

RFA GOVERNANCE BOARD REGULAR MEETING AGENDA

4:00 P.M. – Tuesday, January 12, 2021 Video Conference

This meeting will be broadcast live on the Renton RFA Facebook page.

- Call Meeting to Order
- Roll Call
- Agenda Modifications
- Announcements, Proclamations, and Presentations
 - Proclamation for Retirement of Renton RFA Badge Number 343
 - Introduction of New Firefighters

Public Comment

Members of the audience may comment on items relating to any matter related to RFA business under the Public Comment period. Comments are limited to three (3) minutes per person pursuant to the rules established under Section 8 of the Bylaws.

Citizens may join the webinar as an attendee or join by phone to comment during the public comment portion of the agenda. Use the "Raise Hand" icon to be called upon by the host.

• Consent Agenda

- Approval of Minutes from December 8, 2020 Regular Meeting
- Approval of Minutes from December 14, 2020 Special Meeting
- Approval of Minutes from December 28, 2020 Special Meeting
- Approval of <u>Vouchers</u>: AP Check Register 11/16/2020 12/15/2020 Payroll Check List 11/1/2020 – 11/30/2020
- Signing of Vouchers
- Board Committee Reports
 - Budget and Finance Committee
 - Operations and Capital Committee
- <u>Chief's Report</u>
- Division Reports
 - Response Operations
 - Certified Dive Tech Adam Bloom
 - Officially started ESO on January 1 for fire reports.
 - On Feb 4th our eleven new recruits started zero month.

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- Training
 - Night Drill for Dive Team
 - ESO Training
 - EMS-CBT
- Significant Events
 - o Green Tree Apartment Fire
- Office of the Fire Marshal
 - 2020 OFM Annual Report
- Administration
 - New Members (Recruits and Fire Chief)
 - LT Exam April/May
 - Communications: Starting monthly e-newsletters
 - IT: First Watch, First Arriving, ESO, ESRI
 - Finance: Audit, Year-end Reporting, Project planning for 2021
- Support Services
 - Station 14 Insulation Project Completed
 - Station 11 Bay Lighting Upgraded
 - Furniture Updated at Station 13 and Station 16
- EMS / Health & Safety
 - Ongoing Response Operations Vaccinations
 - Fee for Transport Training
 - Exploring a CARES Service Contract for KCFD #20
- Correspondence
 - KCFCA 2021 Membership Letter
- Unfinished Business
 - Basic Life Support Transportation Fee Schedule Exhibit A
- New Business
 - 2019 Financial and Accountability Audit Report
 - 2020 Annual Public Records Request Report
 - Appointment of 2021 Chair and Vice Chair of the RRFA Governance Board
 - Purchase of New Engines
 - Benefit Charge Hearing Process Dates
- Good of the Order
- Executive Session

Executive Session pursuant to RCW 42.30.110(1)(i), to discuss with District legal counsel, in a forum that maintains the attorney client privilege, legal risks of a proposed action or current practice that the agency has identified when public discussion of the litigation or legal risks is likely to result in an adverse legal or financial consequence to the agency.

- Future Meetings:
 - Tuesday, January 26, 2021 at 9:00 a.m., Budget/Finance Committee Meeting, Video Conference
 - Tuesday, January 26, 2021 at 10:30 a.m., Operations/Capital Committee Meeting, Video Conference
 - Tuesday, February 9, 2021 at 4:00 p.m., Governance Board Regular Meeting, Station 14, 1900 Lind Ave SW, Renton, WA 98057
- Adjournment



Governing Board Agenda Item

SUBJECT/TITLE: Proclamation for Retirement of Renton RFA Badge Number 343

STAFF CONTACT: AC Gunsolus

SUMMARY STATEMENT:

The events of September 11, 2001 had a profound effect on the country, especially those within the fire service. We issue badge numbers sequentially and are approaching badge number 343, the same number of firefighters who gave their lives to save others during the devastating terrorist attacks of 9/11.

ISCAL IMPACT:
Expenditure Revenue
Reviewed by Legal Yes No
XHIBITS:
Proclamation for Retirement of Renton RFA Badge Number 343

RFA GOVERNANCE BOARD RECOMMENDED ACTION:

The Renton Regional Fire Authority Governance Board hereby proclaims Renton RFA badge number 343 retired in honor of the 343 firefighters who lost their lives during the events of 9/11.



Renton Regional Fire Authority Proclamation

WHEREAS, the events of September 11, 2001 had a profound effect on the country – especially those within the fire service; and

WHEREAS, it is imperative that we continue to honor and remember the sacrifice made by so many within the firefighter family in the face of such adversity; and

WHEREAS, Renton Regional Fire Authority issues badge numbers sequentially and is approaching badge number 343, the same number of firefighters who gave their lives to save others during the devastating terrorist attacks of 9/11.

NOW, THEREFORE, BE IT RESOLVED, that the Renton Regional Fire Authority Governance Board hereby proclaims Renton Regional Fire Authority badge number 343 retired in honor of the 343 firefighters who lost their lives during the events of 9/11.

Retirement of Renton Regional Fire Authority Badge Number 343

All businesses and community members are encouraged to utilize the symbolism of this proclamation to remember and honor those who made the ultimate sacrifice in their pursuit of providing life-saving public service during and after the attacks.

In witness whereof, the Renton Regional Fire Authority Governance Board hereunto sets their hand and causes the seal of Renton Regional Fire Authority to be herein affixed this 12th day of January 2021.

Ruth Pérez, Board Member

Myron Meikle, Board Member

Marcus Morrell, Board Member

Randy Corman, Board Member

Ryan McIrvin, Board Member

Linda Sartnurak, Board Member



Kerry Abercrombie, Board Member



RENTON REGIONAL FIRE AUTHORITY

M E M O R A N D U M

Alexandria (Alex) Lind is 28 years old and went to Tahoma High School. Coming from a large family, she has three sisters which helped foster a drive to stand out and succeed. The importance of health and wellness inspired her to train MMA and CrossFit, and she has a love for the outdoors, hunting, fishing and snowmobiling.





Claire O'Brien currently resides in Seattle, WA. In her free time, she enjoys playing soccer, trail running and hiking. After college, she worked as an EMT and is excited and honored to be part of Renton RFA.

Drew Clark was born and raised in New York. Before the fire service, he joined the U.S. Army and served with 2nd Ranger Battalion, 75th Ranger Regiment. He and wife of 16 years (Chin) have 4 beautiful children together. Outside of work, he spends a lot of time volunteering with three different ministries in his church and supporting special needs charities in support of his son who has autism. Drew is extremely excited to be at Renton RFA and serve the community and hopes to repay the trust and investment from the organization and his fellow firefighters.





Emilie Poffenroth grew up in Poulsbo, WA and now resides in Bonney Lake with her fiancé. She enjoys cooking (not baking) and spending time with friends and family, and is excited to get started with Renton RFA.

Jessica (Jess) Clearman was born and raised in California, and now lives in Tacoma with her husband, stepson and rescue pup. When not at work, you can find Jess playing pickup softball, kickball or at the dog park. She is very excited and grateful to be with Renton RFA.





Joe Mack is 24 years old and is from Bonney Lake, WA. He was a concrete and asphalt foreman for six years prior to being hired with Renton RFA. Joe was a student athlete in college playing soccer for Saint Martin's University and graduated in 2018 with a Bachelor's in Psychology. He just got married in Summer 2020 and is looking forward to giving back to the community.

Joseph Munden was born and raised in the Renton area. Prior to being hired on with Renton RFA, he worked as a Geotechnical Driller, and more recently at Discount Tire. Outside of work, he enjoys playing pool and camping with his wife and one-year-old son.





Lexi McGinnis is 27 years old and currently lives in Gig Harbor, WA. She spent the first 23 years of her life growing up in Renton and is very excited to be returning to her hometown. Lexi graduated from Washington State University in 2016 (go Cougs!), and in her free time she likes to rockhound, sing, draw, paint and travel. She can't wait for this year and all the experiences it will bring.

Michaela Wallace is 24 years old and lives in Ellensburg, WA. She graduated from Central Washington University. In her free time, she enjoys fly fishing the Yakima River and spending time with her family. Michaela is very excited to be part of Renton Regional Fire Authority.





Mickey Bergsma was born and raised in Renton, WA. He is 23 years old and is very excited to be part of Renton RFA. In his spare time, he enjoys playing in his bowling league and is currently recruiting new members.

Ryan Northrup was born and raised in California. He joined the Army at age 20 and served 5 years in 2nd Ranger Battalion, 75th Ranger Regiment at Fort Lewis. After his service he obtained his Bachelor's in Business Administration from the University of Southern California, then moved back to Tacoma where currently lives with his girlfriend. Ryan enjoys reading, exercising and hiking.





Renton Regional Fire Authority

18002 108th Ave SE Renton, WA 98055 Office: (425) 276-9500 Fax: (425) 276-9592

MINUTES RFA Governance Board Regular Meeting 4:00 P.M. – Tuesday, December 8, 2020 Video Conference

CALL TO ORDER

Governance Board Chair Abercrombie called the Regular Meeting to order at 4:01 p.m.

ROLL CALL

<u>Governance Board Members Present:</u> Kerry Abercrombie, Chair (Fire District 25) Ruth Pérez, Vice Chair (City of Renton) Marcus Morrell (Fire District 25) Ryan McIrvin (City of Renton) Myron Meikle (Fire District 25) Linda Sartnurak (Non-Voting Advisory Position, Fire District 40)

<u>Governance Board Members Not Present:</u> Randy Corman (City of Renton)

Administrative Staff Present:

Acting Fire Chief Roy Gunsolus, Deputy Chief Chuck DeSmith, Deputy Chief Mark Seaver, Chief Administration Officer Samantha Babich, Fire Marshal Anjela Barton, RFA Legal Counsel Brian Snure, Battalion Chief Will Aho, IT Technician Wyatt Humphreys, Administrative Supervisor Christine Noddings and Administrative Specialist Dudley Jackson.

A **MOTION** was made by Vice Chair Pérez and **SECONDED** by Board Member Meikle to excuse the absent Board Member from this meeting. **MOTION CARRIED (5-0)**

AGENDA MODIFICATIONS

There were no agenda modifications.

ANNOUNCEMENTS, PROCLAMATIONS, AND PRESENTATIONS

There were no announcements, proclamations, and presentations.

PUBLIC COMMENT

There was no public comment.

CONSENT AGENDA

A **MOTION** was made by Vice Chair Pérez and **SECONDED** by Board Member Morrell to approve the consent agenda for December 8, 2020. **MOTION CARRIED (5-0)**

GOVERNANCE BOARD REGULAR MEETING MINUTES

December 8, 2020

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SIGNING OF VOUCHERS

The members of the Governance Board signed the Voucher Approvals for December 8, 2020 via electronic signature.

BOARD COMMITTEE REPORTS

There were no Board Committee reports.

CHIEF'S REPORT

Acting Chief Gunsolus' report included the following:

- <u>Recent Promotions & Assignments:</u> Please join us in congratulating the following members on their newest assignment effective November 1st. Firefighter Brett Newell was promoted to Engineer. Firefighter Patrick Stalnaker was promoted to Engineer. Firefighter Jonathan Sarreal was promoted to a Temporary Lieutenant.
- <u>ESO Fee for Transport Update</u>: The RFA is currently preparing to launch a full ESO integration in December and January and is working with Systems Design West (SDW) to establish ESO access and integration for billing. The new launch date for the Fee for Transport rollout to allow for these software connections is now set for February 1, 2021.
- <u>King County Mobile Integrated Health</u>: The King County MIH Committee is nearing the end of its first full year in 2020. The committee is beginning to develop common procedures and processes to move the program forward throughout the county. Meanwhile, it is also beginning to collect statistical data county-wide to assist and evaluate the program.
- <u>King County Fire District #40 Negotiations</u>: We received a request for data from Emergency Services Consulting International (ESCI), the consulting agency that KCFD 40 is using to assist with negotiations. Our Administration, Finance, Response Operations, Planning and Office of the Fire Marshal teams reviewed the request with ESCI for a clear understanding of the data requested. Staff is currently working to fulfill the request.
- <u>Red Lion De-Intensification Shelter Fire:</u> On November 25th, Renton RFA and surrounding fire jurisdictions responded to a reported high-rise fire located in room 614 at the Red Lion Hotel. Crews discovered a large amount of smoke and reduced visibility on the 6th floor, and five residents in wheelchairs trapped on the 5th floor that were unable to evacuate. The fire sprinkler system and quick actions of our firefighters quickly put the fire out and limited damage to the immediate room and surrounding area. The cause of the fire was determined to be incendiary. The 46-year-old resident of the room had made threats to burn down the building earlier in the day and was arrested for arson by Renton PD. Estimated property loss of the fire is \$25,000.
- <u>Governance Board Notifications:</u> Per our procurement process and policy, I am notifying the Board of the following purchases. These have already been shown on the vouchers.
 - Replacement Bunker Gear \$27,634.97
 - Insulation Replacement \$21,610.87

DIVISION REPORTS

Response Operations Division

- All Crews, shifts, and stations participated in night drills at Station 14 during November meeting one of our WSRB requirements. We were able to use a lot of the props we got from the large grant for the first time during this training.
- Five of our engineers are participating in the pump academy to get their IFSAC certifications.

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- All crews also went through their Incident Management System training for big box buildings.
- There were 16,036 calls for service year to date through November.
- November was the slowest month so far this year with 1,368 calls.
- There were several significant calls during November.
 - Two calls at the Red Lion which included a fire and someone barricading themselves in one of the rooms damaging the sprinkler system causing water damage.
 - \circ An apartment fire in the Maplewood Park Apartments at 3815 NE 4th St.
 - $\circ \quad \mbox{Hazmat call for a small } O_2 \mbox{ valve leak at the Lake Youngs Water Treatment facility in District} \\ 40's \mbox{ area. The valve leak was shut off quickly resulting in the call taking about 30 minutes.}$
 - An apartment fire in the Stonebrook Apartments at 12210 Petrovitsky Rd.
 - o A couple of significant aid calls which were very traumatic for some of our crews and staff.
- The RFA participated in an event with the Make a Wish Foundation. A young man wanted a fire truck to come by and visit with him. The crews really enjoyed participating in that event.

Office of the Fire Marshal

- Chief Seaver was invited to accompany OFM on a no-notice fire inspection of the Red Lion. The inspection occurred at the time of the call for the person barricading himself in his room. Due to the inspection there are concerns regarding their ability to evacuate the building and the information provided by the staff. They were required to put together a fire evacuation plan but have no intent to evacuate. We were told during the inspection they don't think the fire department will come in and remove everyone who is non-ambulatory.
- OFM will be going live with the new inspection software system on January 1st. We will be
 entering trial inspections and doing some training on the new system. This new software is a
 very robust and quantitative system that will be integrated with the response ops data. While
 responding on calls crews will be able to see pending fire code violations on a building or if
 there have been numerous false alarms for that building.

Support Services Division

- The Station 12 water system replacement has been completed and is pending inspection.
- The Station 14 insulation replacement project is about 50% done. There was not as much water damage as previously expected.
- We are currently going through furniture replacement in the crew quarters at Station 13 and Station 16. The furniture in the Station 11 Conference Room and Station 13 Large Conference Room is also being replaced.
- The fire garage we utilize for apparatus maintenance has hired a consultant to evaluate their structure and operations. This will be done in the first quarter of 2021.
- All the equipment on the Department of Ecology grant has been purchased totaling just under \$94,000. We received our first reimbursement of just over \$92,000 leaving about \$1,500 to still be reimbursed.

Administration Division

 Commissioner Abercrombie, Jennifer Zhou, and CAO Samantha Babich held the entrance interview with the state auditors and audit manager via Microsoft Teams to set expectations for what is going to happen. Everything is going smoothly, and the state auditors hope to be wrapped up by the end of the year. The initial estimated cost for the finance and accountability audit is \$17,000.

- We are preparing for the onboarding of the new recruits later this month. Out of 11 offer letters sent out we have received back 5 letters signed with the full offers. Physicals for the new recruits are still being completed. We hope to have all 11 recruits start onboarding on December 28th giving them insurance as of January 1st. Their first day of work will be on 1/4/2021. We have very good diversity in this group with 6 female recruits and 1 African American recruit.
- Large monitors have been placed in the common areas at all stations displaying information from the First Arriving program. Information is streamed 24/7 on these monitors and includes updates for all staff. Information such as the current roster for the day, flag status, announcements, news information, and call information for active calls are displayed on these monitors. The messaging on these monitors through the First Arriving program can be station specific, battalion specific and can also be pushed out by Administration. The active call information displayed includes call data, count down timer, Google map of the route to the call, Google image of the building for the call, and whether the building is a commercial or a private building. The feedback we have received so far from crews is very positive.
- We will be meeting with First Watch to discuss implementation of the phone module which is the accreditation module. All the metrics needed for accreditation such as turnout times, response times and effective response force will be done through this module. This information will tie in with the First Arriving information to be streamed on the large monitors as well.
- The recruiter gave the names of the people moving on to the three final interviews for the Fire Chief position. The interview schedule has been sent to Board Chair Abercrombie and Vice Chair Pérez for their approval.

EMS / Health & Safety Division

- Our chaplains are currently participating in a Crisis Intervention Consortium with other chaplains allowing us to give great service to the community and our members by having a deep bench of chaplains to work with for service calls. At a more recent intense call we had two chaplains available on the scene to help the families affected by the incident and firefighters at the scene responding to the call. At a city hall debrief four days later a chaplain was needed and they were able to respond right away. Our participation in this consortium has given us a deeper bench of chaplain resources than previously available to us.
- The Fee for Transport has been pushed back to February 1st which allows us time to have a clean switch over from Zoll to ESO.
- We receive quarterly data submission reports from Washington State EMS. These reports have consistently shown Renton RFA rates above average compared to most departments in the area for completion of EMS reports. These completion rates cover patient information, trauma reporting and triage reporting. This shows we are doing a good job in being complete in our reports and showing our work.

CORRESPONDENCE

There was no correspondence.

UNFINISHED BUSINESS

There was no unfinished business.

GOVERNANCE BOARD REGULAR MEETING MINUTES December 8, 2020

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NEW BUSINESS

There was no new business.

GOOD OF THE ORDER

There was no good of the order.

EXECUTIVE SESSION

Executive session pursuant to RCW 42.30.110(1)(iii), to discuss with District legal counsel, in a forum that maintains the attorney client privilege, legal risks of a proposed action or current practice that the agency has identified when public discussion of the litigation or legal risks is likely to result in an adverse legal or financial consequence to the agency.

A **MOTION** was made by Board Member Meikle and **SECONDED** by Vice Chair Pérez to enter into Executive Session. **MOTION CARRIED (5-0)**

Executive Session was called at 4:27 p.m. for 20 minutes. At 4:47 p.m., another 15 minutes was requested. The meeting reconvened at 5:02 p.m.

A **MOTION** was made by Vice Chair Pérez and **SECONDED** by Board Member Meikle to approve the Red Lion Deintensification Letter. **MOTION CARRIED (5-0)**

FUTURE MEETINGS

- Monday, December 14, 2020, 8:00 a.m., Governance Board Special Meeting, Video Conference
- Tuesday, December 22, 2020, 9:00 a.m., Budget/Finance Committee Meeting, Video Conference
- Tuesday, December 22, 2020, 10:30 a.m., Operations/Capital Committee Meeting, Video Conference

ADJOURNMENT

The meeting was adjourned at 5:03 p.m.

Kerry Abercrombie, Board Chair

Dudley Jackson, Board Secretary



Renton Regional Fire Authority 18002 108th Ave SE Renton, WA 98055 Office: (425) 276-9500 Fax: (425) 276-9592

MINUTES RFA Governance Board Special Meeting 8:30 A.M. – Monday, December 14, 2020 Video Conference

CALL TO ORDER

Governance Board Chair Abercrombie called the Special Meeting to order at 8:34 a.m.

ROLL CALL

<u>Governance Board Members Present:</u> Kerry Abercrombie, Chair (Fire District 25) Ruth Pérez, Vice Chair (City of Renton) Marcus Morrell (Fire District 25) Ryan McIrvin (City of Renton) Randy Corman (City of Renton) Linda Sartnurak (Non-Voting Advisory Position, Fire District 40)

Governance Board Members Not Present: Myron Meikle (Fire District 25)

Administrative Staff Present:

Acting Fire Chief Roy Gunsolus, Deputy Chief Chuck DeSmith, Chief Administration Officer Samantha Babich, Fire Marshal Anjela Barton, Battalion Chief Steve Winter, Engineer Brett Bigger, Deputy Fire Marshal Russell Armstrong, Senior Finance Analyst Jennifer Zhou, IT Technician Wyatt Humphreys, Administrative Supervisor Christine Noddings and Administrative Specialist Dudley Jackson.

Public Present:

Rick Marshall, Greg Nelson, Ed VanValey, Diane Dobson, Don Persson, Benita Horn, Lora Ueland and Cheryl Nichelson.

A **MOTION** was made by Vice Chair Pérez and **SECONDED** by Board Member Morrell to excuse the absent Board Member from the meeting. **MOTION CARRIED (5-0)**

Board Member Meikle joined the meeting in Executive Session at 8:45 a.m.

EXECUTIVE SESSION

Executive Session pursuant to RCW 42.30.110(1)(g), to evaluate the qualifications of an applicant for public employment or to review the performance of a public employee.

Executive Session was called at 8:35 a.m. until 2:45 p.m. Multiple requests were received for extension of the Executive Session. The meeting reconvened at 4:10 p.m.

GOVERNANCE BOARD SPECIAL MEETING MINUTES December 14, 2020 Page 2 of 2

FUTURE MEETINGS

- Tuesday, December 22, 2020 at 9:00 a.m., Budget/Finance Committee Meeting, Video Conference
- Tuesday, December 22, 2020 at 10:30 a.m., Operations/Capital Committee Meeting, Video Conference
- Tuesday, January 12, 2021 at 4:00 p.m., Governance Board Regular Meeting, Video Conference

ADJOURNMENT

The meeting was adjourned at 4:13 p.m.

Kerry Abercrombie, Board Chair

Dudley Jackson, Board Secretary



Renton Regional Fire Authority 18002 108th Ave SE Renton, WA 98055 Office: (425) 276-9500 Fax: (425) 276-9592

MINUTES RFA Governance Board Special Meeting 10:30 A.M. – Monday, December 28, 2020 Video Conference

CALL TO ORDER

Governance Board Chair Abercrombie called the Special Meeting to order at 10:31 a.m.

ROLL CALL

<u>Governance Board Members Present:</u> Kerry Abercrombie, Chair (Fire District 25) Ruth Pérez, Vice Chair (City of Renton) Marcus Morrell (Fire District 25) Myron Meikle (Fire District 25) Randy Corman (City of Renton) Linda Sartnurak (Non-Voting Advisory Position, Fire District 40)

<u>Governance Board Members Not Present:</u> Ryan McIrvin (City of Renton)

Administrative Staff Present:

Acting Fire Chief Roy Gunsolus, Deputy Chief Chuck DeSmith, Deputy Chief Mark Seaver, Chief Administration Officer Samantha Babich, Fire Marshall Anjela Barton, L864 President Robbie Hyslop, Lieutenant Rico Laycock, IT Technician Wyatt Humphreys, Administrative Supervisor Christine Noddings and Administrative Specialist Dudley Jackson.

A **MOTION** was made by Board Member Meikle and **SECONDED** by Board Member Corman to excuse the absent Board Member from the meeting. **MOTION CARRIED (5-0)**

Board Member McIrvin joined the meeting at 10:33 a.m.

NEW BUSINESS

Fire Chief Contract

The recruitment for Fire Chief has concluded and the RFA is now ready to offer employment to the finalist. The proposed employment contract has been negotiated between Chair Abercrombie, Vice Chair Pérez, the recruiter and the finalist and is now ready for full Board approval.

A **MOTION** was made by Board Member Meikle and **SECONDED** by Board Member Morrell to approve the Fire Chief employment agreement as presented and authorize the hiring of Steven Heitman as Fire Chief effective January 31, 2021. **MOTION CARRIED (6-0)**

GOOD OF THE ORDER

There was no good of the order.

GOVERNANCE BOARD SPECIAL MEETING MINUTES December 28, 2020 Page 2 of 2

FUTURE MEETINGS

- Tuesday, January 12, 2021 at 4:00 p.m., Governance Board Regular Meeting, Video Conference
- Tuesday, January 26, 2021 at 9:00 a.m., Budget/Finance Committee Meeting, Video Conference
- Tuesday, January 26, 2021 at 10:30 a.m., Operations/Capital Committee Meeting, Video Conference

ADJOURNMENT

The meeting was adjourned at 10:37 a.m.

Kerry Abercrombie, Board Chair

Dudley Jackson, Board Secretary

VOUCHER APPROVAL FOR JANUARY 12TH, 2021 MEETING

AUDITING OFFICER CERTIFICATION

I, the undersigned, do herby certify under penalty of perjury that the materials have been furnished, the services rendered or the labor performed as described herein, that any advance payment is due and payable pursuant to a contract or is available as an option for full or partial fulfillment of a contractual obligation, and that the claim is a just, due and unpaid obligation against the Renton Regional Fire Authority, and that I am authorized to authenticate and certify said claim.

Auditing Officer: ____

Roy Gunsolus, Acting Fire Chief

AUDIT COMMITTEE

The vouchers below have been reviewed and certified by individual departments and the RFA's Auditing Officer as required by RCW's 42.24.080 & 090, and a list of vouchers has been provided for review by the Finance Committee.

The undersigned members of the Finance Committee of the Renton Regional Fire Authority do hereby approve for payment accounts payable vouchers totaling \$1,898,338.01, payroll vouchers and direct deposits totaling \$1,225,384.37.

A/P VOUCHERS	Payment Date	Numbers	Amount
Checks	11/16/2020 - 12/15/2020	12714-12799	\$1,028,318.16
EFTs	11/16/2020 - 12/15/2020		\$256,261.81
Bank Drafts	11/16/2020 - 12/15/2020		\$613,758.04
TOTAL A/P			\$1,898,338.01
PAYROLL VOUCHERS		No. of Vouchers	Amount
Direct Deposits	11/25/2020	169	\$596,597.78
Payroll Checks	11/25/2020	0	\$0.00
Direct Deposits	12/10/2020	170	\$628,786.59
Payroll Checks	12/10/2020	0	\$0.00
TOTAL PAYROLL		339	\$1,225,384.37
TOTAL CLAIMS			\$3,123,722.38

Renton Regional Fire Authority Finance Committee:

Kerry Abercrombie, Chairperson

Myron Meikle, Board Member

Ryan McIrvin, Board Member

Marcus Morrell, Board Member

Randy Corman, Board Member

Ruth Pérez, Board Member



RENTON REGIONAL FIRE AUTHORITY

MEMORANDUM

 DATE: January 12, 2021
 TO: Kerry Abercrombie (Fire District 25) Randy Corman (City of Renton) Myron Meikle (Fire District 25) Ryan McIrvin (City of Renton) Marcus Morrell (Fire District 25) Ruth Pérez (City of Renton) Linda Sartnurak (Non-Voting Advisory Position, Fire District 40)
 FROM: Roy Gunsolus, Acting Fire Chief
 SUBJECT: Renton Regional Fire Authority Chief's Report

1. Adopt-A-Family Delivery Day

In the spirit of giving, the Local 864 Renton Firefighters, Renton Firefighters Benevolent Association and our Admin/OFM team went above and beyond this year to support a total of 8 local families. Santa and his elves delivered to seven of the families all across town, handing out a few extra gifts to some of the neighbor kids as they went. We delivered to one family early due to their son having open heart surgery right before the holidays. Each and every family was incredibly thankful for what our crews stepped up to do for



them. Special thanks to Kayla Eychner for coordinating this year's program, Lt. Alvarado for playing Santa, and to Lt. Krystofiak, Chaplain Loretta Green and Facilities Tech Don Highley for their time helping deliver gifts and good cheer.

2. Salvation Army Battle of the Badges

We had a friendly competition with Renton PD to collect donations for Salvation Army's Red Kettle Charity. Red Kettle is the oldest charity in the country and helps local communities distribute toys to children for the holidays, feed the hungry, shelter the homeless and fund even more social programs throughout the year. We were successful in defending our title as Red Kettle Champions, collecting a total of \$3,401, a 137% increase over last year's donations.

Chief's Report January 12, 2021 Page 2

3. New Recruits

Our eleven new recruits started on January 1st and will be working with their mentors and on-duty crews over the next month. They will start Academy on February 1st and graduate in June.

