Town of Highland Beach
Notice of Public Meeting Protocol

The Town of Highland Beach is committed to serving the needs of the public.

The following information is guidance for preregistration for Zoom or telephone participation, and for viewing and providing public comments at the meeting:

ZOOM PARTICIPATION:

Online or Telephone Access – Access to the meeting will begin on the date and time of the meeting.

- To Join Meeting: All interested persons **must preregister** to participate by contacting Town Clerk Lanelda Gaskins at publiccomments@highlandbeach.us or by calling (561) 278-4548 no later than one (1) business day prior to the meeting date **(e.g. by 4:30 P.M. on a Monday if the meeting is scheduled for that Tuesday; and by 4:30 P.M.).**
- Meeting access information and instructions will be provided to those persons two hours prior to the meeting.
- The video camera display feature will only be enabled for Public Hearing Quasi-Judicial matters and during public comments only. The video camera display feature will be disabled for public use.

For additional information on using Zoom, please visit Zoom Support by click on the following link: https://support.zoom.us/hc/en-us.

Viewing Only - To view the meeting, preregistration is not required. The public can view the meeting on the following:

- Highland Beach TV Channel 99 online streaming on the Town's website and via Highland Beach YouTube at https://www.youtube.com/channel/UCTAGr8WCa44Y3Q2Bb6UN2mw.

PROVIDING PUBLIC COMMENT:

Persons desiring to provide public comments must do so by one of the methods listed below. Public comments will be limited to five minutes (three minutes for special Commission meeting items only) per person during the designated section of the agenda. If an interested person desires to provide written public comment, all comments must be directed to Lanelda Gaskins, Town Clerk as follows:

TO SEND COMMENTS IN ADVANCE VIA EMAIL:

- To submit public comments, click on the link https://mmportal6.teammunicode.com// to go to the Agendas and Meeting webpage. At the top of the page click on "Public Comments" to submit your comments, or
- Submit your comments to publiccomments@highlandbeach.us.
- The Town will receive such public comments no later than two (2) hours prior to the meeting. If timely received, Town staff will read the public comment at the meeting.

- Live Zoom Video Participation - If attending via Zoom online, please follow Zoom instructions above. Once the meeting gets to the applicable public comment period, the host of the meeting will allow public participants (audio only) into the meeting from the waiting room, to provide live public comment.
- Live Zoom Telephone Participation - If attending via Zoom by telephone, please follow the instructions above. Once the meeting gets to the appropriate public comment period, the host of the meeting will allow public participants into the meeting from the waiting room, to provide live public comment.

Should you have any questions, please feel free to contact the Town Clerk's Office at (561) 278-4548.

Published: 05.26.2021 / Updated 05.13.2022 / Revised 11/29/2022

TOWN OF HIGHLAND BEACH
TOWN COMMISSION MEETING
AGENDA

Tuesday, December 06, 2022 AT 1:30 PM

TOWN HALL COMMISSION CHAMBERS
3614 S. OCEAN BOULEVARD
HIGHLAND BEACH, FL 33487

Town Commission

Douglas Hillman	**Mayor**
Natasha Moore	**Vice Mayor**
Evalyn David	**Commissioner**
John Shoemaker	**Commissioner**
David Stern	**Commissioner**
Marshall Labadie	**Town Manager**
Lanelda Gaskins	**Town Clerk**
Glen J. Torcivia	**Town Attorney**

1. **CALL TO ORDER**
2. **ROLL CALL**
3. **PLEDGE OF ALLEGIANCE**
4. **APPROVAL OF THE AGENDA**
5. **PRESENTATIONS / PROCLAMATIONS**

   A. CivicPlus Website Presentation

6. **PUBLIC COMMENTS**

   Public Comments will be limited to five (5) minutes per speaker.

7. ANNOUNCEMENTS

Board Vacancies

Board of Adjustment and Appeals:	Two (2) vacancies for three-year terms
Financial Advisory Board:	One (1) vacancy for an unexpired term ending April 30, 2023
	One (1) vacancy for an unexpired term ending April 30, 2024
Natural Resources Preservation Advisory Board:	Two (2) vacancies for unexpired terms ending April 30, 2024

Meetings and Events

December 07, 2022 -	6:00 P.M	Public Meeting Accessory Marine Facility Regulations
December 13, 2022	1:00 P.M	Code Enforcement Board Regular Meeting
December 13, 2022 -	6:00 P.M.	Public Meeting Accessory Marine Facility Regulations
December 15, 2022 -	5:00 P.M.	Mingle and Jingle Food Truck Event
December 23, and 26, 2022		Town Hall Closed in observance of Christmas Holiday
January 02, 2023		Town Hall Closed in observance of New Year's Holiday
January 04, 2023 -	1:30 P.M.	Town Commission Meeting

Board Action Report

A. None.

8. ORDINANCES

A. None.

9. CONSENT AGENDA

A. None.

10. UNFINISHED BUSINESS

A. Fire Rescue Implementation Update

11. NEW BUSINESS

A. Consideration of a request for a Town of Highland Beach Right-of-Way permit for the property located at 2474 S. Ocean Blvd.

B. Consideration to approve and authorize the Mayor to execute an agreement with Mainguy Landscape Services, Inc. in an amount of $33,592.60 (per year) for landscaping services for Town-owned properties in accordance with Invitation to Bid No. 22-005.

C. Consideration to approve and authorize the Town Manager to make a best-interest purchase of a 2017 Pierce Ladder Truck in an amount of $830,000.00 for the Fire Rescue Department in accordance with the Town of Highland Beach purchasing policy.

D. A Resolution of the Town Commission of the Town of Highland Beach, Florida, amending Resolution No. 2022-020, which appropriated funds for the 2022-2023 Fiscal Year Budget, and providing for an effective date.

E. Approval of Meeting Minutes

November 15, 2022 - Commission Meeting Minutes

November 22, 2022 - Commission Meeting Special Minutes

F. Discussion of Florida Senate Bill 4-D covering Condominium Reserves. Mayor Hillman

12. TOWN COMMISSION COMMENTS

Commissioner David Stern

Commissioner John Shoemaker

Commissioner Evalyn David

Vice Mayor Natasha Moore

Mayor Douglas Hillman

13. TOWN ATTORNEY'S REPORT

14. TOWN MANAGER'S REPORT

15. ADJOURNMENT

NOTE: Any person, firm or corporation decides to appeal any decision made by the Town Commission with respect to any matter considered at this meeting, such person will need to ensure that a verbatim record including testimony and evidence upon which the appeal is to be based. (State Law requires the above Notice. Any person desiring a verbatim transcript shall have the responsibility, at his/her own cost, to arrange for the transcript.) The Town neither provides nor prepares such record.

In accordance with the Americans with Disabilities Act, persons who need accommodation in order to attend or participate in this meeting should contact Town Hall 561-278-4548 within a reasonable time prior to this meeting in order to request such assistance

File Attachments for Item:

A. Consideration of a request for a Town of Highland Beach Right-of-Way permit for the property located at 2474 S. Ocean Blvd.

TOWN OF HIGHLAND BEACH
AGENDA MEMORANDUM

MEETING TYPE: Regular Commission Meeting

MEETING DATE *12/06/2022*

SUBMITTED BY: Jeff Remas, BCO, Building Department

SUBJECT: ROW Permit 2474 S Ocean Blvd

SUMMARY:

The owner of 2474 S Ocean Blvd has submitted a building permit and ROW permit to replace their existing driveway. Part of the work in in the ROW on A1A. The applicant has already received approval from FDOT and the submitted plans to the town match the approval from FDOT.

FISCAL IMPACT:

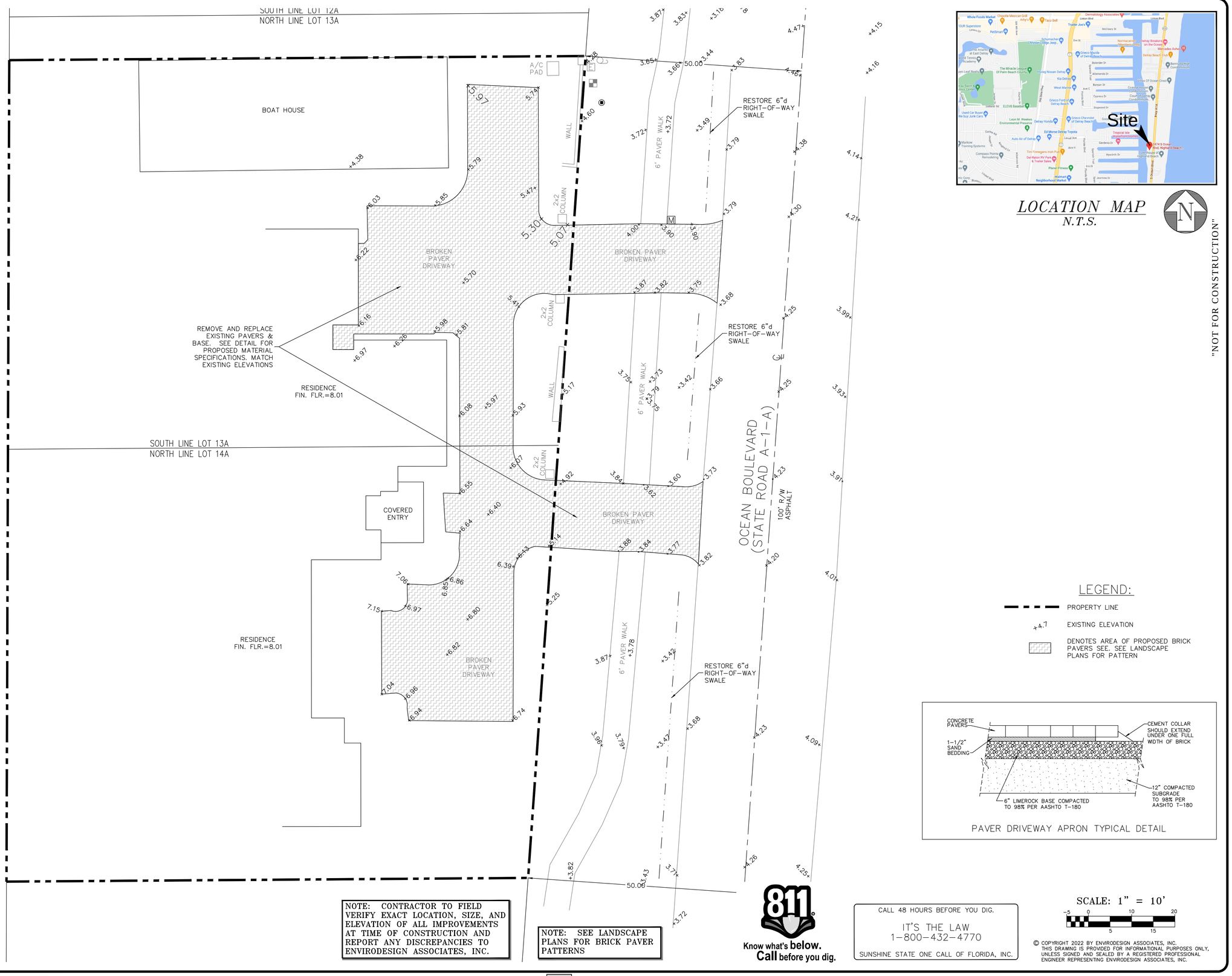
N/A

ATTACHMENTS:

Driveway Site Plan, FDOT Approval Letter

RECOMMENDATION:

Staff recommends approval as submitted.



LOCATION MAP
N.T.S.

"NOT FOR CONSTRUCTION"

LEGEND:

- PROPERTY LINE
- +4.7 EXISTING ELEVATION
- DENOTES AREA OF PROPOSED BRICK PAVERS SEE. SEE LANDSCAPE PLANS FOR PATTERN

PAVER DRIVEWAY APRON TYPICAL DETAIL

Know what's below. Call before you dig.

CALL 48 HOURS BEFORE YOU DIG.
IT'S THE LAW
1-800-432-4770
SUNSHINE STATE ONE CALL OF FLORIDA, INC.

SCALE: 1" = 10'

BY:	REVISIONS:	DATE:	NO.
.	.	.	△

NOT VALID WITHOUT ENGINEER'S SEAL
STATE OF FLORIDA
JOSEPH A. PIRRO, P.E.
No. 42896
PROFESSIONAL ENGINEER

CIVIL SITE IMPROVEMENTS PLAN FOR:
SINGLE FAMILY RESIDENCE
2474 S. OCEAN BOULEVARD
HIGHLAND BEACH, FLORIDA

ENGINEERS • ENVIRONMENTAL CONSULTANTS
EnviroDesign Associates Inc.
www.envidesign.com
FLORIDA CERTIFICATE OF AUTHORIZATION No. 6656
1855 Old Andrews Way, Delray Beach, Florida 33445
Phone: (561) 274-6500 Fax: (561) 274-8558

DRAWN:	B.A.B.
CHECKED:	J.A.P.
DATE:	10/03/22
JOB NO.	22109-ENG
SHEET NO.	1 OF 1

Approved
2022-215-00077
Eugene Kissner
10/26/2022

DRIVEWAY CONNECTION PERMIT FOR ALL CATEGORIES

PART 1: PERMIT INFORMATION

APPLICATION NUMBER: 2022-A-496-00077

Permit Category: A - less than 20 VTPD Access Classification:

Project: Marla Garchik Residence 2474 S Ocean Blvd, Highland Bch

Permittee: Marla Garchik

Section/Mile Post: / State Road:

Section/Mile Post: / State Road:

PART 2: PERMITTEE INFORMATION

Permittee Name: Marla Garchik

Permittee Mailing Address: 2474 S. Ocean Boulevard

City, State, Zip: Highland Beach, Florida 33487

Telephone: (561) 274-6500 ext. _____

Engineer/Consultant/or Project Manager:

Engineer responsible for construction inspection:
NAME P.E. #

Mailing Address:

City, State, Zip:

Telephone: FAX, Mobile Phone, etc. Fax: / Mobile:

PART 3: PERMIT APPROVAL

The above application has been reviewed and is hereby approved subject to all Provisions as attached.

Permit Number: 2022-A-496-00077
Department of Transportation

Signature: Eugene Kissner Title: MAINTENANCE MANAGER/PERMITS

Department Representative's Printed Name Eugene Kissner

Temporary Permit ☐ YES ☑ NO (If temporary, this permit is only valid for 6 months)

Special provisions attached ☐ YES ☑ NO

Date of Issuance: 10/26/2022

If this is a normal (non-temporary) permit it authorizes construction for one year from the date of issuance. This can only be extended by the Department as specified in 14-96.007(6).

Approved
2022-A-496-00077
Eugene Kissner
10/26/2022

See following pages for [illegible] and Special Provisions

PART 4: GENERAL PROVISIONS

1. Notify the Department of Transportation Maintenance Office at least 48 hours in advance of starting proposed work.
   Phone: 7863146067 , Attention: Paul Donovan
2. A copy of the approved permit must be displayed in a prominent location in the immediate vicinity of the connection construction.
3. Comply with Rule 14-96.008(1), F.A.C., Disruption of Traffic.
4. Comply with Rule 14-96.008(7), F.A.C., on Utility Notification Requirements.
5. All work performed in the Department's right of way shall be done in accordance with the most current Department standards, specifications and the permit provisions.
6. The permittee shall not commence use of the connection prior to a final inspection and acceptance by the Department.
7. Comply with Rule 14-96.003(3)(a), F.A.C., Cost of Construction.
8. If a Significant Change of the permittee's land use, as defined in Section 335.182, Florida Statutes, occurs, the Permittee must contact the Department.
9. Medians may be added and median openings may be changed by the Department as part of a Construction Project or Safety Project. The provision for a median might change the operation of the connection to be for right turns only.
10. All conditions in NOTICE OF INTENT WILL APPLY unless specifically changed by the Department.
11. All approved connection(s) and turning movements are subject to the Department's continuing authority to modify such connection(s) or turning movements in order to protect safety and traffic operations on the state highway or State Highway System.
12. **Transportation Control Features and Devices in the State Right of Way.** Transportation control features and devices in the Department's right of way, including, but not limited to, traffic signals, medians, median openings, or any other transportation control features or devices in the state right of way, are operational and safety characteristics of the State Highway and are not means of access. The Department may install, remove or modify any present or future transportation control feature or device in the state right of way to make changes to promote safety in the right of way or efficient traffic operations on the highway.
13. The Permittee for him/herself, his/her heirs, his/her assigns and successors in interest, binds and is bound and obligated to save and hold the State of Florida, and the Department, its agents and employees harmless from any and all damages, claims, expense, or injuries arising out of any act, neglect, or omission by the applicant, his/her heirs, assigns and successors in interest that may occur by reason of this facility design, construction, maintenance, or continuing existence of the connection facility,except that the applicant shall not be liable under this provision for damages arising from the sole negligence of the Department.
14. The Permittee shall be responsible for determining and notify all other users of the right of way.
15. Starting work on the State Right of Way means that I am accepting all conditions on the Permit.

PART 5: SPECIAL PROVISIONS

NON-CONFORMING CONNECTIONS: ☐ YES ☑ NO

If this is a non-conforming connection permit, as defined in Rule Chapters 14-96 and 14-97, then the following shall be a part of this permit.

1. The non-conforming connection(s) described in this permit is (are) not permitted for traffic volumes exceeding the Permit Category on page 1 of this permit, or as specified in "Other Special Provisions" below.

2. All non-conforming connections will be subject to closure or relocation when reasonable access becomes available in the future.

OTHER SPECIAL PROVISIONS:
SEE ATTACHMENT 'A'

PART 6: APPEAL PROCEDURES

You may petition for an administrative hearing pursuant to sections 120.569 and 120.57, Florida Statutes. If you dispute the facts stated in the foregoing Notice of Intended Department Action (hereinafter Notice), you may petition for a formal administrative hearing pursuant to section 120.57 (1), Florida Statutes. If you agree with the facts stated in the Notice, you may petition for an informal administrative hearing pursuant to section 120.57(2), Florida Statutes. You must file the petition with:

Clerk of Agency Proceedings
Department of Transportation
Haydon Burns Building
605 Suwannee Street, M.S. 58
Tallahassee, Florida 32399-0458

The petition for an administrative hearing must conform to the requirements of Rule 28-106.201(2) or Rule 28-106.301(2), Florida Administrative Code, and be filed with the Clerk of Agency Proceedings by 5:00 p.m. no later than 21 days after you received the Notice. The petition must include a copy of the Notice, be legible, on 8 1/2 by 11 inch white paper, and contain:

1. Your name, address, telephone number, any Department of Transportation identifying number on the Notice, if known, the name and identification number of each agency affected, if known, and the name, address, and telephone number of your representative, if any, which shall be the address for service purposes during the course of the proceeding.
2. An explanation of how your substantial interests will be affected by the action described in the Notice;
3. A statement of when and how you received the Notice;
4. A statement of all disputed issues of material fact. If there are none, you must so indicate;
5. A concise statement of the ultimate facts alleged, including the specific facts you contend warrant reversal or modification of the agency's proposed action, as well as an explanation of how the alleged facts relate to the specific rules and statutes you contend require reversal or modification of the agency's proposed action;
6. A statement of the relief sought, stating precisely the desired action you wish the agency to take in respect to the agency's proposed action.

If there are disputed issues of material fact a formal hearing will be held, where you may present evidence and argument on all issues involved and conduct cross-examination. If there are no disputed issues of material fact an informal hearing will be held, where you may present evidence or a written statement for consideration by the Department.

Mediation, pursuant to section 120.573, Florida Statutes, may be available if agreed to by all parties, and on such terms as may be agreed upon by all parties. The right to an adminstrative hearing is not affected when mediation does not result in a settlement.

Your petition for an administrative hearing shall be dismissed if it is not in substantial compliance with the above requirements of Rule 28-106.201(2) or Rule 28-106.301(2), Florida Administrative Code. If you fail to timely file your petition in accordance with the above requirements, you will have waived your right to have the intended action reviewed pursuant to chapter 120, Florida Statutes, and the action set forth in the Notice shall be conclusive and final.

RECEIPT OF CONNECTION APPLICATION AND FEE (OR WAIVER OF FEE)

IMPORTANT NOTE: Even though your application has been accepted, it may not be complete. We will contact you if more information is needed.

(1) APPLICATION NUMBER: 2022-A-496-00077

APPLICANT:

(2) Name/Address: Marla Garchik
2474 S. Ocean Boulevard
Highland Beach, Florida 33487

(3) Project Name:

(4) Fee

	VEHICLES PER DAY	FEE
☑ Category A	1-20	$50.00
☐ Category B	21-600	$250.00
☐ Category C	601-1,200	$1,000.00
☐ Category D	1,201-4,000	$2,000.00
☐ Category E	4,001-10,000	$3,000.00
☐ Category F	10,001-30,000	$4,000.00
☐ Category G	30,001 +	$5,000.00
☐ Temporary		$250.00
☐ Safety		NO FEE
☐ Government Entity		NO FEE

(5) Application Fee Collected $ 50

Payment Type:

- ☐ Money Order
- ☑ Check (check number 4615)
- ☐ Cash
- ☐ Credit Card (online only)

(6) Fee Collected By

Name Rosie Evert

Signature Rosie Evert

Date 10/24/2022 District 4 Unit Permits

(7) Receipt Given Back to Applicant Via

☐ Hand Delivery ☑ Mail ☐ Courier Service ☐ Other ☐ Electronically

Applicant (or Agent) Signature (if available) Marla Garchik

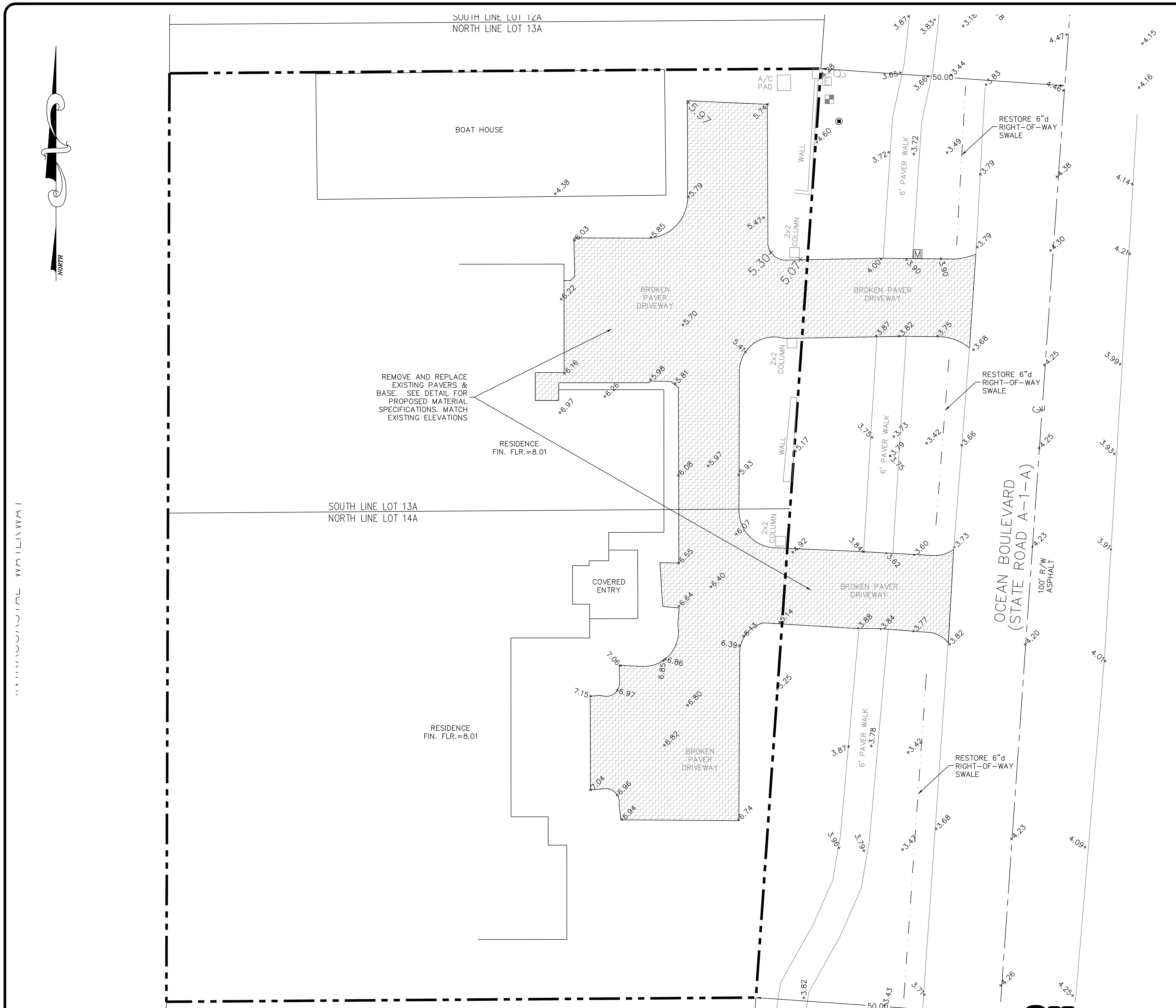
This form bears your application number and serves as your receipt.

(8) If fee is waived, give justification below or on separate sheet.

FOR AGENCY USE ONLY – ATTACH COPY OF CHECK ON THE NEXT PAGE

Make Checks payable to: State of Florida Department of Transportation

Approved
2022-A-496-00077
Eugene Kissner
10/26/2022



NOTE: CONTRACTOR TO FIELD VERIFY EXACT LOCATION, SIZE, AND ELEVATION OF ALL IMPROVEMENTS AT TIME OF CONSTRUCTION AND REPORT ANY DISCREPANCIES TO ENVIRODESIGN ASSOCIATES, INC.

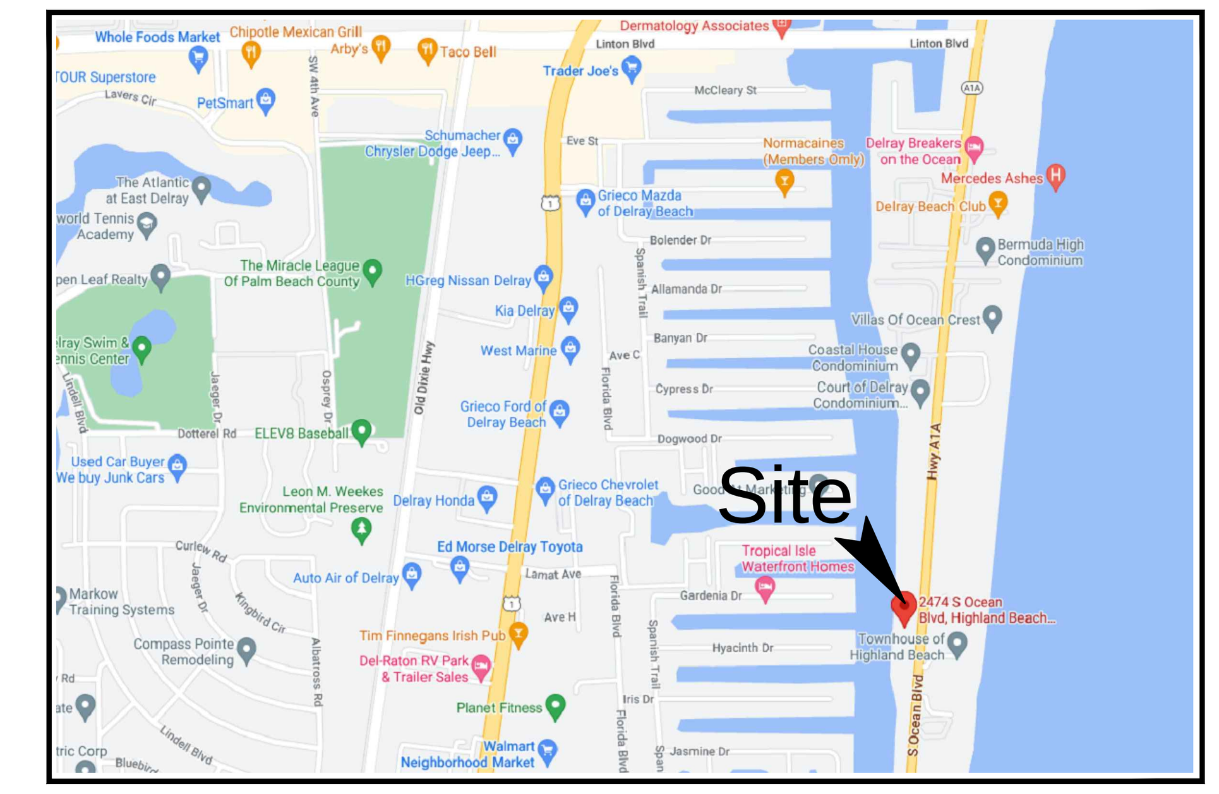
NOTE: SEE LANDSCAPE PLANS FOR BRICK PAVER PATTERNS

811 Know what's below. Call before you dig.

CALL 48 HOURS BEFORE YOU DIG.

IT'S THE LAW
1–800–432–4770

SUNSHINE STATE ONE CALL OF FLORIDA, INC.



LOCATION MAP
N.T.S.

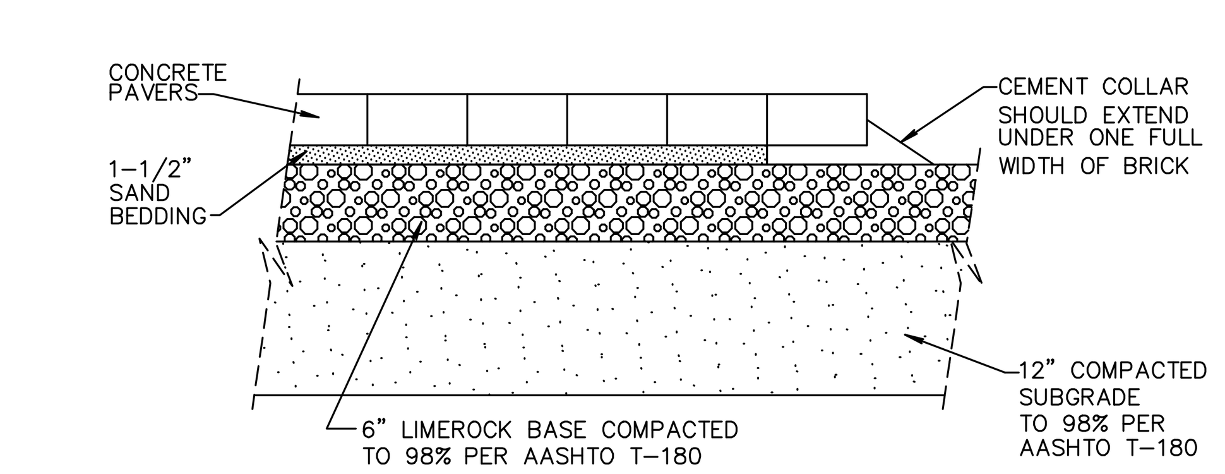
"NOT FOR CONSTRUCTION"

LEGEND:

PROPERTY LINE

+4.7 EXISTING ELEVATION

DENOTES AREA OF PROPOSED BRICK PAVERS SEE. SEE LANDSCAPE PLANS FOR PATTERN



PAVER DRIVEWAY APRON TYPICAL DETAIL

SCALE: 1" = 10'

NO. | DATE: | REVISIONS: | BY:

NOT VALID WITHOUT ENGINEER'S SEAL
JOSEPH A. PIKE, P.E. FL REG. # 42696

CIVIL SITE IMPROVEMENTS PLAN FOR:
SINGLE FAMILY RESIDENCE
2474 S. OCEAN BOULEVARD
HIGHLAND BEACH, FLORIDA

EnviroDesign Associates Inc.
www.envdesign.com
ENGINEERS • ENVIRONMENTAL CONSULTANTS
FLORIDA CERTIFICATE OF AUTHORIZATION No. 6506
1855 Dr Andres Way, Delray Beach, Florida 33445
Phone: (561) 274–6500 Fax: (561) 274–8558

DRAWN: B.A.B.

CHECKED: J.A.P.

DATE: 10/03/22

JOB NO. 22109–ENG

SHEET NO. 1 OF 1

File Attachments for Item:

B. Consideration to approve and authorize the Mayor to execute an agreement with Mainguy Landscape Services, Inc. in an amount of $33,592.60 (per year) to landscaping services for Town-owned properties in accordance with Invitation to Bid No. 22-005.

TOWN OF HIGHLAND BEACH
AGENDA MEMORANDUM

MEETING TYPE: Town Commission Meeting

MEETING DATE *12/6/2022*

SUBMITTED BY: Skender Coma, Management Analyst

SUBJECT: Approve and authorize the Mayor to execute an agreement with Mainguy Landscape Services, Inc. to provide landscaping services for Town-owned properties in accordance with ITB No. 22-005.

SUMMARY:

On November 14, 2022, the Town received and opened two (2) bids in response to ITB No. 22-005: Landscaping Services for Town-Owned Properties, which the Support Services Department reviewed to ensure the Bid's minimum requirements were met. The lowest responsive and responsible bidder is Mainguy Landscape Services, Inc., with a submittal price of $33,592.60 per year. The agreement is for three (3) years with two (2) one-year renewal options.

FISCAL IMPACT:

$33,592.60 per Fiscal Year

ATTACHMENTS:

Mainguy Landscape Services, Inc. Bid

Tabulation Sheet

Submittal Price Clarification

Mainguy Landscape Services, Inc. Agreement

RECOMMENDATION:

Execute an agreement with Mainguy Landscape Services, Inc. to provide landscaping services for Town-owned properties in accordance with ITB No. 22-005.

1855 South Flamingo Road | Davie, FL 33325
Tel (877) 741-3030 | Fax (877) 741-3454
www.mainguy.com

Town of Highland Beach

Invitation to Bid

Landscaping Services for Town-Owned Properties

BID No.: 22-005

Mainguy Environmental Care, Inc.
DBA Mainguy Landscape Services
1855 Flamingo Road
Davie, FL 33325
Tel (877) 741-3030
mail@mainguy.com

November 14, 2022

TABLE OF CONTENTS

1855 South Flamingo Road | Davie, FL 33325
Tel (877) 741-3030 | Fax (877) 741-3454
www.mainguy.com

LETTER OF TRANSMITTAL

Mainguy Landscape Services has been in business for twenty-three (23) years and employs a full-time staff of fifty five (55). The principal office is located at 1855 South Flamingo Road, Davie, Florida 33325 and can be reached at (954) 741-3000 or mail@mainguy.com.

