PROPOSAL

TO THE:
City of Dalton (Sourcewell ID#43364)
Attn: Chief T. Pangle
404 School St
Dalton, GA 30720

DATE: May 29, 2023

We hereby propose and agree to furnish the following firefighting equipment upon your acceptance of this proposal via the Sourcewell Co-Operative Purchasing Contract #113021-SUT:

One (1) Sutphen Severe Duty Heavy Rescue Complete and Delivered for the Total Sum of $1,199,786.00

The unit shall be manufactured completely in accordance to the following proposal and inspected at the manufacturing facility in approximately **24** months from the date of the contract signing or purchase order, subject to delays from all causes beyond our control. The unit shall be delivered approximately 4-6 weeks after the inspection, subject to delays from all causes beyond our control.

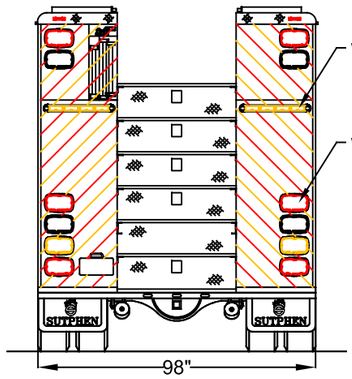
This proposal shall be valid for thirty (30) days. If the contract or purchase order is not received within this proposed duration, we reserve the right to extend, withdraw, or modify our proposal, including pricing, delivery times, and prepayment discounts as applicable.

A price increase takes effect on June 15th. 2023. Proposals are required to be good for thirty (30) days. If a Contract or Purchase Order is received on or before June 14th, 2023, there is a $50,000 credit. The purchase price would be $1,149,786.00

Should any changes be required as mandated by NFPA, EPA, or other Federal, State or Local Governments, or changes due to part availability or vendor relationships, such changes shall be documented on a change order and purchaser shall be responsible for additional charges as applicable. These may include but are not limited to changes that affect the major vendors of the fire apparatus industry such as pump manufacturer, seat manufacturer, electrical power supplies (generators) and powertrain (engine & transmission).

Respectfully submitted,

Jerry Harley
Authorized Representative for Sutphen Corporation
336-613-8202



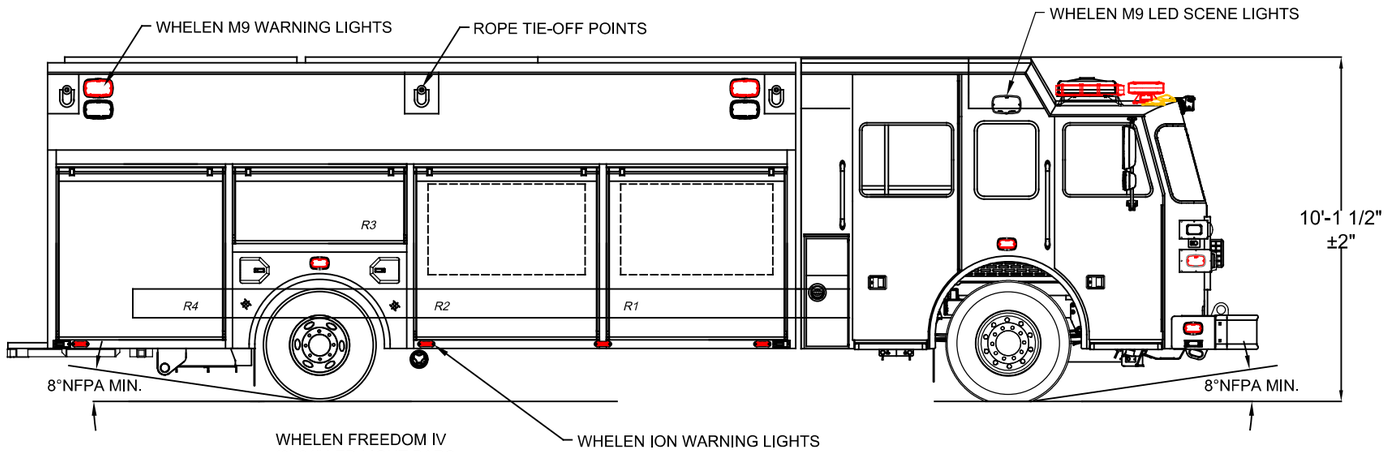
FENDER STORAGE
LFF: SINGLE SCBA
LRF: SINGLE SCBA
RFF: SINGLE SCBA
RRF: SINGLE SCBA

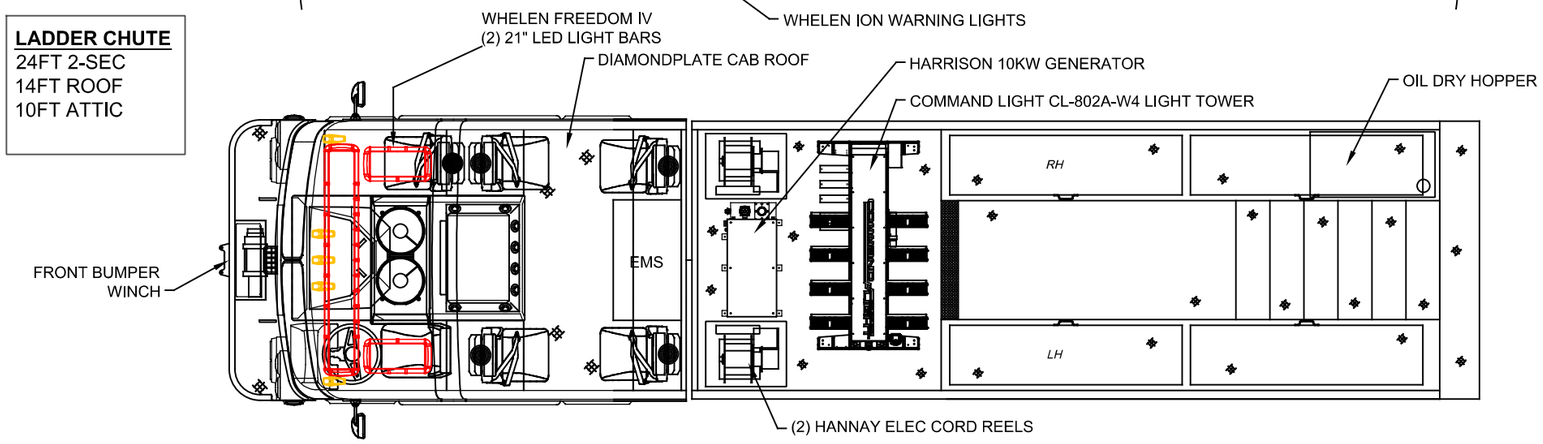
LEFT SIDE COMPARTMENTS				
COMPT	DOORS	OPENING DIMENSIONS	INSIDE DIMENSIONS	VOLUME
L1	ROLL-UP	38"w X 62"h	68"w X 66"h X 26 1/4"/Transverse d	89.1 CU. FT.
L2	ROLL-UP	38"w X 62"h	68"w X 66"h X 26 1/4"/Transverse d	89.8 CU. FT.
L3	ROLL-UP	57"w X 28"h	64"w X 32"h X 26 1/4"d	31.1 CU. FT.
L4	ROLL-UP	55"w X 62"h	64"w X 66"h X 26 1/4"d	64.2 CU. FT.

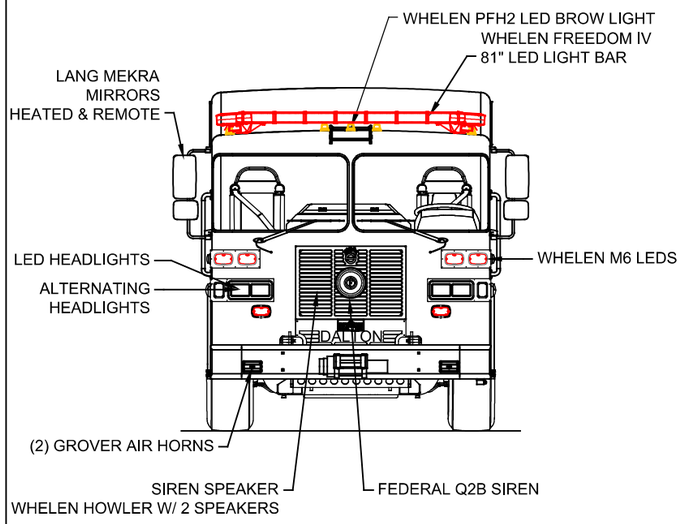
RIGHT SIDE COMPARTMENTS				
COMPT	DOORS	OPENING DIMENSIONS	INSIDE DIMENSIONS	VOLUME
R1	ROLL-UP	38"w X 62"h	68"w X 66"h X 26 1/4"/Transverse d	89.1 CU. FT.
R2	ROLL-UP	38"w X 62"h	68"w X 66"h X 26 1/4"/Transverse d	89.8 CU. FT.
R3	ROLL-UP	57"w X 28"h	64"w X 32"h X 26 1/4"d	31.1 CU. FT.
R4	ROLL-UP	55"w X 62"h	64"w X 66"h X 26 1/4"d	64.2 CU. FT.

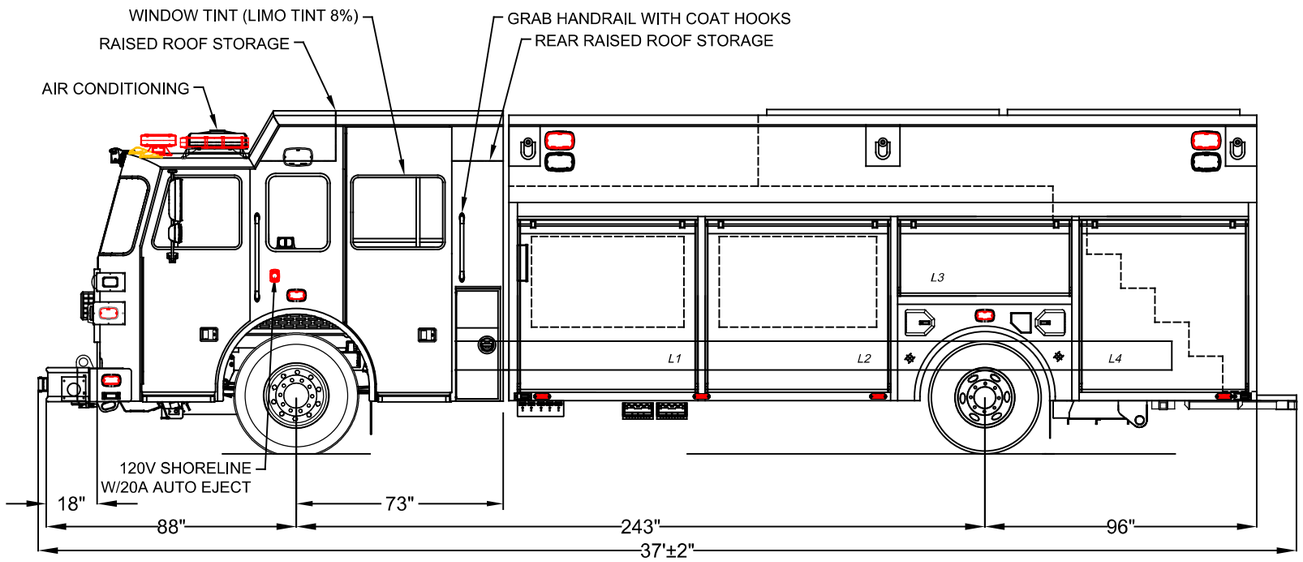
COFFIN COMPARTMENTS				
COMPT	DOORS	OPENING DIMENSIONS	INSIDE DIMENSIONS	VOLUME
LH	HATCH	(2) 82"L X 21"w	176"L X 28"w X 30.75"d	87.7 CU. FT.
RH	HATCH	(2) 82"L X 21"w	176"L X 28"w X 30,75"d	87.7 CU. FT.
			TOTAL: 723.8 CU.FT.	

LADDER CHUTE
24FT 2-SEC
14FT ROOF
10FT ATTIC









DIMENSIONS SHOWN ON THIS DRAWING ARE APPROXIMATE AND ARE SUBJECT TO MINOR DEVIATIONS DURING CONSTRUCTION.

IN THE EVENT OF A DISCREPANCY BETWEEN THE SUTPHEN SPECIFICATIONS AND DRAWING, THE SUTPHEN SPECIFICATIONS SHALL PREVAIL.

DRAWING IS FOR REFERENCE ONLY. SOME ITEMS PROPOSED MAY NOT BE SHOWN OR NOTED.

CUSTOMER APPROVAL

NAME: _____

TITLE: _____

DATE: _____

REV.	DESCRIPTION	BY	DATE
-	-	-	-

THIS PRINT IS PROVIDED ON A RESTRICTED BASIS AND IS NOT TO BE USED IN ANY WAY DETRIMENTAL TO THE INTEREST OF SUTPHEN CORPORATION.

DRAWN BY: J. GORDON

DATE: 05/16/2023

MFG. FACILITY: EAST

SUTPHEN

DALTON FIRE DEPT.
DALTON, GA

CUSTOM RESCUE - RA-22

DWG. NO.: HS-####

Sutphen
Component Report
Dealership: Williams Fire Apparatus

HS- Dalton Fire Department, Georgia
Heavy Rescue

Order#: DQ016411-1
Contact:
Position:
Phone:
Mobile:
Email:

Bill To	Ship To
Customer: Dalton Fire Department **Contact:** , **Address:** 404 School St. Dalton, Georgia 30720	**Customer:** Dalton Fire Department **Contact:** , **Address:** 404 School St. Dalton, Georgia 30720

Comments
Project Manager: **Sales Person:** Jerry Harley **Revision Level:** **Truck Type:** **Body Facility:**

Quote Line Number 1

Line	Item #	Qty	Item Description/Comments
1	10000225	1	STD WIRING SCHEMATIC (USB)
2	10310100	1	CHASSIS
			CHASSIS
3	10010006	1	CHASSIS, CUSTOM
4	51070244	1	WHEELBASE = 244
5	51010310	1	WHEELBASE GREATER THAN 200"
6	25010255	1	FRAME, 10" DOUBLE RAILS, DOMEX, SINGLE AXLE (110K PSI)
7	45040100	1	FRONT BUMPER CLIP
8	45010001	1	FRONT TOW EYES, BELOW BUMPER, PAINTED
9	45030220	1	ADDITIONAL FRONT TOW EYES, TOP OF BUMPER, PAINTED
10	46010000	1	REAR TOW EYES, PAINTED
11	40010250	1	STEERING - ROSS TAS-85
12	22010200	1	DRIVE LINE, SPICER, SPL250
13	23015220	1	ENGINE, CUMMINS X 15 605HP DOC-DPF-DEF-SCR OBD

Line	Item #	Qty	Item Description/Comments
14	23029200	1	ENGINE WARRANTY, 5 YEAR, 100,000 MILES FOR CUMMINS (X SERIES)
15	23029400	1	AFTERTREATMENT WARRANTY, 5 YEAR, 100,000 MILES FOR CUMMINS (X SERIES)
16	23030006	1	AIR INTAKE/EMBER SEPARATOR
17	23031176	1	FUEL FILTER/WATER SEPARATOR, PRIMARY, FLEETGUARD FUEL PRO FH230
18	23031180	1	12VDC HEATER FOR FLEETGUARD FUEL/WATER SEPARATOR
19	23031220	1	FUEL FILTER, SECONDARY, FLEETGUARD, FF5825NN
20	47012535	1	TRANSMISSION, ALLISON GEN 6, EVS4500R W/RETARDER (X SERIES)
21	23110000	1	JACOBS ENGINE BRAKE
22	47024050	1	TRANSMISSION COOLER
23	47030000	1	ALLISON TOUCH PAD SHIFTER
24	47030110	1	SHIFTER PAD GEARING, 6 GEARS OPEN
25	47031000	1	HOT SHIFT PTO
26	47031050	1	SWITCH & WIRING FOR HOT SHIFT PTO
27	21021210	1	COOLING SYSTEM FOR X15
28	21030195	1	COOLANT FILTER
29	21030000	1	FAN CLUTCH
30	21030200	1	RADIATOR COOLANT RECOVERY, PRESSURIZED SYST
31	21030500	1	LONG LIFE ANTIFREEZE, 50/50 MIX
32	47088888	1	SPECIAL ITEM, ADDITIONAL COOLANT PURGE TANK
33	26010011	1	FUEL TANK, STAINLESS STEEL, 100 GAL
34	26030000	1	FUEL FILL
35	26030100	1	FUEL COOLER
36	24040000	1	DIESEL EXHAUST FLUID TANK
37	13012125	1	ALTERNATOR, C.E. NIEHOFF 415 AMP C570
38	13030100	1	LOW VOLTAGE ALARM, FLOYD BELL TXB-V86-515-QF
39	15010500	1	BATTERIES, INTERSTATE TYPE 31 MHD (4)

Line	Item #	Qty	Item Description/Comments
40	15031700	1	BATTERY JUMPER TERMINALS
41	15031525	1	BATTERY CHARGER, KUSSMAUL CHIEF 6012 W/REMOTE BAR GRAPH DISPLAY
42	15030435	1	120V SHORELINE INLET, KUSSMAUL SUPER 20 AUTO EJECT, 180° OPENING COVER 091-55-211-00-XXX
43	15040100	6	120V OUTLET WIRED TO SHORELINE INLET - EA (6)
44	14022120	1	FRONT AXLE, HENDRICKSON STEERTEK NXT 20,000 LB.
45	41022120	1	FRONT SUSPENSION, HENDRICKSON 20,000 LBS. (4) 56" LEAFS
46	41040510	1	STEER ASSIST
47	43010306	1	FRONT TIRES, GOODYEAR 385/65R22.5 LRJ ARMOR MAX PRO 22.5 x 12.25 WHEELS
48	14510530	1	REAR AXLE, MERITOR RS-26-185 27,000 LB.
49	14530100	1	TOP SPEED, 68 MPH
50	42010015	1	REAR SUSPENSION, FIREMAAX 27,000 LBS. AIR RIDE
51	44010308	1	REAR TIRES, GOODYEAR 12R22.5 X 8.25 LRH ENDURANCE RSA HIGHWAY 24,000 - 27,000 GVWR
52	42910200	1	TIRE PRESSURE MONITOR, REAL WHEELS, LED
53	44210210	1	WHEELS, ALUM, ALCOA, DURABRITE (max 27K rear)
54	44230110	1	INNER WHEELS COATED, SINGLE AXLE
55	44270100	1	HUB COVERS, FRONT & REAR, POLISHED STS (Single Axle)
56	44270300	1	CHROME LUG NUT CAPS, FRONT & REAR (Single Axle)
57	44271100	1	MUD FLAPS, FRONT (PAIR)
58	44271200	1	MUD FLAPS, REAR (PAIR)
59	54010020	1	DATA, SAFETY & WARNING TAGS APPLICATION, SCREW-ON
60	16010285	1	BRAKES STEERTEK DISC PLUS EX225 FRONT, SCAM 8.625" REAR (SINGLE AXLE)
61	18030400	1	FRONT WHEEL BRAKE ASSIST FOR FOUR WHEEL BRAKE SERVICE
62	18010041	1	AIR BRAKE SYST 4 TANKS WABCO 1200 DRYER (24K, 27K)
63	18030010	1	AIR BRAKE RELEASE VALVE, WABCO
64	18020000	1	CENTRAL LOCATION FOR AIR TANK DRAINS
65	18030140	1	AIR INLET CONNECTION W/CHECK VALVE

Line	Item #	Qty	Item Description/Comments
66	18035110	1	AIR COMPRESSOR, KUSSMAUL AUTO PUMP AC, 100PSI
67	18036105	1	TIMER, KUSSMAUL AUTO PUMP
68	18210000	1	ELEC STABILITY CONTROL SYST
69	18110050	1	WABCO 4 CHANNEL ANTI-LOCK BRAKES W/ASR (24K, 27K)
70	18142000	1	ASR DISCONNECT SWITCH ON DASH
71	14530500	1	TIRE CHAINS, ON-SPOT, 6 STRANDS
72	53510000	1	COMPRESSION FITTINGS ON AIR SYSTEM (CHASSIS)
73	54010000	1	MISCELLANEOUS ITEMS ON CHASSIS
74	10310110	1	CAB
			CAB
75	11023270	1	CAB TSAL4G 73" 15" RR 1/2
76	11030025	1	CAB CERTIFICATION - STRUCTURAL INTEGRITY
77	11030950	1	CAB LOCKDOWN LATCHES
78	11031025	1	CAB TILT SYSTEM, AIR CONTROL VALVE
79	11031100	1	MANUAL BACK-UP TILT SYSTEM
80	11031350	1	CAB DOORS, FULL LENGTH (4)
81	11031385	1	CAB STEPS, LOWER GRIP STRUT, INTERMEDIATE DIAMONDPLATE
82	11031399	1	CAB STEP LIGHTING, TECNIQ E45 LED STRIP LIGHTS
83	11031421	1	CAB DOOR WINDOWS, POWER (4)
84	11031401	1	CAB SIDE WINDOWS, FIXED, BOTH SIDES
85	11031460	1	NO WINDOWS, BACK WALL OF CAB
86	11031465	1	WINDOW TINTING (LIMO TINT 8%) - EACH (4)
87	52010010	1	ELECTRIC INTERMITTENT WIPERS
88	52030100	1	DEACTIVATE WINDSHIELD WIPERS WITH PARKING BRAKE ENGAGED
89	52030200	1	WINDSHIELD WASHER RESERVOIR
90	38010020	1	MIRRORS LANG MEKRA 300 SERIES HEATED & REMOTE
91	11024405	1	UPPER GRILLE, LEVEL STYLE FACADE (X SERIES)