4. Data for Emergency Services Consulting International

The Administration team did a great job gathering the information necessary to fulfill the data request submitted by King County Fire District #40. We were successful in submitting the information to ESCI before the holidays.

5. 2021 Benefit Charge Notices

Benefit Charge notices are being mailed to our citizens this week. As a reminder, this notice is not a bill; it is simply information for their records. We anticipate receiving calls at headquarters via the FBC hotline as early as Friday, January 15, most of which will involve questions regarding square footage. Our Planning Section is helping to educate the public and initiate petitions for adjustments based on certain factors. The Renton RFA website (www.rentonrfa.org) provides helpful information including answers to frequently asked questions.

6. Governance Board Notifications

Per our procurement process and policy, I am notifying the Board of the following purchases. These have already been shown on the vouchers.

Sylvia Feder Contract Renewal for 2021-2022 – \$49,200.00 Recruit PPE – \$30,285.00 Recruit PPE (2nd set) – \$30,285.09 EMS Supplies – \$24,525.76

We are transitioning from monthly ordering (cross-docking or ordering as needed) to quarterly ordering (carrying stock in warehouse) due to global supply chain instability.

Office of the Fire Marshal 2020 Annual Report

Inspections

Staff completed 5,398 inspections (business, multi-family, IFC permit, special, complaint & re-inspections) in 2020. This 23% increase in completed inspections over 2019 was due to our Fire Marshal's Office being fully staffed.



Inspections Completed by Quarter - Comparative to 2019

Fire Investigations

Staff investigated 41 fires in 2020. Dollar loss is estimated at \$2.6 million. This represents a 24% reduction in investigable fires since 2019.







Plans Review, Construction Inspections & Permits

Staff completed 754 plans reviews, 375 construction inspections, and issued 229 fire systems and/or fire construction permits in 2020.



Plans Review, Construction Inspections & Permits by Quarter - Comparative to 2019

Public Education / Community Outreach

While 2020 presented several challenges for our educational and community programs, we made a quick adjustment to offer more online content, including:

Healthy Heart: In the early months of 2020 we provided some in person healthy heart education through the Renton School district, with over 800 students participating.

Virtual Story-Time: This program consisted of a weekly story time hosted on our Facebook page and Zoom and included several safety topics. Over 10,000 people viewed our story time sessions over the year.

In fall our public educator partnered with the Renton School District and area private schools and daycares to offer virtual safety class sessions to all kindergarten and 1st & 2nd grade classes. These sessions were viewed by over 8,000 students and teachers and included an interactive experience where students could ask questions and discuss the lessons being taught.

Our Youth Firesetter Intervention Program was updated based on training Deputy Fire Marshal Sara Ferguson received. We were able to utilize that new curriculum and program to aid two families in 2020, and to ensure they were provided with educational materials and additional referrals as needed. Additionally, we have established a strong working partnership with neighboring departments to aid in supporting each other's programs.

Revenue

\$360,291 in fees were collected in 2020. The RFA suspended false alarm fees in March of 2020. and waived all tent permit fees in July 2020.



OFM Revenue by Year (2016-Present)

Important 2020 Highlights

PERSONNEL

- Deputy Fire Marshal Robert Blaine completed his International Code Council Fire Inspector I certification
- Lead Fire Plans Reviewer was selected to serve on the Fire Code Technical Advisory Group of the State Building Code Council
- Fire Marshal Anjela Barton served as Co-Chair of the King County Fire Marshal's Association, and on the Executive Board of the Washington State Association of Fire Marshals

PROGRAMS

- Implemented a new inspections and permit records management system (A huge thank you to Jim Eastwood (Admin/IT) for his assistance)
- Implemented a new records system for monitoring and tracking of systems contractor test reports (Fire Plans Reviewer Cory Cappelletti served on a committee of fire marshals and industry representatives that developed standardized test reports for use throughout the region in this new system)
- Implemented the Bomb and Arson Tracking System offered through the US ATF for fire investigation reporting and records management

A huge thank you to the dedicated men and women assigned to the Fire Marshal's Office for their hard work, professionalism and dedication, even in the most trying of circumstances.



December 1, 2020

King County Fire Commissioners Regional Fire Authority Governance Board Members City Council Public Safety Committee Members

Dear Elected Fire Officials,

The King County Fire Commissioners Association advocates for and represents our county's fire districts, regional fire authorities (RFA) and city council public safety committees with respect to local, state and national fire service issues.

The Association serves as an important networking opportunity through its monthly general membership meetings and occasional special meetings to discuss issues of concern to its members, consider direction, facilitate problem solving, and recommend policy based on the collective experience and input of peer elected officials.

The monthly general membership meetings generally include an educational presentation of subject matter relating to various aspects of your role as an elected fire official. The membership meetings are a great opportunity to candidly discuss issues of immediate concern for a member district or RFA.

In spite of the need to move our monthly meetings to a virtual platform due to COVID-19 restrictions, the Association has accomplished a great deal in 2020, including:

- Advancement of a letter writing campaign to include recognition of special purpose districts such as fire districts and RFA's in federal government definitions related to the CARES Act and FEMA/Homeland Security programs, and including fire districts and RFA's in reimbursement for expenses incurred as a result of various public emergency-related events.
- The Association is one of the primary movers on Proposed Ordinance 2020-0109 providing for a fireworks ban in unincorporated areas.
- Sponsored training for commissioners related to open public meetings and public records legislation, and the National Incident Management System (NIMS) to assist elected officials, districts and RFA's wishing to qualify for federal assistance dollars following a natural disaster.
- Our association's members participate on a number of King County advisory committees (EMSAC, EMAC, King County Investment Pool, PSERN, E-911 Program, COVID-19 workgroup, Washington State Boundary Review Board, NAEFO, Washington Fire Commissioners Association, Board of Directors; WFCA Legislative Committee.

The Association is funded solely by annual dues from participating member departments, districts, regional fire authorities and city public safety committees. The membership dues of \$180.00 for 2021 remain unchanged from 2020.

I encourage you process the attached invoice to continue or start your membership. Please visit the association webpage <u>www.kingcofca.org</u> for the latest meeting information and training workshops.

Yours in service to you and your communities,

Mark L. Thompson Mark L. Thompson, President (253) 344-1823 Alan Martin Alan Martin, Treasurer (206) 330-5991

King County Fire Commissioners Association PO Box 141, Renton, WA 98057 www.kingcofca.org



Governing Board Agenda Item

SUBJECT/TITLE: Basic Life Support Transportation Fee Schedule - Exhibit A

STAFF CONTACT: DC DeSmith

SUMMARY STATEMENT:

Pursuant to RCW 52.12.131, the RFA is authorized to establish reasonable fees to cover its costs in providing emergency medical services. Renton Regional Fire Authority provides emergency medical services that include basic life support services, advanced life support services and ambulance transportation pursuant to its authority under Title 52 RCW.

FISCAL IMPACT:	
Expenditure	Revenue
Currently in the Budget	Yes No 🗸
SUMMARY OF ACTION:	
Approval from the Go Design West (SDW) thealth insurance and	vernance Board with the Fee Schedule Resolution needed for the RRFA and Systems o begin billing on February 1, 2021. This contracted service will assist RRFA with Medicare/Medicaid cost recovery including GEMT.

EXHIBITS'	

Resolution 2020-10 Establishing Emergency Medical Service Charges - Exhibit A (Fee Schedule)

RFA GOVERNANCE BOARD RECOMMENDED ACTION:

I move to add Exhibit A - Fee Schedule to Resolution 2020-10: Establishing Emergency Medical Service Charges.

RENTON REGIONAL FIRE AUTHORITY

RESOLUTION NO. 2020-10 ESTABLISHING EMERGENCY MEDICAL SERVICE CHARGES EXHIBIT A – FEE SCHEDULE

- 1. Base Fee \$1,100
- 2. Mileage Rate \$17
- 3. The Board reserves the right to review and revise fees as needed.



Governing Board Agenda Item

SUBJECT/TITLE: 2020 Annual Public Records Request Report

STAFF CONTACT: S. Babich

SUMMARY STATEMENT:

Per the Renton RFA Public Records Act policy, Administration is required to submit to the Governance Board a report on our performance in responding to public records requests during the previous twelve month period.

CAL IMPACT:
penditure <u>N/A</u> Revenue
rrently in the Budget Yes No
MMARY OF ACTION:
e report includes open records requests at the beginning of the period, total number of requests received

The report includes open records requests at the beginning of the period, total number of requests received during the period, total number of requests closed during the period, and amount of time expended by staff (for whom responding is a primary responsibility) in the period.



RFA GOVERNANCE BOARD RECOMMENDED ACTION:

No action needed. Information only.



ANNUAL PUBLIC RECORD REQUEST REPORT

January 2020 – December 2020



Total number of open record requests in the queue at the beginning of the period. This total includes both newly submitted record requests and open record requests from the previous period.

299 New Requests

Total number of new record requests received during the period.

294 Closed Requests

Total number of closed record requests during the period.

46:59

Total time expended (hh:mm) during the period by staff where responding is a primary responsibility.



Governing Board Agenda Item

SUBJECT/TITLE: Purchase of New Engines

STAFF CONTACT: DC Seaver

SUMMARY STATEMENT:

As part of our Capital Fleet Replacement Plan, we're due to replace two of our engines. The engines being replaced are F071 (1999 E-One Cyclone II Pumper) and F085 (2005 E-One Cyclone II Pumper). KCFD #40 would like to purchase a matching engine at the same time, which would increase the discounts by a total of \$34,609. Cost includes new safety features on the Pierce engines that were not available on the E-One models and travel to the factory for three inspection visits.

FISCAL IMPACT:	
Expenditure \$1,633,841	Revenue
Currently in the Budget Yes 🖌 No	
SUMMARY OF ACTION:	

These are replacement vehicles, so equipment such as computers, monitors, modems and mounting brackets will be reused. Additional up-fitting for the engines will be a separate cost.

Reviewed by Legal	Yes No 🖌		
EXHIBITS:			
1) Discount Recap 2) Spec Diagram)		

3) Proposal Details

RFA GOVERNANCE BOARD RECOMMENDED ACTION:

I move that the Board approve the purchase of two new pumper engines in 2021, and authorize the Fire Chief to sign.



Renton Regional Fire Authority, WA

December 31, 2020



One (1), Two (2) or Three (3) Enforcer Pumpers DH522 Build Location: Appleton, WI	One (1) Pumper		Two (2) Pumpers		Three (3) Pumpers	
Proposal Price	803,772.00		1,565,071.00		2,326,351.00	
Less chassis progress payment discount	(11,685.00)		(23,370.00)		(35,055.00)	
Less payment upon completion @ factory discount	(8,043.00)		(15,554.00)		(23,049.00)	
Less 100% pre-payment discount	(15,447.00)		(30,894.00)		(46,341.00)	
Subtotal including all pre-pay discounts	768,597.00		1,495,253.00		2,221,906.00	
Washington State sales tax @ Washington State motor vehicle tax @	10.00% 0.30%	76,859.70 2,305.79		149,525.30 4,485.76		222,190.60 6,665.72
Total Bid Price Including Pre-Pay Discounts & Sales Tax		\$ 847,762.49		\$ 1,649,264.06		\$ 2,450,762.32

Terms:

Delivery: Based on Pierce's current delivery schedule the apparatus would be ready for delivery from factory within 12 to 17 months after contract execution. Liquated damages at the rate of \$100.00 per day will be applicable after 17 months from date of contract execution. Delivery is subject to change pending Pierce's delivery schedule at time of order. This time does not include any possible delays that may be caused by national disasters or pandemic.

Price Expiration: The above pricing is valid until January 31, 2021. If order is not submitted prior to that date, a 3% price increase will be required.

Multiple Unit Pricing: Multiple unit pricing is based on the apparatus being purchased, manufactured and delivered at the same time. If apparatus are not ordered, manufactured and delivered at the same time, price revised pricing will be required.

Payment Terms:

a. If pre-payment discount options are elected, the following terms will apply:

- i. Chassis Progress Payment Discount: The chassis progress payment in the amount of \$389,489.00 (1-Unit), \$778,978.00 (2-Units), or \$1,168,467.00 (3-Units) will be due three (3) months prior to the ready for pick up from the factory date. If elected, an invoice will be provided 30 days prior to the chassis payment due date . If payment is not made when due the discount total will be added back to the final
- ii. Payment Upon Completion at Factory Discount: If elected, final payment is due prior to apparatus leaving the factory for delivery. If payment is not processed upon receipt of invoice the discount total will be required in addition to the invoice amount.
- iii. 100% Pre-Payment Discount: If elected, an invoice will be provided upon order processing for the 100% pre-payment. Upon receipt of invoice, payment must be made within thirty (30) days. If this option is elected, the discount is in addition to the chassis progress payment discount, and the payment upon completion at the factory discount. If payment is not made when due, the above mentioned pre-payment discounts or a portion thereof, will be added back to the final invoice. Final payment, including any changes made during manufacturing, is due upon completion of the Product at the factory and prior to delivery from the factory.
- b. If pre-payment discount options are not elected standard payment terms will apply: Final payment will be due 30 days after the apparatus leaves the factory for delivery. If payment is not made at that time a late fee will be applicable.

Transportation: Transportation of the apparatus to be driven from the factory to the customer's location is included in the above pricing. However, if permits are not obtainable, due to the weight of the apparatus, and the apparatus must be transported on a flat bed, additional transportation charges will be the responsibility of the customer. We will provide pricing at that time if necessary. If customer elects to drive the apparatus from the factory, \$5,000.00 (1-Unit), \$10,000.00 (2-Units), or \$15,000 (3-Units) may be deducted from the purchase price. If this option is elected payment in full and proof of insurance must be provided prior to leaving the factory and the customer is responsible for compliance with all state, local and federal DOT requirements including the driver possessing a valid CDL license.

Terms Continued:

Performance Bond: A performance bond is included in the above price and will be provided after order placement. If customer elects to remove the performance bond \$1,956.00 (1-Unit), \$3,809.00 (2-Units), or \$5,658.00 (3-Units) may be deducted from the purchase price.

Consortium Purchase: The proposal price is based on the apparatus being purchased through H-GAC (Houston-Galveston Area Council). This pricing is only valid for an H-GAC purchase on contract FS12-19 until 11/30/2021. It is the purchaser's responsibility to determine if the use of consortiums meets their purchasing requirements.

Inspection Trips: Three (3) factory inspection trips for Five (5) fire department customer representatives is included in the above pricing. The inspection trips will be scheduled at times mutually agreed upon between the manufacture's representative and the customer, during the window provided by the manufacturer. Airfare, lodging and meals while at the factory are included. In the event the fire department is unable to travel to the factory or the factory is unable to accept customers due to the restrictions caused by a national disaster or pandemic then the Dealership reserves the right to use forms of electronic media to accomplish the intention of the inspection trips. Every effort will be made to make the digital media as thorough as possible to satisfy the expectations of the of the fire department. If the department elects to have additional representatives included in the inspection trips \$1,850.00 per traveler per trip will be added to the final invoice.

Acceptance of Proposal: If the customer wishes to purchase the proposed apparatus Hughes Fire Equipment will provide the Customer its form of Purchase Agreement for the Customer's review and signature. If the Customer desires to use its standard form of purchase order as the Purchase Agreement, the purchase order is subject to review for any required revisions prior to acceptance. All purchase orders shall be made out to Hughes Fire Equipment Inc.





Proposal Details Report

Customory	Ponton Pagional Fire Authority Rid Number	500
Customer:	Remon Regional File Authonity Bid Number:	522
Representative	Hays, Daniel Job Number:	Hughon Fire Equipment Inc.
Requirements Manage	Penton REA Enforcer Pumpor S	
Chassis	Enforcer Chassis	
Body:	Pumper Short Aluminum 2nd Gen	
OptionCode Type (Ontion ProposalText	
0766611	Boiler Plates, Pumper Hughes Fire Equipmer	t, Inc. is pleased to submit a proposal to Renton Regional Fire Authority for
	 a Pierce® tripic comt will describe in detail th proposal will indicate s proof of compliance will advertised specification PIERCE MANUFACTL one philosophy, 'BUILI reflected, in the final pr Pierce Manufacturing of Manufacturing the source of the second sec	ination pumper per your request for quotation. The following paragraphs ize, type, model and make of components parts and equipment, providing th each and every item (except where noted) in the departments is. IRING was founded in 1913. Since then we have been building bodies with DTHE FINEST. Our skilled craftsmen take pride in their work, which is oduct. We have been building fire apparatus since the early "forties" giving your 75 years of experience in the fire apparatus market. Pierce tand put into service more than 62,500 apparatus, including more than mc chassis designed and built specifically for fire and emergency ston. Wisconsin facility has over 870,000 total square test of floor space ely 105 acres of land. Our Bradenton, Florida facility has 300,000 square tade on approximately 38 acres of land. cal standards are carried through in all of our commitments and to e do business. Honesty, Integrity, Accountability and Citizenship are global live and work. Consequently, we neither engage in, nor have we ever been g, bid rigging, or collusion in any domestic or international fire apparatus "Pierce", ensuring you are receiving top of the line respecification. current edition of NFPA 1901 standards, this proposal will specify whether mufacturer, or apparatus dealership will provide required losse equipment. material in this proposal are as accurate as known at the time of oject to change without notice. Images and illustrative material is for yu include optional equipment and accessionies and may not include all domanifacturing facilities. This includes, but not limited to the cab use module assembly, the chassis assembly, the body and the electrical to Amgratus and hody will be entirely designed, assemble/welded and d manufacturing facilities. This includes, but not limited to the cab use module assembly, the chassis assembly, the body and the electrical is for yu include optional equipment and excessions and may not include all duminum and Welding ociety standards AS.2.0.2.TOTI. Fu

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 NFPA 1901 acceleration and braking requirements. SERVICE AND WARRANTY SUPPORT

Pierce dealership support will be provided by Hughes Fire Equipment, Inc. 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 fifty (50) 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 \$5,000,000 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 35 personnel, dedicated to customer support, which also maintains a 24 hour 7 day a week toll free hot line, four (4) on staff EVTs, and offers 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 polices 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 polices 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.
0661794	Single Source Compliance	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, pumphouse (including the sheet metal enclosure, valve controls, piping and operators panel) and body 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.
0584456	Manufacture Location, Appleton, Wisconsin	Your apparatus will be manufactured in Appleton, Wisconsin.
0584452	RFP Location: Appleton, Wisconsin	
0588609	Vehicle Destination, US	
0610784	Comply NFPA 1901 Changes Effective Jan 1, 2016, With Exceptions	NFPA 2016 STANDARDS This unit will comply with the NFPA standards effective January 1, 2016, 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.
0533347	Pumper/Pumper with Aerial Device Fire Apparatus	

0588611 Vehicle Certification, Pumper

0661778	Agency, Apparatus Certification, Pumper/Tanker, U.L.	 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". VEHICLE INSPECTION PROGRAM CERTIFICATION To assure the vehicle is built to current NFPA standards, the apparatus, in its entirety, will be third party, audit-certified through Underwriters Laboratory (UL) that it is built and complies to all applicable standards in the current edition of NFPA 1901. The certification will include: 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. PUMP TEST Underwriters Laboratory (UL) will test, approved, and certify the pump. The test results and the pump manufacturer's certification of hydrostatic test; the engine manufacturer's certified brake horsepower curve; and the pump manufacturer's record of pump construction details will be forwarded to the Fire Department. GENERATOR TEST If the unit has a generator, Underwriters Laboratory (UL) will test, approved, and certify the generator. 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 have the sample certified that the air quality meets the requirements of NFPA 1989, Standard on Breathing Air Quality for Fire and Emergency Services Respiratory Protection.
0093797	PENALTY CLAUSE IN CONTRACT	
0000114	Inspection Trip(s)	INSPECTION TRIP(S) The bidder will provide three (3) factory inspection trip(s) for five 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.
0000113	Table of Contents	
0536644	Customer Service Website	 AFTERMARKET SUPPORT WEBSITE Pierceparts.com will provide <u>Pierce authorized dealer</u> access to comprehensive information pertaining to the maintenance and service of their customer's apparatus. This tool will provide the Pierce authorized dealer the ability to service and support their customers to the best of their ability with factory support at their fingertips. Pierceparts.com is also accessible to the end user through the guest login. Limited access is available and vehicle specific parts information accessible by entering a specific VIN number. All end users should see their local authorized Pierce dealer for additional support and service. The website will consist of the following screens at the dealer level: My Fleet Screem The Parts Screens will provide access to truck detail information on the major components of the vehicle, warranty information, available vehicle photographs, vehicle drawings, sales options, applicable vehicle software downloads, etc. Parts Screens will provide parts look-up capability of Pierce Manufacturing sourced items, with the aid of digital photographs, part drawings and assembly drawings. The parts search application will pervide the ability to submit electronically a parts order, parts quete, or parts return request directly to Pierce Manufacturing for processing. Warranty Screens will provide access to multiple dealer reports to allow the dealership to maintain communication with the customer on the status of orders, claims, and phone contacts. Te Technical Support Screens The Tarining screens will provide access to pierce Manufacturing Service Builetins and Work Instructions, containing information on current service topics and recommendations will be provided. Teninal Support Screens The Tarining screens will provide access to pierce Manufacturing manuals used in Pierce Manufacturing training classes offered by Pierce Manufacturing

0537375	Unit of Measure, US Gallons	
0030006	Bid Bond Not Requested	BID BOND NOT REQUESTED A bid bond will not be included. If requested, the following will apply: All bidders will provide a bid bond as security for the bid in the form of a 5% bid bond to accompany their bid. 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.
0582800	Performance Bond, 100% with 25% Warranty Bond, 1 Yr, and Payment Bond	PERFORMANCE BOND, 1 YEAR The successful bidder will furnish a Performance and Payment bond (Bond) equal to 100 percent of the total contract amount within 30 days of the notice of award. Such Bond will be in a form acceptable to the Owner and issued by a surety company included within the Department of Treasury's Listing of Approved Sureties (Department Circular 570) with a minimum A.M. Best Financial Strength Rating of A and Size Category of XV. In the event of a bond issued by a surety of a lesser Size Category, a minimum Financial Strength rating of A+ is required. Bidder and Bidder's surety agree that the Bond issued hereunder, whether expressly stated or not, also includes the surety's guarantee of the vehicle manufacturer's Basic One (1) Year Limited Warranty period included within this proposal. Owner agrees that the penal amount of this bond will be simultaneously amended to 25 percent of the total contract amount upon satisfactory acceptance and delivery of the vehicle(s) included herein. Notwithstanding anything contained within this contract to the contrary, the surety's liability for any warranties of any type will not exceed one (1) year from the date of such satisfactory acceptance and delivery, or the actual Basic One (1) Year Limited Warranty period, whichever is shorter.
0000007	Approval Drawing	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.
0082910	Drawing, Compartment Layout, Standard Pumper Body	DRAWING, COMPARTMENT LAYOUT A basic drawing will be provided for the interior body compartments. This drawing will be provided for graphic representation only and will include such things as shelves, trays, reels, dividers, air control panels, air bottle storage bins, poly boxes & etc.
0517327	Drawing, As Built, At Delivery a Revised Print w/ Changes	FINAL DRAWING There will be a revised drawing of the truck with all the changes made during production provided at pickup.
0672031	Drawing, Cab, Top View, Seating and EMS Cabinets, Reference Only	DRAWING, CAB TOP VIEW On the sales drawing a top view of the cab seating and EMS cabinets will be provided. The top view will be a reference only of the seating and EMS cabinets in the order.
0739732	Electrical Diagrams, 12V As-Built on USB, Custom Chassis Pumper, Multiple Unit	 ELECTRICAL WIRING DIAGRAMS There will be three (3) USB flash drives containing "As-Built" electrical wiring diagrams specifically prepared for the apparatus provided. The diagrams will consist of information pertaining to the 12 volt DC systems only. Due to the complexity of each custom unit built and possible changes that may occur, the design of the "As Built" electrical wiring diagrams will begin after the apparatus is shipped from the manufacturer's facility. The USB flash drives will be shipped to the customer no more that 75 days after the apparatus is shipped from the manufacturer's facility. There will be two (2) flash drives shipped to the customer and one (1) flash drive stored at the apparatus manufacturer's facility for future reference. Each USB flash drive will include the following capabilities: The capability of viewing each separate diagram. The capability of zooming in on any section of each separate diagram. The capability of printing each separate diagram. The capability of printing each zoomed in area of each separate diagram. Table of contents. Truck specific electrical compartment and instrument layouts for the chassis. Truck specific electrical compartment layouts for the body. Applicable drawings from the appropriate standard wiring diagrams. All truck specific wiring diagrams (special drawings). Harness drawings for all wiring harnesses used on the body. All truck input and output programming sheets (multiplexed trucks only). There will be one (1) hard copy of these diagrams required for this unit. The spiral bound, clear plastic covered hard copies will included everything from the USB printed on 11" x 17" white paper. Two (2) truck order (includes verification and CD costs) in this order for multiple order credit.
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0649754	Enforcer Chassis	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.
0021007	Maximum Overall Height	MAXIMUM OVERALL HEIGHT The maximum overall height of the apparatus will be 129".
0021010	Maximum Overall Length	MAXIMUM OVERALL LENGTH The maximum overall length of the apparatus will be 391.50".
0000110	Wheelbase	WHEELBASE The wheelbase of the vehicle will be 180.50".
0000070	GVW Rating	GVW RATING The gross vehicle weight rating will be 46,500 lbs.
0649713	Frame Rails, 10.25" x 3.50" x .375", Saber FR/Enf	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 be heat-treated steel measuring 10.25" x 3.50" x 0.375". Each rail will have a section modulus of 16.00 cubic inches, yield strength of 120,000 psi, and a resisting bending moment (rbm) of 1,921,069 inch-pounds.
0620712	Frame Liner, Internal "C", 9.38" x 3.13" x .25", w/Reinforcement,67"Qval,SFR/Enf	FRAME REINFORCEMENT A full-length mainframe "C" liner will be provided. The liner will be an internal "C" design, heat-treated steel measuring 9.38" x 3.13" x .25". Each reinforcement member will have a section modulus of 3.90 cubic inches, yield strength of 120,000 psi and resisting bending moment (rbm) of 938,762 in-lb. In addition, a L-shaped steel channel reinforcement will be located under each mainframe rail.