As one of the area's leading landscape services firms, Mainguy Landscape Services provides a comprehensive range of services to municipalities, homeowners associations, condominium associations, property management firms, and other commercial property owners throughout South Florida.

Services include Landscape Design & Installation, Grounds Maintenance & Horticultural Services, Tree Trimming & Arboricultural Services, Irrigation Systems Repair & Maintenance, and Turf and Ornamental Fertilization & Pest Control.

By providing superior-quality services in a reliable and consistent manner, Mainguy Landscape Services has achieved a growth rate at the top of its market and enjoys a growing reputation as one of the premiere landscape services firms in South Florida.

Mainguy Landscape Services provides a broad range of landscape services to municipalities, homeowners' associations, property management firms and other property owners throughout South Florida. In short, our objective is to provide superior-quality services in a reliable

and consistent manner so as to fulfill our clients' expectations and gain a position of prominence in the industry.

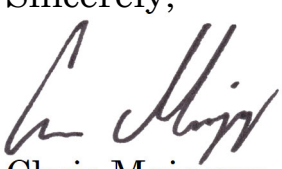
Mainguy Landscape Services was formed by brothers Rob and David Mainguy in 1999 to acquire two (2) small landscape services firms. After completing the acquisition, the company began conducting business under the trade name "Mainguy Landscape Services" and has thrived in the South Florida market since. Since its inception, the firm has achieved a compounded growth rate of more than 30% per year.

Throughout the years, the focus of the firm has remained on fulfilling clients' objectives in a professional, intelligent and cost-effective manner. Today the firm ranks among the largest contractors in its market, and offers a full-range of landscape services to homeowners association, condominium associations, property management firms, and other commercial property owners throughout South Florida.

Today, the firm is headed by Rob Mainguy, who serves as President and oversees the daily operations of the firm. Rob earned a Bachelor of Science degree in Management from Missouri State University in 1979, and a Masters degree in Business Administration from Florida Atlantic University in 1981.

The firm has a full complement of managerial and supervisory personnel. In each instance, a member of the senior management team supervises all work performed to ensure that the Company's standards of quality are upheld. The firm adheres to set of core beliefs and values that guide its daily operations, and which serve as the cornerstone of the relationships it enjoys with its many clients.

Sincerely,



Chris Mainguy
Vice President

APPROACH TO THE PROJECT

As an overview, we completely understand and affirm that the overriding objective of the ITB is to ensure that all locations are maintained at an exceedingly high level, and that the landscaped areas throughout the Town of Highland Beach are intended to provide a beautiful and pleasing amenity for the enjoyment and enrichment of patrons and visitors.

Though the provision of the services set forth in the ITB (in the manner and within the timeframes set forth therein) along with professional management and careful attention to the landscape, we are very confident in our ability to consistently meet the Town's expectations and achieve the stated objective.

As a summary, the project consists of the total maintenance of all landscaped areas within the property. This includes, but is not limited to, ongoing routine maintenance (such as mowing, edging, and pruning), ongoing insect/disease control, herbicide and fertilization applications, periodic tree pruning, daily litter removal, roadway/sidewalk clearance and sightline visibility, and maintenance.

All services will be provided in the manner and within the timeframe set forth in the ITB. Mowing services will be scheduled so as to provide the requisite number of services per year in a manner that is attentive to the seasonal growth patterns of the turf and shrubs. We will provide a recommended annual schedule of frequencies for the Town of Highland Beach. to approve, detailing the services to be provided during each month of the upcoming year. Upon approval, this will be the guide from which all services shall be scheduled and then provided.

Upon commencement, the Operations Manager will prepare and distribute a schedule for the upcoming month's services. This schedule will identify the specific services to be provided each day, the Locations to be serviced on any given day and will be the basis of our daily activity. In addition, the Senior Account Manager will also submit a monthly Landscape Inspection Report detailing observations and photographic

evidence of the condition of the landscape to the Town's designated representative(s). The Senior Account Manager will be available to meet with the Town's designated representative(s) at any time and wherever needed. The Senior Account Manager will also attend to any special needs or other requests that may arise from time to time.

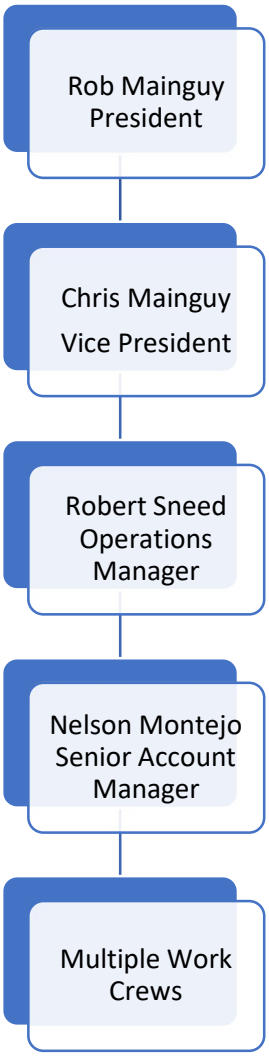
We do not anticipate any problems in providing the services nor meeting the project schedule. Routine interferences (such as inclement weather) occur from time-to-time, but that is customary for our industry. We routinely schedule additional days and/or crews to compensate for any days lost due to inclement weather. Beyond this, we have an extensive inventory of back-up equipment available whenever needed, so equipment failures and routine maintenance will not have any impact upon our ability to meet the project schedule.

In short, we have maintained landscapes for many years and are keenly aware of the labor and equipment required to produce the desired result. We are very familiar with the properties as well and are similarly informed as the labor and equipment needed. Our labor budgets and capital equipment plans are sufficient to maintain all areas on-site and to consistently deliver an exceedingly high-quality curb appeal at all times.

1855 South Flamingo Road | Davie, FL 33325
Tel (877) 741-3030 | Fax (877) 741-3454
www.mainguy.com

FIRM QUALIFICATIONS AND EXPERIENCE

KEY PERSONNEL ASSIGNED TO CONTRACT



1855 South Flamingo Road | Davie, FL 33325
Tel (877) 741-3030 | Fax (877) 741-3454
www.mainguy.com

COMPANY PROFILE

Name of Company: Mainguy Environmental Care, Inc.
d/b/a Mainguy Landscape Services

Corporate Address: 1855 South Flamingo Road
Davie, FL 33325

Telephone Numbers: (877) 741-3030 Telephone
(877) 741-3454 Facsimile

Web Site: www.mainguy.com

Key Executives: Rob Mainguy, President
Direct (954) 472-5640
rmainguy@mainguy.com

Chris Mainguy, Vice President
Direct (954) 606-0511
cmainguy@mainguy.com

Key Executives Continued on Next Page

1855 South Flamingo Road | Davie, FL 33325
Tel (877) 741-3030 | Fax (877) 741-3454
www.mainguy.com

Robert Sneed, Operations Manager
Direct (954) 829-3421
rsneed@mainguy.com

Nelson Montejo, Senior Account Manager
Direct (561) 275-8647
nmontejo@mainguy.com

Enrique Gutierrez, Business Developer
Direct (561) 237-8018
egutierrez@mainguy.com

Services Offered:

Landscape Design & Installation
Grounds Maintenance & Horticultural Services
Tree Trimming & Arboricultural Services
Irrigation Systems Repair & Maintenance
Turf and Ornamental Fertilization & Pest Control

1855 South Flamingo Road | Davie, FL 33325
Tel (877) 741-3030 | Fax (877) 741-3454
www.mainguy.com

Markets Served:

Broward County
Miami Dade County
Palm Beach County
St. Lucie County

Licensure:

Robert H. Mainguy
ISA Certified Arborist No. FL-09484A

State of Florida Department of Agriculture
Certified Pest Control Operator
License No. JB167038

State of Florida Department of Agriculture
Licensed Dealer in Agricultural Products
License No. 12162

State of Florida Department of Agriculture
Certificate of Nursery Registration
License No. 47234112

QUALIFICATION STATEMENT

1. EXECUTIVE SUMMARY

Mainguy Landscape Services provides a broad range of landscape services to community associations, municipalities, community development districts and other governmental entities, and private property owners throughout South Florida. The firm was formed in 1999 for the purpose of acquiring two (2) small unrelated landscape services firms. The acquired companies were re-branded under the name of 'Mainguy Landscape Services'. The firm has achieved significant revenue growth and enjoys a growing reputation as one of the premiere landscape services firms in the market.

The core business of the corporation is providing grounds maintenance programs at substantial properties. All services are provided directly by employees of the corporation, and no subcontractors are utilized in the delivery of services to clients.

2. RESPONDENT'S EXPERIENCE

Mainguy Environmental Care, Inc. was incorporated as a Florida Corporation on March 25, 2004, and is engaged in a single industry - providing landscape services to community associations, property management firms, commercial property owners, and municipalities. Such landscape services include Grounds Maintenance, Landscape Installation, Tree Trimming & Removal, Irrigation Repairs & Maintenance, and Fertilization and Exterior Pest Control.

Mainguy Landscape Services is a registered fictitious name owned by Mainguy Environmental Care, Inc. ('MECI"). MECI is the operating entity of the company and, in this regard, employs all personnel and enters into contracts with clients.

The principal office of the corporation is located at 1855 South Flamingo Road, Davie, Florida 33325. The corporation owns 4.6 acres on this busy thoroughfare and has constructed a building and other site improvements on the site at a cost in excess of $1.5 million. The facility provides an excellent platform to support the corporation's continued growth and development. The firm also has a satellite location in West

Palm Beach, Florida from which crews are dispatched and services are delivered.

The firm is headed by Rob Mainguy, who serves as President and Chief Executive Officer. Mr. Mainguy is sole shareholder and director of the corporation as well. The firm's staffing fluctuates during the seasons of the year, but ranges from 60 to 95 employees at any given time. The firm provides services throughout Miami Dade, Broward, Palm Beach and St. Lucie counties presently.
The corporation has substantial direct experience at providing grounds maintenance programs to properties of distinction. Since its inception, the corporation has provided such services to numerous properties, including on behalf of various municipalities, community development districts and other governmental entities, and homeowners and community associations.

The firm has never failed to complete a contract and/or fulfill any of its contractual duties. The firm has never been a party to lawsuit (either as plaintiff or defendant) with respect to any disputes regarding the performance of its contractual duties. The firm enjoys a well-reputed name among clients and former clients and conducts all its activities above board and so as to remain above reproach.

Work Force Particulars
The corporation engages employees as needed in order to meet its contractual duties. At present, the corporation employs in excess of fifty-five (55) employees, which total fluctuates from time-to-time due to the seasonal nature of the business.

All candidates for employment are E-Verified and must complete a comprehensive written Application For Employment, which requests personal information, relevant work experience, personal and professional references, an affirmative representation that the applicant is legally authorized to work in the United States, disclosure of any special accommodations required or other relevant physical limitations, and disclosure of any history of criminal convictions. In addition, the applicant is required to execute a written authorization for the company to conduct a comprehensive background investigation. The

company obtains background reports from LexisNexis, which reports include information on the applicant's credit worthiness, credit standing, credit capacity, character, general reputation, personal characteristics and/or mode of living. In addition, the company obtains a criminal background report searching a national criminal and sexual offender database for all jurisdictions within the United States. Mainguy Landscape Services employs only United States citizens and those non-U.S. citizens authorized to work in the United States in compliance with all applicable laws and rules. Each new employee, as a condition of employment, must complete the Employment Eligibility Verification Form I-9 and present documentation establishing identity and employment eligibility. All applications, documents and other written documents are retained in a permanent personnel file.

Firm Distinctives

In a cluttered marketplace, the firm is distinguished by a unique set of characteristics which are manifest in every aspect of its daily conduct of business. In the same way that every individual has a unique personality, so too does every business. The unique characteristics of the firm include:

- **Professionalism**. The firm was founded by brothers Rob and David Mainguy in 1999. After completing their education and gaining valuable experience as executives in challenging professional careers, the brothers combined their talents to build a leading landscape services firm upon a professional business model. Over the years, the firm has grown from a modest business to a multi-faceted organization complete with a full complement of managers and dedicated professionals. The company today has all of the resources and expertise of the national brands, yet is a locally owned business committed to the communities it serves.

- **Ownership-Level Attention**. Because we are an owner-operated firm you are assured of the highest level of attention and responsiveness. No bureaucracy or waiting for decisions to be made. We are able to instantly address any issues that arise or make whatever adjustments are needed in order to ensure that your objectives are completely fulfilled. In the end, although they

can boast of their many offices and vast resources, no national or regional brand can offer this to you - the passion and personal involvement of an owner-operated firm focused intently on your property and working with you day-in and day-out to achieve your objectives.

- **Full-Service Solution.** By providing a full complement of landscape services, we are able to meet the total needs of your property; from routine scheduled services (such as landscape maintenance, irrigation maintenance, and fertilization & pest control) to more specialized services (such as tree trimming and removal, landscape design and installation, and remedial landscape improvements). In addition to consolidating the total care of the grounds, we are also able to offer beneficial pricing for ancillary services in consideration of our overall relationship. The net impact is better coordinated services and a reduced overall cost.

- **Reliability.** Because the business is operated by experienced professionals, services are delivered in an extremely reliable and predictable fashion. All routine ongoing services are scheduled well in advance of each month, and the calendar of services is communicated to clients prior to the beginning of each month. This enables our staff to simply focus on executing a predeveloped plan, day in and day out. In the end, this renders a superior result as services are provided in a timely and thoughtful way.

- **Professional Appearance and Experienced Staff.** We operate a substantially-new fleet of vehicles and our equipment is well-maintained in order to ensure proper and effective operation. In addition, we provide clean uniforms for our employees at all times. In the end, we understand that the appearance of our vehicles, equipment and staff is an important representation of your property. Our staff is carefully-trained and able to efficiently and effectively perform their assigned duties. We employ certified arborists and certified pest control operators on our staff, and

have a landscape architect of-counsel. As such, we are able to offer intelligent management of the grounds, ranging from cost-effective pest control programs to coordinated landscape improvement designs and budgets.

INVITATION TO BID

FOR

LANDSCAPING SERVICES FOR TOWN OWNED PROPERTIES

BID No.: 22-005

BID FORM

Date: 11/14/22

To All Bidders:

The undersigned declares that he/she has carefully examined the specifications and is thoroughly familiar with its provisions and with the quality, type and grade of product/service called for. When submitting more than one bid proposal price for this product and/or service, indicate how many individual and/or combination item(s) are to be tabulated and considered. Attach a separate sheet for each.

Basis of Award: It is the intent of the Town to award the Bid to one vendor who is the lowest responsive and responsible bidder of the option that the Town chooses. Due to budgetary constraints, the Town reserves the right to award whichever option is in the Town's best interest. ALL PRICES MUST BE HELD FOR A MINIMUM OF 120 DAYS AFTER THE BID DUE DATE.

LOCATION	BASIC SERVICE COST/YEAR
Town Hall Complex	$8,315.00
North end entrance	$665.20
South end entrance	$665.20
Highland Beach Drive Median	$997.80
Bel Lido Drive Median	$1,663.00
Bel Air Drive Median	$997.80
Russell Drive Median	$997.80
Bench Recess Areas (all)	$6,652.00
Lift Station #1	$2,328.20
Lift Station #2	$1,995.60
Lift Station #3	$2,993.40
Lift Station #4	$2,660.80
Lift Station #5	$2,660.80
TOTAL ANNUAL COST – ALL LOCATIONS	$33,260.00

BID SHEET – OPTIONAL SERVICES

SERVICE	UNIT	COST/UNIT
Seasonal Flowers	4" Pot	$ 2.50 /Pot
Seasonal Flowers	6" Pot	$ 3.50 /Pot
Seasonal Flowers	8" Pot	$ 5.00 /Pot
Ground cover	% Cost Markup	Actual Cost + 100 %
Sod (all types)	% Cost Markup	Actual Cost + 100 %
New Hedges/Shrubs	% Cost Markup	Actual Cost + 100 %
New Trees	% Cost Markup	Actual Cost + 100 %
Mulch	2 cu. ft. bag	$ 6.00 /Bag
Coconut Removal + Trimming	per tree/event	$ 30.00 /tree
Sable Palm Trimming	per tree/event	$ 45.00 /tree
Canary Palm Trimming	per tree/event	$ 45.00 /tree
Royal Palm Trimming	per tree/event	$ 30.00 /tree
Gumbo Limbos	per tree/event	$ 75.00 /tree
Unlisted Tree trimming	% Cost Markup	Actual Cost + 20.00 %
Irrigation Repairs - Labor	Hourly	$ 65.00 /Hour
Storm Remediation - Labor	Hourly	$ 50.00 /Hour
Storm Remediation – Vehicle (with Driver)	Hourly	$ 75.00 /Hour
Storm Remediation – Debris Disposal	per cubic yard	$ 25.00 /cu. yd.

Mainguy Landscape Services
COMPANY NAME

AUTHORIZED SIGNATURE

Chris Mainguy
PRINTED NAME

(954) 741-3000
TELEPHONE NUMBER

Vice President
TITLE

mail@mainguy.com
E-MAIL ADDRESS

BIDDER ACKNOWLEDGEMENT

Submit Bids to: Clerk's Office
3614 South Ocean Blvd.
Highland Beach, FL 33487
Telephone: (561) 278-4548

Bid Title: **"LANDSCAPING SERVICES FOR TOWN-OWNED PROPERTIES"**

Bid Number: **22-005**

Bid Due: **November 2, 2022, NO LATER THAN 2:00 P.M. (LOCAL TIME)**

Bids will be opened in the Commission Chambers in Town Hall and may not be withdrawn within one hundred and twenty (120) days after such date and time.

All awards made as a result of this bid shall conform to applicable sections of the charter and codes of the Town.

Name of Bidder: Mainguy Environmental Care, Inc. dba Mainguy Landscape Services

Federal I.D. Number: 20-0944467

A Corporation of the State of: Florida

Area Code: 954 Telephone Number: 741-3000

Area Code: 877 FAX Number: 741-3454

Mailing Address: 1855 South Flamingo Road

City/State/Zip: Davie, FL 33325

Vendor Mailing Date: 11/08/2022

E-Mail Address: mail@mainguy.com

Authorized Signature

NON-COLLUSION AFFIDAVIT OF PRIME BIDDER

State of Florida)

:

County of Broward)

Chris Mainguy, being first duly sworn, deposes and says that:

1) He/she is Vice President (Title) of Mainguy Landscape Services (Name of Corporation or Firm), the bidder that has submitted the attached bid;

2) He/she is fully informed respecting the preparation and contents of the attached bid and of all pertinent circumstances respecting such bid;

3) Said bid is genuine and is not a collusive or sham bid;

4) Further, the said bidder nor any of its officers, partners, owners, agents, representatives, employees or parties in interest, including this affiant, has in any way colluded, conspired, connived or agreed, directly or indirectly with any other bidder, firm or person to submit a collusive or sham bid in connection with the Contract for which the attached bid has been submitted or to refrain from bidding in connection with such Contract, or has in any manner, directly or indirectly, sought by agreement or collusion or communications or conference with any other bidder, firm or person to fix the price or prices in the attached bid or of any other bidder, or to fix any overhead, profit or cost element of the bid price or the bid price of any other bidder, or to secure through any collusion, conspiracy, connivance or unlawful agreement any advantage against the Town of Highland Beach or any person interested in the proposed Contract; and

5) **The price or prices quoted in the attached bid are fair and proper and are not tainted by any collusion, conspiracy, connivance or unlawful agreement on the part of the bidder or any of its agents, representatives, owners, employees, or parties in interest, including this affiant.**

(Signed) _____

(Title) Vice President

Subscribed and sworn to before me

This 1 day of November, 2022

My commission expires March 17, 2023

EDUARDO F. BINGHAM
NOTARY PUBLIC - STATE OF FLORIDA
COMMISSION # GG 312459
My Commission Expires March 17, 2023

ANTI-KICKBACK AFFIDAVIT

STATE OF FLORIDA)

COUNTY OF PALM BEACH)

I, the undersigned hereby duly sworn, depose and say that no portion of the sum herein bid will be paid to any employees of the Town of Highland Beach as a commission, kickback, reward of gift, directly or indirectly by me or any member of my firm or by an officer of the corporation.

By: _____
NAME - SIGNATURE

Sworn and subscribed before me
this 1 day of November ,20 22

Printed Information:

Chris Mainguy
NAME

Vice President
TITLE

_____
NOTARY PUBLIC, State of Florida
at Large

Mainguy Landscape Services
COMPANY

EDUARDO F. BINGHAM
NOTARY PUBLIC - STATE OF FLORIDA
COMMISSION # GG 312459
My Commission Expires March 17, 2023

"OFFICIAL NOTARY SEAL" STAMP

CONFIRMATION OF DRUG-FREE WORKPLACE

Preference shall be given to businesses with drug-free workplace programs. Whenever two or more bids which are equal with respect to price, quality, and service are received by the Town of Highland Beach or by any political subdivision for the procurement of commodities or contractual services, a bid received from a business that certifies that it has implemented a drug-free workplace program shall be given preference in the award process. Established procedures for processing tie bids will be followed if none of the tied vendors have a drug-free workplace program. In order to have a drug-free workplace program, a business shall:

1) Publish a statement notifying employees that the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance is prohibited in the workplace and specifying the actions that will be taken against employees for violations of such prohibition.

2) Inform employees about the dangers of drug abuse in the workplace, the business's policy of maintaining a drug-free workplace, any available drug counseling, rehabilitation, and employee assistance programs, and the penalties that may be imposed upon employees for drug abuse violations.

3) Give each employee engaged in providing the commodities or contractual services that are under bid a copy of the statement specified in subsection (1).

4) In the statement specified in subsection (1), notify the employee that, as a condition of working on the commodities or contractual services that are under bid, the employee will abide by the terms of the statement and will notify the employer of any conviction of, or plea of guilty or *nolo contendere* to, any violation of Chapter 893 or of any controlled substance law of the United States or any state, for a violation occurring in the workplace no later than five (5) days after such conviction.

5) Impose a sanction on or require the satisfactory participation in a drug abuse assistance or rehabilitation program if such is available in the employee's community by, any employee who is so convicted.

6) Make a good faith effort to continue to maintain a drug-free workplace through implementation of this section.

As the person authorized to sign the statement, I certify that this firm complies fully with the above requirements.

Bidder's Signature

PALM BEACH COUNTY INSPECTOR GENERAL

ACKNOWLEDGMENT

The Contractor is aware that the Inspector General of Palm Beach County has the authority to investigate and audit matters relating to the negotiation and performance of this contract, and in furtherance thereof may demand and obtain records and testimony from the Contractor and its subcontractors and lower tier subcontractors.

The contractor understands and agrees that in addition to all other remedies and consequences provided by law, the failure of the Contractor or its subcontractors or lower tier subcontractors to fully cooperate with the Inspector General when requested may be deemed by the municipality to be a material breach of this contract justifying its termination.

Mainguy Landscape Services
CONTRACTOR NAME

By Chris Mainguy 

Title: Vice President

Date: 11/08/2022

CERTIFICATION PURSUANT TO SECTION 287.135, FLORIDA STATUTES

I, Chris Mainguy, Vice President, on behalf of Mainguy Landscape Services certify

Print Name and Title Company Name

that Mainguy Landscape Services does not:

Company Name

1. Participate in a boycott of Israel; and
2. Is not on the Scrutinized Companies that Boycott Israel List; and
3. Is not on the Scrutinized Companies with Activities in Sudan List; and
4. Is not on the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List; and
5. Has not engaged in business operations in Syria.

Submitting a false certification shall be deemed a material breach of contract. The Town shall provide notice, in writing, to the Contractor of the Town's determination concerning the false certification. The Contractor shall have ninety (90) days following receipt of the notice to respond in writing and demonstrate that the determination of false certification was made in error. If the Contractor does not demonstrate that the Town's determination of false, certification was made in error then the Town shall have the right to terminate the contract and seek civil remedies pursuant to Section 287.135, Florida Statutes.

Section 287.135, Florida Statutes, prohibits the Town from: (1) contracting with companies for goods or services in any amount if at the time of bidding on, submitting a proposal for, or entering into or renewing a contract if the company is on the Scrutinized Companies that Boycott Israel List, created pursuant to Section 215.4725, Florida Statutes, or is engaged in a boycott of Israel; and (2) contracting with companies, for goods or services over $1,000,000.00 that are on either the Scrutinized Companies with activities in the Iran Petroleum Energy Sector list, created pursuant to Section 215.473, Florida Statutes, or are engaged in business operations in Syria.

As the person authorized to sign on behalf of the Contractor, I hereby certify that the company identified above in the section entitled "Contractor Name" does not participate in any boycott of Israel, is not listed on the Scrutinized Companies that Boycott Israel List, is not listed on either the Scrutinized Companies with activities in the Iran Petroleum Energy Sector List, and is not engaged in business operations in Syria. I understand that pursuant to Section 287.135, Florida Statutes, the submission of a false certification may subject the company to civil penalties, attorney's fees, and/or costs. I further understand that any contract with the Town for goods or services may be terminated at the option of the Town if the company is found to have submitted a false certification or has been placed on the Scrutinized Companies with Activities in Sudan list or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List.

Mainguy Landscape Services	
COMPANY NAME	SIGNATURE
Chris Mainguy	Vice President
PRINT NAME	TITLE

SWORN STATEMENT PURSUANT TO SECTION 287.133(3)(A), FLORIDA STATUTES, ON PUBLIC ENTITY CRIMES

THIS FORM MUST BE SIGNED AND SWORN TO IN THE PRESENCE OF A NOTARY PUBLIC OR OTHER OFFICIAL AUTHORIZED TO ADMINISTER OATHS.

1. This sworn statement is submitted to the Town of Highland Beach (the "Town") by: Chris Mainguy, Vice President

(Print individual's name and title)

For: Mainguy Environmental Care DBA Mainguy Landscape Services

(Print name of entity submitting sworn statement)

Whose business address is: 1855 Flamingo Road. Davie, FL 33325

And (if applicable) its Federal Employer Identification Number (FEIN) is: 20-0944467

(If the entity has no FEIN, include the Social Security Number of the individual signing this sworn statement N/A.)

2. I understand that a "public entity crime" as defined in Paragraph 287.133(1)(g), FLORIDA STATUTES, means a violation of any state or federal law by a person with respect to and directly related to the transaction of business with any public entity or with an agency or political subdivision of any other state or of the United States, including, but not limited to, any bid or contract for goods or services to be provided to any public entity or an agency or political subdivision of any other state or of the United States and involving antitrust, fraud, theft, bribery, collusion, racketeering, conspiracy, or material misrepresentation.

3. I understand that "convicted" or "conviction" as defined in Paragraph 287.133(1)(b), FLORIDA STATUTES, means a finding of guilt, in any federal or state trial court of record relating to charges brought by indictment or information after July 1, 1989, as a result of a jury verdict, non-jury trial, or entry of a plea of guilty or nolo contendere.

4. I understand that an "affiliate" as defined in Paragraph 287.133(1)(a), FLORIDA STATUTES, means:

a. A predecessor or successor of a person convicted of a public entity crime; or

b. an entity under the control of any natural person who is active in the management of the entity and who has been convicted of a public entity crime. The term "affiliate" includes those officers, directors, executives, partners, shareholders, employees, members, and agents who are active in the management of an affiliate. The ownership by one (1) person of shares constituting a controlling interest in another person, or a pooling of equipment or income among persons when not for fair market value under an arm's length agreement, shall be a prima facie case that one (1) person controls another person. A person who knowingly enters a joint venture with a person who has been convicted of a public entity crime in Florida during the preceding thirty-six (36) months shall be considered an affiliate.

5. I understand that a "person" as defined in Paragraph 287.133(1)(e), FLORIDA STATUTES, means any natural person or entity organized under the laws of any state of the United States with the legal power to enter into a binding contract and which bids or apples to bid on contracts for the provision of goods or services let by a public entity or which otherwise transacts or applies to transact business with a public entity. The term "person" includes those officers, directors, executives, partners, shareholders, employees, members, and agents who are active in management of an entity.

6. Based on information and belief, the statement, which I have marked below, is true in relation to the entity submitting this sworn statement (indicate which statement applies).

__✓__ Neither the entity submitting this sworn statement, nor any of its officers, directors, executives, partners, shareholders, employees, members, or agents who are active in the management of the entity, nor any affiliate of the entity has been charged with and convicted of a public entity crime subsequent to July 1, 1989.

_____ The entity submitting this sworn statement, or one or more of its officers, directors, executives, partners, shareholders, employees, members, or agents who are active in the management of the entity or an affiliate of the entity has been charged with and convicted of a public entity crime subsequent to July 1, 1989.

_____ The entity submitting this sworn statement, or one (1) or more of its officers, directors, executives, partners, shareholders, employees, members, or agents who are active in the management of the entity, or an affiliate of the entity has been charged with and convicted of a public entity crime subsequent to July 1, 1989. However, there has been a subsequent proceeding before a Hearing Officer of the State of Florida, Division of Administrative Hearings and the Final Order entered by the Hearing Officer determined that it was not in the public interest to place the entity submitting this sworn statement on the convicted Bidder list. (Attach a copy of the final order)

I UNDERSTAND THAT THE SUBMISSION OF THIS FORM TO THE CONTRACTING OFFICE FOR THE PUBLIC ENTITY IDENTIFIED IN PARAGRAPH 1 ABOVE IS FOR THAT PUBLIC ENTITY ONLY AND, THAT THIS FORM IS VALID THROUGH DECEMBER 31 OF THE CALENDAR YEAR IN WHICH IT IS FILED. I ALSO UNDERSTAND THAT I AM REQUIRED TO INFORM THE PUBLIC ENTITY PRIOR TO ENTERING INTO A CONTRACT IN EXCESS OF THE THRESHOLD AMONT PROVIDED IN SECTION 287.017, FLORIDA STATUTES, FOR CATEGORY TWO OF ANY CHANGE IN THE INFORMATION CONTAINED IN THIS FORM.

Date: 11/08/2022

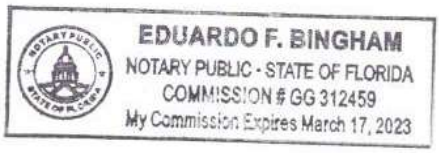
_____
Signature

STATE OF Florida

COUNTY OF Broward

The foregoing instrument was acknowledged before me this 1 day of November, 2022, by, as Chris Mainguy, Vice President(title) of Mainguy Landscape Services (name of company), on behalf of S-Corporation (type of entity) ✓ who is personally known to me, or ___who produced_____ as identification, who did take an oath, and who acknowledged before me that he executed the same freely and voluntarily for the purposes therein expressed.

(Notary Seal)



Signature

Eduardo F. Bingham

Print Name

NOTARY PUBLIC-STATE OF FL

My Commission Expires: March 17, 2023

Commission No. GG 312459

A D D E N D A

TOWN OF HIGHLAND BEACH
FLORIDA

BID TITLE: **"LANDSCAPING SERVICES FOR TOWN-OWNED PROPERTIES"**

BID NO.: 22-005

DATE SUBMITTED: 11/14/22

We propose and agree, if this submittal is accepted, to contract with the Town of Highland Beach, in the Contract Form, to furnish all material, means of transportation, coordination, labor and services necessary to complete/provide the work specified by the Contract documents.

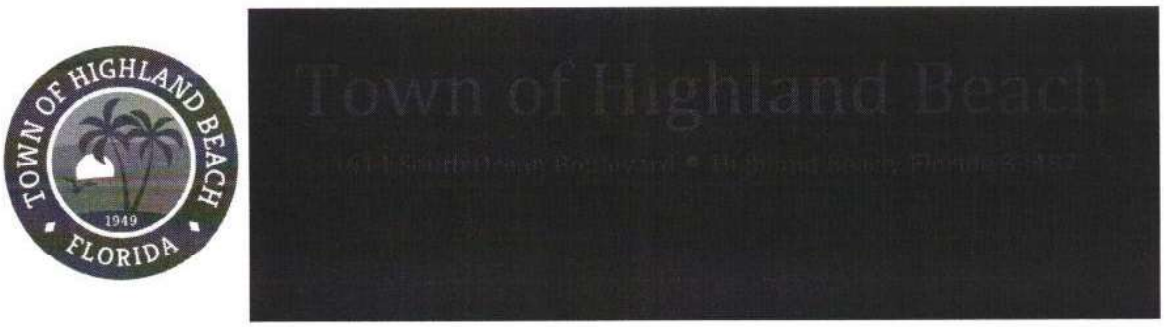
Having studied the documents prepared by: The Town of Highland Beach

We propose to perform the work of this Project according to the Contract documents and the following addenda which we have received:

ADDENDUM	DATE	ADDENDUM	DATE
No. 1	10/12/22		
No. 2	10/18/22		
No. 3	11/8/22		

☐ **NO ADDENDUM WAS RECEIVED IN CONNECTION WITH THIS**

Government References Preferred



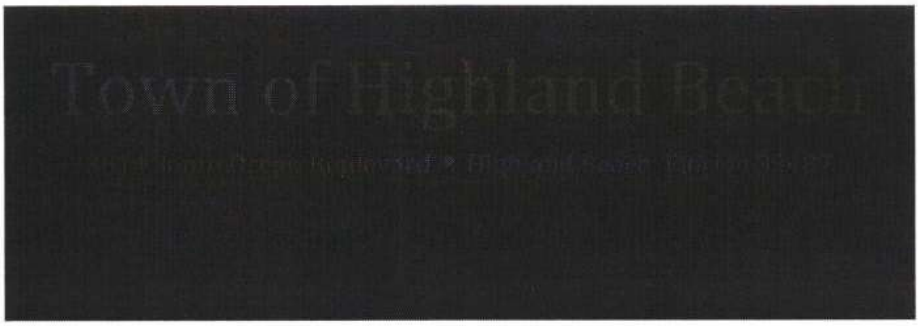
ADDENDUM No. 1

DATE: October 12, 2022
BID No. 22-005 – Landscaping Services for Town-Owned Properties

This addendum to the drawings, specifications, and/or contract documents is issued to provide additional information and clarification to the original Bid specifications and proposal form and is hereby declared a part of the original drawings, specifications and/or contract documents. In case of a conflict, this Addendum No. 1 shall govern.

1. A mandatory pre-bid conference for this bid will be held at 1:30 P.M. on Thursday, October ~~13~~ 20, 2022. The meeting will be held in the Highland Beach Town Commission Chambers, 3614 South Ocean Blvd., Highland Beach, FL 33487.

2. Bids must be received by 2:00 PM on November ~~2~~ 9, 2022 in a sealed envelope clearly labeled "BID # 22-005: LANDSCAPING SERVICES FOR TOWN-OWNED PROPERTIES".