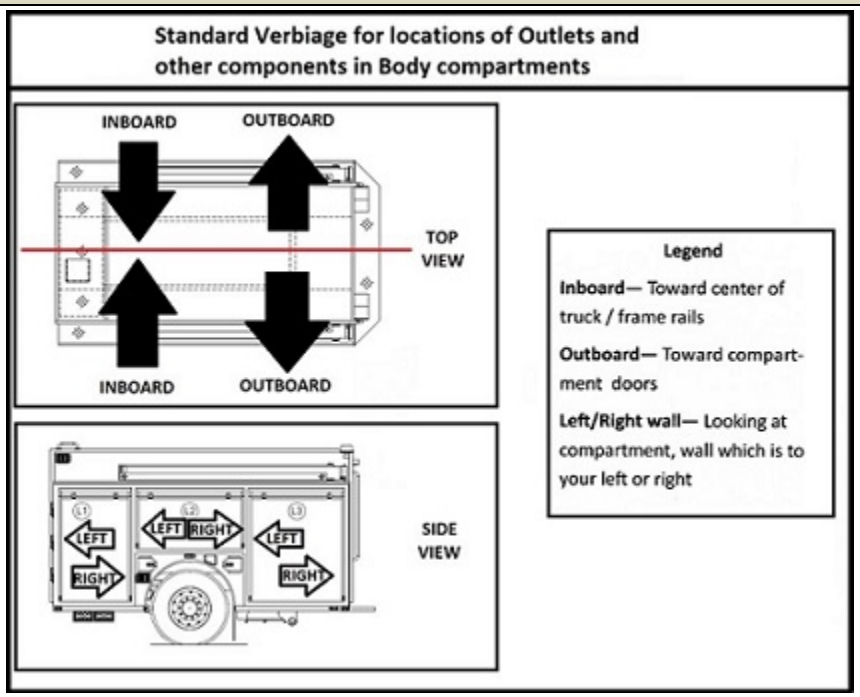
Line	Item #	Qty	Item Description/Comments
92	11024510	1	FLAMING “S” LOGO, UPPER GRILLE, ILLUMINATED
93	11024615	1	LOWER GRILLE, POLISHED STAINLESS, LASER CUT LETTERING W/ BACKLIGHTING
94	20010080	1	BUMPER, 18" POLISHED STAINLESS STEEL
95	20029800	1	BUMPER SIDES, DIAMONDPLATE
96	20050100	1	WINCH, BUMPER MOUNTED, WARN 12,000 LB.
97	20050250	1	PORTABLE WINCH, WARN, 4700 LB. (1)
98	12010500	1	AIR HORNS, DUAL, GROVER #2040 RECTANGULAR, BEHIND PERFORATION
99	12030015	1	AIR HORNS CUTOUTS IN BUMPER, BEHIND PERFORATIONS (X SERIES)
100	12030205	1	AIR HORNS WIRED TO STEERING WHEEL BUTTON
101	12030305	1	FOOT SWITCH, DRIVER'S SIDE
102	12030310	1	FOOT SWITCH, OFFICER'S SIDE
103	12030350	1	LANYARD CONTROL FOR AIR HORNS
104	12510109	1	ELEC SIREN, WHELEN 295HFSA7, REMOTE FLUSH MOUNT WITH REMOVABLE MIC
105	12530205	1	ELEC SIREN WIRED TO STEERING WHEEL BUTTON
106	12620100	1	SIREN SPEAKER, 100W, CAST PRODUCTS, SA4201-6B-A
107	12670110	1	SIREN SPEAKER(S) INSTALLED BEHIND CAB GRILLE
108	12550100	1	LOW FREQUENCY ELEC SIREN, WHELEN HOWLER W/(2) SPEAKERS
109	12710100	1	SIREN, FEDERAL Q2B, GRILLE MOUNT
110	12730305	1	FOOT SWITCH, DRIVER'S SIDE, FOR MECH SIREN
111	12730310	1	FOOT SWITCH, OFFICER'S SIDE, FOR MECH SIREN
112	12730363	1	SIREN BRAKE SWITCH FOR MECH SIREN, DRIVER'S & OFFICER'S SIDE
113	12730400	1	MASTER SHUT OFF SWITCH WITH GUARD FOR Q2B
114	32520520	1	HEADLIGHTS, LED, FIRETECH FT-4X6, DUAL STS HOUSINGS
115	48010300	1	FRONT TURN SIGNALS, WHELEN 400 SERIES LED (4)
116	32530750	1	ICC LIGHTS, LED, ROOF MOUNTED MARKERS, GROTE
117	27022120	1	HANDRAILS, CAB EXTERIOR, KNURLED STAINLESS STEEL (4) SIDE

Line	Item #	Qty	Item Description/Comments
118	27030615	1	COAT HOOKS ON UPPER GRAB HANDRAILS, DRIVER'S SIDE (2)
119	27030655	1	COAT HOOKS ON UPPER GRAB HANDRAILS, OFFICER'S SIDE (2)
120	27025000	1	HANDRAILS, CAB INTERIOR, BLACK RUBBER COATED (2) FRONT ENTRY
121	27030120	1	HANDRAILS, REAR CAB INTERIOR DOOR, BLACK RUBBERIZED (2) AND KNURLED STS AT WINDOW (2)
122	27040100	1	INTERIOR DOOR, NYLON STRAP
123	11032010	1	EXTERIOR COMPT, SIDE OF EXT CAB, 38" H, DS
124	11032450	1	COMPT DOOR LOCK - NOT PROVIDED
125	11032110	1	OPENING TO DRIVER'S SIDE CREW SEAT COMPT
126	11032060	1	EXTERIOR COMPT, SIDE OF EXT CAB, 38" H, OS
127	11032450	1	COMPT DOOR LOCK - NOT PROVIDED
128	11032120	1	OPENING TO OFFICER'S SIDE CREW SEAT COMPT
129	11032300	1	PIKE POLE STORAGE, EXTERIOR CAB COMPT
130	11032310	2	ADJUSTABLE SHELF, EXTERIOR CAB COMPT (EA) (2)
131	11035422	1	DIAMONDPLATE CAB ROOF 56" x FULL WIDTH
132	11033202	1	3/16" SMOOTH ALUM BACK WALL & SIDE WALLS, INSIDE CAB
133	31010285	1	INTERIOR, MULTISPEC BLACK SPECKLE PAINT W/GRAY-BLACK DURAWEAR
134	11032929	1	DOOR PANEL, FULL STS
135	31010291	1	CAB INTERIOR FLOOR COVERING, BLACK RUBBERIZED
136	11035375	1	DIAMONDPLATE CAB FLOOR
137	22510102	1	ENGINE ENCLOSURE, FULL LENGTH, WELDED ALUM
138	22510530	1	ENGINE ENCLOSURE COVERING, SCORPION BLACK URETHANE BLEND
139	11031550	1	CENTER CONSOLE EXTENSION
140	11031563	1	TOP OF EXTENSION, CUP HOLDERS (2) AND STORAGE SLOT
141	11031573	1	SIDES OF EXTENSION, DRIVER & OFFICER'S SIDE STORAGE SLOTS
142	22610050	1	ENGINE HOOD LIGHT, LED (1)
143	11031510	1	FLAT WORK SURFACE IN LIEU OF GLOVE BOX

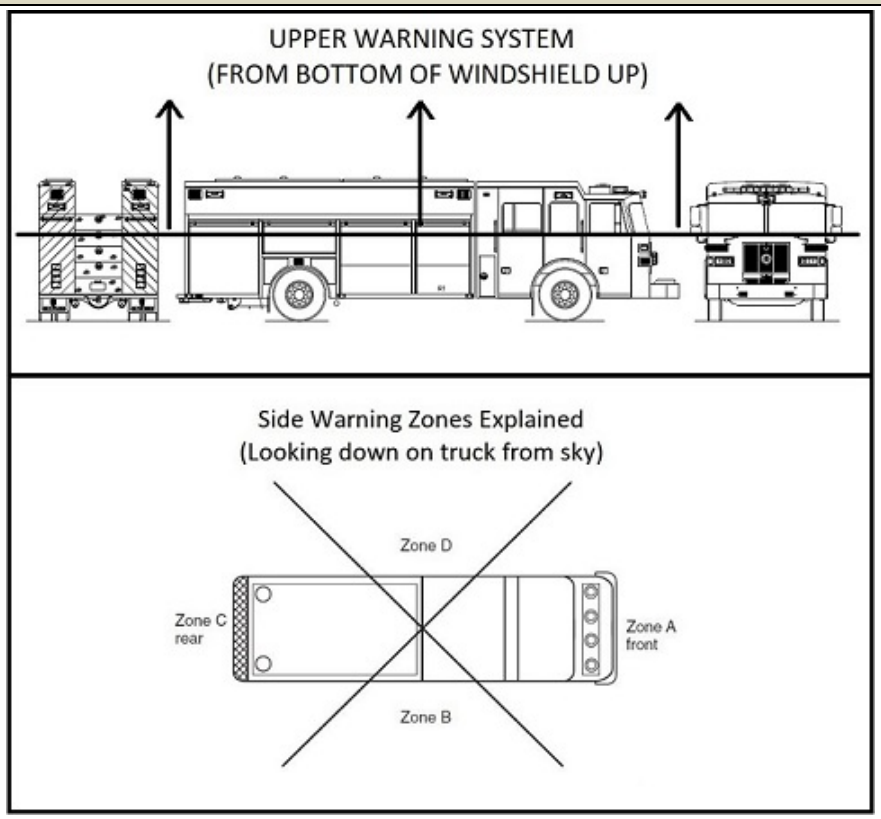
Line	Item #	Qty	Item Description/Comments
144	11031702	1	UPPER CREW DOOR AREA, GLOVE BOX HOLDERS (FLAT BACK)
145	29810100	1	CHASSIS ELECTRICAL DESCRIPTION
146	30010130	1	INSTRUMENTATION, AMETEK W/ CENTER & OVERHEAD CONSOLES
			Upper Command Console: 
147	30010510	1	LOWER COMMAND CONSOLE, X15
			Lower Command Console (15L engine): 
148	30031610	1	DO NOT MOVE LIGHT, WHELEN TIR3 LED
149	30031650	1	DO NOT MOVE ALARM
150	30031675	1	DO NOT MOVE DISENGAGE BUTTON
151	29930200	1	MAPBOOK SLOT ON BREAKER PANEL
152	29910100	1	PROGRAMMABLE LOAD MANAGER, CLASS-1 SUPERNODE II
153	30031100	1	HIGH IDLE SWITCH
154	11040000	1	CAB ACCESSORY FUSE PANEL
155	84541540	1	POWER & GROUND STUDS, UPPER COMMAND CONSOLE
156	84541545	1	POWER & GROUND STUDS, LOWER COMMAND CONSOLE
157	30110000	1	VEHICLE DATA RECORDER, AKRON/WELDON
158	30031810	5	12V DUAL POWER POINT (5)
159	30031840	5	12V DUAL POWER POINT, USB/USBC, KUSSMAUL (5)

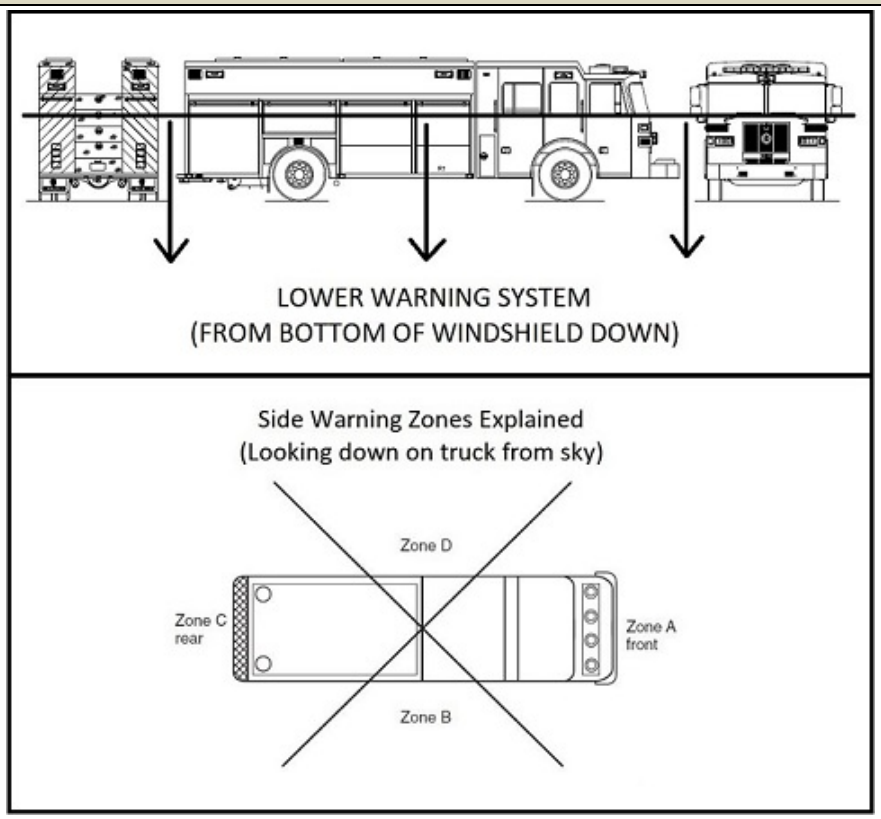
Line	Item #	Qty	Item Description/Comments
160	33510035	1	INTERIOR CAB LIGHTS, WHELEN 6" ROUND RED/CLEAR LED (3)
161	34010035	1	INTERIOR CREW LIGHTS, WHELEN 6" ROUND RED/CLEAR LED (3)
162	33530652	1	INTERIOR CAB DOOR WARNING LIGHTS, WHELEN 500 TIR6 LED, 50*03Z*R (QTY 4)
163	28010750	1	DEFROSTER, HEATER & A/C, SEVERE CLIMATE (TM-31)
164	28090003	1	HEAT TO FEET
165	28090100	1	A/C TO FACE
166	28030500	1	DEFROSTER DUCTWORK, ENTIRE WINDSHIELD
167	11031686	1	TOP HEAT/AC STORAGE, TOOL TRAY, 24.5”x 18.5” W/2” LIP
168	38510104	1	DRIVER'S SEAT, BOSTROM SIERRA HIGH BACK AIR RIDE ABTS (DURAWEAR PLUS, LOW SEAM)
169	38320000	1	HELMET STORED IN COMPARTMENT
170	39010118	1	OFFICER'S SEAT, BOSTROM TANKER 450, ABTS SCBA (DURAWEAR PLUS, LOW SEAM)
171	39030020	1	OFFICER’S SEAT COMPT, FRONT DOOR
172	38320000	1	HELMET STORED IN COMPARTMENT
173	39521129	1	CREW SEAT 1, BOSTROM TANKER 450, ABTS SCBA (DURAWEAR PLUS, LOW SEAM)
174	38320000	1	HELMET STORED IN COMPARTMENT
175	39521130	1	CREW SEAT 2, BOSTROM TANKER 450, ABTS SCBA (DURAWEAR PLUS, LOW SEAM)
176	38320000	1	HELMET STORED IN COMPARTMENT
177	11031828	1	EMS CABINET, FORWARD FACING, DOUBLE ON CREW SEAT RISER (RAISED ROOF)
178	11032250	1	INTERIOR ACCESS, ROLL-UP DOOR, AMDOR
179	11032450	1	COMPT DOOR LOCK - NOT PROVIDED
180	11032312	1	ADJUSTABLE SHELVES, EMS COMPT (2)
181	39521432	1	CREW SEAT 5, BOSTROM TANKER 400CT, ABTS SCBA FLIP UP (DURAWEAR PLUS, LOW SEAM)
182	38320000	1	HELMET STORED IN COMPARTMENT
183	39521433	1	CREW SEAT 6, BOSTROM TANKER 400CT, ABTS SCBA FLIP UP (DURAWEAR PLUS, LOW SEAM)
184	38320000	1	HELMET STORED IN COMPARTMENT
185	39550200	1	SEAT COLOR, BLACK

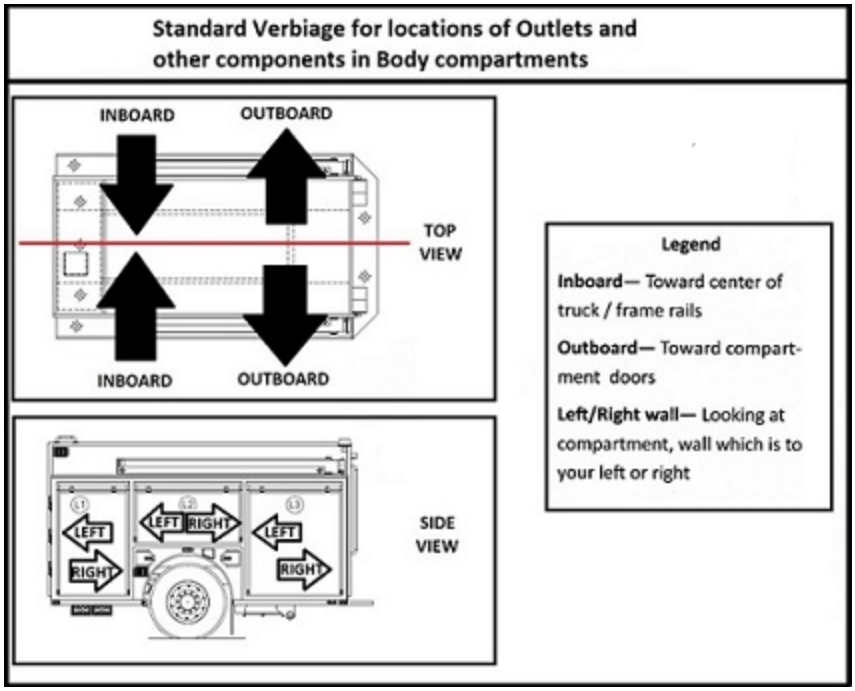
Line	Item #	Qty	Item Description/Comments
186	39610000	5	SCBA BRACKETS, BOSTROM, SECURE ALL (5)
187	38410000	1	SEAT BELT WARNING SYSTEM, AKRON / WELDON
188	39710015	1	CREW SEAT COMPT, FRONT DROP-DOWN DOORS (73" CAB)
189	11031755	1	OVERHEAD STORAGE, FRONT OF 15" RR W/DOORS
190	11031756	1	OVERHEAD STORAGE, REAR OF 15" RR W/DOORS
191	84541600	1	MOUNTING OF CUSTOMERS RADIO-SINGLE HEAD
192	84541700	2	INSTALLATION OF CUSTOMERS 2-WAY RADIO ANTENNA (2)
193	84541500	1	WIRING OF CAB FOR FUTURE INSTALLATION OF HANDLIGHT CHARGERS OR RADIO CHARGERS
194	30080160	1	HD STEREO, JENSEN, AM/FM/WB/CD/BT
195	84530205	1	WIRED INTERCOM, DAVID CLARK - 6 POSITION
196	84560515	1	CAMERA SYSTEM, VOYAGER 2 (WIRED)
197	10310300	1	BODY
BODY			
198	80029895	1	BODY SUBFRAME, RESCUES
199	80130130	1	BODY RA-22 22' ALUM, WALK AROUND, SINGLE AXLE, W/DOUBLE HATCH COMPTS
200	80421355	1	REAR CENTER STAIRCASE W/STORAGE COMPARTMENTS
201	80421360	1	STAIRCASE FINISH, DIAMONDPLATE
202	80421450	1	UPPER BODY, CENTER WALKWAY
203	80421550	1	WALKWAY FINISH, DIAMONDPLATE
204	80421465	1	WALKWAY LIGHTS, TECNIQ E44
205	80421560	1	UPPER HATCH COMPT FINISH, DIAMONDPLATE
206	80245125	1	OIL DRY HOPPER (IN UPPER HATCH COMPARTMENT)
207	80421610	1	ROPE TIE-OFFS, (3) EA SIDE - TOTAL (6)
208	80421650	1	SCUFF PLATE FOR ROPE TIE-OFFS, BRUSHED ALUMINUM
209	10310302	1	BODY COMPARTMENTS
BODY COMPARTMENTS			

Line	Item #	Qty	Item Description/Comments
			
210	81165705	1	UNISTRUT TRACK IN COMPTS
211	80220140	1	COMPT DOORS, AMDOR ROLL-UP, PAINTED
212	80230600	1	DOOR SILL PROTECTION, BODY COMPTS, PROTEC, CLEAR FILM
213	80230008	8	PULL CORDS FOR ROLL-UP DOORS (8)
214	80230002	8	ROLL-UP DOOR DRIP PAN/GUARD (NO DRAIN) (8)
215	80230355	1	COMPT INTERIOR FINISH, SMOOTH
216	84531110	1	COMPT LIGHTING, AMDOR LED LIGHT STRIPS, 2 PER COMPT
217	10310305	1	BODY EXTERIOR
			BODY EXTERIOR
218	81910100	1	HANDRAILS, KNURLED STS
219	82510000	1	RUB RAILS, ANODIZED ALUM
220	83010050	1	ALUMINUM TREADPLATE (ALUM PPR, PRG1, C-SER, TANKER)
221	80231200	1	4 SCBA CYLINDER COMPTS (2 LEFT, 2 RIGHT)
222	80290310	4	DOOR FINISH, BRUSHED STAINLESS, SINGLE/DOUBLE SCBA COMPT (4)
223	83030705	1	REAR FENDERS, ALUMINUM TREADPLATE
224	89011500	1	ALCO-LITE PEL-24 24'2 SEC & PRL-14 14' ROOF & 10' FOLDING

Line	Item #	Qty	Item Description/Comments
225	89510510	1	LADDERS SLOTTED IN UPPER HATCH COMPARTMENT
226	89520220	1	LADDER ENCLOSURE, SMOOTH ALUM DOOR
227	10310310	1	ELECTRICAL
			ELECTRICAL
228	80232140	1	2" RECEIVER, SIDES - 8,000 # RATING (PA)
229	80232145	1	2" RECEIVER, REAR - 8,000 # RATING (PA)
230	80232175	3	WIRING FOR WINCH RECEIVER (3)
231	84550110	1	LICENSE PLATE BRACKET W/ LIGHT, LED
232	84511100	1	BODY ELECTRICAL DESCRIPTION
233	84520000	1	BACK UP ALARM, ECCO SA917
234	85028888	1	SPECIAL Tail Lights TAILLIGHTS, WHELEN M9 SERIES, LED STOP/TAIL/TURN/REVERSE, INDIVIDUALLY MOUNTED (PAIR)
235	85110100	1	ICC LIGHTS, LED
236	85510300	1	STEP LIGHTS, LED
237	85710050	1	UNDERCARRIAGE GROUND LIGHTS, AMDOR LUMABAR H20 LED
238	85730050	8	ADDITIONAL GROUND LIGHT, AMDOR LUMABAR H20 LED (8)
239	86600020	1	OPTICAL WARNING SYSTEM, UPPER (RESCUE)

Line	Item #	Qty	Item Description/Comments
			
240	**86610230**	**1**	**UPPER WARNING LIGHTS, ZONE A (FRONT), WHELEN FREEDOM IV 81" LED LIGHT BAR, F4N1QLED, 20 MODULES**
241	**86920100**	**1**	**UPPER ZONE A LIGHTBAR, STANDARD CONFIGURATION**
242	**86699998**	**1**	**UPPER WARNING LIGHTS, ZONE B (OFFICER'S SIDE), COVERED BY ZONES A & C (Surface Mount)**
243	**86710305**	**1**	**UPPER WARNING LIGHTS, ZONE C (REAR), WHELEN LED, M9 SERIES SURFACE MOUNT, M9* (QTY 4)**
244	**86899998**	**1**	**UPPER WARNING LIGHTS, ZONE D (DRIVER'S SIDE), COVERED BY ZONES A & C (Surface Mount)**
245	**87100020**	**1**	**OPTICAL WARNING SYSTEM, LOWER (RESCUE)**