0630705		Axle, Front, Oshkosh TAK-4, Non Drive, 19,500 lb, Enforcer	 FRONT NON DRIVE AXLE The Oshkosh TAK-4® front axle will be of the independent suspension design with a ground rating of 19,500 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 zero 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 must 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 aske will have a third party certified turning angle of 45 degrees. Front discharge, front suction, or aluminum wheels will not infringe on this cramp angle.
0030264		Suspension, Front TAK-4, 19,500 lb, Qtm/AXT/Imp/Vel/Dash CF/Enf	FRONT SUSPENSION Front Oshkosh TAK-4™ independent suspension will be provided with a minimum ground rating of 19,500 lb. The independent suspension system will be 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 design will be such that there is at least 10.00" of total wheel travel and a minimum of 3.75" 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.
0087572		Shock Absorbers, KONI, TAK-4, Qtm/AXT/Imp/Vel/DCF/Enf	FRONT SHOCK ABSORBERS KONI heavy-duty telescoping shock absorbers will be provided on the front suspension.
0000322		Oil Seals, Front Axle	FRONT OIL SEALS Oil seals with viewing window will be provided on the front axle.
0677584		Tires, Front, Goodyear, G296 MSA, 385/65R22.50, 18 ply, Fire Service Load Rating	FRONT TIRES Front tires will be Goodyear 385/65R22.5 radials, 18 ply G296 MSA tread, rated for 20,050 lb maximum axle load and 68 mph maximum speed.
0752585	SP	Wheels, Front, Alcoa, 22.50" x 12.25", Aluminum, Dura-Black, Hub Pilot	The tires will be mounted on Alcoa© 22.50" x 12.25" Dura-Black® polished aluminum disc type wheels with a ten (10) stud, 11.25" bolt circle.
0530458		Axle, Rear, Meritor RS24-160, 24,000 lb, Saber/Enforcer	REAR AXLE The rear axle will be a Meritor™, Model RS-24-160, with a capacity of 24,000 lb.
0544253		Top Speed of Vehicle, 68 MPH	TOP SPEED OF VEHICLE A rear axle ratio will be furnished to allow the vehicle to reach a top speed of 68 mph.
0555350		Suspen, Rear, Hendrickson FMX 242 EX, Air Ride, 24,000 lb	REAR SUSPENSION Rear suspension will be a Hendrickson FMX 242 EX, air ride with a ground rating of 24,000 lb. The suspension will have the following features: - Heavy-duty shock absorbers to protect air springs from overextension - Heavy-duty torque rods and bushings - Premium, heavy-duty rubber bushings require no lubrication - Integrated stabilizer design results in greater stability - Low spring rate air springs for excellent ride quality - Dual height control valves to maintain level vehicle from side to side

0000485		Oil Seals, Rear Axle	REAR OIL SEALS Oil seals will be provided on the rear axle(s).
0629346		Valves, Dump, Air Ride, Rear Axle, Prk Brk Interlock	REAR AIR RIDE SUSPENSION DUMP VALVES The rear air ride suspension will be supplied with a dump valve system provided by the custom chassis manufacturer. The control will be located inside the cab and at the driver's side rear of body. To prevent accidental activation of the valves, a 5 second timed delay will be built into the control circuit. The chassis back-up alarm will sound when the control is active. The parking brake must be applied before the control will be active. Release of the parking brake will automatically inflate the suspension.
0627626		Tires, Rear, Goodyear, G751 MSA, 12R22.50, LRH, Single	REAR TIRES The rear tires will be four (4) Goodyear 12R22.50 radials, load range H, all position, G751 MSA tread, rated for 27,120 lb maximum axle load and 68 mph maximum speed.
0738289	SP	Wheels, Rear, Alcoa, 22.50" x 8.25", Alum, Dura-Black, Hub, Single	REAR WHEELS The inner and outside tires will be mounted on Alcoa© ULTRA BLK 22.50" x 8.25" aluminum disc wheels with a ten (10) stud, 11.25" bolt circle.
0589368		Tire Balancing, All, Single Axle	TIRE BALANCE All tires will be dynamically balanced with wheel weights.
0620570		Tire Pressure Monitoring, RealWheels, AirSecure, Valve Cap, Single Axle	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.
0793796	SP	Axle Hub Covers w/center hole, Black Powder Coat, Front Axle	FRONT HUB COVERS Hub covers will be provided on the front axle. An oil level viewing window will be provided. The covers will be black powder coat finish.
0740268	SP	Axle Hub Covers, Rear, Alcoa 089100S-BLK, One Piece, (Pair)	HUB COVERS (rear) A pair of Alcoa 089100S-BLK one (1) piece hub covers will be provided on rear axle.
0002045		Mud Flap, Front and Rear, Pierce Logo	MUD FLAPS Mud flaps with a Pierce logo will be installed behind the front and rear wheels.
0727752	SP	Chains, Onspot, Automatic Tire, Custom, Ext Duty, Short Body, Lock, Eng App	AUTOMATIC TIRE CHAINS One (1) pair of ONSPOT extreme duty automatic tire chains will be provided at the rear. System will be electric over air operated with a switch on cab instrument panel. System may be engaged at speeds up to 25 mph and operated at speeds up to 35 mph.
0544802		Chocks, Wheel, SAC-44-E, Folding	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.
0544806		Mounting Brackets, Chocks, SAC-44- E, Folding, Horizontal	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 one (1) forward and one (1) rearward of the left side rear tire.

0010671		ABS/ATC Wabco Brake System, Single Rear Axle	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 particular wheel begins to lockup, a signal will be sent to the control unit. This control unit then will 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.
0652082		Brakes, Meritor, EX225, 17", Disc Plus, TAK-4	BRAKES The service brake system will be full air type. The front brake calipers will be Meritor® DiscPlus™ EX225 air disc type. The brake rotors will be 17.00" ventilated.
0509206		Brakes, Meritor, EX225, Disc Plus, Rear, Single Axle	The rear brakes will be Meritor™, Disc Plus, Model EX225, disc operated with automatic slack adjusters and a 17.00" ventilated rotor for improved stopping distance.
0020784		Air Compressor, Brake, Cummins/Wabco 18.7 CFM	BRAKE SYSTEM AIR COMPRESSOR The air compressor will be a Cummins/WABCO with 18.7 cubic feet per minute output.
0644232		Brake Reservoirs, 4,272 Cubic Inch Minimum Capacity, Saber FR/Enforcer	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. To reduce the effects of corrosion, the air tank will be mounted with stainless steel brackets.
0662191	SP	Air Dryer, Wabco System Saver 1200 Plus, 2010	BRAKE SYSTEM AIR DRYER A Wabco System Saver 1200 Plus™ air dryer will be provided. The air dryer will consist of the following: Spin-on coalescing filter cartridge 100 Watt Heater Integrated purge volume Integrated governor Turbo cut-off valve
0000790		Brake Lines, Nylon	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.
0000858		Inlet/Outlet, Air, w/Disconnect Fitting	AIR INLET/OUTLET One (1) air inlet/outlet will be installed with the female coupling located in the driver side lower step well of cab. This system will tie into the "wet" tank of the brake system and include a check valve in the inlet line and an 85 psi pressure protection valve in the outlet line. The air outlet will be controlled by a needle valve. A mating male fitting will be provided with the loose equipment. The air inlet will allow a shoreline air hose to be connected to the vehicle. This will allow station air to be supplied to the brake system of the vehicle to insure constant air pressure.

0000810	All Wheel Lock-up	ALL WHEEL LOCK-UP An all wheel lock-up system will be installed which will apply air to the front brakes and use the spring brake at the rear. A control switch will be provided for the driver on the instrument panel. The all wheel lock-up system will be operational only when the parking brake is applied, the truck transmission is in neutral and engine is running.
0771656	Clamps, Air Tanks, Stainless Steel, Heavy Duty	AIR TANK CLAMPS All clamps supporting the chassis air tanks will be a heavy duty stainless steel style clamp.
0012034	Moisture Ejector, Manual, Remote Mounted	MANUAL MOISTURE EJECTOR(S) Three (3) manual moisture ejectors will be installed in the brake system. The moisture ejector will be remote mounted on the driver side of vehicle, as close to the edge of vehicle as possible. A loop will be provided at the moisture ejector, to allow for ease of pulling the drain. Each moisture ejector will have a label directly under the ejector, stating air tank drain. Nylon tubing, .38" diameter, will be routed from the air tank to the moisture ejector. The nylon tubing will be covered with protective split loom. The moisture ejector(s) will be provided on the driver's side rub rail (exact location TBD) reservoir(s).
0615609	Fittings, Compression Type, Entire Apparatus, Single Rear Axle	COMPRESSION FITTINGS ONLY Any nylon tube on the brake system that is pneumatic will be plumbed with compression type fittings where applicable. Push lock fittings will not be acceptable for any pneumatic nylon tube plumbing.
0736437	Engine, Cummins L9, 450 hp, 1250 Ib-ft, W/OBD, EPA 2021, Saber FR/Enforcer	ENGINE The chassis will be powered by an electronically controlled engine as described below: Make: Cummins Model: L9 Power: 450 hp at 2100 rpm Torque: 1250 lb-ft at 1400 rpm Governed Speed: 2200 rpm Emissions Level: EPA 2021 Fuel: Diesel Cylinders: Six (6) Displacement: 543 cubic inches (8.9L) 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.
0001244	High Idle w/Electronic Engine, Custom	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."
0687994	Engine Brake, Jacobs Compression Brake, Cummins Engine	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.

0644227	Clutch, Fan, Air Actuated, Saber FR/Enforcer	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.
0640477	Air Intake, Metal Screen, Saber FR/Enforcer	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. A stainless steel metal screen will be installed at the inlet of the air intake system that will meet NFPA 1901 requirements. The air cleaner and stainless steel screen will be easily accessible by tilting the cab.
0794761	Exhaust System, 4", 2017 L9 Engine, Horizontal, Right Side	EXHAUST SYSTEM The exhaust system will be stainless steel from the turbo to the engine's aftertreatment device, and will be 4.00" in diameter. The exhaust system will include a single module aftertreatment device to meet current EPA standards. An insulation wrap will be provided on all exhaust pipes between the turbo and aftertreatment device to minimize the heat loss to the aftertreatment device . The exhaust will terminate horizontally ahead of the right side rear wheels. A tailpipe diffuser will be 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.
0521652	Exhaust, Modified for Nederman System, 6.00" Diffuser	EXHAUST MODIFICATION The exhaust pipe will be brought straight out from under the body. The exhaust pipe will extend a maximum of 2.00" past the body side. The diameter of the diffuser will be 6.00".
0788765	Radiator, Saber FR/Enforcer	 PADIATOR The radiator and the complete cooling system will meet or exceed 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 mode 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 seembly 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.
0001090	Cooling Hoses, Rubber	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.
0630617	Fuel Tank, 65 Gallon, Left Side Fill, w/ Air Suspension, Aluminum	 FUEL TANK A 65 gallon fuel tank will be provided and mounted at the rear of the chassis. The tank will be constructed of aluminum with the exterior painted to match the chassis frame It will be equipped with swash partitions and a vent. To eliminate the effects of corrosion, the fuel tank will be mounted with stainless steel straps. A .75" drain plug will be located in a low point of the tank for drainage. A fill inlet will be located on the left hand side of the body and is covered with a hinged, spring loaded, stainless steel door that is marked "Ultra Low Sulfur - Diesel Fuel Only." A .50" diameter vent will be installed from tank top to just below fuel fill inlet. The fuel tank will meet all FHWA 393.67 requirements, including a fill capacity of 95 percent of tank volume.
0001129	Lines, Fuel	All fuel lines will be provided as recommended by the engine manufacturer.

0662965	DEF Tank, 4.5 Gallon, DS Fill, Rear of Axle, Common Air Bottle Door	 DIESEL EXHAUST FLUID TANK A 4.5 gallon diesel exhaust fluid (DEF) tank will be provided and mounted in the driver's side body rearward 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 provided and marked "Diesel Exhaust Fluid Only". The fill inlet will be located adjacent to the air bottle storage behind a common door on the driver side of the vehicle. 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.
0552793	Not Required, Fuel Priming Pump	
0552712	Not Required, Shutoff Valve, Fuel Line	
0553019	Cooler, Engine Fuel, Imp/Vel, AXT/Qtm/Sab/DCF/SFR/Enf	FUEL COOLER An air to fuel cooler will be installed in the engine fuel return line.
0638739	Gauge, DEF, Remote Mounted for Chassis DEF, Location	DEF GAUGE, ADDITIONAL An additional DEF gauge will be provided at fill location, behind the door for indication of the chassis DEF level. Since the DEF level signal is broadcast by the engine ECU, the gauge position will be delayed several minutes after the fluid level changes in the tank. The gauge will be rated for both interior and exterior applications.
0663938	Label, "DEF Fluid Only", Mounted On Inside Of DEF Fill Door	LABEL, DEF DOOR A label, reading "DEF Fluid Only" will be provided on the inside of the fill door.
0669055	Label, "Ultra Low Sulfur Diesel Fuel Only", Mounted On Inside Of Door Only	FUEL DOOR LABEL The fuel fill label, "Ultra Low Sulfur Diesel Fuel Only" will be provided on the inside of the fuel fill door.
0690880	No Selection Required From This Category	
0642572	Trans, Allison 5th Gen, 3000 EVS P, w/Prognostics, Imp/Vel/DCF/SFR/Enf	TRANSMISSION An Allison 5th 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 red light and audible alarm will be installed on the cab dash.
0625329	Transmission, Shifter, 5-Spd, Push Button, 3000 EVS	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
0684459	Transmission Oil Cooler, Modine, External	TRANSMISSION COOLER A Modine plate and fin transmission oil cooler will be provided using engine coolant to control the transmission oil temperature.
0682855	Engraving, Transmission Dipstick Cap, "Synthetic Trans Fluid Only"	TRANSMISSION DIPSTICK CAP The transmission dipstick cap will be engraved with "ALLISON TES-295 APPROVED SYNTHETIC TRANS FLUID ONLY".

0024895		Mode, Downshift, Aggressive downshift to 2nd, w/engine brake, 5 speed	DOWNSHIFT MODE (w/engine brake) The transmission will be provided with an aggressive downshift mode. This will provided earlier transmission downshifts to 2nd gear, resulting in improved engine braking performance.
0559012		Program, Transmission, Shift To Neutral, With Prk Brk	TRANSMISSION PROGRAM The transmission will shift to neutral when parking brake is set.
0683847		Fluid, 3000 Series Transmission, TES-295 TranSynd synthetic, IPOS, Custom	TRANSMISSION FLUID The transmission will be provided with TES - 295 TranSynd heavy duty synthetic transmission fluid.
0001370		Driveline, Spicer 1710	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.
0614061		Chassis Cross Member w/Arch Facing Upward, Pumphouse	CHASSIS CROSS MEMBER The chassis cross member within the pumphouse will be installed with the arch facing up to allow for additional clearance above.
0669988		Steering, Sheppard M110 w/Tilt, TAK 4, Eaton Pump, w/Cooler	- 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.
0605356		Steering Wheel, 4 Spoke without Controls, Saber FR/Enforcer	STEERING WHEEL The steering wheel will be 18.00" in diameter, have tilting and telescoping capabilities, and a 4-spoke design.
0690274		Logo/Emblem, on Dash	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: Renton The second row of text will be: RFA The third row of text will be: *
0732382	SP	Steering Gear, Zerk, Remote Mount, TAK-4	STEERING GEAR ZERKS REMOTE MOUNTED The steering gear grease zerks shall be remote mounted for ease of maintenance. The block shall be located in an easy to access location.
0771216		Lube System, Single Point Fill, Series Progressive, TAK-4	TAK-4 SUSPENSION LUBRICATION SYSTEM A series progressive single point lube system shall be provided for the TAK-4® front suspension. The system shall consist of a single point grease zerk for applying grease to all front suspension grease points. The grease shall be delivered through a series progressive metering valve that incorporates a number of metering pins that dispense a highly repeatable volume of lubrication to each grease point. The metering valve shall be located below the frame rail on the left side of the apparatus. The fill zerk shall be located on the back side of the battery box on the left side
0641710		Grease Zerk, Extended, Cab Pivots	GREASE ZERK, EXTENDED The grease zerks for the cab pivots will be extended to a more accessible position.
0740950	SP	Bumper, Non-Extended, Steel, Paint Feature, Saber FR/Enforcer	BUMPER A one (1) piece bumper manufactured from .25" formed steel with a .38" bend radius will be provided. The bumper will be a minimum of 10.00" high with a 1.50" top and bottom flange. The bumper will be metal finished and painted Black GRAVEL PAN A gravel pan, constructed of bright aluminum treadplate, will be furnished between the bumper and cab face.
0614646		No Lift & Tow Package, Imp/Vel, AXT SFR/Enf	· •

0534715		Tow Eyes, 1" Rd Bar, 4" Diameter Chromed, Through Bumper Face	TOW EYES Two (2) chromed steel tow eyes will be installed on the inside of the frame through the face of the bumper extension. The tow eyes will not be used for lifting of the apparatus. The tow eyes will be fabricated from 1.00" diameter round stock and formed with a 4.00" diameter.
0776632	SP	Reinforcement, Bumper Corners, 25" Corner Plates/Triangulation Supports, Enf	BUMPER REINFORCEMENT The corners of the bumper will be reinforced with .25" steel corner plates/supports and .25" steel brackets that triangulate support from the chassis frame.
0648332		Cab, Enforcer, 7010	<text><text><text><text><text><text><text><text><text><text><text><text><text><text></text></text></text></text></text></text></text></text></text></text></text></text></text></text>

0647919		Engine Tunnel, ISL, Saber FR/Enforcer	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 NFPA1901 standards. The engine tunnel will be no higher than 17.00" off the crew cab floor.
0610508		Rear Wall, Interior, Adjustable Seating, Not Available	
0632103		Rear Wall, Exterior, Cab, Saber FR/Enforcer	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.
0639727		Cab Lift, Elec/Hyd, Manual Override, Saber FR/Enforcer	 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.
0618507	SP	Grille, Painted, Black, Front of Cab, Complete, Dash CF/Enforcer	GRILLE A painted aluminum mesh grille screen, inserted behind a painted grille surround, will be provided on the front center of the cab. The mesh and grille surround will be painted black.
0745433	SP	Scuffplate, Rear Wall, Exterior, 24 x 30	CAB REAR WALL EXTERIOR SCUFFPLATE A 24.00" x 30.00" piece of polished stainless steel scuffplate will be provided on the rear exterior wall of the crew cab, mounted on the back of the cab under the upper lights.
0002224		Scuffplates, S/S At Cab Door Jambs, 4-Door Cab	DOOR JAMB SCUFFPLATES All cab door jambs will be furnished with a brushed stainless steel scuffplate, mounted on the striker side of the jamb.
0647932		Not Required, Trim, S/S Band, Across Cab Face, AXT/Dash CF/Saber/Enforcer	
0087357		Molding, Chrome on Side of Cab	SIDE OF CAB MOLDING Chrome molding will be provided on both sides of cab.
0590424		Mirrors, Retrac, West Coast Style, Htd/Rmt, w/Htd/Rmt Convex, Black	MIRRORS A Retrac, Model 613422, dual vision, motorized, west coast style mirror with black finish will be mounted on each side of the front cab door with chrome spring loaded retractable arms. The flat glass and convex glass will be heated and adjustable with remote control within reach of the driver.

0648170		Door, Half-Height, Saber FR/Enforcer 4-Door Cab, Raised Roof	DOORS To enhance entry and egress to the cab, the forward cab door openings will be a minimum of 37.50" wide x 63.37" 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 73.25" 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 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.		
			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 be 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. 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 bottom cab step at each cab door location will be located below the cab doors and will be exposed to the exterior of the cab.		
0655543		Door Panel, Brushed Stainless Steel, Saber/Enforcer 4-Door Cab	Door Panels The inner cab door panels will be constructed out of brushed stainless steel.		
0630636		Controls, Electric Roll-Up Windows, 4dr, 4 Driver Controls, Saber FR/Enforcer	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.		
0653574		Electric Door Locks, Cab Doors, Conceal Switch Feature, QXS/AXT/Sab/Enf/DCF	ELECTRIC CAB DOOR LOCKS The front driver and officer doors will have a door lock master switch that will control all front and rear crew cab door locks. Each rear crew cab door will have its own lock control. There will be one (1) concealed switch located DS A-Pillar of cab underneath.		
0777662	SP	Steps, 4-Door Cab, Dual, Treadplate, Sp Spacing/Depth, Saber FR/Enforcer	CAB STEPS A dual step will be provided below each cab and crew cab door. The steps will be designed with a bright aluminum treadplate material providing support and slip resistance. The 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. The step design raises the middle step higher and closer to the cab floor, resulting in a 11.00" distance from the step to cab floor in the cab and crew cab. Stepping distance from the ground to first step will be approximately 16.00" and from first step to middle step will be approximately 11.00". The first step will be a minimum of 7.50" in depth. The middle step will be 6.00" in depth. The vertical surface of the upper step well will be aluminum treadplate. The first step will be lit by a Whelen, part number 01-66D068-00, 12 volt DC LED light provided on the step.		
0770194		Handrail, Exterior, Knurled, Alum, 4- Door Cab	CAB EXTERIOR HANDRAILS A 1.25" diameter slip-resistant, knurled aluminum handrail will be provided adjacent to each cab and crew cab door opening to assist during cab ingress and egress.		
0674631		Lights, Cab & Crw Cab Acs Stps, Win 0AC0EDCR LED, 45 Deg Crm Bzl 8lts	STEP LIGHTS There will be eight (8) Whelen, Model 0ACOEDCR, round LED step lights provided with 45 degree chrome bezels to direct the light downward. The lights will be installed in the cab and crew cab at the following locations: Two (2) in the driver side front doorstep. Two (2) in the driver side crew cab doorstep. Two (2) in the passenger side front doorstep. Two (2) in the passenger side crew cab doorstep. Two (2) in the passenger side crew cab doorstep. Two (2) in the passenger side crew cab doorstep.		
0040475		Crowns, Front Fender, Rubber	FENDER CROWNS Rubber fender crowns will be provided around the cab wheel openings. Crowns will be black.		

0557023		Handrail, 10", Below Cab Windshield, Pair	HANDRAILS BELOW CAB WINDSHIELD A 10.00" long x 1.25" diameter handrail will be mounted below the front cab windshield, one (1) on each side. The handrails will be extruded aluminum with a ribbed design to provide a positive gripping surface.
0042105		No Windows, Side of Crew Cab	
0012090		Not Required, Windows, Front/Side of raised roof	
0779036		Windows, Rear CC, (2) 14.75" x 7.25", Saber FR/Enforcer	REAR WALL WINDOWS There will be two (2) windows, located one (1) each side, on the rear wall of the crew cab. The windows will measure 14.75" wide x 7.25" high.
0727020	SP	Compt, Storage, 13.75 W x 72 H RS/24 H LS x 15 D, Dbl Pan, 70" SFR/Enf	 STORAGE COMPARTMENTS Provided on each side of the cab, to the rear of the crew cab access doors, will be a storage compartment. The left side compartment will be 13.75" wide x 24.00" high x 15.00" deep. The right side compartment will be 13.75" wide x 72.00" high x 15.00" deep. The cab floor will be removed from the right side compartment so that it is open from top to bottom. There will be two (2) double pan doors painted to match the cab exterior with a non-locking D-Ring latch, one (1) on each side of the cab. A pneumatic stay arm for each exterior door will be used as a door stop. The compartment interior will be painted spatter gray. Compartment Light In the left side compartment, there will be one (1) Amdor H2O LED strip light provided on the hinged side of the exterior compartment door opening. In the right side compartment, there will be one (1) white Amdor LED strip light provided on the hinged side of the exterior compartment door opening. The lighting will be controlled by an automatic door switch.
0760190	SP	Roof, Aluminum Treadplate, Raised Cab Roof Only, 24" off Front Edge	RAISED CAB ROOF COVERING The horizontal surface of the raised cab roof will be covered with bright aluminum treadplate. The aluminum treadplate will be offset 24.00" from the front edge of the raised roof. The fastening screws and the perimeter between the roof and the bottom of the aluminum treadplate, no more than 1.00" in from the edge of the aluminum treadplate, will be properly caulked to prevent water from leaking under the aluminum. Front and side warning lights will not be mounted on top of treadplate. The treadplate will extend and terminate next to the warning lights.
0787399	SP	AVK Inserts, IPO Nuts and Washers, Engine Tunnel Mounting Plate(s)	FASTENERS All nut and washer combinations used on the engine tunnel mounting plate will be replaced with AVK nutcerts.
0077581		Tag, Special	SPECIAL TAG There will be four (4) special tag(s) provided. The tag(s) will read The tags shall be yellow and placed on the driver's side and the officer's side, in the corner of the dash module. Show GVW "in tons" and "in pounds" - Overall Height "in feet and inches".
0553057		Holder, Cup, Cab/Crewcab, Each	CUP HOLDER There will be four (4) cup holder(s) provided. Each cup holder will have self-adjusting fingers that automatically grip beverage containers of various sizes. A recess in the cup holder will allow it to hold beverage containers with handles. The cup holder(s) will be located at customer pick-up.
0031409	SP	Holder, Door, Extended Web Strap, Crew Cab Door (pair)	DOOR HOLDERS (Extended Web Strap) The web strap door holders will be extended so that the crew cab doors open wider.
0656234		Hook, Coat, Heavy Duty, Mounted in Compartment	HEAVY DUTY COAT HOOK(S) IN COMPARTMENT There will be ten (10) coat hooks supplied and installed crew cab area, exact location to be determined.
0774574	SP	Mounting Provisions, 1/4" Alum, Full Engine Tunnel, Trim, AVK, SFR/Enforcer	MOUNTING PLATE ON ENGINE TUNNEL Equipment installation provisions will be installed on the engine tunnel. A .25" 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 .75" to allow for wire routing below the plate. There will be trim provided on the edges of the mounting plate to help protect occupants from sharp impact. The mounting surface will be painted to match the cab interior. The mounting surface will be installed using AVK inserts.

0621452	Mounting Plate, 1/4" Aluminum, Cab Interior	MOUNTING PLATE(S) There will be one (1) 0.25" aluminum mounting plate(s) provided and installed mounted on the recess cut down area of the officer's dash area. Horizontal surface only. The mounting surface will be painted to match the cab interior. The plates(s) will be mounted on .75" spacer stand-offs.
0750824	Cab Interior, Vinyl Headliner, Saber FR/Enforcer, CARE	 CAB INTERIOR The cab interior will be constructed of primarily metal (painted aluminum) to withstand the severe duty cycles of the fire service. The officer side dash will be a flat faced design to provide easy maintenance and will be constructed out of painted aluminum. The instrument cluster will be surrounded with a high impact ABS plastic contoured to the same shape of the instrument cluster. 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.
0753903	Cab Interior, Paint Color, Saber FR/Enforcer	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.
0052100	Floor, Rubber Padded, Cab & Crew Cab, Saber/Enforcer	CAB FLOOR 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 will be directed towards the left side cab window

One (1) adjustable will be directed towards the right side cab window

Six (6) fixed outlets will be 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 risers with a dual scroll blower. An aluminum plenum incorporated into the cab structure used to transfer heat to the forward positions.

Air Conditioning

A condenser will be a 59,644 BTU output that meets and exceeds the performance specification will be mounted on the radiator.

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 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) will be directed towards the seating position on the left side of the cab

Four (4) will be directed towards the seating position on the right side of the cab

Adjustable air outlets will be strategically located on the evaporator cover per the following: Five (5) will be 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.

0639675		Sun Visor, Smoked Lexan, AXT, Dash CF, Imp/Vel, Saber FR/Enforcer	SUN VISORS Two (2) smoked Lexan [™] sun visors 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.
0760345	SP	Grab Handles, Driver and Officer Low and Door Posts, Saber FR/Enforcer	GRAB HANDLES 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. An additional black rubber covered grab handle will be mounted on the driver's side door post of the driver's side cab door to assist in entering the cab. The grab handle will be securely mounted directly below the upper grab handle as not to interfere with the steering wheel. An additional black rubber covered grab handle will be mounted low on the officer's side door post. The grab handles will be securely mounted to the post area between the door and windshield.
0583938		Lights, Engine Compt, Custom, Auto Sw, WIn 3SC0CDCR, 3" LED, Trim	ENGINE COMPARTMENT LIGHTS There will be one (1) Whelen, Model 3SC0CDCR, 12 volt DC, 3.00" white LED light(s) with Whelen, 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.

0631830	Fluid Check Access, Saber FR/Enforcer, Arrow XT	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 latch will be provided on the access door.
0631747	Map Box, 2 bin, Open from Top, 18.00" L x 12.00" W x 8.00" D	MAP BOX A map box, open from top, will be installed on dog house, exact location TBD. The dimensions of the box will be 18.00" long x 12.00" wide x 8.00" deep. The box will be divided along the length dimension, centered. The map box will be constructed of 0.125" aluminum and painted to match the cab interior.
0583042	Side Roll and Frontal Impact Protection	 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 slave SRS sensor will be installed in the cab to provide capacity for eight (8) crew cab seating positions. 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 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. FONTAL IMPACT PROTECTION The CAB 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 front and oblique impact testing. Testing included all major chassis and cab components, rear suspensions components, frame rail tranks, suspension mounts, front suspension components, rear suspensions to fuel works. REONTAL IMPACT PROTECTION The SRS system will adviate the pyrotechnic devices when the correct crash algorithm, wave
0622618	Seating Capacity, 5 Seats	SEATING CAPACITY The seating capacity in the cab will be five (5).
0766159	Seat, Driver, USSC, Valor, P1A, Air Ride, I-Back, Safety, Saber FR/Enforcer	DRIVER SEAT A USSC Valor air suspension I-back seat will be provided in the cab for the driver. For increased convenience, the seat will include a manual control to adjust the horizontal position. To provide flexibility for multiple driver configurations, the seat will have a reclining back, adjustable from 15 degrees back to 15 degrees forward. 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. Shipped loose with the seat will be no additional contaminant mitigation vinyl covers. The seat will be furnished with a 3-point, shoulder type seat belt.