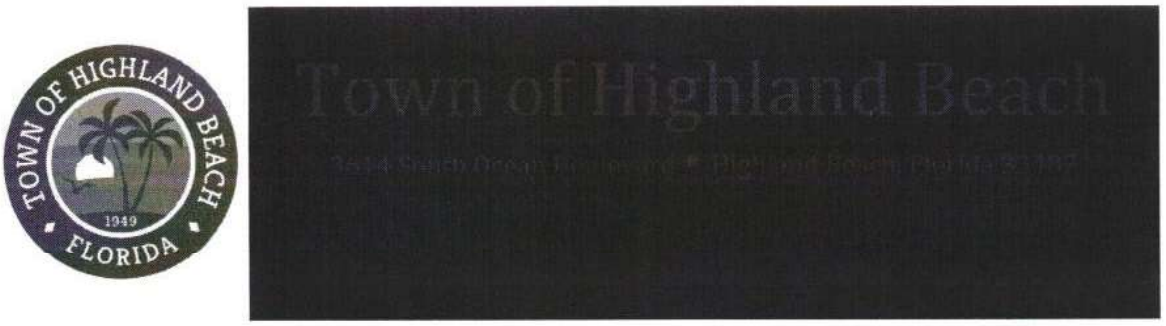


ACKNOWLEDGEMENT OF ADDENDUM No. 1

22-005 – Landscaping Services for Town-Owned Properties
BID NO.: 22-005

RESPONDENT MUST SIGN, DATE, AND INCLUDE THIS ACKNOWLEDGEMENT OF ADDENDUM NO. 1 WITH BID PACKAGE IN ORDER FOR SUBMITTAL TO BE CONSIDERED COMPLETE AND ACCEPTABLE.

Chris Mainguy	
PRINT NAME OF REPRESENTATIVE	**SIGNATURE OF REPRESENTATIVE**
Mainguy Landscape Services	11/08/2022
NAME OF COMPANY	**DATE**

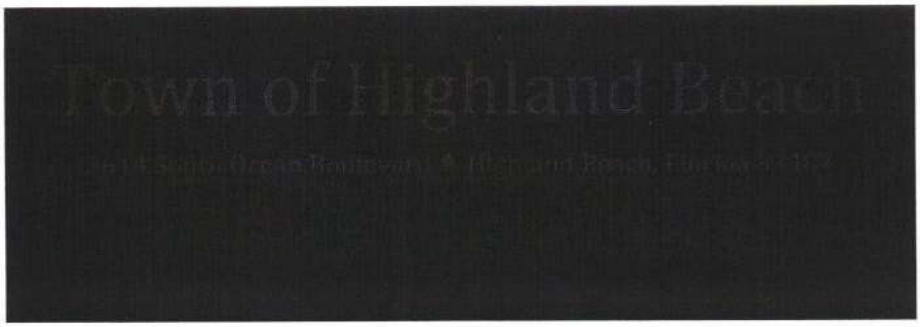


ADDENDUM No. 2

DATE: October 18, 2022
BID No. 22-005 – Landscaping Services for Town-Owned Properties

This addendum to the drawings, specifications, and/or contract documents is issued to provide additional information and clarification to the original Bid specifications and proposal form and is hereby declared a part of the original drawings, specifications and/or contract documents. In case of a conflict, this Addendum No. 2 shall govern.

1. Bids must be received by ~~2:00 PM~~ 3:30 PM on November 9, 2022 in a sealed envelope clearly labeled "BID # 22-005: LANDSCAPING SERVICES FOR TOWN-OWNED PROPERTIES".



ACKNOWLEDGEMENT OF ADDENDUM No. 2

22-005 – Landscaping Services for Town-Owned Properties
BID NO.: 22-005

RESPONDENT MUST SIGN, DATE, AND INCLUDE THIS ACKNOWLEDGEMENT OF ADDENDUM NO. 2 WITH BID PACKAGE IN ORDER FOR SUBMITTAL TO BE CONSIDERED COMPLETE AND ACCEPTABLE.

Chris Mainguy	
PRINT NAME OF REPRESENTATIVE	**SIGNATURE OF REPRESENTATIVE**
Mainguy Landscape Services	11/08/2022
NAME OF COMPANY	**DATE**

Town of Highland Beach
3614 South Ocean Boulevard • Highland Beach, Florida 33487

ADDENDUM No. 3

DATE: November 8, 2022
BID No. 22-005 – Landscaping Services for Town-Owned Properties

This addendum to the drawings, specifications, and/or contract documents is issued to provide additional information and clarification to the original Bid specifications and proposal form and is hereby declared a part of the original drawings, specifications and/or contract documents. In case of a conflict, this Addendum No. 2 shall govern.

1. Bids must be received by ~~3:30 PM~~ 2:00 PM on November ~~9~~ 14, 2022 in a sealed envelope clearly labeled "BID # 22-005: LANDSCAPING SERVICES FOR TOWN-OWNED PROPERTIES".

Town of Highland Beach
3614 South Ocean Boulevard • Highland Beach, Florida 33487

ACKNOWLEDGEMENT OF ADDENDUM No. 3

22-005 – Landscaping Services for Town-Owned Properties
BID NO.: 22-005

RESPONDENT MUST SIGN, DATE, AND INCLUDE THIS ACKNOWLEDGEMENT OF ADDENDUM NO. 3 WITH BID PACKAGE IN ORDER FOR SUBMITTAL TO BE CONSIDERED COMPLETE AND ACCEPTABLE.

Chris Mainguy, Vice President	
PRINT NAME OF REPRESENTATIVE	**SIGNATURE OF REPRESENTATIVE**
Mainguy Landscape Services	11/09/2022
NAME OF COMPANY	**DATE**

REFERENCES FOR Mainguy Landscape Services

(NAME OF FIRM)

Company Name:	Town of Golden Beach			
Address:	1 Golden Beach Dr. Golden Beach, FL 33160			
Contact Name:	Alexander Diaz, Town Manager			
Phone:	(305) 932-0744 ext 224	Fax:	N/A	E-Mail: alexdiaz@goldenbeach.us
Description of Services:	Landscape Maintenance Services			
Company Name:	City of Palm Beach Gardens			
Address:	10500 N Military Trail. Palm Beach Gardens, FL 33410			
Contact Name:	Daniel Widdick, Contract Supervisor			
Phone:	(561) 804-7044	Fax:	N/A	E-Mail: dwiddick@pbgfl.com
Description of Services:	Landscape Maintenance Services			
Company Name:	Village of Wellington			
Address:	12300 Forest Hill Blvd. Wellington, FL 33414			
Contact Name:	Bill Connerly, Deputy Director of Public Works			
Phone:	(561) 753-2576	Fax:	N/A	E-Mail: bconerly@wellingtonfl.gov
Description of Services:	Landscape Maintenance Services			

BID No.: 22-005
LANDSCAPING SERVICES FOR TOWN OWNED PROPERTIES

SCHEDULE OF SUBCONTRACTORS

The Undersigned Respondent proposes the following major subcontractors for the major areas of work for the Project. The Respondent is further notified that all subcontractors shall be properly licensed, bondable and shall be required to furnish the Town with a Certificate of Insurance in accordance with the contract general conditions. This page may be reproduced for listing additional subcontractors, if required. **If not applicable or if no subcontractors will be used in the performance of this Work, please sign and date the from and write "Not-Applicable" or "NONE" across the form.**

Name of Subcontractor	Address of Subcontractor	License No.:	Contract Amount	Percentage (%) of Contract
NONE				

Signature _____ Date: 11/08/2022

Title/Company Chris Mainguy, Vice President, Mainguy Landscape Services

The Town reserves the right to reject any subcontractor who has previously failed in the proper performance of an award, or failed to deliver on time contracts in a similar nature, or who is not responsible (financial capability, lack of resources, etc.) to perform under this award. The Town further reserves the right to inspect all facilities of any subcontractor in order to make a determination as to the foregoing.

BIDDER'S QUALIFICATIONS STATEMENT

BIDDER shall furnish the following information. All questions to be answered in full, without exception. If copies of other documents will provide the appropriate answer to the question, they may be attached and clearly labeled. Failure to comply with this requirement will render Bid non-responsive and may cause its rejection. Additional sheets shall be attached as required.

1. BIDDER'S Name, Principal Address, Phone and Fax Number:

Mainguy Environmental Care, Inc. DBA Mainguy Landscape Services

1855 Flamingo Road. Davie, FL 33325

(877) 741-3030 Phone

(954) 472-4990 Fax

2. Number of years as a Contractor in this type of work: 23

3. Names and titles of all officers, partners or individuals doing business under trade name:

Rob Mainguy, President

Chris Mainguy, Vice President

4. The business is a: Sole Proprietorship ☐ Partnership ☐ Corporation ☒

5. What is the last project of this nature that you have completed?

Town of Golden Beach, Landscape Maintenance Services

6. Have you ever failed to complete work awarded to you. If so, when, where, and why?

No

7. Have you personally inspected the proposed project and do you have a complete plan for its performance?

Yes

8. List three SIGNIFICANT PROJECTS completed within the past three years.

Project No. 1	Town of Golden Beach	Location:	Golden Beach	Your $ Subcontract Amount:	$404,105	Date Completed:	2015-2023
Contracting Agency:	Town of Golden Beach	Contact Person:	Alexander Diaz	Telephone:	(305) 932-0744	Email:	alexdiaz@goldenbeach.us
Project No. 2	City of Palm Beach Gardens	Location:	Palm Beach Gardens	Your $ Subcontract Amount:	$253,365	Date Completed:	2017-2027
Contracting Agency:	City of Palm Beach Gardens	Contact Person:	Daniel Widdick	Telephone:	(561) 804-7044	Email:	dwiddick@pbgfl.com

Project No. 3	Village of Wellington	Location:	Wellington	Your $ Subcontract Amount:	$210,690	Date Completed:	2018-2023
Contracting Agency:	Village of Wellington	Contact Person:	Bill Connerly	Telephone:	(561) 791-4117	Email:	bconerly@wellingtonfl.gov

10. List the pertinent certifications of the key individuals of your organization (continue on insert sheet, if necessary).

ISA Certified Arborist No. FL-09484A, Certified Pest Control Operator Licence No. JB167038, Licensed Dealer in Agricultural Products License No. 12162, Certificate of Nursery Registration License No. 47234112.

11. State the name and licensing of the individual who will have personal supervision of the WORK.

Nelson Montejo, Senior Account Manager. The firm's employers hold a variety of licenses.

12. Will you subcontract any part of this WORK? If so, give details.

No

13. What equipment do you own that is available for the WORK?

42-inch ride on mowers, 30-inch walk behind mowers, and multiple 2-cycle motor equipment (string trimmers, edgers, hedgers, etc.).

14. What equipment will you purchase for the proposed WORK?

N/A

15. What equipment will you rent for the proposed WORK?

N/A

16. Has the Bidder or any principals of the Firm failed to qualify as a responsible Bidder, refused to enter into a contract after an award has been made, failed to complete a contract during the past five (5) years, or been declared to be in default in any contract in the last five (5) years? If yes, please explain below:

No

17. List all claims, arbitrations, administrative hearings and lawsuits brought by or against the Bidder or its predecessor organization(s) during the last five (5) years. The list shall include all case names, case arbitration or hearing identification numbers, the name of the project which the dispute arose, and a description of the subject matter of the dispute.

None

N/A

The Bidder acknowledges and understands that the information contained in response to this Qualification Statement shall be relied upon by Town in awarding the contract and such information is warranted by Bidder to be true. The discovery of any omission or misstatement that materially affects the Bidder's qualifications to perform under the contract shall cause the Town to reject the Bid, and if after the award, to cancel and terminate the award and/or contract.

The Bidder also acknowledges that all information listed above may be checked by the Town and authorizes all entities or persons listed above to answer any and all questions. The Bidder hereby indemnifies the Town and persons or entities listed above and hold them harmless from any claim arising from such authorization or the exercise thereof, including the dissemination of information requested above.

By _____
(Signature)

Date 11/08/2022

BID TABULATION
Town of Highland Beach
LANDSCAPING SERVICES FOR TOWN-OWNED PROPERTIES
BID No. 2022-005

PRIMARY SERVICES - AWARD BASED ON PRICE

Mainguy Landscape Services	
LOCATION	BASIC SERVICE COST/YEAR
Town Hall Complex	$ 8,315.00
North end entrance	$ 665.20
South end entrance	$ 665.20
Highland Beach Drive Median	$ 997.80
Bel Lido Drive Median	$ 1,663.00
Bel Air Drive Median	$ 997.80
Russell Drive Median	$ 997.80
Bench Recess Areas (all)	$ 6,652.00
Lift Station #1	$ 2,328.20
Lift Station #2	$ 1,995.60
Lift Station #3	$ 2,993.40
Lift Station #4	$ 2,660.80
Lift Station #5	$ 2,660.80
TOTAL ANNUAL COST – ALL LOCATIONS	$ 33,592.60

OPTIONAL SERVICES - AWARD NOT BASED ON PRICE

SERVICE	UNIT	COST/UNIT
Seasonal Flowers	4” Pot	$_____2.50_____/Pot
Seasonal Flowers	6” Pot	$____3.50_____/Pot
Seasonal Flowers	8” Pot	$____5.00_____/Pot
Ground cover	% Cost Markup	Actual Cost +___100___%
Sod (all types)	% Cost Markup	Actual Cost +___100___%
New Hedges/Shrubs	% Cost Markup	Actual Cost +___100___%
New Trees	% Cost Markup	Actual Cost +___100___%
Mulch	2 cu. ft. bag	$____6.00_____/Bag
Coconut Removal + Trimming	per tree/event	$____30.00_____/tree
Sable Palm Trimming	per tree/event	$____45.00_____/tree
Canary Palm Trimming	per tree/event	$____45.00_____/tree
Royal Palm Trimming	per tree/event	$____30.00_____/tree
Gumbo Limbos	per tree/event	$____75.00_____/tree
Unlisted Tree trimming	% Cost Markup	Actual Cost +___20___%
Irrigation Repairs - Labor	Hourly	$____65.00____/Hour
Storm Remediation - Labor	Hourly	$____50.00____/Hour
Storm Remediation – Vehicle (with Driver)	Hourly	$____75.00____/Hour
Storm Remediation – Debris Disposal	per cubic yard	$___25.00____/cu. yd.

PRIMARY SERVICES - AWARD BASED ON PRICE

Model Row Landscape Servics, Inc.	
LOCATION	BASIC SERVICE COST/YEAR
Town Hall Complex	$ 18,060.00
North end entrance	$ 1,806.00
South end entrance	$ 1,806.00
Highland Beach Drive Median	$ 2,709.00
Bel Lido Drive Median	$ 2,709.00
Bel Air Drive Median	$ 2,709.00
Russell Drive Median	$ 2,709.00
Bench Recess Areas (all)	$ 602.00
Lift Station #1	$ 602.00
Lift Station #2	$ 602.00
Lift Station #3	$ 602.00
Lift Station #4	$ 602.00
Lift Station #5	$ 602.00
TOTAL ANNUAL COST – ALL LOCATIONS	$ 36,120.00

OPTIONAL SERVICES - AWARD NOT BASED ON PRICE

SERVICE	UNIT	COST/UNIT
Seasonal Flowers	4” Pot	$_____3.00_____/Pot
Seasonal Flowers	6” Pot	$_____6.00_____/Pot
Seasonal Flowers	8” Pot	$_____12.00_____/Pot
Ground cover	% Cost Markup	Actual Cost +___100___%
Sod (all types)	% Cost Markup	Actual Cost +___100___%
New Hedges/Shrubs	% Cost Markup	Actual Cost +___100___%
New Trees	% Cost Markup	Actual Cost +___100___%
Mulch	2 cu. ft. bag	$_____4.50____/Bag
Coconut Removal + Trimming	per tree/event	$____65_____/tree
Sable Palm Trimming	per tree/event	$_____42____/tree
Canary Palm Trimming	per tree/event	$_____65____/tree
Royal Palm Trimming	per tree/event	$_____55____/tree
Gumbo Limbos	per tree/event	$____95_____/tree
Unlisted Tree trimming	% Cost Markup	Actual Cost +___20___%
Irrigation Repairs - Labor	Hourly	$____52.50____/Hour
Storm Remediation - Labor	Hourly	$____45____/Hour
Storm Remediation – Vehicle (with Driver)	Hourly	$____220____/Hour
Storm Remediation – Debris Disposal	per cubic yard	$____28___/cu. yd.

Skender Coma

From: Chris Mainguy <cmainguy@mainguy.com>
Sent: Tuesday, November 15, 2022 1:19 PM
To: Skender Coma
Cc: Eric Marmer; Enrique Gutierrez
Subject: RE: Bid No. 22-005 Submitted Pricing Clarification

Good afternoon Skender,

Thank you for catching that. You're correct, this was an error on our part. The correct total annual cost should be **$33,592.60**. Please let us know if anything further is required.

Thank you very much!

Chris Mainguy
Mainguy Landscape Services
www.mainguy.com
(954) 606-0511

From: Skender Coma <scoma@highlandbeach.us>
Sent: Tuesday, November 15, 2022 10:52 AM
To: mail@mainguy.com
Cc: Eric Marmer <emarmer@highlandbeach.us>
Subject: Bid No. 22-005 Submitted Pricing Clarification

Good Morning Chris,

Upon tabulation, an error was found on your submitted bid form. The total of all line items was $33,592.60 but the TOTAL ANNUAL COST – ALL LOCATIONS line was $33,260. Can you please provide clarification as to which of these totals is correct?

Thank you!

Skender Coma
Management Analyst

Town of Highland Beach
3614 S. Ocean Boulevard
Highland Beach FL 33487
(561) 637-2046 Office
(561) 265-3582 Fax
www.highlandbeach.us

CONTRACT FOR LANDSCAPING SERVICES
FOR TOWN OWNED PROPERTIES

THIS CONTRACT ("Contract") is made this _____ day of _____, 2022, by and between the **Town of Highland Beach,** a Florida municipal corporation ("Town"), and **Mainguy Environmental Care, Inc.** a Florida corporation, with its principal address at 1855 Flamingo Road, Davie, FL 33325 ("Contractor").

WHEREAS, the Town is a municipal corporation organized and existing pursuant to its Charter and the Constitution of the State of Florida; and

WHEREAS, the Town is in need of a contractor to provide labor services, materials, and equipment for landscaping services on Town-owned property, and the Town issued Invitation to Bid No. 22-005 ("ITB") regarding the same; and

WHEREAS, Contractor submitted a bid proposal in response to the ITB, and the Town desires to accept Contractor's bid proposal to render the goods and services to the Town as provided herein; and

WHEREAS, Contractor warrants that it is experienced and capable of performing the tasks hereunder in a professional and competent manner; and

WHEREAS, the Town determines that accepting Contractor's bid proposal as described herein serves a valid public purpose.

NOW THEREFORE, in consideration of the promises and mutual covenants herein contained, the sufficiency of which is acknowledged by both parties, it is hereby agreed between Contractor and the Town as follows:

Article 1. CONTRACT.

1.1 *Contract Documents.* The Contract Documents are incorporated herein by reference as if originally set forth in this Contract, and comprise the entire agreement between the Town and Contractor. The Contract Documents consist of this Contract; the Town's ITB, the Bid Proposal submitted by Contractor; and any duly executed and issued Change Orders, Work Directive Changes, Field Orders and amendments relating thereto. If, during the performance of the work, Contractor finds an ambiguity, error or discrepancy in the Contract Documents, Contractor shall so notify the Town, in writing, within five (5) business days and before proceeding shall obtain a written interpretation or clarification. Failure to obtain a written interpretation or clarification will be deemed a waiver of the ambiguity, error or discrepancy by Contractor. The Town will not be responsible for any oral instructions, clarifications, or other communications except those provided in writing in response to Contractor's request for clarification of an ambiguity, discrepancy or error.

In resolving conflicts in any of the Contract Documents, the order of precedence shall be as follows:

First Priority:	Duly executed change orders
Second Priority:	This Contract
Third Priority:	Town's ITB (attached hereto as **Exhibit "A"**)
Fourth Priority:	Contractor's Bid Proposal (attached hereto as **Exhibit "B"**)

1.2 *Contract Administrator.* Whenever the term Contract Administrator is used herein, it is intended to mean **the Town Manager or designee, Town of Highland Beach, Florida**. In the administration of this Contract, all parties may rely upon instructions or determinations made by the Contract Administrator except that all determinations that result in an increase in Contract Time and/or an increase in the Contract Price, shall require a formal Change Order executed by the Town Manager or the Town Commission (depending on the authority set forth in the Town's Procurement Code).

1.3 *Compensation.* The Town shall compensate Contractor for services performed pursuant to this Contract as set forth in Contractor's Bid Proposal. The total annual cost, excluding optional services, shall not exceed **Thirty-Three Thousand Two Hundred and Sixty Dollars and No Cents ($33,260.00)**, which shall be payable in accordance with Article 3 of this Contract.

1.4 *Contract Term.* This Contract shall remain in effect for a period of three (3) years from the Effective Date. The Contract may be renewed upon mutual agreement of the parties for two (2) additional one (1) year terms.

Article 2. SCOPE OF WORK.

2.1 The Scope of Work or Work includes providing labor, materials, and equipment to provide landscaping services for Town owned properties as specified in Exhibit "A".

2.2 Contractor represents to the Town that the services rendered in the Scope of Work shall be in accordance with accepted and established trade practices and procedures recognized in Contractor's trade in general.

2.3 Contractor represents that it is licensed to do business in the State of Florida and holds and will maintain all applicable licenses required for the work to be completed under this Contract. Contractor further warrants its capability and experience to perform the work provided for herein in a professional and competent manner.

2.4 The Scope of Work shall be performed by Contractor or under its supervision and all personnel engaged in performing the Scope of Work shall be fully qualified and, if required, authorized or permitted under the state and local law to perform such Scope of Work. All of Contractor's personnel (and all subcontractors) while on the Town's premises, shall comply with all Town requirements governing safety, conduct and security.

2.5 The Scope of Work shall be completed in accordance with the terms and conditions set forth in the Contract Documents.

Article 3. PAYMENT PROCEDURES

3.1 *Generally.* The Contractor shall submit invoices on a monthly basis detailing all work accomplished in the prior month and all materials installed and used in the Project. Contractor's invoices shall be submitted to:

Town of Highland Beach
Attn: Finance Department
3614 S. Ocean Blvd.
Highland Beach, FL 33487

The Town's Contract Administrator will review each invoice submitted by Contractor. If approved by the Town's Finance Department, the Town will make payment in accordance with the Contract Documents. If not approved, the Town will notify Contractor within ten (10) business days of the Town's receipt and identify the action necessary to correct the invoice or a deficiency.

3.2 *Final Payment.* Upon final completion and acceptance of the Work in accordance with this Contract (including all punch-list items) and final inspection Contractor shall submit a "final invoice" to the Town. In order for both parties to close their books and records, Contractor will clearly state "FINAL" on Contractor's final invoice. This certifies that all Work has been properly completed and all charges have been invoiced to the Town. Since this account will thereupon be closed, any and other further charges if not properly included in this final invoice are waived by Contractor. If Contractor's Final Invoice is approved as set forth above, the Town shall pay the remainder of the Contract Price including any amount held as retainage.

3.3 Notwithstanding the foregoing, the Town shall not be required to pay or release any amount of retainage that is subject of a good faith dispute, the subject of a claim brought pursuant to section 255.05, Florida Statutes, or otherwise the subject of a claim or demand by the Town.

3.4 The Town is exempt from payment of Florida State Sales and Use Tax. Contractor shall not be exempted from paying sales tax to its suppliers for materials used to fill contractual obligations with the Town, nor is Contractor authorized to use the Town's Tax Exemption Number in securing such materials.

Article 4. SUBCONTRACTORS

All sub-contractors shall be properly licensed, bondable and shall be required to furnish the Town with a Certificate of Insurance in accordance with the contract general conditions.

Article 5. CONTRACTOR'S REPRESENTATIONS

In order to induce the Town to enter into this Contract, Contractor makes the following representations:

5.1 Contractor has familiarized itself with the nature and extent of the Contract Documents, work, site, locality, and all local conditions and Laws and Regulations that in any manner may affect cost, progress, performance or furnishing of the work.

5.2 Contractor has obtained at its own expense and carefully studied, or assumes responsibility for obtaining and carefully studying, soil investigations, explorations, and test reports which pertain to the subsurface conditions at or contiguous to the site or otherwise may affect the cost, progress, performance or furnishing of the work as Contractor considers necessary for the performance or furnishing of the work at the Contract Price, within the Contract Price, within the Contract Time and in accordance with the other terms and conditions of the Contract Documents and no additional examinations, investigations, explorations, tests, reports, studies or similar information or data are or is deemed necessary by Contractor for such purposes.

5.3 Contractor has correlated the results of all such observations, examinations, investigations, explorations, tests, reports and studies with the terms and conditions of the Contract Documents.

5.4 Contractor has given the Contract Administrator written notice of all conflicts, errors or discrepancies that he has discovered in the Contract Documents and the resolution thereof is acceptable to the Contractor.

Article 6. INDEMNITY.

6.1 To the fullest extent permitted by law, Contractor shall indemnify and hold harmless the Town, its officers and employees from liabilities, damages, losses and costs, including, but not limited to, reasonable attorney's fees, to the extent caused by the negligence, recklessness, or intentionally wrongful conduct of Contractor and persons employed or utilized by Contractor in the performance of this Contract. Contractor shall not be responsible for or be required to indemnify the Town for the Town's own negligent acts or omissions or those of its officers or employees.

6.2 Contractor's liability hereunder shall include all reasonable attorney's fees and costs incurred by the Town in the enforcement of this indemnification provision. This includes claims made by the employees of Contractor against the Town, its officers or employees and Contractor hereby waives its entitlement, if any, to immunity under Section 440.11, Florida Statutes. The obligations contained in this provision shall survive termination of this Contract and shall not be limited by the amount of any insurance required to be obtained or maintained under this Contract.

6.3 It is the specific intent of the parties hereto that the foregoing indemnification complies with Section 725.06, Florida Statutes (as amended), and shall survive the termination of this Contract. Nothing contained in the foregoing indemnification or the Contract Documents shall be construed as a waiver of any immunity or limitation of liability the Town may have under the doctrine of sovereign immunity or Section 768.28, Florida Statutes, or as an agreement by the Town to indemnify Contractor for any purpose or matter.

Article 7. TERMINATION.

7.1 *Termination by the Town for Cause*: The Town may terminate the Contract and the Contract Documents if Contractor:

(a) refuses or fails to supply enough properly skilled workers or proper materials;
(b) fails to make payment to suppliers for materials in accordance with the respective agreements between the Contractor and suppliers
(c) disregards or takes action contrary to any laws, ordinances, or rules, regulations or orders of a public authority having jurisdiction;
(d) takes action, short of declaring bankruptcy, evidencing insolvency;
(e) fails or refuses to provide and/or maintain insurance or proof of insurance as required by the Contract Documents; or
(f) is otherwise in breach of a provision of the Contract Documents.

When any of the above reasons exist, the Town, may without prejudice to any other rights or remedies of the Town and after giving Contractor three (3) days' written notice and five (5) days to cure, terminate the Contract and Contract Documents and may:

(a) take possession of the site and of all materials, equipment, tools, and construction equipment and machinery thereon owned by or paid for by the Town; and,
(b) finish the Work by whatever reasonable method the Town may deem expedient.

Contractor and its sureties shall be liable for any damage to the Town, including additional attorney and engineering/architectural fees, resulting from the Contractor's termination under this provision by the Town, including but not limited to, and any increased costs incurred by the Town in completing the work.

When the Town terminates the Contract for one of the reasons stated above, Contractor shall not be entitled to receive further payment, if any, until the Work is finished.

Should it be determined by a mediator or a court of competent jurisdiction that the Town wrongfully terminated the Contract, then Contractor agrees to treat such termination as a termination for convenience.

7.2 *Termination by the Town for Convenience*: The Town may, at any time, terminate the Contract and Contract Documents for the Town's convenience and without cause. Upon receipt of written notice from the Town of such termination for the Town's convenience, Contractor shall:

(a) cease operations as directed by the Town in the notice;
(b) take actions necessary, or that the Town may direct, for the protection and preservation of the Work; and
(c) except for Work directed to be performed prior to the effective date of termination stated in the notice, terminate all existing subcontracts and purchase orders and enter into no further subcontracts and purchase orders.

In case of such termination for the Town's convenience, Contractor shall be entitled to receive payment for all services satisfactorily provided prior to the date of termination.

Article 8. INSURANCE.

Prior to commencing the Scope of Work, Contractor shall provide certificates evidencing insurance coverage as required hereunder. All insurance policies shall be issued by companies

authorized to do business under the laws of the State of Florida. Contractor shall not commence services until the required insurance is in force and evidence of insurance acceptable to the Town has been provided to, and approved by, the Town. An appropriate Certification of Insurance shall be satisfactory evidence of insurance. Until such insurance is no longer required by this Agreement, Contractor shall provide the Town with renewal or replacement evidence of insurance at least thirty (30) days prior to the expiration or termination of such insurance. The required insurance is as follows:

Type of Coverage	**Amount of Coverage**
Commercial general liability (Products/completed operations Contractual, insurance broad form property, Independent consultant, personal injury)	$1, 000,000 per occurrence $2,000,000 annual aggregate
Automobile (owned, non-owned, & hired)	$ 1,000,000 single limits
Worker's Compensation	$ Statutory limits

The commercial general liability and automobile liability policies will name the Town as an additional insured.

Contractor's failure to obtain, pay for, or maintain any required insurance shall constitute a material breach upon which the Town may immediately terminate or suspend this Contract. In the event of any termination or suspension, the Town may use the services of another contractor without the Town incurring any liability to Contractor.

Article 9. PUBLIC RECORDS.

Contractor shall comply with Florida's Public Records Act, Chapter 119, Florida Statutes, and, if determined to be acting on behalf of the Town as provided under section 119.011(2), Florida Statutes, specifically agrees to:

A. Keep and maintain public records required by the Town to perform the service.

B. Upon request from the Town's custodian of public records or designee, provide the Town with a copy of the requested records or allow the records to be inspected or copied within a reasonable time at a cost that does not exceed the cost provided in Chapter 119, Florida Statutes, or as otherwise provided by law.

C. Ensure that public records that are exempt or confidential and exempt from public records disclosure requirements are not disclosed except as authorized by law for the duration of this Contract and following completion of this Contract if Contractor does not transfer the records to the Town.

D. Upon completion of this Contract, transfer, at no cost, to the Town all public records in

possession of Contractor or keep and maintain public records required by the Town to perform the service. If Contractor transfers all public records to the Town upon completion of the Contract, Contractor shall destroy any duplicate public records that are exempt or confidential and exempt from public records disclosure requirements. If Contractor keeps and maintains public records upon completion of the Contract, Contractor shall meet all applicable requirements for retaining public records. All records stored electronically must be provided to the Town, upon request from the Town's custodian of public records or designee, in a format that is compatible with the information technology systems of the Town.

IF THE CONTRACTOR HAS QUESTIONS REGARDING THE APPLICATION OF CHAPTER 119, FLORIDA STATUTES, TO THE CONTRACTOR'S DUTY TO PROVIDE PUBLIC RECORDS RELATING TO THIS CONTRACT, CONTACT THE CUSTODIAN OF PUBLIC RECORDS OR DESIGNEE AT 561-278-4548, lgaskins@highlandbeach.us, OR BY MAIL AT TOWN OF HIGHLAND BEACH, 3614 S. Ocean Blvd., HIGHLAND BEACH, FL 33487.

Article 10. MISCELLANEOUS.

10.1 *Binding Agreement.* The Town and Contractor each bind itself, its partners, its successors, assigns and legal representatives to the other party hereto, its partners, successors, assigns and legal representatives in respect of all covenants, agreements and obligations contained in the Contract Documents.

10.2 *Changes to Work or Pricing.* Additional work or changes to the contract price is subject to the Town's prior written approval. Contractor has no authority to approve such changes and has no authority to waive the requirement of prior written authorization for extra work, changes in the Contract Time, or change orders

10.3 *Headings and References & Exhibits*: The headings contained in this Contract are inserted for convenience of reference only and shall not be a part or control or affect the meaning hereof. All references herein to Articles are to the Articles of this Contract. All references herein to Exhibits are to the exhibits hereto, each of which shall be incorporated into and deemed to be a part of this Contract.

10.4 *Counterparts*: This Contract may be executed in two or more counterparts, each of which shall be deemed to be an original, but all of which shall be deemed to be an original, but each of which together shall constitute one and the same instrument.

10.5 *Entire Contract; Amendment and Waiver*: This Contract (together with the other Contract Documents) supersedes any and all prior negotiations and oral or written agreements heretofore made relating to the subject matter hereof and, except for written agreements, if any, executed and delivered simultaneously with or subsequent to the date of this Contract, constitutes the entire agreement of the parties relating to the subject matter hereof. This Contract may not be altered or amended except by a writing signed by the parties hereto.

No waiver of any of the terms or conditions of this Contract shall be effective unless in writing and executed by the party to be changed therewith. No waiver of any condition or of the breach of any term, covenant, representation, warranty or other provision hereof shall be deemed to be construed as a further or continuing waiver of any such condition or breach or a waiver of any other condition or of any breach of any other term, covenant, representation, warranty or other provision contained in this Contract.

10.6 *Governing Law; Consent to Jurisdiction*: This Contract shall be governed by and construed and interpreted in accordance with the laws of the State of Florida. Each of the parties hereto (a) irrevocably submit itself to the exclusive jurisdiction of the Fifteenth Judicial Circuit Court in and for Palm Beach County, Florida for the purposes of any suit, action or other proceeding arising out of, or relating to, this Contract; (b) waives and agrees not to assert against any party hereto, by way of motion, as a defense of otherwise, in any suit, action or other proceeding, any claim that it is not personally subject to the jurisdiction of the above-named courts for any reason whatsoever; and (ii) to the extent permitted by applicable law, any claim that such suit, action or proceeding by any part hereto is brought in an inconvenient forum or that the venue of such suit, action or proceeding is improper or that this Contract or the subject matter hereof may not be enforced in or by such courts.

10.7 *Third Party Beneficiary rights*: This Contract shall create no rights or claims whatsoever in any person other than a party herein.

10.8 *Severability*: If any one or more of the provisions of the Contract shall be held to be invalid, illegal or unenforceable in any respect, the validity, legality and enforceability of the remaining provisions hereof shall not in any way be affected or impaired thereby.