Line	Item #	Qty	Item Description/Comments
			
246	87110210	1	LOWER WARNING LIGHTS, ZONE A (FRONT), WHELEN M6 LED, M6* (QTY 4)
247	87811130	1	LOWER, ZONE A - MOUNTING LOCATION (DUAL HOUSINGS)
248	87210200	1	LOWER WARNING LIGHTS, ZONE B (OFFICER'S SIDE), WHELEN M6 LED, M6* (QTY 2), ION T-SERIES LED, TLI* (QTY 1)
249	87812110	1	LOWER, ZONE B - MOUNTING LOCATION (PUMPERS, TANKERS, RESCUES)
250	87310200	1	LOWER WARNING LIGHTS, ZONE C (REAR), WHELEN M6 LED, M6* (QTY 2)
251	87410200	1	LOWER WARNING LIGHTS, ZONE D (DRIVER'S SIDE), WHELEN M6 LED, M6* (QTY 2), ION T-SERIES TLI* (QTY 1)
252	87814110	1	LOWER, ZONE D - MOUNTING LOCATION (PUMPERS, TANKERS, RESCUES)
253	87590888	1	~UPGRADE WARNING LIGHTS
254	87037238	1	ADDITIONAL LIGHTBARS, WHELEN MINI FREEDOM IV 21" LED LIGHT BARS, F4NMINI (PAIR)
255	87537734	3	ADDITIONAL WARNING LIGHTS, WHELEN M6 LED, M6* (PAIR) (3)
256	87537738	3	ADDITIONAL WARNING LIGHTS, WHELEN ION T-SERIES LED, TLI*(PAIR) (3)
257	87537744	1	ADDITIONAL WARNING LIGHTS, WHELEN M9 SERIES LED, M9* (PAIR) (1)
258	87040008	1	TRAFFIC ADVISOR, WHELEN LED, TAL85 22" 2-PIECE
259	88391200	1	SCENE LIGHT, WHELEN PIONEER PFH2, 12V LED, BROW (1)

Line	Item #	Qty	Item Description/Comments
260	86537816	8	SCENE LIGHTS, WHELEN M9 LED, SURFACE MOUNT (PAIR) (8)
261	88399940	4	ADDITIONAL SWITCH, 3-WAY FOR 12V LIGHTS (EA) (4)
262	10310320	1	GENERATOR & ACCESSORIES
			GENERATOR & ACCESSORIES
			
263	88230610	1	GENERATOR, HARRISON, 10KW HYD
264	88250405	1	CIRCUIT BREAKER PANEL WITH 8 SPACES FOR BREAKERS
265	88251100	1	BREAKER PANEL, STD LOCATION (L1)
266	88232025	1	AUTOMATIC TRANSFER SWITCH, PROGRESSIVE DYNAMICS, PD5100
267	88431105	2	HANNAY ECR-1614-17-18 REEL W/100' 10/3 (2)
268	88433000	1	MOUNTING OF ELEC CORD REEL IN UPPER HATCH COMPT
269	88433000	1	MOUNTING OF ELEC CORD REEL IN UPPER HATCH COMPT
270	88488888	1	SPECIAL ITEM, REELS TO HAVE 200' OF 10/3
271	88328888	1	SPECIAL Light Tower CL802A-W4 8-HEAD LED LIGHT TOWER (GENERATOR POWER)
272	88381575	1	LIGHT TOWER STROBE FEATURE
273	10310410	1	PAINT & FINISH
			PAINT & FINISH
274	89910000	1	CORROSION REDUCTION PROGRAM (SPECS)

Line	Item #	Qty	Item Description/Comments
275	90010020	1	PAINT SCHEME
276	90030010	1	TWO TONE CAB & BODY
277	90029910	1	PAINT BREAK #1 - BOTTOM OF WINDSHIELD
			
278	90030154	1	PAINT FRAME RAILS & BODY REAR DROP - BLACK
279	90030015	1	A/C CONDENSER PAINTED ROOF COLOR
280	90510100	1	LETTERING, NOT PROVIDED
281	90588888	1	SPECIAL ITEM, DALTON - GA FLEET GRAPHICS PACKAGE
282	90600220	1	REFLECTIVE MATL, INTERIOR CAB DOORS, CHEVRONS, REFLEXITE
283	90630610	1	1/2" 22KT GOLD STRIPE W/PRINTED EDGES AT CAB PAINT BREAK
284	90610200	1	6" SCOTCHLITE STRIPE AROUND TRUCK
285	90630100	2	1" SCOTCHLITE STRIPE ABOVE OR BELOW - EACH (2)
286	90680120	1	CHEVRON STRIPING, REAR BODY OUTBOARD, REFLEXITE
287	90684120	1	CHEVRON STRIPING, LADDER ENCLOSURE DOOR, REFLEXITE
288	10310420	1	EQUIPMENT
			EQUIPMENT
289	91010000	1	MISC EQUIP - (1) PINT TOUCH-UP PAINT, STAINLESS STEEL NUTS & BOLTS
290	91030700	1	ZIAMATIC SAC-44 FOLDING WHEEL CHOCKS (PAIR) MTD W/ SQCH-44H HOLDERS
291	10310600	1	COMPLETION & WARRANTY
			COMPLETION & WARRANTY
292	99010100	1	MANUALS, ELECTRONIC VERSION (2-USB)

Line	Item #	Qty	Item Description/Comments
293	99031195	1	DEALER DELIVERY
294	99520110	1	WARRANTY, ONE YEAR
295	99521100	1	WARRANTY, FRAME, LIFETIME
296	99521200	1	WARRANTY, CAB STRUCTURAL, 10 YR.
297	99521300	1	WARRANTY, BODY STRUCTURAL, 10 YR.
298	99521400	1	WARRANTY, PAINT, 10 YR.
299	99521900	1	WARRANTIES, MAJOR VENDOR COMPONENTS
300	10310500	1	DEALER SUPPLIED
DEALER SUPPLIED			
301	PDB001096	1	DEALER SUPPLIED - SHELVING & TRAY ALLOWANCE
302	Other	1	DEALER SUPPLIED - OTHER - Mount Knox Box

Table of Contents

INTENT OF SPECIFICATIONS

It is the intent of these specifications to cover the furnishing and delivery to the City of Dalton a complete apparatus equipped as hereinafter specified. With a view of obtaining the best results and the most acceptable apparatus for service in the fire department, these specifications cover only the general requirements as to the type of construction and tests to which the apparatus must conform, together with certain details as to finish, equipment and appliances with which the successful bidder must conform. Minor details of construction and materials where not otherwise specified are left to the discretion of the contractor, who shall be solely responsible for the design and construction of all features. The apparatus shall conform to the requirements of the current (at the time of bid) National Fire Protection Association Pamphlet #1901 for Motor Fire Apparatus unless otherwise specified in these specifications.

Bids shall only be considered from companies which have an established reputation in the field of fire apparatus construction and have been in business for a minimum of ten (50) years.

Each bid shall be accompanied by a set of "Contractor's Specifications" consisting of a detailed description of the apparatus and equipment proposed and to which the apparatus furnished under contract must conform. Computer run-off sheets are not acceptable as descriptive literature.

The specifications shall indicate size, type, model and make of all component parts and equipment.

STATEMENT OF EXCEPTIONS TO NFPA 1901

If, at the time of delivery, the apparatus manufacturer is not in compliance, a statement of exceptions must be provided as follows:

- The specific standard affected.
- A statement describing why the manufacturer is not in compliance.
- A description of the remedy, and who the responsible party is.

The document must be signed by an officer of the company, and an authorized agent of the purchaser. NO EXCEPTIONS

QUALITY AND WORKMANSHIP

The design of the apparatus must embody the latest approved automotive engineering practices.

The workmanship must be the highest quality in its respective field. Special consideration shall be given to the following points: Accessibility to various areas requiring periodic maintenance, ease of operation (including both pumping and driving) and symmetrical proportions.

Construction must be rugged and ample safety factors must be provided to carry loads as specified and to meet both on and off road requirements and speed as set forth under "Performance Test and Requirements."

PERFORMANCE TESTS AND REQUIREMENTS

A road test shall be documented with the apparatus fully loaded and a continuous run of ten (10) miles or more shall be made under all driving conditions, during which time the apparatus shall show no loss of power or overheating. The transmission drive shaft or shafts, and rear axles shall run quietly and free from abnormal vibration or noise throughout the operating range of the apparatus. The apparatus, when loaded, shall be approximately 66% on the rear axle. The successful bidder shall furnish a weight certification showing weight on the front and rear axle, and the total weight of the completed apparatus at the time of delivery.

a. The apparatus must be capable of accelerating to 30 MPH from a standing start within 25 seconds on a level concrete highway without exceeding the maximum governed engine RPM.

b. The service brakes shall be capable of stopping the fully loaded vehicle within 35 feet from a speed of 25 MPH on a level concrete highway.

c. The apparatus, fully loaded, shall be capable of obtaining a speed of 50 MPH on a level highway with the engine not exceeding 95% of its governed RPM (full load).

d. The apparatus shall be tested and approved by a qualified testing agency in accordance with their standard practices for pumping engines.

e. The contractor shall furnish copies of the Pump Manufacturer's Certification of Hydrostatic Test (if applicable), the Engine Manufacturer's current Certified Brake Horsepower Curve and the Manufacturer's Record of Construction Details.

FAILURE TO MEET TESTS

In the event the apparatus fails to meet the test requirements of these specifications on the first trial, a second trial may be made at the option of the bidder within thirty (30) days of the date of the first trials. Such trials shall be final and conclusive and failure to comply with these requirements shall be cause for rejection. Permission to keep and/or store the apparatus in any building owned or occupied by the purchaser shall not constitute acceptance of same.

EXCEPTIONS TO SPECIFICATIONS

The following specifications shall be strictly adhered to. Exceptions shall be considered if they are deemed equal to or superior to the specifications, provided they are fully explained on a separate page entitled "EXCEPTIONS TO SPECIFICATIONS." Exceptions shall be listed by page and paragraph.

Failure to denote exceptions in the above manner shall result in immediate rejection of the proposal. In addition a general statement taking "TOTAL EXCEPTION" to the specifications shall result in immediate rejection of bid.

GENERAL CONSTRUCTION

The apparatus shall be designed and the equipment mounted with due consideration to distribution of load between the front and rear axles so that all specified equipment, including filled water tank, a full complement of personnel and fire hose shall be carried without injury to the apparatus. Weight balance and distribution shall be in accordance with the recommendations of the International Association of Fire Chiefs and National Fire Association (or American Insurance Association). Certified Laboratories certificate shall be submitted by the manufacturer. Weight of apparatus shall meet all federal axle load laws.

DELIVERY REQUIREMENTS

The apparatus shall be completely equipped as per these specifications upon arrival and on completion of the required tests shall be ready for immediate service in the fire department of the purchaser. Any and all alterations required at the scene of delivery to comply with these specifications must be done at the contractor's expense.

PURCHASER RIGHTS

The Purchaser reserves the right to accept or reject any bid. The purchaser also reserves the right to award in their best interest and reserves the right to waive any formalities.

U.S.A. MANUFACTURER

The entire apparatus shall be assembled within the borders of the Continental United States to insure more readily available parts (without added costs and delays caused by tariffs and customs) and service, as well as protecting the purchaser should legal action ever be required.

MANUFACTURER'S EXPERIENCE

Each manufacturer shall have been in business making similar apparatus for a minimum of seventy-five (75) years and must have had single ownership for more than fifty (50) years.

ELIMINATION OF DIVIDED RESPONSIBILITY

It is required that each bidder produce both the chassis and complete apparatus. To eliminate divided responsibility and service, the chassis and body must be manufactured by the same Company. Manufacturer shall state the number of years the Company has been producing their own chassis and body. Manufacturer shall state compliance with the paragraph. NO EXCEPTIONS.

FAMA COMPLIANCE

Manufacturer must be a current member of the Fire Apparatus Manufacturer's Association.

WIRING SCHEMATIC

Wiring diagrams of the apparatus shall be provided on a USB flash drive at the time of delivery.

PRE-CONSTRUCTION CONFERENCE

After award of the contract, and prior to construction of the apparatus, a pre-construction conference shall be held at the facility of the manufacturer. A provision shall be provided in the bid price for all travel, food and lodging.

INSPECTION TRIPS

An inspection trip shall be provided at the manufacturer's facility, prior to delivery of the completed apparatus. A provision shall be provided in the bid price for all travel, food and lodging. Bidder shall specify the number of personnel included.

PERFORMANCE BOND

Within twenty (20) days of notification to the successful bidder by the purchaser, prior to any work commencing on the proposed apparatus, the successful bidder shall, at their own expense, obtain and submit to the purchasing entity a performance bond in the amount of 100% equal to the total contract price.

Additionally, each bidder must disclose the price/amount it pays for bonding, per $1,000. This is to demonstrate the economic stability and credit worthiness of the bidder. NO EXCEPTIONS.

SEVERE DUTY CUSTOM CHASSIS

A Severe Duty Cab and Chassis system shall be provided. The chassis shall be manufactured in the factory of the bidder. The chassis shall be designed and manufactured for heavy duty service with adequate strength and capacity of all components for the intended load to be sustained and the type of service required. The cab and chassis system, shall be considered the bidders “Top of the Line”.
There shall be no divided responsibility in the production of the apparatus.

WHEELBASE

The approximate wheelbase shall be 244".

DOUBLE FRAME RAILS/SINGLE AXLE

The chassis frame shall be of a ladder type design utilizing industry accepted engineering best practices. The frame shall be specifically designed for fire apparatus use.

Each frame rail shall be constructed of two .375" thick-formed channels. The outer channel shall be 10.188" x 3.50” x .375” and the inner channel (liner) shall be 9.31” x 3.13” x .375”.

Over the entire length of the frame rail, the section modulus shall be 31.8 $in.^3$. The resistance to bending moment (RBM) shall be 3,498,000 in./lbs.

Each rail is media blasted to remove scale, oil, and contaminants. This blasting also ensures paint adhesion. Each rail will be primed with Cathacoat 302HB, a high performance, two component, reinforced inorganic zinc-rich primer with proven cathodic protection of steel structures, prior to assembly.

The cross-members shall be constructed of minimum .375" formed channels and have formed gusseted ends at the frame rail attachment. Single axle rear suspensions will utilize 3 piece bolt assembled cross-members at each suspension hanger

.625 inch, grade 8 flange, Huck bolt fasteners shall be used on all permanently attached brackets to the frame to eliminate the need for bolt re-tightening. Additional hardware will be Grade 8 Zinc coated flange head locking fasteners.

A lifetime warranty shall be provided, per manufacturer's written statement.

FRONT BUMPER CLIP

The front clip of the subframe shall be designed with a built-in skid plate to protect the engine and chassis components. The front clip shall be painted the same color as the frame.

FRONT TOW EYES, BELOW BUMPER

There shall be two front tow eyes with 3” diameter holes attached directly to the chassis frame, accessible below the front bumper.

FRONT TOW EYES, TOP OF BUMPER

There shall be two front tow eyes with 3” diameter holes attached directly to the chassis frame, accessible above the front bumper. The tow eyes shall be painted to match the color of the chassis frame.

REAR TOW EYES

There shall be two tow eyes attached directly to the chassis subframe and shall be chromate acid etched for superior corrosion resistance and painted to match the chassis.

STEERING

The steering system shall be a TRW wheel to wheel steering system that is tested and certified by TRW, consisting of a heavy duty TRW/Ross Model TAS-85 power steering gear, TRW PS36 steering pump, miter box, drag links, and a thermostatic controlled fan cooled system (set point 185 deg. F to 170 deg. F). The steering gear shall be bolted to the frame at the cross-member for steering linkage rigidity. Four (4) turns from lock to lock with an 18" diameter slip resistant rubber covered steering wheel. Steering column shall have six-position tilt and 2" telescopic adjustment. The cramp angle shall be 45 degrees with 315mm tires or 43 degrees with 425mm tires providing very tight turning ability.

DRIVE LINE

A SPICER LIFE (SPL) Series Model 250 driveline shall be provided with a Meritor universal joint assembly. This configuration provides longer bearing life with the highest power density available. A high-capacity bearing package with larger needle rollers are sealed with a long life double-lip Viton seal and seal guard to keep

grease in and allow a better purge capability. The high power density allows transmission of higher torque with a smaller swing diameter, assisting in tight packaging requirements (184mm swing diameter / 130mm tube diameter / 5mm wall). The 110 mm of slip is boot protected. On-highway lubrication intervals, initial at 350,000 miles or 3 years (whichever comes first) and re-lube at 100,000 miles thereafter.

ENGINE

The apparatus shall be powered by a Cummins Diesel X 15 605 HP @ 1800 R.P.M., 1850 ft. lb. torque @ 1000 R.P.M.
Displacement: 14.9 liter displacement.
Cylinders: 6
Bore: 5.39" (137mm)
Stroke: 6.65" (169mm)

AIR COMPRESSOR

The air compressor shall be an 18.7 CFM engine driven Wabco.

STARTER

A 12-volt starter shall be provided, controlled by a switch on the left lower cab dash.

EXHAUST SYSTEM

The engine exhaust system shall be horizontal design constructed from heavy-duty truck components.

The engine exhaust system shall include the following components:

STAINLESS STEEL TUBING

Stainless Steel Flexible Bellows mounted at the turbo outlet. Stainless steel piping to the Aftertreatment Unit. Stainless steel piping from the Aftertreatment Unit to the stainless steel heat diffuser outlet.

AFTERTREATMENT UNIT

The single canister Aftertreatment Unit is a self-contained exhaust treatment system which includes:

DPF (diesel particulate filter)
DEF Injector/Reactor
SCR (selective catalytic reducer)

The DEF injector/reactor utilizes the DEF fluid, which consists of urea and purified water, to convert NOx into nitrogen and water. This will meet or exceed 2027 EPA emissions requirements. A heated aftertreatment system shall be provided that is powered from a belt-driven 48V alternator on the engine.

The Stainless Steel Flexible Bellows shall be used to isolate the exhaust system from engine vibrations. The single canister Aftertreatment Unit shall be mounted under the right side frame rail, meeting the specific engine manufacturer's specifications and current emission level requirements. The heat diffuser outlet shall be directed to the forward side of the rear wheels, exiting the right side with a heavy duty heat diffuser. The heat diffuser shall prevent the exhaust temperature from exceeding 851 deg. F during a regeneration cycle.

INSULATED JACKETS

Heat-absorbing, removable, insulated jackets shall be provided on the exhaust system from the turbo outlet in the engine compartment to the Aftertreatment Unit. The jackets will cover all piping, including the bellows, between the engine and the Aftertreatment Unit per engine manufacturers requirements insuring that the exhaust stream temperature remains elevated to ensure functionality with the Aftertreatment Unit. Additionally, the insulated jackets will protect the engine componentry from excessive heat generated by the exhaust.

ON-BOARD DIAGNOSTIC (OBD) SYSTEM

The engine shall be equipped with an on-board diagnostic (OBD) system which shall monitor emissions-related engine systems and components and alert the operator of any malfunctions. The OBD system is designed to further enhance the engine and operating system by providing early detection of emission-related faults. The engine control unit (ECU) will manage smart sensors located throughout the engine and after-treatment system. The system shall monitor component verification and sensor operation. There shall be warning lights located in the dash instrument panel to alert the operator of a malfunction. A data port shall be provided under the driver’s side dash for the purpose of code reading and troubleshooting. All communication shall be provided through the J1939 data link.

ENGINE WARRANTY

The engine shall have a five (5) year or 100,000 mile warranty and approval by Cummins Diesel for Full Engine Coverage Plan (RVF) – which is their most complete engine coverage plan, which includes EGR

components installation in the chassis. There shall be no deductible for the first two years. A one hundred dollar deductible shall apply for service beginning the third year.

AFTERTREATMENT WARRANTY

The engine shall have a five (5) year or 100,000 mile aftertreatment coverage warranty, which covers failures of the Aftertreatment Assembly which result, under normal use and service, from a defect in Cummins material or factory workmanship.

AIR CLEANER/INTAKE

The engine air intake and filter shall be designed in accordance with the engine manufacturer's recommendations. It shall be 99.9% effective in removing airborne contaminants when tested per the industry standard SAE J726 procedure and offer a dirt holding capacity of at least 3.0 gm/cfm of fine dust (tested per SAE J726) offering superior engine protection.

The air filter shall be located at the front of the apparatus and shall be at least 66" above the ground, to allow fording deep water in an emergency situation.

An ember separator shall be provided in the engine air intake meeting, the requirements of NFPA 1901.

An Air Restriction warning light shall be provided and located on the cab dash.

PRIMARY FUEL FILTER/WATER SEPARATOR

A Cummins approved Fleetguard Fuel Pro FH230 fuel filter/water separator shall be remote mounted to the chassis frame rail.

12VDC HEATER

A 12V DC heater shall be provided for the Fleetguard Fuel Pro FH230 fuel filter/water separator.

SECONDARY FUEL FILTER

A Cummins approved Fleetguard FF825NN fuel filter will be mounted on the driver's side of the engine.

TRANSMISSION

The chassis shall be equipped with a Generation 6 Allison EVS4500R six (6) speed automatic transmission. It shall be programmed five (5) speed, sixth gear locked out, for fire apparatus vocation, in concert with the specified engine.

The transmission is communicated on the J-1939 through the communication port. The fifth gear shall be an overdrive ratio, permitting the vehicle to reach its top speed at the engine's governed speed. The dipstick is dipped in a rubber coating for ease in checking oil level when hot.

The chassis to transmission wiring harness shall utilize Metri-Pack 280 connectors with triple lip silicone seals and clip-type positive seal connections to protect electrical connections from contamination without the use of coatings.

Ratings: Max Input (HP) 600
Max Input (Torque) 1850 (lb ft)
Max Turbine (Torque) 2600 (lb ft)

Mechanical Ratios: 1st – 4.70:1
2nd – 2.21:1
3rd - 1.53:1
4th - 1.00:1
5th - 0.76:1
Reverse - -5.55:1

TRANSMISSION RETARDER

The transmission shall be equipped with a retarder. Depressing the service brake foot valve when the enable switch is in the “On” position shall activate the retarder. A backlit "Retarder Enabled" rocker switch, a "Retarder Overheat" warning light shall be included and mounted on the instrument panel. Retarder activation is 1/3 at throttle idle position, 2/3 at 5 - 8 psi brake application pressure, and 100% at 10 - 12 psi brake application pressure. A secondary external oil cooler, of 5,000 BTU heat rejection, frame mounted, shall be provided.