0766079		Seat, Officer, USSC, Valor, P1A, Air Ride, I-Back, Safety, Saber FR/Enforcer	OFFICER SEAT A USSC, P1A, air suspension seat will be provided in the cab for the officer. For optimal comfort, the seat will be provided with 17.00" deep cushion. The seat back will be an I-Back style with an adjustable recline. To ensure safe operation, the seat will be equipped with a sensor in the seat cushion and belt receptacle that will activate an alarm indicating the seat is occupied but not buckled. 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, then retract the seat to its lowest travel position. Shipped loose with the seat will be no additional contaminant mitigation vinyl covers. The seat will be furnished with a 3-point, shoulder type seat belt. The seat belt will be furnished with dual automatic retractors that will provide ease of operation in the normal seating position.
0002517		Not Required, Radio Compartment	
0758933	SP	Cabinet, Rear Facing, LS, 26.75 W x 43 H x 23 D, Roll Ext Acc Only, SFR/Enf	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 26.75" wide x 43.00" high x 23.00" deep. The cabinet will include one (1) infinitely adjustable shelf with a 0.75" up-turned lippainted to match the cab interior. The cabinet will provide access only from outside the cab with one (1) Amdor rollup door painted to match the primary color of the cab exterior, locking with #751 key. The door will be located on the side of the cab over the wheelwell. The frame to frame opening will be 18.00" wide x 39.00" high. The minimum clear door opening will be 15.25" wide x 33.12" high. The cabinet will be constructed of smooth aluminum and painted to match the cab interior. Cabinet Light There will be one (1) Amdor H2O LED strip light installed on the left side of the exterior cabinet door opening and one (1) Amdor H2O LED strip light installed on the right side of the exterior cabinet door opening. The lighting will be controlled by an automatic door switch.
0102783		Not Required, Seat, Rr Facing C/C, Center	
0630150		Seat, Rear Facing C/C, PS Outboard, Pierce PSV, SCBA, 17" Btm, Safety, SFR/Enf	REAR FACING PASSENGER SIDE OUTBOARD SEAT There will be one (1) rear facing seat provided at the passenger side outboard 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 back style with 5 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.
0760131	SP	Cabinet, Forward Facing, LS, 36 W x 36.50 H x 16.25 D, Web, Sp Mtg, SFR/Enf	FORWARD FACING LEFT SIDE CABINET A forward facing cabinet will be provided in the crew cab located at the left side outboard position. The cabinet will be mounted approximately 13.50" above the crew cab floor so that the bottom of the cabinet matches the top of the center seat riser. The cabinet will be 36.00" wide x 36.50" high x 16.25" deep. The interior door will be web netting. The netting will be made with 1.00" wide nylon material with 2.00" openings. The nylon webbing will be permanently fastened at the inboard side of the cabinet and have 1.00" side release fasteners on the opposite side to secure it. The clear door opening of the cabinet will be 33.50" wide x 33.50" high. The cabinet will include three (3) infinitely adjustable shelves with a 0.75" up-turned lippainted to match the cab interior. The cabinet will be constructed of smooth aluminum and painted to match the cab interior. Cabinet Light There will be one (1) white Amdor LED strip light installed on the right side of the interior cabinet door opening and one (1) white Amdor LED strip light installed on the left side of the interior cabinet door opening. The lighting will be controlled by a rocker switch on the front of the cabinet.

0729812	SP	Seat, Fwd Fcng C/C, Ctr, (2) Valor,LS 95 D SCBA,RS IBack Fldp,17",Safety,Rsr,Enf	 S FORWARD FACING CENTER SEATS There will be two (2) forward facing, USSC Valor seats provided at the center position in the crew cab. For optimal comfort, the seats will be provided with a 17.00" deep foam cushion. The left side seat back will be an SCBA style with a 95 degree back. The SCBA cavity will be adjustable from front to rear in 0.75" 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 right side seat will be a foldup I-back style with an adjustable recline angle. The seat will include the following features incorporated into the side roll protection system: A seat safety system will be included. When activated, this system will pretension the seat belt. Shipped loose with the seat will be no additional contaminant mitigation vinyl covers. The seats will be furnished with a 3-point, shoulder type seat belt. CREW CAB FORWARD FACING SEAT RISER A seat riser compartment will be provided in the center forward facing position. The riser will be approximately 40.00" wide x 13.00" high x 24.63" deep with square corners. The seats will be mounted so when the cushions are in the folded down position the face of the cushions are as equal as possible. There will be a drop down access door provided on the front of the seat riser. The door will have a two (2) chrome locking flush lift and turn latches. There will be four (4) sets of louvers provided on the door and three (3) sets on each side of the riser. The riser will as possible.
0108190		Not Required, Seat, Forward Facing C/C, PS Outboard	
0761192		Cabinet, Sealed for Storage of Carcinogens, CARE	CAB CABINET SEALED There will be two (2) exterior access cabinet(s) sealed to keep carcinogens out of the cab. The cabinets to be sealed are RS rear facing, LS rear facing.
0629833		Compt, Storage, (2) Rear Facing, Overhead, 21 W x 10 H x 20 D, Saber FR/Enforcer	REAR FACING OVERHEAD STORAGE COMPARTMENT There will be two (2) overhead rear facing storage compartments installed at the raised roof within the crew cab, on each side of the air conditioner. The compartments will be approximately 21.00° wide x 10.00° high x 20.00° deep at the bottom. Each compartment will include one (1) lift up compartment door. Non-locking latch, paddle handle, and gas operated stay arms will be provided. The compartment will be constructed of smooth aluminum and painted to match the cab interior. Compartment Light The storage compartment lighting will consist of one (1) Whelen Fluorent Plus LED strip light installed horizontally above each compartment door opening.
0782746		Upholstery, Seats In Cab, All Vinyl, USSC, CARE	SEAT UPHOLSTERY All seat upholstery will be leather grain gray vinyl resistant to oil, grease and mildew. The cab will have five (5) seating positions.
0543991		Bracket, Air Bottle, Hands-Free II, Cab Seats	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 two (2) SCBA brackets.
0613020		Inserts, Back Rest For USSC SCBA Seats	BACK REST INSERTS Provided with the USSC SCBA seats will be back rest inserts which covers the SCBA cavity. The insert covers will be padded and covered with same material as the seat. A total of two (2) inserts covers will be provided.
0603866		Seat Belt, Dual Retractor, ReadyReach, Saber FR/Enforcer	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 NFPA 1901 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.

0647638 Lights, Dome, Weldon Dual LED 4 Lts CAB DOME LIGHTS There will be four (4) Weldon 808* series, dual LED dome lights with black bezi (2) lights will be mounted above the inside shoulder of the driver and officer and be installed and located, one (1) on each side of the crew cab. The color of the LED's will be controlled by the lens switch. The white LED's will be controlled by the lens switch. The color LED's will be controlled by the door switches and the lens switch. The color LED's will be controlled by the door switches and the lens switch. The color LED's will be controlled by the door switches and the lens switch. There will be two (2) additional rectangular based adjustable map light(s) with v installed in the cab and located installed in the cab and located forward on hear the driver and the officer. Each light will be connected directly to the battery switched power. 0732083 SP Handlts, (2) Streamlight Stinger HL Total Charging Housing. The light switch(es) will be connected directly to the battery switched power.	ack bezels provided. Two fficer and two (2) lights will ritch. s) with white LEDs on header, centered over ower.
0628471 Light, Map, Overhead, Peterson M371S LED, Rectangula w/Switch ADDITIONAL OVERHEAD MAP LIGHT There will be two (2) additional rectangular based adjustable map light(s) with w installed in the cab and located installed in the cab and located forward on head the driver and the officer Each light will include a switch on the light housing. The light switch(es) will be connected directly to the battery switched power. 0732083 SP Handlts, (2) Streamlight Stinger HL 75420 kit, 420, Charging Lighter HAND HELD LIGHT There will be two (2) 420, Streamlight Stinger Model 75420, kits with lights may	s) with white LEDs
0732083 SP Handlts, (2) Streamlight Stinger HL HAND HELD LIGHT	hts mounted one each
side, in the crew cab near the rear wall. Each kit to include a light and charger mount.	
0622803 Cab Instruments, Black Gauges, Black Bezels, Enforcer MUX CAB INSTRUMENTATION The cab instrument panel will be a molded ABS panel and include squage. The 1 Intelline indirance incrustors can de switches will be intellifed by a table panel. The 1, Intelline indirance incrustors can de switches seasy. The cab instruments and control intelline indirance incrustors will be a molded ABS panel and include squage. The Actuation of the heardight atvicts will illuminate the labels in low individues and conveniently located within the forward cab section, forward of the driver. The g and switch panels are designed to be removable for ease of service and low co Gauges The gauge panel will include the following ten (10) black faced gauges with bla monitor vehicle performance: Voltmeter gauge (volts): Low volts (11, 8 VCC) Amber caution indicator on the information center with intermittent alarm Amber caution indicator on the information center with a steady alarm Amber caution inglicit on gauge assembly. Very low volts (16, 8 VDC) Red warning indicator on the information center with a steady alarm Amber caution light on gauge assembly. Very low volts (16, 8 VDC) Red warning indicator on the information center with a steady alarm Amber caution indicator on the information center with a steady alarm Amber caution indicator on the information center with a steady alarm Amber caution indicator on the information center with a steady alarm Amber caution indicator on the information center with a steady alarm Amber caution indicator on the information center with steady alarm Amber caution indicator on the information center with steady alarm Amber caution indicator on the information center with steady alarm Amber caution indicator on the information center with a steady alarm Amber caution indicator on the information center with a steady alarm Amber caution indicator on the information center with a steady alarm Amber caution indicator on the information center with	<pre>yes, an LCD display, 1. The function of the cent to each item. nditions. Telltale indicator d controls will be r. The gauge assembly d low cost of ownership. with black bezels to n n m m m</pre>

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 optional air conditioning control panel: A control panel with membrane switches will be provided to control heater/defroster temperature and heater, defroster, and air conditioning fan speeds. A green LED status bar will indicate the relative temperature and fan speed settings.

Turn signal arm: A self-canceling turn signal with high beam headlight and windshield wiper/washer controls will be provided. The 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 port Roll sensor diagnostic port ABS diagnostic port Ad S diagnostic port ABS diagnostic port ABS di
0509511	Air Restriction Indicator, Imp/Vel, AXT, Dash CF, Enf MUX	AIR RESTRICTION INDICATOR A high air restriction warning indicator light LCD message with amber warning indicator and audible alarm will be provided.
0543751	Light, Do Not Move Apparatus	"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 steady tone alarm when the parking brake is released.

0754263	SP	Messages, Open Dr/DNMT, North Highline Pumper	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 Driver Cab Door Open (driver's door open) Driver Crew Dr Open (driver's side crew cab door open) Driver Crew Dr Open (driver's side extinguisher compartment cab) Driver Compt Door D3 (driver's side over wheel compartment) Driver Compt Door D1 (driver's side ever wheel compartment) Driver Compt Door D1 (driver's side rear compartment) Driver Compt Door D1 (driver's side nach compartment) Driver Hatch Compt (cargo area over tank) Driver Hose Bed Cover (hosebed cover) Officer Hose Bed Cover (passenger's side hose bed cover) Officer Hose Bed Cover (passenger's side cargo area over tank) Officer Hatch Compt (loar (passenger's side compartment) Rear Lower Door O2 (passenger's side rear compartment) Driver Compt Door O3 (passenger's side rear compartment) Officer Compt Door O4 (passenger's side cargo area over tank) Officer Compt Door D1 (passenger's side cargo area over tank) Officer Compt Door O2 (passenger's side cargo area over tank) Officer Compt Door O3 (passenger's side rear compartment) Driver Compt Door O3 (passenger's side rear compartment) Officer Compt Door O3 (passenger's side rear compartment) Officer Compt Door O3 (passenger's side rear compartment) Officer Crew Cab Aux (passenger's side rear compartment) Officer Crew Cab Aux (passenger's side rear compartment) Officer Crew Cab Aux (passenger's side forward compartment) Officer Crew Cab Aux (passenger's side rear compartment) Officer Crew Cab Aux (passenger's side rear compartment) Officer Crew Cab Aux (passenger's side crew cab door) Officer Crew Cab Aux (passenger's side crew cab door) Officer Crew Cab Aux (passenger's side crew cab door) Officer Crew Cab Aux (passenger's side crew cab
0611683		Switching, Cab Instrument Lower Console & Overhead, Membrane, Enforcer WiFi MUX	SWITCH PANELS The emergency light switch panel will have a master switch for ease of use plus individual switches for selective control. Each switch panel will contain eight (8) membrane-type switches each rated for one million (1,000,000) cycles. Panels containing less than eight (8) switch assignments will include non-functioning black appliqués. The built-in switch panels will be located in the lower console or overhead console of the cab. Additional switch panel(s) will be located in the overhead position(s) above the windshield or in designated locations on the lower instrument panel layout. The switches will be membrane-type and also act as an integral indicator light. For quick, visual indication the entire surface of the switch will be illuminated white whenever back lighting is activated and illuminated green whenever the switch is active. An active illuminated switch will flash when interlock requirements are not met or device is actively being load managed. For ease of use, a two (2)-ply, scratch resistant laser engraved Gravoply label indicating the use of each switch will be placed in the center of the switch. The label will allow light to pass through the letters for ease of use in low light conditions.
0644179		Wiper Control, 2-Speed with Intermittent, Saber FR/Enforcer	WIPER CONTROL Wiper control will consist of a two (2)-speed windshield wiper control with intermittent feature and windshield washer controls.
0591464		Wiring, Spare, 3 A 12V DC 1st	SPARE CIRCUIT There will be one (1) pair of wires, including a positive and a negative, installed on the apparatus. The above 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 protected to 3.0 amps at 12 volts DC. Power and ground will terminate behind the driver's seat. Termination will be with 3/8" studs and plastic covers. Wires will be sized to 125% of the protection. This circuit(s) may be load managed when the parking brake is set.
0548004		Wiring, Spare, 15 A 12V DC 1st	SPARE CIRCUIT There will be three (3) pair of wires, including a positive and a negative, installed on the apparatus. The above 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 protected to 15 amps at 12 volts DC Power and ground will terminate Power and ground shall terminate LS1, upper rear bulkhead, aft, in the corner, LS3, upper front bulkhead in the corner, RS1, upper rear bulkhead aft, in the corner. Termination will be with 3/8" studs and plastic covers Wires will be sized to 125 percent of the protection The circuit(s) may be load managed when the parking brake is set.

0548006	Wiring, Spare, 15 A 12V DC 2nd	SPARE CIRCUIT There will be two (2) pair of wires, including a positive and a negative, installed on the apparatus. The above 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 protected to 15 amps at 12 volts DC. Power and ground will terminate one in the DS FF EMS cabinet lower inboard corner in a metal box, one in the PS RF EMS cabinet lower inboard corner in a metal box Termination will be with 15 amp, power point plug with rubber cover. Wires will be sized to 125 percent of the protection. This circuit(s) may be load managed when the parking brake is set.
0548007	Wiring, Spare, 15 A 12V DC 3rd	SPARE CIRCUIT There will be one (1) pair of wires, including a positive and a negative, installed on the apparatus. The above 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 protected to 15 amps at 12 volts DC. Power and ground will terminate behind the officer's seat. Termination will be with 3/8" studs and plastic covers. Wires will be sized to 125 percent of the protection. This circuit(s) may be load managed when the parking brake is set.
0548015	Wiring, Spare, 30 A 12V DC 1st	SPARE CIRCUIT There will be one (1) pair of wires, including a positive and a negative, installed on the apparatus. The above 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 protected to 30 amps at 12 volts DC Power and ground will terminate behind the driver's seat Termination will be with 3/8" studs and plastic covers Wires will be sized to 125% of the protection This circuit(s) may be load managed when the parking brake is set.
0548016	Wiring, Spare, 30 A 12V DC 2nd	SPARE CIRCUIT There will be one (1) pair of wires, including a positive and a negative, installed on the apparatus. The above 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 protected to 30 amps at 12 volts DC. Power and ground will terminate officer side of center dash area (defroster plenum) Termination will be with heat shrinkable butt splicing. Wires will be sized to 125% of the protection. This circuit(s) may be load managed when the parking brake is set.
0548017	Wiring, Spare, 30 A 12V DC 3rd	 SPARE CIRCUIT There will be six (6) pair of wires, including a positive and a negative, installed on the apparatus. The above 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 protected to 30 amps at 12 volts DC. Power and ground will terminate Upper aft corners of each compartment. RS1, RS2, RS3, LS1, LS2, LS3. Termination will be with 3/8" studs and plastic covers. Wires will be sized to 125% of the protection. This circuit(s) may be load managed when the parking brake is set.
0560535	Wiring, Spare, 15 A 12V DC 4th	 SPARE CIRCUIT There will be one (1) pair of wires, including a positive and a negative, installed on the apparatus. The above 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 protected to 15 amps at 12 volts DC. Power and ground will terminate one officer's side dash per switch panel layout . Termination will be with 15 amp, power point plug with rubber cover. Wires will be sized to 125 percent of the protection. This circuit(s) may be load managed when the parking brake is set.
0790556	Wire, CAT 6, terminated, Spare, Qty, 1st	CAT 6 SPARE WIRE There will be two (2) CAT 6 network cable(s) installed in the apparatus. These cables will be terminated with male RJ-45 modular plug and boot on both ends. This wire will be routed from officer's dash with a service loop and extended to (1) behind the driver's seat hooked to customer supplied router (2) as a spare. This cable will not be connected to the vehicle electrical system.

0797189		Wiring, Spare, 4.8 A 12V DC, USB Termination Blue Sea 1045 1st	SPARE CIRCUIT There will be four (4) dual USB fast charge socket mounts installed on the apparatus. The above wires will have the following features: The positive wire will be connected directly to the battery power. The negative wire will be connected directly to the battery power. Wires will be protected to 4.8 amps at 12 volts DC. The USB socket mount will be (2) officer's dash area and (2) in the LS FF box on the CC back wall. Termination will be a Blue Sea Systems part number 1045 dual USB charger socket. Wires will be sized to 125% of the protection. This circuit(s) may be load managed when the parking brake is applied.
0680138		Switches, MUX Membrane, Outlined in Red	OUTLINE, RED, MUX SWITCHING There will be two (2) switch panel membrane switches outlined in red for identification purposes. The location of the switches will be Emergency master, (1) Siren brake.
0625260	SP	Labels, In Cab, All Passenger To Be Officer,	SWITCH LABELS Any switches that may be labeled passenger will be provided with labels that state Officer in place of in the cab.
0615386		Vehicle Information Center, 7" Color Display, Touchscreen, MUX	 NFORMATION CENTER An information center employing a 7.0° 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 185 degrees Fahrenheit An Optical Gel will be placed between the LCD and protective lens Five weather resistant user interface switches Grey with black accents Sunight 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 at evaring condition The redoxing of the advisor of the following 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: A ned background/text color will indicate a avaring condition The information center will utilize an "Alert Center" to display text messages for audible alarm to sound. If more than one (1) text message occurs, the messages will cycle every second util the problem (5) have been resolved. The background color of the "Alert Center" will change to indicate the severity of the "warning" message. If a warning and a caution condition occur symbol. Home/Transit Screen This screen will display the following: Vehice Mitigation (if equipped) Water Level (if the toam level system includes compatible communications to the information cente

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.

0734857		Collision Mitigation, HAAS Alert (R2V), HA5	COLLISION MITIGATION There will be a HAAS Alert®, Model HA5 Responder-to-Vehicle (R2V) collision avoidance system provided on the apparatus. The HA5 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 degree C to 85 degree C. 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 HA5 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 HA5 transponder sends road hazard alerts to motorists in the vicinity of the truck that are equipped with the WAZE app. The HA5 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.
0774883	SP	Vehicle Data Recorder w/CZ Display Seat Belt Monitor, Delay	 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 - On/Off Seat Belt Monitoring System (SBMS) will be provided on the color display. The SBMS will be capable of monitoring system (SBMS) will be provided on the color display when: The base the monitoring screen wi
0606226		Signal, Recordable, VDR, Silence Alarm, AXT MUX, DCF, SFR/Enf, Imp/Vel, Qtm	Vehicle Data Recordable Input When the VDR is active, the seat belt monitoring system alarm will be silenced through the standard silence alarm switch. The alarm will chirp in intervals to remind the operator that an alarm is still sounding.
0602598		Intercom, Firecom 5100D Single Radio, 1 Wireless Base Station, 1-5 Wireless	INTERCOM SYSTEM There will be digital, single radio interface, intercom located officer's side overhead in the cab. The front panel will have master volume, and squelch controls with illuminated indicators, allowing for independent level setting of radio and auxiliary audio devices. There will be one (1) radio listen only / transmit control with select, monitor, receive, and transmit indicators. There will be one (1) auxiliary audio input with select, and receive indicators. There will be one (1) wireless base station for up to five (1-5) headset users provided. The wireless base station will have a 100' to 1100' range, line of sight. Objects between the transmitter and receiver affect range. The following Firecom components will be provided: One (1) 5100D Intercom One (1) WB505R wireless base station (1-5 wireless positions) All necessary power and station cabling
0006240		Cable, Radio to Intercom Interface, Firecom, 1 Radio	RADIO / INTERCOM INTERFACE CABLE The apparatus manufacturer will supply and install one (1) radio interface cable before delivery of the vehicle. The radio equipment to be used by the customer will be: Motorola High Power , Model number Motorola, Model XTL-5000,.

0602376	Headset, Firecom, Wireless, UHW- 505 Under Helmet, Radio Transmit	WIRELESS UNDER HELMET, RADIO TRANSMIT ONLY HEADSET There will be four (4) Firecom [™] , Model UHW-505, wireless under the helmet, radio transmit headset(s) provided. A heavy duty, coiled 12 volt charging pigtail with plug will be provided driver's seat, officer seat, passenger's side outboard rear facing seat and center forward facing seat in the crew cab. Each headset will feature: Noise cancelling electric microphone Flexible microphone boom Ear seals with 20 dB noise reduction Stereo Listen-Through Ear dome microphones Radio Push To Transmit button (Left or Right Side) Rechargeable battery operates for 24 hours on a full charge IP-66 when worn
0681408	Hangers For Headsets, NFPA, Each	HEADSET HANGERS There will be four (4) headset hanger(s) installed driver's seat, officer's seat, passenger's side outboard rear facing seat and rear, center, forward facing seat. The hanger(s) will meet NFPA 1901, Section 14.1.11, requirement for equipment mounting.
0698805	Bracket, Johnny Ray, Heavy Duty Swivel, 14 lb. Rating	BRACKET, JOHNNY RAY A Johnny Ray, Model JR-207, radio swivel bracket rated for 14 lbs. will be provided and installed one to be on the dog house mounting provision, #1 - 8" from the right edge, 11" from the front edge for siren & Q2B button/siren brake in a box.
0640003	Install Customer Provided Modem	MOBILE RADIO MODEM INSTALLATION There will be one (1) customer supplied modem(s) sent to the apparatus manufacturers preferred installer to be installed behind the driver's seat. Specific shipping requirements will be followed.
0616382	Install Customer Provided GPS/Multimode Antenna(s)	GPS / MULTIMODE ANTENNA INSTALLATION There will be two (2) customer supplied GPS / Multimode antenna(s) with stud mount for thick roof material to be installed on the roof. The antenna coax cable(s) will be run per the packing list / instructions provided to the third party installer. Specific shipping requirements will be followed. The GPS / Multimode antenna will be sent to the apparatus manufacturers preferred installer prior to cab fabrication.
0559156	Install Customer Provided Two-Way Radio(s)	TWO WAY RADIO INSTALLATION There will be two (2) customer supplied two way radio(s) sent to the apparatus manufacturers preferred radio installer to be installed TBD per the shipping document. No antenna mount or whip will be included in this option. Specific radio shipping requirements will be followed.
0694166	Antenna Mount, Larsen NMOKHFUDTHK, 0-6000MHz	RADIO ANTENNA MOUNT There will be two (2) Larson, model NMOKHFUDTHK, 0-6000MHz NMO style antenna mounting base(s) with weatherproof cap(s) and 17 feet of RG58A/U dual shield coax located on the cab roof lower section of cab roof, one DS and one centered. The cable(s) will be routed behind the driver's seat.
0537041	Camera, Safety Vision, Driver Mux, Multiple Cameras	VEHICLE CAMERA SYSTEM There will be a color vehicle camera system provided. There will be color cameras located on the driver side of the cab activated with the left turn signal and passenger side of the cab activated with the right turn signal and at the rear of the vehicle, as close to center as possible, activated when the vehicle is put into reverse The camera images will be displayed on the provided apparatus driver's vehicle information center display. Audio from the rear camera will be via an amplified speaker with volume control located behind the driver seat. Safety Vision components will include: One (1) 620 color rear camera 622 color side camera(s) as defined above All necessary cables
0615111	Pierce Command Zone, Advanced Electronics & Control System, Diag LEDs, Enf, WiFi	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. All distribution centers uplying 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 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 re programmable to accommodate changes to the vehicle's operating parameters

Complete operating and troubleshooting manuals

USB connection to the main control module for advanced troubleshooting

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 -40C to +70C Storage temperature from -40C to +70C

Vibration to E0g

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 16 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 ADVANCED/VISUAL 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

All control system modules, with the exception of the main control module, will contain on-board visual diagnostic LEDs that assist in troubleshooting. The LEDs will be enclosed within the sealed, transparent module housing near the face of the module. One LED for each input or output will be provided and will illuminate whenever the respective input or output is active. Color-coded labels within the modules will encompass the LEDs for ease of identification. The LED indicator lights will provide point of use information for reduced troubleshooting time without the need for an additional computer.

TECH 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 provide an external antenna connection 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 data logging 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 logger will provide up to 2 Gigabytes of data storage.

A USB connection will be provided on the Tech Module. It will provide a means to download data logger information and update software in the device.

PROGNOSTICS

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

The system will send automatic indications to the Command Zone, color display and/or wireless enabled device to proactively alert of upcoming service intervals.

Prognostics will include:

Engine oil and filter

Transmission oil and filter

Pump oil (if equipped)

Foam oil (if equipped)

Aerial oil and filter (if equipped) ADVANCED DIAGNOSTICS

An advanced, Windows-based, diagnostic software program will be provided for this control system. The software will provide troubleshooting tools to service technicians equipped with a Windows-based computer or wireless enabled device.

The service and maintenance software will be easy to understand and use and have the ability to view system input/output (I/O) information.

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. **POWER AND GROUND STUDS**

Spare circuits will be provided in the primary distribution center for two-way radio equipment. The spare circuits will consist of the following:

One (1) 12-volt DC, 30 amp battery direct spare

One (1) 12-volt DC ground and un-fused switched battery stud located in or adjacent to the power distribution center

ENHANCED SOFTWARE

The solid-state control system will include the following software enhancements:

All perimeter lights and scene lights (where applicable) will be deactivated when the parking brake is released.

Cab and crew cab dome lights will remain on for ten (10) seconds for improved visibility after the doors close. The dome lights will dim after ten (10) seconds or immediately if the vehicle is put into gear.

Cab and crew cab perimeter lights will remain on for ten (10) seconds for improved visibility after the doors close. The dome lights will dim after ten (10) seconds or immediately if the vehicle is put into gear.

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.

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.

0624253

Electrical System, Enforcer MUX

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:

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.

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.

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.

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).

All lights that have their sockets in a weather exposed area will have corrosion preventative compound added to the socket terminal area.

All electrical terminals in exposed areas will have silicon (1890) 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.

0079166		Batteries, (4) Exide Grp 31, 950 CCA ea, Threaded Stud	BATTERY SYSTEM There will be four (4) 12 volt 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 3800 CCA at 0 degrees Fahrenheit 760 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.
0008621		Battery System, Single Start, All Custom Chassis	 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.
0002698		Battery Compartment, Saber/Enforcer	 BATTERY COMPARTMENTS Batteries will be placed on non-corrosive mats and stored in well ventilated compartments located under the cab. 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.
0671694		Charger, Sngl Sys, Kussmaul, 1200, 091-187-12-Remote w/091-194-IND- WT-** 40A	BATTERY CHARGER There will be a Kussmaul 1200, Model 091-187-12-Remote, battery charger provided. A Kussmaul, Model 091-194-IND-WT-**, water tight auto charge status center indicating the state of charge will be included. The color of the charge indicator will be red. The charger will have a maximum output of 40 amps and a fully automatic regulation. The battery charger will be wired to the AC shoreline inlet through an AC receptacle adjacent to the battery charger.
0749901	SP	Location, Charger, Crew Cab Forward Facing Seat Riser, Center Position	The battery charger will be located in the crew cab forward facing seat riser in the center position.
0530949		Location, Bat Chrg Ind, Driver's Seat Riser	The battery charger indicator will be located on the driver's seat riser.
0016857		Shoreline, 20A 120V, Kussmaul Auto Eject, 091-55-20-120, Super	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 battery charger, electrical receptacles. 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 Ratting (amps) Phase Frequency
0026800		Shoreline Location	The shoreline receptacle will be located on the driver side exterior of cab, behind crew cab door.
0792338	SP	Cover, Aluminum, Inlet, with Side Access Panel	COVER, ALUMINUM FOR SHORELINE INLET There will be a smooth aluminum cover with removable side cover installed inside the cab around the shoreline inlet. The removable cover will be used for maintenance access.