10.9 *Effective date*: The effective date of this Contract is the date the Contract is approved by the Town Commission.

10.10 *Preparation*: This Contract shall not be construed more strongly against either party regardless of who was more responsible for its preparation.

10.11 *Independent Contractor*: Contractor is and shall be, in the performance of the Scope of Work under this Contract, an independent contractor, and not an employee, agent, or servant of the Town. All persons engaged in any of the Scope of Work performed pursuant to this Contract shall at all times, and in all places, be subject to Contractor's sole direction, supervision, and control. Contractor shall exercise control over the means and manner in which it and its employees perform the Scope of Work.

10.12 *Successors and Assigns*: This Contract shall be binding upon, and shall inure to the benefit of the parties hereto and their respective successors and assigns.

10.13 *Enforcement; Waiver of Jury Trial*: If any legal action or other proceeding is brought for the enforcement of this Contract or the Contract Documents, or because of an alleged dispute, breach, default or misrepresentation in connection with any provisions of this Contract or the Contract Documents, each party shall be responsible for their own attorney's fees at all levels. EACH PARTY ALSO AGREES AND VOLUNTARILY

WAIVES ANY RIGHT TO A JURY TRIAL ARISING OUT OF ALLEGED DISPUTE, BREACH, DEFAULT, MISREPRESENTATION OR ANY OTHER CLAIM IN CONNECTION WITH OR ARISING FROM ANY PROVISION OF THIS CONTRACT OR THE CONTRACT DOCUMENTS

10.14 *Continuing Obligation*: Any provision of this Contract which is of a continuing nature or imposes an obligation which extends beyond the term of this Contract shall survive its expiration or earlier termination.

10.15 *Waiver of Subrogation*: Contractor hereby waives any and all rights to Subrogation against the Town, its officers, employees and agents for each required policy. When required by the insurer, or should a policy condition not permit an insured to enter into a pre-loss agreement to waive subrogation without an endorsement, then Contractor shall agree to notify the insurer and request the policy be endorsed with a Waiver of Transfer of Rights of Recovery Against Others, or its equivalent. This Waiver of Subrogation requirement shall not apply to any policy, which a condition to the policy specifically prohibits such an endorsement, or voids coverage should Contractor enter into such an agreement on a pre-loss basis.

10.16 *Notice*: Any notice required to be given under the Contract Documents shall be sent by certified mail (return receipt requested) or by nationally recognized overnight courier as follows to the Town:

Town of Highland Beach
Attn: Town Manager
3614 S. Ocean Blvd.
Highland Beach, FL 33487

and to Contractor as follows:

Mainguy Environmental Care, Inc. d/b/a Mainguy Landscape Services
Attn: Chris Mainguy, Vice President
1855 South Flamingo Road
Davie, FL 33325

Either party may amend this provision by written notice to the other party.

10.17 *Public Entity Crimes*: Contractor acknowledges and agrees that a person or affiliate who has been placed on the convicted vendor list following a conviction for a public entity crime may not submit a bid, proposal, or reply on a contract to provide any goods or services to a public entity; may not submit a bid, proposal, or reply on a contract with a public entity for the construction or repair of a public building or public work; may not submit bids, proposals, or replies on leases of real property to a public entity; may not be awarded or perform work as a consultant, supplier or sub-consultant/sub-contractor under a contract with any public entity; and may not transact business with any public entity in excess of the threshold amount provided in Section 287.017, Florida Statues, for CATEGORY TWO for a period of 36 months following the date of being placed on the

convicted vendor list. Contractor will advise the Town immediately if it becomes aware of any violation of this statute.

10.18 *Force Majeure*: Neither party shall be considered in default in the performance of its obligations hereunder or any of them, if such obligations were prevented or delayed by any cause, existing or future beyond the reasonable control of such party which include but are not limited to acts of God, labor disputes or civil unrest.

10.19 *Palm Beach County Inspector General*: In accordance with Palm Beach County ordinance number 2011-009, Contractor acknowledges that this Contract may be subject to investigation and/or audit by the Palm Beach County Inspector General. Contractor has reviewed Palm Beach County ordinance number 2011-009 and is aware of its rights and/or obligations under such ordinance.

10.20 *Scrutinized Companies*: Contractor certifies that it and its subcontractors are not on the Scrutinized Companies that Boycott Israel List and are not engaged in the boycott of Israel. Pursuant to section 287.135, Florida Statutes, the Town may immediately terminate this Contract at its sole option Contractor or any of its subcontractors are found to have submitted a false certification; or if Contractor or any of its subcontractors, are placed on the Scrutinized Companies that Boycott Israel List or is engaged in the boycott of Israel during the term of this Contract.

If this Contract is for one million dollars or more, Contractor certifies that it and its subcontractors are also not on the Scrutinized Companies with Activities in Sudan List, Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List, or engaged in business operations in Cuba or Syria as identified in Section 287.135, Florida Statutes. Pursuant to Section 287.135, the Town may immediately terminate this Contract at its sole option if Contractor, or any of its subcontractors are found to have submitted a false certification; or if Contractor or any of its subcontractors are placed on the Scrutinized Companies with Activities in Sudan List, or Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List, or are or have been engaged with business operations in Cuba or Syria during the term of this Contract.

10.21 *Protection of Property*: Contractor shall at all times guard against damage or loss to the property of the Town or of other vendors or contractors and shall be held responsible for replacing or repairing any such loss or damage. The Town may withhold payment or make such deductions as deemed necessary to insure reimbursement or replacement for loss or damage to property through negligence of Contractor or its agents. Contractor shall be responsible to safeguard all of their property such as tools and equipment while on site. The Town will not be held responsible for any loss of Contractor property due to theft or vandalism.

10.22 *Defects*: Contractor warrants that all goods and services provided under this Contract will be free of defects in materials and workmanship for a period of one (1) year following completion of all services unless a longer manufacturer warranty applies. The undersigned, upon notice of such defect, shall make the foregoing repairs as soon as reasonably possible or, if such repairs have already been made by the Town, the undersigned, upon receipt of

evidence of the costs reasonably incurred by the Town in the making of such repairs, shall forthwith refund same to the Town. Anything herein to the contrary notwithstanding, the Town shall have the sole obligation to perform all maintenance required. Accordingly, the undersigned shall have no liability hereunder in the event that the repairs result from the failure of the Town to properly maintain same or misuse or abuse (except, however, nothing contained herein shall be construed to release the undersigned from liability for damage or defect caused by acts of the undersigned or its employees or agents in connection with the completion by the undersigned of the project).

10.23 *Audit*: Contractor shall permit the Town, or any authorized representatives of the Town, at all reasonable times, access to and the right to examine all records, books, papers or documents related to the Contractor's performance under this Contract including, but not limited to, expenses for sub-contractors, agents or assistants, direct and indirect charges for work performed and detailed documentation for all such work performed or to be performed under this Contract.

REMAINDER OF THIS PAGE INTENTIONALLY LEFT BLANK
SIGNATURE PAGE FOLLOWS

IN WITNESS WHEREOF the parties hereto have made and executed this Contract on the day and year first above written.

TOWN OF HIGHLAND BEACH, FLORIDA

By: _____
Mayor

ATTEST:

_____
Lanelda Gaskins, Town Clerk

Approved as to form and legal sufficiency:

_____
Glen Torcivia, Town Attorney

[Corporate Seal]

MAINGUY ENVIRONMENTAL CARE, INC.
D/B/A MAINGUY LANDSCAPE SERVICES

By: _____
Print Name: Chris Mainguy
Title: Vice President

STATE OF FLORIDA)
COUNTY OF PALM BEACH)

The foregoing instrument was acknowledged before me this 18 day of November, 2022, by Chris Mainguy, who was physically present, as Vice President (title), of Mainguy Landscape Services, which is authorized to do business in the State of Florida, and who is personally known to me or who has produced the following _____ as identification.

EDUARDO F. BINGHAM
NOTARY PUBLIC - STATE OF FLORIDA
COMMISSION # GG 312459
My Commission Expires March 17, 2023

Notary Public

_____
Print Name: Eduardo F. Bingham
My commission expires: March 17, 2023

File Attachments for Item:

C. Consideration to approve and authorize the Town Manager to Town Manager to make a best-interest purchase of a 2017 Pierce Ladder Truck in an amount of $830,000.00 for the Fire Rescue Department in accordance with the Town of Highland Beach purchasing policy.

TOWN OF HIGHLAND BEACH
AGENDA MEMORANDUM

MEETING TYPE: Town Commission Meeting

MEETING DATE *12/6/2022*

SUBMITTED BY: Town Manager's Office

SUBJECT: 2017 Pierce Aerial Ladder Truck

SUMMARY:

As part of establishing the Town of Highland Beach Fire Rescue Department, the Town must have two aerial ladder trucks. Town staff analyzed the current market for a new ladder truck and found that the cost would be approximately $1.5 million dollars and the lead time would be more than thirty (30) months; neither of these conditions are suitable to the Town. Glenn Joseph, Fire Chief, has been working with Glenn Usdin of Command Fire Apparatus to obtain a pre-owned ladder truck that meets operational standards. We have identified a 2017 Pierce ladder truck that is within budget and will be delivered in the time frame needed.

Pursuant to the Town purchasing policy section 5-K, Best Interest Acquisition requires the Town Commission to make specific factual findings that support the determination to utilize this method of procurement; those facts are as follows:

- The purchase price of the ladder truck is $830,000.
- The lead time is thirty (30 days).
- The ladder truck has approximately 17,000 original miles
- The ladder truck mirrors the currently owned ladder truck which will allow for standardization of maintenance, parts, and training.

Town staff recommends the utilization of the Best Interest Acquisition method to purchase the 2017 Pierce aerial ladder truck.

FISCAL IMPACT:

$830,000 (one-time purchase)

ATTACHMENTS:

2017 Pierce Ladder Truck Design Drawings Sheet

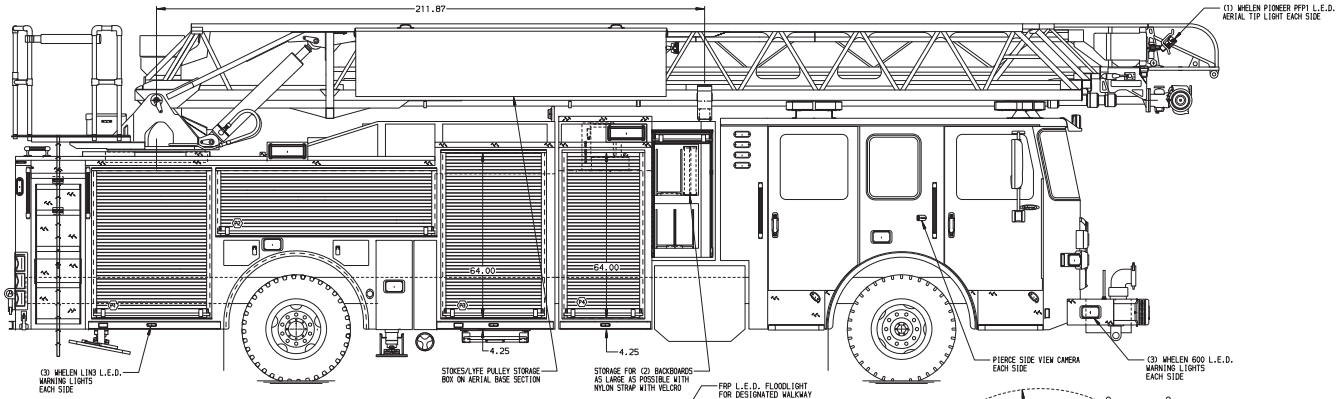
2017 Pierce Ladder Truck Quote

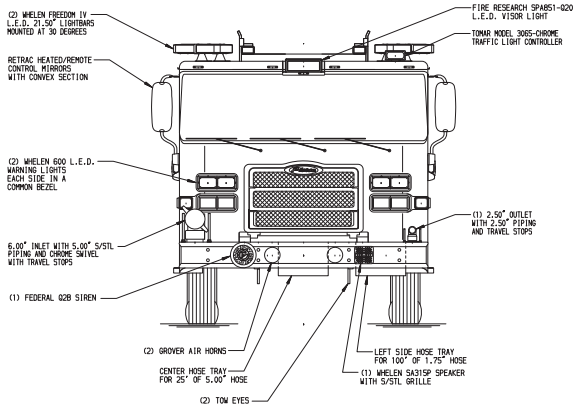
Pictures of Ladder Truck

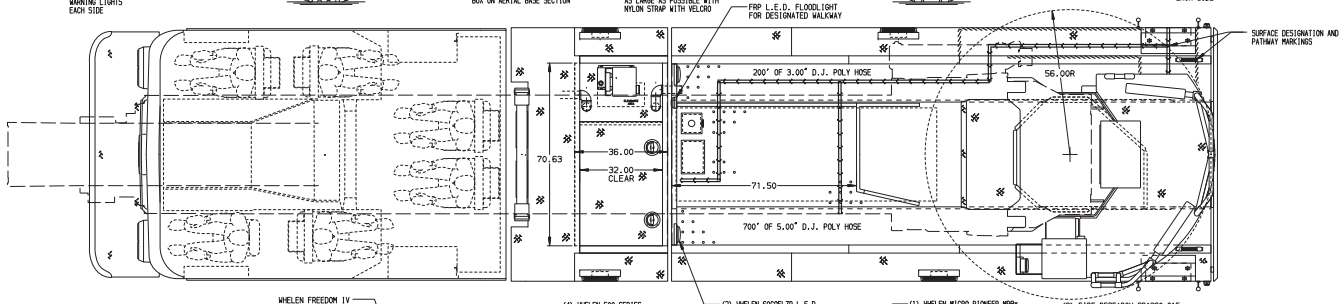
Apparatus Description From Original Purchase

RECOMMENDATION:

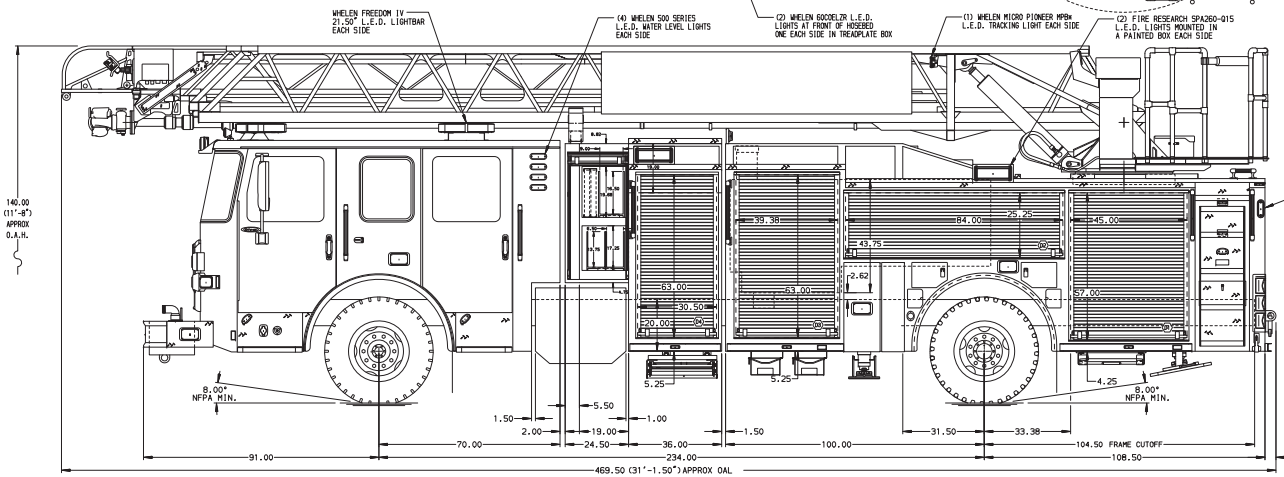
Approve and authorize the Town Manager to make a best-interest purchase of a 2017 Pierce Ladder Truck in accordance with the Town of Highland Beach purchasing policy.

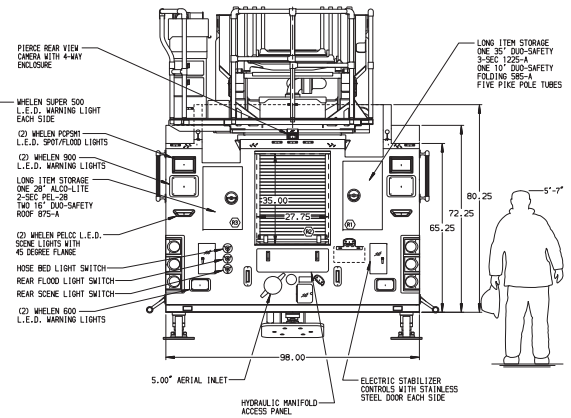






BODY	WATER TANK
107" Heavy Duty Alum Body	470 Gallon PAL Poly Water Tank
COMPT,DRIVER SIDE FRONT	**Foam System**
Full Height RolLup Forward	Husky 3 Single Agent Foam System
COMPT,DRIVER SIDE REAR	**Foam Cell**
Full Height RolLup Rearward	30 Gallon Foam Cell, Reduced Water
COMPT,PASSENGER SIDE FRONT	
Full Height RolLup Forward	
COMPT,PASSENGER SIDE REAR	
Full Height RolLup Rearward	





CHASSIS	CAB	AXLE,FRONT,CUSTON	TRANSMISSION	PUMPHOUSE	CROSSLAYS,1.50"	MAXIMUM OVERALL HEIGHT
Enforcer Chassis	7000 Enforcer Cab	22,800 Lb Dana Axle	Allison 5th Gen, 4500 EVS P	Control Zone, PAL/PAP PUC	(2) 1.50",FulL Width Trays,200'	MAX O.A.H.=140" (11'-8")
ENGINE	**BUMPER**	**AXLE,REAR**		**PUMP**	**CROSSLAYS,2.50"**	
525 HP DD13 Engine	22" Extended Stainless Steel	33,500 Lb Meritor Axle		1500 GPM Pierce PUC	(1) 2.50",FulL Width Tray,200'	

NOTE

DIMENSIONS SHOWN ARE APPROXIMATE AND ARE SUBJECT TO MINOR DEVIATIONS AS MAY OCCUR OR BE NECESSARY IN CONSTRUCTION.
MINOR DETAILS NOT SHOWN.

1. SHORELINE RECEPTACLE WITH KUSSMAUL SUPER AUTO-EJECT LOCATED IN THE DRIVER SIDE LOWER STEP WELL OF CAB
2. L.E.D. INDICATOR LIGHT MOUNTED ADJACENT TO THE SHORELINE RECEPTACLE
3. AIR INLET/OUTLET WITH DISCONNECT FITTING LOCATED ON THE DRIVER SIDE PUMP PANEL
4. BATTERY CHARGER LOCATED BEHIND DRIVER'S SEAT
5. BATTERY CHARGE INDICATOR LOCATED ON D.S. SEAT RISER
6. ADJUSTABLE SHELVES IN COMPARTMENTS PER SHOP ORDER
7. ONE FLOOR MOUNTED SLIDE-OUT TRAY IN COMPARTMENT D1,D3,P1,P3,R2
8. ONE SWING-OUT ALUMINUM TOOL BOARD IN COMPARTMENT D1,P2
9. ONE VERTICAL PARTITION IN COMPARTMENT P2
10. ALUMINUM PEGBOARD WITH TRACKS ON THE REAR WALL OF COMPARTMENT P1
11. CAB LIFT MANUAL OVERRIDE IN COMPARTMENT P4
12. NON-RAISED AERIAL PEDESTAL
13. 1500 GPM HIGH FLOW WATERWAY
14. L.E.D. LIGHTING ON AERIAL LADDER SECTIONS
15. LYFEPULLEY RESCUE SYSTEM
16. 12V DC POWER TO AERIAL TIP

REV	DATE	BY	CH
V	27DEC16	SHU	CRI
V	21DEC16	TKA	SHE

CHASSIS DATA
MAKE: PIERCE
MODEL: ENFORCER

Pierce MANUFACTURING INC.

JOB NO.	30368
SCALE	1:24
DATE	
TITLE	PIERCE 107' ASCENDANT AERIAL APPROVAL DRAWING -
DRAWN BY	TKA 13JUN16
FOR	CAHABA VALLEY FIRE & EMERGENCY DISTRICT BIRMINGHAM, AL
CHECKED BY	CRI 15JUN16
DWG NO.	30368AD
SHEET SIZE	D
SHEET NO.	1 OF 1

View File Created 02-JAN-2017 07:21:00

CFA Command Fire Apparatus
BUYING & SELLING USED FIRE APPARATUS

Lancaster County PA
~ A FIREFIGHTER OWNED & OPERATED COMPANY ~

20 Wildflower Lane ■ Lancaster, PA 17603
www.sellfiretrucks.com ■ email: glenn@sellfiretrucks.com
1.866.238.6688 ■ Fax: 717.735.0228

December 2, 2022

Quote to Supply Used Fire Apparatus

Purchaser: **Town of Highland Beach**
3614 S. Ocean Boulevard
Highland Beach, FL 33487

Description: 2017 Pierce 107' PUC Aerial Ladder Quint (full and complete original specifications attached to this quote)

Approximate Mileage: 17,000
Approximate Engine hours: 3050
Approximate Aerial hours: 120 hours
Approximate pump hours: 250

VIN # 4P1BCAGF4HA017946

The below items are included in the purchase price:

- **A pump test report, less than one-year-old, from a UL (or equivalent) certified testing company**
- **A ground ladder test report, less than one-year-old, for a UL (or equivalent) certified testing company**
- **An aerial ladder test report, less than one-year-old, from a UL (or equivalent) certified testing company**
- **Purchase includes:**
  - **A full compliment of ground ladders**
  - **Three days of equipment orientation training at our fire station in Highland Beach Florida.**

Terms: Payment due prior to pick-up of the unit at Cahaba Valley, AL

Quote to supply this vehicle: $ 830,000.00

Contact Info: Command Fire Apparatus
1916 West Main Street
Mount Joy, PA 17522

Glenn D. Usdin, President
Phone: 717-735-0206 email: glenn@sellfiretrucks.com


QUINT
181


GOODYEAR


CAHABA VALLEY
FIRE & RESCUE
CAHABA VALLEY
Q-181


CAHABA VALLEY
FIRE & RESCUE


Pierce


CAHABA VALLEY
FIRE & RESCUE
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CAHABA VALLEY
Q-181
CVFD


Fire

CAHABA VALLEY FIRE & EMR FIRE DISTRICT

PROPOSAL AFTER ACCEPTANCE AND PRIOR TO PRE-CONSTRUCTION VISIT

DOUG AKIN

EEP

06/03/2016

PERFORM. LIKE NO OTHER.

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

PIERCE MANUFACTURING was founded in 1913. Since then we have been building bodies with one philosophy, "BUILD THE FINEST". Our skilled craftsmen take pride in their work, which is reflected, in the final product. We have been building fire apparatus since the early "forties" giving Pierce Manufacturing over 60 years of experience in the fire apparatus market. Pierce Manufacturing has built and put into service more than 51,000 apparatus, including more than 27,000 on Pierce custom chassis designed and built specifically for fire and emergency applications. Our Appleton, Wisconsin facility has over 757,000 total square feet of floor space situated on approximately 97 acres of land. Our Bradenton, Florida facility has 300,000 square feet of floor space situated on approximately 38 acres of land.

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

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

In accordance with the current edition of NFPA 1901 standards, this proposal will specify whether the fire department, manufacturer, or apparatus dealership will provide required loose equipment.

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

GENERAL DESIGN AND CONSTRUCTION

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

QUALITY AND WORKMANSHIP

Pierce has set the pace for quality and workmanship in the fire apparatus field. Our tradition of building the highest quality units with craftsmen second to none has been the rule right from the beginning and we demonstrate that ongoing commitment by: Ensuring all steel welding follows American Welding Society D1.1-2004 recommendations for structural steel welding. All aluminum welding follows American Welding society and ANSI D1.2-2003 requirements for structural welding of aluminum. All

sheet metal welding follows American welding Society B2.1-2000 requirements for structural welding of sheet metal. Our flux core arc welding uses alloy rods, type 7000 and is performed to American Welding Society standards A5.20-E70T1. Furthermore, all employees classified as welders are tested and certified to meet the American welding Society codes upon hire and every three (3) years thereafter. Pierce also employs and American Welding Society certified welding inspector in plant during working hours to monitor weld quality.

Pierce Manufacturing operates a Quality Management System under the requirements of ISO 9001. These standards sponsored by the International Organization for Standardization (ISO) specify the quality systems that are established by the manufacturer for design, manufacture, installation and service. A copy of the certificate of compliance is included with this proposal.

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

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

DELIVERY

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

MANUAL AND SERVICE INFORMATION

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

SAFETY VIDEO

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

PERFORMANCE TESTS

A road test will be conducted with the apparatus fully loaded and a continuous run of no less than ten (10) miles. During that time the apparatus will show no loss of power nor will it overheat. The transmission drive shaft or shafts and the axles will run quietly and be free of abnormal vibration or noise. The apparatus when fully loaded will not have less than 25 percent nor more than 50 percent on

the front axle, and not less than 50 percent nor more than 75 percent on the rear axle. The apparatus will meet NFPA 1901 acceleration and braking requirements.

SERVICE AND WARRANTY SUPPORT

Pierce dealership support will be provided by EEP by operating a Pierce authorized service center. The service center will have factory-trained mechanics on staff versed in Pierce fire apparatus. The service facility will be located within twenty five (25) miles of the fire department.

In addition to the dealership, Pierce has service facilities located in both, Weyauwega, Wisconsin and Bradenton, Florida. Pierce also maintains a dedicated parts facility of over 100,000 square feet in Appleton, Wisconsin. The parts facility stocks in excess of $5,000,000 in parts dedicated to service and replacement parts. The parts facility employs a staff dedicated solely for the distribution and shipment of service and replacement parts.

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

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

Pierce Manufacturing maintains a dedicated service and warranty staff of over 35 personnel, dedicated to customer support, which also maintains a 24 hour 7 day a week toll free hot line, four (4) on staff EVTs, and offers hands-on repair and maintenance training classes multiple times a year.

COMMERCIAL GENERAL LIABILITY INSURANCE

Certification of insurance coverage will be enclosed.

SINGLE SOURCE MANUFACTURER

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

Your apparatus will be manufactured in Appleton, Wisconsin.

NFPA 2016 STANDARDS

This unit will comply with the NFPA standards effective January 1, 2016, except for fire department directed exceptions. These exceptions will be set forth in the Statement of Exceptions.

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

All horizontal surfaces designated as a standing or walking surface that are greater than 48.00" above the ground must be defined by a 1.00" wide line along its outside perimeter. Perimeter markings and designated access paths to destination points will be identified on the customer approval print and are shown as approximate. Actual location(s) will be determined based on materials used and actual conditions at final build. Access paths may pass through hose storage areas and opening or removal of covers or restraints may be required.Access paths may require the operation of devices and equipment such as the aerial device or ladder rack.

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

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

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

NFPA COMPLIANCY

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

VEHICLE INSPECTION PROGRAM CERTIFICATION

To assure the vehicle is built to current NFPA standards, the apparatus, in its entirety, will be third-party, audit-certified through Underwriters Laboratory (UL) that it is built and complies to all applicable standards in the current edition of NFPA 1901. The certification will include: all design, production, operational, and performance testing of not only the apparatus, but those components that are installed on the apparatus.

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

INSPECTION CERTIFICATE

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

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

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

- Magnetic particle inspection will be conducted on steel aerials to assure the integrity of the weldments and to detect any flaws or weaknesses. Magnets will be placed on each side of the weld while iron powder is placed on the weld itself. The powder will detect any crack that may exist. This test will conform to ASTM E709 and be performed prior to assembly of the aerial device.

- A liquid penetrant test will be conducted on aluminum aerials to assure the integrity of the weldments and to detect any flaws or weaknesses. This test will conform to ASTM E165 and be performed prior to assembly of the aerial device.

- Ultrasonic inspection will conducted on all aerials to detect any flaws in pins, bolts and other critical mounting components.

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

PUMP TEST

The pump will be tested, approved and certified by Underwriter's Laboratory at the manufacturer's expense. The test results and the pump manufacturer's certification of hydrostatic test; the engine manufacturer's certified brake horsepower curve; and the manufacturer's record of pump construction details will be forwarded to the Fire Department.

GENERATOR TEST

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

BREATHING AIR TEST

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

INSPECTION TRIP(S)

The bidder will provide three (3) factory inspection trip(s) for Seven CVFD Personel on the pre-construction and final build. Three CVFD Personel on the mid build. Customer will cover the cost of air travel. Meals, ground travel while in Appleton, and lodging shall be provided by EEP/Pierce. customer representative(s). The inspection trip(s) will be scheduled at times mutually agreed upon between the manufacturer's representative and the customer. All costs such as travel, lodging and meals will be the responsibility of the bidder.

AFTERMARKET SUPPORT WEBSITE

Pierceparts.com will provide Pierce authorized dealer access to comprehensive information pertaining to the maintenance and service of their customer's apparatus. This tool will provide the Pierce authorized dealer the ability to service and support their customers to the best of their ability with factory support at their fingertips.

Pierceparts.com is also accessible to the end user through the guest login. Limited access is available and vehicle specific parts information accessible by entering a specific VIN number. All end users should see their local authorized Pierce dealer for additional support and service.

The website will consist of the following screens at the dealer level:

My Fleet Screen

The My Fleet screen will provide access to truck detail information on the major components of the vehicle, warranty information, available vehicle photographs, vehicle drawings, sales options, applicable vehicle software downloads, etc.

Parts Screens

The Parts screens will provide parts look-up capability of Pierce Manufacturing sourced items, with the aid of digital photographs, part drawings and assembly drawings. The parts search application will permit the searching of parts by item description or function group (major system category). The parts application will provide the ability to submit electronically a parts order, parts quote, or parts return request directly to Pierce Manufacturing for processing.

Warranty Screen

The Warranty screens will provide dealers the ability to submit electronically warranty claims directly to Pierce Manufacturing for reimbursement.

My Reports Screens

The My Reports screens will provide access to multiple dealer reports to allow the dealership to maintain communication with the customer on the status of orders, claims, and phone contacts.

Technical Support Screens

The Technical Support screens will provide access to all currently published Operation and Maintenance and Service Publications. Access to Pierce Manufacturing Service Bulletins and Work Instructions, containing information on current service topics and recommendations will be provided.

Training

The Training screens will provide access to upcoming training classes offered by Pierce Manufacturing along with interactive electronic learning modules (Operators Guides) covering the operation of major

vehicle components will be provided. Access to training manuals used in Pierce Manufacturing training classes will be provided.

About Pierce

Access to customer service articles, corporate news, quarterly newsletters, and key contacts within the Customer Service Department will be provided. The current Customer Service Policy and Procedure Manual, detailing the operation of the Customer Service group will also be accessible.

BID BOND NOT REQUESTED

A bid bond will not be included. If requested, the following will apply:

All bidders will provide a bid bond as security for the bid in the form of a 5% bid bond to accompany their bid. This bid bond will be issued by a Surety Company who is listed on the U.S. Treasury Departments list of acceptable sureties as published in Department Circular 570. The bid bond will be issued by an authorized representative of the Surety Company and will be accompanied by a certified power of attorney dated on or before the date of bid. The bid bond will include language, which assures that the bidder/principal will give a bond or bonds as may be specified in the bidding or contract documents, with good and sufficient surety for the faithful performance of the contract, including the Basic One (1) Year Limited Warranty, and for the prompt payment of labor and material furnished in the prosecution of the contract.

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

PERFORMANCE BOND

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

APPROVAL DRAWING

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

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

ELECTRICAL WIRING DIAGRAMS

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

ENFORCER CHASSIS

The Pierce Enforcer™ is the custom chassis developed exclusively for the fire service. Chassis provided will be a new, tilt-type custom fire apparatus. The chassis will be manufactured in the apparatus body builder's facility eliminating any split responsibility. The chassis will be designed and manufactured for heavy-duty service, with adequate strength, capacity for the intended load to be sustained, and the type of service required. The chassis will be the manufacturer's first line tilt cab.

MAXIMUM OVERALL HEIGHT

The maximum overall height of the apparatus will be MAXIMUM OVERALL HEIGHT SHALL BE 11' 8", Would prefer to be less down to 11' 6" or 7".

WHEELBASE

The wheelbase of the vehicle will be 237.00.

GVW RATING

The gross vehicle weight rating will be 54,000.

FRAME

The chassis frame will be built with two (2) steel channels bolted to five (5) cross members or more, depending on other options of the apparatus. The side rails will be heat-treated steel measuring 10.25" x 3.50" x .375".

Each rail will have a section modulus of 16.00 cubic inches, yield strength of 120,000 psi, and a resisting bending moment (rbm) of 1,921,069 inch-pounds.

FRAME REINFORCEMENT

A full-length mainframe "C" liner will be provided.

The liner will be an internal "C" design, heat-treated steel measuring 9.38" x 3.13" x 0.25". Each reinforcement member will have a section modulus of 3.90 cubic inches, yield strength of 120,000 psi and resisting bending moment (rbm) of 938,762 in-lb.

FRONT AXLE

The front axle will be a reverse "I" beam type with inclined king pins. It will be a Dana®, model D2200 with a rated capacity of 23,000 pounds.

A viewing window will be provided on each side of the axle for checking the oil level.

FRONT SUSPENSION

The front springs will be a Standens, three (3)-leaf, taper leaf design, 54.00" long x 4.00" wide, with a ground rating of 23,000 lb.

The two (2) top leaves will wrap the forward spring hanger pin. The top leaf will also wrap the rear spring hanger pin. Both the front and rear eyes will be Berlin style wraps that will place the eyes in the horizontal plane within the main leaf. This will reduce bending stress from acceleration and braking.

A steel encased rubber bushing will be used in the spring eye. The steel encased rubber bushing will be maintenance free and require no lubrication.

SHOCK ABSORBERS

To provide a smoother ride, the front axle will be furnished with heavy-duty telescoping shock absorbers.

FRONT OIL SEALS

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

FRONT TIRES

Front tires will be Goodyear® 425/65R22.50 radials, 20 ply G296 MSA tread, rated for 22,800 lb maximum axle load and 68 mph maximum speed.

The tires will be mounted on 22.50" x 12.25" steel disc type wheels with a ten (10)-stud, 11.25" bolt circle.

REAR AXLE

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

TOP SPEED OF VEHICLE

A rear axle ratio will be furnished to allow the vehicle to reach a top speed of 60 mph.