TRANSMISSION FLUID

The transmission shall come filled with an Allison approved Synthetic Transmission Fluid that meets the Allison TES-295 specification.

ENGINE BRAKE

The engine shall be equipped with a Jacobs compression engine brake. An “On/Off” switch and a control for “Low/High” shall be provided on the instrument panel within easy reach of the driver.

The engine brake shall interface with the Wabco ABS brake controller to prevent engine brake operations during adverse braking conditions.

A pump shift interlock circuit shall be provided to prevent the engine brake from activating during pumping operations.

The brake light shall activate when the engine brake is engaged.

TRANSMISSION COOLER

The apparatus transmission shall be equipped with a Liquid-To-Liquid remote mounted cooler with aluminum internal components. The cooler shall be encased in an aluminum housing and mounted to the outside of the officer’s side frame rail for accessibility and ease of service.

TRANSMISSION SHIFTER

An Allison "Touch Pad" shift selector shall be mounted to the right of the driver on the engine cover accessible to the driver. The shift position indicator shall be indirectly lit for nighttime operation.

POWER TAKE OFF

A hot shift PTO drive shall be provided. This shall low the PTO for the Hydraulic Generator to be engaged while the vehicle is mobile.

PTO SWITCH

An on/off switch in the cab shall be provided, wired to the PTO, to activate the generator.

COOLING SYSTEM

The cooling system shall be designed to keep the engine properly cooled under all conditions of road and pumping operations. The cooling system shall be designed and tested to meet or exceed the engine and transmission manufacturer’s requirements, and EPA regulations.

The complete cooling system shall be mounted in a manner to isolate the system from vibration and stress. The individual cores shall be mounted in a manner to allow expansion and contraction at various rates without inducing stress to the adjoining core(s).

The cooling system shall be comprised of a charge air cooler to radiator serial flow package that provides the maximum cooling capacity for the specified engine as well as serviceability. The main components shall include a surge tank, a charge air cooler, bolted to the top of the radiator to maximize cooling, recirculation shields, a shroud, a fan, and required tubing. All components shall consist of an individually sealed system.

Integration of the Horton Revolution Fan, variable speed fan hub, Deep Core (200mm thick) radiator and charge air cooler, and a two-piece flexible membrane shroud has enabled City of Dalton to meet the rigors of engine cooling while maintaining our current Fleet. This configuration is strongly perferred.

RADIATOR

The radiator shall be a cross-flow design constructed completely of aluminum with welded side tanks. The radiator shall be bolted to the bottom of the charge air cooler to allow a single depth core (200mm), thus allowing a more efficient and serviceable cooling system.

The radiator shall be equipped with a drain cock to drain the coolant for serviceability. The drain cock shall be located at the lowest point of the aluminum cooling system to maximize draining of the system.

CHARGE AIR COOLER

The charge air cooler shall be of a cross-flow design and constructed completely of aluminum with extruded tanks. The charge air cooler shall be bolted to the top of the radiator to allow a single depth core (200mm).

COOLANT

The cooling system shall be filled with a premixed extended life 50/50 antifreeze. The coolant makeup shall contain ethylene glycol and de-ionized water to prevent the coolant from freezing to a temperature of –34 degrees F.

HOSES & CLAMPS

Silicone hoses shall be provided for all engine coolant lines.
All radiator hose clamps shall be spring loaded stainless steel constant torque hose clamps for all main hose connections to prevent leaks. Recirculation shields shall be installed where required to prevent heated air from reentering the cooling package and affecting performance.

FAN

The engine cooling system shall incorporate a heavy-duty Aluminum high efficiency hybrid flow centrifugal design fan, providing 20% greater air flow than axial type fans. Better under hood ventilation is achieved by the fan’s configuration. Used in conjunction with an electronic/hydraulic variable speed hub, the system

provides almost no operating noise. A floating two piece shroud with flexible membrane and recirculation shield system shall be used to ensure air that has passed through the radiator is not drawn through again. The fan tip to radiator core clearance shall be kept at a minimal distance to increase the efficiency of the fan and reduce fan blast noise.

FAN CLUTCH

A fan clutch shall be provided that shall allow the cooling fan to operate only when needed. The fan shall remain continuously activated when the truck is placed in pump gear.

SURGE TANK

The cooling system shall be equipped with an aluminum surge tank mounted to the officer's side of the cooling system core. The surge tank shall house a low coolant probe and sight glass to monitor the coolant level. Low coolant shall be alarmed with the check engine light. The surge tank shall be equipped with a dual seal cap that meets the engine manufacturer's pressure requirements, and system design requirements.

The tank shall allow for expansion and to remove entrained air from the system. There shall also be an extended fill neck to prevent system overfill and encroachment of expansion air space. Baffling shall be installed in the tank to prevent agitated coolant from being drawn into the engine cooling system.

ANTIFREEZE

The radiator shall be filled with Long Life antifreeze.

ADDITIONAL SURGE TANK

There shall be an additional purge tank provided. The tank shall be aluminum. The tank shall be mounted outboard of the frame rail and easily accessible. This tank shall serve the purpose of an over flow tank in over filling situations.

FUEL TANK

The chassis shall be equipped with a 100-gallon stainless steel rectangular fuel tank. The fuel tank shall be certified to meet FMVSS 393.67 tests. It shall also maintain engine manufacturer's recommended expansion room of 5%.

The tank shall be removable by means of six (6) bolted connections and dropped. One (1) tank baffle shall be used.

Dual pick-up and return ports with a single 3/4" tank drawtube shall be provided for diesel generators if required.

The fuel lines shall be nylon braid reinforced fuel hose with brass fittings. The lines shall be carefully routed along the inside of the frame rails. All fuel lines are covered in high temperature rated split plastic loom. Single suction and return fuel lines shall be provided.

The fuel tank shall be mounted in a saddle with a barrier between the tank and the saddle. The bottom of the fuel tank shall contain a 1/2" drain plug.

FUEL FILL

The fuel tank shall be equipped with a 2-1/4" filler neck assembly with a 3/4" vent located on the driver's side of the truck. A fuel fill cap attached with a lanyard shall be provided.

FUEL COOLER

Installed on the apparatus fuel system shall be an Air-To-Liquid aluminum fuel cooler. The fuel cooler shall be located in the lowest module of the cooling system.

DIESEL EXHAUST FLUID TANK

The exhaust system shall include a molded cross linked polyethylene tank. The tank shall have a capacity of 5 usable gallons and shall be mounted on the left side of the chassis frame.

The DEF tank fill neck shall accept only a 19mm dispensing nozzle versus the standard 22mm diesel fuel dispensing nozzle to prevent cross contamination. The DEF tank cap shall be blue in color to further prevent cross contamination.

A placard shall accompany fill location noting DEF specifications.

ALTERNATOR

A 415 ampere Niehoff alternator shall be provided. The alternator shall be serpentine belt driven. The alternator shall generate 220 amperes at idle.

LOW VOLTAGE ALARM

A Floyd Bell TXB-V86-515-QF low voltage alarm, audible and visual, shall be provided.

BATTERIES

The battery system shall be a single system consisting of four (4) negative ground, 12 volt Interstate Group 31 MHD batteries, cranking performance of 950 CCA each with total of 3800 amps, 185 minute reserve capacity with 25 ampere draw at 80 degrees Fahrenheit. Each battery shall have 114 plates. The batteries shall include a one-year warranty which shall be accepted nationwide.

The batteries shall be installed in a vented 304 stainless steel battery box with a removable aluminum cover to protect the batteries from road dirt and moisture. The battery cover shall be secured with four "T" handle rubber hold downs to provide easy access for maintenance and inspection. Stainless steel hardware will be used for installation. The batteries are to be placed on dri-deck and secured with a fiberglass hold down. The batteries shall be wired directly to starter motor and alternator.

The battery cables shall be 3/0 gauge. Battery cable terminals shall be soldering dipped, color-coded and labeled on heat shrink tubing with a color-coded rubber boot protecting the terminals from corrosion.

There shall be a 350-ampere fuse protecting the pump primer and a 250-ampere fuse protecting the electric cab tilt pump and other options as required.

BATTERY JUMPER TERMINAL

There shall be one set (two studs) of battery jumper terminals located by the battery box under the cab. The terminals shall have plastic color-coded covers. Each terminal shall be tagged to indicate positive/negative.

BATTERY CHARGER

A Kussmaul Auto Charge Chief 4012 with remote panel model #091-266-12-60-RCP 60 amp battery charger shall be provided and installed in the cab. The unit shall include a built in touch screen, IP32 rated, and configurable for 3-step or float charging. The charger shall be wired to the 120V shoreline inlet.

120V SHORELINE INLET & AUTO EJECT

The apparatus shall be equipped with a 120V shoreline inlet to provide power to the battery charger from an external source. The inlet shall include a Kussmaul 091-55-120 90 Super 20 Auto Eject featuring a 12 volt

solenoid which shall eject the shoreline cord away from vehicle path upon sensing engine start. After ejection, a 180 degree weatherproof cover shall snap into position over inlet.

A 20 amp connector shall be provided and shipped loose for connecting the external shoreline cord to the inlet.

120-VOLT OUTLET WIRED TO SHORELINE INLET

Six (6) 120-volt outlets shall be provided and wired to the shoreline inlet. The location of the outlets shall be determined during the pre-construction conference.

FRONT AXLE

A Hendrickson STEERTEK NXT non-driving, front steer axle with a capacity of 20,000 pound shall be provided. The axle shall have a 3.74" drop and will have a fabricated boxed shaped cross section, a one piece knuckle, and serviceable king pin. Adjustable Ackerman settings shall be available, and determine based on wheelbase. The axle shall have 10 bolt hub piloted, and furnished with oil seals.

SUSPENSION (FRONT)

The front suspension shall be a parabolic taper-leaf spring design, 56" long and 4" wide. Long life, maintenance free, threaded pin bushings in spring shackles shall be utilized. All spring and suspension mounting shall be attached directly to frame with high strength Huck bolts and self-locking round collars. Progressive rate bump stop and custom tuned passive hydraulic damper shall be supplied. NO EXCEPTIONS.

STEER ASSIST

The steer assist provides driver assistance when turning the vehicle left or right while traveling.

FRONT TIRES

Front tires shall be Goodyear 385/65R22.5, load range J, Armor Max Pro highway tread, single tubeless type with a GAWR of 20,000 pounds. Wheels shall be disc type, hub piloted, 22.5 x 12.25 10 stud 11.25 bolt circle.

REAR AXLE

The rear axle shall be a Meritor™ RS-26-185 Single reduction drive axle with a capacity of 27,000 lbs. The axles shall be hub piloted, 10 studs, furnished with oil seals.

TOP SPEED

The top speed shall be approximately 68 MPH.

SUSPENSION (REAR)

27,000 LB AIR RIDE
A Hendrickson FIREMAAX model FMX272 air ride rear suspension shall be provided. The suspension shall be a dual air spring design equipped with dual height control valves to maintain proper ride height. To reduce axle stress and maintain axle position and pinion angle the suspension design shall incorporate three torque rods. The ground rating of the suspension shall be 27,000 pounds.

REAR TIRES

Rear tires shall be Goodyear 12R22.5, load range H, Endurance RSA highway tread, dual tubeless type with a GAWR up to 27,000 pounds. Wheels shall be disc type, hub piloted, 22.5 x 8.25 10 stud with 11.25" bolt circle.

TIRE PRESSURE MONITOR

A Real Wheels LED tire pressure sensor shall be provided for each wheel. The pressure sensor shall indicate if a particular tire is not properly inflated. A total of six (6) indicators shall be provided.

WHEELS

The front and rear wheels shall be ALCOA® brand aluminum. DURA-BRIGHT® finish shall be provided on front and outside-rear wheels.

The same finish shall be provided on the inside-rear wheels.

HUB COVERS

Polished stainless steel hub covers shall be provided for the front and rear axle.

LUG NUT CAPS

Chrome plated lug nut caps shall be provided for the front and rear wheels.

FRONT MUD FLAPS

Hard rubber mud flaps shall be provided for front tires.

REAR MUD FLAPS

Hard rubber mud flaps shall be provided for the rear tires.

DATA, SAFETY & WARNING TAGS

All data, safety and warning tags shall be affixed with screws for a permanent mounting.

BRAKES, Front

The front brakes shall be Arvin Meritor DiscPlus EX225 Air Disc Brakes. Each disc brake assembly shall include one (1) 17” vented rotor, one (1) lightweight hub, one (1) twin-piston caliper, and two (2) quick-change pads.

BRAKES, Rear

The rear brakes shall be Meritor S-cam style. They shall be 16.5" x 8.625" with heavy duty return springs, and a double anchor pin design. They shall also have quick change shoes for fast easy brake relining.

PARKING BRAKE

A four-wheel parking brake system shall be provided.

AIR BRAKE SYSTEM

The vehicle shall be equipped with air-operated brakes. The system shall meet or exceed the design and performance requirements of current FMVSS-121 and test requirements of current NFPA 1901 standards.

Each wheel shall have a separate brake chamber. A dual treadle valve shall split the braking power between the front and rear systems.

All main brake lines shall be color-coded nylon type protected in high temperature rated split plastic loom. The brake hoses from frame to axle shall have spring guards on both ends to prevent wear and crimping as they move with the suspension. All fittings for brake system plumbing shall be brass.

A Meritor Wabco System Saver 1200 air dryer shall be provided.

The air system shall be provided with a rapid build-up feature, designed to meet current NFPA 1901 requirements. The system shall be designed so the vehicle can be moved within 60 seconds of startup. The quick build up system shall provide sufficient air pressure so that the apparatus has no brake drag and is able to stop under the intended operating conditions following the 60-second buildup time. The vehicle shall not be required to have a separate on-board electrical air compressor or shoreline hookup to meet this requirement.

Four (4) supply tanks shall be provided. One air reservoir shall serve as a wet tank and a minimum of one tank shall be supplied for each the front and rear axles. A Schrader fill valve shall be mounted in the front of the driver's step well.

A spring actuated air release emergency/parking brake shall be provided on the rear axle. One (1) parking brake control shall be provided and located on the engine hood next to the transmission shifter within easy reach of the driver. The parking brake shall automatically apply at 35 ±10 PSI reservoir pressure. A Meritor WABCO IR-2 Inversion Relay Valve, supplied by both the Primary and Secondary air systems, shall be used to activate the parking brake and to provide parking brake modulation in the event of a primary air system failure.

Accessories plumbed from the air system shall go through a pressure protection valve and to a manifold so that if accessories fail they shall not interfere with the air brake system.

AIR BRAKE SYSTEM RELEASE VALVE

The vehicle shall be equipped with air-operated WABCO air brake release valve located in the cab within an accessible reach to the driver.

CENTRAL LOCATION FOR AIR TANK DRAINS

The air brake system shall have all the air tank drain valves located in a customer specified location on the apparatus.

AIR INLET

An air system inlet/fill connection shall be provided on the left hand side of the driver's step well. The inlet shall be connected to the air brake to allow constant air feed. A check valve shall be installed behind the air inlet.

AIR COMPRESSOR

A Kussmaul 091-9B-1-AD 120V 100 PSI air compressor shall be provided and installed in the cab. The vehicle mounted air compressor shall ensure that the air brake system is properly pressurized for immediate response of the unit. A pressure switch shall regulate operation and shall automatically sense low air pressure in the brake system and restore the proper pressure.

The unit shall have an auto drain which shall be installed on the outlet side of the air compressor and shall automatically purge water from the air discharge output. The water shall be ejected from the water separator bowl every time the compressor cycles off via a 120 volt solenoid.

The compressor shall be wired to the 120V shoreline connection.

AUTO PUMP TIMER

A Kussmaul 091-150-115 auto pump timer shall be provided to reduce wear on the Kussmaul Auto Pump AC compressor. The timer shall limit the duty cycle to one hour running followed by a one hour “OFF” time.

ELECTRONIC STABILITY CONTROL SYSTEM

An Arvin Meritor / Wabco Electronic Stability Control (ESC) system shall be provided and installed. The ESC system continually monitors the vertical acceleration, and yaw (horizontal plain rotation) of the vehicle, and compares it to a critical threshold where vehicle rollover may occur. When the critical threshold is met, the ESC shall intervene by reducing engine torque and engaging the engine retarder, while automatically applying both the steering and drive axle brakes as needed. In many cases, activation occurs before the driver is even aware it is needed.

AIR BRAKING ABS SYSTEM

A Wabco ABS system shall be provided to improve vehicle stability and control by reducing wheel lock-up during braking. This braking system shall be fitted to axles and all electrical connections shall be environmentally sealed from water and weather and be vibration resistant.

The system shall constantly monitor wheel behavior during braking. Sensors on each wheel transmit wheel speed data to an electronic processor, which shall sense approaching wheel lock and instantly modulate brake pressure up to 5 times per second to prevent wheel lock-up. Each wheel shall be individually controlled. To improve field performance, the system shall be equipped with a dual circuit design. The system circuits shall be configured in a diagonal pattern. Should a malfunction occur, that circuit shall revert to normal braking action. A warning light at the driver's instrument panel shall indicate malfunction to the operator.

The system shall consist of a sensor clip, sensor, electronic control unit and solenoid control valve. The sensor clip shall hold the sensor in close proximity to the tooth wheel. An inductive sensor consisting of a permanent magnet with a round pole pin and coil shall produce an alternating current with a frequency proportional to wheel speed. The unit shall be sealed, corrosion-resistant and protected from electro-magnetic interference. The electronic control unit shall monitor the speed of each wheel sensor and a microcomputer shall evaluate wheel slip in milliseconds.

AUTOMATIC SLIP RESPONSE

The Rockwell/Wabco 4 Channel Anti-lock braking system shall be provided. The system shall be supplied with (ASR) Automatic slip response. The ASR controls slip under acceleration.

ASR SWITCH

An on/off switch for the Acceleration Slip Resistance shall be provided on the dash. This will allow the driver to override the computer and turn the ASR on when at a higher speed for better traction in deep snow or mud.

AUTOMATIC TIRE CHAIN SYSTEM

The apparatus shall be equipped with an On-Spot brand Automatic Tire Chain System, Severe Duty System.

There will be one driver's side and one passenger's side chain unit.

A continuous duty solenoid shall be provided and activated by the dashboard switch, which opens and allows compressed air to flow to the chain units. Compressed air will be delivered to the solenoid from the vehicle's air tank. The solenoid shall be mounted on the frame rail or crossmember in close proximity of the chain

units. This air/electric solenoid shall be 12-volts and draw no more than 1 ampere of current. Electrical wire shall be in accordance with NFPA 1901.

A 12-volt dashboard switch shall be provided so that the operator may engage the chains from the driver's seat. The switch shall be lighted to indicate when the chains are engaged. The switch shall come complete with a switch guard to avoid accidental engagement of the automatic chains. The switch guard shall be properly labeled. A dashboard sticker with operating instructions shall be provided.

COMPRESSION FITTINGS ON AIR SYSTEM

All air line fittings installed on the chassis shall be compression style fittings.
The following locations shall utilize push-on fittings:

- Pressure protection valve (accessory block)
- Double check valve (braking system, park brake)
- One way check valve (brake valve tank)
- Elbow Male Modified 1/4" tube x 1/4" MP (low air switch)
- Elbow Male 1/4" tube x 3/8"MP (brake pedal solenoid)
- Connector 1/4" x 3/8"MPT (brake pedal solenoid)
- Switch stoplight (Wabco sealed switch/brake light and service brake switch)
- Low pressure switch (PTC) (Wabco sealed switch/low air switch)

MISCELLANEOUS CHASSIS EQUIPMENT

Fluid capacity plate affixed below driver's seat.
Chassis filter part number plate affixed below driver's seat.
Maximum rated tire speed plaque near driver.
Tire pressure label near each wheel location.
Cab occupancy capacity label affixed next to transmission shifter.
Do not wear helmet while riding plaque for each seating position.
NFPA compliant seat belt and standing warning plates provided.

ALUMINUM CAB

The cab shall be a full tilt 8-person 15" rear raised roof cab designed specifically for the fire service and manufactured by the chassis builder. Apparatus cabs that are not manufactured by the apparatus manufacturer shall not be acceptable.

CAB DESIGN

The apparatus chassis shall be of an engine forward, fully enclosed tilt cab design. There shall be four (4) side entry doors.

The cab shall be of a fully open design with no divider wall or window separating the front and rear cab sections. The cab shall be designed in a manner that allows for the optimum forward facing vision for crew. Cab designs that utilize roof mounted air conditioning units, are not desired.

The cab shall be constructed of high strength 5052H32 aluminum plate welded to 6061-T6 extruded aluminum framing.

The cab roof shall utilize 5” x 5” honeycomb re-enforced 6061 T6 aluminum extrusion, with fully radiused outer corner rails with integral drip channel and 6061 T6 ¾” x 2” x 3/16” aluminum box tubing type cross brace supports. Structures that do not include an integral drip channel will not be accepted. The box tubing type cross brace supports shall be installed in a curved fashion beginning from the midline of the apparatus cab and curving toward the exterior corner rails. This curvature will allow for increased strength in the event of a roll over while not allowing for rainwater buildup on the apparatus cab roof.

The cab sides shall be constructed from 1 ½” x 3” x 3/16” 6061 T6 extruded door pillars and posts that provide a finished door opening, extruded and formed wheel well openings supports, formed aluminum wheel well liners and box tubing type support braces.

The cab floor and rear cab wall shall utilize 1 ¾” x 4” x 3/16” 6061 T6 extruded box tubing type framing and support bracing.

The framework shall be of a welded construction that fully unitizes the structural frame of the cab.

The structural extrusion framework shall be overlaid with interlocked aluminum alloy sheet metal panels to form the exterior skin of the cab. The cab sides shall be constructed of 3/16” thick 5052H32 aluminum plate that slides into an integral channel of the extrusion framework. The plate is then skip welded into that channel to allow for tolerable flex while the apparatus travels down the roadway. Cab designs that utilize 1/8” thick aluminum for the cab sides shall not be acceptable.

The structural extrusion framework shall support and distribute the forces and stresses imposed by the chassis and cab loads and shall not rely on the sheet metal skin for any structural integrity.

The cab face extrusion framework shall be overlaid with 1/8” thick 5052H32 aluminum plate to allow for an aesthetically pleasing radiused cab face.

