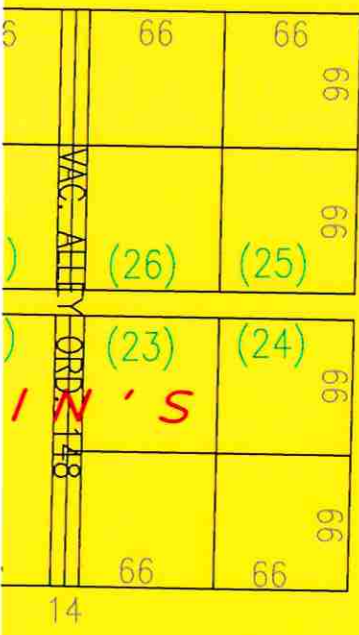
M-2



R-2



WADACOTT AVE.



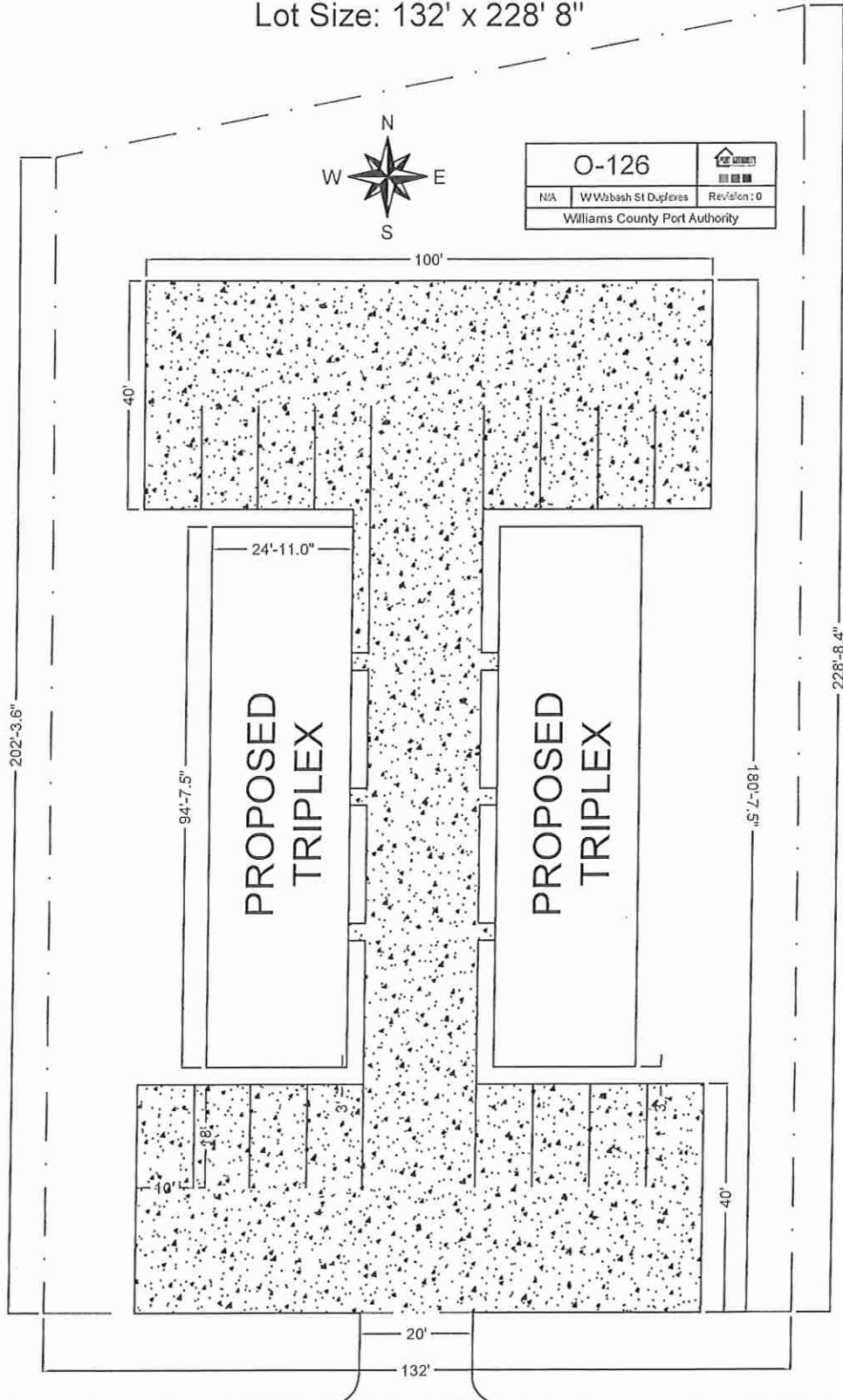
* Rezone to Av R-3

SITE PLAN

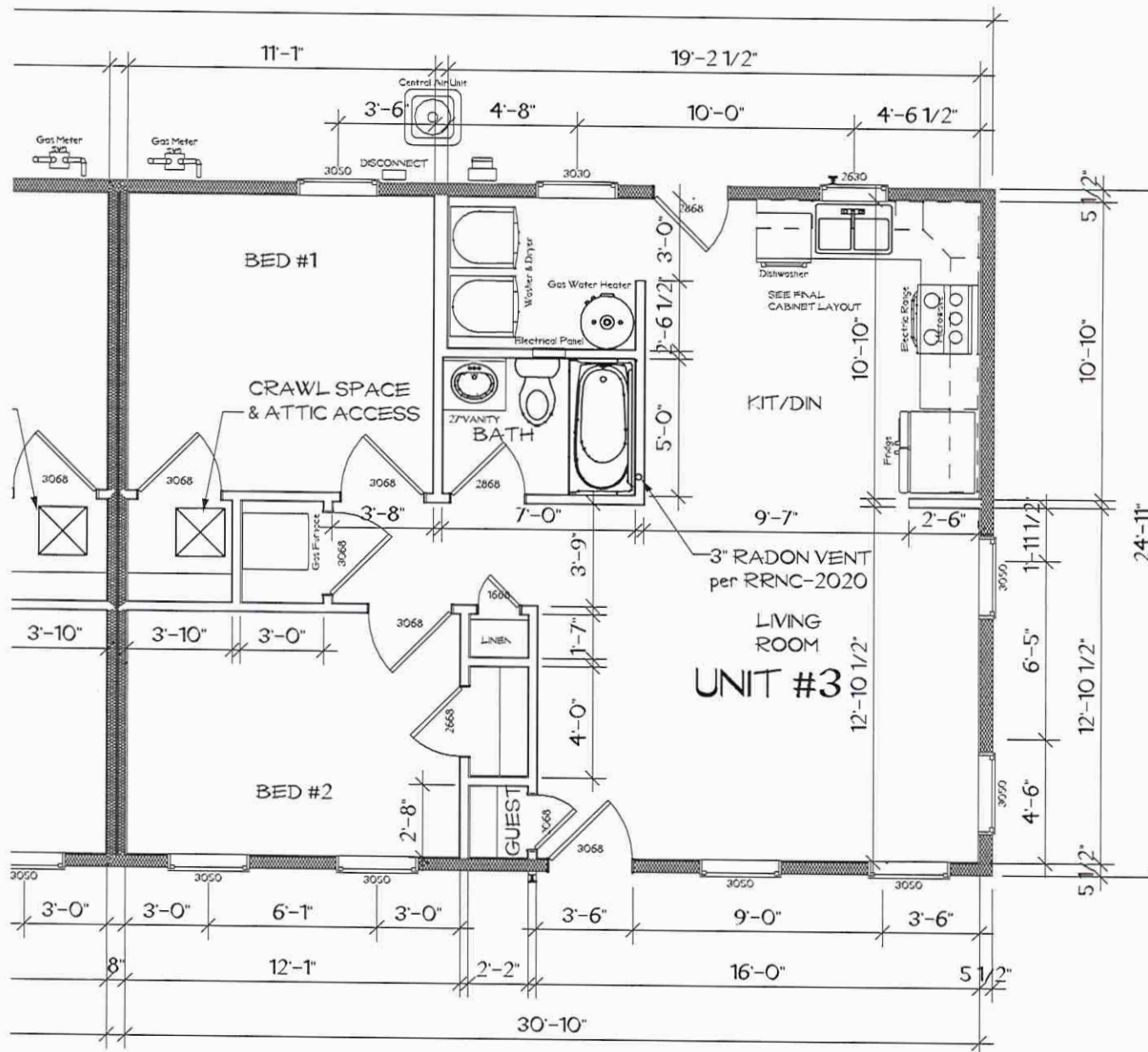
Address: W WABASH AVE
Parcel ID: 072-110-63-007.000
Lot Size: 132' x 228' 8"



O-126		
N/A	W Wabash St Duplexes	Revision: 0
Williams County Port Authority		



W WABASH AVE





GENERAL NOTES

NOTICE:

Contractors Shall Comply With All
State & Local Building Codes

No.	REVISION/NOTE	DATE

DIRECTION	STAMP

ALL INFORMATION ON THIS DRAWING IS TO BE USED FOR INFORMATIONAL PURPOSES ONLY AND IS NOT TO BE USED FOR ANY OTHER PURPOSE. THE USER ASSUMES ALL LIABILITY FOR ANY AND ALL DAMAGES, INCLUDING ATTORNEY'S FEES, ARISING FROM THE USE OF THIS DRAWING.

JEN DESIGN
11111111111111111111
MONTPELIER, VT 05602
jenn@jendesign.com

PROJECT NAME:
W.C.P.A. TRIPLEX
Address To Be Determined
Williams County

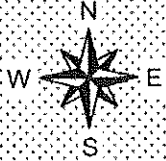
CLIENT:
Williams County Port Authority

DRAWING:
PROSPECTIVE
DWG W.C.P.A.5725
SCALE: NO SCALE DATE: 11/01/2025

DRAWN BY: JEN	SHEET: P 1
CHECKED BY: JENNIFER	
APPROVED BY:	

SITE PLAN

Address: W WABASH AVE
Parcel ID: 072-110-63-007.000
Lot Size: 132' x 228' 8"



O-126		
N/A	W Wabash St Duplexes	Revision: 0
Williams County Port Authority		

PROPOSED
TRIPLEX

Dumpster Area

PROPOSED
TRIPLEX

Village of Montpelier
New Road

W WABASH AVE