REAR SUSPENSION

The rear suspension will be Standens, semi-elliptical, 3.00" wide x 53.00" long, with a ground rating of 33,500 lb. The spring hangers will be castings.

The two (2) top leaves will wrap the forward spring hanger pin, and the rear of the spring will be a slipper style end that will ride in a rear slipper hanger. To reduce bending stress due to acceleration and braking, the front eye will be a berlin eye that will place the front spring pin in the horizontal plane within the main leaf.

A steel encased rubber bushing will be used in the spring eye. The steel encased rubber bushing will be maintenance free and require no lubrication.

REAR OIL SEALS

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

REAR TIRES

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

The tires will be mounted on 22.50" x 9.00" steel disc type wheels with a ten (10) stud,11.25" bolt circle.

TIRE BALANCE

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

TIRE PRESSURE MANAGEMENT

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

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

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

FRONT HUB COVERS

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

REAR HUB COVERS

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

CHROME LUG NUT COVERS

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

MUD FLAPS

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

WHEEL CHOCKS PROVIDED BY DEALER

NFPA 1901, 2016 edition, section 9.9.4 requires two (2) or more wheel chocks mounted in readily accessible locations, that together will hold the apparatus, when loaded to its GVWR or GCWR, on a hard surface with a 20 percent grade with the transmission in neutral and the parking brake released.

The wheel chocks are not on the apparatus as manufactured. The dealer will provide and install these wheel chocks.

WHEEL CHOCK BRACKETS

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

ANTI-LOCK BRAKE SYSTEM

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

BRAKES

The service brake system will be full air type by Bendix®.

Front brakes will be Model ADB22X™, disc type with automatic pad wear adjustment and 17.00" rotors for improved stopping distance.

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

AIR COMPRESSOR, BRAKE SYSTEM

The air compressor will be a Bendix®, Model BA-921, with 15.80 cubic feet per minute output at 1,250 rpm.

BRAKE SYSTEM

The brake system will include:

- Bendix® brake treadle valve with vinyl covered foot surface
- Heated automatic moisture ejector on air dryer
- Total air system minimum capacity of 5,376 cubic inches
- Two (2) air pressure gauges with a red warning light and an audible alarm, that activates when air pressure falls below 60 psi
- Spring set parking brake system
- Parking brake operated by a push-pull style control valve
- A parking "brake on" indicator light on instrument panel
- Park brake relay/inversion and anti-compounding valve, in conjunction with a double check valve system, with an automatic spring brake application at 40 psi
- A pressure protection valve to prevent all air operated accessories from drawing air from the air system when the system pressure drops below 80 psi (550 kPa)

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

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

BRAKE SYSTEM AIR DRYER

The air dryer will be a WABCO System Saver 1200 IWT, with internal wet tank, spin-on coalescing filter cartridge and 100 watt heater.

BRAKE LINES

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

AIR INLET/OUTLET

One (1) air inlet/outlet will be installed with the female coupling located on the driver side pump panel. This system will tie into the "wet" tank of the brake system and include a check valve in the inlet line and an 85 psi pressure protection valve in the outlet line. The air outlet will be controlled by a needle valve.

A mating male fitting will be provided with the loose equipment.

The air inlet will allow a shoreline air hose to be connected to the vehicle. This will allow station air to be supplied to the brake system of the vehicle to insure constant air pressure.

ALL WHEEL LOCK-UP

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

ENGINE

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

Make:	Detroit™
Model:	DD13®
Power:	525 hp at 1625 rpm
Torque:	1850 lb-ft at 1075 rpm
Governed Speed:	Full Load - 1900 rpm Road/2080 rpm Parked PTO
Emissions Certification:	EPA 2016 (GHG17)
Fuel:	Diesel
Cylinders:	Six (6)
Displacement:	781 cubic inches (12.8L)
Starter:	Delco Remy 39MT™
Fuel Filters:	Dual cartridge style with check valve, water separator, and water in fuel sensor

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

REPTO DRIVE

A rear engine power take off will be provided to drive the water pump. A vibration dampener will be provided between the REPTO and water pump. Transmission PTO's used to drive the water pump will not be allowed due to their lower torque ratings. The rear engine power take off will be the same as used extensively throughout the construction industry. Rear engine PTO's allow for continuous 240 hp and 480 lb-ft torque ratings needed for large pump applications. The rear engine power take off will have the same warranty as the engine provided by the engine manufacturer.

HIGH IDLE

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

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

ENGINE BRAKE

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

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

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

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

CLUTCH FAN

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

ENGINE AIR INTAKE

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

A stainless steel metal screen will be installed at the inlet of the air intake system that will meet NFPA 1901 requirements.

The air cleaner and stainless steel screen will be easily accessible by tilting the cab.

EXHAUST SYSTEM

The exhaust system will include a diesel particulate filter (DPF) and a selective catalytic reduction (SCR) device to meet current EPA standards. The exhaust system will be stainless steel from the turbo to the inlet of the SCR device and will be 5.00" in diameter. An insulation wrap will be provided on all exhaust pipes between the turbo and SCR to minimize the transfer of heat to the cab. The exhaust will terminate horizontally ahead of the right side rear wheels. A tailpipe diffuser will be provided to reduce the temperature of the exhaust as it exits. Heat deflector shields will be provided to isolate chassis and body components from the heat of the tailpipe diffuser.

RADIATOR

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

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

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

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

The radiator will be compatible with commercial antifreeze solutions.

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

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

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

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

COOLANT LINES

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

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

FUEL TANK

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

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

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

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

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

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

DIESEL EXHAUST FLUID TANK

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

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

A fill inlet will be located on the driver's side of the body and be covered with a hinged, spring loaded, polished stainless steel door that is marked "Diesel Exhaust Fluid Only".

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

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

TRANSMISSION

An Allison 5th generation, Model EVS 4500P, electronic, torque converting, automatic transmission will be provided.

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

Two (2) PTO openings will be located on left side and top of converter housing (positions 8 o'clock and 1 o'clock).

A transmission temperature gauge with red light and buzzer will be installed on the cab instrument panel.

TRANSMISSION SHIFTER

A six (6)-speed push button shift module will be mounted to right of driver on console. Shift position indicator will be indirectly lit for after dark operation.

The transmission ratio will be: 1st - 4.70 to 1.00, 2nd - 2.21 to 1.00, 3rd - 1.53 to 1.00, 4th - 1.00 to 1.00, 5th - 0.76 to 1.00, 6th - 0.67 to 1.00, R - 5.55 to 1.00.

TRANSMISSION PROGRAMMING

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

TRANSMISSION COOLER

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

DRIVELINE

Drivelines will be a heavy-duty metal tube and be equipped with Spicer® 1810 universal joints.

The shafts will be dynamically balanced before installation.

A splined slip joint will be provided in each driveshaft. The slip joint will be coated with Glidecoat® or equivalent.

STEERING

Dual steering gear, with integral heavy-duty power steering, will be provided. For reduced system temperatures, the power steering will incorporate an air to oil cooler and Vickers® V20NF hydraulic pump with integral pressure and flow control. All power steering lines will have wire braded lines with crimped fittings.

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

STEERING WHEEL- CHANGE TO ARROW XT STYLE STEERING WHEEL

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

There will be a switch pod provided on each side of the steering wheel between the spokes. The switch pods will be an integral part of the steering wheel. Each switch pod will contain four (4) switches. The following switches will be provided:

Air horn

Emergency lighting

Area lighting

Front dome light

Rear dome light

Q2B siren activate

Q2B siren brake

Wiper mist

Full floating horn pad

LOGO AND CUSTOMER DESIGNATION ON DASH -DOES THIS MATCH OTHERS, IS THIS CASE SENSITIVE?

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

The first row of text will be: **CAHABA**

The second row of text will be: **VALLEY**

The third row of text will be: **FIRE**

BUMPER

A one (1) piece, ten (10) gauge, 304-2B type polished stainless steel bumper, a minimum of 10.00" high, will be attached to a bolted modular extension frame constructed of 50,000 psi tensile steel "C" channel mounted directly behind it to provide adequate support strength.

The bumper will be extended 22.00" from front face of cab.

Documentation will be provided, upon request to show that the options selected have been engineered for fit-up and approval for this modular bumper extension.

GRAVEL PAN

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

HOSE TRAY

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

The tray will have a capacity of 25' of 5.00" double jacket cotton-polyester hose.

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

CENTER HOSE TRAY RESTRAINT IS THIS DESCRIPTIVE ENOUGH TO MAKE SURE IT IS WHAT WE WANT?

There will be one (1) pair of hose tray restraint straps located over the center mounted tray.

The restraints will be 2.00" wide black nylon straps with seat belt buckle fasteners provided. The straps will be used to secure the hose in the tray.

LEFT SIDE HOSE TRAY- CAN DRAIN HOLES BE LARGER?

A hose tray will be placed in the left side of the extended bumper. The hose tray will be 13.00" deep.

The tray will have a capacity of 100' of 1.75" double jacket cotton-polyester hose.

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

LEFT HOSE TRAY RESTRAINT -IS THIS DESCRIPTIVE ENOUGH TO MAKE SURE IT IS WHAT WE WANT?

There will be one (1) pair of hose tray restraint strap(s) located over the left side mounted tray.

Each restraint will be a 2.00" wide black nylon strap with seat belt buckle fasteners provided. The strap(s) will be used to secure the hose in the tray.

TOW HOOKS- CLOSED HOOKS

Two (2) chromed steel tow hooks will be installed under the bumper and attached to the front frame members. The tow hooks will be designed and positioned to allow up to a 6,000 lb straight horizontal pull in line with the centerline of the vehicle. The tow hooks will not be used for lifting of the apparatus.

SWIVEL STOP

Installed on the front bumper extension will be a stainless steel rod to limit the travel of the front outlet swivel. The travel stop will be installed to keep it from hitting the ON FRONT BUMPER OUTLET AND FRONT BUMPER INTAKE. PHOTOS OF FINAL LOCATIONS ON PREVIOUS UNIT 28907 WILL BE PROVIDED.. One (1) 2 stainless steel rod will be threaded into the bumper deck.

CAB

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

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

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

The cab will have 12 main vertical structural members located in the A-pillar (front cab corner posts), B-pillar (side center posts), C-pillar (rear corner posts), and rear wall areas. The A-pillar will be constructed of solid A356-T5 aluminum castings. The B-pillar and C-pillar will be constructed from

0.13" wall extrusions. The rear wall will be constructed of two (2) 2.00" x 2.00" outer aluminum extrusions and two (2) 2.00" x 1.00" inner aluminum extrusions. All main vertical structural members will run from the floor to 4.625" x 3.864" x 0.090" thick roof extrusions to provide a cage-like structure with the A-pillar and roof extrusions being welded into a 0.25" thick corner casting at each of the front corners of the roof assembly.

The front of the cab will be constructed of a 0.13" firewall plate, covered with a 0.090" front skin (for a total thickness of 0.22"), and reinforced with a full width x 0.50" thick cross-cab support located just below the windshield and fully welded to the engine tunnel. The cross-cab support will run the full width of the cab and weld to each A-pillar, the 0.13" firewall plate, and the front skin.

The cab floors will be constructed of 0.125" thick aluminum plate and reinforced at the firewall with an additional 0.25" thick cross-floor support providing a total thickness of 0.375" of structural material at the front floor area. The front floor area will also be supported with two (2) triangular 0.30" wall extrusions that also provides the mounting point for the cab lift. This tubing will run from the floor wireway of the cab to the engine tunnel side plates, creating the structure to support the forces created when lifting the cab.

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

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

The floor to ceiling height inside the crew cab will be 53.50" in the forward facing outboard positions and 44.50" in the forward facing center position.

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

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

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

The cab will be a full tilt cab style.

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

CAB ROOF DRIP RAIL

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

CAB PUMP ENCLOSURE

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

INTERIOR CAB INSULATION

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

FENDER LINERS-STAINLESS STEEL?

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

PANORAMIC WINDSHIELD

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

WINDSHIELD WIPERS

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

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

ENGINE TUNNEL

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

The engine hood will be insulated for protection from heat and sound. The noise insulation keeps the dBA level within the limits stated in the current NFPA 1901 standards.

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

CAB REAR WALL EXTERIOR COVERING

The exterior surface of the rear wall of the cab will be overlaid with bright aluminum treadplate that covers the entire rear wall .

CAB LIFT

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

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

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

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

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

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

Cab Lift Interlock

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

GRILLE

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

DOOR JAMB SCUFFPLATES

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

MIRRORS

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

DOORS- BARRIER DOOR?

To enhance entry and egress to the cab, the forward cab door openings will be a minimum of 37.50" wide x 63.37" high. The crew cab doors will be located on the sides of the cab and will be constructed in the same manner as the forward cab doors. The crew cab door openings will be a minimum of 34.30" wide x 63.37" high.

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

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

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

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

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

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

The bottom cab step at each cab door location will be located below the cab doors and will be exposed to the exterior of the cab.

DOOR PANELS

The inner cab door panels will be constructed out of painted aluminum.

MANUAL CAB DOOR WINDOWS

All cab entry doors will contain a conventional roll down window.

CAB STEPS

The forward cab and crew cab access steps will be a full size two (2) step design to provide largest possible stepping surfaces for safe ingress and egress. The bottom steps will be designed with a grip pattern punched into bright aluminum treadplate material to provide support, slip resistance, and drainage. The bottom steps will be a bolt-in design to minimize repair costs should they need to be replaced. The forward cab steps will be a minimum 25.00" wide, and the crew cab steps will be 21.65" wide with a 10.00" minimum depth. The inside cab steps will not exceed 16.50" in height. A slip-resistant handrail will be provided adjacent to each cab door opening to assist during cab ingress and egress.

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

STEP LIGHTS

There shall be six (6) white LED step lights installed for cab and crew cab access steps.

- One (1) light for the driver's access steps.
- Two **ONE** (2) **1** lights for the driver's side crew cab access steps.
- Two (2) lights for the passenger's side crew cab access steps.
- One (1) light for the passenger's side access step.

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

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

FENDER CROWNS

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

CREW CAB WINDOWS

One (1) fixed window with tinted glass will be provided on each side of the cab, to the rear of the front cab door. The windows will be sized to enhance light penetration into the cab interior. The windows will measure 18.70" wide x 23.75" high.

CAB ROOF COVERING

Horizontal cab roof surfaces will be covered with bright aluminum treadplate. Edges and fastening screws will be properly caulked to prevent water from leaking under aluminum. Front and side warning lights will not be mounted on top of treadplate. The treadplate will extend and terminate next to the warning lights.

FALSE NOTCHED RAISED ROOF- WILL DECIDE IN APPLETON

A false 10" raised roof will be provided on the cab roof, each side of the aerial unit. The front will be slanted at the angle of a standard raised roof. The outside and rear surfaces will simulate a raised roof section. The side toward the aerial unit will be open to prevent water and debris from collecting in the enclosed area.The top will be left open. The enclosure will be constructed out of aluminum and painted to match the cab roof.

MOUNTING PLATE ON ENGINE TUNNEL

Equipment installation provisions will be installed on the engine tunnel.

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

The mounting surface will be painted to match the cab interior.

CAB INTERIOR

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

The officer side dash will be a flat faced design to provide easy maintenance and will be constructed out of painted aluminum.

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

The engine tunnel will be painted aluminum to match the cab interior.- **HEAVY VINYL COVER**

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

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

All wiring will be placed in metal raceways.

CAB INTERIOR UPHOLSTERY

The cab interior upholstery will be dark silver gray.

CAB INTERIOR PAINT

A rich looking interior will be provided by painting all the metal surfaces inside the cab black, vinyl texture paint.

CAB FLOOR

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

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

CAB DEFROSTER

To provide maximum defrost and heating performance, a 43,500 BTU heater-defroster unit with 350 CFM of air flow will be provided inside the cab. The defroster unit will be strategically located under the center forward portion of the vacuum formed instrument panel. For easy access, a removable vacuum formed cover will be installed over the defroster unit. The defroster will include an integral aluminum frame air filter, high performance dual scroll blowers, and ducts designed to provide maximum defrosting capabilities for the 1-piece windshield. The defroster ventilation will be built into the design of the cab dash instrument panel and will be easily removable for maintenance. The defroster will be capable of clearing 98 percent of the windshield and side glass when tested under conditions where the cab has been cold soaked at 0 degrees Fahrenheit for 10 hours, and a 2 ounce per square inch layer of frost/ice has been able to build up on the exterior windshield. The defroster system will meet or exceed SAE J382 requirements.

CAB/CREW CAB HEATER

Two (2) 44,180 BTU auxiliary heaters with 276 CFM (each unit) of air flow will be provided inside the crew cab, one (1) in each outboard rear-facing seat riser. The heaters will include high performance dual scroll blowers, one (1) for each unit. Outlets for the heaters will be located below each rear facing seat riser and below the fronts of the driver and passenger seats, for efficient airflow. An extruded aluminum plenum will be incorporated in the cab structure that will transfer heat to the forward cab seating positions.

The heater/defroster and crew cab heaters will be controlled by a single integral electronic control panel. The heater control panel will allow the driver to control heat flow to the front and rear simultaneously. The control panel will include variable adjustment for temperature and fan control, and be conveniently located on the dash in clear view of the driver. The control panel will include highly visible, progressive LED indicators for both fan speed and temperature.

AIR CONDITIONING

A high performance, customized air conditioning system will be furnished inside the cab and crew cab.

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

A radiator mounted condenser with a 59,644 BTU output that meets and exceed the performance specification will be installed. Mounting the condenser below the cab or body would reduce the performance of the system and will not be acceptable.

One (1) evaporator unit will be installed in the center roof with two (2) cores, one (1) for the cab and one (1) for the crew cab. The evaporator unit will have an adequate BTU rating to meet the performance specifications.

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

- Four (4) will be directed towards the driver's location
- Four (4) will be directed towards the officer's location
- Seven (7) will be directed towards the crew cab area

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

The air conditioner will be controlled by a single electronic control panel. For ease of operation, the control panel will include variable adjustment for temperature and fan control and be conveniently located on the dash in clear view of the driver.

SUN VISORS -CHANGE TO PADDED VINYL TO MATCH INTERIOR

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

There will be no retention bracket provided to help secure each sun visor in the stowed position.

GRAB HANDLES

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

ENGINE COMPARTMENT LIGHTS

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

These light(s) will be activated automatically when the cab is raised.

ACCESS TO ENGINE DIPSTICKS

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

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

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

SEATING CAPACITY

The seating capacity in the cab will be six (6).

DRIVER SEAT

A H.O. Bostrom, Sierra, air suspension high back seat will be provided in the cab for the driver. For increased convenience, the seat will include a manual control to adjust the horizontal position (5.50" travel). To provide flexibility for multiple driver configurations, the seat will have a reclining back, adjustable from 15 degrees back to 45 degrees forward.

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

OFFICER SEAT

A H.O. Bostrom, Tanker 450, SCBA fixed seat will be provided in the cab for the officer. For optimal comfort, the seat will be provided with 17.00" deep cushion.

The seat back will be an SCBA back style with a 5 degree fixed recline angle. The SCBA cavity will be adjustable from front to rear in 1.50" increments, to accommodate different sized SCBA cylinders.

Moving the SCBA cavity will be accomplished by unbolting, relocating, and re-bolting it in the desired location.

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

RADIO COMPARTMENT

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

The inside compartment dimensions will be 16.00" wide x 7.50" high x 15.00" deep, with the back of the compartment angled up to match the cab structure.

A drop-down door with a chrome plated lift and turn latch will be provided for access.

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

REAR FACING DRIVER SIDE OUTBOARD SEAT

There will be one (1) rear facing, HO Bostrom Tanker 450 SCBA seat provided at the driver side outboard position in the crew cab. For optimal comfort, the seat will be provided with 17.00" deep cushion.

The seat back will be an SCBA back style with a 5 degree fixed recline angle. The SCBA cavity will be adjustable from front to rear in 1.50" increments, to accommodate different sized SCBA cylinders. Moving the SCBA cavity will be accomplished by unbolting, relocating, and re-bolting it in the desired location.

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

REAR FACING PASSENGER SIDE OUTBOARD SEAT

There will be one (1) rear facing, HO Bostrom Tanker 450 SCBA seat provided at the passenger side outboard position in the crew cab. For optimal comfort, the seat will be provided with 17.00" deep cushion.

The seat back will be an SCBA back style with a 5 degree fixed recline angle. The SCBA cavity will be adjustable from front to rear in 1.50" increments, to accommodate different sized SCBA cylinders. Moving the SCBA cavity will be accomplished by unbolting, relocating, and re-bolting it in the desired location.

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

FORWARD FACING CENTER SEATS- DO WE NEED TO ADD SEAT RAISER FOR LEG ROOM?

There will be two (2) forward facing, HO Bostrom Tanker 400CT SCBA seats provided at the center position in the crew cab. For optimal comfort, the seats will be provided with 15.00" deep cushions.

The seat backs will be an SCBA back style with a 0 degree fixed recline angle. The SCBA cavity will be adjustable from front to rear in 1.50" increments, to accommodate different sized SCBA cylinders. Moving the SCBA cavity will be accomplished by unbolting, relocating, and re-bolting it in the desired location.

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

SEAT UPHOLSTERY

All seat upholstery will be gray woven with black Dura-Wear, waterproof fabric.

AIR BOTTLE HOLDERS

There will be five (5) SCBA type seats in the cab with Bostrom SecureAll SCBA locking holder brackets installed directly into the Bostrom seats. The brackets will be compliant with NFPA 1901 Section 14.1.10.1.

SEAT BELTS

All seating positions will have red seat belts. To provide quick, easy use for occupants wearing bunker gear, the female buckle and seat belt webbing length will meet or exceed the current edition of NFPA 1901 and CAN/ULC - S515 standards.

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

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

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

HELMET STORAGE PROVIDED BY FIRE DEPARTMENT

NFPA 1901, 2016 edition, section 14.1.7.4.1 requires a location for helmet storage be provided.

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

CAB DOME LIGHTS- DO THESE AND ADDITIONAL DOME LIGHTS MATCH

There will be four (4) Weldon 808* series, dual LED dome lights with black bezels provided. Two (2) lights will be mounted above the **DIRECTLY ABOVE DRIVER AND OFFICER** inside shoulder of the driver and officer and two (2) lights will be installed and located, one (1) on each side of the crew cab.

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

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

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

ADDITIONAL DOME LIGHTS -DO THESE AND ADDITIONAL DOME LIGHTS MATCH

There will be two (2) Weldon 8080/8081 series, dual LED dome lights with black bezel(s) mounted in the cab and/or crew cab located CREW CAB MATCH 26840.

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

- The white LED(s) will be controlled by the same switching as the crew cab dome lights.
- The color LED(s) will be controlled by the same switching as the crew cab dome lights.

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

ADDITIONAL OVERHEAD MAP LIGHT- ARE THESE L.E.D.?
There will be two (2) additional white round adjustable map light(s) installed in the cab and located Officer and driver side overhead panel.

Each light will include a switch on the light housing.

The light switch(es) will be connected directly to the battery switched power.

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

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

- Voltmeter gauge (volts):
  - Low volts (11.8 VDC)
    - Amber caution indicator on the information center with intermittent alarm
    - Amber caution light on gauge assembly
  - High volts (15.5 VDC)
    - Amber caution indicator on the information center with intermittent alarm
    - Amber caution light on gauge assembly

    - Very low volts (11.3 VDC)
        - Red warning indicator on the information center with a steady alarm
        - Amber caution light on gauge assembly
    - Very high volts (16.0 VDC)
        - Red warning indicator on the information center with a steady alarm
        - Amber caution light on gauge assembly
- Engine Tachometer (RPM)
- Speedometer MPH (Major Scale), KM/H (Minor Scale)
- Fuel level gauge (Empty - Full in fractions):
    - Low fuel (1/8 full)
        - Amber caution indicator on the information center with intermittent alarm
        - Amber caution light on gauge assembly
    - Very low fuel (1/32 full)
        - Red caution indicator on the information center with steady alarm
        - Amber caution light on gauge assembly
- Engine Oil pressure Gauge (PSI):
    - Low oil pressure to activate engine warning lights and alarms
        - Red caution indicator on the information center with steady alarm
        - Amber caution light on gauge assembly
- Front Air Pressure Gauges (PSI):
    - Low air pressure to activate warning lights and alarm
        - Red warning indicator on the information center with a steady alarm
        - Amber caution light on gauge assembly
- Rear Air Pressure Gauges (PSI):
    - Low air pressure to activate warning lights and alarm
        - Red warning indicator on the information center with a steady alarm
        - Amber caution light on gauge assembly
- Transmission Oil Temperature Gauge (Fahrenheit):
    - High transmission oil temperature activates warning lights and alarm
        - Amber caution indicator on the information center with intermittent alarm
        - Amber caution light on gauge assembly
- Engine Coolant Temperature Gauge (Fahrenheit):
    - High engine temperature activates an engine warning light and alarms
        - Amber caution indicator on the information center with intermittent alarm
        - Amber caution light on gauge assembly
- Diesel Exhaust Fluid Level Gauge (Empty - Full in fractions):
    - Low fluid (1/8 full)
        - Amber indicator light in gauge dial

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

INDICATOR LAMPS

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

The following amber telltale lamps will be present:

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

The following red telltale lamps will be present:

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

The following green telltale lamps will be provided:

- Left turn
- Right turn
- Battery on

The following blue telltale lamp will be provided:

- High beam

ALARMS

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

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

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

INDICATOR LAMP AND ALARM PROVE-OUT

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

CONTROL SWITCHES

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

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

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

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

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

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

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

Turn signal arm: A self-canceling turn signal with high beam headlight and windshield wiper/washer controls will be provided. The windshield wiper control will have high, low, and intermittent modes.

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

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

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

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

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

Emergency switching will be controlled by a single Emergency Master switch which controls all emergency warning lights including lightbars, cab warning lights, body warning lights and high beam flash..

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

CUSTOM SWITCH PANELS

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

DIAGNOSTIC PANEL

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

The diagnostic panel will include the following:

- Engine diagnostic port
- Transmission diagnostic port
- ABS diagnostic port
- Roll sensor diagnostic port
- Command Zone USB diagnostic port
- Engine diagnostic switch (blink codes flashed on check engine telltale indicator)
- ABS diagnostic switch (blink codes flashed on ABS telltale indicator)
- Diesel particulate filter regeneration switch (where applicable)
- Diesel particulate filter regeneration inhibit switch (where applicable)

CAB LCD DISPLAY

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

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

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

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

AIR RESTRICTION INDICATOR

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

"DO NOT MOVE APPARATUS" INDICATOR

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

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

DO NOT MOVE TRUCK MESSAGES

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

The following messages will be displayed (where applicable):

- Do Not Move Truck
- DS Cab Door Open (Driver Side Cab Door Open)
- PS Cab Door Open (Passenger's Side Cab Door Open)
- DS Crew Cab Door Open (Driver Side Crew Cab Door Open)
- PS Crew Cab Door Open (Passenger's Side Crew Cab Door Open)
- DS Body Door Open (Driver Side Body Door Open)
- PS Body Door Open (Passenger's Side Body Door Open)
- Rear Body Door Open
- DS Ladder Rack Down (Driver Side Ladder Rack Down)
- PS Ladder Rack Down (Passenger Side Ladder Rack Down)
- Deck Gun Not Stowed
- Lt Tower Not Stowed (Light Tower Not Stowed)
- Hatch Door Open
- Fold Tank Not Stowed (Fold-A-Tank Not Stowed)
- Aerial Not Stowed (Aerial Device Not Stowed)
- Stabilizer Not Stowed
- Steps Not Stowed
- Handrail Not Stowed

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

SWITCH PANELS- RED BACK LIGHTING

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

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

WIPER CONTROL

Wiper control will consist of a two (2)-speed windshield wiper control with intermittent feature and windshield washer controls.

HOURMETER - AERIAL DEVICE

An hourmeter for the aerial device will be provided and located within the cab display or instrument panel.

AERIAL MASTER

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

AERIAL PTO SWITCH

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

SPARE CIRCUIT

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

The above wires will have the following features:

The positive wire will be connected directly to the battery switched power.

The negative wire will be connected to ground.

Wires will be protected to 20 amps at 12 volts DC.

Power and ground will terminate **D3** INSIDE AND HIGH THREE FOOT COILED.

Termination will be with heat shrinkable butt splicing.

Wires will be sized to 125% of the protection.

This circuit(s) may be load managed when the parking brake is set.

SPARE CIRCUIT

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

The above wires will have the following features:

- The positive wire will be connected directly to the battery power.
- The negative wire will be connected to ground.
- Wires will be protected to 10 amps at 12 volts DC.
- Power and ground will terminate BETWEEN POWER PORTS LOWER INSTRUMENT PANEL.
- Termination will be a Blue Sea Systems part number 1016 dual USB charger socket.
- Wires will be sized to 125% of the protection.

This circuit(s) may be load managed when the parking brake is applied.

SPARE CIRCUIT

There will be two (2) pair of wires, including a positive and a negative, installed on the apparatus.

The above wires will have the following features:

- The positive wire will be connected directly to the battery power
- The negative wire will be connected to ground
- Wires will be protected to 20 amps at 12 volts DC
- Power and ground will terminate REAR WALL OF CREW CAB ONE ON DS AND ONE ON PS LOW
- Termination will be with a 10-place bus bar with screws and removable cover
- Wires will be sized to 125% of the protection

This circuit(s) may be load managed when the parking brake is set.

SPARE CIRCUIT

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

The above wires will have the following features:

The positive wire will be connected directly to the battery power.

The negative wire will be connected to ground.

Wires will be protected to 15 amps at 12 volts DC.

Power and ground will terminate HIGH AN RIGHT, 6 FT COILED AND TO THE REAR P4 .

Termination will be with heat shrinkable butt splicing.

Wires will be sized to 125% of the protection.

This circuit(s) may be load managed when the parking brake is set.

SPARE CIRCUIT- CHANGE AMPERAGE TO 30 AMPS

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

The above wires will have the following features:

The positive wire will be connected directly to the battery power.

The negative wire will be connected to ground.

Wires will be protected to **30 amps** at 12 volts DC.

Power and ground will terminate INSIDE RADIO COMPARTMENT UNDER SEAT.

Termination will be with heat shrinkable butt splicing.

Wires will be sized to 125% of the protection.

This circuit(s) may be load managed when the parking brake is set.

SPARE CIRCUIT

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

The above wires will have the following features:

- The positive wire will be connected directly to the battery switched power.
- The negative wire will be connected to ground.
- Wires will be protected to 10 amps at 12 volts DC.
- Power and ground will terminate BETWEEN DRIVER AND OFFICER THROUGH VINYL COVER AND UNDER MOUNTING PLATE.
- Termination will be with heat shrinkable butt splicing.

Wires will be sized to 125% of the protection.

This circuit(s) may be load managed when the parking brake is set.

SPARE CIRCUIT – MOVE TO TIP OF LADDER

There will be two (2) pair of wires, including a positive and a negative, installed on the apparatus.

The above wires will have the following features:

- The positive wire will be **POWERED IN AERIAL MODE**
- The negative wire will be connected to ground
- Wires will be protected to **10 amps** at 12 volts DC
- Power and ground will terminate **AT TIP OF LADDER**
- Termination will be with heat shrinkable butt splicing
- Wires will be sized to 125 percent of the protection

The circuit(s) may be load managed when the parking brake is set.

INFORMATION CENTER

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

The information center will have the following specifications:

- Operate in temperatures from -40 to 185 degrees Fahrenheit
- An Optical Gel will be placed between the LCD and protective lens
- Five weather resistant user interface switches
- Grey with black accents
- Sunlight Readable
- Linux operating system

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

GENERAL SCREEN DESIGN

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

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

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

HOME/TRANSIT SCREEN

This screen will display the following:

- Vehicle Mitigation (if equipped)
- Water Level (if equipped)
- Foam Level (if equipped)
- Seat Belt Monitoring Screen
- Tire Pressure Monitoring (if equipped)
- Digital Speedometer
- Active Alarms

ON SCENE SCREEN

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

- Battery Voltage
- Fuel
- Oil Pressure
- Coolant Temperature

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

VIRTUAL BUTTONS

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

PAGE SCREEN

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

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

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

        - Hatch Door (if applicable)
        - Stabilizers (if applicable)
        - Steps (if applicable)
- Notifications
    - View Active Alarms
        - Shows a list of all active alarms including date and time of the occurrence is shown with each alarm
        - Silence Alarms - All alarms are silenced
- Timer Screen
- HVAC (if equipped)
- Tire Information (if equipped)

Button functions and button labels may change with each screen.

VEHICLE DATA RECORDER

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

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

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

- Vehicle Speed - MPH
- Acceleration - MPH/sec
- Deceleration - MPH/sec
- Engine Speed - RPM
- Engine Throttle Position - % of Full Throttle
- ABS Event - On/Off
- Seat Occupied Status - Yes/No by Position
- Seat Belt Buckled Status - Yes/No by Position
- Master Optical Warning Device Switch - On/Off
- Time - 24 Hour Time
- Date - Year/Month/Day

Seat Belt Monitoring System

A seat belt monitoring system (SBMS) will be provided. The SBMS will be capable of monitoring up to 10 seating positions indicating the status of each seat position per the following:

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

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

INTERCOM SYSTEM

There will be digital, dual radio interface, intercom located in the cab. The front panel will have master volume, and squelch controls with illuminated indicators, allowing for independent level setting of radio and auxiliary audio devices.

There will be **two** (**1**) radio listen only / transmit controls, allowing for simulcast interoperability with select, monitor, receive, and transmit indicators. There will be **ONE** (**1**) auxiliary audio inputs with select, and receive indicators.

There will be one (1) wireless base station for up to five (1-5) headset users provided.

The wireless base station will have a 100' to 1100' range, line of sight. Objects between the transmitter and receiver affect range.

The following Firecom components will be provided:

- One (1) 5200D Intercom
- One (1) WB505R wireless base station (1-5 wireless positions)
- All necessary power and station cabling

RADIO / INTERCOM INTERFACE CABLE

The apparatus manufacturer will supply and install one (1) radio interface cable before delivery of the vehicle.

The radio equipment to be used by the customer will be:

- Kenwood , Model number NX700.

WIRELESS UNDER HELMET, INTERCOM ONLY HEADSET

There will be four (4) Firecom™, Model UHW-503 wireless under the helmet, intercom only headset(s) provided. A heavy duty, coiled 12 volt charging pigtail with plug will be provided ALL FOUR CREW LOCATIONS.