CAB SUB-FRAME

The cab shall be mounted to a 4” x 4” x 3/8” steel box tube sub-frame, and shall be isolated from the chassis, through the use of no less than six (6) elastomeric bushings. This substructure shall be completely independent of the apparatus cab. The sub frame shall be painted to match the primary chassis color.

The sub-frame shall be mounted to the chassis through the use of lubricated Kaiser Bushings for the front pivot point, and two (2) hydraulically activated cab latches, to secure the rear.

Cab mounting that does not include a sub-frame shall not be considered. NO EXCEPTIONS.

CAB DIMENSIONS

The cab shall be designed to satisfy the following minimum width and length dimensions:

Cab Width (excluding mirrors) 98"
Cab Length (from C/L of front axle)
To front of cab (excluding bumper) 70"
To rear of cab 73"
Total Cab Length (excluding bumper) 143"

ROOF DESIGN

The cab shall be of a one-half 15" raised roof design with side drip rails and shall satisfy the following minimum height dimensions:

Cab Dimensions Interior
Front 59"
Rear 74"

Cab Dimensions Exterior
Front 65"
Rear 80"

FENDER CROWNS

Polished stainless steel front axle fenderettes with full depth radiused wheel well liners shall be provided.

CAB INSULATION

The exterior walls, doors, and ceiling of the cab shall be insulated from the heat and cold, and to further reduce noise levels inside the cab. The cab interior sound levels shall not exceed 80 decibels at 45 mph in all cab seat positions. NO EXCEPTIONS

EXTERIOR GLASS

The cab windshield shall be of a two piece curved design utilizing tinted, laminated, automotive approved safety glass. The window shall be held in place by an extruded rubber molding. The cab shall be finished painted prior to the window installation.

SUN VISORS

The sun visors shall be made of dark smoke colored transparent polycarbonate. There shall be a visor located at both the driver and officer positions, recessed in a molded form for a flush finish.

CAB STRUCTURAL INTEGRITY

The cab of the apparatus shall be designed and so attached to the vehicle as to eliminate, to the greatest possible extent, the risk of injury to the occupants in the event of an accident.

The apparatus cab shall be tested to specific load and impact tests with regard to the protection of occupants of a commercial vehicle.

A test shall be conducted to evaluate the frontal impact strength of the apparatus cab to conform to the test J2420 and the “United Nations Regulation 29, Annex 3, paragraph 4, (Test A). A second test shall be conducted to evaluate the roof strength of the apparatus cab to conform to the Society Of Automotive Engineers (SAE) SAE J2422/SAE J2420 and “United Nations Regulation 29, Annex 3, paragraph 5, (Test B) and SAE J2420. The evaluation shall consist of the requirements imposed by ECE Regulation 29, Paragraph 5.

The test shall be conducted by a certified independent third party testing institution.

A letter stating successful completion of the above test on the brand of cab being supplied shall be included in the bid. There shall be “no exception” to this requirement.

SEAT BELT TESTING

The seat belt anchorage system shall be tested to meet FMVSS 207 Section 4.2a and FMVSS 210 section 4.2. Testing shall be conducted by an independent third party product evaluation company.

A copy of the certification letter shall be supplied with the bid documents.

CAB LOCKDOWN LATCHES

Cab lockdown latches shall be provided to prevent the cab from being tilted in the down position. Once the cab tilt switch is engaged the cab latches will release to allow the cab to be tilted.

CAB TILT SYSTEM

An electrically powered hydraulic cab tilt system shall be provided and shall lift the cab to an angle of 45 degrees, exposing the engine and accessories for fluid checks and service work. The system shall be interlocked to only operate when the parking brake is set.

The lift system shall be comprised of two (2) hydraulic lift cylinders, an electrically driven hydraulic pump, and a control switch. The hydraulic pump shall be located on the exterior of the frame rail on the driver's side of the chassis that can be easily accessible when the cab is tilted. A mechanical locking system consisting of an air operated actuator and a heavy radiused wall 3" x 3" aluminum extrusion will be provided to ensure the cab remains in the raised position in the event of a hydraulic failure. Additionally, each of the hydraulic lift cylinders shall incorporate a check valve, and velocity fuses that will activate should a sudden drop in pressure be detected. The cab tilt controls shall be interlocked to the parking brake to ensure the cab will not move, unless the parking brake is set. The cab tilt controls will consist of a momentary raise/lower switch and a two position cab safety lock switch.

The hydraulic lift cylinders will be connected to a steel cab sub-frame, and not directly to the cab. NO EXCEPTIONS

MANUAL CAB LIFT

There shall be a manually operated hydraulic pump for tilting the cab in case the main pump should fail. Access to the pump shall be located under the left corner of the front bumper.

CAB DOORS

The cab doorframes shall be constructed from 6061 T6 aluminum extrusions fitted with a 5052 H32 aluminum sheet metal skin and shall be equipped with dual weather seals. The outside cab door window opening shall be framed by a black anodized aluminum trim, to provide a clean appearance. The cab doors shall be equipped with heavy-duty door latching hardware, which complies with FMVSS 206. The door latch mechanism shall utilize control cable linkage for positive operation. A rubber coated nylon web doorstop shall be provided.

The doors shall be lap type with a 10 gauge full-length stainless steel flange and 3/8" diameter hinge pin and shall be fully adjustable.

All openings in the cab shall be grommeted or equipped with rubber boots to seal the cab from extraneous noise and moisture.

The cab doors shall be designed to satisfy the following minimum opening and step area dimensions:

Door Opening:

Front	36.5" x 73"
Rear	36.5" x 73"

CAB STEPS

The lower cab steps shall be no more than 22" from the ground. Grip strut material shall be installed on the stepping surface.

An intermediate step shall be provided, mid way between the lower cab step, and the cab floor. The intermediate step shall be slightly inset to provide for safer ingress and egress. Diamondplate material shall be installed on the stepping surface.

All steps shall be covered with material that meets or exceeds the NFPA requirements for stepping surfaces.

STEP LIGHTS

A white TecNiq E45 LED strip light shall illuminate each interior cab step. These lights shall illuminate whenever the battery switch is on and the cab door is opened.

POWER WINDOWS

All four cab entry doors shall have power windows. Each door shall be individually operated and the driver's position shall have master control over all windows. All four windows shall roll down completely.

SIDE WINDOWS

Fixed position side window shall be provided on each side of the cab between the forward cab area and the crew cab area. The widows shall be approximately 20.5" high x 16.50" wide to provide maximum visibility.

The side windows shall be held in place by an extruded rubber molding with a chrome plated decorative locking bead.

WINDOW TINTING

The crew cab windows and doors, with the exception of the driver's and officer's doors, and the windshield, shall be tinted with deep "limo" tint. The tint shall be incorporated into the window glass with eight percent (8%) light transmittance. Film tinting shall not be acceptable.

WINDSHIELD WIPERS

Two (2) black anodized finish two speed electric windshield wiper system. Dual motors with positive parking. System includes large dual arm wipers with built in washer system. One (1) master control works the wiper, washer and intermittent wipe features. Washer bottle is a remote fill with a 4 quart capacity. Washer fill is located just inside of officer cab door.

WINDSHIELD WIPERS DEACTIVATED

The windshield wipers shall be deactivated when the parking brake is engaged.

WINDSHIELD WASHER RESERVOIR

A four quart capacity windshield washer reservoir shall be provided. The fill access shall be located in the forward officer's step well area.

MIRRORS

Two (2) Lang Mekra 300 Series smooth chrome plated Aero style main and convex mirrors shall be installed on each side of the vehicle. The main mirror shall be 4-way remote adjustable with heat, 7" x 16" 2nd surface chromed flat glass. The convex shall be 6" x 8" 2nd surface chromed 400 mm radius glass. Each mirror housing assembly shall be constructed of lightweight textured chrome ABS with on truck glass and housing back cover replacement. In the event the mirror breaks the glass shall be replaceable in (3) minutes or less. The glass shall include a safety adhesive backing to keep broken glass in place. The mirror assembly shall be supported by a "C" loop bracket constructed of polished stainless steel tube utilizing two point mounting reducing vibration of mirror glass during normal vehicle operation. The lower section of the holder shall include a spring loaded single detent position 20 degrees forward with easy return to operating position without refocusing.

UPPER GRILLE

The front of the cab shall be equipped with a raised polished stainless steel grille with sufficient area to allow proper airflow into the cooling system and engine compartment. Plastic chrome plated grilles shall not be acceptable.

UPPER GRILLE LOGO

The upper grille shall have a laser cut flaming "S" logo in the upper portion of the grille. The cut out shall be illuminated by LED lights.

LOWER GRILLE

The front of the cab shall be equipped with a polished stainless steel lower grille with custom laser engraved design per customer specifications. The lower grille shall also be backlit with LEDs. Color shall be specified by customer. The design shall allow proper airflow into the cooling system and engine compartment. Plastic chrome plated lower grille shall not be acceptable.

BUMPER

There shall be a 12" high double rib polished stainless steel wrap-around bumper provided at the front of the apparatus. Laser cut perforated grilles shall be incorporated into the bumper and located at the outboard section of the bumper for the air horns and at the center for the siren speaker. The bumper shall be mounted to a reinforcement plate constructed of 1/4" x 10" x 70" carbon steel. A gravel shield shall be provided, constructed of .188” aluminum diamond plate. The bumper extension shall be approximately 18".

BUMPER SIDES

The sides of the bumper shall be finished with diamond plate.

WARN WINCH 12,000-LB. FIX MOUNT

A Warn 12,000 lb. electric winch shall be installed in the center of the bumper. The center front face of the bumper shall be modified to allow the cable to extend through the front bumper. The opening shall be fitted with stainless steel heavy-duty rollers on all four sides to protect the cable from damage. A lift up type lid shall be provided over the winch, constructed of .125” aluminum diamond plate and equipped with latches

and chrome handle. A 12’ remote tether shall be provided to operate the winch. When mounted on the apparatus, the maximum capacity shall be 8,000 lbs.

PORTABLE WINCH

A Warn 4700-lb electric portable winch with hitch adaptor shall be provided for attachment to vehicle winch receivers. The winch shall include 60-ft of 0.25” wire rope, 12-ft tether with remote and a 3-stage planetary gear-train.

The Warn Hitch Adaptor shall be capable of connecting to a 2” Class III Receiver. The adaptor shall have a black power coat finish.

AIR HORNS

Two (2) Grover 2040 Stuttertone rectangular, chrome plated, air horns shall be provided.

AIR HORN BUMPER CUT-OUTS

The air horns shall be installed behind perforations in the front bumper.

AIR HORNS WIRED TO STEERING WHEEL

The air horns shall be wired through the steering wheel button. A selector switch shall be provided on the instrument panel to switch between functions.

FOOT SWITCH, DRIVER'S SIDE

A foot switch for the air horns shall be provided on the driver's side.

FOOT SWITCH, OFFICER'S SIDE

A foot switch for the air horns shall be provided on the officer's side.

LANYARD CONTROL FOR AIR HORNS

The air horns shall be activated by a split "Y" lanyard in cab ceiling.

ELECTRONIC SIREN

One (1) Whelen 295HFSA7 electronic siren shall be installed at the cab instrument panel complete with noise canceling removable microphone. The remote control head shall be flush mounted in a location specified by the fire department.

The electronic siren shall be wired through the steering wheel button. A selector switch shall be provided on the instrument panel to switch between functions.

SIREN SPEAKER

One (1) Cast Products SA4201-5-A 100 watt weatherproof siren speaker shall be provided and wired to the electronic siren.

SPEAKER MOUNTING

The electronic siren speaker(s) shall be installed behind the main cab grille.

LOW FREQUENCY ELECTRONIC SIREN

One (1) Whelen Howler low frequency electronic siren shall be provided. The siren shall provide low frequency tones through two (2) low frequency speakers. The low frequency siren shall be actived by a switch located in the cab near the driver and operate for 7 seconds.

FEDERAL Q2B SIREN

There shall be a Federal Q2B-NN siren installed in the center of the cab grille. The siren shall be securely mounted and activated by means of a solenoid and shall include a brake.

FOOT SWITCH, DRIVER'S SIDE

A foot switch for the mechanical siren shall be provided on the driver's side.

FOOT SWITCH, OFFICER'S SIDE

A foot switch for the mechanical siren shall be provided on the officer's side.

SIREN BRAKE SWITCH

A brake switch for the mechanical siren shall be provided in the lower command console for both the driver's and officer's position.

MASTER Q2B SHUTOFF SWITCH WITH GUARD

A master Q2B power disconnect switch shall be installed in the officer’s side entry step. The switch shall be installed on the vertical face of the entry step and be visible when the cab door is opened. The switch shall also be covered with metal guard for protection.

CAB EXTERIOR LIGHTING

Exterior lighting and reflectors shall meet or exceed Federal Motor Vehicle Safety Standards and National Fire Protection Association requirements.

HEADLIGHTS

The front low and high beam headlights shall be FIRETECH model FT-4X6 LED, rectangular shaped, quad style installed in custom rectangular shaped stainless steel housings on the front of the cab. Each housing shall accommodate a forward-facing turn signal in the outboard location and a side-facing warning light.

An additional pair of rectangular shaped stainless steel housings shall be installed on the front of the cab above the headlight housings. Each housing shall accommodate two (2) forward-facing warning lights and a side-facing turn signal.

This configuration allows for optimal warning lights on the front of the vehicle. This layout must be proposed, no exception. See the warning light section for the style warning lights to be mounted in the stainless steel housing above the headlights.

HEADLIGHT FINISH

The interior components of the headlights shall have a chrome finish.

FRONT TURN SIGNALS

There shall be four (4) Whelen 400 Series Model 40A00AAR LED rectangular amber turn signal lights mounted one (1) each side in the front of the headlight housings and one (1) mounted on the side of each warning light housing.

ICC/MARKER LIGHTS

Five (5) Grote 47183 ICC/ LED marker lights shall be provided on top of the roof of the cab to meet D.O.T. requirements.

EXTERIOR CAB HANDRAILS

There shall be four (4) 24" long, handrails provided and installed, one at each cab entrance. The handrails shall be constructed of type 304 stainless steel 1.25 inch diameter tubing with bright finish and knurled gripping surface. Mounting flanges shall be constructed from 7 gauge, .180 thick, stainless sheet. Each grab rail shall have 90 degree returns to flanges. The ends of grab rail shall pass through the flanges and be welded to form one structural unit. The handrails shall be mounted using 1.25" SS Hex bolts, with a barrier rubber gasket at each flange.

Sufficient space shall allow for a gloved hand to firmly grip the rail.

COAT HOOKS FOR GRAB HANDLES

There shall be a coat hook installed on the upper portion of the two exterior cab handrails, on the driver's side, for hanging of coats, turnout gear, etc.

COAT HOOKS FOR GRAB HANDLES

There shall be a coat hook installed on the upper portion of the two exterior cab handrails, on the officer's side, for hanging of coats, turnout gear, etc.

INTERIOR CAB HANDRAILS

There shall be two (2) rubber coated grab handles provided and mounted on the interior of the cab, one each side, on the windshield post for ingress assistance. The handrail on the driver's side shall be approximately 11" long and the handrail on the officer's side shall be approximately 18" long.

CAB DOOR HANDRAILS

There shall be two (2) rubber coated grab handles provided and mounted, one on the inside of each rear crew door, just below the windowsill. The handrails shall be approximately 11" long.

There shall also be two (2) 1.25" diameter knurled stainless steel handrails shall be provided and mounted, one on the inside of each rear crew door, just above the windowsill. The handrails shall be approximately 22" long.

INTERIOR DOOR STRAP

A nylon strap shall be provided on the lower hinge of each interior cab door to assist with entry.

DRIVER'S SIDE EXTERIOR CAB COMPARTMENT

There shall be a cabinet constructed of .125 aluminum plate recessed in the cab behind driver's side rear crew door. The compartment shall be approximately 38" high x 15" wide x 22.25" deep.

The compartment shall have a hinged door that is hinged at the front. The doors shall have an Austin Hardware slam catch single-point "D"-ring door closure and held open with gas struts.

The compartment shall be operated by an individual switch and illuminated with (1) LED light.

ACCESS TO CREW SEAT RISER

The exterior cab compartment on the driver's side shall be open to the crew cab seat compartment.

OFFICER'S SIDE CAB COMPARTMENT

There shall be a cabinet constructed of .125 aluminum plate recessed in the cab behind officer's side rear crew door. The compartment shall be approximately 38" high x 15" wide x 20.25" deep (12.75" deep if front

suction)

The compartment shall have a hinged door that is hinged at the front. The doors shall have an Austin Hardware slam catch single-point "D"-ring door closure and held open with gas struts.

The compartment shall be operated by an individual switch and illuminated with (1) LED light.

ACCESS TO CREW SEAT RISER

The exterior cab compartment on the officer's side shall be open to the crew cab seat compartment.

NY ROOF HOOK STORAGE COMPARTMENT

The transverse compartment shall be provided with storage for up to two (2) NY Roof Hooks mounted on the back wall. The compartment shall be approximately 7" wide x 10" high x 84" long. The compartment shall be open on both ends.

ADJUSTABLE SHELF

There shall two (2) adjustable shelves provided and installed in the compartment, one (1) ea side. The shelf shall be fabricated of .188 aluminum plate and have two 1.5" x 1.5" x .188" aluminum angles welded to the underside of the shelf for support.

DIAMOND PLATE, CAB ROOF

The rear exterior section roof of the cab shall have a diamond plate overlay. The overlay shall be constructed of .125” aluminum embossed diamond plate and measure 56” x 91”.

The interior back wall of the cab and the side walls near the forward-facing crew seats shall be covered with 3/16” smooth aluminum.

CAB INTERIOR

The metal surfaces of the cab interior shall be coated and sealed with MultiSpec black speckle, urethane modified, mar resistant paint. The textured coating shall provide paramount durability and wear resistance against foreign objects and normal wear and tear.

The front and rear headliners, as well as the rear cab wall, shall be finished in Gray-Black Durawear covered padded panels.

INTERIOR DOOR PANELS

The interior of the cab entry doors shall have a 304 brushed stainless steel scuff plate, contoured to the door, from the door window sill down.

CAB FLOOR COVERING

The cab interior floor shall be covered with a 5/16” thick, black rubberized material to provide a rugged but cosmetically pleasing stepping surface throughout the cab. The floor covering shall provide superior durability and resistance against foreign objects as well as normal wear and tear.

DIAMOND PLATE, CAB FLOOR

The cab floor shall be covered with 1/8" embossed diamondplate.

HEAVY DUTY ENGINE ENCLOSURE

An integral, formed aluminum and composite engine enclosure shall be provided. The engine enclosure shall be contoured and blended in an aesthetically pleasing manner with the interior dash and flooring of the cab. The enclosure shall be kept as low as possible, to maximize space and increase crew comfort.

The enclosure shall be constructed of 3/16" smooth aluminum, providing high strength, and superior heat and sound deadening qualities.

Additionally, the underside of the engine enclosure shall be coated in with a ceramic spray on insulation and sound control. This coating is an environmentally-friendly coating that is applied seamlessly and rapidly while providing superior thermal insulation and protection against vibration and noise, and will prevent future corrosion from forming by sealing the substrate. NO EXCEPTIONS

ENGINE ENCLOSURE COVERING

The top of the engine enclosure shall be covered with Scorpion heavy duty, black polyurethane blended coating. The textured coating shall provide paramount durability and wear resistance against foreign objects and normal wear and tear as well as sound deadening and insulation. The rubberized cab floor covering shall extend up the lower exterior sides of the engine enclosure to aid in sound deadening and heat resistance.

CENTER CONSOLE EXTENSION

There shall be an extension added to the center console area on top the engine enclosure between the driver and officer. The console shall be constructed from smooth aluminum and shall be coated with a durable coating to match the color of the engine hood covering and shall feature surfaces on each side that are contoured to face the driver and the officer for easy viewing and accessibility. The switches and other customer specified electrical items shall be mounted in removable 1/8" smooth aluminum panels with a black wrinkle finish.

TOP OF EXTENSION

There shall be two (2) stainless steel cup holders and a storage slot measuring 11"L x 4"W x 10"D recessed into the top of the center console extension between the driver and officer.

SIDES OF EXTENSION

There shall be two (2) storage slots measuring 6"L x 2"W x 3"D each recessed into the upper portion of each side of the center console extension. One (1) slot shall be accessible to the driver and the other accessible to the officer.

ENGINE HOOD LIGHTS

An LED work light shall be installed in the engine enclosure with an individual switch located on the base of the light.

WORK SURFACE

There shall be a flat work surface in front of the officer’s seat.

UPPER CREW DOOR AREA

A glove box holder shall be provided in each upper cab crew door area. The holder shall be constructed of 3/16” smooth aluminum, capable of holding three (3) EMS glove boxes.

CHASSIS WIRING

All chassis wiring shall have XL high temperature crosslink insulation. All wiring shall be color-coded, and the function and number stamped at 3" intervals on each wire. All wiring shall be covered with high temperature rated split loom for easy access to wires when trouble shooting. All electrical connectors and main connectors throughout the chassis shall be treated to prevent corrosion.

MASTER ELECTRICAL PANEL

The main chassis breaker panel shall be wired through the master disconnect solenoid and controlled by the three-position ignition rocker switch. The breaker panel shall be located in front of the officer on the interior firewall and shall be protected by a removable aluminum cover. The cover shall have an aluminum notebook holder on the exterior face accessible to the officer. The cover shall be painted with a durable finish to match the interior of the cab and shall be secured with two (2) thumb screws.

The breaker panel shall include up to 22 ground switched relays with circuit breaker protection. An integrated electrical sub-panel shall be provided and interfaced to the body and chassis through an engineered wire harness system.

Twelve (12) 20-ampere relays and one (1) 70-ampere relay shall be provided for cab light bar and other electrical items. If the option for a mechanical siren has been selected two (2) additional relays shall be provided.

Up to two (2) additional relay boards with circuit breaker protection shall be provided for additional loads as required. Each board shall contain four (4) relays. The relay boards shall be configured to trip with input from switch of positive-negative or load manager by moving the connector on the board (no tools required).

All relay boards shall be equipped with a power-on indicator light (red), input indicator light (green) and power output indicator light (red).

Up to twenty-three (23) additional automatic reset circuit breakers for non-switched loads that are remotely switched (ie: heater fans, hood lights, etc.) shall be provided.

All relays and circuit breakers on the relay boards shall be pull-out/push-in replaceable.

All circuit breakers on the relay boards shall be 20 ampere automatic reset which can be doubled or tripled for 40 or 60-ampere capacity.