0647728		Alternator, 430 amp, Delco Remy 55SI	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.
0092582		Load Manager/Sequencer, MUX	 ELECTRONIC LOAD MANAGER An electronic load management (ELM) system will be provided that monitors the vehicles 12-volt electrical system, automatically restoring the shed electrical loads when 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 Ide 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 subment by provided that automatically activates and deactivates vehicle loads in a preset sequence thereby protecting the alternator from power surges. This sequence 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 i
0783157		Headlights, Rect LED, JW Spkr Evo 2, Heat, AXT/DCF/Enf/Imp/Sab/Vel	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 headlight to include black bezels and black mounting screws 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.
0758302	SP	Light, Directional, WIn 600 Cmb, Cab Crn, Wrp Bzl Out HD Lts, Enf, Sab, Blk Trim	DIRECTIONAL LIGHTS There will be two (2) Whelen®, 600 series, LED combination directional/marker lights provided. The lights will be located on the outside cab corners, next to the headlights, in two (2) triple light black wrap around housings. The color of the lenses will be the same color as the LED's.
0620054		Light, Directional/Marker, Intermediate, Weldon 9186-8580-29 LED 2lts	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.

0618946		Light, Directional/Marker, Weldon 9186-8580-29 LED	ADDITIONAL DIRECTIONAL/MARKER LIGHT There will be two (2) pair(s) of Weldon, Model 9186-8580-29, amber LED lights provided, one (1) each side located side of cab above steer axle, one on each side. The light will double as a turn signal and marker light.
0647802		Lights, Clearance/Marker/ID, Front, P25 LED 5 Lts, Saber FR/Enforcer	CAB CLEARANCE/MARKER/ID LIGHTS There will be five (5) amber LED lights provided to indicate the presence and overall width of the vehicle in the following locations: Three (3) amber LED identification lights will be installed in the center of the cab above the windshield. Two (2) amber LED clearance lights will be installed, one (1) on each outboard side of the cab above the windshield.
0625210		Lights, Directional, Cab Front Side, Truck-Lite 19036Y LED, AXT/Enf	FRONT CAB SIDE CLEARANCE/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 additional directional lights with the corresponding directional circuit.
0563675		Lights, Clearance/Marker/ID, Rear, Truck-Lite 33050R LED 7Lts	REAR CLEARANCE/MARKER/ID LIGHTING There will be three (3) Truck-Lite®, Model 33050R, LED lights used as identification lights recessed and located at the rear of the apparatus 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) Truck-Lite, Model 33050R, LED lights recessed 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 All at the same height There will be two (2) Truck-Lite, Model 33050R, LED lights recessed on the side of the apparatus as marker lights as close to the rear as practical per the following: To be visible from the rear All at the same height There will be two (2) Truck-Lite, Model 33050R, LED lights recessed on the side of the apparatus 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 There will be two (2)
0564683		Lights, Tail, WIn M6BTT* Red LED Stop/Tail & M6T* Amber LED Dir Arw For Hsg	REAR FMVSS LIGHTING The rear stop/tail and directional LED lighting will consist of the following: Two (2) Whelen®, Model M6BTT, red LED stop/tail lights Two (2) Whelen, Model M6T, amber LED arrow turn lights The lights will be provided with color lenses. The lights will be mounted in a polished combination housing.
0561471		Lights, Backup, Wln M6BUW, LED, For Tail Lt Housing	There will be two (2) Whelen Model M6BUW, LED backup lights provided in the tail light housing.
0664481		Bracket, License Plate & Light, P25 LED	LICENSE PLATE BRACKET There will be one (1) license plate bracket mounted on the rear of the body. 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.
0794744		Bezels, Wln, (2) M6 Black Pierce, For mtg (4) Wln M6 lights	LIGHTING BEZEL There will be two (2) Whelen®, four (4) place black housings provided for the rear M6 series stop/tail, directional, back up, scene lights or warning lights.
0613816	SP	Alarm, Back-up Warning, Brigade SA- BBS-97	BACK-UP ALARM There will be a Brigade Model SA-BBS-97 self adjusting medium duty 77 to 97 decibels back up alarm provided that actuates when the apparatus chassis transmission is shifted into reverse.

0687604		Lights, Perimeter Cab, Truck-Lite 6060C LED 4Dr, Grommet Mt	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.
0616833		Lights, Perimeter Pump House, Truck-Lite 6060C LED 4lts	PUMP HOUSE PERIMETER LIGHTS There will be four (4) Truck-Lite, Model 6060C, 6.00" x 2.00" oval white LED lights with Model 60700, grommets provided. The lights will be mounted in the following locations: One (1) light will be provided under the driver's side top mount pump panel access step One (1) light will be provided under the driver's side pump panel running board One (1) light will be provided under the passenger's side pump panel running board One (1) light will be provided under the passenger's side top mount pump panel access step The lights will be controlled by the same means as the body perimeter lights.
0683575		Lights, Perimeter Body, Truck-Lite 6060C LED 2ts, Rear Step	BODY PERIMETER SCENE LIGHTS There will be two (2) Truck-Lite, Model 6060C, white LED lights with grommets provided under at the rear step area of the body, one (1) each side shining to the rear. The perimeter scene lights will be activated when a switch within reach of the driver is activated, the parking brake is applied and the reverse signal activated, activating all the side facing perimeter lights.
0533430		Lights, Perimeter, Truck-Lite 6060C LED Grommet Mnt	ADDITIONAL PERIMETER LIGHTS There will be five (5) lights in addition to the normal body perimeter lights installed immediately below and rearward of the front bumper, one (1) under D1, D3, P1 & P3. These additional lights will be Truck-Lite, Model 6060C, 6.00" oval white LED light(s) with rubber grommet(s).
0566799		Lights, Step, P25 LED 4lts, Ign, Prk Brk Activated	STEP LIGHTS There will be four (4) white LED, step lights provided. One (1) step light will be provided on each side, on the front compartment face and two (2) step lights at the rear to illuminate the tailboard. In order to ensure exceptional illumination, each light will provide a minimum of 25 foot-candles (fc) covering an entire $15" \times 15"$ square placed ten (10) inches below the light and a minimum of 1.5 fc covering an entire $30" \times 30"$ square at the same ten (10) inch distance below the light. These step lights will be actuated when the ignition switch is on and the parking brake is set. All other steps on the apparatus will be illuminated per the current edition of NFPA 1901.
0511749		Light, Step, Additional, P25 LED	ADDITIONAL STEP LIGHT Additional lighting will be provided by white LED step lights. The step lights will be installed to be on the back exterior wall of the cab, 3-4 inches down from the roof, facing downward for additional light on the back wall of the cab (over SS panel). Put them directly over the two that come as standard to light the top control pump panel walk over. The quantity of additional step lights will be two (2) lights. 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 additional step lights will be activated by the same means as the standard step lights.
0774927	SP	Bracket, 2" Offset Bracket for WIn Lights On Back Of Cab, IPO Standard, Location	2" OFFSET BRACKET The two (2) lights telescoping light(s) on the driver's and passenger's side will have the 2" short mount bracket.
0640941		Light, WIn, 12V PCPSM2* Pioneer LED Fld/Spt, Surface Mnt 2nd	12 VOLT LIGHTING There will be one (1) Whelen, Model PCPSM2*, 12 volt surface mounted LED combination spot/flood light(s) located PS cab between doors, high. The lights will be mounted with black flange(s). The light(s) selected above will be controlled by the following: a switch at the passenger's side switch panel no additional switch location a switch at the driver's side pump panel no additional switch location These light(s) may be load managed when the parking brake is set.
0640991		Light, Wln, 12V PCPSM2* Pioneer LED Fld/Spt, Surface Mnt 1st	12 VOLT LIGHTING There will be one (1) Whelen, Model PCPSM2*, 12 volt surface mounted LED combination spot/flood light(s) located DS cab between doors, high. The lights will be mounted with black flange(s). The light(s) selected above will be controlled by the following: a switch at the driver's side switch panel a switch at the pump operator's panel a switch at the passenger's side switch panel no additional switch location These light(s) may be load managed when the parking brake is set.

0792512	Light, Roof Mt, HiViz, FT-B-X-72-*-*, Cnt Feature, Mux	12 VOLT LIGHTING There will be a HiViz Model FT-B-X-72-*-*, 2.56" high x 72.00" long x 3.31" deep 21,251.57 effective lumens 12 volt DC LED light provided on the front cab roof as far forward as practical. The light will include white scene LEDs. The white LEDs will be configured with a combination of flood and spot optics. The painted parts of the light housing and brackets to be black. The scene LEDs will be activated by a switch at the driver's side pump panel, by a switch at the driver's side switch panel with a progressive switch to control the intensity and by a switch at the passenger's side switch panel with a progressive switch to control the intensity. The white LEDs may be load managed when the parking brake is applied.
0774948	Lights, Wln, P*H1* Pioneer, 12 VDC, 2nd	12 VOLT DC SCENE LIGHTS There will be one (1) Whelen® Model P*H1*, 8,875 lumens 12 volt DC powered lights with white LEDs and flood optics installed on the apparatus located, over the officer's door at a 45 degree angle from the side of the truck and behind the lightbar. The light(s) to be installed on adjustable bail bracket(s). The painted parts of this light assembly to be black. The lights will be activated by a switch at the driver's side switch panel and by a switch at the passenger's side switch panel. The light(s) may be load managed when the parking brake is applied.
0775524	Lights, Wln, P*H1* Pioneer, 12 VDC, 1st	12 VOLT DC SCENE LIGHTS There will be one (1) Whelen® Model P*H1*, 8,875 lumens 12 volt DC powered lights with white LEDs and flood optics installed on the apparatus located, at a 45 degree angle from the side of the driver's side, over the driver's door and behind the lightbar. The light(s) to be installed on adjustable bail bracket(s). The painted parts of this light assembly to be black. The lights will be activated by a switch at the driver's side switch panel and by a switch at the passenger's side switch panel. The light(s) may be load managed when the parking brake is applied.
0766905	Lights, WIn, PCPSM1*, Pioneer, 12 VDC, 2nd	12 VOLT LIGHTING There will be two (2) Whelen® Model P*H1*, 8,000 lumens 12 volt DC surface mount light(s) installed on the body of the apparatus located, one (1) high and forward on passenger's side body and one (1) high and rearward on passenger's side body. The light(s) will include black housing(s) with a black cover. The light(s) will be controlled by a switch at the driver's side switch panel, by a switch at the driver's side pump panel, by a switch at the passenger's side switch panel and by a switch at the passenger's side pump panel. The light(s) may be load managed when the parking brake is applied.
0766906	Lights, WIn, PCPSM1*, Pioneer, 12 VDC, 1st	12 VOLT LIGHTING There will be two (2) Whelen® Model PCPSM1*, 8,000 lumens 12 volt DC surface mount light(s) installed on the body of the apparatus located, one (1) high and forward on driver's side body. The light(s) will include black housing(s) with a black cover. The light(s) will be controlled by a switch at the driver's side switch panel, by a switch at the driver's side pump panel, by a switch at the passenger's side switch panel and by a switch at the passenger's side pump panel. The light(s) may be load managed when the parking brake is applied.
0631374	Lights, Deck, Wln (2) MPPBCS Micro Pioneer LED Rear Flood Lights	DECK LIGHTS There will be two (2) Whelen®, Model MPPBCS, black with chrome housing 12 volt DC LED floodlights with on/off switch. Each light will be provided with a low profile pedestal/swivel mount provided at the rear of the hose bed, one (1) each side. The lights will be activated by a switch at the driver's side switch panel and by a switch in a recessed cup located at the driver's side rear bulkhead.
0645676	Lights, Not Required, Hose Bed, Deck Lights At Rear	
0768541	Light, Hose Bed, Amdor AY-LB- 12HW040, 40" LED	HOSE BED LIGHT There will be two (2) Amdor Model AY-LB12HW040, 700 lumens, 40.00" LED light located front hose bed wall and storage area forward of hose bed, front wall. The light(s) will be activated when the battery switch is on, and by a cup switch at the rear of the apparatus no more than 72.00" from the ground and by a switch located at the driver's side pump panel.
0645681	Lights, Not Required, Rear Work, Deck Lights At Rear	

0794961		Lights, Walk Surf, 8-P25 LED, Hose Bed Cover, Overall Height Restrictions	WALKING SURFACE LIGHT There will be eight (8) 12 volt DC LED lights provided on the hose bed cover to illuminate the walking surface. The lights will be located near the hose bed cover hinges evenly spaced four (4) on each side. The lights will be activated when the body step lights are on.
0677882		Switch, Connected to Accessory Compartment (Door Open/Do Not Move Lt)	SWITCH, COMPARTMENT A door switch will be added to all four wheel well compartments for extinguishers, SCBA bottles or SCBAs compartment door(s). The switch will be connected to the "Door Open Circuit" and the "Do Not Move Apparatus" light in the cab. A quantity of four (4) switches will be provided.
0060101		Pumper, Short, Aluminum, 2nd Gen	
0554271		Body Skirt Height, 20"	
0028294		Tank, Water, 500 Gallon, Poly, Short	 WATER TANK Booster tank will have a capacity of 500 gallons and be constructed of polypropylene plastic by United Plastic Fabricating, Incorporated. Tank joints and seams will be nitrogen welded inside and out. Tank will be baffled in accordance with NFPA bulletin1901 requirements. Baffles will have vent openings at both the top and bottom to permit movement of air and water between compartments. Longitudinal partitions will be constructed of .38" polypropylene plastic and will extend from the bottom of the tank through the top cover to allow for positive welding. Transverse partitions will extend from 4.00" off the bottom of the tank to the underside of the top cover. All partitions will interlock and will be welded to the tank bottom and sides. Tank top will be constructed of 50" polypropylene. It will be recessed .38" and will be welded to the tank sides and the longitudinal partitions. Tank top will be sufficiently supported to keep it rigid during fast filling conditions. Construction will include 2.00" polypropylene dowels spaced no more than 30.00" apart and welded to the transverse partitions. Two (2) of the dowels will be drilled and tapped (.50" diameter, 13.00" deep) to accommodate lifting eyes. A sump that will be sized dependent on the tank to pump plumbing will be provided at the bottom of the water tank. Sump will include a drain plug and the tank outlet. Tank will 'float' in cradle to avoid torsional stress caused by chassis frame flexing. Rubber cushions, .50" thick x 3.00" wide, will be placed on all horizontal surfaces that the tank rests on. Stops or other provision will be provided to property and molecular tables. Sufficient 'in cradle to avoid torsional stress caused by chassis frame flexing. Rubber cushions, .50" thick x 3.00" wide, will be placed on all horizontal surfaces that the tank rests on. Stops or other provision will be provide
0003405		Overflow, 4.00" Water Tank, Poly	Fill tower will be constructed of .50" polypropylene and will be a minimum of 8.00" wide x 14.00" long. Fill tower will be furnished with a .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.
0028104		Foam Cell Required	
0788273	SP	Drain, Tank, Akron - 1.00", Mounted to Sump Only	TANK DRAIN A 1.00" tank drain will be installed with a 1.00" Akron ball valve installed on the water tank sump.
0648352		UPF Poly Tank III Features, Color Coded Domes-Water/Foam Tank 1, Tanknology Tag	TANK FILL DOMES - COLOR CODED The tank domes (water tank and foam tank) will be color coded for easy identification. The water tank will be provided with a blue water fill dome. Foam tank #1 will be provided with a green foam tank fill dome. Additionally, a tag will be provided with a Quick Response (QR) code. When scanned with a smart phone, tank specific information (in addition to the information already provided on the tag) will be displayed.
0795117		Modified Poly Tank, Raised Tee, Both Sides	
0553729		Not Required, Restraint, Water Tank, Heavy Duty	
0003429		Not Required, Direct Tank Fill	

0003424		Not Required, Dump Valve	
0048710		Not Required, Jet Assist	
0030007		Not Required, Dump Valve Chute	
0514778		Not Required, Switch, Tank Dump Master	
0126633		Hose Bed, Aluminum, Pumper	HOSE BED The hose bed will be fabricated of .125"-5052 aluminum with a nominal 38,000 psi tensile strength. Upper and rear edges of side panels will have a double break for rigidity. The upper inside area of the beavertails will be covered with brushed stainless steel to prevent damage to painted surface when hose is removed. Flooring of the hose bed will be removable aluminum grating with the top surface corrugated to aid in hose aeration. The grating slats will be a minimum of 0.50" x 4.50" with spacing between slats for hose ventilation.
0003481		Hose Bed Capacity, Special	Hose bed will accommodate (1)200' x 2.50", (2)200'x1.75", (3)150'x1.75", (4)150'x 1.75", (5)400'x2.5" (2stacks), (6)1000'x5" (4stacks).
0073494		Not Required, Divider, Hose Bed	
0006367	SP	Compt, Backboard, Vertical in Hose Bed	BACKBOARD STORAGE COMPARTMENT A storage compartment for backboard(s), will be located on the on the passenger's side of the hose bed. The backboard compartment will consist of a permanent hose bed divider and a Velcro® strap. The backboard(s) will be stored vertically in a stainless steel trough. The trough will be sized to hold 72" x 18" x 3" (confirm with customer).
0526260		Cross-divider, Hose Bed, Location	A cross-divider will be provided hosebed to be approx 97" long and the dunnage to be approx 38" front to back. The divider will be bolted to the side sheet.
0767998	SP	Divider, Hose Bed, .25" Sheet, Unpainted, Handhold Cutout, Special Height	HOSE BED DIVIDER ADDITIONAL There will be five (5) additional hose bed dividers furnished. Each divider will be constructed of a .25" brushed aluminum sheet and 30" (both sides of Bed #6) - hand holds to be at same height as other dividers inches tall. An oval opening will be provided near the rear of the divider to be used as a hand hold and aid in accessing the hose bed. Divider will be fully adjustable by sliding in tracks, located at the front and rear of the hose bed. Divider will be held in place by tightening bolts, at each end. Acorn nuts will be installed on all bolts in the hose bed which have exposed threads. Flat surfaces will be sanded for uniform appearance or constructed of brushed aluminum.
0729492		Cover, Hose Bed, Alum Treadplate, Bolted T-Bar, Electric Actuated	 HOSE BED COVER ELECTRIC ACTUATOR A two (2) section hose bed cover, constructed of .125" bright aluminum treadplate will be furnished. The cover will be hinged with full length stainless steel piano hinge. The sides will be slanted down with the center of the cover supported by a modular stationary bridgework support. The cover will be reinforced so that it can support the weight of a man walking on the cover. The cover is designed with the left cover opening first. A pneumatic gas spring assist will be installed at the rear of the covers to help support and stabilize the cover throughout its range of motion. If access to water tank fill tower is blocked by the hose bed cover, then a hinged door will be provided in it so that tank may be filled without raising cover doors. Chrome grab handles and two (2) (one (1) each side) electric linear actuator with brake cylinders will be provided to assist in opening and closing the cover. A rubber-covered momentary toggle switch will be provided for each actuator that controls the opening and closing of the cover are not required to secure the cover in the nested position. A handrail will be provided at the rear, in the center of the support, to assist in climbing up the back of the truck.
0633300	SP	Flap, Rear of Alum Hose Bed Cover, Two Piece, Vinyl, w/Feature Selection	HOSEBED END FLAP A pair of black vinyl flaps will be installed on the rear, one for each of the aluminum treadplate hose bed covers. Each vinyl flap will have three (3) nylon tie down straps, with 2.00" side release will be attached to the flaps. These vinyl end skirts will be installed directly to the hosebed frame.

0658647	SP	Patch, Vinyl, Removable for Lettering/Numerals	PATCH FOR LETTERING/NUMERALS A black vinyl patch will be provided to allow lettering/numerals to be stitched to it. The patch will be installed rear flap with Velcro® allowing the patch to be removable.
0733873	SP	Lettering, Hose Bed Rear Flap, Reflective, On Vinyl Patch	LETTERING, VINYL PATCH The lettering designation on the vinyl patch will be RRFA. There will be white reflective lettering provided on the patch. There will be four (4) letters provided. The reflective lettering will be approximately 16.00" high. The layout of the lettering will be straight.
0695399		Running Boards, 14.75" Deep, Front and Rear 45 Degree Corners	RUNNING BOARDS Running boards will be fabricated of .125" bright aluminum treadplate. Each running board will be supported by a welded 2.00" square tubing and channel assembly, which will be bolted to the pump compartment substructure. Running boards will be 14.75" deep and spaced .50" away from the pump panel. The front and rear outside corner of the running board will be finished with a 45 degree corner where it lines up with the body. A splash guard will be provided above the running board treadplate.
0685059		Tailboard, 8" Deep	TAILBOARD The tailboard will also be constructed of .125" bright aluminum treadplate and spaced .50" from the body, as well as supported by a structural steel assembly. The tailboard area will be 8.00" deep. The exterior sides will be flanged down and in for increased rigidity of tailboard structure.
0690037		Wall, Rear, Smooth Aluminum/Body Material	REAR WALL, SMOOTH ALUMINUM/BODY MATERIAL The rear facing surfaces of the center rear wall will be smooth aluminum. The bulkheads, the surface to the rear of the side body compartments, will be smooth and the same material as the body. Any inboard facing surfaces below the height of the hosebed will be aluminum diamondplate.
0003531		Tow Bar, Under Tailboard	TOW BAR A tow bar will be installed under the tailboard at center of truck. Tow bar will be fabricated of 1.00" CRS bar rolled into a 3.00" radius. Tow bar assembly will be constructed of .38" structural angle. When force is applied to the bar, it will be transmitted to the frame rail. Tow bar assembly will be designed and positioned to allow up to a 30-degree upward angled pull of 17,000 lb, or a 20,000 lb straight horizontal pull in line with the centerline of the vehicle. Tow bar design will have been fully tested and evaluated using strain gauge testing and finite element analysis techniques.
0625346		Holes, Drain, Floor of Running Board Hose Trays, Location/Size	DRAIN HOLES Two (2) hose traysone (1) in each side running board will be provided with drain holes. The drain holes will be in 1 inch in size and located 8 holes, evenly spaced within the tray.
0760065	SP	Step, Folding, Chrome, w/LED, Signature 4, Running Board Hose Tray	ADDITIONAL FOLDING STEPS There will be four (4) additional folding steps supplied and installed on the outboard side of theDS hose tray, on the forward outside surface, PS hose tray on the forward outside surface runningboard hose tray(s). The step(s) will be bright finished, non-skid with a chrome finish. Each step will incorporate an LED light to illuminate the stepping surface. The step(s) can be used as a hand hold with one opening wide enough for a gloved hand.
0590926		Hose Restraint, Running Board, Velcro Straps	RUNNING BOARD HOSE RESTRAINT A pair of 2.00" wide black nylon straps with Velcro fasteners will be provided for each hose tray to secure the hose during travel. There will be Two (2) hose trays located one (1) in each side running board.
0766581	SP	Tray, Hose, Running Board, Special Size, Special Reinforcement Plate	HOSE TRAY Two (2) hose trays will be recessed one (1) in each side running board. The size of the tray will be 42" in length, 9" in width, 11.5" in depth A .25" thick aluminum reinforcement will be provided welded to the inside of the hose tray, outside wall, forward end, to provided support for the folding steps to be attached at that location on both sides of truck. Rubber matting will be installed on the floor of the tray to provide proper ventilation.
COMPARTMENTATION

Body and compartments will be fabricated of .125", 5052-H32 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. Side compartment flooring will be of the sweep out design with the floor higher than the compartment door lip.

The side compartment door opening will be framed by flanging the edges in 1.75" and bending out again .75" to form an angle.

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.

Front facing compartment walls will be covered with bright aluminum treadplate. All screws and bolts which protrude into a compartment will have acorn nuts on the ends to prevent injury

UNDERBODY SUPPORT SYSTEM

Due to the severe loading requirements of this pumper a method of body and compartment support suitable for the intended load will be provided.

The backbone of the support system will be the chassis frame rails which is the strongest component of the chassis and is designed for sustaining maximum loads. The support system will include .375" thick steel vertical angle supports bolted to the chassis

frame rails with .625" diameter bolts.

Attached to the bottom of the steel vertical angles will be horizontal angles, with gussets welded to the vertical members, which extend to the outside edge of the body.

A steel frame will be mounted on the top of these supports to create a floating substructure which will result in a 500 lb equipment support rating per lower compartment.

The floating substructure will be separated from the horizontal members with neoprene elastomer isolators. These isolators will reduce the natural flex stress of the chassis from being transmitted to the body.

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 neoprene isolators will be installed in a modified V three (3)-point mounting pattern to reduce the natural flex of the chassis being transmitted to 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

Louvers will be stamped into compartment walls to provide the proper airflow inside the body compartments and to prevent water from dripping into the compartment. Where these louvers are provided, they will be formed into the metal and not added to the compartment as a separate plate.

TESTING OF BODY DESIGN

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

Evidence of actual testing techniques will be made available upon request.

LEFT SIDE COMPARTMENTATION

The left side compartmentation will consist of three rollup door compartments.

A full height, rollup door compartment ahead of the rear wheels will be provided. The interior dimensions of this compartment will be 27.50" wide x 66.63" high x 25.88" deep in the lower 25.00" of the compartment and 12.00" deep in the remaining upper portion. The clear door opening will be a minimum of 21.75" wide x 56.88" high.

A rollup door compartment over the rear wheels will be provided. The interior dimensions of this compartment will be 66.50" wide x 32.88" high x 12.00" deep. The clear door opening will be a minimum of 58.25" wide x 23.13" high.

A full height, rollup door compartment behind the rear wheels will be provided. The interior dimensions of this compartment will be 47.75" wide x 67.63" high x 12.00" deep. A section of this compartment will be 25.88" deep for the first 31.50" width x 26.00" height directly behind the rear wheels. The clear door opening will be a minimum of 44.75" wide x 57.88" high.

The interior height of the compartments will be measured from the compartment floor to the ceiling. The spool of the rollup door at the top of the compartment takes up some usable space. The depth of the compartments will be measured from the back wall to the inside of the door frame.

Closing of the door will not require releasing, unlocking, or unlatching any mechanism and will easily be accomplished with one hand.

0557520

LS 145" Rollup, Full Height Front &

Rear, 5" Longer than Std Short Body

0768806		RS 145" Rollup, Full Height Front & Rear, 5" Longer than Std Short	 RIGHT SIDE COMPARTMENTATION The right side compartmentation will consist of three rollup door compartments. A full height, rollup door compartment ahead of the rear wheels will be provided. The interior dimensions of this compartment will be 27.50" wide x 66.63" high x 25.88" deep in the lower 25.00" of the compartment and 12.00" deep in the remaining upper portion. The clear door opening will be a minimum of 21.75" wide x 56.88" high. A rollup door compartment over the rear wheels will be provided. The interior dimensions of this compartment over the rear wheels will be provided. The interior dimensions of this compartment will be 66.50" wide x 32.88" high x 12.00" deep. The clear door opening will be a minimum of 58.25" wide x 23.13" high. A full height, rollup door compartment behind the rear wheels will be provided. The interior dimensions of this compartment will be 47.75" wide x 67.63" high x 12.00" deep. A section of this compartment will be 25.88" deep for the first 31.50" width x 26.00" height directly behind the rear wheels. The clear door opening will be a minimum of 44.75" wide x 57.88" high. The interior height of the compartments shall be measured from the compartment floor to the ceiling. The spool of the rollup door at the top of the compartment takes up some usable space. The depth of the compartments shall be measured from the back wall to the inside of the door will not require releasing, unlocking, or unlatching any mechanism and will easily be accomplished with one hand.
0594005		Doors, Rollup, Amdor, Side Compartments	 SIDE COMPARTMENT ROLLUP 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 rollup 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 ingression. 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 rollup door will be equipped with two (2) cut-outs to allow for easier access with gloved hands. A polished stainless steel lift bar to be provided for each roll-up door. The lift bar will be located 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 rollup door wear components will be constructed of Type 6 nylon. Each rollup door will have a 3.00 inch diameter balancer/tensioner drum to assist in lifting the do
0733079	SP	Compt, Rear, Rollup, 35.75" FF, 25.88" D, Moved Rearward 8.00"	REAR COMPARTMENTATION A roll-up door compartment above the rear tailboard will be provided. The interior dimensions of this compartment will be 40.00" wide x 38.63" high x 25.88" deep. The spool of the rollup door at the top of the compartment takes up some usable space. The depth of the compartment will be calculated with the compartment door closed. A louvered, removable access panel will be furnished on the back wall of the compartment.

The rear compartment will be open into the rear side compartments. The clear door opening of this compartment will be a minimum of 33.25" wide x 28.88" high. Closing of the door will not require releasing, unlocking, or unlatching any mechanism and will easily be accomplished with one hand.