Each headset will feature:

- Noise cancelling electric microphone
- Flexible microphone boom
- Ear seals with 20 dB noise reduction
- Programmable Microphone transmit button
- Rechargeable battery operates 24 hours on a full charge
- IP-66 when worn

WIRELESS UNDER HELMET, RADIO TRANSMIT ONLY HEADSET

There will be two (2) Firecom™, Model UHW-505, wireless under the helmet, radio transmit headset(s) provided. A heavy duty, coiled 12 volt charging pigtail with plug will be provided driver's seat and officer seat.

Each headset will feature:

- Noise cancelling electric microphone
- Flexible microphone boom
- Ear seals with 20 dB noise reduction
- Stereo Listen-Through Ear dome microphones
- Radio Push To Transmit button (Left or Right Side)
- Rechargeable battery operates for 24 hours on a full charge
- IP-66 when worn

HEADSET HANGERS -DO THESE MATCH ENG 183? MATCH JOB # 28907

There will be six (6) headset hanger(s) installed driver's seat, officer's seat, driver's side inboard forward facing seat, driver's side outboard rear facing seat, passenger's side inboard forward facing seat and passenger's side outboard rear facing seat. The hanger(s) will meet NFPA 1901, Section 14.1.11, requirement for equipment mounting.

RADIO ANTENNA MOUNT

There will be one (1) standard 1.125", 18 thread antenna-mounting base(s) installed INSIDE OFFICER SEAT RADIO COMPARTMENT on the cab roof with high efficiency, low loss, coaxial cable(s) routed to behind the officer seat. A weatherproof cap will be installed on the mount.

VEHICLE CAMERA SYSTEM

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

- One (1) camera located at the rear of the apparatus, pointing rearward, displayed automatically with the vehicle in reverse
- One (1) camera located on the passenger side of the apparatus, pointing rearward, displayed automatically with the passenger side turn signal
- One (1) camera located on the driver side of the apparatus, pointing rearward, displayed automatically with the driver side turn signal

The camera images will be displayed on the driver's color Mux display. Audio from the microphone on the rear camera will be not provided.

The following components will be included:

- One (1) SV-CW134639CAI Camera
- Two (2) CS134404CI Side cameras
- One (1) Amplified speaker (if applicable)
- All necessary cables

TRIM STAINLESS STEEL, REAR BODY CAMERA

A stainless steel trim piece will be fastened at the rear body camera opening.

ELECTRICAL POWER CONTROL SYSTEM

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

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

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

SOLID-STATE CONTROL SYSTEM

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

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

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

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

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

- Module circuit board will meet SAE J771 specifications
- Operating temperature from -40C to +70C
- Storage temperature from -40C to +70C
- Vibration to 50g
- IP67 rated enclosure (Totally protected against dust and also protected against the effect of temporary immersion between 15 centimeters and one (1) meter)
- Operating voltage from eight (8) volts to 16 volts DC

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

CIRCUIT PROTECTION AND CONTROL DIAGRAM

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

ON-BOARD ELECTRICAL SYSTEM DIAGNOSTICS

Advanced on-board diagnostic messages will be provided to support rapid troubleshooting of the electrical power and control system. The diagnostic messages will be displayed on the information center located at the driver's position.

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

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

PROGNOSTICS

A software based vehicle tool will be provided to predict remaining life of the vehicles critical fluid and events (no exceptions).

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

Prognostics will include:

- Engine oil and filter
- Transmission oil and filter
- Pump oil (if equipped)
- Foam oil (if equipped)
- Aerial oil and filter (if equipped)

ADVANCED DIAGNOSTICS

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

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

TECH MODULE WITH WIFI

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

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

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

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

INDICATOR LIGHT AND ALARM PROVE-OUT SYSTEM

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

VOLTAGE MONITOR SYSTEM

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

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

POWER AND GROUND STUDS

Spare circuits will be provided in the primary distribution center for two-way radio equipment.

The spare circuits will consist of the following:

- One (1) 12-volt DC, 30 amp battery direct spare
- One (1) 12-volt DC ground and un-fused switched battery stud located in or adjacent to the power distribution center

ENHANCED SOFTWARE

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

All perimeter lights and scene lights (where applicable) will be deactivated when the parking brake is released. **CHANGE TO NOT EFFECTED BY PARKING BRAKE**

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

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

EMI/RFI PROTECTION

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

The apparatus will have the ability to operate in the electromagnetic environment typically found in fire ground operations to ensure clean operations. The electrical system will meet, without exceptions,

electromagnetic susceptibility conforming to SAE J1113/25 Region 1, Class C EMR for 10Khz-1GHz to 100 Volts/Meter. The vehicle OEM, upon request, will provide EMC testing reports from testing conducted on an entire apparatus and will certify that the vehicle meets SAE J551/2 and SAE J1113/25 Region 1, Class C EMR for 10Khz-1GHz to 100 Volts/Meter requirements. Component and partial (incomplete) vehicle testing is not adequate as overall vehicle design can impact test results and thus is not acceptable by itself.

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

ELECTRICAL

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

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

1. All holes made in the roof will be caulked with silicon, rope caulk is not acceptable. Large fender washers, liberally caulked, will be used when fastening equipment to the underside of the cab roof.
2. Any electrical component that is installed in an exposed area will be mounted in a manner that will not allow moisture to accumulate in it. Exposed area will be defined as any location outside of the cab or body.
3. Electrical components designed to be removed for maintenance will not be fastened with nuts and bolts. Metal screws will be used in mounting these devices. Also a coil of wire will be provided behind the appliance to allow them to be pulled away from mounting area for inspection and service work.
4. Corrosion preventative compound will be applied to all terminal plugs located outside of the cab or body. All non-waterproof connections will require this compound in the plug to prevent corrosion and for easy separation (of the plug).
5. All lights that have their sockets in a weather exposed area will have corrosion preventative compound added to the socket terminal area.

6. All electrical terminals in exposed areas will have silicon (1890) applied completely over the metal portion of the terminal.

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

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

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

BATTERY SYSTEM

There will be four (4) 12 volt Exide®, Model 31S950X3W, batteries that include the following features will be provided:

- 950 CCA, cold cranking amps
- 190 amp reserve capacity
- High cycle
- Group 31
- Rating of 3800 CCA at 0 degrees Fahrenheit
- 760 minutes of reserve capacity
- Threaded stainless steel studs

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

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

BATTERY SYSTEM

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

MASTER BATTERY SWITCH

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

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

BATTERY COMPARTMENTS

Batteries will be placed on non-corrosive mats and stored in well ventilated compartments located under the cab.

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

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

JUMPER STUDS

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

BATTERY CHARGER -

There will be an IOTA™, Model DSL 75, battery charger with IQ4, controller provided.

The battery charger will be wired to the AC shoreline inlet through an AC receptacle adjacent to this battery charger.

There will be a Kussmaul™, Model #091-94-12, remote indicator included. **CUT**

The battery charger will be located in the left body compartment mounted on the left wall as high as possible. **MOUNTED IN CAB BEHIND DRIVER'S SEAT ON FLOOR TO MATCH JOB # 28907**

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

AUTO EJECT FOR SHORELINE

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

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

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

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

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

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

- Line Voltage
- Current Ratting (amps)
- Phase
- Frequency

The shoreline receptacle will be located in the driver side lower step well of cab.

SHORELINE INLET POWERED

There will be a **RED NOT** green LED indicator light, remote mounted in a plastic chrome recessed cup next to the shoreline inlet. The light will indicate when the shoreline inlet has been powered with 120 VAC.

ALTERNATOR

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

ELECTRONIC LOAD MANAGER

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

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

The system will include the following features:

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

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

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

- SHED = shed

SEQUENCER

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

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

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

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

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

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

HEADLIGHTS-ARE THEY GOING TO TRY TO MATCH THE ARROW XT STYLE?

There will be four (4) JW Speaker®, rectangular LED lights mounted in the front quad style, chrome housing on each side of the cab grille:

- The outside light on each side will contain a Model 8800-12V - DOT/ECE LB LED, low beam module.
- The inside light on each side will contain a Model 8800 -12V - DOT/ECE HB LED, high beam module.

DIRECTIONAL LIGHTS -ARE THEY GOING TO TRY TO MATCH THE ARROW XT STYLE? TYPE P/N 625210 AND P/N625953

There will be two (2) Whelen, Model 60A00TAR, amber LED populated arrow directional lights provided on the front of the cab, above the headlights. Each light will be housed in the same quad common bezel as the front warning light.

INTERMEDIATE LIGHT

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

CAB CLEARANCE/MARKER/ID LIGHTS

There will be five (5) amber LED lights provided to indicate the presence and overall width of the vehicle in the following locations:

- Three (3) amber LED identification lights will be installed in the center of the cab above the windshield.
- Two (2) amber LED clearance lights will be installed, one (1) on each outboard side of the cab above the windshield.

FRONT CAB SIDE DIRECTIONAL/MARKER LIGHTS

There will be two (2) Truck-Lite®, Model 30080Y, amber LED lights installed front of the cab door, one (1) each side of the cab. This installation will include a stainless steel cover.

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

REAR CLEARANCE/MARKER/ID LIGHTING

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

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

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

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

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

- To indicate the overall length of the vehicle
- One (1) each side of the vertical centerline

- As near the top as practical
- Red in color
- To be visible from the side
- All at the same height

The lights will be mounted with no guard.

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

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

Per FMVSS 108 and CMVSS 108 requirements.

MARKER LIGHTS

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

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

REAR FMVSS LIGHTING

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

Each tri-cluster will include the following:

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

LICENSE PLATE BRACKET

There will be one (1) license plate bracket mounted on the rear of the body.

A white LED light will illuminate the license plate. A polished stainless steel light shield will be provided over the light that will direct illumination downward, preventing white light to the rear.

BACK-UP ALARM

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

CAB PERIMETER SCENE LIGHTS

There will be four (4) Amdor LumaBar H2O, Model AY-9500-020, 20.00" white LED strip lights provided, one (1) for each cab door.

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

PUMP HOUSE PERIMETER LIGHTS

There will be two (2) Amdor LumaBar H2O, Model AY-9500-012, 12.00" LED weatherproof strip lights with brackets provided under the pump panel running boards, one (1) each side.

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

BODY PERIMETER SCENE LIGHTS

There will be two (2) Amdor LumaBar H2O™, Model AY-9500-020, 20.00" 12 volt DC LED strip lights provided.

The lights will be mounted in the following locations:

- One (1) light under the driver's side turntable access steps
- One (1) light under the passenger's side turntable access steps

The perimeter scene lights will be activated when a switch within reach of the driver is activated.

ADDITIONAL PERIMETER LIGHTS

There will be four (4) lights Amdor® Luma Bar® H2O, Model AY-9500-020, 20.00" LED perimeter light sticks provided one (1) light under compartment D1, one (1) light under compartment P1, one (1) light under the compartment D5 and D6 door jamb and one (1) light under the compartment P3 and P4 door jamb.

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

STEP LIGHTS -CLARIFY

Two (2) white LED step lights will be provided, one (1) on each side of the front body.

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

The lights will be actuated when the parking brake is set.

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

12 VOLT LIGHT BRACKET

There will be four (4) painted smooth aluminum bracket(s) installed ONE ATOP D2 AND P2 AND ONE ATOP CROSSLAY COMPARTMENT EACH SIDE for the surface mounted flood light. The bracket(s) will have all wiring totally enclosed.

12 VOLT LIGHTING

There will be two (2) Fire Research Spectra, Model SPA260-Q15*, 12 volt LED surface mounted scene light(s) with chrome bezel(s) provided one (1) high and forward on passenger's side body and one (1) high and rearward on passenger's side body.

The light(s) will be controlled in the following way:

- a switch at the driver's side switch panel
- a switch at the passenger's side switch panel
- a switch at the pump operator's panel
- no additional switch location

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

12 VOLT LIGHTING

There will be two (2) Whelen, Model PCPSM1*, 12 volt surface mounted LED combination spot/flood light(s) located ONE EACH SIDE OF REAR HIGH AND ABOVE THE 900 WARNING LIGHTS. The lights will be mounted with chrome flange(s).

The light(s) selected above will be controlled by the following:

- a switch at the driver's side switch panel
- a switch at the passenger's side switch panel
- a switch at the driver's side pump panel
- no additional switch location

These light(s) may be load managed when the parking brake is set.

12 VOLT LIGHTING

There will be two (2) Fire Research Spectra, Model SPA260-Q15*, 12 volt LED surface mounted scene light(s) with chrome bezel(s) provided one (1) high and forward on driver's side body and one (1) high and rearward on driver's side body.

The light(s) will be controlled in the following way:

- a switch at the driver's side switch panel
- a switch at the passenger's side switch panel
- a switch at the pump operator's panel
- no additional switch location

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

12 VOLT LIGHTING- DELETE

There will be one (1) Whelen® Pioneer™, Model PCP2*, 12 volt LED combination spot/flood light(s) provided on the front visor, centered.

The painted parts of this light assembly to be white.

The light(s) will be controlled by the following:

- a switch at the driver's side switch panel
- a switch at the passenger's side switch panel
- no additional switch location

These light(s) may be load managed when the parking brake is set.

12 VOLT LIGHTING- ADD FRONT FLASH FEATURE

There will be TWO NOT one (2) (1) Fire Research Spectra, Model SPA851-Q20-*, 12 volt DC LED floodlight(s) provided on the front visor, centered.

The painted parts of this light assembly to be black with a chrome bezel.

The light(s) will flash in a warning mode when the emergency master switch is activated, the parking brake is released and with a separate switch powered from emergency master power, included on the switch panel.

The lights will be in a steady burning scene light mode with the following:

- a switch at the driver's side switch panel
- a switch at the passenger's side switch panel
- a switch at the pump operator's panel

The scene light mode will be the priority control.

These lights may be load managed when the parking brake is applied.

HOSE BED LIGHT

There will be two (2) Whelen, Model 60COELZR, LED light(s) with a Whelen, Model 6EFLANGE, chrome flange installed at the forward hose bed bulkhead located FRONT OF HOSE BEDS ONE AND TWO.. The light(s) will be mounted with an aluminum tread plate bracket and with an aluminum guard.

The light(s) will be activated by a cup switch at the rear of the apparatus no more than 62.00" from the ground.

REAR SCENE LIGHTS

There will be two (2) Whelen, Model PELCC, white 12 volt DC LED scene lights with 45 degree chrome housing installed at the rear of the apparatus, BELOW 900 WARNING LGHTS REAR OF THE BODY EACH SIDE.

The lights will be controlled by a cup switch at the driver's side rear bulkhead.

WALKING SURFACE LIGHT

There will be Model FRP, 4" round black 12 volt DC LED floodlight with bolt mount provided to illuminate the entire designated walking surface on top of the body.

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

WATER TANK

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

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

The tank will be baffled in accordance with NFPA Bulletin 1901 requirements.

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

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

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

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

The tank top will be constructed of .50" polypropylene.

It will be recessed .38" and will be welded to the tank sides and the longitudinal partitions.

It will be supported to keep it rigid during fast filling conditions.

Construction will include 2.00" polypropylene dowels spaced no more than 30.00" apart and welded to the transverse partitions.

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

A sump will be provided at the bottom of the water tank. The sump will include a drain plug and the tank outlet.

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

Sufficient crossmembers are provided to properly support bottom of tank.

Crossmembers are constructed of steel bar channel or rectangular tubing.

Tank "floats" in cradle to avoid torsional stress caused by chassis frame flexing.

Rubber cushions, .50" thick x 3.00" wide, will be placed on all horizontal surfaces that the tank rests on.

Stops are provided to prevent an empty tank from bouncing excessively while moving vehicle.

Tank mounting system is approved by the manufacturer.

Fill tower will be constructed of .50" polypropylene and will be a minimum of 8.00" wide x 14.00" long.

Fill tower will be furnished with a .25" thick polypropylene screen and a hinged cover.

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

HOSE BED

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

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

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

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

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

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

Hose capacity will be a minimum of 800' of 5.00" large diameter hose **OFF OF THE DRIVER'S SIDE. HOSE BED SHALL BE DESIGNED WITH DIVIDER TO FACILATATE A SMOOTH PULL.**

OFFICER'S SIDE HOSE BED SHALL BE DESIGNED TO HOLD A MINIMUM OF 200' OF 3IN HOSE PRE-CONNECTED AT THE FRONT OF THE BED.

AERIAL HOSE BED HOSE RESTRAINT- NO VELCRO LOOK AT OPTIONS IN APPLETON

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

RUNNING BOARDS

Design of the vehicle will be such that running boards will not be required to reach pre connects or other items on the side of the vehicle.

TURNTABLE STEPS

Access to the turntable will be provided by a set of swing-down steps, one on the driver side and one on the passenger side of the truck.

The access steps will be located rearward of the compartmentation.

All steps will have a height no greater than 14.00" from top surface to top surface.

The swing down step mechanism will be constructed of brushed aluminum with bright aluminum steps. The steps will be designed with a grip pattern punched into the bright aluminum material to provide support, slip resistance, and drainage.

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

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

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

The bottom step will have a step height not exceeding 24.00" from the ground to the top surface of the step at any time.

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

STEP LIGHTS

There will be three (3) white LED step lights provided for each set of aerial turntable access steps.

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

The step lights will be actuated by the aerial master switch in the cab.

SMOOTH ALUMINUM REAR WALL

The rear wall will be smooth aluminum.

TOW EYES- MAKE SURE CLOSED EYES

Two (2) rear painted tow eyes will be located at the rear of the apparatus and will be mounted directly to the frame rails. The inner and outer edges of the tow eyes will be radiused.

COMPARTMENTATION

Compartmentation will be fabricated of 0.125" 5052 aluminum.

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

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

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

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

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

Side compartment covers will be separate from the compartment tops.

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

UNDERBODY SUPPORT SYSTEM

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

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

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

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

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

AGGRESSIVE WALKING SURFACE

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

LOUVERS

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

TESTING OF BODY DESIGN

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

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

The criteria used during the testing procedure will include:

- Raising opposite corners of the vehicle tires 9.00" to simulate the twisting a truck may experience when driving over a curb.

- Making a 90 degree turn, while driving at 20 mph to simulate aggressive driving conditions.

- Driving the vehicle on at 35 mph on a washboard road.

- Driving the vehicle at 55 mph on a smooth road.

- Accelerating the vehicle fully, until reaching the approximate speed of 45 mph on rough pavement.

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

DRIVER SIDE COMPARTMENTATION

The full height roll-up door compartment ahead of the rear wheels will be 39.19" wide x 63.00" high x 26.00" deep inside the lower 25.50" and 12.00" deep inside the upper portion with a clear door opening of 36.44" wide x 56.00" high.

There will be one (1) roll-up door compartment above the wheelwell and stabilizer. The compartment will be 83.88" wide x 25.25" high x 12.00" deep inside with a clear door opening of 81.12" wide x 19.75" high.

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

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

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

PASSENGERS SIDE COMPARTMENTATION

The full height roll-up door compartment ahead of the rear wheels will be 39.19" wide x 64.00" high x 26.00" deep inside the lower 25.50" and 12.00" deep inside the upper portion with a clear door opening of 36.44" wide x 57.00" high.

There will be one (1) roll-up door compartment above the wheelwell and stabilizer. The compartment will be 83.88" wide x 25.25" high x 12.00" deep inside with a clear door opening of 81.12" wide x 19.75" high.

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

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

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

REAR COMPARTMENT

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

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

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

SIDE COMPARTMENT ROLL-UP DOORS

There will be eight (8) compartment doors installed on the side compartments, double faced, aluminum construction, painted one (1) color to match the lower portion of the body and manufactured by AMDOR™ brand roll-up doors.

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

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

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

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

A polished stainless steel lift bar with locking key latches to be provided for each roll-up door. The keys to be Model J236 for all compartment doors. The lift bar will be located at the bottom of door with

striker latches installed at the base of the side frames. Side frame mounted door strikers will include support beneath the stainless steel lift bar to prevent door curtain bounce, improve bottom seal life expectancy and to avoid false door ajar signals.

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

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

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

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

REAR BUMPER

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

SCUFFPLATE

A brushed stainless steel scuffplate will be furnished on the rear outside corners of the body. The stainless steel will have a 90 degree angle and will overlap the sides of the body approximately 1.00". The scuffplate will be full height and/or cover the available amount of vertical surface.

SCUFFPLATE

A quantity of two (2)brushed stainless steel will be furnished AROUND EACH LADDER DOOR OPENING. The scuffplates will be 1.5".

SCUFFPLATE

There will be brushed stainless steel stainless steel scuffplates furnished around the hose chute openings. There is two (2) hose chute(s) that will be provided with the scuffplate.

PULL STRAP, DOOR

There will be two (2) compartment doors provided with pull straps. The compartment door(s) to be provided with a pull strap will be driver side speedlay/crosslay door and passenger side speedlay/crosslay door.

COMPARTMENT LIGHTING

There will be nine (9) compartment(s) with two (2) white 12 volt DC LED compartment light strips. The dual light strips will be centered vertically along each side of the door framing. There will be two (2) light strips per compartment.The dual light strips will be in all body compartment(s).

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

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

ADDITIONAL COMPARTMENT LIGHTING

There will be one (1) 12 volt DC LED strip light(s) provided in the compartment(s) located IN THE STORAGE HATCH COMPARTMENT ON THE REAR EDGE LOCATED IN THE DUNNAGE AREA. Each light will be 62.00" in length.

Opening the compartment door(s) will automatically turn the compartment lighting on.

CARGO AREA COMPARTMENT- IS THIS INCLUDED IN LADDER COLLISION AVOIDANCE??

An accessory storage compartment will be provided in the cargo area above the pump. This compartment will be constructed from aluminum treadplate. It will be made TO COMPLETELY TAKE UP THE DUNNAGE AREA and located TWO DOORS, TO HINGE TOWARD THE CAB within the area.

ONE NOT Two **(1)** (2) bright aluminum treadplate door(s) will be provided for access to the compartment. The door(s) will have hinges on front horizontal side of the cargo area. The door(s) will be secured with a D-handle latch.

The compartment will be made as water resistant as practical.

MOUNTING TRACKS

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

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

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

ADJUSTABLE SHELVES

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

The shelf construction will consist of .188" aluminum painted spatter gray with 2.00" sides.

Each shelf will be infinitely adjustable by means of a threaded fastener, which slides in a track.

The shelves will be held in place by .12" thick stamped plated brackets and bolts.

The location(s) will be determined at a later date.

SLIDE-OUT FLOOR MOUNTED TRAY

There will be six (6) floor mounted slide-out tray(s) with 2.00" sides provided in compartment(s) D1, P1, D3, P3, P4 and R2. Each tray will be rated for up to 500lb in the extended position. The tray(s) will be constructed of 0.19" aluminum with non-welded corners. The finish will be painted to match compartment interior.

There will be two undermount-roller bearing type slides rated at 250lb each provided. The pair of slides will have a safety factor rating of 2.

To ensure years of dependable service, the slides will be coated with a finish that is tested to withstand a minimum of 1,000 hours of salt spray per ASTM B117.

To ensure years of easy operation, the slides will require no more than a 50lb force for push-in or pull-out movement when fully loaded after having been subjected to a 40 hour vibration (shaker) test under full load. The vibration drive file will have been generated from accelerometer data collected from a heavy truck chassis driven over rough gravel roads in an unloaded condition. Proof of compliance will be provided upon request.

Automatic locks will be provided for both the "in" and "out" positions. The trip mechanism for the locks will be located at the front of the tray for ease of use with a gloved hand.

SWING OUT TOOLBOARD

A swing out aluminum toolboard will be provided.

It will be a minimum of .188" thick with .203" diameter holes in a pegboard pattern with 1.00" centers between holes.

A 1.00" x 1.00" aluminum tube frame will be welded to the edge of the pegboard.

The board will be mounted on a pivoting device at the front of the compartment on the top and bottom to allow easy movement in and out of the compartment. The maximum tool load will be 400 lb.

The board will have positive lock in the stowed and extended position.

The board will be mounted on adjustable tracks from front to back within the compartment.

There will be Three (3) toolboard(s) provided. The toolboard(s) will be spatter gray painted and installed in D2, D1 and P1.

PAINTED STABILIZER TRIM

The trim pieces around the stabilizer openings will be painted job color.

PARTITION, VERTICAL COMPARTMENT

One (1) partition shall be bolted in D2 LOCATED TO THE LEFT END OF THE SWING OUT TOOL BOARD. Each partition shall be the full vertical height of the compartment.

RUB RAIL

Bottom edge of the side compartments will be trimmed with a bright aluminum extruded rub rail.

Trim will be 3.12" high with 1.50" flanges turned outward for rigidity.

The rub rails will not be an integral part of the body construction, which allows replacement in the event of damage.

BODY FENDER CROWNS

Polished stainless steel fender crowns will be provided around the rear wheel openings.

An unpainted fender liner will be provided to avoid paint chipping. The liners will be removable to aid in the maintenance of rear suspension components.

A dielectric barrier will be provided between the fender crown fasteners (screws) and the fender sheet metal to prevent corrosion.

The fender crowns will be held in place with stainless steel screws that thread directly into a composite nut and not directly into the parent body sheet metal to eliminate dissimilar metals contact and greatly reduce the chance for corrosion.

HARD SUCTION HOSE

Hard suction hose will not be required.

AIR BOTTLE STORAGE

A total of four (4) air bottle compartments shall be provided and located on the driver's side ahead of the rear wheel, on the driver's side behind the rear wheel, on the passenger's side ahead of the rear wheel and on the passenger's side behind the rear wheel. The air bottle compartment shall be 14.00" wide x 7.50" tall x 26.00" deep. A polished stainless steel door with a chrome plated latch shall be provided to contain the air bottle. A dielectric barrier shall be provided between the door hinge, hinge fasteners and the body sheet metal.

Inside the compartment, black rubber matting and strap to contain the air bottles will be provided.

EXTENSION LADDER

There will be a 35' three (3) section aluminum Duo-Safety Series 1225-A extension ladder provided.

AERIAL EXTENSION LADDERS

There will be one (1) 28' two (2) section aluminum Duo-Safety Series 1200-A extension ladder(s) provided and located in the ladder storage compartment.

ROOF LADDERS

There will be two (2) 16' aluminum Duo-Safety Series 875-A roof ladders provided.

AERIAL FOLDING LADDER- ADD 14FT COMBINATION LADDER

There will be one (1) 10' aluminum Duo-Safety Series 585-A folding ladder(s) provided and located in the ladder storage compartment.

GROUND LADDER STORAGE

Ladder tunnels will be provided at the rear of the apparatus on either side of the turntable.

Tunnels will be capable of holding up to two (2) two-section pumper style ladders on each side not in excess of 22.00" wide or 5-13/16" in thickness.

The ladders will be held captive top and bottom by stainless steel tracks. A polyethylene wear plate will be provided to prevent ladders from being scuffed by contacting metal parts. The plate will be mounted to the bottom of the entrance area of the ladder tunnels.

All ladders will be removable individually without having to remove any other ladder.

A Velcro® strap will be provided to help contain the ladders. **NO VELCRO- NYLON STRAP WITH BUCKLE OR CHAIN**

A smooth aluminum door will be provided on each ladder tunnel.

12' PIKE POLE PROVIDED BY DEALER

NFPA 1901, 2016 edition, Section 9.8.1.1 requires two (2) pike poles mounted in brackets fastened to the apparatus.

The pike poles are not on the apparatus as manufactured. The dealer will provide and mount the pike poles.

There will be one (1) 12' pike pole(s) provided. The pike pole(s) will be a Fire Hooks Unlimited 12' NHF.

PIKE POLE PROVIDED BY DEALER

NFPA 1901, 2016 edition, Section 9.9.4 requires one (1) 8' or longer pike pole mounted in a bracket fastened to the apparatus.

The pike pole is not on the apparatus as manufactured. The dealer will provide and mount the pike pole.

There will be one (1) pike pole(s) provided. The pike pole(s) will be a Fire Hooks Unlimited 8' roof hook RH-8.

6' PIKE POLE PROVIDED BY DEALER

NFPA 1901, 2016 edition, Section 9.9.4 requires one 6' pike pole or plaster hook mounted in a bracket fastened to the apparatus.

The pike pole is not on the apparatus as manufactured. The dealer will provide and mount the pike poles.

There will be one (1) 6' pike pole(s) provided. The pike pole(s) will be a Fire Hooks Unlimited 6' roof hook.

PIKE POLE PROVIDED BY DEALER

There will be one (1) 3 foot pike pole(s) provided by the dealer. The pike pole(s) will be a Akron 3' pike pole with D handle.

8' PIKE POLE PROVIDED BY DEALER

The pike pole is not on the apparatus as manufactured. The dealer will provide and mount the pike pole.

There will be one (1) 8' pike pole(s) provided Fire Hooks Unlimited 8' roof hook RH-8.

6' PIKE POLE PROVIDED BY DEALER

The pike pole is not on the apparatus as manufactured. The dealer will provide and mount the pike pole.

There will be one (1) 6' pike pole(s) provided Fire Hooks Unlimited 6' NHF.

ADDITIONAL PIKE POLE

There will be one (1) Fire Hooks Unlimited, Model RH-10, 10' long pike pole(s) with steel handle and pry end provided by the customer after truck delivery.

PIKE POLE STORAGE

Aluminum tubing will be used for the storage of six (6) pike poles and will be located in ladder storage compartment. If the head of a pike pole can come in contact with a painted surface, a stainless steel scuffplate will be provided.

PUMP

Pump will be a Pierce, low profile, 1500 gpm single stage midship mounted centrifugal type, mounted below the cab. The pump will have a 15 percent reserve capacity to allow for extended time between pump rebuild. To ensure efficient pump/vehicle design the capacity to weight ratio will not be less than 1.5:1.

The pump casing will consist of three (3) discharge outlets, one (1) to each side in line with the impeller and one (1) to the rear. The pump casing will incorporate two (2) water strippers to maintain radial balance.

Pump will be the Class A type.

Pump will be certified to deliver the percentage of rated discharge from draft at pressure indicated below:

- 100 percent of rated capacity at 150 psi net pump pressure

-70 percent of rated capacity at 200 psi net pump pressure

-50 percent of rated capacity at 250 psi net pump pressure

The pump will have the capacity to deliver the percentage of rated discharge from a pressurized source as indicated below:

- 135 percent of rated capacity at 100 psi net pump pressure from a 5 psi source

Pump body will be fine-grained gray iron. Pump will incorporate a heater/cooling jacket integral to the pump housing.

The impeller will be high strength vacuum cast bronze alloy accurately machine balanced and splined to a 10 spline stainless steel pump shaft for precision fit, exceptional durability, and efficiency. Double replaceable reverse flow labyrinth type bronze wear ring design will help to minimize end thrust. The impeller will be a twisted vane design to create higher lift.

The pump will include o-ring gaskets throughout the pump.

Deep groove radial type oversize ball bearings will be provided. The bearings will be protected at the openings from road dirt and water with an oil seal and a water slinger.

The pump will have a flat, patterned area on the top of the pump intake wye to allow standing for plumbing maintenance. The main inlet manifold will be 6.00" in diameter and will have a low profile design to facilitate low crosslays and high flows.

For ease of service, the pump housing, intake wye, impeller, mechanical seal, and gear case will be accessible from above the chassis frame by tilting the cab. The intake wyes will be removable without having to remove the main intake casting. Removal of the main inlet wyes will provide access to the impeller, mechanical seal, and wear ring.

The tank to pump line and the primary discharge line will be the only piping required to be removed for overhaul.

For ease of service and overhaul there will be no piping or manifolding located directly over the pump.

PUMP MOUNTING

Pump will be mounted to the chassis frame rails directly below the crew cab, to minimize wheelbase and facilitate service, using rubber isolators in a modified V pattern that include two (2) central mounted isolators located between the frame rails, and one (1) on each side outside the frame rails. The mounting will allow chassis frame rails to flex independently without damage to the fire pump. Each isolator will be 2.55" in total outside diameter and will be rated at 490 lb. The pump will be completely accessible by tilting the cab with no piping located directly above the pump.

MECHANICAL SEALS

Silicon carbide mechanical seals will be provided. The seals will be spring loaded and self-adjusting. The seals will have a minimum thermal conductivity of 126 W/m*K to run cooler. Seals will have a minimum hardness of 2800 kg/mm2 to be more resistant to wear, and have thermal expansion characteristics of no more than 4.0 X106mm/mm*K to be more resistant to thermal shock.

PUMP GEARCASE

Pump gearcase will be a pressure-lubricated gearcase to cool, lubricate, and filter the oil. The gearcase will include an auxiliary PTO opening. The gearcase will be constructed of lightweight aluminum, and impregnated with resin in accordance to MIL Spec MIL-I-17563. A dipstick, accessible by tilting the cab, will be provided for easy fluid level checks. A filter screen will be provided for long life.

The gearcase will consist of two (2) gears to drive the pump impeller and one (1) for the auxiliary PTO.

The auxiliary PTO opening will provide for the addition of PTO driven accessories.

The pump will be driven through the rear engine power take-off and clutch. The rear engine power take-off drive will be live at all times to allow for pump and roll applications. Rear engine power take-off's allow for high horsepower and torque ratings needed for large pump applications, and is a proven drive system throughout the rugged construction industry.

CLUTCH

Pierce "Sure Shift Technology" will incorporate a heavy-duty electric clutch mounted directly to the front of the pump to engage and disengage the pump without gear clash. The clutch will be a multiple disc design for maximum torque. The clutch will be fully self-adjusting to provide automatic wear compensation, and consistent torque throughout the life of the clutch. Positive engagement and disengagement will be provided through a high efficient and dependable magnetic system to assure superior performance. The clutch will have a 500 lb-ft rating. Clutch will be of a time-tested design used in critical military applications.

PUMPING MODE

Pump will provide for both pump and roll mode and stationary pumping mode.

Stationary pumping mode will be accomplished by stopping the vehicle, setting the parking brake and engaging the water pump switch on the cab switch panel. The transmission will shift to "Neutral" range automatically when the parking brake is set. The "OK to Stationary Pump" indicator will also illuminate when the parking brake is set. If the vehicle is equipped with a foam system or CAFS system, these systems will be engaged from the cab switch panel as well.

Pump and roll mode will be accomplished by the use of the main pump and will not require the use of a secondary pump. Pump and roll mode will use the same operation sequence as stationary pumping mode with a few additional steps. After the vehicle is setup for stationary pumping, the operator will leave the cab and set-up the pump panel to discharge at the desired outlet(s). Upon returning to the cab, the operator will disengage the parking brake. An "OK to Pump & Roll" indicator will illuminate on the cab switch panel. First gear on the transmission gear selector will be selected by the operator for pump and roll operations. The operator as needed will apply the foot throttle. Pump and roll mode will be maintained unless the transmission shifts out of first gear.