The system shall utilize Deutch DRC weather resistant connectors at the breaker panel, toe board and main dash connections.

All internal wire end terminals, including locking connectors, shall be mechanically affixed to the wire ends by matching terminal crimping presses to assure the highest quality terminations.

All internal splices shall be ultrasonically welded connections and all internal wiring shall be high temperature GXL type wire that is protected by wiring duct wherever possible.

All switches shall be ground controlled; no power going through any rocker switch.

Any switch controlling a relay in the breaker panel shall be capable of being set to function only when the parking brake is set. All relays shall be tagged with the function that the relay is controlling.

INSTRUMENT PANEL

The main dash shroud, which covers the area directly in front of the driver from the doorpost to the engine hood, shall be constructed of vacuum formed ABS material with scorpion texture. The dash shall be a one-piece hinged panel that tilts outward for easy access to service the internal components. The gauge panel shall be constructed with a .125" aluminum panel, covered with a scratch resistant reverse printed and laminated poly carbonite.

The gauges shall be AMETEK Vehicular Instrumentation Systems (VIS), Next Generation Instrumentation System (NGI) with built-in self-diagnostics and red warning lights to alert the driver of any problems. All gauges and controls shall be backlit for night vision and identified for function. All main gauges and warning lights shall be visible to the driver through the steering wheel.

MASTER BATTERY & IGNITION SWITCH

The vehicle shall be equipped with a keyless ignition, with a three (3)-position Master Battery rocker switch, "Off/ACC/On" and a two (2)-position Engine Start rocker switch, "Off/Start".

DIESEL PARTICULATE FILTER CONTROLS

There shall be two (2) controls for the diesel particulate filter. One control shall be for regeneration and one control shall be to inhibit engine regeneration. These shall be located below the steering wheel in the kick panel.

INSTRUMENTATION & CONTROLS

Instrumentation on dash panel in front of the driver:

Tachometer/hourmeter with high exhaust system regeneration temperature, and instrument malfunction indicators

Speedometer/odometer with built in turn signal, high beam, and re-settable trip odometer

Voltmeter

Diesel fuel gauge

DEF (Diesel Exhaust Fluid) gauge

Engine oil pressure

Transmission temperature

Engine temperature

Primary air pressure

Secondary air pressure

Indicators and warning lights in front of the driver:

Parking brake engaged

Low air with buzzer

Antilock brake warning

Check transmission

Transmission temperature

Upper power indicator

Seat belt

Engine temperature

Low oil indicator

Low voltage indicator

Air filter restriction light

Low coolant indicator

High idle indicator

Power on indicator

Check engine

Stop engine

Check engine MIL lamp

DPF indicator

High exhaust temperature

Wait to start

Other indicator and warning lights (if applicable):
- Differential locked
- PTO (s) engaged
- Auto-slip response
- Retarder engaged
- Retarder temperature
- ESC indicator

Controls located on main dash panel in front of the driver:
- Master power disconnect with ignition switch
- Engine start switch
- Headlight switch
- Windshield wiper/washer switch
- Differential lock switch (if applicable)
- Dimmer switch for backlighting

Controls included in steering column:
- Horn button
- Turn signal switch
- Hi-beam low-beam switch
- 4-way flasher switch
- Tilt-telescopic steering wheel controls

CENTER CONTROL CONSOLE

There shall be an ergonomically designed center control console. The console shall be constructed of 1/8" smooth aluminum and shall be mounted on the engine hood between the driver and officer. The console shall have a durable coating to match the color of the engine hood covering and shall feature surfaces on each side that are contoured to face the driver and the officer for easy viewing and accessibility. The switches and other customer specified electrical items shall be mounted in removable 1/8" smooth aluminum panels with a black wrinkle finish. The console shall have an aluminum lift-up lid with quick release latch. The lid shall be held in the open position with a gas strut to allow for easy access and serviceability.

Controls located in the console conveniently accessible to the driver:
- Transmission shifter
- Pump shift control with OK TO PUMP and PUMP ENGAGED lights
- Remote mirror control
- Illuminated rocker switches to control high idle, Jacob's brake, siren/horn, siren brake, master emergency, and other customer specified components

12V power point (if applicable)

Controls located in the console conveniently accessible to the driver and the officer (center):
Parking brake control with a guard to prevent accidental engagement

Controls located in the console conveniently accessible to the officer:
Illuminated rocker switches to control customer specified components that are easily reachable to the officer and do not allow for compromise of the driver's view, and eliminate the need for foot switches
Surface to recess siren head, radio head, or other desired items as space permits
12V power point (if applicable)

Driving compartment warning labels shall include:
HEIGHT OF VEHICLE
OCCUPANTS MUST BE SEATED AND BELTED WHEN APPARATUS IS IN MOTION
DO NOT USE AUXILIARY BRAKING SYSTEMS ON WET OR SLIPPERY ROADS
EXIT WARNINGS

Additional labels included:
COMPUTER CODE SWITCH
ABS CODE SWITCH
FLUID DATA TAG
CHASSIS DATA TAG

OVERHEAD CONTROL CONSOLE

An ergonomically designed overhead console shall be provided above the driver and officer, running the full width of the cab. The overhead console shall be constructed from 1/8" aluminum plate and shall be painted with a durable finish to match the inside of the cab. There shall be seven (7) removable 1/8" smooth aluminum plates with a black wrinkle finish to house switches and other electrical items.

Directly above the driver there shall be two (2) panels with the following switches:

Panel #1 (First Panel Driver Side)
-Switch #1: Master Emergency.
-Switch #2: "Brow Light".
-Switch #3: "Left Scene" (12V Scenes).
-Switch #4: "Right Scene" (12V Scenes)
-Switch #5: "Rear Scene"
-Switch #6: Blank
-Switch #7: Blank

-Switch #8: Blank
-Switch #9: GEN PTO (Red Switch with Red Guard
-Switch #10: Rear Blue Warning (Blue Switch with Blue Guard)

Panel #2 (Second Panel Driver Side)
-Traffic Advisor Control Head

There shall be a panel located to the right of the driver that shall be designated for defroster, heat, and air conditioning controls (if specified).

The center overhead panel shall be designated for up to seven (7) door ajar indicators. Upon releasing the apparatus parking brake, one or more of these lights shall automatically illuminate (flash) when any of the following conditions occur that may cause damage if the apparatus is moved: cab or compartment door is open; ladder or equipment rack is not stowed; stabilizer system deployed; any other device has not been properly stowed.

There shall be a panel to the left of the officer as well as two (2) directly above the officer:

The Panel Directly above the Officer shall have the following switches:
Switch #1: Master Emergency.
Switch #2: Howler.
Switch #3: “Brow Light”.
Switch #4: “Left Scene” (12V Scene Lights).
Switch #5: “Right Scene” (12V Scene Lights).
Switch #6: “Rear Scene” (12V Scene).
Switch #7: Spare Switch
Switch #8: Spare Switch
Switch #9: Q2B Brake.

ENGINE WARNING SYSTEM

An engine warning system shall be provided to monitor engine conditions such as low oil pressure, high engine temperature and low coolant level. Warning indication shall include a STOP ENGINE (red) light with audible buzzer activation and a CHECK ENGINE (amber) light. Note: (Some engine configurations may also include a fluid warning light.)

There shall be a master information light bar with 24 lights located across the center of the dash panel that covers up to 24 functions. These are defined under Indicators and Warning Lights above.

DO NOT MOVE APPARATUS INDICATOR LIGHT

A Whelen TIR3 RED LED light shall be installed in the cab near the driver. The light shall illuminate when the parking brake is released and any cab or body door is open or any other item on the apparatus is not properly stowed that may cause damage.

DO NOT MOVE WARNING ALARM

A "Do Not Move Apparatus" alarm shall be installed in the interior of the cab.

DO NOT MOVE DISENGAGE BUTTON

A disengage button shall be provided for the "Do Not Move Apparatus" warning light/alarm. The location of the button shall be determined at the preconstruction conference.

MAPBOOK SLOT

A mapbook slot shall be installed on exterior of the breaker panel located on the officer's side of the cab.

PROGRAMMABLE LOAD MANAGER

Load manager shall have the ability to sequence loads on and off. The Super Node II has twenty-four (24) inputs and twenty-four (24) outputs. Eighteen (18) are positive polarity outputs and six (6) are ground polarity outputs. It shall also be able to establish a 8 priority levels to shedding loads when the vehicle is stationary, starting at 12.8 volts lowest priority load to be shed, then respectively at 12.7, 12.5, 12.3, 12.1, 11.9, 11.5 and never shed volts DC. An output is shed (turned OFF) when the system voltage drops below the designated priority level's shed voltage for thirty (30) seconds. If the voltage has dropped below multiple priority level shed voltages then each higher priority level will shed before the lower priority levels. An output is unshed (turned back ON) when the system voltage rises above the designated priority level's unshed voltage for ten (10) seconds. If the voltage has risen above multiple priority level unshed voltages then each lower priority level will unshed before the upper priority levels.

MASTER SWITCH
All outputs can be tied or not tied to the stage switch. In fire apparatus this switch is typically referred to as the master switch. The state of the stage switch is controlled by Utility Module output memory space 3. When this output is active the stage switch is active. Any output tied to the stage switch will be OFF if the stage switch is not active regardless of the output's multiplex equation. Set an output to be tied to the stage switch by checking the stage switch box in its "Output Port Load Settings" under the "Settings" tab. The name of the stage switch can be changed from the standard "stage" to anything desired by modifying the text in the "Output Port Load Settings" area.

AUTOMATIC HIGH IDLE ACTIVATION

The Utility Module's high idle request (input memory space 2) is activated when the system voltage drops below the high idle threshold (12.8 volts standard or 25.6 volts if 24 volt load management is enabled) for 8 seconds or longer AND load management has been enabled (Utility Module output memory space 1 is active). The high idle request will remain active as long as the voltage remains below the voltage threshold and for 3 minutes after the system voltage rises above the voltage threshold. High idle can be canceled by activating the Utility Module's high idle cancel (output memory space 0).

HIGH IDLE

The engine shall have a "high idle" switch on the dash that shall maintain an engine RPM of 1,000. The switch shall be installed at the cab instrument panel for activation/deactivation. The "high idle" mode shall become operational only when the parking brake is on and the truck transmission is in neutral.

CAB ACCESSORY FUSE PANEL

A fuse panel shall be located underneath the rear facing seat on the officer's side. The fuse panel shall consist of six (6) battery hot and six (6) ignition switch circuits. Each circuit shall be capable of 10-ampere 12-volt power and total output of 50-amps. The fuse panel shall be capable of powering accessories such as hand held spotlights, radio chargers, hand lantern chargers and other miscellaneous 12-volt electrical components.

POWER & GROUND STUDS, OVERHEAD COMMAND CONSOLE

There shall be a set of four (4) threaded power studs provided in the cab's overhead Command Console for future installation of two-way radios.

The studs shall be wired as follows:

- One (1) 12-volt 60-amp, direct to the battery ignition off.
- One (1) 12-volt 30-amp switched battery first position on ignition switch.
- One (1) 12-volt 30-amp ignition power second position on ignition switch.
- One (1) 12-volt 125-amp ground.

POWER & GROUND STUDS, LOWER COMMAND CONSOLE

There shall be a set three of (3) threaded power studs provided in the cab's lower Command Console for future installation of two-way radios.

The studs shall be wired as follows:

- One (1) 12-volt 60-amp, direct to the battery
- One (1) 12-volt 30-amp controlled by the ignition switch
- One (1) 12-volt 125-amp ground

VEHICLE DATA RECORDER

An Akron / Weldon vehicle data recorder as required by the 2009 edition of NFPA 1901 shall be installed. Vehicle data shall be sampled at the rate of 1 second per 48 hours, and 1 minute per 100 engine hours.

Free software is available to allow the fire department to collect the data as needed.

AUXILIARY POWER POINT

Five (5) 12-volt 20-ampere auxiliary lighter socket type plug-ins, shall be provided in the cab/body of apparatus. The exact locations shall be determined at the preconstruction conference.

DUAL POWER POINT, USB-USBC

Five (5) Kussmaul 12-volt dual port USB-USBC power point shall be provided in the cab/body. Exact locations of the USB Drives shall be determined at the preconstruction conference.

LIGHTING CAB INTERIOR

Interior lighting shall be provided inside the front of the cab for passenger safety. Three (3) Whelen 6" round ceiling mounted combination red/clear LED dome lights with a push button on/off switch in the light lens. One light shall be located over each the officer and driver's position and one in the center. The lights shall also activate from the open door switch located in each cab doorjamb.

LIGHTING CREW CAB INTERIOR

Interior lighting shall be provided inside the crew cab for passenger safety. Three (3) Whelen 6" round ceiling mounted combination red/clear LED dome lights with a push button on/off switch in the light lens shall be provided. The lights shall also activate from the open door switch located in each cab doorjamb.

DOOR LIGHTS

One (1) Whelen 500 series TIR6 model 50*03Z*R LED light shall be installed in a chrome plated bezel inside each of the lower cab doors. The lights shall be wired to flash when the ignition is on and the cab door is open.

HEAVY DUTY HEATER/DEFROSTER/AIR CONDITIONER

There shall be a minimum 80,000 cool BTU and 65,000 heat BTU single unit, heater/air conditioner mounted over the engine cover. The unit shall be mounted in center of the cab on the engine hood/enclosure. Unit shall have a shutoff valve at the right side of the frame, next to the engine. Airflow of the heater/air conditioner shall be a minimum 1200 CFM. To achieve maximum cooling, a TM-31 Compressor (19.1 cu. in.) will be used.

The defroster/heater shall be a minimum of 35,000 BTU and shall be a separate unit mounted over the windshield. There shall be eight (8) louvers/diffusers to direct to windshield and door glass. Airflow of the defroster/heater shall be a minimum 350 CFM. The unit shall be painted Zolatone greystone to match the cab ceiling.

The condenser shall be roof mounted and have 80,000 BTU rating. The unit shall include two fan motors. Airflow of the condenser shall be a minimum 2250 CFM. (This roof-mounted condenser shall work at full rated capacity at an idle with no engine heat problems.)

HEATER/DEFROSTER/AIR CONDITIONING CONTROLS

The heater/defroster/air conditioning shall be located in the overhead console in the center of the apparatus cab within reach of the driver and officer. The controls shall be illuminated for easy locating in dark conditions. The controls shall be located in such a way that the driver will not be forced to turn away from the road to make climate control adjustments. Control of all heater/defroster/air conditioning functions for the entire apparatus cab shall be achieved through these controls.

FLOORBOARD HEATING DUCT

There shall be ductwork to the floor of the cab, facing forward to provide heat for the front of cab floor area.

DRIVER/OFFICER VENT TO FACE

There shall be ductwork routed forward towards the driver/officer positions. The vents shall provide a/c to the face of the driver/officer and to the front of cab area.

DEFROSTER DIFFUSER

A molded diffuser made of durable ABS plastic ductwork system shall be provided. It shall be form fitted and shall attach to the cab's overhead defroster unit to provide temperature controlled air to the windshields. Air flow of up to 280 cfm is balanced and directed across the entire windshield for optimum defrosting capability in all types of weather.

TOOL TRAY

There shall be a 3/16" smooth aluminum tray installed on top of the heat/air conditioning unit for use in mounting of equipment. The plate shall measure approximately 24.5" wide x 18.5" long with a 2" lip on all four (4) sides. The tray shall be coated with the same finish as the heat/air conditioning unit and shall be secured with screws for easy replacement.

DRIVER'S SEAT

A H.O. Bostrom Sierra high back ABTS seat with air suspension shall be provided for the driver. The seat shall be equipped with a red 3-point shoulder harness with lap belt. The seat shall have fore/aft adjustment and shall be upholstered with heavy duty Low Seam Durawear Plus material.

HELMET STORAGE

The helmet for the above seat shall be stored in a compartment. A placard shall be provided visible to the riding position warning that injury may occur if helmets are worn while seated.

OFFICER'S SEAT

An H.O. Bostrom Tanker 450 ABTS SCBA seat shall be provided for the officer. The seat back shall have a SCBA cavity and auto-pivot-and-return padded headrest. The seat shall be equipped with a red 3-point shoulder harness with lap belt and an automatic retractor built into the seat assembly. The seat shall be upholstered with heavy duty Low Seam Durawear Plus material.

UNDER SEAT STORAGE COMPARTMENT

There shall be a storage area under the officer's seat, accessible from the front through a hinged door with Southco C5 compression lever latch. The door shall be shall be painted with a durable finish to match the inside of the cab and shall be vertically hinged near the engine enclosure.

The storage area shall be approximately 19.5" wide x 14.375" high x 21.75" deep. The lower rear portion of the compartment shall be tapered to accommodate the wheel well and wiring chase. The opening shall be approximately 15.5" wide x 10.5" high.

HELMET STORAGE

The helmet for the above seat shall be stored in a compartment. A placard shall be provided visible to the riding position warning that injury may occur if helmets are worn while seated.

CREW SEAT – DRIVER'S SIDE, REAR FACING

One (1) H.O. Bostrom Tanker 450 ABTS SCBA fixed base seat shall be installed behind the driver. The seat back shall have a SCBA cavity and auto-pivot-and-return padded headrest. The seat shall be equipped with a red 3-point shoulder harness with lap belt and an automatic retractor built into the seat assembly. The seat shall be upholstered with heavy duty Low Seam Durawear Plus material.

HELMET STORAGE

The helmet for the above seat shall be stored in a compartment. A placard shall be provided visible to the riding position warning that injury may occur if helmets are worn while seated.

CREW SEAT – OFFICER'S SIDE, REAR FACING

One (1) H.O. Bostrom Tanker 450 ABTS SCBA fixed base seat shall be installed behind the officer. The seat back shall have a SCBA cavity and auto-pivot-and-return padded headrest. The seat shall be equipped with a red 3-point shoulder harness with lap belt and an automatic retractor built into the seat assembly. The seat shall be upholstered with heavy duty Low Seam Durawear Plus material.

HELMET STORAGE

The helmet for the above seat shall be stored in a compartment. A placard shall be provided visible to the riding position warning that injury may occur if helmets are worn while seated.

EMS CABINET, FORWARD FACING

There shall be a cabinet constructed of .125 aluminum plate and painted to match the interior of the cab. The cabinet dimensions shall be approximately 46" wide x 18" deep x 53" tall. The cabinet shall come complete with interior access. Strip lighting shall be provided in the cabinet. The cabinet shall be provided on the back wall of the cab, mounted on the crew seat riser, in place of the two forward facing crew seats.

INTERIOR COMPARTMENT OPENING

The compartment shall come complete with a single interior access opening with an Amdor satin finished roll-up door to cover that opening.

ADJUSTABLE SHELVES

There shall be two (2) adjustable shelves provided and installed in the compartment. The shelves shall be fabricated of .188 aluminum plate and have two 1.5" x 1.5" x .188" aluminum angles welded to the underside of the shelf for support.

CREW SEAT – DRIVER'S SIDE, FORWARD FACING, OUTBOARD

One (1) H.O. Bostrom Tanker 400CT ABTS SCBA flip-up base seat shall be installed in the driver's side forward-facing outboard position. The seat back shall have a SCBA cavity and auto-pivot-and-return padded headrest. The seat shall be equipped with a red 3-point shoulder harness with lap belt and an automatic retractor built into the seat assembly. The seat shall be upholstered with heavy duty Low Seam Durawear Plus material.

HELMET STORAGE

The helmet for the above seat shall be stored in a compartment. A placard shall be provided visible to the riding position warning that injury may occur if helmets are worn while seated.

CREW SEAT – OFFICER'S SIDE, FORWARD FACING, OUTBOARD

One (1) H.O. Bostrom Tanker 400CT ABTS SCBA flip-up base seat shall be installed in the officer's side forward-facing outboard position. The seat back shall have a SCBA cavity and auto-pivot-and-return padded headrest. The seat shall be equipped with a red 3-point shoulder harness with lap belt and an automatic retractor built into the seat assembly. The seat shall be upholstered with heavy duty Low Seam Durawear Plus material.

HELMET STORAGE

The helmet for the above seat shall be stored in a compartment. A placard shall be provided visible to the riding position warning that injury may occur if helmets are worn while seated.

SEAT UPHOLSTERY COLOR

The cab seat upholstery shall be black in color.

SCBA BRACKETS

Each SCBA seat in the cab shall feature an H.O. Bostrom SecureAll self contained breathing apparatus (SCBA) locking system. The seat back shall include a bracket which shall be capable of storing most U.S. and international SCBA brands and sizes while in transit or for storage. The bracket shall be easily adjustable for all SCBA brands and cylinder diameters; adjustment points shall utilize similar hardware and adjustments shall be made with one tool.

The bracket shall be adjustable to compensate for different cylinder lengths without the use of tools. The adjustment shall be made by raising a lever and moving the top clamp vertically.

The bracket system shall be free of straps and clamps that may interfere with auxiliary equipment on SCBA units. The center guide fork shall keep the tank in-place for a safe and comfortable fit in seat cavity. Fire fighters shall simply push the SCBA unit against the pivot arm to engage the patented auto-locking system. Once the lock is engaged, the top clamp shall surround the top of the SCBA tank for a secure fit in all directions.

The locking system shall include a release handle integrated into the seat cushion for quick and easy release and to eliminate the need for straps or pull cords which might interfere with other SCBA equipment.

SEAT BELT WARNING SYSTEM

An Akron / Weldon seat belt warning system shall be provided, and shall monitor each seating position. Each seat shall be supplied with a sensor that, in conjunction with the display module located on the dash, shall determine when the seat belt was fastened and if the seat is occupied. An icon shall represent that the seat is properly occupied. An audible and visual alarm shall be activated if the seat is occupied and/or the belt is not fastened in the proper sequence.

CREW SEAT COMPARTMENT

A compartment shall be provided under the forward facing crew seats on the back wall of the cab. Two drop down doors shall be provided on the front face of the compartment. Compartment dimensions are 91.5"L x 14"H x 19"W.

IN-CAB OVERHEAD STORAGE AREA

An overhead storage area shall be provided at the front of the raised roof portion inside of the cab above the rear-facing crew seats. The full-width storage area shall be approximately 84" wide x 15.5" high x 17" deep and shall have a Zolatone gray/black rubberized, textured finish to match the cab interior. The storage area shall be equipped with aluminum lift-up doors.

IN-CAB OVERHEAD STORAGE AREA

An overhead storage area shall be provided at the rear of the raised roof portion inside of the cab above the forward-facing crew seats. The full-width storage area shall be approximately 84" wide x 15.5" high x 15" deep and shall have a Zolatone gray/black rubberized, textured finish to match the cab interior. The storage area shall be equipped with aluminum lift-up doors.