0594003		Door, Amdor, Rollup, Rear Compartment	 ROLLUP REAR COMPARTMENT DOOR The rear compartment will have a rollup door. The door will be double faced, aluminum construction, satin aluminum and manufactured by AMDOR ™ brand rollup doors. The door 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 ingression. The door 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 rollup door will be equipped with two (2) cut-outs to allow for easier access with gloved hands. 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. All injection molded rollup door ware components will be constructed of Type 6 Nylon. The door will have a 3.00 inch diameter balancer/tensioner drum to assist in lifting the door. The
0693165		Body Modification, 13.50" Reduced Depth Rr Compt, 65 Gal Fuel Tank/Air Susp, 2G	 BODY MODIFICATION FROM STANDARD The following body modifications will be required for the installation of a single axle air ride suspension: Rear compartment will be approximately 13.50" shorter in depth. Special water tank mounting may be required (if applicable).
0625184		Guard, Drip Pan, S/S, Rollup Door, Pumper	DOOR GUARD There will be seven (7) compartment doors that will include a guard/drip pan designed to protect the rollup door from damage when in the retracted position and contain any water spray. The guard will be fabricated from stainless steel and installed left side rearward compartment, left side over the wheel compartment, left side forward compartment, right side rearward compartment, right side over the wheel compartment, right side forward compartment and rear compartment.
0737240	SP	Trim, Rollup Door, Painted Separate Color, Amdor	ROLL-UP DOOR TRIM The exterior of the aluminum trim around the door opening will be painted black. The trim will not match the color of the door. There will be seven (7) compartments located RS1, RS2, RS3, LS1, LS2, LS3, LS EMS with the trim painted.
0768509		Lights, Compt, Amdor AY-LB- 12HW0** LED, Dual Light Strip	COMPARTMENT LIGHTING There will be seven (7) compartments that include Amdor, Model AY-LB12HW0**, white 12 volt DC LED compartment light strips with 45 degree brackets. The light manufacturers electrical connectors will be included in the circuit. The lights will be mounted with mechanical fasteners. There will be two (2) strip lights installed vertically in each compartment opening per the latest NFPA requirements. The lights will be activated when the battery switch is on and the respective compartment door is opened.
0659222		Lights, Hatch Compt, Amdor AY-9220 -48, LED, Light Strips, IPOS, Each	COMPARTMENT LIGHTING There will be four (4) hatch compartments that include Amdor, Model AY9220-48, 48.00" white 12 volt DC LED compartment light strips. The hatch compartments will be One in each hatch compartment mounted in a location that doesn't interfere with compartment opening. The lights will be mounted with mechanical fasteners. The lights will be activated when the battery switch is on and the door is opened.

0732635	SP	Hatch, (2) Liftup, Pumper, w/HLR	HATCH COMPARTMENT One (1) hatch compartment will be provided above the right side compartments. Each hatch compartment will be 13.75" wide. Each hatch compartment will be sized to fit with a hydraulic ladder rack. The length will be shortened on each end to accommodate the hydraulic ladder rack locks. Sides of the compartment will be constructed of the same material as the body and painted job color. A chrome and black vinyl molding will be provided to cover the seam between the top of the body panel and the bottom of the hatch compartment. The vertical outboard seam at the center of the compartment will be smooth weld finished and painted. The top of the compartment will be constructed of bright aluminum treadplate. Two (2) lift-up, bright aluminum treadplate doors will be provided on the top of the compartment. Doors will have lipped edges with a rubber seal for weather resistance. Each door will have a lever handle with a slam style latch. Doors will be hinged on the outboard side and will utilize a gas strut (or rubber covered chain on narrow width doors) Compartment will drain to an area below the hose bed. Ribbed rubber matting will be provided on the compartment floor to stop wet equipment from sitting in water pools.
0739915		Hatch, (2) Liftup, Pumper	 HATCH COMPARTMENT One (1) hatch compartment will be provided above the left side compartments. Each hatch compartment will extend the full length of the side body compartmentation x 13.75" wide. The height of each hatch compartment will match the side sheet height. Sides of the compartment will be constructed of the same material as the body and painted job color. A chrome and black vinyl molding will be provided to cover the seam between the top of the body panel and the bottom of the hatch compartment. The vertical outboard seam at the center of the compartment will be smooth weld finished and painted. The top of the compartment will be constructed of bright aluminum treadplate. Two (2) lift-up, bright aluminum treadplate doors will be provided on the top of the compartment. Doors will have lipped edges with a rubber seal for weather resistance. Each door will have a lever handle with a slam style latch. Doors will be hinged on the outboard side and will utilize a gas strut (or rubber covered chain on narrow width doors) Compartment will drain to an area below the hose bed. Ribbed rubber matting will be provided on the compartment floor to stop wet equipment from sitting in water pools.
0730092		Not Required	
0733221		Lights, Hatch Compt, Amdor AY-9220 -42, LED, Light Strips, 1-Sides 2 Dr	COMPARTMENT LIGHTING There will be an Amdor, Model AY9220-42, 42.00" 12 volt DC strip light with white LEDs mounted on the interior, hinged side of each door. The lights will be mounted with mechanical fasteners. The lights will be activated when the battery switch is on and the door is opened.
0687135		Shelf Tracks, Unpainted	MOUNTING TRACKS There will be six (6) sets of tracks for mounting shelf(s) in LS1, LS2, LS3, RS1, RS3 and B1. These tracks will be installed vertically to support the adjustable shelf(s), and will be full height of the compartment. The tracks will be unpainted with a natural finish.
0625887		Shelves, Adjustable, Low/Special Side Height	ADJUSTABLE SHELVES There will be three (3) shelves provided B1 mid, B1 upper and RS3 on the ladder rack actuator box. The shelf construction will consist of .188" aluminum with a dual action finish. A capacity rating will not be available on this item due to a reduced side height being less than 2.00". 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 side height of the shelf/shelves will be as follows: Front: 1.00" down-turned flange Rear: 2.00" high Left & Right Sides: 2.00" high
0600350		Shelves, Adj, 500 lb Capacity, Full Width/Depth, Predefined Locations	ADJUSTABLE SHELVES There will be 11 shelves with a capacity of 500 lb provided. The shelf construction will consist of .188" aluminum with a dual action finish 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 in RS1 in the lower third, in RS3 in the upper third, in RS3 in the upper third, in RS1 in the upper third, in LS1 centered between the floor and ceiling, in LS2 centered between the floor and ceiling, in LS3 centered between the floor and ceiling, in LS3 in the upper third, in LS3 in the upper third, in LS1 in the upper third and in LS1 in the upper third.

0709689	Tray, 500 lb Slide-out, 2" Sides - Adj. Height, Predefined Locations	 SLIDE-OUT ADJUSTABLE HEIGHT TRAY There will be one (1) slide-out tray 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 with a dual action finish. 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 in B1 in the upper third
0647091	Tray, Floor Mounted, Slide-Out, 500lb, 2.00" Sides	 SLIDE-OUT FLOOR MOUNTED TRAY There will be one (1) 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 with a dual action finish There will be two undermount-roller bearing type slides rated at 250lb 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 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 LS1.
0558491	Drawer Assembly, CTECH, Two Drawers, Up To 24" Wide	DRAWER ASSEMBLY A slideout drawer assembly will be installed LS3 on the compartment floor. The clear dimensions of the first drawer starting at the top will be 3.00" with a face plate that is 4.00" 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. Each drawer will be the same width and not exceed 24.00". 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.
0502687	Matting, Dri-Deck, Compt Trays and Shelves	MATTING, COMPARTMENT TRAYS AND SHELVES Dri-Deck rubber compartment matting will be provided in the compartments on 13 compartment trays and shelves. The compartment trays and shelves locations will be: 3-LS1, 1-LS2, 4-LS3, 2- RS1, 2-RS3, 1-B1. The Dri-Deck will be black, and .562" thick with holes in the decking to allow air to flow.
0544203	Matting, Turtle Tile, Hatch Compt Floor, Each	MATTING, FLOOR OF HATCH COMPARTMENT There will be Turtle Tile compartment matting provided on the floor of the designated hatch compartment(s). The color of Turtle Tile matting will be black. The Turtle Tile matting will be provided on the floor of a total of two (2) hatch compartment(s) located DS and PS hatch compartments.
0659383	Matting, Turtle Tile w/Ramp, Compt Floors	MATTING, COMPARTMENT FLOOR Turtle Tile compartment matting will be provided in seven (7) compartments on the compartment floor. The locations are, LS1, LS2, LS3, RS1, RS2, RS3, B1. The Turtle Tile will be black and the leading edge of the matting will include the beveled edge. The beveled edge will be black .
0009729	Pac Trac, Installed on Compt Walls	EQUIPMENT MOUNTING Pac Trac equipment mounting system will be installed on the walls of one (1) compartment(s), RS2 (left, back and right walls).
0797957	Pac Trac, Installed on Compt Wall, Back Wall Only	EQUIPMENT MOUNTING SYSTEM Pac Trac equipment mounting system will be installed on the back wall of one (1) compartment (s), RS1 (back wall only).

0004016		Rub Rail, Aluminum Extruded, Side of Body	f RUB RAIL Bottom edge of the side compartments will be trimmed with a bright aluminum extruded rub rail. Trim will be 2.12" high with 1.38" 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.
0784809		Fender Crowns, Rear, Rubber, w/Removable Liner	BODY FENDER CROWNS Black rubber fender crowns will be provided around the rear wheel openings. BODY FENDER LINER A painted fender liner will be provided. The liners will be removable to aid in the maintenance of rear suspension components.
0519849		Not Required, Hose, Hard Suction	HARD SUCTION HOSE Hard suction hose will not be required.
0752747	SP	Handrails, Top Mount Enclosed Pump Panel, Per Print, Hansen Tubing, Black	 HANDRAILS The handrails 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 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. Handrails will be provided to meet NFPA 1901 section 15.8 requirements. The handrails will be installed as noted on the sales drawing.
0745191	SP	Handrail, Beavertail, LS, Black	One (1) vertical handrail will be located on the left side rear beavertail. The handrail will be 1.25" diameter black anodized aluminum extrusion. The handrail will have e-coated and black powdered coated stanchions.
0773289	SP	Handrail, Rear, Below Hose Bed, Full Width, Hansen Tubing, Black	One (1) full width horizontal handrail will be provided below the hose bed at the rear of the apparatus. The Hansen 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. Drain holes will be provided in the bottom of all vertically mounted handrails.
0756725	SP	Handrail, Extra - 12" Long, Hansen Tubing, Knurled Aluminum, Black	- Three (3) handrails 12.00" handrails will be provided mounted mounted DS just rear of the crosslays and forward of the intake gauge., PS just rear of the crosslays, DS on the outboard edge of the forward cover for access to the top (9" rear of the front wall). The handrail(s) will be 1.25" diameter black anodized aluminum extrusion. The handrail will have e-coated and black powdered coated stanchions.
0636301		Compt, Extinguisher (2) in Fender Panel, Triangular Door	EXTINGUISHER/AIR BOTTLE/ STORAGE (Triangular) A total of one (1) extinguisher/air bottle/storage compartments will be provided PS Forward of axle. The triangular shaped compartment will be sized to fit a 8.00" diameter extinguisher in the lower area and a 8.00" diameter extinguisher in the upper area. The compartment will be approximately 25.50" deep. A partition will be provided to separate the compartment. Also inside the compartment, black Dura-Surf friction reducing material will be provided. The compartment will be furnished with a drain hole. A painted stainless steel, triangular shaped door with a Southco raised trigger C2 chrome lever latch will be provided to contain the air bottles. A dielectric barrier will be provided between the door hinge, hinge fasteners and the body sheet metal. AIR BOTTLE COMPARTMENT STRAP A strap will be provided in the air bottle compartment(s) to help contain the bottles when the vehicle is parked on an incline. The strap will wrap around the neck and attach to the wall of the compartment.
0657522		Compt, Air Bottle, Triple, Fender Panel	AIR BOTTLE STORAGE (Triple) A quantity of two (2) air bottle compartments designed to hold (3) air bottles up to 7.25" in diameter x 26.00" deep will be provided on the left side forward of the rear wheels and on the right side rearward of the rear wheels. A painted stainless steel door with a Southco raised trigger C2 black 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 Dura-Surf friction reducing material will be provided. AIR BOTTLE COMPARTMENT STRAP A strap will be provided in the air bottle compartment(s) to help contain the air bottles when the vehicle is parked on an incline. The strap will wrap around the neck and attach to the wall of the compartment.

0654143	Compt, Air Bottle, Single, Common Triple Door (DEF/Fuel), Fender Panel	AIR BOTTLE STORAGE (Single) A quantity of one air bottle compartment, approximately 7.50" wide x 7.50" tall x 26.00" deep, will be provided on the driver side rearward of the rear wheels. The triangular door will cover the air bottle opening, the DEF tank access, and fuel fill. The compartment will be square with angled corners. A painted stainless steel door with a Southco locking raised trigger C2 black 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 Dura-Surf friction reducing material will be provided. AIR BOTTLE COMPARTMENT STRAP A strap will be provided in the air bottle compartment to help contain the air bottle when the vehicle is parked on an incline. The strap will wrap around the neck and attach to the wall of the compartment.
0004224	Ladder, 28' Duo-Safety 1200-A 2- Sect	EXTENSION LADDER There will be a 28', two (2)-section, aluminum, Duo-Safety, Series 1200-A extension ladder provided.
0004230	Ladder, 14' Duo-Safety 775A Roof	ROOF LADDER There will be a 14 th aluminum Duo-Safety Series 775-A roof ladder provided.
0015036	Rack, Ladders, Hydraulic, Right Side, Air Clamps	 HYDRAULIC LADDER RACK Ground ladders will be mounted above the right side of the hose body in a specially designed swing-down cradle. This cradle will be electric/hydraulic operated. The system design will have been life cycle tested for at least 14 years of dependable service. An independent hydraulic pump powered by a 12-volt electric motor will operate the hydraulics. The hydraulic pump and reservoir will be accessible from the ground through a stainless steel inspection door. The ladder rack will incorporate two hydraulic rotary actuators, one each located inside the front compartment and the rear compartment. The actuators will be completely enclosed within each compartment to eliminate any pinch points while operating the ladder rack. Lifting arms will be attached outside the compartment body to the front and rear actuator. The rack can be designed in certain situations to provide lifting capabilities up to 500 lb. The maximum height of the rack from the ground in the lowered position will be no more than 47.0°. The electric control panel will have a master switch on/off switch, an actuation switch, an operation indicator light and operation instructions. The electric controls will be located at the pump panel or in such a manner to allow the operator full view of the area into which the ladder rack control panel. A polished stainless steel enclosure shall be provided over the hydraulic ladder rack locks at the front and the rear on the right side to cover the ladder rack locks (2) and provide mounting for any rear warning lights. Ladders will be provided to prevent operation of ladder rack unless the apparatus parking bravel a half turn to hold the extension ladder in place. LDDER RACK INTERLOCK AND NOT STOWED INDICATOR LIGHT An interlock will be provided to prevent operation of the ladder rack unless the apparatus parking brak has been activated. A steady red indicator light will be located on the cab in
0756375	Lights, Hyd Lad Rack Deployed, Truck-Lite 15****	HYDRAULIC LADDER RACK DEPLOYED LIGHTS There will be two (2) Truck-Lite catalog number 15***, 1.20" high x 2.49" wide x 0.94" deep lights with black trim, amber flashing LEDs and,provided per the following: One (1) light installed on the front of the hydraulic ladder rack One (1) light installed on the rear of the hydraulic ladder rack The warning light lens color(s) to be clear The lights will be activated when the battery switch is on and the hydraulic ladder rack is not in the stowed position.
0014245	Ladder, 10' Duo-Safety Folding 585A, w/Mounting	FOLDING LADDER One (1) 10.00' aluminum, Series 585-A, Duo-Safety folding ladder will be installed on the inboard side of the hydraulic ladder rack .
0024499	Arm, Rear, Offset, Hydraulic Rack 2000, Recess Light	The rear hydraulic rack arm will have an offset to not block the rear upper zone warning lights.

0609358	SP	Stainless Steel Wear Sleeve, Duo- Safety, Base Ladder Rungs, Addt'l Per Ladder	LADDER RUNG PROTECTOR CLIPS Additional stainless steel wear sleeves will be rivet mounted to the base section ladder rungs to keep the roof ladder beams from wearing the base section rungs. The wear sleeves are 1.50" wide .88" stainless steel half rounds that are rivet mounted. A quantity of one (1) ladder(s) will have additional wear sleeves. Additional wear sleeves will be added all of the rungs that will be contacted by other ladders stacked on the 28' 1200A ladder.
0601284		Scuffplate, Aluminum Treadplate, Front and Rear Hydraulic Ladder Rack Arm	ALUMINUM TREADPLATE STEEL SCUFFPLATE The hydraulic ladder rack arms, front and back, will each have a aluminum treadplate scuffplate. The scuffplate will cover rear from the lower angle up to upper angle. Match on front arm .
0004259		Slides, Dura-Surf, Ladder Storage Rack	DURA-SURF LADDER SLIDES Black Dura-Surf friction reducing material will be added to the stainless steel slides, on the bottom horizontal surfaces, of the ladder storage rack.
0616952	SP	Nylatron, Hydraulic Ladder Rack Storage	NYLATRON HYDRAULIC LADDER RACK There will be 3/8" Nylatron friction reducing material provided where the ladders will come in contact with the crossmembers of the hydraulic ladder rack. The material will be white in color and fastened with countersunk screws.
0602877		Pike Pole, Pumper, Provided by Fire Department, NFPA 2016	PIKE POLE PROVIDED BY FIRE DEPARTMENT NFPA 1901, 2016 edition, Section 5.9.4 requires one (1) 8 ft or longer pike pole mounted in a bracket fastened to the apparatus. The pike pole is not on the apparatus as manufactured. The fire department will provide and mount the pike pole. The pike pole(s) will be a Duo-Safety 10' pike pole.
0602875		Pike Pole, 6', Pumper, Provided by Fire Department, NFPA 2016	6' PIKE POLE PROVIDED BY FIRE DEPARTMENT NFPA 1901, 2016 edition, Section 5.9.4 requires one (1) 6' pike pole or plaster hook mounted in a bracket fastened to the apparatus. The pike pole is not on the apparatus as manufactured. The fire department will provide and mount the pike pole. The pike pole(s) will be a Duo-Safety 6' pike pole.
0004361		Tubes, Alum, Pike Pole Storage	PIKE POLE STORAGE Aluminum tubing will be used for the storage of two (2) pike poles and will be located on hydraulic ladder rack. If the head of a pike pole can come in contact with a painted surface, a stainless steel scuffplate will be provided.
0730745	SP	Placard, Instructions, 4+2 Mode Shift Operation	PLACARD There will be a placard provided. It will explain the use of the 4+2 Mode Shift.
0769033		Steps, Folding, Front of Body, Cargo Bed Access, w/LED, Signature 4	FOLDING STEPS FRONT OF BODY Signature 4 model 102189-21 folding steps will be provided full height on the left side and one (1) step on the right side body compartments to provide access to the cargo bed. Steps will be spaced evenly on the sales drawing. Actual quantity may vary due to pump panel interferences but will meet the NFPA required maximum stepping height. The steps will incorporate an LED light to illuminate the stepping surface. The steps can be used as a hand hold with one opening wide enough for a gloved hand.
0592994		Steps, Folding, Rear of Body, w/LED, Trident	REAR FOLDING STEPS Bright finished, non-skid folding steps with a black coating will be provided at the rear. Each step will incorporate an LED light to illuminate the stepping surface. The steps can be used as a hand hold with two openings wide enough for a gloved hand.

0014441	Pump, Hale, QMAX-150, 1500 GPM, Single Stage	 MIDSHIP FIRE PUMP Midship fire pump will be a Hale QMAX-150, 1500 gpm single (1) stage midship mounted centrifugal type. Pump will be the class "A" type. Pump will be the class "A" type. Pump will deliver the percentage of rated discharges at the pressures indicated below: 100% of rated capacity at 150 psi net pump pressure. 100% of rated capacity at 200 psi net pump pressure. 50% of rated capacity at 200 psi net pump pressure. Entire pump and both suction and discharge passages will be hydrostatically tested to a pressure of 500 psi. Pump will be fully tested at the pump manufacturer's factory to the performance requirements as outlined by the current NFPA 1901 standards and will be free from objectionable pulsation and vibration. Pump body and related parts will be of fine grain, alloy cast iron with a minimum tensile strength of 30,000 psi (2041.2 bar). All moving parts in contact with water will be of high quality bronze or stainless steel. Pump body will be horizontally split, on a single plane in two (2) sections, for easy removal of entire impeller assembly, including wear rings and bearings from beneath the pump, without disturbing pump piping or the mounting of the pump in the chassis. Pump will have one (1) double suction impeller. The pump body will have two (2) opposed discharge volute cutwaters to eliminate radial unbalance. Pump impeller will be hard, fine grain bronze of the mixed flow design, accurately machined, hand-ground, and individually balanced. The vanes of the impeller intake eyes will be hand-ground, and individually balanced. The vanes of the impeller intake setsel with an invinum more power. Impeller clearance rings will be ofnze and easily renewable without replacing impeller or pump volute body. They will be of the wrap-around double labyrinh design for maximum efficiency. Pump shaft will be electric furnace heat-treated, corros
0014482	Seal, Mechanical, Hale	MECHANICAL SEAL ON PUMP Only one (1) mechanical seal will be used on the suction (inboard) side of the pump. The mechanical seal will be 2.00" in diameter and will be spring loaded, maintenance-free, and self- adjusting. The mechanical seal construction will be a carbon sealing ring, stainless steel coil spring, Viton® rubber boot, and a tungsten carbide seat with a Teflon backup seal.
0014477	Trans, Pump, Hale, Gear	PUMP TRANSMISSION The drive unit will be cast and completely manufactured and tested at the Hale Products, Inc. factory. The pump drive unit will be of sufficient size to withstand up to 16,000 foot/ pounds of torque from the engine in both the road and pump operating conditions. The drive unit is will be designed with ample lubrication reserve to maintain the proper operating temperature. The gearbox drive shafts will be of heat treated chrome nickel steel and 2.75" in diameter on both the input and output drive shafts. They will be designed to withstand the full torque of the engine in both road and pump, will be of the highest quality, electric furnace, chrome nickel steel. Bores will be ground to size and teeth integrated, crown-shaved and hardened, to give an extremely accurate gear for long life, smooth, quiet running and higher load carrying capability. An accurately cut spur design will be provided to eliminate all possible end thrust. Pierce Manufacturing will select the pump ratio to provide the maximum performance with the engine and transmission selected. Three (3) green warning lights will be provided to indicate to the operator(s) when the pump has completed the shift from Road to Pump position. Two (2) lights will be located in the truck driving compartment and one (1) light on pump operator's panel adjacent to the throttle control.
0635600	Pumping Mode, Stationary Only	PUMPING MODE An interlock system will be provided to ensure that the pump drive system components are properly engaged so that the apparatus can be safely operated. The interlock system will be designed to allow stationary pumping only.
0604324	Pump Shift, Air Mnl Override, Split Shaft, Interlocked, Hale	AIR PUMP SHIFT Pump shift engagement will be made by a two (2) position sliding collar, actuated pneumatically (by air pressure), with a three (3) position air control switch located in the cab. A manual back-up shift control will also be located on the left side pump panel. Two (2) indicator lights will be provided adjacent to the pump shift inside the cab. One (1) green light will indicate the pump shift has been completed and be labeled "pump engaged". The second green light will indicate when the pump has been engaged and the chassis transmission is in pump gear. This indicator light will be labeled "OK to pump". The pump shift will be interlocked to prevent the pump from being shifted out of gear when the chassis transmission is in gear to meet NFPA requirements. The pump shift control in the cab will be illuminated to meet NFPA requirements.

0003148	Transmission Lock-up, EVS	TRANSMISSION LOCK-UP The direct gear transmission lock-up for the fire pump operation will engage automatically when the pump shift control in the cab is activated.
0004547	Auxiliary Cooling System	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. The heat exchanger will be a separate unit. The heat exchanger will be installed in the pump or engine compartment with the control located on the pump operator's control panel. Exchanger will be plumbed to the master drain valve.
0014486	Not Required, Transfer Valve, Stage Pump	
0650961	Not Required, Intake Relief Valve, Relief Valve Provided Elsewhere	
0527222	Controller, Pressure, FRC, INCONTROL, TGA300, Control Buttons	PRESSURE CONTROLLER A Fire Research, INCONTROL Model TGA300 pressure governor will be provided. A pressure transducer will be installed in the water discharge and intake manifold on the pump. The display panel will be located at the pump operator's panel.
0673872	Primer, Trident, Air Prime, Air Operated, Automatic	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 NFPA 1901. All wetted metallic parts of the priming system are to be of brass and stainless steel construction. One (1) priming control will open the priming valve and start the pump primer. 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.
0044552	Line, 0.50" Recirculating w/Check Valve	RECIRCULATING LINE WITH CHECK VALVE A 0.50" diameter recirculating line, from the pump to the water tank, will be furnished with a control installed at the pump operator's control panel. A check valve will be provided in this line to prevent the back flow of water from the tank to the pump if the valve is left in the open position.
0780364	Manuals, Pump, (2) Total, Electronic Copies	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.
0603129	Plumbing, Stainless Steel and Hose, Single Stage Pump	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.
0795135	Plumbing, Stainless Steel, w/Foam System	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.
0004645	Inlets, 6.00" - 1250 GPM or Larger Pump	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.
0602448	Cap, Main Pump Inlet, Provided by Fire Department, NFPA 2016	MAIN PUMP INLET CAP PROVIDED BY FIRE DEPARTMENT NFPA 1901, 2016 edition, section 16.6.8 requires all intakes to be provided with caps or closures capable of withstanding a hydrostatic gauge pressure of 500 psi. The caps are not on the apparatus as manufactured. The fire department will provide both caps for the main pump inlets.

0550658	Valve, w/Relief, LS Main Side Pump Inlet, Hale MIV, Elec Cntrl	INLET VALVE/DUMP One (1) butterfly valve type Hale MIV will be provided on the left side main pump inlet. The inlet valve will be a combination butterfly valve and pressure relief valve with a .75" bleeder valve. The pressure relief valve will have a range of 75 to 250 PSI and will be factory set to 125 psig . The valve, less relief valve, will be rated for 600 PSI hydrostatic pressure and 26 inHg of vacuum. The valve will be fully recessed behind the pump panel and will be operated by an electric 12 VDC motor. A control panel with the electric switch and three (3) status indicator lights will be provided on the pump panels.
0550659	Valve, w/Relief, RS Main Side Pump Inlet, Hale MIV, Elec Cntrl	INLET VALVE/DUMP One (1) butterfly valve type Hale MIV will be provided on the right side main pump inlet. The inlet valve will be a combination butterfly valve and pressure relief valve with a .75" bleeder valve. The pressure relief valve will have a range of 75 to 250 PSI and will be factory set to 125 psig . The valve, less relief valve, will be rated for 600 PSI hydrostatic pressure and 26 inHg of vacuum. The bleeder valve controls will be located at the threaded connection and at the pump operator's panel. The valve will be fully recessed behind the pump panel and will be operated by an electric 12 VDC motor. A control panel with the electric switch and three (3) status indicator lights will be provided on the pump operator's panel. A manual override handwheel will be provided next to the inlet valve on the side pump panels.
0597086	Valves, Akron 8800 series	VALVES All valves will be Akron® Brass brand, utilizing the 8800 series swing out for sizes 1.00" and larger where applicable.
0004660	Inlet, Left Side, 2.50"	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.
0004680	Inlet, Right Side, 2.50"	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.
0004687	Valve, Inlet(s) Recess,Top Mount	Inlet valve location will be behind the pump panel.
0506006	Anode, Zinc, (4) Pump- Inlets/Outlets	ANODE, INLET Four (4) sacrificial zinc anodes will be provided in the water pump, two (2) on the intake side and two (2) on the discharge side to protect the pump from corrosion.
0004710	Control, Inlet, at Top Mount Panel	INLET CONTROL The side auxiliary inlet(s) will incorporate a quarter-turn ball valve with the control located at the top mount control panel. The valve operating mechanism will indicate the position of the valve. There will be two (2) inlets.
0544973	Inlet, Rear, 4"-6" w/5" Plmb, Below Tee, RS, w/Bleeder Valve	LARGE DIAMETER REAR INLET A 5.00" inlet with screen will be provided using 5.00" piping and a 5.00" butterfly valve. The screen will provide cathodic protection against corrosion in the piping. The piping will contain only large radiused elbows, no mitered joints. The plumbing will be routed to the rear below the tee section of the water tank. The inlet will terminate along the right side of the rear compartment, above the tailboard. A bleeder valve will be located at the threaded connection.
0012609	Elbow & Cap, Rear Inlet, 5" FNST x 5" Storz	REAR INLET ELBOW & CAP The rear 5.00" inlet will be furnished with a 5.00" (F) National Standard hose thread x 5.00" Storz elbow adapter with a Storz cap.
0767415	Control, Rear Inlet, Akron 9333 Elec Controller	REAR INLET CONTROL The rear inlet will be gated and controlled with an Akron 9333 electric valve controller provided on the pump operators panel. The electric control must be of a true position feedback design, requiring no clutches in the motor or current limiting. The unit must be completely sealed with momentary open, close as well and an optional one touch full open feature to operate the valve actuator. The controller will provide position indication on a full color, backlit LCD display. It will have manual adjustment of the brightness as well as an auto dimming option.