Stopping either stationary pumping mode or pump and roll mode will be accomplished by pressing the "Water Pump" switch down to disengage the pump.

PUMP SHIFT

Pump will be engaged in not more than two steps, by simply setting the parking brake, which will automatically put the transmission into neutral, and activating a rocker switch in the cab. Switches in the cab will also allow for water, foam, or CAFS if equipped, and activate the appropriate system to preset parameters. The engagement will provide simple two-step operation, enhance reliability, and completely eliminate gear clash. The shift will include the indicator lights as mandated by NFPA. A direct override switch will be located behind a door in the lower pump operator's panel. The switch will automatically disengage when the door is closed.

As the parking brake is applied, the pump panel throttle will be activated and deactivate the chassis foot throttle for stationary operation.

Pump and roll operation will be available by releasing the parking brake with the pump in the pumping mode. Releasing the parking brake will activate the chassis foot throttle, and deactivate the pump panel throttle. To protect from accidental pump overheating, the pump will automatically disengage when the truck transmission shifts into second gear.

TRANSMISSION LOCK UP

Transmission lock up is not required as transmission will automatically shift to neutral as soon as the parking brake is set.

AUXILIARY COOLING SYSTEM

A supplementary heat exchange cooling system will be provided to allow the use of water from the discharge side of the pump for cooling the engine water. A water-to-coolant heat exchanger will be used.

INTAKE RELIEF VALVE

An Akron relief valve will be installed on the suction side of the pump preset at 125 psig.

Relief valve will have a working range of 75 psig to 200 psig.

Outlet will terminate below the frame rails with a 2.50" National Standard hose thread adapter and will have a "do not cap" warning tag.

Control will be located behind an access door at the right (passenger's) side pump panel.

PRESSURE CONTROLLER

A Pierce Pressure Governor will be provided. An electric pressure governor will be provided which is capable of automatically maintaining a desired preset discharge pressure in the water pump. When operating in the pressure control mode, the system will automatically maintain the discharge pressure set

by the operator (within the discharge capabilities of the pump and water supply) regardless of flow, within the discharge capacities of the water pump and water supply.

A pressure transducer will be installed in the water discharge of the pump. The transducer continuously monitors pump pressure sending a signal to the Electronic Control Module (ECM).

The governor can be used in two (2) modes of operation, RPM mode and pressure modes.

In the RPM mode, the governor can be activated after vehicle parking brake has been set. When in this mode, the governor will maintain the set engine speed, regardless of engine load (within engine operation capabilities).

In the pressure mode, the governor system can only operate after the fire pump has been engaged and the vehicle parking brake has been set. When in the pressure mode, the pressure controller monitors the pump pressure and varies engine speed to maintain a precise pump pressure. The pressure controller will use a quicker reacting J1939 database for engine control.

A preset feature allows a predetermined pressure or rpm to be set.

A pump cavitation protection feature is also provided which will return the engine to idle should the pump cavitate. Cavitation is sensed by the combination of pump pressure below 30 psi and engine speed above 2000 rpm for more than five (5) seconds.

The throttle will be a vernier style control, with a large control knob for use with a gloved hand. A throttle ready light will be provided adjacent to the throttle control. A large 0.75" RPM display will be provided to be visible at a glance.

Check engine, and stop engine indicator lights will be provided for easy viewing.

Large 0.75" push buttons will be provided for menu, mode, preset, and silence selections.

The water tank level indicator will be incorporated in the pressure governor.

A fuel level indicator will be incorporated in the pressure controller.

A pump hour meter will be incorporated in the pressure controller.

The pressure controller will incorporate monitoring for engine temperature, oil pressure, fuel level alarm, and voltage. Pump monitoring will include, pump gearcase temperature, error codes, diagnostic data, pump service reminders, and time stamped data logging, to allow for fast accurate trouble shooting. It will also notify the driver/engineer of any problems with the engine and the apparatus. Complete understandable messages will be provided in a 20-character display, providing for fewer abbreviations in the messages. An automatic dim feature will be included for night operations.

The pressure controller will include a USB port for easy software upgrades, which can be downloaded through a USB memory stick, eliminating the need for a laptop for software installations.

A complete interactive manual will be provided with the pressure controller.

PRIMING PUMP

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

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

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

A second priming valve will be plumbed to the the front suction piping. The second control will be located at the pump operator's panel.

THERMAL RELIEF VALVE

A Pierce thermal relief valve will be included on the pump that monitors pump water temperature and opens to relieve water to cool the pump when the temperature of the pump water exceeds 140 Degrees F (49 C).

The thermal protection system will include a amber warning light mounted on the pump operator panel.

The discharge line will be 3/8 inch diameter tubing plumbed to ground.

PUMP MANUALS

There will be a total of two (2) pump manuals provided by the pump manufacturer and furnished with the apparatus. The manuals will be provided by the pump manufacturer in the form of two (2) CDs. Each manual will cover pump operation, maintenance, and parts.

PLUMBING, STAINLESS STEEL AND HOSE

All inlet and outlet lines will be plumbed with either stainless steel pipe, flexible polypropylene tubing or synthetic rubber hose reinforced with hi-tensile polyester braid. All hose's will be equipped with brass or stainless steel couplings. All stainless steel hard plumbing will be a minimum of a schedule 10 wall thickness.

Where vibration or chassis flexing may damage or loosen piping or where a coupling is required for servicing, the piping will be equipped with victaulic or rubber couplings.

Plumbing manifold bodies will be ductile cast iron or stainless steel.

All piping lines are to be drained through a master drain valve or will be equipped with individual drain valves. All drain lines will be extended with a hose to drain below the chassis frame.

All water carrying gauge lines will be of flexible polypropylene tubing.

All piping, hose and fittings will have a minimum of a 500 PSI hydrodynamic pressure rating.

MAIN PUMP INLETS

A 6.00" pump manifold inlet will be provided on each side of the vehicle. The suction inlets will include removable die cast zinc screens that are designed to provide cathodic protection for the pump, thus reducing corrosion in the pump.

Main pump inlets will not be located on the main operator's panel and will maintain a low connection height by terminating below the top of the chassis frame rail.

MAIN PUMP INLET CAP

The main pump inlets will have National Standard Threads with a long handle chrome cap.

The cap will be the Pierce VLH, which incorporates an exclusive thread design to automatically relieve stored pressure in the line when disconnected.

VALVES

All ball valves will be Akron® Brass. The Akron valves will be the 8000 series heavy-duty style with a stainless steel ball and a simple two-seat design. No lubrication or regular maintenance is required on the valve.

Valves will have a **ten (10) year** warranty.

LEFT SIDE INLET

There will be one (1) auxiliary inlet with a 2.50" valve at the left side pump panel, terminating with a 2.50" (F) National Standard hose thread adapter.

The auxiliary inlet will be provided with a strainer, chrome swivel and plug.

RIGHT SIDE INLET

There will be one (1) auxiliary inlet with a 2.50" valve at the right side pump panel, terminating with a 2.50" (F) National Standard hose thread adapter.

The auxiliary inlet will be provided with a strainer, chrome swivel and plug.

The location of the valve for the one (1) inlet will be recessed behind the pump panel.

ANODE, INLET

A pair of sacrificial zinc anodes will be provided in the water pump inlets to protect the pump from corrosion.

INLET CONTROL

The side auxiliary inlet(s) will incorporate a quarter-turn ball valve with the control located at the inlet valve. The valve operating mechanism will indicate the position of the valve.

FRONT INLET

A 6.00" inlet front inlet with die cast zinc screens will be provided using 5.00" stainless steel pipe and a 5.00" butterfly valve. Only radiused elbows will be used in the piping, no mitered joints.

Drains are furnished in all the low points of piping and have .75" valves with swing handle.

A bleeder valve will be located at the threaded connection.

The front suction will be located on the right side of the bumper extension.

FRONT INLET CONTROL

The front inlet will be gated with the control located at the pump operator's panel. The valve operating mechanism will indicate the position of the valve or an indicator will be provided to show when the valve is closed.

There will be an Akron 9323 electric valve controller provided. The controller unit will be of true position feedback design, requiring no clutches in the motor or current limiting. The controller will be completely sealed with two (2) button open and close valve position capability and a full color LCD display with backlight.

INTAKE RELIEF VALVE

An intake relief valve, preset at 125 psig, will be installed on the inlet side of the valve.

Relief valve will have a working range of 75 psig to 250 psig.

Outlet will terminate below the frame rails.

FRONT INLET CAP

The front inlet will have National Standard hose threads with a long handle cap.

The cap will incorporate a thread design to automatically relieve stored pressure in the line when disconnected (no exception).

The cap will be fabricated from brass material.

The front suction will have a chromed 6.00" swivel with National Standard hose threads and a long handle chromed plated cap.

The swivel will have a rough smooth chrome finish.

The front inlet mounted to match previous units. See photo's located at 28907.

INLET BLEEDER VALVE

A 0.75" bleeder valve will be provided for each side gated inlet. The valves will be located behind the panel with a swing style handle control extended to the outside of the panel. The handles will be chrome

plated and provide a visual indication of valve position. The swing handle will provide an ergonomic position for operating the valve without twisting the wrist and provides excellent leverage. The water discharged by the bleeders will be routed below the chassis frame rails.

TANK TO PUMP

The booster tank will be connected to the intake side of the pump with heavy duty 4.00" piping and a quarter turn 3.00" full flow line valve with the control located at the operator's panel. A rubber coupling will be included in this line to prevent damage from vibration or chassis flexing.

A check valve will be provided in the tank to pump supply line to prevent the possibility of "back filling" the water tank.

TANK REFILL

A 1.50" combination tank refill and pump re-circulation line will be provided, using a quarter-turn full flow ball valve controlled from the pump operator's panel.

LEFT SIDE DISCHARGE OUTLETS

There will be two (2) discharges with a 2.50" valves on the left side of the apparatus, terminating with a 2.50" (M) National Standard hose thread adapter. Discharges will be located below the cab, and will be no higher than the top of the chassis frame rail. Discharges will not be located on the pump operator's panel. Lever controls will be provided at the valve.

RIGHT SIDE DISCHARGE OUTLETS

There will be one (1) discharge outlet with a 2.50" valve on the right side of the apparatus, terminating with a male 2.50" National Standard hose thread adapter. The discharge will be located below the crew cab, and will be no higher than the top of the chassis frame rail.

There will be an Akron® 9325 Navigator Pro electric valve controller provided at the pump panel. The controller unit will be of true position feedback design, requiring no clutches in the motor or current limiting. The controller will be completely sealed with two (2) button open and close valve position capability and a full color LCD display with backlight. In addition to valve position, each controller will include a pressure display.

LARGE DIAMETER DISCHARGE OUTLET

There will be a 4.00" discharge outlet with a 4.00" Akron valve body installed on the right side of the apparatus, terminating with a 4.00" (M) National Standard hose thread. The discharge will be located below the crew cab, and will be no higher than the top of the chassis frame rail.

There will be an Akron 9325 Navigator Pro electric valve controller provided at the pump panel. The controller unit will be of true position feedback design, requiring no clutches in the motor or current limiting. The controller will be completely sealed with two (2) button open and close valve position capability and a full color LCD display with backlight. In addition to valve position, each controller will include a pressure display.

FRONT DISCHARGE OUTLET

There will be one (1) 2.50" discharge outlet piped to the front of the apparatus and located on the top of the left side of the front bumper.

Plumbing will consist of 2.50" piping and flexible hose with a 2.50" full flow valve with control at the pump operator's panel. A fabricated weldment made of stainless steel pipe will be used in the plumbing where appropriate. The piping will terminate with a 2.50" NST with 90 degree stainless steel swivel.

There will be Class 1 automatic drains provided at all low points of the piping.

FRONT OF HOSE BED DISCHARGE OUTLET

There will be one (1) discharge outlet discharge(s) piped to the front of the hose bed and located front of hose bed PS. be sure to not plumb through the dunnage area as the dunnage area will be occupied by a full size hatch type box.. Plumbing will consist of 2.50" piping with a 2.50" full-flow ball valve controlled at the pump operator's panel. The discharge(s) will terminate with a 2.50" (M) National Standard hose thread adapter.

DISCHARGE CAPS

Chrome plated, rocker lug, caps with chains will be furnished for all side discharge outlets.

The caps will be the Pierce VLH, which incorporates an exclusive thread design to automatically relieve stored pressure in the line when disconnected.

OUTLET BLEEDERS

A 0.75" bleeder valve will be provided for each outlet 1.50" or larger. Automatic drain valves are acceptable with some outlets if deemed appropriate with the application.

The valves will be located behind the panel with a swing style handle control extended to the outside of the side pump panel. The handles will be chrome plated and provide a visual indication of valve position. The swing handle will provide an ergonomic position for operating the valve without twisting the wrist and provides excellent leverage. Bleeders will be located at the bottom of the pump panel. They will be properly labeled identifying the discharge they are plumbed in to. The water discharged by the bleeders will be routed below the chassis frame rails.

LARGE DIAMETER OUTLET CAP

The large diameter outlet will have a National Standard hose thread adapter with a 4.00" rocker lug chrome plated cap and chain.

The cap will be the Pierce VLH, which incorporates a patent pending thread design to automatically relieve stored pressure in the line when disconnected.

DISCHARGE OUTLET CONTROLS

The discharge outlets will incorporate a quarter-turn ball valve with the control located at the pump operator's panel. The valve operating mechanism will indicate the position of the valve or an indicator will be provided to show when the valve is closed.

The passenger side discharges will be controlled by an Akron 9325 Navigator Pro electric valve controllers with the manual override located on the passenger side pump panel. The controller unit will be of true position feedback design, requiring no clutches in the motor or current limiting. The controller will be completely sealed with two (2) button open and close valve position capability and a full color LCD display with backlight. In addition to valve position, each controller will include a pressure display.

All other outlets will have manual swing handles that operate in a vertical up and down motion. These handles will be able to lock in place to prevent valve creep under pressure.

AERIAL OUTLET

The aerial waterway will be plumbed from the pump to the water tower line with 4.00" pipe and a 4.00" valve. The control for the waterway valve will be located at the pump operator's panel.

An indicator will be provided to show when the valve is in the open or closed position.

CROSSLAY HOSE BEDS

Two (2) crosslays with 1.50" outlets will be provided. Each bed to be capable of carrying 200 feet of 1.75" double jacketed hose and will be plumbed with 2.00" i.d. schedule 10 304L welded or formed stainless steel pipe and gated with a 2.00" quarter turn ball valve. Threaded pipe will not be acceptable. Crosslays will be low mounted with the bottom of both crosslay trays no more than 11.00" above the frame rails for simple, safe reloading and deployment. The hose beds will be full width of the body compartments.

Outlets to be equipped with a 1.50" National Standard hose thread 90-degree swivel located in the hose bed so that hose may be removed from either side of apparatus.

The crosslay controls will be at the pump operator's panel.

A removable tray will be provided for the crosslay hose bed. The crosslay tray will be constructed of black poly to provide a lightweight sturdy tray. Two (2) hand holes will be in the floor and additional hand holes will be provided in the sides for easy removal and installation from the compartment. The floor of the trays will be perforated to allow for drainage and hose drying. Trays will be held in place by a mechanical spring loaded stainless steel latch that automatically deploys upon loading the trays to hold the trays in place during transit.

CROSSLAY HOSE BED, 2.50"

One (1) crosslay with a 2.50" outlet will be provided. The bed to be capable of carrying 200' of 2.5" hose and will be plumbed with 2.50" i.d. schedule 10 304L welded or formed stainless steel pipe and gated with a 2.50" quarter turn ball valve. Threaded pipe will not be acceptable.

The outlet to be equipped with a 2.50" National Standard hose thread 90 degree swivel located above the hose bed so that hose may be removed from either side of apparatus.

The crosslay will be mounted above the lower 1.5" crosslays. The crosslay controls will be at the pump operator's panel.

A removable tray will be provided for the crosslay hosebed. The crosslay tray shall be as wide as the crosslay opening will allow and of black poly to provide a lightweight sturdy tray.Two (2) hand holes will be in the floor and additional hand holes will be provided in the sides for easy removal and installation from the compartment. The floor of the trays will be perforated to allow for drainage and hose drying. Tray will be held in place by a mechanical spring loaded stainless steel latch that automatically deploys upon loading the tray to hold the trays in place during transit.

CROSSLAY/EQUIPMENT MODULE WITH BOOM SUPPORT COMPARTMENT- WILL COMBINNATION LADDER FIT IN UPPER PART OF COMPARTMENT? TRAY FOR HOUSE PACK?

The forward body module containing the crosslays, the boom support and transverse storage area will be enclosed. The enclosure will be provided on both sides of the body, full width of the body compartmentation.

The enclosure will be fabricated from aluminum and painted to match the front of the body. The enclosure will be bolted on construction.

Roll-up doors will be provided on both sides for access.

ROLL-UP DOOR

Each door will be double faced, aluminum construction, painted one (1) color to match the lower portion of the body and manufactured by AMDOR™ brand rollup doors.

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

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

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

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

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

All injection molded rollup door wear components will be constructed of Type 6 nylon.

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

The header for the rollup door assembly will not exceed 4.00".

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

CROSSLAY ILLUMINATION- CONSIDER ADDITIONAL LIGHTS AT TOP OF COMPARTMENT

There will be two (2) Whelen®, Model PSC0CDCR, LED strip light(s) mounted cab side of each crosslay door opening to illuminate the crosslays. The light(s) will be mounted downward in a 45 degree angle bracket, Model PSBKT431.

The light(s) will be activated from the first switch feature, the activation of the parking brake.

HUSKY 3 FOAM PROPORTIONER

A Pierce Husky® 3 foam proportioning system will be provided. The Husky 3 is an on demand, automatic proportioning, single point, direct injection system suitable for all types of Class A and B foam concentrates, including the high viscosity (6000 cps), alcohol resistant Class B foams. Operation will be based on direct measurement of water flow, and remain consistent within the specified flows and pressures. The system will automatically proportion foam solution at rates from .1 percent to 3.0 percent regardless of variations in water pressure and flow, up to the maximum rated capacity of the foam concentrate pump.

The design of the system will allow operation from draft, hydrant, or relay operation.

SYSTEM CAPACITY

The system will have the ability to deliver the following minimum foam solution flow rates at accuracies that meet or exceed NFPA requirements at a pump rating of 150 psi.

100 gpm @ 3 percent

300 gpm @ 1 percent

600 gpm @ 0.5 percent

Class A foam setting in .1 percent increments from .1 percent to 1 percent. Typical settings of 1 percent, .5 percent and .3 percent (maximum capacity shall be limited to the plumbing and water pump capacity).

CONTROL SYSTEM

The system will be equipped with a digital electronic control display located on the pump operators panel. Push button controls will be integrated into the panel to turn the system on/off, control the foam percentage, and to set the operation modes.

The percent of injection will have a preset. This preset can be changed at the fire department as desired. The percent of injection will be able to be easily changed at the scene to adjust to changing demands.

Three (3) .50 tall LEDs will display the foam percentage in numeric characters. Three (3) indicator LEDs will also be included: one (1) green, one (1) red, and one (1) yellow. The LEDs will indicate various system operation or error states.

The indications will be:

Solid Green - System On

Solid Red - Valve Position Error

Solid Yellow - Priming System

Flashing Green - Injecting Foam

Flashing Red - Low Tank Level

Flashing Yellow - Refilling Tank

The control display will house a microprocessor, which receives input from the systems water flow meter while also monitoring the position of the foam concentrate pump. The microprocessor will compare the values of the water flow versus the position/rate of the foam pump, to ensure the proportion rate is accurate. One (1) check valve will be installed in the plumbing to prevent foam from contaminating the water pump.

HYDRAULIC DRIVE SYSTEM

The foam concentrate pump will be powered by an electric over hydraulic drive system. The hydraulic system and motor will be integrated into one unit.

FOAM CONCENTRATE PUMP

The foam concentrate pump will be of positive displacement, self-priming; linear actuated design, driven by the hydraulic system. The pump will be constructed of brass body; chrome plated stainless steel shaft, with a stainless steel piston. In order to increase longevity of the pump, no aluminum will be present in its construction.

A relief system will be provided which is designed to protect the drive system components and prevent over pressuring the foam concentrate pump.

The foam concentrate pump will have minimum capacity for 3 gpm with all types of foam concentrates with a viscosity at or below 6000 cps including protein, fluoroprotein, AFFF, FFFP, or AR-AFFF. The system will deliver only the amount of foam concentrate flow required, without recirculating foam back to the storage tank. Recirculating foam concentrate back to the storage tank can cause agitation and premature foaming of the concentrate, which can result in system failure. The foam concentrate pump will be self-priming and have the ability to draw foam concentrate from external supplies such as drums or pails.

EXTERNAL FOAM CONCENTRATE CONNECTION

An external foam pick-up will be provided to enable use of a foam agent that is not stored on the vehicle. The external foam pick-up will be designed to allow continued operation after the on-board foam tank is empty, or the use of foam different than the foam in the foam tank.

PANEL MOUNTED EXTERNAL PICK-UP CONNECTION / VALVE- MOVE TO FRONT SIDE OF THE 5 IN INTAKE

A bronze three (3)-way valve will be provided. The unit will be mounted to the pump panel. The valve unit will function as the foam system tank to pump valve and external suction valve. The external foam pick-up will be one (1) .75" male connection GHT (garden hose thread) with a cap.

PICK-UP HOSE

A .75" flexible hose with an end for insertion into foam containers will be provided. The hose will be supplied with a .75" female swivel GHT (garden hose thread) swivel connector. The hose will be shipped loose.

DISCHARGES

The foam system will be plumbed to the lower rear crosslay, lower front crosslay, upper rear crosslay, left side of front bumper and front of hose bed right side.

SYSTEM ELECTRICAL LOAD

The maximum current draw of the electric motor and system will be no more than 55 amperes at 12 VDC.

SINGLE FOAM TANK REFILL

The foam system's proportioning pump will be used to fill the foam tank. This will allow use of the auxiliary foam pick-up to pump the foam from pails or a drum on the ground into the foam tank. A foam shut-off switch will be installed in the fill dome of the tank to shut the system down when the tank is full. The fill operation will be controlled by a mode in the foam system controller. While the proportioner pump is filling the tank, the controller will display a flashing yellow LED to indicate that the tank is filling. When the tank is full, as determined by the float switch in the tank dome, the pump will stop and the controller will shut the yellow LED off. If it attempted to use tank fill and the refill valve and suction valve are in the wrong position(s), then a red LED will illuminate to indicate the improper valve position(s). When the valves are positioned properly, then filling will commence.

HUSKY 3 FOAM SYSTEM POWER UNIT LOCATION

The Husky 3 foam system power unit typically gets installed in the cargo area over the pump. The new location of this power unit will be in the hose bed area near the fill towers. can be atop the tank if enough roombettween the tank and the aerial device. otherwise put at the front of the ps hosebed.

FOAM TANK

The foam tank will be an integral portion of the polypropylene water tank. The cell will have a capacity of 30 gallons of foam with the intended use of Class A foam. The brand of foam stored in this tank will be fireaide. The foam cell will reduce the capacity of the water tank. The foam cell will have a screen in the fill dome and a breather in the lid.

FOAM TANK DRAIN

A system of 1.00" foam tank drains will be provided, integrated into the foam systems strainer and tank to foam pump valve management system.The tank to pump hoses running from the tank(s) to the panel mounted strainer will 1.00" diameter.The foam system controller will have a mode that allows for a given foam valve to be opened at will. Flow of foam from the tank valve to the strainer will be usable as a tank drain mode.

An adaptor will be supplied, that allows the 1.00" foam intake screen to assembly to be used as a drain outlet. The standard supplied 1.00" foam pick up hose will be attached to the screen assembly by way of the adapter. The drain mode will allow the operator to open and close the tank valve as required from the control head, to drain foam and re-fill foam containers through the connected hose, without foam spillage beneath the vehicle.

PUC MODULE

The pump module will be separate from the hose body and compartments so that each may flex independently of the other. It will be a fabricated assembly of aluminum tubing, angles and channels which supports both the plumbing and the side running boards.

The pump module will be mounted on the chassis frame rails with standard body angles in four places to allow for chassis frame twist.

Pump module, plumbing and gauge panels will be removable from the chassis in a single assembly.

PUMP CONTROL PANELS (LEFT SIDE CONTROL)

Pump controls and gauges will be located midship at the left (driver's) side of the apparatus and properly identified.

The main pump operator's control panel will be completely enclosed and located immediately forward of the front stabilizer. There will be a roll up door to protect against road debris and weather elements. The pump operator's panels will be no more than 31.00" wide, and made in four (4) sections with the center section easily removable with simple hand tools. For the safety of the pump operator, there will be no discharge outlets or pump inlets located on the main pump operators panel.

Layout of the pump control panel will be ergonomically efficient and systematically organized. The upper section will contain the master gauges. This section will be angled down for easy visibility. The center section will contain the pump controls aligned in two horizontal rows. The pressure control device, engine monitoring gauges, electrical switches, and foam controls (if applicable) will be located on or adjacent to the center panel, on the side walls for easy operation and visibility. The lower section will contain the outlet drains.

Manual controls will be easy moving 8" long lever style controls that operate in a vertical, up and down swing motion. These handles will have a 2.25" diameter knob and be able to lock in place to prevent valve creep under any pressure. Bright finish bezels will encompass the opening, be securely mounted to the pump operator's panel, and will incorporate the discharge gauge bezel. Bezels will be bolted to the panel for easy removal and gauge service. The driver's side discharges will be controlled directly at the valve. There will be no push-pull style control handles.

Identification tags for the discharge controls will be recessed within the same bezel. The discharge identification tags will be color coded, with each discharge having its own unique color.

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

All discharge outlets will be color coded and labeled to correspond with the discharge identification tag.

The pump panels for the discharge and intake ports will be located ahead of the pump module with no side discharge or intake higher than the frame rail. The pump panels will be easily removable with simple hand tools.

A recessed cargo area will be provided at the front of the body, ahead of the water tank above the plumbing.

PASSENGER SIDE PUC MODULE COMPARTMENT

A full height compartment with a roll-up door ahead of the front stabilizer will be provided, as convenient large storage compartment for often used items for the crew. The interior dimensions of this compartment will be 30.25" wide x 52.00" high x 25.13" deep. The depth of the compartment will be

calculated with the compartment door closed. The compartment interior will be fully open from the compartment ceiling to the compartment floor and designed so that no permanent dividers are required between the upper and lower sections. The clear door opening of this compartment will be 28.00" wide x 52.00 high.

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

PUMP PANEL CONFIGURATION

The pump panel configuration will be arranged and installed in an organized manner that will provide user-friendly operation.

match colors, labels, and arrangement as closely as possible to previous unit number 29807 .

PUMP OPERATOR'S PLATFORM

A pull out, flip down platform will be provided at the pump operator's control panel.

The front edge and the top surface of the platform will be made of DA finished aluminum with a Morton Cass insert.

The platform will be approximately 13.75" deep when in the stowed position and approximately 22.00" deep when extended. The platform will be as wide as possible. The platform will lock in the retracted and the extended position.

The platform will be wired to the "step not stowed" indicator in the cab.

PUMP OPERATOR'S PLATFORM PERIMETER LIGHT

There will be an On Scene Solutions, Model Night Stick Access, 20.00" white 12 volt DC LED strip light provided to illuminate the ground area.

PUMP AND GAUGE PANEL

The pump operator's panel and gauge panels will be constructed of stainless steel with a brushed finish.

The side control panels will be constructed of stainless steel with a brushed finish for durability and ease of maintenance.

PUMP AND PLUMBING ACCESS

Simple access to the plumbing will be provided through the front of the body area by raising the cab for complete plumbing service and valve maintenance. Access to valves will not require removal of operator panels or pump panels. Access for rebuilding of the pump will not require removal of more than the tank to pump line and a single discharge line. This access will allow for fast, easy valve or pump rebuilding, making for reduced out of service times. Steps will be provided for access to the top of the pump.

Access to the pump will be provided by raising the cab. The pump will be positioned such that all maintenance and overhaul work can be performed above the frame and under the tilted cab. The service and overhaul work on the pump will not require the removal of operator panels or pump panels. Complete pump casing and gear case removal will require no more than removal of the intake and discharge manifolds, driveline, coolers and a single discharge line. The pump case and gear case will be able to be removed by lifting upward without interference from piping and be removable in less than 3 hours.

PUMP COMPARTMENT LIGHT

There will be one (1) Whelen®, Model 3SC0CDCR, 3.00" white 12 volt DC LED light(s) with Whelen, Model 3FLANGEC, flange(s) installed in the plumbing area.

The light(s) will be activated by a toggle switch located in the pump compartment area.

Engine monitoring graduated LED indicators will be incorporated with the pressure controller.

AIR HORN BUTTON

An air horn control button will be provided at the pump operator's control panel. This button will be red in color and properly labeled and put within easy reach of the operator.

COLOR CODED NAME TAG/S

There will be two (2) additional color coded name tag/s supplied. The tag/s will be used for labeling match 29807. The color of the tag/s will be this option was 654984 on previous unit 29807 this is for the Akron 9323 and 9325 controllers.

VACUUM AND PRESSURE GAUGES

The pump vacuum and pressure gauges will be liquid filled and manufactured by Class 1 Incorporated ©.

The gauges will be a minimum of 4.00" in diameter and will have white faces with black lettering, with a pressure range of 30.00"-0-600#.

Gauge construction will include a Zytel nylon case with adhesive mounting gasket and threaded retaining nut.

The pump pressure and vacuum gauges will be installed adjacent to each other at the pump operator's control panel.

Test port connections will be provided at the pump operator's panel. One will be connected to the intake side of the pump, and the other to the discharge manifold of the pump. They will have 0.25 in. standard pipe thread connections and non-corrosive polished stainless steel or brass plugs. They will be marked with a label.

This gauge will include a 10 year warranty against leakage, pointer defect, and defective bourdon tube.

PRESSURE GAUGES

The individual "line" pressure gauges for the discharges will be Class 1© interlube filled.

They will be a minimum of 2.00" in diameter and have white faces with black lettering.

Gauge construction will include a Zytel nylon case with adhesive mounting gasket and threaded retaining nut.

Gauges will have a pressure range of 30"-0-400#.

The individual pressure gauge will be installed as close to the outlet control as practical.

This gauge will include a 10 year warranty against leakage, pointer defect, and defective bourdon tube.

WATER LEVEL GAUGE

An electric water level gauge will be incorporated in the pressure controller that registers water level by means of nine (9) LEDs. They will be at 1/8 level increments with a tank empty LED. The LEDs will be a bright type that is readable in sunlight, and have a full 180-degree of clear viewing.

To further alert the pump operator, the gauge will have a warning flash when the tank volume is less than 25 percent. The gauge will have down chasing LEDs when the tank is almost empty.

The level measurement will be ascertained by sensing the head pressure of the fluid in the tank or cell.

MINI SLAVE UNIT

An electric water level gauge will be provided in the cab that registers water level by means of five (5) LEDs. They will be at 1/4 level increments with a tank empty LED. The LEDs will be a bright type that are readable in sunlight and have a full 180-degree of clear viewing.

The water level gauge in the cab will be activated when the pump is in gear.

WATER LEVEL GAUGE

A water level gauge system shall be provided high to the rear of the crew doors each side. Each system shall be provided with four (4) Whelen 50*02Z*R Linear LED lights with chrome flanges. The total quantity of water level gauge systems to be provided shall be two (2).

The lights will be mounted and indicate the following:

- The top blue light with green lens - water level full.
- Next green light with blue lens - water level 3/4 full.
- Next amber light with amber lens - water level 1/2 full
- Bottom red light with red lens - water level 1/4 full when on solid and will flash when empty.

The above system will function similar to the standard five (5) light at the pump panel. The system shall activate pump is in gear.

FOAM LEVEL GAUGE

A Pierce electric foam level gauge will be provided on the operator's panel, that registers foam level by means of nine (9) LEDs. There will also be a mini foam level gauge with five (5) LEDs in the cab. They will be at 1/8 level increments with a tank empty LED. The LEDs will be a bright type that is readable in sunlight, and have a full 180 degree of clear viewing. The gauge will match the water level gauge in the pressure controller.

To further alert the pump operator, will have a warning flash when the tank volume is less than 25 percent, and will have Down Chasing LEDs when the tank is almost empty.

The level measurement will be ascertained by sensing the head pressure of the fluid in the tank or cell. This method provides accuracy with an array of multi-viscosity foams.

The foam level gauge in the cab will be activated by pump is in gear.

SIDE CONTROL PUMP OPERATOR'S/PUMP PANEL LIGHTING

Illumination will be provided for controls, switches, essential instructions, gauges, and instruments necessary for the operation of the apparatus and the equipment provided on it. External illumination will be a minimum of five (5) foot-candles on the face of the device. Internal illumination will be a minimum of four (4) footlamberts.

The pump panels will be illuminated by two (2) Whelen, Model 01-066D068-01 white LED lights with chrome bezel installed on the back of the cab, one (1) on the driver's side and one (1) on the passenger's side. The LED lights will be mounted as high as practical with the internal light reflector mounted at a 45 degree angle to the ground.

The pump operator's panel will utilize the same LED strip lighting at the forward doorframe as all other compartment lighting.

There will be a small white LED pump engaged indicator light installed overhead.

AIR HORN SYSTEM

There will be two (2) Grover air horns recessed in the front bumper. The horn system will be piped to the air brake system wet tank utilizing 0.38" tubing. A pressure protection valve will be installed in-line to prevent loss of air in the air brake system.

Air Horn Location

The air horns will be located on each side of the bumper, inside of the frame rails.

AIR HORN CONTROL

The air horns will be actuated by two (2) lanyard rope pull controls, one (1) within reach of the driver and one (1) within reach of the officer. The air horns will also be actuated by horn button in the steering wheel. The driver will have the option to control the air horns or the chassis horns from the horn button by means of a selector switch located on the instrument panel.

ELECTRONIC SIREN- REMOTE MOUNT

A Whelen®, Model 295SLSA1, electronic siren with noise canceling microphone will be provided.

This siren to be active when the battery switch is on and that emergency master switch is on.

Electronic siren head will be recessed in the driver side inside switch panel.

The electronic siren will be controlled on the siren head only. No horn button or foot switches will be provided.

SPEAKER

There will be one (1) speaker provided. Each speaker will be a Whelen®, Model SA315P, black nylon composite, 100-watt, with through bumper mounting brackets and polished stainless steel grille. Each speaker will be connected to the siren amplifier.