Provisions shall be made for the installation of customer furnished radio.

ANTENNA MOUNTING

The two (2) customer supplied radio antennas shall be installed in the cab roof with the coax cable run to the radio mounting area. The radio location shall be determined at the pre-construction meeting.

ELECTRICAL PROVISION

Wiring shall be provided in the cab for the future installation of electrical chargers. The location shall be determined during the pre-construction conference.

HD STEREO

A Jensen HD AM/FM/WB/CD Bluetooth stereo shall be provided with four speakers.

COMMUNICATION SYSTEM

A six position David Clark intercom system shall be provided in the cab. The six positions include: driver, officer and four crew seats. The driver and officer positions shall be interfaced with radio.

VOYAGER, 2 CAMERA SYSTEM

Provided and mounted on the apparatus shall be One (1) HD Voyager 7" Color Sealed, Weatherproof/Dustproof LCD Monitor (AOM713WP); One (1) Rugged Color Camera, 130°; Viewing Angle, LED Low light Assist (VCCS130); One (1) Right Color Side Body Camera, 110°; Viewing Angle w/ Housing (VCCSIDRCM); One (1) 50' Camera Cable to LCD Monitor (CEC50); One (1) 15' Camera Cable to LCD Monitor (CEC15); One (1) 6" Double Knuckle Monitor Mount (72706).

BODY SUB-FRAME

The chassis shall be fitted with a sub-frame system consisting of a series of steel plate gusseted legs, extending down and out from the chassis frame rails on each side. This system will provide additional structural support to the side compartments. A heavy-duty rear platform shall be constructed of the same material to support the rear compartments and rear step. Self-supporting bodies will not be acceptable. NO EXCEPTIONS

BODY MOUNTING

The body shall be fastened to the chassis frame with a minimum of four (4) spring loaded body mounts. Each mount shall be configured using a two-piece angle brackets. The two (2) brackets shall be fabricated of heavy duty 3/8" thick A36 steel and shall have a zinc coated finish to prevent any corrosion. Each mounting assembly shall utilize two (2) 5/8" diameter x 16" long high strength steel zinc coated threaded rod w/ two (2) heavy duty die springs. As the chassis frame twists under driving conditions, the spring mounting system shall eliminate any stress from being transferred into the body. The spring-loaded body mounts shall also prevent frame side rail or body damage caused by unevenly distributed stress and strains due to load and chassis movement.

APPARATUS BODY

The body shall be constructed of 3/16" #5052 aluminum sheet, #3003 bright aluminum diamond plate and structural aluminum extrusions. The body shall be of the modular design to allow for proper flexing of the truck chassis. The body shall be custom built and engineered for proper load distribution on the chassis. An insulator material shall be used where aluminum and steel are in contact to prevent corrosion.
The ceilings, sidewalls and floors of the body compartments shall be constructed of 3/16”; 5052-H32 smooth aluminum plate with a tensile strength range of 32,000 to 44,000 psi. Continuous 4043 fill welding shall seal compartment panels.

The body framework shall be constructed of custom-designed aluminum alloy 6063-T5 extrusions with a tensile strength of 35,000 psi.
To eliminate "dead space" and to maximize compartment interior space, there shall be no more than 1/4" between outer and inner walls.
The compartment extrusions shall be slotted full-length on backside for uniform fitting of the aluminum plate work that forms the compartment interiors.
The aluminum extrusion profiles shall incorporate 1" x 1-3/4" recessed continuous door seal at the bottom of the compartment. The extrusions shall be designed to allow unobstructed, sweep-out floors in all compartments.
The front and top surfaces of body shall be covered with .125" bright aluminum diamond treadplate. The forward and rear recessed surfaces shall be flush with the corner extrusions.
The outer hatch skin shall extend downward over the extrusions and form a drip molding. The material shall be .125 aluminum. The top of the hatch compartments shall have an extrusion that matches the same radius as the cab roof extrusion.
The compartment assemblies are to be fastened to the sub-frame with mechanical Huck-type bolts.
Each compartment shall be properly vented with louvers.

COMPARTMENTATION LEFT SIDE

L1- There shall be a compartment, ahead of the rear wheels approximately 68-1/2" wide x 66" high x 26-1/4" deep. The compartment shall be transverse above the frame rails.
L2- There shall be a compartment, ahead of the rear wheels approximately 68-1/2" wide x 66" high x 26-1/4" deep. The compartment shall be transverse above the frame rails.
L3- There shall be a compartment above rear wheel approximately 64" wide x 30" high x 26-1/4" deep.
L4- There shall be a compartment behind the rear wheels approximately 63" wide x 66" high x 26-1/4" deep.

LEFT UPPER HATCH COMPARTMENT

There shall be a compartment located at the top left body side with lift up doors and pneumatic stays. The compartment shall be approximately 28" wide x 264".The height of the coffin will be determined based on the height of the cab unless otherwise indicated. Two (2) lift-up NFPA compliant serrated aggressive diamond plate doors shall be provided, each with chrome handles. The tops of the compartments shall be constructed of NFPA compliant embossed aggressive diamond plate.

COMPARTMENTATION RIGHT SIDE

R1- There shall be a compartment, ahead of the rear wheels approximately 68-1/2" wide x 66" high x 26-1/4" deep. The compartment shall be transverse above the frame rails.

R2- There shall be a compartment, ahead of the rear wheels approximately 68-1/2" wide x 66" high x 26-1/4" deep. The compartment shall be transverse above the frame rails.
R3- There shall be a compartment above rear wheel approximately 64" wide x 30" high x 26-1/4" deep.
R4- There shall be a compartment behind the rear wheels approximately 63" wide x 66" high x 26-1/4" deep.

RIGHT UPPER HATCH COMPARTMENT

There shall be a compartment located at the top right body side with lift up doors and pneumatic stays. The compartment shall be approximately 28" wide x 264" long. The height of the coffin will be determined based on the height of the cab unless otherwise indicated. Two (2) lift-up NFPA compliant serrated aggressive diamond plate doors shall be provided, each with chrome handles. The tops of the compartments shall be constructed of NFPA compliant embossed aggressive diamond plate.

REAR CENTER STAIRCASE W/ STORAGE COMPARTMENTS

The rear of the body shall have a staircase leading from the tailboard to the upper walkway. The staircase shall be designed to incorporate compartments to hold customer specific equipment. The horizontal surface of each step shall incorporate a drip edge to keep water from entering each compartment. Each compartment shall have a positive latching mechanism and a door ajar sensor.

Final layout of each compartment shall be determined at pre-construction.

STAIRCASE FINISH

The staircase and inside walkway area shall be made of 3/16” aluminum embossed treadplate.

UPPER BODY WALKWAY

A 40" wide, upper body walkway shall be provided at the center of body and recessed into the roof structure. The walkway shall be finished with NFPA compliant 3/16" aluminum. Drains shall be installed at front of walkway to allow water to drain to the ground through flexible drain hose.

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UPPER HATCH COMPARTMENTS

Each upper hatch compartment shall have a lift-up type compartment door hinged on the outboard side. Each door shall be fabricated from 3/16" aluminum. Each door shall have two (2) pneumatic type cylinders,

one (1) at each end, attached to cast aluminum brackets mounted to the interior surface of the door to hold the door in both the opened and closed positions. Each door shall be mounted using stainless steel piano hinges, with stainless steel pin. A barrier film gasket shall be placed between stainless steel hinge and the body mounting surface as necessary to prevent corrosion caused by dissimilar metals.

Each compartment door shall overlap a 2" vertical lip on the body roof to prevent entry of moisture and sealed with automotive type rubber molding to provide a weather resistant seal.

Each roof compartment door shall have a chrome 7" handle bolted to center of each door.

Each compartment shall have a horizontally mounted LED strip light on the underside of the door hinge. The light and NFPA Door Ajar System shall be automatically activated by an individual switch per compartment.

WALKWAY FINISH

The inside walkway area shall be made of 3/16” aluminum embossed treadplate.

WALKWAY LIGHTS

There shall be Tecniq E44 strip lights provided to illuminate the upper body walkway area. The lights shall be activated when the parking brake is set.

Each light shall be mounted in a J-shape cast aluminum housing to protect against damage from personnel or equipment.

UPPER HATCH COMPARTMENT, FINISH

The compartment tops and doors of the hatch compartments shall be made of 3/16” aluminum embossed treadplate.

OIL DRY HOPPER

An oil dry hopper will be constructed and located in the rear upper portion of the hatch compartments. The hopper will have a capacity to hold up to 150# of oil dry material. The hopper construction shall be of aluminum plate fabricated and solidly welded in a manner to allow the material to flow downward into the delivery pipe. The delivery pipe shall be constructed of 3” PVC and equipped with a PVC flange to provide a maintenance free seal at the bottom of the hopper. The pipe shall be routed through the back corner of the rear compartment. The point of material discharge shall be either in the rear compartment or directly under

the rear compartment as directed by the fire department. A 3" PVC sliding type valve shall be provided and located in the rear compartment for controlling the dispensing of the material.

ROPE TIE-OFFS

There shall be six (6) 9,000 # rated rope tie offs provided on the body. There shall be three (3) on each side of the upper hatch compartments. Two (2) shall be mounted in the upper corners and one (1) mounted in the center of the body. The rope tie offs shall consist of 10,000 # hoist rings powder coated black. The hoist rings shall attached trough a 3/16th scuff plate, a 3/16th compartment wall, and a 3/8" aluminum plate. The 3/8" aluminum plate shall be fully welded to the upper hatch compartment structure. The hoist ring shall be able to swivel 360 degrees and pivot 180 degrees.

ROPE TIE-OFF SCUFF PLATES

An aluminum scuff plate shall be provided behind each of the rope tie-offs. The scuff plates shall have a brushed finish.

COMPARTMENT INTERIOR - L1

The L1 compartment on the left side of the apparatus shall include the following features:

No compartment options were selected for L1.

COMPARTMENT INTERIOR - L2

The L2 compartment on the left side of the apparatus shall include the following features:

No compartment options were selected for L2.

COMPARTMENT INTERIOR - L3

The L3 compartment on the left side of the apparatus shall include the following features:

No compartment options were selected for L3.

COMPARTMENT INTERIOR - L4

The L4 compartment on the left side of the apparatus shall include the following features:

No compartment options were selected for L4.

COMPARTMENT INTERIOR - R1

The R1 compartment on the right side of the apparatus shall include the following features:

No compartment options were selected for R1.

COMPARTMENT INTERIOR - R2

The R2 compartment on the right side of the apparatus shall include the following features:

No compartment options were selected for R2.

COMPARTMENT INTERIOR - R3

The R3 compartment on the right side of the apparatus shall include the following features:

No compartment options were selected for R3.

COMPARTMENT INTERIOR - R4

The R4 compartment on the right side of the apparatus shall include the following features:

No compartment options were selected for R4.

UNISTRUT

Each compartment shall come equipped with 1.625" x .875" x .125" aluminum Unistrut channel. The Unistrut shall be securely fastened to the interior walls of the compartment.

ROLL-UP COMPARTMENT DOORS

Compartment doors shall be equipped with AMDOR™ brand roll-up doors, complete with the following features:

- 1” aluminum double wall slats with continuous ball & socket hinge joint designed to prevent water ingression and weather tight recessed dual durometer seals
- double wall reinforced bottom panel with stainless steel lift bar latching system
- bottom panel flange with cut-outs for ease of access with gloved hands
- reusable slat shoes with positive snap-lock securement
- smooth interior door curtain to prevent equipment hang-ups
- one-piece aluminum door track / side frame
- top gutter with non-marring seal
- non-marring recessed side seals with UV stabilizers to prevent warpage
-

PAINTED ROLL-UP DOORS

The doors shall be wet painted before assembly by the door manufacturer. The paint shall be the same as the apparatus to achieve an exact match of paint color and have the look and durability same as on the rest of the truck.

SILL PROTECTION

A clear protective film shall be provided along the front edge of each body compartment floor.

PULL CORDS

A 1" wide nylon strap shall be provided to assist in closing the compartment door. The strap shall be fastened and secured to back of the roll-up door. The strap shall extend from door and be secured to the wall next to the door opening.

ROLL UP DOOR DRIP PAN/SPLASHGUARD

The specified roll-up door(s) shall be equipped with a drip pan with built in splashguard. The drip pan shall attach to the pennant plate with spring pins to allow for easy removal and cleaning. The construction of the pan shall be of a corrosion resistant material.

COMPARTMENT INTERIOR FINISH

The interior non-painted surface of the compartments shall have a smooth, natural finish.

COMPARTMENT LIGHTING

Each compartment shall be equipped with two (2) white AMDOR LED light strips which shall provide a consistent pattern to illuminate the entire compartment.

BODY HANDRAILS

Handrails shall be constructed of type 304 stainless steel 1.25 inch diameter tubing with bright finish and knurled gripping surface. Mounting flanges shall be constructed from 7 gauge, .180 thick, stainless sheet. Each grab rail shall have 90 degree returns to flanges. The ends of grab rail shall pass through the flanges and be welded to form one structural unit. The handrails, shall be mounted using 1.25" SS Hex bolts, with a barrier rubber gasket at each flange. Sufficient space shall allow for a gloved hand to firmly grip the rail. The rails shall be located in the following areas:

(Note: These are in addition to those previously mentioned in the cab section):

There shall be one (1) vertical handrail at rear of the body one each side of the rear compartment.

There shall be two (2) handrails mounted horizontally, above the pump panel, one (1) on each side as large as possible.

RUB RAILS

The body shall be equipped with anodized aluminum channel style rub rails at the sides. Rub rails shall be spaced away from the body by 1/2" polymer spacers. The rub rails shall be polished to a bright finish.

ALUMINUM TREADPLATE

All load bearing aluminum treadplate running boards shall be .155 thick bright-annealed finish. Running boards and rear step edges shall be flanged down for added strength. Running boards shall also be flanged up to form kick plates. All non-load bearing aluminum shall be .125" thick bright annealed finish. In areas where aluminum treadplate shall function as a load-bearing surface, there shall be a heavy steel sub-structure. This structure shall consist of 3" channel and 1-1/2" angle welded support. This shall assure that there shall be no flexing or cracking of running boards. The aluminum shall be insulated from the steel by closed cell foam body barrier material.

Treadplate locations:
1. Skirting around front bumper.
2. The step at the cab entrance.
3. The jump seat steps.
4. The body header.
5. The running boards.
6. The rear step.
7. The top of the compartments.
8. The rear of the apparatus.

SCBA CYLINDER COMPARTMENTS

There shall be four (4) spare breathing air cylinder compartments recessed in the rear fender wells, two (2) left and two (2) right. The interior compartment shall be constructed of a high-density polyethylene plastic.

DOOR FINISH

The single or double SCBA compartments shall have a brushed stainless door equipped with a weather resistant flush fitting thumb latch. The interior of the door shall incorporate a rubber seal to keep the compartment free of road debris and moisture.

FENDER PANELS

The rear side fenders shall be removable aluminum treadplate panels. The wheel liners shall be constructed of pre-formed material to provide a maintenance free, damage resistant surface.

GROUND LADDERS

The apparatus shall be equipped with heavy duty, box type "I" beam rail, ground ladders. The ladders shall meet the requirements of NFPA 1931 to ensure proper design and that sufficient strength is available for the service intended. The ground ladders shall be constructed of aluminum with non-welded, field replaceable

rung to rail connections to simplify field repairs and removable plated steel butt spurs for added strength. A full 1/2", non-rotting, poly rope shall be provided for easy ladder operation.

One (1) Alco-Lite PEL-24 24 ft. two-section aluminum extension ladder.
One (1) Alco-Lite PRL-14 14 ft. aluminum roof ladder.
One (1) Alco-Lite FL-10' 10 ft. folding ladder.

The ladders shall have lifetime Warranty against manufacturing defects.

LADDER CHUTE

There shall be a ladder chute installed in a section of the upper hatch compartment. The upper hatch compartments width shall be modified to accommodate customer specified ladders. The ladder chute shall have drains provided into the walkway. The top of the ladder chute shall have a vinyl cover to assist keeping water and other debris out of the chute.

LADDER CHUTE DOOR

A smooth aluminum door shall enclose the ladders at the rear.

RECEIVER (Sides)

A 2" receiver shall be provided and mounted directly to the apparatus chassis, extending out of the rear sides of the body. The receiver shall be 2" x 2" heavy wall tube and solidly re-enforced. The receiver shall be rated with a maximum capacity of 16,000 lbs. The receiver shall be designed for a 2-1 straight pull capacity (8,000 lbs).

RECEIVER (Rear)

A 2" receiver shall be provided and mounted directly to the apparatus chassis, under the body sub frame. Receivers that mount to the body subframe shall not be acceptable. The receiver shall be 2" x 2" heavy wall tube and solidly re-enforced. The receiver shall be rated with a maximum capacity of 16,000 lbs. The receiver shall be designed for a 2-1 straight pull capacity (8,000 lbs).

WIRING

Sufficient power shall be provided at the receiver for the intent of powering a winch.

LICENSE PLATE BRACKET

A Cast Products LP0013 cast aluminum license plate bracket with LED light shall be provided at the rear of the apparatus.

BODY ELECTRIC SYSTEM

All body electrical wiring in the chassis will be XLP cross link-insulated type. Wiring is to be color-coded and include function codes every three (3) inches. Wiring harnesses will be routed in protective, heat resistant loom, securely and neatly installed. Two power distribution centers will be provided in central locations for greater accessibility. The power distribution centers contain automatic thermal self-resetting breakers, power control relays, flashers, diode modules, daytime driving light module, and engine and transmission data links. All breakers and relays are utilized in circuits which amp loads are substantially lower than the respective component rating thus ensuring long component life. Power distribution centers will be composed of a system of interlocking plastic modules for ease in custom construction. The power distribution centers are function oriented. The first is to control major truck function and the second controls overhead switching and interior operations. Each module is single function coded and labeled to aid in troubleshooting. The centers also have accessory breakers and relays for future installations. All harnesses and power distribution centers will be electrically tested prior to installation to ensure the highest system reliability.

All external harness interfaces will be of a triple seal type connection to ensure a proper connection. The cab/chassis and the chassis/body connection points will be mounted in accessible locations. Complete chassis wiring schematics will be supplied with the apparatus.

The wiring harness contained on the chassis shall be designed to utilize wires of stranded copper or copper alloy of a gauge rated to carry 125% of maximum current for which the circuit is protected without exceeding 10% voltage drop across the circuit. The wiring shall be uniquely identified by color code or circuit function code, labeled at a minimum of every three (3) inches. The identification of the wiring shall be referenced on a wiring diagram. All wires conform to SAEJ1127 (Battery Cable), SAEJ1128 (Low Tension Primary Cable), SAEJ1560 (Low Tension Thin Wall Primary Cable).

All harnesses shall be covered with moisture resistant loom with a minimum rating of 300 Degrees Fahrenheit and a flammability rating of VW-1 as defined in UL62. The covering of jacketed cable has a minimum rating of 289 degree Fahrenheit.

All harnesses are securely installed in areas protected against heat, liquid contaminants and damage. The harness connections and terminations use a method that provides a positive mechanical and electrical

connection and are in accordance to the device manufacturer's instructions. No connections within the harness utilize wire nut, insulation displacement, or insulation piercing.

All circuits conform to SAE1292. All circuits are provided with low voltage over current protective devices. These devices are readily accessible and protected against heat in excess of component rating, mechanical damage, and water spray. Star washers are not used for ground connections.

BACK-UP ALARM

An Ecco model SA917 automatic self-adjusting electronic back-up alarm producing 87-112 db shall be installed at the rear between the frame rails. It shall operate whenever the transmission's reverse gear is selected.

STOP/TAIL/TURN/REVERSE LIGHTS

The rear stop/tail/turn/reverse lights shall be Whelen M9 series lights individually installed each side on the rear of the apparatus body. The stop/tail lights shall be LED model M6BTT located in the top position of the cluster. The amber arrow turn signals shall be LED model M9T located below the stop/tail lights. The reverse lights shall be LED model M9BUW located below the turn signals.

LED ICC/MARKER LIGHTS

LED type ICC/marker lights shall be provided to meet D.O.T. requirements.

STEP LIGHTS

LED strip lighting or individually mounted lights shall be provided at the rear of the body to illuminate all stepping surfaces and walkway.

GROUND LIGHTING

The apparatus shall be equipped with lighting capable of illumination to meet NFPA requirements. Lighting shall be provided at areas under the driver and crew riding area exits and shall be automatically activated when the exit doors are opened. The ground lights shall be Amdor Lumabar H20 LED. Lighting required in other areas such as work areas, steps and walkways shall be activated when the parking brake is applied, provided the ICC lights are on.

Eight (8) additional Amdor Lumabar H20 ground lights shall be provided. The exact locations TBD at the pre-construction conference.

OPTICAL WARNING SYSTEM

The optical warning system shall be capable of two separate signaling modes during emergency operations. One mode shall signal to drivers and pedestrians that the apparatus is responding to an emergency and is calling for the right-of-way and the other mode shall signal that the apparatus is stopped and is blocking the right-of-way.

A momentary rocker switch shall be provided near the driver and labeled Master Emergency to energize all of the optical warning devices provided. A secondary momentary rocker switch shall be provided near the officer. All lights shall operate at not less than the minimum flash rate per minute as specified by NFPA.

UPPER LEVEL WARNING DEVICES

The upper level shall be divided into zones A (front), B (officer's side), C (rear) and D (driver's side).

Zone A (front) shall have one (1) Whelen Freedom IV 81" Model F4N1QLED light bar, with twenty (20) LED modules. The light bar shall have two (2) end red LED modules, four (4) corner red LED modules, twelve (12) forward-facing red LED modules and two (2) forward-facing white LED modules. The light bar shall have all clear outer lenses. The light bar shall be installed on the cab roof as far forward as possible with two (2) MK8H 5" cast aluminum risers.

Zone B (officer's side) shall be covered by the module from the light bar and the side-facing warning light.

Zone C (rear) shall have four (4) Whelen M9 series model M9* LED warning lights installed on the upper rear of the apparatus. The lights shall be installed one (1) each side on the upper rear surface of the body (rear-facing) and one (1) each side on the driver and officer sides of the body in the upper rear corners (side-facing).

Zone D (driver's side) shall be covered by the module from the light bar and the side-facing warning light.

LOWER LEVEL WARNING DEVICES

The lower level shall be divided into zones A (front), B (officer's side), C (rear) and D (driver's side).

Zone A (front) shall have four (4) Whelen M6 series model M6* Super LED warning lights.