0746866	Valve, Relief Intake, Rear Inlet, Akron	REAR INLET INTAKE RELIEF VALVE An Akron Brass Style 53 intake pressure relief valve will be provided on the inlet side of the valve preset at 125 psig. The pressure relief valve will be adjustable from 50 to 250 psi. The outlet will be 2.50" National Standard hose thread and terminate below the frame rails and will have a "do not cap" warning tag near the discharge outlet.
0092568	No Rear Auxiliary Inlet Requested	
0563738	Valve, .75" Bleeder, Aux. Side Inlet, Swing Handle	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 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.
0004752	Tank to Pump, (1) 3.00" Valve, 4.00" Plumbing	TANK TO PUMP The booster tank will be connected to the intake side of the pump with 4.00" heavy duty piping and a quarter turn 3.00" full flow line valve with the control remotely located at the operator's panel. Tank to pump line will run straight (no elbows) from the pump into the front face of the water tank and angle down into the tank sump. 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.
0004905	Outlet, Tank Fill, 1.50"	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.
0004940	Outlet, Left Side, 2.50"	LEFT SIDE DISCHARGE OUTLETS There will be One (1) discharge outlet with a 2.50" valve on the left side of the apparatus, terminating with a 2.50" (M) National Standard hose thread adapter.
0092570	Not Required, Outlets, Left Side Additional	
0004945	Outlet, Right Side, 2.50"	RIGHT SIDE DISCHARGE OUTLETS There will be One (1) discharge outlet with a 2.50" valve on the right side of the apparatus, terminating with a 2.50" (M) National Standard hose thread adapter.
0092571	Not Required, Outlets, Right Side Additional	
0766070	Outlet, 4" w/4" Valve, Right Side, Akron 9333 Elec Controller	LARGE DIAMETER DISCHARGE OUTLET There will be a 4.00" discharge outlet with a 4.00" electric valve installed on the right side of the apparatus, terminating with 4.00" MNST threads. There will be an Akron 9333 electric valve controller provided on the pump operators panel. The electric control must be of a true position feedback design, requiring no clutches in the motor or current limiting. The unit must be completely sealed with momentary open, close as well and an optional one touch full open feature to operate the valve actuator. The controller will provide position indication on a full color, backlit LCD display. It will have manual adjustment of the brightness as well as an auto dimming option. PRESSURE GAUGE(S) Analog pressure gauge(s) shall be located near the electric valve controller(s). The gauges shall match the rest of the analog gauges provided on the pump operator's panel.
0092572	Not Required, Outlet, Front	
0004995	Outlet, Rear, 2.50"	REAR DISCHARGE OUTLET There will be Two (2) discharge outlets piped to the rear of the hose bed, left side, installed so proper clearance is provided for spanner wrenches or adapters. Plumbing will consist of 2.50" piping along with a 2.50" full flow ball valve with the control from the pump operator's panel.
0092574	Not Required, Outlet, Rear, Additional	
0092573	Not Required, Outlet, Hose Bed/Running Board Tray	

0752097		Caps/Plugs for 1.00" to 3.00" Discharges/Inlets, Chain	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.
0563739		Valve, 0.75" Bleeder, Discharges, Swing Handle	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 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 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.
0005091		Elbow, Left Side Outlets, 45 Degree, 2.50" FNST x 2.50" MNST, VLH	LEFT SIDE OUTLET ELBOWS The 2.50" discharge outlets located on the left side pump panel will be furnished with a 2.50" (F) National Standard hose thread x 2.50" (M) National Standard hose thread, chrome plated, 45 degree elbow. The elbow will be Pierce VLH, which incorporates an exclusive thread design to automatically relieve stored pressure in the line when disconnected.
0035094		Not Required, Elbow, Left Side Outlets, Additional	
0085096		Elbow, Right Side Outlets, 30 Degree, 2.5" FNST x 2.5" MNST, VLH	RIGHT SIDE OUTLET ELBOWS The 2.50" discharge outlets, located on the right side pump panel, will be furnished with a 2.50" (F) National Standard hose thread x 2.50" (M) National Standard hose thread, chrome plated, 30 degree elbow. The elbow will be Pierce VLH, which incorporates an exclusive thread design to automatically relieve stored pressure in the line when disconnected.
0089584		Not Required, Elbow, Right Side Outlets, Additional	
0040286		Elbow, Rear Outlets, 30 Degree, 2.50" FNST x 2.50" MNST, VLH	REAR OUTLET ELBOWS The 2.50" discharge outlets, located at the rear of the apparatus, will be furnished with a 2.50" (F) National Standard hose thread x 2.50" (M) National Standard hose thread, chrome plated, 30 degree elbow. The elbow will be Pierce VLH, which incorporates an exclusive thread design to automatically relieve stored pressure in the line when disconnected.
0085695		Not Required, Elbow, Rear Outlets, Large, Additional	
0005097		Elbow, Large Dia Outlet, 30 Deg, 4.00" FNST x 5.00" Storz	LARGE DIAMETER OUTLET ELBOWS The 4.00" outlet(s) will be furnished with one (1) 4.00" (F) National Standard hose thread x 5.00" Storz elbow adapter with Storz cap.
0749129	SP	Control, Outlet(s), Innovative Controls, Pistol Grip Handle	DISCHARGE OUTLET CONTROL(S) The discharge outlet(s) will incorporate a quarter-turn ball valve with the control(s) located at the pump operator's panel. The valve operating mechanism will indicate the position of the valve. Innovative Controls pistol grip style of control(s) will be provided on the following outlet(s) 2 speedlays, (2)2.5" side inlets, Tank2Pump, Tankfill, (1)2.5" Left, (2) 2.5" Right, (2) 2.5" Rear. Color coded label insert(s) will be provided. The quantity of control(s) required is Eleven (11) discharge outlets. Any 3.00 inch or larger discharge valve will be a slow-operating valve in accordance with NFPA 16.7.5.3.
0075983		Outlet, 3.00" Deluge w/Elkhart Electric Extender 18", Handwheel	 DELUGE RISER A 3.00" deluge riser will be installed above the pump in such a manner that a monitor can be mounted and used effectively. Piping will be installed securely so no movement develops when the line is charged. The riser will be gated and controlled with a handwheel control with position indicator at the pump operator panel. TELESCOPIC PIPING The deluge riser piping will include a 18.00" Elkhart Electrically Actuated Extender. This extension will be telescopic to allow the deluge gun to be raised 18.00" increasing the range of operation. A control will be mounted on the pump operators panel to actuate the Extender. The wiring will include a "Do not move vehicle" light inside the cab when the monitor is in the raised position.

0066206		Monitor, Elkhart Vulcan 8500, Manual Control - No Ground Base	MONITOR An Elkhart Model 8500 "Vulcan" manually controlled monitor will be properly installed on the deluge riser. This monitor will include the fixed base only. The monitor will be painted to match the body.
0046997		Nozzle, Elkhart ST-194, Stacked Tips and 282 A Shaper	MONITOR NOZZLE An Elkhart #ST-194 Elk-o-Lite quad stacked deluge tips will be provided with a 282 A Elkhart stream shaper. Tip sizes will be 1.375", 1.50", 1.75" and 2.0"
0792017		Deluge Mount, 3.00" ANSI Flange, When An Elkhart Extender Is Used	The deluge riser will have a 3.00" ANSI Flange for mounting the Elkhart monitor.
0025140		Not Required, 1.50" Crosslays	
0029196		Not Required, 2.50" Crosslay	
0500535		Not Required, Hose Restraint, Crosslay	
0729784	SP	Speed, (2) 1.5" Sngl Stack,Poly Trays,Top/Side Cntrl,Side Outlets	SPEEDLAYS Ahead of the pump enclosure will be two (2)-1.75" speedlay hose beds. Each bed will have a 2.00" preconnect line with a 2.00" quarter-turn ball valve and terminate with a 1.50" National Standard hose thread adapter. There will be one (1) outlet (1) one outlet on each side of the apparatus. Individual controls for the speedlays will be at the pump operator's panel. Each compartment will be capable of carrying 200 feet of 1.75" double jacketed hose with the one (1) compartment located next to the other, single stacked. Scuffplates will be provided at the sides and bottom of each opening on both sides. A removable tray will be provided for each speedlay/deadlay hosebed. The trays 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. The bottom of the speedlay compartments will be lined with stainless steel to allow the tray to slide with ease. Scuffplates will be provided on both sides, at the sides and bottom of each opening to protect the paint.
0752403		Hose Restr, Spdly, 2"Nylon Web, Bottom Anchored	SPEEDLAY HOSE RESTRAINT A 2.00" black nylon webbing design restraint will be provided across the ends of speedlay(s) to secure the hose during travel. The webbing assembly is to be attached at the bottom of the speedlay(s) with footman loops as a permanent attachment and is attached at the top with 2.00" cam buckle fastener(s).
0092844		Deadlay(s), Special Cap.	DEADLAY HOSE BED One (1) deadlay bed without plumbing, will be provided above the pump compartment capable of carrying 100' x 2.50" (2ea. 2.50" x 50' sections). Stainless steel vertical scuffplates will be provided at hose bed ends (each side of vehicle). The bottom of hose bed ends (each side) will also be equipped with a stainless steel scuffplate. aft of the pump panel and forward of the dunnage area Deadlay bed flooring will consist of removable perforated brushed aluminum.
0005189		Roller, Horiz/Vertical, (2) Speedlays	SPEEDLAY ROLLERS Stainless steel rollers with nylon bushings will be mounted horizontally and vertically around each speedlay opening, on each side of the vehicle.
0773644	SP	Reel, Booster, Over Pump, Right Side, Steel, Akron 8800 Series Valve	BOOSTER HOSE REEL A Hannay electric rewind booster hose reel will be installed over the pump in a recessed open compartment on the right side of the apparatus. A polished stainless steel roller and guide assembly will be mounted on the reel side of the apparatus. Discharge control will be provided at the pump operator's panel. Plumbing to the reel will consist of 1.50" Aeroquip hose and an Akron 8800 series 1.50" valve The exterior finish of the reel will be painted job color matching the body exterior.
0011060		Switch, Reel Rewind - One at Pump Panel	Reel motor will be protected from overload with a circuit breaker rated to match the motor. An electric rewind control switch will be installed on the reel side pump panel.

0008003	J.	ReelTex	Working pressure of the booster hose will be a minimum of 600 psi.
0005245		Capacity, Hose Reel, Special	Capacity of the hosereel will be 150' of 1" booster hose.
0007428		Nozzle for Booster Reel Not Req'd	
0729054	SP	Cutout for Reel Access, W/ Roller Assembly In Cargo Area Side Sheet	HOSEREEL ACCESS A quantity of one (1) cutout(s) will be provided in the RS Cargo area cargo area side sheet for the hose reel(s). These cutout(s) will allow access to the hose and provide a window to view the reel. Stainless steel rollers will be installed in the side sheet.
0085328		Nozzle Cup, Zico w/Bracket	NOZZLE CUP AND BRACKET A Zico nozzle cup and chrome plated mounting bracket will be provided for storage of the booster reel nozzle. There will be one (1) provided. The nozzle cup(s) will have a 3-1/2" inside diameter and will be located PS side body (exact location to be determined).
0624936		Foam Sys, Husky 12, Single Agent, Multi Select Feature	 PAI Proceed Husky™ 12 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. Operation will be based on direct measurement of water flow, and remain consistent within the specified flows and pressures. The system will allow operations 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. This will provide a versatile system to meet the demands at a fire scene. 290 gm @ 6 percent 1200 gpm @ 1 percent<

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AR-AFFF. The system will deliver only the amount of foam concentrate flow required, without recirculating foam back to the storage tank. Recirculating foam concentrate back to the storage tank can cause agitation and premature foaming of the concentrate, which can result in system failure. The foam concentrate pump will be self-priming and have the ability to draw foam concentrate from external supplies such as drums or pails.

External Foam Concentrate Connection

An external foam pick-up will be provided 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 onboard foam tank is empty. The external foam pick-up will be designed to allow use with training foam or colored water for training purposes.

Panel Mounted Strainer / External Pick-Up Connection

A bronze body strainer / connector unit will be provided. The unit will be mounted to the pump panel. The external foam pick-up will be one (1) 1.00" male connection with chrome-plated cap integrated to a 2.00" strainer cleanout cap. A check valve will be installed in the pick-up portion of the cleanout cap. A basket style stainless steel screen will be installed in the body of the strainer / connector unit. Removal of the 2.00" cleanout cap will be all that is required to gain access to and remove the stainless steel basket screen. The strainer / connector unit will be ahead of the foam concentrate pump inlet port to insure that all agents reaching the foam pump has been strained. **Pick-Up Hose**

A 1.00" flexible hose with an end for insertion into foam containers will be provided. The hose will be supplied with a 1.00" female swivel NST thread swivel connector. The hose will be shipped loose.

Discharges

The foam system will be plumbed to the hose reel in right side of dunnage area, left rear outlet, front crosslay and rear crosslay.

System Electrical Load

The foam proportioning will not impose an electrical load on the vehicle electrical system any greater than five (5) amps at 12VDC.

Foam Supply Valve

An electric valve will be used for the foam supply valve. The foam supply valve will be controlled at the foam system control head for ease of operation. The supply valve will be electric, remote controlled, to eliminate air pockets in the foam tank supply hose.

Maintenance Message

A message will be displayed on the control head to advise when system maintenance needs to be performed. The message will display interval for cleaning the foam strainer, cleaning for the water strainers, and changing the hydraulic oil.

Flush System

The system will be designed such that a flush mode will be provided to allow the system to flush all foam concentrate with clear water. The flush circuit control logic will ensure the foam tank supply valve is closed prior to opening the flush valve. The flush valve will be operated at the foam system control head for ease of operation. The valve will be electrically controlled and located as close to the foam tank supply valve as possible. A manual flush drain valve will be labeled and located under the left side running board.

0012126		Not Required, CAF Compressor	
0552481		Refill, Foam Tank, Single Tank, Husky 12, Class A Foam	SINGLE FOAM TANK REFILL The foam system's proportioning pump will be used to fill the Class A 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 stating TANK FILL. While the proportioner pump is filling the tank, the controller will display FILL TANK. When the tank is full, as determined by the float switch in the tank dome, the pump will stop and the controller will display TANK FULL.
0732658	SP	Shroud, Husky 12, Hydraulic Cooler	FOAM SYSTEM SHROUD The Husky 12 hydraulic cooler will have an aluminum shroud protecting it.
0729790	SP	Husky 12, Foam System Hoses, Crimpped JIC	HUSKY 12 FOAM SYSTEM HOSES All Husky 12 foam system hoses, including the foam tank to pump hose, will be a crimped JIC fitting.
0031894		Demonstration, Foam System, At Pierce	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.
0005447		Foam Cell, 30 Gallon, Not Reduce Water	FOAM TANK The foam tank will be an integral portion of the polypropylene water tank. The cell will have a capacity of 30 gallons of foam with the intended use of Class A foam. The foam cell will not reduce the capacity of the water tank. The foam cell will have a screen in the fill dome and a breather in the lid.

0505016	Drain, 1.00", Foam Tank #1, Husky 12 Foam System	FOAM TANK DRAIN A system of 1.00" foam tank drains will be provided, integrated into the foam systems strainer and tank to foam pump valve management system. The tank to pump hoses running from the tank(s) to the panel mounted strainer will 1.00" diameter. The foam system controller will have a mode that allows for a given foam valve to be opened at will. Flow of foam from the tank valve to the strainer will be usable as a tank drain mode. An adaptor will be supplied, that allows the 1.00" foam intake screen to assembly to be used as a drain outlet. The standard supplied 1.00" foam pick up hose will be attached to the screen assembly by way of the adapter. The drain mode will allow the operator to open and close the tank valve as required from the control head, to drain foam and re-fill foam containers through the connected hose, without foam spillage beneath the vehicle.
0091079	Not Required, Foam Tank #2	
0091112	Not Required, Foam Tank #2 Drain	
0005508	Pump House, Top Mount, 48", w/19" Walkway	 PUMP COMPARTMENT The pump compartment 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 steel tubing, angles and channels which support both the fire pump and the side running boards. Compartment will be mounted on chassis frame rails with rubber biscuits in a four point pattern to allow for chassis frame twist. Pump compartment, pump, plumbing and gauge panels must be removable from the chassis as a single assembly. PUMP MOUNTING Pump will be mounted to a substructure which will be mounted to the chassis frame rail using rubber isolators. The mounting will allow chassis frame rails to flex independently without damage to the fire pump. PUMP CONTROL PANELS (Top Mount) All pump controls and gauges to be properly marked and located above the pump to the rear of the walkway. Operator to face the rear of the truck when viewing the control panel from the operating position. The upper plane will be in two planes. The upper plane will be hinged at the bottom with a full length stainless steel hinge. Both planes to be full width of the pump house structure. The side pump panels will be 48.00° wide. The side pump panels will be enovable for ease of maintenance. Polished stainless steel trim collars to be installed around all inlets and outlets. Controls will have chrome plated bezels encircling the opening securely mounted to the pump panel. Identification tags will be color coded, with each discharge having its own unique color. Alt remaining identification tags will be mounted on the pump panel in chrome plated bezels. VMLWAY Mutou the adaptate and properly reinforced. There will be six (6) white LED lights provided to illuminate the walkway. The lights will comeon with the body perimeter

The following drawing(s) will be provided for approval by the customer. The drawing(s) will be made for up Two (02) Truck apparatus and/or similar Pierce job number.

PUMP OPERATOR'S PANEL DRAWING A detailed drawing to scale of the pump operator's panel will be provided for the customer to review. The drawing will include all of the gauges, controls, switching, etc.., located on the pump operator's panel. The customer will be allowed to make changes and/or mark-ups to this approval drawing. 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 pump operator's panel drawing will become part of the contract documents.

Due to the way drain(s), bleeder(s), operational/maintenance tag(s) and NFPA required warning tag(s) are placed on pump panel(s), these items will NOT be shown on any pump panel approval drawing(s). These item(s) will be placed on pump panel(s) at the fire apparatus manufacturer discretion.

REMAINING PUMP PANEL(S)

Detailed drawing(s) to scale of the remaining pump panel(s) will be provided for the customer to review. The drawing(s) will include all of the gauges, controls, switching, etc.., located on the pump panel(s). The customer will be allowed to make changes and/or mark-ups to these approval drawing(s). The fire apparatus manufacturer will make revisions (If needed) to the drawing(s) 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 pump panel drawing(s) will become part of the contract documents.

Due to the way drain(s), bleeder(s), operational/maintenance tag(s) and NFPA required warning tag(s) are placed on pump panel(s), these items will NOT be shown on any pump panel approval drawing(s). These item(s) will be placed on pump panel(s) at the fire apparatus manufacturer discretion.

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.

0035570		Pump Panel Configuration, No Match Required	PUMP PANEL CONFIGURATION The pump panel configuration will be neat and orderly.
0035555		Material, Pump Panels, Top Control Brushed Stainless, Sides Black Vinyl	PUMP AND GAUGE PANEL The side control panels will be constructed of aluminum with a black vinyl finish. A polished aluminum trim molding will be provided around each panel. The gauge and top mount control panel will be constructed of stainless steel with a brushed finish. A polished aluminum trim molding will be provided around each panel. The gauge panel will be hinged at the bottom with a full length stainless steel hinge. The fasteners the hold the panel in the up right position will be quarter-turn style. Vinyl covered chains will be used to hold the panel in the dropped position.
0751380	SP	Panel, Pump Access - Both Sides, Front Removable Crossbar, Southco Latch	The left and right side pump panels will be removable and fastened with push button Southco fasteners. On the front of the pump house structure, provisions will be provided for access to the pump. The crossbar flange will be fastened with mechanical fasteners allowing it to be removable for access to the front of the pump.
0035501		Pump House Structure, Std Height	
0005945		Light, Pump Compt	PUMP COMPARTMENT LIGHT A pump compartment light will be provided inside the right side pump enclosure and accessible through a door on the pump panel. A .125" weep hole will be provided in each light lens, preventing moisture retention.
0586382		Gauges, Engine, Included With Pressure Controller	Engine monitoring graduated LED indicators will be incorporated with the pressure controller. Also provided at the pump panel will be the following: - Master Pump Drain Control
0005601		Throttle, Engine, Incl'd w/Press Controller	

0739224	Indicator Light @ Pump Panel, Throttle Ready, Incl w/Pressure Gov/Throttle,Green	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.
0549333	Indicators, Engine, Included with Pressure Controller	
0745568	Indicator Light, Pump Panel, Ok To Pump, Green	OK TO PUMP INDICATOR LIGHT There will be a green indicator light installed on the pump operators panel that is activated when the pump is in Ok To Pump mode.
0069390	Control, Air Horn At Pump Panel w/Red Button	AIR HORN BUTTON An air horn control button will be provided at the pump operator's control panel. This button will be red in color and properly labeled and put within easy reach of the operator.
0677893	Gauges, 6.00" Master, Class 1, Special, LED	 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 6.00" in diameter and will have white faces with black lettering, with a pressure range of 30.00" 0-400 psi. The pump pressure and vacuum gauges will be installed adjacent to each other at the pump operator's control panel. The red LED backlight will be activated by the pump in gear interlock circuit. 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 polished stainless steel plugs. They will be marked with a label.
0678668	Gauge, 3.50" Pressure, Class 1, Special, LED	PRESSURE GAUGES The [ten (10)] individual "line" pressure gauges for the discharges will be interlube filled and manufactured by Class 1©. They will be a minimum of 3.50" in diameter and will 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 [0-400 psi. The individual pressure gauge will be installed as close to the outlet control as practical. The red LED backlight will be activated by the pump in gear interlock circuit.
0766826	Gauge, Flowmeter / Pressure, Akron 9335 Elec Controller IAT	DISCHARGE OUTLET FLOWMETER AND PRESSURE DISPLAY There will be one (1) discharge(s) that have Akron 9335 electric valve controller provided on the pump operators panel. The electric control must be of a true position feedback design, requiring no clutches in the motor or current limiting. The unit must be completely sealed with momentary open, close as well and an optional one touch full open feature to operate the valve actuator. The controller will provide position indication on a full color, backlit LCD display. It will have manual adjustment of the brightness as well as an auto dimming option. In addition to valve position, the following discharges will include flow and pressure in the display deluge .
0757359	Gauge, Water Level, Class 1, Remote Module Driver	WATER LEVEL GAUGE There will be an electronic water level gauge provided on the operator's panel that registers water 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 water 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 water 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 water and environmental elements. An industrial pressure transducer will be mounted to the outside of the tank. The field calibratable display measures head pressure to accurately show the tank level. There will be a Hale part number 106877, 4-light driver module included with this installation to power additional water level gauges. The system(s) will be energized when pump is in gear.

0750438		Water Level Gauge, Win PSTANK2, LED 1-Light, 4-Level	WATER LEVEL GAUGE There will be two (2) additional water level indicator(s), Whelen®, Model PSTANK2, LED module with chrome trim, installed one (1) on the cab behind the left cab door and one (1) on the cab behind the right cab door. This light module(s) will include four (4) colored levels, and function similar to the water level indicator located at the operators panel: First green module indicates a full water level Second blue module indicates a water level above 3/4 full Third amber module indicates a water level above 1/2 full Last red module indicates a water level above 1/4 full and empty Above 1/4 this light will be steady burning At empty this light will be determined by the main water level tank sensor. This module will be activated when the parking brake is applied.
0062992		Gauge, Foam Level, (1) Tank, Class 1, GAAAR 5lt	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.
0692579		Light Shield, Top Mt, FRC FireFly LED115-Q01	LIGHT SHIELD There will be five (5) Fire Research Firefly, Model LED115-Q01, 1.62" diameter lights with white LEDs provided to illuminate controls, switches, essential instructions, gauges, and instruments necessary for the operation of the apparatus and the equipment on it. The lights will be activated with the pump panel light switch. There will be one (1) Fire Research Model LED115-Q01, 1.62" diameter lights with white LEDs provided in the center of the shield. This light will be activated when the pump is in "Ok to pump" mode.
0690281		Light Shield/Step 8", DS, 3-FRC Firefly LED115-Q01, P25 Step Light	ADDITIONAL STEP/LIGHT SHIELD There will be an additional aluminum treadplate stepping surface no less than 8.00" deep and properly reinforced to support a man's weight, installed over the driver's side pump panel. There will be three (3) Fire Research Firefly, part number LED115-Q01, 12 volt DC white LED lights installed under the step to illuminate the controls, switches, essential instructions, gauges, and instruments necessary for the operation of the apparatus. These lights will be activated by a switch on the pump panel. There will be one (1) white LED, step light provided above the step. In order to ensure exceptional illumination, each step 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 light will be activated by the pump panel light switch.
0742105	SP	Light Shield/Step 8", PS, FRC Firefly LED115-Q01, P25 LED Stp Lt	An additional step/light shield will be provided above passenger's side pump panel. The pump panel will be illuminated by three (3) Fire Research Part number LED115-Q01 LED lights installed under a bright aluminum tread plate step. The step will have a minimum of an 8.00" stepping surface and it will be properly reinforced to support a man's weight. The lights will be operated from a switch on the pump panel. One (1) LED, step light shall be provided. The step light shall be installed as to illuminate the top of the step for night time vision. In order to ensure exceptional illumination, each step light shall 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
0606696		Air Horns, (2) Grover, Stutter Tone, In Bumper	AIR HORN SYSTEM Two (2) Grover, Stutter Tone, air horns will be recessed in the front bumper. The horn system will be piped to the air brake system wet tank utilizing 0.38" tubing. A pressure protection valve will be installed in-line to prevent loss of air in the air brake system.
0606834		Location, Air Horns, Bumper, Each Side, Outside Frame, Inboard (Pos #2 & #6)	Air Horn Location The air horns will be located on each side of the bumper, just outside of the frame rails.