The lights shall be installed two (2) each side on the front of the cab in the warning light housings.

Zone B (officer's side) shall have two (2) Whelen M6 series model M6* Super LED warning lights and one (1) Whelen ION T-Series TLI* Super LED warning light.

The lights shall be installed one (1) near the front corner of the apparatus, one (1) near the rear axle, and one (1) near the rear corner of the apparatus.

Zone C (rear) shall have two (2) Whelen M6 Series model M6* Super LED warning lights installed one (1) each side on the lower rear of the apparatus.

Zone D (driver's side) shall have two (2) Whelen M6 series model M6* Super LED warning lights and one (1) Whelen ION T-Series TLI* Super LED warning light.

The lights shall be installed one (1) near the front corner of the apparatus, one (1) near the rear axle, and one (1) near the rear corner of the apparatus.

ADDITIONAL WARNING LIGHT BARS

There shall be (2) additional Whelen Freedom IV 21"" LED light bars, Model F4MINI, each with five (5) LED modules. Each light bar shall have one (1) end red LED module, two (2) corner red LED modules, and two (2) forward-facing white LED modules. The light bars shall have all clear outer lenses. The light bars shall be installed on the cab roof each with two (2) MK8H 5"" cast aluminum risers.

ADDITIONAL WARNING LIGHTS

There shall be (6) additional Whelen M6 Series model M6* Super LED warning lights installed on the apparatus.

(2) Front of the truck, (1) ea side of the grill below headlights mounted directly to the cab (reference Dalton Fleet)
(1) ea side of the cab, centered above front wheels
(2) rear of the body, (1) each side mounted mid-height

ADDITIONAL WARNING LIGHTS

There shall be (6) additional Whelen ION T-Series TLI* LED warning lights installed on the apparatus.

(1) ea side of the body in the front corners of the rub rails
(1) ea side of the body mid-ship of the body in rub-rails
(2) rear of the truck, (1) ea side, inboard of tail lights

ADDITIONAL WARNING LIGHTS

There shall be two (2) additional Whelen M9 series model M9* LED warning lights installed on the apparatus at the front corners of the body

TRAFFIC ADVISOR

One (1) Whelen TAL85 22" 2-piece LED traffic advisor shall be installed at the rear of the apparatus. The advisor shall have eight (8) amber LED light heads. The TACTL5 control head shall be mounted in a location specified by the fire department.

BROW MOUNTED LED SCENE LIGHT

A Whelen Pioneer PFH2 brow mounted LED scene light shall be provided. The lamp head shall operate at 12 volts DC, draw 12.5 amps, and generate 16,000 lumens of light. The light shall be mounted at the front brow of the cab and shall be controlled from a switch in the cab.

SCENE LIGHTS

Four (4) pairs of Whelen M9 LED scene lights shall be installed.

(1) ea side of the cab above fixed window
(1) ea side of body, front corner
(1) ea side of body, rear corner
(2) rear of body, (1) ea side as high as possible (Below M9 Warning Lights)

ADDITIONAL 3-WAY SWITCH

Four (4) additional 3-way switch shall be provided and mounted above the officers seat for the control of the following circuits:

Front Scene
Left Scene

Right Scene
Rear Scene

The switches shall be three-way momentary switches to allow the circuit to be turned on from either the driver or officers seat position.

GENERATOR

The apparatus shall be equipped with a complete electrical power generation system.
A Harrison hydraulic 10.0 KW generator model MAS – 16R/5A shall be provided and installed. The generator and wiring shall conform to present National Electric Codes as outlined in the National Fire Protection Association Standards.
The output of the generator shall be controlled by an internal hydraulic system. An electrical instrument gauge panel shall be provided for the operator to monitor and control all electrical operations and output.
The generator shall be powered by a transmission power take off unit, through a hydraulic pump and motor.
The generator shall be operable anytime that the apparatus engine is running and meeting the minimum range of 900 RPM's.
Height 14"
Width 24"
Depth 18"
Weight 273
Max kW 10.0
AMPS@120V 80
AMPS@240V 40
HP Required 20
Torque Required 82.9
Maximum Pressure 2800 psi

BREAKER BOX

A circuit breaker box shall be provided with eight (8) spaces for breakers which shall be provided as needed. All wiring shall be installed in liquid tight conduit.

BREAKER PANEL

The breaker panel shall be located in the L1 Compartment and shall meet all requirements set forth by the National Electrical Code and NFPA guidelines.

AUTOMATIC TRANSFER SWITCH

A Progressive Dynamics PD5100 30 amp automatic transfer switch shall be installed to automatically switch on board loads from shoreline power to generator power.

CORD REEL

There shall be a Hannay Model ECR1614-17-18 electric rewind cable reel furnished and mounted in a compartment. The reel shall come complete with 200 feet of 10/3 Seoprene Water-resistant (SOW) yellow jacketed cable. A Hannay Type "C" roller assembly and HS-3 cable stop ball shall be provided.

REEL MOUNTING

The reel shall be mounted in the upper hatch body compartments. The cord shall be accessible through the floor of the compartment. The access hole shall be outfitted with roller assembly to prevent abrasion to the cord with additional rollers to permit access to the outside of the truck.

REEL MOUNTING

The reel shall be mounted in the upper hatch body compartments. The cord shall be accessible through the floor of the compartment. The access hole shall be outfitted with roller assembly to prevent abrasion to the cord with additional rollers to permit access to the outside of the truck.

CL802A-W4 LIGHT TOWER

A Command Light, manufactured by Command Light, part number CL802A-W4, light tower shall be provided for installation on the apparatus. The location of the light tower and its controls shall be installed according to instructions given by the customer and the requirements of the light tower manufacturer.

The light tower shall extend 131" above the mounting surface and shall extend to full upright position in less than 15 seconds. The overall size of nested light tower shall be approximately 43" wide x 74" long x 12" high and weigh approximately 300 pounds.

Light Tower Construction and Design

The light tower assembly shall be of aluminum construction, with stainless steel shafts and bronze bushings for long life and low maintenance.

The electrically controlled unit shall not require usage of the vehicle's air supply for operation, thereby eliminating the chance for air leaks in the vehicle braking system. Hydraulic or pneumatic type floodlights are not acceptable alternatives to the specified all electric light tower.

The light tower shall be tested to in wind conditions of 90 mph (150 kph) minimum. Other type floodlights that have not been tested to these conditions are not acceptable.

The light tower shall be capable of overhanging the side or back of the vehicle to provide maximum illumination to the vicinity adjacent to the vehicle for the safety of emergency personnel in high traffic conditions. Any tower that is only capable of rotations at the top of a pole is not an acceptable alternative to the specified tower.

Light Tower Electrical System

The light tower shall be a two-stage articulating device with a lighting bank on top of the second stage capable of continuous 360 degree rotation. The light shall be elevated by electric linear actuators, one (1) actuator shall elevate the light bank and one (1) actuator shall adjust the light bank angle from 0 to 110 degrees. Power for the light bank shall be supplied through power collecting rings thus allowing continuous 360 degree rotation in either direction.

The tower base shall have a light that illuminates the envelope of motion during any movement of the light tower mast as required by NFPA1901.

Light Tower Controls

The light tower shall be controlled with a hand-held 15 foot umbilical line remote control. The storage station for the remote control unit shall be equipped with a button to activate the "Auto-Park" automatic nesting feature. The controls on the remote box shall be:

Two (2) buttons, one (1) for the upper light banks and one (1) for the lower light banks.
One (1) button for optional light bank rotation.
One (1) button for the optional strobe.
One (1) button for lamp tree rotation.
One (1) button for elevating lower stage.
One (1) button for elevating upper stage.
One (1) indicator light to indicate when light is out of roof nest position.
One (1) indicator light to indicate when light is rotated to proper nest position.

Light Tower Floodlights

The Command Light shall be equipped with the following bank of floodlights:

Floodlight manufacturer:Whelen Engineering
Number of lamp heads:Eight (8) Pioneer Plus PFP4 AC LED
Voltage:120 VAC
Watts of each lamp head:300 watts
Total watts of light tower:2,700 watts
Total Lumens of light tower: 327,072 lumens

Configuration:The light heads shall be mounted in four (4) on each side of the light tower, giving two (2) vertical lines of four (4) when the lights are in the upright position.

CORROSION REDUCTION POLICY

The manufacturer shall have in place a formal corrosion reduction program and assembly procedures designed for reducing and eliminating the possibility of corrosion. It is understood that fire apparatus will operate in harsh environments. At the time of the bid the apparatus manufacturer shall show proof of a corrosion policy. Failure to submit this information could be grounds for rejection. If a formal policy is not in place explain in your bid how your firm will take the necessary steps for corrosion reduction. There will be no exception to this requirement.

In addition to a formal program the manufacture shall show proof of testing corrosion reduction processes to ASTMB117. A copy of recent test shall be included in the bid.

Frame Rails
The chassis frame rails shall be coated with a high performance, two component, reinforced inorganic zinc rich primer with a proven cathodic protection makeup preferably Cathacoat 302HB. The surface shall be clean and free of all salts, chalk and oils prior to application. Where the primer has been broken during the frame assembly process the area shall be touched up to reestablish the seal. Prior to finish paint a second primer Devran 201 shall be applied. Once the assembly of the frame is complete and the second primer is applied the entire assembly shall be covered with high quality top coat paint preferably Imron 5000 or equal. The manufacturer shall submit with the bid a copy of the product brochure and or description of the primer to be used.

Electro Plating
Steel and Iron brackets such as the pump module bracket shall be Zinc plated to protect against corrosion. Plating shall be in accordance with ASTM B663. The apparatus manufacturer shall list all components with plating.

Fasteners
In any area that a stainless steel screw or bolt head is to come in contact with aluminum or steel, painted or non-painted, the fastener shall have the underside if the head pre-coated with nylon. The nylon coating shall act as a barrier between the fastener head and the metal or painted surface.

Screw or bolt taped into the metal shall be pre-coated with a Threadlocker type material pre-applied on the threads.

When bolting together stainless steel the manufacturer shall use a pan-head bolt with nylon coating under the head, a stainless washer with a rubber backing, and a Stover flange nut to secure the bolt.

When mounting aluminum components such as a step to the apparatus body. The manufacturer shall use stainless washers with rubber backing. All mounted components shall a barrier material between the two surfaces.

All rivet type fasteners shall be of the same material being secured.

Whenever possible, pre-drill and tap all holes for mounting components such as lights, steps and hand rails prior to the paint process to reduce the corrosion opportunity. If a hole must be drilled into a previously painted surface, re-establish the paint barrier around the hole and use a flange-type nutsert with a gasket under the flange.

Where possible, minimize the number of stainless trim screws in aluminum. Structural tape and or adhesive shall be used where possible for mounting trim to the body or cab.

If a pre-treated screw or bolt is not available, hand apply Dynatex Boltlocker or Theadlocker on the threads of the screw, bolt or nutsert. This will help seal threads from moisture and help prevent the fasteners from loosening.

If lubricant is used when tapping the hole, clean out the lubricant and the shavings before applying blue Threadlocker into the hole.

Barrier Tape

Barrier tape shall be used on the backsides of all lights, trim pieces, or other components when bolting them to the apparatus; also when attaching stainless steel over an aluminum surface or when attaching aluminum treadplate to the stainless steel. All instances of dis-similar metals contacting each other require the addition of barrier tape between the metals where contact is made.

Before applying the tape, be sure the metal surface is clean from oil or dirt by cleaning the surface with a 50/50 mix of alcohol and water pr similar solvent.

Gaskets

Gaskets shall be used under all snaps, loops and fasteners for such items as for hose bed covers. Reestablish paint seal around the mounting hole edges after drilling.

Mounting with Threadlocker coating shall be used.

Flat washers with rubber backing shall be used behind all lights that have stainless screws.

Rollup Doors
1 3/4" X 1/16” barrier tape shall be used on the frame opening to act as barrier between the aluminum door rail and the painted door opening surface.

Use a paint stick around the holes after drilling and tapping. In mounting the rails, use screws with the nylon under the head and Threadlocker on the threads for mounting the doorframes.

Install barrier tape to the painted surface where the trim is located on top of the door opening.

Hinged Doors
Barrier tape shall be applied to the painted surface of the body and on the painted hinge side of the door.

On the hinge side, mount tape out toward the edge to space over the barrel of the hinge, being sure to not touch the door.

Make sure the hinge fits into the extrusion frame with no corner weld beads interfering with the door fit. Do not put the hinge in a bind or cause the stainless steel hinge to touch the aluminum. Install the doors using a truss head bolt with the nylon coating under the head and Threadlocker on the threads.

Painting Steel
The manufacturer shall wipe any oil residue dry, remove any rust and remove weld slag or smoke. Clean the surface with solvent before painting. Prime with one even coat of black Color primer, and then spray a topcoat over the primer for the finish coat. After bolts are tightened to the proper torque, touch up the bolt area and ends of the bolts with primer or cold galvanizing coating.

Mounting Emergency Lights and Options
All emergency lights, accessory mountings, Kussmaul covers, and 110 outlet boxes mounted to the body should be mounted with pre-coated Threadlocker and nylon under the head screws or bolts to minimize corrosion between dissimilar metals.

Electrical Grounding
Grounding straps shall be installed consisting of a minimum 2-gauge strap bolted to the chassis frame.

A ground cable from the cab to the right side frame rail
From the alternator to the right side frame rail
From the pump module frame to the right side truck frame.
Aerials: from the hydraulic and pump module framework.
From the pump mount to the truck frame rail.
From the body module to the right side truck frame.

Proper grounding will help eliminate ground loop problems throughout the truck, reducing the possibility for electrolysis and corrosion to occur. Provide clean connection points on all ground connections, (remove paint where applicable), and spray or brush on electrical sealer as necessary.

When installing foam system pump wiring the power must come from a dedicated breaker to a power solenoid, and then to the power terminal provided by FoamLogix or FoamPro. Pay particular attention to the grounding detail for wire size and good grounding practice, including removing the paint at the point of ground attachment to the chassis. Keep the length of ground wire as short as practically possible.

SALT SPRAY TESTING

Salt spray test shall be used to confirm the relative resistance to corrosion of coated and uncoated metallic specimens, when exposed to a salt spray climate at an elevated temperature. Test specimens shall be placed in an enclosed chamber and exposed to a continuous indirect spray of neutral (pH 6.5 to 7.2) salt water solution, which falls-out on to the specimens at a rate of 1.0 to 2.0 ml/80cm²/hour, in a chamber temperature of +35C. This climate shall be maintained under constant steady state conditions.

Method
Salt fog testing shall be performed by placing samples in a test cabinet that has been designed in accordance with Paragraph 4 (Apparatus) of ASTM B117 and operated in accordance with Paragraph 10 (Conditions) of ASTM B117.

A 5% salt solution, prepared by dissolving sodium chloride into water that meets the requirements of ASTM D1193 Specification for Reagent Water, Type IV is supplied to the chamber. At the time the samples are placed into test, the cabinet should be pre-conditioned to the operating temperature of 35ºC and fogging a 5% salt solution at the specified rate. The fog collection rate is determined by placing a minimum of two 80 sq. cm. funnels inserted into measuring cylinders graduated in ml. inside the chamber. One collection device shall be located nearest the nozzle and one in the farthest corner.

Orientation
Unless otherwise agreed upon, the samples are placed at a 15-30 degree angle from vertical or tested in the “installed” position. This orientation allows the condensation to run down the specimens and minimizes condensation pooling. Overcrowding of samples within the cabinet should be avoided. An important aspect of the test is the utilization of a free-falling mist, which uniformly settles on the test samples. Samples should be placed in the chamber so that condensation does not drip from one to another.

Test durations
Test durations shall be 500 hours except for sample rotation and daily monitoring of collection rates, the cabinet should remain closed for the duration of the test.

PAINTING

All exposed metal surfaces not chrome plated, polished stainless steel or bright aluminum tread plate shall be thoroughly cleaned and prepared for painting. All irregularities in painted surfaces shall be rubbed down and all seams shall be caulked before the application of the finish coat.

All removable items such as brackets, compartment doors, door hinges, trim, etc. shall be removed and painted separately to insure finish paint behind all mounted items. Body assemblies that cannot be finish painted after assembly shall be finish painted before assembly. Both aluminum and steel surfaces to be painted shall be primed with a two (2)-component primer which is compatible with the finish coat. The apparatus shall be finish painted with a polyurethane base/clear system. “No Exception”

A barrier gasket/washer of "High Density Closed Cell Urethane Foam" shall be used behind all lights, handrails, door hardware and any miscellaneous items such as stainless steel snaps, hooks, washers and acorn nuts. The gaskets/washers shall be coated with pressure sensitive acrylic adhesive. All screws used to penetrate painted surfaces shall be pre-treated/coated under the head with nylon and the threads shall have pre-coat #80. This procedure shall be strictly adhered to for corrosion prevention and damage to the finish painted surfaces.

The following paint process shall be utilized:

Surface Preparation:
1. Wash surface thoroughly with mild detergent.
2. Clean and de-grease with Prep-Sol 3812S.
3. Sand and feather edge using 400 grit or finer on a dual action sander.
4. Remove sanding dust with a cleaner compatible with polyurethane base coat/clear coat final finish.

Substrate treatment:
1. Use a Metal Conditioner followed with a Conversion Coating product.

Priming:
1. Use a priming 615S pretreatment.
2. Use a self etching primer applied to achieve a 1.5 mil dft minimum.
3. Use Prime N Seal sealer compatible with polyurethane base coat.

Color Coat:
1. Apply polyurethane base coat 1-2 mil dft minimum.

Clear coat:
1. Apply polyurethane clear coat 2 mil dft minimum.

PAINT TWO TONE

The cab and body shall be two (2) colors. The placement of the paint break shall be determined at the pre-construction conference.

CAB PAINT BREAK LOCATION

The paint break line shall be at the bottom of the windshield.

BODY PAINT BREAK LOCATION

The paint break line shall be at the top of the compartments

PAINTED FRAME

The frame rails and body rear drop shall be painted glossy black.

AIR CONDITIONING CONDENSER

The air conditioning condenser shall be painted to match the cab roof, black

GRAPHICS PACKAGE, DALTON - GA

The graphics shall be identical to the current Dalton, GA graphics scheme. Pictures can be provided or a visit to Fire Station #1 if desired can be scheduled.

REFLECTIVE MATERIAL, CHEVRON STRIPING, INTERIOR CAB DOORS, ORAFOL REFLEXITE

The apparatus shall have reflective Orafol Reflexite Chevron striping affixed to the inside of each cab door. The striping shall be plainly visible to oncoming traffic when the doors are in the open position.

A 1/2" 22KT gold stripe with printed edges stripe shall be provided along the cab paint break.

STRIPING

A 6" Scotchlite stripe shall be provided across the front of the cab and along each side of the apparatus.

An additional 1" Scotchlite stripe shall be provided.

CHEVRON STRIPING, REAR BODY OUTBOARD, ORAFOL REFLEXITE

The apparatus shall have 6” red and yellow reflective Orafol Reflexite Chevron style striping affixed to the outboard rear body panels. The striping will be set in a manner to have the effect of an inverted “V” shape. The stripe will travel low to high from the outside to the inside.

CHEVRON STRIPING, LADDER CHUTE DOOR, ORAFOL REFLEXITE

The ladder chute door shall have 6” red and yellow reflective Reflexite Chevron style striping affixed to it. The striping will be set in a manner to have the effect of an inverted “V” shape. The stripe will travel low to high from the outside to the inside.

MISCELLANEOUS EQUIPMENT FURNISHED

1 pt. touch-up paint

A bag of stainless steel nuts and bolts, as used in the construction of the apparatus.

WHEEL CHOCKS

Two (2) Ziamatic #SAC-44 folding wheel chocks with SQCH-44H holders shall be provided. The wheel chocks shall be located in an area close to the rear axles easily accessible from the side of the apparatus.

OPERATION AND SERVICE MANUALS

Complete "Operation and Service" manuals shall be supplied on two (2) USB flash drives with the completed apparatus. Service manual instructions shall include service, maintenance and troubleshooting for major and minor components of the truck. The apparatus manufacturer shall supply part numbers for major

components (i.e. Engine, Axles, Transmission, Pump, etc.). A table of contents, hydraulic, air brake and overall apparatus wiring schematics shall be included.

A video demonstration on the operation of the truck shall be supplied on the flash drive.

DELIVERY

The completed apparatus shall be driven under it's own power to the fire department. An operational demonstration shall also be provided at the time of delivery.

DEALER PREP/INSPECTION

The apparatus dealer responsible for the sale of the apparatus shall perform a pre-delivery inspection of the apparatus prior to the customer taking possession of the vehicle. This inspection allows for the dealer to record all applicable part and serial numbers for the apparatus so that service and parts can be easily facilitated during the service life of the vehicle. This inspection also allows for a second quality control check, prior to the apparatus being placed in service.

WARRANTIES

The following warranties shall be supplied. See warranty documents for complete coverage details of each warranty provided.
The apparatus shall be warranted to be free from mechanical defects in workmanship for a period of one (1) year. The apparatus shall be covered for parts and labor costs associated with repairs for a period one (1) year.

Life-time warranty on the frame.

Ten (10) year cab structural warranty.

Ten (10) body structural warranty.

Ten (10) year warranty on paint.

The OEM warranties shall be applied for all major components.

MANUFACTURING & LOCATIONS

The apparatus will be manufactured in facilities wholly owned and operated by the company. A complete stock of service parts, and service shall be provided on a 24 hours around the clock basis. The company shall maintain parts and service for a minimum period of twenty (20) years on each apparatus model manufactured.

SHELVING & TRAY ALLOWANCE - $25,000

There shall be a $25,000 allowance for the utilization of adjustable shelves, slide-out trays, vertical toolboards, swing-out toolboards and turtle tile.

State the unit price of each item below:

(1) Adjustable Shelf -

(1) 600# 100% Slide-out Tray -

(1) 250# Slide-Out Toolboard -

(1) 250# Swing-Out Toolboard (Single) -

(1) 250# Swing-Out Toolboard (Double) -

Turtle Tile Per Surface -

CUSTOM EQUIPMENT MOUNTING ALLOWANCE - $25,000

There shall be a $25,000 allowance for the utilization of custom equipment mounting and fabrication of brackets, compartments, ectera. This includes

PAC Mounts
Straps of all lengths
Hydraulic Rescue Tool Brackets
Air-Bag Storage Compartment
RIT Equipment Storage Compartment
Paratech Storage Compartment

MOUNT OF CUSTOMER SUPPLIED KNOX BOX

The customer supplied Knox Box shall be mounted in the cab in customer desired location.