0051087	Control, Air Horn, Horn Ring, PS Chrome Push Button, Location Feature	AIR HORN CONTROL The air horns will be actuated by a chrome push button located on the officer side of the engine tunnel and by the horn button in the steering wheel. The driver will have the option to control the air horns or the chassis horns from the horn button by means of a selector switch located on the instrument panel. The chrome push button on the officer's side will be located officer's dash.
0006133	Siren, Code 3 3692 100W or 200W	ELECTRONIC SIREN A Code 3®, Model 3692, electronic siren with noise canceling microphone will be provided. This siren to be active when the battery switch is on and the emergency master switch is on.
0557179	Location, Siren, Heavy Swivel Mount Center Console, Not Overhead	Siren head will be located on a heavy duty swivel bracket mounted on the center console between the driver and officer seats, located on mounting provision centered 8" from the right side, 11" from the front edge. The swivel bracket will be capable of rotating a minimum of 180 degrees.
0076156	Control, Elec Siren, Head Only	The electronic siren will be controlled on the siren head only. No horn button or foot switches will be provided.
0601349	Speaker, (2) Code 3, PB100C, Chrome, Recess Bumper	SPEAKERS There will be two (2) Code 3®, Model PB100C, speakers with chrome finish, recessed in the front bumper. Each speaker will be connected to the siren amplifier.
0601557	Location, Speaker, Frt Bumper, Recessed, Ea Side, Outside Frame,Outbrd (Pos 1/7)	The speakers will be recessed in each side of the front bumper, towards the outside.
0630276	Siren, Federal Q2B, Black	MECHANICAL SIREN There shall be a Federal Q2B siren furnished with a black painted front grill and side screening. The control solenoid shall be powered up after the emergency master switch is activated.
0006097	Location of Siren, Recessed in Bumper	The mechanical siren will be recessed in the front bumper in the center. The siren will be properly supported using the bumper framework.
0041310	Control, Mech Siren, DS & PS Foot Sw, PS Location Feature	The mechanical siren will be actuated by two (2) foot switches, one (1) located on the officer's side as far forward as possible and one (1) on the driver's side.
0740391	Sw, Siren Brake, Momentary Chrome Push Button, RS	A momentary chrome push button switch will be included in the right side dash panel to activate the siren brake.
0607496	Lightbar, Win, Freedom IV-Q, 81", RRRRRRWRRWRRRRRR	FRONT ZONE UPPER WARNING LIGHTS There will be one (1) 81.00" Whelen Freedom IV LED lightbar mounted on the cab roof. The lightbar will include the following: One (1) red flashing LED module in the driver's side end position. One (1) red flashing LED module in the driver's side first front position. One (1) red flashing LED module in the driver's side first front position. One (1) red flashing LED module in the driver's side second front position. One (1) red flashing LED module in the driver's side fourth front position. One (1) red flashing LED module in the driver's side fourth front position. One (1) red flashing LED module in the driver's side fourth front position. One (1) red flashing LED module in the driver's side sizth front position. One (1) red flashing LED module in the driver's side seventh front position. One (1) red flashing LED module in the driver's side seventh front position. One (1) red flashing LED module in the passenger's side sizth front position. One (1) red flashing LED module in the passenger's side fifth front position. One (1) red flashing LED module in the passenger's side fourth front position. One (1) red flashing LED module in the passenger's side fourth front position. One (1) red flashing LED module in the passenger's side fourth front position. One (1) red flashing LED module in the passenger's side fourt front position. One (1) red flashing LED module in the passenger's side fourt front position. One (1) red flashing LED module in the passenger's side front corner position. One (1) red flashing LED module in the passenger's side first front position. One (1) red flashing LED module in the passenger's side first front position. One (1) red flashing LED module in the passenger's side first front position. One (1) red flashing LED module in the passenger's side first front position. One (1) red flashing

0619608		Light, GTT, 794*M LED Multimode Opticom Emitter on Cab Roof, 2100 Controller	TRAFFIC LIGHT CONTROLLER There will be a GTT, Model 794*M Multimode LED Opticom [™] traffic light infrared emitter / GPS antenna with national standard high priority remote mounted on the front edge of the cab DS cab roof. A Model 2100 control unit, measuring 7.25"L x 5.44"W x 1.63"H will be provided in the cab. The Opticom [™] traffic light controller will be activated by a cab switch with emergency master control. The Opticom [™] traffic light controller will have a driver side momentary cab switch with po
			emergency master control. The Opticom™ traffic light controller will be disabled when the parking brake is applied.
0759658	SP	Wiring Instructions, Label and Extend Scan-Lock Wire	EXTEND AND LABEL SCAN-LOCK WIRE The Scan-Lock wire used to adjust the warning light flash patterns will be extended to behind the DS overhead drop down switch panel in the cab and labeled for quick identification.
0016380		No Additional Lights Req'd, Side Zone Upper	
0602583		Lights, Front Zone, WIn 6RB* M6** M6** 6RB* LED, 4lts Q Bezel	FRONT ZONE LOWER LIGHTS There will be four (4) Whelen®, lights installed on the cab face above the headlights in a common bezel matching the headlamps. One (1) Model 6RB**, 4.18" high x 6.56" long x 3.43" deep LED flashing light installed in the driver's side outside position. The driver's side front outside warning light to be red. One (1) Model M6**, 4.31" high x 6.75" long x 1.37" deep LED flashing light installed in the driver's side inside position. The driver's side front inside warning light to be red. One (1) Model M6**, 4.31" high x 6.75" long x 1.37" deep LED flashing light installed in the driver's side inside position. The driver's side front inside warning light to be red. One (1) Model M6**, 4.31" high x 6.75" long x 1.37" deep LED flashing light installed in the passenger's side inside position. The passenger's side front inside warning light to be red. One (1) Model 6RB**, 4.18" high x 6.56" long x 3.43" deep LED flashing light installed in the passenger's side outside position. The passenger's side front outside warning light to be red. The lights will include lenses that are the same color as the LED's. There will be a switch in the cab on the switch panel to control the lights. The inside lights may be load managed if colored or disabled if white when the parking brake is applied.
0653937		Flasher, Headlight Alternating	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.
0757451	SP	Lights, Side Zone Lower, Wln M9**, M9**, M6V2**, 6lts	 SIDE ZONE LOWER LIGHTING There will be six (6) Whelen®, lights with warning LEDs, scene LEDs and black trim provided per the following: Two (2) Model M9**, 6.50" high x 10.37" long x 1.37" deep lights installed one (1) each side on the front cab corner. The left side, side front light to include red warning LEDs and the right side, side front light to include red warning LEDs. Two (2) Model M9**, 6.50" high x 10.37" long x 1.37" deep lights installed rear of crew cab door. The left side, side middle light to include red warning LEDs and the right side, side middle light to include red warning LEDs and the right side, side middle light to include red warning LEDs. Two (2) Model M6V2**, 4.31" high x 6.75" long x 2.25" deep lights installed fender panel above rear axle. The left side, side rear light to include red warning LEDs and the right side, side rear light to include red warning LEDs. The warning light lens colors to be the same as the LEDs. The scene LEDs will include a clear lens. There will be a switch in the cab on the switch panel to control the warning LEDs. The scene LEDs will be activated by a switch at the driver's side switch panel, when a directional signal is activated, by the same control that has been selected for the driver's side scene light(s). The scene LEDs may be load managed when the parking brake is applied.
0743910		Lights, Side, Wln M6** LED, Trm Fet 1st	SIDE WARNING LIGHTS There will be four (4) Whelen®, Model M6**, 4.31" high x 6.75" wide x 1.37" deep flashing LED warning light(s) with black trim provided, two per side, on the hatch compartments. The light(s) to include red flashing LEDs. The warning light lens colors to be the same as the LEDs. There will be a switch in the cab on the switch panel to control the lights. White LEDs will be deactivated when the parking brake is applied. Amber, blue, green and red LEDs may be load managed when the parking brake is applied.
0564654		Lights, Rear Zone Lower, Wln M6* LED, Colored Lens, For Tail Light Housing	REAR ZONE LOWER LIGHTING There will be two (2) Whelen®, Model M6*, LED flashing warning lights will be 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 the same color as the LED's. There will be a switch located in the cab on the switch panel to control the lights.

0617211	SP	Lights, Rear, WIn M6V2** LED 1st	REAR BODY WARNING LIGHTS There will be two (2) Whelen®, Model M6V2**, 4.31" high x 6.75" long x 1.34" deep LED flashing warning and scene light(s) with Model M6FC, chrome flange(s) provided recessed into the bulkhead wall both sides at a height just above the level of the license plate bracket The color of the warning light LED's will be amber. The lens color of the warning light(s) will be the same color as the LED's. The warning light(s) will be controlled with the rear lower warning switch. The scene light(s) will be activated when the parking brake is applied and by the same switching that has been selected for the other rear scene light(s) on the apparatus. The warning LED's and scene LED's may be load managed when the parking brake is applied.
0088745		Light, Rear Zone Upper, Wln L31HRFN LED Beacon, Red LED	REAR/SIDE ZONE UPPER WARNING LIGHTS There will be two (2) Whelen®, Model L31H*FN, LED warning beacons provided at the rear of the truck, located one (1) each side. There will be a switch located in the cab on the switch panel to control the beacons. The color of the lights will be red LEDs with both domes red.
0006551		Not Required, Lights, Rear Upper Zone Blocking	
0006615		Mtg, Rear Warn Lts, On Top of Comp	t The rear warning lights will be mounted on top of the compartmentation with all wiring totally enclosed. The rear deck lights will be mounted on the beavertails as high as possible.
0791493		Light, Traffic Directing, WIn TAM65 36" Long LED	TRAFFIC DIRECTING LIGHT There will be one (1) Whelen® Model TAM65, 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 control head will be energized when the battery switch is on. The with the control head only.
0534126		Location, Traf Dir Lt, Recessed with Trdplt Trim	This traffic directing light will be recessed with a treadplate trim plate at the rear of the apparatus as high as practical.
0530282		Location, Traf Dir Lt Controller, Overhead Switch Panel DS Right End	The traffic directing light control head will be located in the driver side overhead switch panel in the right panel position.
0781579		Receptacle, 15/20A 120V 3-Pr 3-Wr, NEMA 5-20R SB Dup, 1st, Interior Cab	120 VOLT RECEPTACLE There will be three (3), 15/20 amp 120 volt AC three (3) wire straight blade duplex receptacle(s) with interior duplex flip up cover(s), installed In the cab, rear of the officers seat • In the crew cab, in the DS and recessed in the officer's side wall of the seat riser near floor level 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 Ratting (amps) Phase Frequency
0779722		Receptacle, 15/20A 120V 3-Pr 3-Wr, NEMA 5-20R SB Dup, 1st, Interior Body	120 VOLT RECEPTACLE There will be six (6), 15/20 amp 120 volt AC three (3) wire straight blade duplex receptacle(s) with interior flip up cover(s), installed In compartments LS1, LS2, LS3, RS1, RS2, RS3 on the forward bulkhead of each compartment near the top 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 Ratting (amps) Phase Frequency
0519934		Not Required, Brand, Hydraulic Tool System	
0649753		Not Required, PTO Driven Hydraulic Tool System	
0007150		Bag of Nuts and Bolts	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.

0602360

NFPA Required Loose Equipment, Pumper, NFPA 2016, Provided by Fire Department

NFPA REQUIRED LOOSE EQUIPMENT PROVIDED BY FIRE DEPARTMENT

The following loose equipment as outlined in NFPA 1901, 2016 edition, section 5.9.3 and 5.9.4 will be provided by the fire department.

800 ft (60 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 (750 L/min) minimum.

Two (2) handline nozzles, 95 gpm (360 L/min) minimum.

One (1) smoothbore of combination nozzle with 2.50" shutoff that flows a minimum of 250 gpm.

One (1) SCBA complying with NFPA1981 for each assigned seating position, but not fewer than four (4), mounted in brackets fastened to the apparatus or stored in containers supplied by the SCBA manufacturer.

One (1) spare SCBA cylinder for each SCBA carried, each mounted in a bracket fastened to the apparatus or stored in a specially designed storage space(s).

One (1) first aid kit.

Four (4) combination spanner wrenches.

Two (2) hydrant wrenches.

One (1) double female 2.50" (65 mm) adapter with National Hose threads. One (1) double male 2.50" (65 mm) adapter with National Hose threads.

One (1) rubber mallet, for use on suction hose connections.

Two (2) salvage covers each a minimum size of 12 ft x 14 ft (3.7 m x 4.3 m).

One (1) traffic vest for each seating position, each vest to comply with ANSI/ISEA 207, Standard for High Visibility Public Safety Vests, 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. One (1) automatic external defibrillator (AED).

Four (4) ladder belts meeting the requirements of NFPA 1983, Standard on Fire Service Life

Safety Rope and System Components (if equipped with an aerial device).

If the supply hose carried does not use sexless couplings, an additional double female adapter and double male adapter, sized to fit the supply hose carried, will be carried mounted in brackets fastened to the apparatus.

If none of the pump intakes are valved, a hose appliance that is equipped with one or more gated intakes with female swivel connection(s) compatible with the supply hose used on one side and a swivel connection with pump intake threads on the other side will be carried. Any intake connection larger than 3.00" (75 mm) will include a pressure relief device that meets the requirements of 16.6.6.

If the apparatus does not have a 2.50" National Hose (NH) intake, an adapter from 2.50" NH female to a pump intake will be carried, mounted in a bracket fastened to the apparatus if not already mounted directly to the intake.

If the supply hose carried has other than 2.50" National Hose (NH) threads, adapters will be carried to allow feeding the supply hose from a 2.50" NH thread male discharge and to allow the hose to connect to a 2.50" NH female intake, mounted in brackets fastened to the apparatus if not already mounted directly to the discharge or intake.

0602407	Soft Suction Hose, Provided by Fire Department, Pumper NFPA 2016 Classification	SOFT SUCTION HOSE PROVIDED BY FIRE DEPARTMENT NFPA 1901, 2016 edition, section 5.8.2.1 requires a minimum of 20' of suction hose or 15' of supply hose will be carried. Hose is not on the apparatus as manufactured. The fire department will provide suction or supply hose.
0027023	No Strainer Required	
0602538	Extinguisher, Dry Chemical, Pumper	DRY CHEMICAL EXTINGUISHER PROVIDED BY FIRE DEPARTMENT

NFPA 2016 Class, Provided by Fire NFPA 1901, 2016 edition, section 5.9.4 requires one (1) approved dry chemical portable fire extinguisher with a minimum 80-B:C rating mounted in a bracket fastened to the apparatus. Department The extinguisher is not on the apparatus as manufactured. The fire department will provide and mount the extinguisher. Extinguisher, 2.5 Gal. Pressurized WATER EXTINGUISHER PROVIDED BY FIRE DEPARTMENT Water, Pumper NFPA 2016, Provided NFPA 1901, 2016 edition, section 5.9.4 requires one (1) 2.5 gallon or larger water extinguisher mounted in a bracket fastened to the apparatus. by Fire Dept The extinguisher is not on the apparatus as manufactured. The fire department will provide and mount the extinguisher.

0602679 Axe, Flathead, Pumper NFPA 2016 FLATHEAD AXE PROVIDED BY FIRE DEPARTMENT Classification, Provided by Fire NFPA 1901, 2016 edition, Section 5.9.4 requires one (1) flathead axe mounted in a bracket fastened to the apparatus. Department The axe is not on the apparatus as manufactured. The fire department will provide and mount the axe

0602667	Axe, Pickhead, Pumper NFPA 2016 Classification, Provided by Fire Department	PICKHEAD AXE PROVIDED BY FIRE DEPARTMENT NFPA 1901, 2016 edition, Section 5.9.4 requires one (1) pickhead axe mounted in a bracket fastened to the apparatus. The axe is not on the apparatus as manufactured. The fire department will provide and mount the axe.
0559683	Paint, Two Tone, Cab, Special Paint Break at Roof, Custom Cab	 PANT - BODY PAINTED TO MATCH CAB. The sterior custom rab and body painting procedure will consist of a seven (7) step finishing process as follow: Manual Surface Programmin - All exposed metal surfaces on the custom cub and body will be foroughly cleaned and transmet of the painting. Dished stainless steel, anodized surfaces will will not be painted induced; chrome plating, polished stainless steel, anodized surfaces multime that be subsequent coatings bond will. The aluminum surfaces will be projectly cleaned and treated using a high temperature 3 step process specifically designed for steel or stainless. The chemical treatment in surfaces will be projectly cleaned and treated using a high temperature 3 step process specifically designed for steel or stainless. The chemical treatment inconverts the metal surface to a passive condition to help prevent corrosion. A final pure water is a will be applied to all metal surfaces. Surfacer Primer - The Surfacer Primer will be applied to a chemically treated metal surface to provide a strong corrosion protective basecost. A minimum thickness of 2 mills of Surfacer Primer is applied to all metal surfaces. Surfacer Primer - The Surfacer Primer will be sanded with a fine grit abrasive to achieve an ultra-smooth finish. This sanding process is critical abstratic tiposch universe is a two-component high solids urethane that as exceedient gloss hold out when topccade. Saesegal Primer, The Saeler Primer is applied prior to the Basecoat tool. Saesegal Edition - The Cardeer Primer will be applied or a thickness that will achieve the properior and the table of the surface step individes scale will be applied to a unitable solids polyurethane that goes on smooth and provides scale of the day for the saesoat color. The Clean Coat is the same that the surface step individe state and the day in the mater step individe state and the day. All the Basecoat advin the day in the samina step individ

0646901	Paint Chassis Frame Assy, With Liner, E-Coat, Standard	PAINT CHASSIS FRAME ASSEMBLY The chassis frame assembly will be finished with primer and gloss paint to match the lower job color 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 painted are: 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 Air tanks Steel fuel tank Castings Individual piece parts used in chassis and body assembly Components treated with epoxy E-coat protection prior to paint: Two (2) C-channel frame rails Two (2) frame liners The E-coat process will meet the technical properties shown.
0693797	No Paint Required, Aluminum Front Wheels	
0693792	No Paint Required, Aluminum Rear Wheels	
0733739	Paint, Axle Hubs	AXLE HUB PAINT All axle hubs will be painted flat black #99.
0007234	Compartment, Unpainted, D/A Finished	COMPARTMENT INTERIOR FINISH The interior of the compartments will be dual action finished and not painted.
0544129	Reflective Band, 1"-6"-1"	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" white stripe at the top with a 1.00" gap then a 6.00" white stripe with a 1.00" gap and a 1.00" white stripe on the bottom.
0680703	Reflective Stripe Across Cab Face	REFLECTIVE ACROSS CAB FACE The reflective band provided on the cab face will be above, below or at the headlight level.
0536954	Stripe, Chevron, Rear, Diamond Grade, Pumper	REAR CHEVRON STRIPING There will be alternating chevron striping located on the rear-facing vertical surface of the apparatus. The rear surface, excluding the rear compartment door, will be covered. The colors will be red and fluorescent yellow green diamond grade. Each stripe will be 6.00" in width. This will meet the requirements of the current edition of NFPA 1901, which states that 50% of the rear surface will be covered with chevron striping.
0665144	Stripe, Reflective, Chevron, Cab and Crew Cab Door Edge, Diamond Grade	CHEVRON STRIPING ON CAB AND CREW CAB DOOR EDGE There will be alternating chevron striping located on the inside of each cab and crew cab door edge. The design will be either DOT pattern or standard chevron design. Width will be determined by available space. The striping will consist of the following colors: The first color will be yellow diamond grade The second color will be red diamond grade
0027341	Jog, In Reflective Stripe, Single or Multiple	JOG(S) IN REFLECTIVE BAND The reflective band located on each side of the apparatus body will contain one (1) jog(s) and will be angled at approximately a 45 degrees when installed.
0017359	Stripe, Black Outline, Vinyl on Reflective Band	REFLECTIVE STRIPE OUTLINE A black outline will be applied on the top and the bottom of the reflective band. There will be three (3) set of outline stripes required.

0669643		Stripe, Reflective, Inside Aluminum Rub Rail	REFLECTIVE STRIPE INSIDE RUBRAILS A reflective stripe will be provided inside the extruded aluminum rubrails. The reflective material will be black. There will be a quantity of four (4) rubrails striped.
0512024		Stripe, Reflective, Chevron/Inverted "V", On Front Bumper	CHEVRON/INVERTED "V" STRIPING ON THE FRONT BUMPER There will be alternating chevron striping located on the front bumper. The striping will consist of the following colors: The first color will be black The second color will be ruby red The size of the striping will be 6.00".
0065687		Stripe, Reflective, Cab Doors Interior	CAB DOOR REFLECTIVE STRIPE A 6.00" x 16.00" black 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 NFPA 1901 requirement.
0033179		Lettering Specifications, Reflective	
0686150		Lettering, Reflective, 4.00", (61-80)	LETTERING Sixty-one (61) to eighty (80) reflective lettering, 4.00" high, with outline and shade will be provided.
0686018		Lettering, Reflective, 5.00", Each	LETTERING There will be reflective lettering, 5.00" high, with outline and shade provided. There will be 24 letters provided.
0686033		Lettering, Reflective, 4.00", Each	LETTERING There will be reflective lettering, 4.00" high, with outline and shade provided. There will be 26 letters provided.
0686081		Lettering, Reflective, 3.00", (21-40)	LETTERING Twenty-one (21) to forty (40) reflective lettering, 3.00" high, with outline and shade will be provided.
0602003	SP	Laminate Scotchlite Lettering on Entire unit for Protection	LAMINATE LETTERING ON ENTIRE UNIT The Scotchlite lettering on the entire unit will be completely covered with a clear plastic laminate material to protect it.
0655896		Sign Kit, Painted, Holder and Insert, Each	SIGN KIT FOR LETTERING/NUMERALS four (4) painted stainless steel plate(s) and holder(s) will be provided for department lettering. They will be mounted front, DS, PS and rear and 16" x 7" in size.
0077042		Emblem, American Flag, 7.00H x 11.00W	EMBLEMS An American flag emblem, 7.00" high x 11.00" wide, will be installed • One (1) each side, aft of the crew cab doors, high on the side walls . The flag will appear to be moving in the wind.
0684184		Emblem, Maltese Cross, Reflective, 15"-17", Pair	MALTESE CROSS INSTALLATION There will be one (1) pair of maltese crosses, comprised of reflective material, provided and installed Located on Cab doors.
0769753		Emblem, American Flag Painted on Cab Grille, All Custom Chassis	CAB GRILLE DESIGN An American flag design will be painted on the cab grille.

0772003		Manual, Fire Apparatus Parts, USB Flash Drive, Custom	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 bodyes. 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.
0772037		Manual, Chassis Service, USB Flash Drive, Custom	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.
0773381		Manual, Chassis Operation, (1) USB Flash Drive, Custom	CHASSIS OPERATION MANUAL The chassis operation manual will be provided on one (1) USB flash drive.
0030008		Warranty, Basic, 1 Year, Apparatus, WA0008	ONE (1) YEAR MATERIAL AND WORKMANSHIP A Pierce basic apparatus limited warranty certificate, WA0008, is included with this proposal.
0787466	SP	Warranty, Engine, Cummins, 8 Year/100,000 Protection Plan Plus, 2017	ENGINE WARRANTY A Cummins eight (8) year, 100,000 miles Protection Plan Plus engine warranty will be provided. A copy of the warranty certificate will be submitted with the bid package.
0684953		Warranty, Steering Gear, Sheppard M110, 3 Year WA0201	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 the bid package.
0595766		Warranty, Frame, 50 Year, Includes Crossmembers, Custom Chassis, WA0038	FIFTY (50) YEAR STRUCTURAL INTEGRITY The Pierce custom chassis frame and crossmembers limited warranty certificate, WA0038, is included with this proposal.
0595698		Warranty, Axle, 3 Year, TAK-4, WA0050	FRONT AXLE THREE (3) YEAR MATERIAL AND WORKMANSHIP WARRANTY The Pierce TAK-4 suspension limited warranty certificate, WA0050, is included with this proposal.
0733306		Warranty, Single Axle, 5 Year, Meritor General Service, WA0384	SINGLE REAR AXLE FIVE (5) YEAR MATERIAL AND WORKMANSHIP WARRANTY A Meritor™ Axle 5 year limited warranty will be provided.
0652758		Warranty, ABS Brake System, 3 Year Meritor Wabco, WA0232	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.
0019914		Warranty, Structure, 10 Year, Custom Cab, WA0012	TEN (10) YEAR STRUCTURAL INTEGRITY The Pierce custom cab limited warranty certificate, WA0012, is included with this proposal.

0595813	Warranty, Paint, 10 Year, Cab, Pro- Rate, WA0055	TEN (10) YEAR PRO-RATED PAINT AND CORROSION A Pierce cab limited pro-rated paint warranty certificate, WA0055, is included with this proposal.
0524627	Warranty, Electronics, 5 Year, MUX, WA0014	FIVE (5) YEAR MATERIAL AND WORKMANSHIP The Pierce Command Zone electronics limited warranty certificate, WA0014, is included with this proposal.
0708760	Warranty, Not Applicable, LED Strip Lights	COMPARTMENT LIGHT WARRANTY The compartment lights will not offer an extended warranty.
0046369	Warranty, 5-year EVS Transmission, Standard Custom, WA0187	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.
0685945	Warranty, Transmission Cooler, WA0216	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 submitted with the bid package.
0688798	Warranty, Water Tank, Lifetime, UPF, Poly Tank, WA0195	WATER TANK WARRANTY A UPF poly water tank limited warranty certificate, WA0195, is included with this proposal.
0596025	Warranty, Structure, 10 Year, Body, WA0009	TEN (10) YEAR STRUCTURAL INTEGRITY The Pierce apparatus body limited warranty certificate, WA0009, is included with this proposal.
0690936	Warranty, Roll up Doors, Not Required	
0639211	Warranty, Pump, Hale, 5 Year Parts, 2 Year Labor, WA0248	PUMP WARRANTY A Hale pump limited warranty certificate, WA0248, is included with this proposal.
0648675	Warranty, 10 Year S/S Pumbing, WA0035	TEN (10) YEAR PUMP PLUMBING WARRANTY The Pierce apparatus plumbing limited warranty certificate, WA0035, is included with this proposal.
0657846	Warranty, Foam System, Husky 12, WA0231	FOAM SYSTEM WARRANTY The Husky 12 foam system limited warranty certificate, WA0231, is included with this proposal.
0595820	Warranty, Paint, 10 Year, Body, Pro- Rate, WA0057	TEN (10) YEAR PRO-RATED PAINT AND CORROSION A Pierce body limited pro-rated paint warranty certificate, WA0057, is included with this proposal.
0595412	Warranty, Graphics Lamination, 1 Year, Apparatus, WA0168	ONE (1) YEAR MATERIAL AND WORKMANSHIP The Pierce graphics fading and deterioration limited warranty limited warranty certificate, WA0168, is included with this proposal.
0683627	Certification, Vehicle Stability, CD0156	VEHICLE STABILITY CERTIFICATION The fire apparatus manufacturer will provide a certification stating the apparatus complies with NFPA 1901, current edition, section 4.13, Vehicle Stability. The certification will be provided at the time of bid.
0736238	Certification, Engine Installation, Saber FR/Enf, Cummins L9, 2021	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.
0686786	Certification, Power Steering, CD0098	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 will be provided at the time of bid.

0631980	Certification, Cab Integrity, Saber FR/Enforcer, CD0130	 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: European Occupant Protection Standard ECE Regulation No.29. SAE J2422 Cab Roof Strength Evaluation - Quasi-Static Loading Heavy Trucks. SAE J2420 COE Frontal Strength Evaluation - Dynamic Loading Heavy Trucks. Moof 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. Side Impact The same cab will be subjected to dynamic preload where a 13,275-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 65,200 ft-lb of force using a moving barrier. (Twice the force required by SAE J2420) The same cab will withstand al tests without any measurable intrusion into the survival space of the occupant area.
0631973	Certification, Cab Door Durability, Saber FR/Enforcer, CD0137	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.
0631978	Certification, Windshield Wiper Durability, Saber FR/Enforcer, CD0132	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 <i>Windshield</i> <i>Wiper Systems - Trucks, Buses and Multipurpose Vehicles.</i> The bidder will certify that the wiper system design has been tested and that the wiper system has met these criteria.
0631974	Certification, Electric Window Durability, Saber FR/Enforcer, CD0133	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.
0631977	Certification, Seat Belt Anchors and Mounting, Saber FR/Enforcer, CD0134	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.

0735949	Certification, Cab HVAC System Performance, SFR/Enf, CD0165/CD0167/CD0174/CD0175	 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.
0545073	Amp Draw Report, NFPA Current Edition	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: Applicable NFPA 1901 or 1906 (Current Edition). The minimum continuous load of each component that is specified per: Applicable NFPA 1901 or 1906 (Current Edition). 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 applicable NFPA 1901 or 1906 (Current Edition).
0002758	Amp Draw, NFPA/ULC Radio Allowance	
0799248	Appleton/Florida BTO	
0000018	PUMPER, 2ND GEN	
0000012	PIERCE CHASSIS	
0004713	ENGINE, OTHER	
0046395	EVS 3000 Series TRANSMISSION	
0020012	HALE PUMP	
0020009	POLY TANK	
0028048	FOAM SYSTEM	
0020005	TOP MOUNT	
0020007	AKRON VALVES	
0020015	ABS SYSTEM	
0658751	PUMPER BASE	



Governing Board Agenda Item

SUBJECT/TITLE: Benefit Charge Hearing Process Dates

STAFF CONTACT: AC Gunsolus

SUMMARY STATEMENT:

EXHIBITS:

Fire Authorities are required by state law to hold a petition hearing for property owners who feel their Benefit Charge has been inaccurately calculated. The hearing process must take place over a two-week period.

FISCAL IMPACT:
Expenditure N/A Revenue
Currently in the Budget Yes No
SUMMARY OF ACTION:
After consulting with Puget Sound Regional Fire Authority, staff is recommending the following dates and times for the Benefit Charge petition process:
Deadline for Petitions: February 1, 2021 at 4:30 p.m. Petition Hearing Begins: February 9, 2021 at 4:00 p.m. Petition Hearing: February 23, 2021 at 10:00 a.m. Final Ruling: March 9, 2021 at 4:00 p.m.
Reviewed by Legal Yes No

RFA GOVERNANCE BOARD RECOMMENDED ACTION:

I move to adopt the 2021 RRFA Petitions Schedule as presented.