The speaker(s) will be recessed in the center of the front bumper.

AUXILIARY MECHANICAL SIREN

A Federal Q2B® siren will be furnished. A siren brake button will be installed on the switch panel.

The control solenoid will be powered up after the emergency master switch is activated.

The mechanical siren will be recessed in the front bumper on the right side. The siren will be properly supported using the bumper framework.

SWITCHES, MECHANICAL SIREN

The mechanical siren will be actuated per the following:

- the steering wheel horn ring. The driver will have the option to control the mechanical siren or the chassis horns from the horn button through a selector switch location on the switch panel.
- one (1) foot switch installed on the driver's side of the cab. -**DELETE**
- one (1) foot switch installed on the passenger's side of the cab.

A second siren brake switch will be installed on the passenger side. The switches will have a red illuminated switch wired through the ignition switch.

FRONT ZONE UPPER WARNING LIGHTS

There will be two (2) 21.50" Whelen Freedom IV LED lightbars mounted on the cab roof, one (1) on each side, above the driver's and passenger's door, at a 30 degree angle.

The driver's side lightbar will include the following:

- One (1) red flashing LED module in the outside end position.
- One (1) red flashing LED module in the outside front corner position.
- One (1) red flashing LED module in the outside front position.

- One (1) red **CHANGE TO WHITE** flashing LED module in the inside front position.
- One (1) red flashing LED module in the inside front corner position.

The passenger's side lightbar will include the following:

- One (1) red flashing LED module in the inside front corner position.
- One (1) red **CHANGE TO WHITE** flashing LED module in the inside front position.
- One (1) red flashing LED module in the outside front position.
- One (1) red flashing LED module in the outside front corner position.
- One (1) red flashing LED module in the outside end position.

There will be clear lenses.

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

TRAFFIC LIGHT CONTROLLER

There will be a Tomar, Model 3065-Chrome, traffic light controller mounted match 26840 and 29807.

The traffic light controller system will consist of a 3065 strobe emitter head and integrated power supply housed in a chrome ABS housing with tilt mount base. The system will be provided with national standard high priority.

The traffic light controller will be activated with the roof light switch.

The traffic light controller will be disabled when the parking brake is applied.

FRONT ZONE LOWER LIGHTS- CONFIRM ARROW XT STYLE

There will be one **TWO** (1) pair of Whelen, Model 60*02F*R, flashing LED lights installed on the cab face above the headlights, in a common bezel with the directional lights.

The color of these lights will be red Super LED/red lens.

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

SIDE ZONE LOWER LIGHTING

There will be four (4) Whelen®, Model 60*02F*R, flashing LED warning lights installed per the following:

- Two (2) lights, one (1) each side on the bumper extension. The side front lights to include red LEDs with red lenses.
- Two (2) lights, included with the rear stabilizer lights. The rear lights to include red LEDs with red lenses.

These lights will be installed with a flange.

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

ADDITIONAL SIDE UPPER LIGHTS – WILL DECIDE IN APPLETON

There will be six (6) Whelen, Model M4**, 3.38" high x 5.50" long x 1.38" deep LED surface mount flashing lights with chrome trim provided on the outside corner radius of the cab roof over the crew cab doors.

- The side front lights to be red.
- The side middle lights to be red.
- The side rear lights to be red.
- The color of the lenses will be the same color as the LED's.

The lights will be installed on two (2) painted bracket that are attached to the cab roof. Three (3) lights on the drive's side and three (3) lights installed on the passenger's side.

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

White LED's will be disabled when the parking brake is applied. Colored LED's may be load managed when the parking brake is applied.

WARNING LIGHTS (SIDE)

There will be six (6) Whelen LIN3 Super LED lights, Model RS*02ZCR, provided and located in the body rub rails one in each rub rail below D1,3,4, and P1,3,and 4.

The color of each light will be red LED with clear lens.

Each light will be provided with a chrome plated ABS flange.

The light(s) will be activated with the side warning switch.

REAR ZONE LOWER LIGHTING

There will be two (2) Whelen®, Model 60*02F*R, flashing LED warning lights located at the rear of the apparatus.

The color of these lights will be red Super LED/red lens.

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

These lights will be installed with a flange.

REAR AND SIDE UPPER ZONE WARNING LIGHTS- POSSIBLE WAY TO TURN FOR LADDER USAGE- WHEN AERIAL PTO ENGAGED

There will be four (4) Whelen, Model 90**5F*R LED flashing warning lights provided with Whelen, Model 90FLANGC chrome flanges at the rear and side of the apparatus.

The side rear upper light(s) on the driver's side to be red.

The rear upper light(s) on the driver's side to be red.

The rear upper light(s) on the passenger's side to be red.

The side rear upper light(s) on the passenger's side to be red.

The color of the lenses will be the same color as the LED's.

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

FOUR (4)-SECTION 107 FOOT AERIAL LADDER

CONSTRUCTION STANDARDS

The ladder will be constructed to meet all of the requirements as described in the current NFPA 1901 standards.

The aerial device will be a true ladder type device; therefore ladders attached to booms will not be considered.

These capabilities will be established in an unsupported configuration.

All structural load supporting elements of the aerial device that are made of a ductile material will have a design stress of not more than 50% of the minimum yield strength of the material based on the combination of the live load and the dead load. This 2:1 structural safety factor meets the current NFPA 1901 standard.

All structural load supporting elements of the aerial device that are made of non-ductile material will have a design stress of not more than 20% of the minimum ultimate strength of the material, based on the combination of the rated capacity and the dead load. This 5:1 safety factor meets the current 1901 NFPA standard.

Wire ropes and attaching systems used to extend and retract the fly sections will have a 5:1 safety factor based on the ultimate strength under all operating conditions. The factor of safety for the wire rope will remain above 2:1 during any extension or retraction stall. The minimum ratio of the diameter of wire rope used to the diameter of the sheave used will be 1:12. Wire ropes will be constructed of seven (7) strands over an inner wire core for increased flexibility. The wire rope will be galvanized to reduce corrosion.

The aerial base pivot bearings will be maintenance free type bearings and require no external lubrication.

The aerial device will be capable of sustaining a static load one and one-half times its rated tip load capacity (live load) in every position in which the aerial device can be placed when the vehicle is on a firm level surface.

The aerial device will be capable of sustaining a static load one and one-third times its rated tip load capacity (live load) in every position the aerial device can be placed when the vehicle is on a slope of five degrees downward in the direction most likely to cause overturning.

With the aerial device out of the cradle and in the fully extended position at zero degrees elevation, a test load will be applied in a horizontal direction normal to the centerline of the ladder. The turntable will not rotate and the ladder will not deflect beyond what the product specification allows.

All welding of aerial components, including the aerial ladder sections, turntable, pedestal, and outriggers, will be in compliance with the American Welding Society standards. All welding personnel will be certified, as qualified under AWS welding codes.

The aerial device will be capable of operating with the maximum rated tip load in either of the two (2) following conditions:

- Conditions of high wind up to 35 mph

- Conditions of icing, up to a coating of 0.25" over the entire aerial structure

All of the design criteria must be supported by the following test data (no exception):

- Strain gage testing of the complete aerial device

- Analysis of deflection data taken while the aerial device was under test load

The following standards for materials are to be used in the design of the aerial device:

- Materials are to be certified by the mill that manufactured the material

- Materials that are certified or recertified by vendors other than the mill will not be acceptable

- Material testing that is performed after the mill test will be for verification only and not with the intent of changing the classification

- All welded structural components for the ladder will be traceable to their mill lots

LADDER CONSTRUCTION

The ladder will be comprised of four sections.

The ladder will have the capability to support a minimum of 750 pounds at the tip in the unsupported configuration, based upon 360 degree rotation, up to full extension and from -10 degrees to +77 degrees.

The ladder (handrails, baserails, trusses, K-braces and rungs) will be constructed of high strength low alloy steel, minimum 100,000 pounds per square inch yield, with full traceability on all structural members.

Each section will be trussed diagonally, vertically and horizontally using welded steel tubing.

All ladder rungs will be round and welded to each section utilizing "K" bracing for torsional rigidity.

The inside width dimensions of the ladder will be:

- Base Section 41.87"

- Inner-Mid Section 34.88"

- Outer-Mid Section 27.87"

- Fly Section 21.63"

The height of the handrails above the centerline of the rungs will be:

- Base Section 25.69"

- Inner-Mid Section 22.06"

- Outer-Mid Section 19.44"

- Fly Section 16.70"

The ladder will be designed to provide continuous egress for firefighters and civilians from an elevated position to the ground. The end of the fly section will be constructed in a manner that aids personnel in climbing off the ladder.

The egress section will be designed to maintain the rated load of the aerial device. It will be bolted on for easy replacement. There will be a tow eye welded on to each side of the egress.

VERTICAL HEIGHT

The ladder will extend to a minimum height of 107' above the ground at full extension and elevation. The measurement of height will be consistent with NFPA standards.

HORIZONTAL REACH

The rated horizontal reach will be a minimum of 100'. The measurement of horizontal reach will be consistent with NFPA standards.

TURNTABLE -

The upper turntable assembly will connect the aerial ladder to the turntable bearing. The steel structure will have a mounting position for the aerial elevation cylinders, ladder connecting pins, and upper turntable operator's position.

The turntable will be a 0.375" thick aluminum plate, coated with a non-skid, chemical resistant material in the walking areas. The stepping surfaces will meet the skid-resistance requirements of the current NFPA 1901 standard.

The turntable will be modified at the passenger side to allow for easier access to the hose bed for hose loading. The portion of the turntable outboard of the rotational motor will be omitted, and the handrails will be modified as required.

The turntable handrails will be a minimum 42.00" high and will not increase the overall travel height of the vehicle. The handrails will be constructed from aluminum and have a slip resistant knurled surface.

ELEVATION SYSTEM

Dual 5.50" diameter elevating cylinders will be mounted on the underside of the base section of the ladder. Two (2) 2.25" diameter stainless steel pins will fasten the cylinder to the turntable and fasten to the ladder. The pins will have 125,000 psi minimum yield strength and will be secured with 0.50" Grade 8 bolts with castle nut and cotter pin. The bolts are to ensure that the pins do not walk out of the mounting brackets on the turntable and base section.

The elevating cylinders will be mounted utilizing maintenance-free spherical bearings on both ends of the cylinders. The aerial base pivot bearings will be maintenance-free type bearings with no external lubrication required. The cylinders will function only to elevate the ladder and not as a structural member to stabilize the ladder side movement. The elevating cylinders will be provided with pilot-operated check valves on the barrel and rod side of the piston to prevent movement of the ladder in case of a loss of hydraulic pressure.

The operation envelope will be 10 degrees below horizontal to 77 degrees above horizontal.

The elevation system will be designed following NFPA standards. The elevation hydraulic cylinders will incorporate cushions on the upper limit of travel.

The lift cylinders will be equipped with integral holding valves located in the cylinder to prevent the unit from descending should the charged lines be severed, at any point within the hydraulic system and to maintain the ladder in the bedded position during road travel. The integral holding valves will NOT be located in the transfer tubes.

The elevation system will be controlled by the microprocessor. Linear transducers will measure the extension of the elevation cylinder. The microprocessor will provide the following features:

- Collision avoidance of the elevation system to prevent accidental body damage

- Automatic deceleration when the aerial device is lowered into the cradle

- Automatic deceleration at the end of stroke, in maximum raise and lower positions

- Deceleration of the aerial device at the limits of travel.

EXTENSION/RETRACTION SYSTEM

A hydraulically powered, extension and retraction system will be provided through dual hydraulic cylinders and wire ropes. Each set will be capable of operating the ladder in the event of a failure, of the

other. For safety, systems that use only a single extension/retraction system will not be acceptable. The extension cylinder rod will be chrome plated to provide smooth operation of the aerial device and reduce seal wear. The extension/retraction cylinders will be equipped, with integral holding valves, to prevent the unit from retracting should the charged line be severed, at any point within the hydraulic system. The integral holding valves will NOT be located in the transfer tubes.

Wire ropes and attaching systems used to extend and retract the fly sections will have a 5:1 safety factor based on the ultimate strength under all operating conditions. The factor of safety for the wire rope will remain above 2:1 during any extension or retraction stall. The minimum ratio of the diameter of wire rope used to the diameter of the sheave used will be 1:12. Wire ropes will be constructed of seven (7) strands over an inner wire for increased flexibility. The wire rope will be galvanized to reduce corrosion.

The extension/retraction system will be controlled by the microprocessor. Linear transducers will measure the ladder extension. The microprocessor will provide the following features:

- Automatic deceleration at the end of stroke, in maximum extend and retract positions

All sheaves will be greaseless and all sheave pins and pivot pins will be polished stainless steel (no exception).

MANUAL OVERRIDE CONTROLS

Manual override controls will be provided for all aerial and stabilizer functions.

LADDER SLIDE MECHANISM

UHMW polyethylene wear pads will be used between the telescoping ladder sections, to provide greater bearing surface area for load transfer. Adjustable slide pads will be used to control side play between the ladder sections.

ROTATION SYSTEM

The aerial will be supplied with a powered rotation system as outlined in NFPA standards. The hydraulic rotation motor will provide continuous rotation under all rated conditions and be supplied with a brake to prevent unintentional rotation. One (1) hydraulically driven, planetary gear box with drive speed reducers will be used to provide infinite and minute rotation control throughout the entire rotational travel. One (1) spring applied, hydraulically released disc type swing brake will be furnished to provide positive braking of the turntable assembly. Provisions will be made for emergency operation of the rotation system should complete loss of normal hydraulic power occur. The hydraulic system will be equipped with pressure relief valves which will limit the rotational torque to a nondestructive power. The gearbox will have a minimum continuous torque rating of 80,000 in. lbs. and a minimum intermittent rating of 160,000 in. lbs. The turntable bearing, ring gear teeth, pinion gear, planetary gearbox, and output shaft will be certified by the manufacturer of the components for the application.

The rotation system will be controlled by the microprocessor. The microprocessor will provide the following features:

- Collision avoidance to prevent accidental body damage

- Prevent the aerial from being rotated into an unstable condition.

ROTATION INTERLOCK

The microprocessor will be used to prevent the rotation of the aerial device to the side in which the stabilizers have not been fully deployed (short-jacked). The microprocessor will allow full and unrestricted use of the aerial, in the 180 degree area, on the side(s) where the stabilizers have been fully deployed. The system will also have a manual override, to comply with NFPA 1901. SYSTEMS THAT PERMIT THE AERIAL TO ROTATE TO THE "SHORT JACK" SIDE, WITHOUT AUTOMATICALLY STOPPING THE ROTATION AND/OR WITHOUT ACTUATION OF THE "MANUAL OVERRIDE", will NOT BE ACCEPTED. SYSTEMS THAT ONLY INCLUDE AN ALARM ARE NOT CONSIDERED AN INTERLOCK AND will NOT BE ACCEPTED.

LADDER CRADLE INTERLOCK SYSTEM

A ladder cradle interlock system will be provided through the microprocessor to prevent the lifting of the aerial device from the nested position until the operator places all the stabilizers in a load supporting configuration. A switch will be installed at the boom support to prevent operation of the stabilizers once the aerial has been elevated from the nested position..

AERIAL TORQUE BOX/PEDESTAL

The pedestal assembly will be a welded assembly made of high strength 0.25" plate. The vertical member will be a 0.375" reinforced wall cylinder with a 28.00" outside diameter and will connect the rotation bearing mounting plate to the lower substructure.

The pedestal assembly will be bolted to the chassis frame with 0.88" diameter Grade 8 bolts, and will be utilized to mount the outrigger jacks and reservoir for the aerial hydraulic system.

LOAD CAPACITIES

The following load capacities will be established, with the stabilizers at full horizontal extension and placed in the down position, to level the truck and to relieve the weight from the tires and axles.

Capacities will be based upon full 360 degree rotation with ladder extended to operational limits at 0 degrees elevation.

A load chart, visible at the operator's station will be provided. The load chart will show the recommended safe load at any condition of the aerial device's elevation and extension.

35 MPH WIND CONDITIONS/WATERWAY DRY

Degrees of Elevation	-10 to 9	10 to 19	20 to 29	30 to 39	40 to 49	50 to 59	60 to 69	70 to 77

Egress	750	750	750	750	750	750	750	750
Fly	-	-	-	-	250	250	500	750
Upper Mid	-	-	-	-	250	500	1000	1000
Lower Mid	-	-	-	500	500	750	1000	1000
Base	-	-	500	500	500	1000	1000	1000

35 MPH WIND CONDITIONS/WATERWAY CHARGED

Degrees of Elevation	-10 to 9	10 to 19	20 to 29	30 to 39	40 to 49	50 to 59	60 to 69	70 to 77
Egress	500	500	500	500	500	500	500	500
Fly	-	-	-	-	-	250	500	500
Upper Mid	-	-	-	250	500	500	750	1000
Lower Mid	-	-	-	250	500	750	1000	1000
Base	-	-	250	500	750	1000	1000	1000

Reduced loads at the tip can be redistributed in 250 lb. increments to the fly, mid, or base sections as needed.

The tip capacity will be reduced to zero when flowing water with the nozzle above the waterway centerline.

BOOM SUPPORT

A heavy duty boom support will be provided for support of the ladder in the travel position. On the base section of the ladder, a stainless steel scuffplate will be provided where the ladder comes into contact with the boom support.

The boom support will be located just to the rear of the chassis cab.

AERIAL BOOM SUPPORT LIGHT

There will be one (1) Amdor, Model Luma Bar H2O, white LED strip light mounted on the boom support cradle. This light will be activated when the aerial master switch is activated.

AERIAL BOOM PANEL

There will be one boom panel provided on the base section on the left side of the aerial device while viewed from the turntable. This boom panel will be sized to match the storage box on the opposite side. The boom panel will be painted #90 red. **NOT RED, MATCH UPPER BODY COLOR, CHARCOAL GREY**

The boom panel will be designed so no mounting bolts are in the face of the panel. This will keep the lettering surface free of holes.

EXTENSION INDICATOR

Extension markings and corresponding numerical indicators will be provided along each inside and outside top rail of the base section of the aerial every 10'. They will indicate various positions of extension up to full. Markings and indicators will be clearly visible to the console operator. To aid in visibility during hours of darkness, the markings and numerical indicators will be red reflective material.

FOLDING STEPS

One (1) set of folding steps will be provided at the tip of the ladder. An additional set of folding steps will be provided at the base of the fly section. The steps will be bright finished, non-skid with a black coating.

AERIAL DEVICE RUNG COVERS

Each rung will be covered with a secure, heavy-duty, fiberglass pultrusion that incorporates an aggressive, no-slip coating.

The rung covers will be glued to each rung, and will be easily replaceable should the cover become damaged.

The center portion of each rung cover will be black and the outside 2.00" edge at each side will be black.

Under no circumstances will the rung covers be fastened to the rungs using screws or rivets.

The rung covers will have a 10-year, limited warranty.

STOKES AND LYFE BRACKET STORAGE BOX- STOKES BASKET BOX TO BE MOUNTED BEHIND THE SIGN. SIGN SHOULD BE ABOUT 12 FT. LOOK AT OPTIONS IN APPLETON.

There will be an aluminum storage box provided at the base section of the aerial ladder on the right side of the aerial device while viewed from the turntable. The box will be painted job color. The box will be located adjacent to the aerial boom panel and have a hinged cover with butterfly latch to secure the stokes basket and *Lyfe* brackets. The cover will have the same finish as the box. A divider will be provided to separate the stokes basket and the brackets. The box will have louvers on the side of the box facing the aerial device for ventilation.

The size of the stokes basket will be 85 x 8 x 24.

The maximum capacity of this box will be 75 lb.

AXE MOUNTING BRACKETS

Brackets will be provided near the end of the fly section of the aerial ladder for mounting a fire axe. The mounting plates will be D/A finished aluminum.

PIKE POLE MOUNTING BRACKETS

Mounting will be provided near the end of the fly section of the aerial ladder for one (1) pike pole(s).

The bracket will be sized to hold a Fire Hooks Unlimited 8' roof hook.

LIGHTS FOR TURNTABLE WALKWAY

There will be white LED lights provided at the aerial turntable. The lights will be located to illuminate the entire walking surface of the turntable including the area around the turntable console. These lights will be activated by the aerial master switch.

TURNTABLE CONSOLE LIGHTING

There will be one (1), TecNiq Model T10, white LED light strip mounted in the turntable console cover to illuminate the controls located on both the upper and lower portion of the turntable control station. These lights will be activated by the aerial master switch.

INFORMATION CENTER

There will be an information center provided. The information center will operate in temperatures from -40 to 185 degrees Fahrenheit. The information center will employ a Linux operating system and a 7.00" (diagonal measurement) LCD display. The LCD will have a minimum 1000nits rated, color display. The LCD will be sunlight readable, true digital operation, and will have improved resolution. The LCD display will be encased in an ABS, grey plastic housing with a gray decal. There will be five (5), weather-resistant user interface switches provided. The LCD display can be changed to an available foreign language.

OPERATION

The information center will be designed for easy operation in everyday use. There will be a page button to cycle from one screen to the next screen in a rotating fashion. A video button will allow an NTSC signal into the information center to be displayed on the LCD. If any button is pressed while viewing a video feed, the information center will return to the vehicle information screens. There will be a menu button to provide access to maintenance, setup, and diagnostic screens. All other button labels will be specific to the information being viewed.

GENERAL SCREEN DESIGN

Where possible, background colors will be used to provide vehicle information *At A Glance*. If the information provided on a screen is within acceptable limits, a black background color will be used. If the information provided on a screen is not within acceptable limits, an amber background color will indicate a caution condition and a red background color will indicate a warning condition.

Every screen in the information center will include the time (12- or 24-hour mode) and a fault alert triangle symbol. The time will be synchronized between all Command Zone color displays located on the vehicle. Once the fault alert triangle is selected, a text message will identify any items causing the audible alarm to sound. If more than one (1) audible alarm is activated, the text message for each alarm will cycle every second until the problems have been resolved. The background for the Alert Center will change to indicate the severity of the warning message. Amber will indicate a caution condition

and red will indicate a warning condition. If a warning and a caution condition occur simultaneously, the red background color will be shown for all Alert Center messages.

A label or symbol will be provided for each button. The label or symbol will indicate the function for each active button for each screen. If the button is not utilized on specific screens, it will remain black.

Symbols will accurately depict the aerial device type the information pertains to such as rear mount ladder, rear mount platform, mid-mount ladder or mid-mount platform.

PAGE SCREENS

The Information center will include the following pages:

The Aerial Main and Load Chart page will indicate the following information:

- Rungs Aligned and Rungs Not Aligned will be indicated with respective green or red colored ladder symbols.

- Ladder Elevation will be indicated via a fire apparatus vehicle with ladder symbol with the degree of elevation indicated between the vehicle and ladder.

- Water Flow (if applicable) will be indicated via a water nozzle symbol and text indicating flow / time.

- If applicable, breathing air levels will be indicated via an air bottle symbol and text indicating the percent (%) of air remaining. A green bar graph shown inside the bottle will indicate oxygen levels above 20%. A red bar graph will indicate oxygen levels at or below 20%. When oxygen levels are at or below 10%, the red bar graph will flash.

- *At A Glance* color features will be utilized on this screen. A fault alert triangle symbol in the lower right portion of the screen will indicate any caution faults with a yellow background. Warning type conditions will be indicated via a red background. Conditions operating within acceptable limits will be indicated via a green background.

The Aerial Reach and Hydraulic Systems page will indicate the following information:

- If applicable, aerial hydraulic oil temperature will be indicated with symbol and text.

- Aerial Hydraulic Oil Pressure will be indicated with a symbol and text.

- The following calculations will be indicated on a representative vehicle symbol:

- Aerial Device Extension length

- Aerial Device Height indicating the height of the aerial device tip from the ground

- Aerial Device Angle indicating the angle from the vehicle which the device is at.

- *At A Glance* color features will be utilized on this screen. A fault alert triangle symbol in the lower right portion of the screen will indicate any caution faults with a yellow background. Warning type conditions will be indicated via a red background. Conditions operating within acceptable limits will be indicated via a green background.

The Level Vehicle page will indicate the following information:

- The grade of the vehicle will be indicated via a fire apparatus vehicle symbol with the degree of grade shown in text format. The symbol will tilt dependent on the vehicle grade.

- The slope of the vehicle will be indicated via a fire apparatus vehicle symbol with the degree of slope shown in text format. The symbol will tilt dependent on the vehicle slope.

- Outriggers status will be indicated via a colored symbol for each outrigger present. Each outrigger status will be defined as one of the following:

- Outrigger stowed indicated with a silver pan located close to the vehicle

- Outrigger fully extended indicated with a fully deployed green outrigger

- Outrigger short-jacked indicated by a yellow outrigger partially deployed

- Outrigger not set indicated by a red outrigger that is not set on the ground

- A bedding assist alert will indicate that the aerial device is being aligned by the Command Zone system as the operator lowers the aerial device into the cradle with the joystick.

- *At A Glance* color features will be utilized on this screen. A fault alert triangle symbol in the lower right portion of the screen will indicate any caution faults with a yellow background. Warning type conditions will be indicated via a red background. Conditions operating within acceptable limits will be indicated via a green background.

The aerial operation envelope page will indicate the following:

- A top view of the aerial operating envelope

- A side view of the aerial operating envelope

MENU SCREENS

The following screens will be available through the Menu button:

The View System Information screen will display aerial device hours, aerial PTO hours, ladder aligned for stowing, aerial rotation angle, total water flow (if applicable), and aerial waterway valve status (if applicable).

The Set Display Brightness screen will allow brightness increase and decrease and include a default setting button.

The Configure Video Mode screen will allow setting of video contrast, video color and video tint.

The Set Startup screen allows setting of the screen that will be active at vehicle power-up.

The Set Date and Time screen has a 12- or 24-hour format, and allows setting of the time and date.

The View Active Alarms screen shows a list of all active alarms including the date and time of each alarm occurrence, and shows all alarms that are silenced.

The System Diagnostics screen allows the user to view system status for each module and its respective inputs and outputs. Viewable data will include the module type and ID number; the module version; and module diagnostics information including input or output number, the circuit number connected to that input or output, the circuit name (item connected to the circuit), status of the input or output, and other module diagnostic information.

Aerial Calibrations screen indicates items that may be calibrated by the user and instructions to follow for proper calibration of the aerial device.

Button functions and button labels may change with each screen.

LOWER CONTROL STATIONS

A lower control station will be located on each side of the rear wall of the apparatus in an easily accessible area. The controls and indication labels will be illuminated for nighttime operation. The following items will be furnished at the lower control station and will be clearly identified and conveniently located for ease of operation and viewing:

- Level assist switch

- Override switch to override interlocks

- Emergency stop

- Emergency power unit switch

AERIAL DEVICE CONTROL STATIONS

There will be one (1) device control station at the aerial turntable. All elevation, extension and rotation controls will operate from both of this location. The controls will permit the operator to regulate the speed of the aerial functions, within the safe limits, as determined by the manufacturer and NFPA standards. The controls will be clearly marked and lighted for nighttime operation.

Each control will be equipped, with a positive lock to hold the control in a neutral position, preventing accidental activation. In addition to the neutral lock, a console cover will be provided at the turntable

control station. The controls will be so designed to allow the turntable control station to immediately override the tip controls, if equipped, even if the ladder is being operated by the tip controls.

TURNTABLE CONTROL STATION- EXTERNAL RUNG ALIGNMENT LIGHT INDICATOR

The turntable control station will be located on the left side of the turntable so the operator may easily observe the ladder while operating the controls.

The following items will be installed at the turntable control station, clearly identified, lighted for nighttime operation and conveniently located for ease of operation and viewing:

- Electric controls for elevation, rotation, extension/retraction

- Intercom controls

- Tip tracking light switch

- Emergency stop switch

- Emergency power unit switch

- Operator's load chart

- Two (2) position switch for selecting aerial operational speed

-ADD HEADSET JACK IF NOT USING WIRELESS HEADSETS

HIGH IDLE

The high idle will be controlled by the microprocessor. The microprocessor will automatically adjust the engine rpm, to compensate for the amount of load placed upon the system. The system will include a safety device that allows activation of the high idle, only when the parking brake is set and the transmission is placed in neutral.

STABILIZERS

The vehicle will come equipped with an out and down stabilization system. The system will consist of two (2) hydraulically operated out and down style stabilizers mounted above the frame and a rear stabilizer jack that is attached directly to the center rear of the torque box.

The stabilizers will have a maximum spread of 18' from the centerline of the footpads when fully extended. The internal tubes will be 8.00" x 10.00" with 1/2" thick top and bottom plates and 3/8" thick sides of 130,000 psi minimum yield strength steel and will be extended out by hydraulic cylinders. The cylinders will have pilot-operated check valves with thermal relief. This will insure that the beams will be in the stowed during travel. The external tubes will be 9-3/4" x 11-3/4" with 3/8" wall thickness. The internal jack tubes will slide on permanently attached wear pads.

The extension cylinders will be totally enclosed within the extension beams. The horizontal extension cylinders will be of the trombone type to eliminate wear and potential failure of hydraulic hoses (no exception).

The stabilizers will have a tip over safety margin of 1 1/2 times its rated load in any position the aerial device can be placed as outlined in the current edition of NFPA 1901. The aerial will be able to sustain a 1 1/3 to 1 rated load on a 5 degree slope downward in the position most likely to cause overturning. The maximum ground slope the apparatus can be set up on is 12 percent. On the 12 percent slope, the apparatus can be leveled within a 6 percent operating range with the apparatus cab facing uphill.

The cylinders will be supplied with dual pilot operated check valves on each stabilizer cylinder to hold the cylinder in the stowed or working position should a charged line be severed at any point in the hydraulic system. Stabilizers will contain safety lock valves and will require no mechanical pins to assure there will be no "leak down" of stabilizer legs.

Each stabilizer leg will have attached to the end of the leg a 16 gauge polished stainless steel shield. The stainless steel shield will be a maximum 13.00" wide to allow the extension of the stabilizer between parked cars. This plate will serve as a protective guard and a mounting surface for warning lights. The top, forward, and rear edges will be flanged back for added strength.

The stabilizer cylinders will be sized to maximize ground penetration. The lift cylinders will be mounted on the end of the stabilizer tube and will have the following dimensions:

4.00" bore

3.50" rod

23.38" stroke

The stabilizer extension cylinders will have the following dimensions

1.75" bore

1.25" rod

64.00" stroke

The rear stabilizer will have the following dimensions:

4.50" bore

4.00" rod

29.00" stroke

Each stabilizer that can be extended from the body will be supplied with a red warning light as outlined in the current edition of NFPA. The stabilizers will be connected to a warning light in the cab to warn the operator if the stabilizers are deployed.

The ground contact area for each stabilizer will be a 12.00" diameter circular stainless steel disc without the auxiliary pads and 24.00" x 24.00" with lightweight composite material pads deployed. The ground pressure will not exceed 75 psi when the apparatus is fully loaded and the aerial device is carrying its rated capacity in every position. This will be accomplished with the stabilizer pads deployed, as outlined in the current edition of NFPA 1901. There will be one (1) pad located on each side of the apparatus in front of the stabilizers.

The auxiliary jack pad for the rear stabilizer will be integral to the stabilizer foot pad.

-**ASK ABOUT ALUMINUM STABILIZER PADS**

STABILIZER CONTROLS

One (1) electric solenoid valve will control the stabilizers. The control switches will be located one (1) each side at the rear of the apparatus so the operator may observe the stabilizers during deployment.

The stabilizer controls will include the following:

- Leveling assist toggle switch: The outrigger control system will incorporate a computerized self leveling system in addition to the standard outrigger controls. The operator will have the option to manually or automatically level the truck. The computerized system will ensure full outrigger extension, proper jack penetration, and will level the vehicle within 1/2 a degree of level for safe operation of the aerial device.

-One (1) electric toggle switch for the engaging the emergency power unit.

- Two (2) fully extended beams green indicator lights: these lights will be illuminated when each of the respective stabilizer beams are fully extended.

- Three (3) firm on ground green indicator lights: each light will be illuminated when its respective stabilizer shoe is in the load supporting condition.

Each toggle switch will activate the engine fast idle automatically.

Manual override will be supplied for each stabilizer control valve.

A "Stabilizers Not Stowed" indicator will be provided in the driver's compartment. It will illuminate automatically whenever the stabilizers are not fully stowed to prevent damage to the apparatus if moved. The stabilizer system will also be wired to the "Do Not Move Indicator Light", which will flash whenever the apparatus parking brake is not fully engaged and the stabilizers are not fully stowed.

STABILIZER CONTROL BOX DOORS

Vertically hinged stainless steel doors will be provided over each stabilizer control box. The doors will be hinged inboard.

STABILIZER PLACEMENT

There will be two (2) lasers provided and installed on the body, one (1) next to each stabilizer. The lasers will be activated with the aerial master switch and will provide a green X on the ground to show where the stabilizer pads need to be set.

There will be two (2) cameras provided and installed on the body, one (1) directly above each stabilizer. The cameras will be activated with a switch in the cab and will provide a picture to specify the fully extended stabilizer position allowing the driver the ability to position the vehicle with the proper clearance for stabilizer deployment.

STABILIZER PANELS

The stabilizer panels will be painted aluminum in place of polished stainless steel.

POWER TAKEOFF / HYDRAULIC PUMP

The apparatus will be equipped with a power takeoff driven by the chassis transmission and actuated by an electric shift, located inside the cab.

The power takeoff which drives the hydraulic pump will meet all the requirements for the aerial unit operations.

An amber indicator light will be installed on the cab instrument panel to notify the operator that the power takeoff is engaged.

An interlock will be provided that allows operation of the aerial power takeoff shift only after the chassis spring brake has been set and the chassis transmission has either been placed in the neutral position or drive position after the driveline has been disengaged from the rear axle.

HYDRAULIC CYLINDERS

All hydraulic cylinders used on the aerial device will be produced by a manufacturer that specializes in the production of hydraulic cylinders.

Each hydraulic cylinder will have a structural warranty of not less than five (5) years, and a seal warranty of not less than two and a half (2.5) years.

HYDRAULIC SYSTEM

The hydraulic system will have a five (5)-year warranty.

The hydraulic plumbing will consist of hydraulic rated hoses and steel tubing.

The hoses transmitting hydraulic pressure will have abrasion resistant covers.

All hydraulic fittings and tubing will be plated to minimize corrosion.

The fitting will use an O-ring seal where possible to minimize hydraulic leaks.

All pressure carrying hydraulic hoses and tubes will have a 4:1 safety rating based on burst pressure.

An interlock will be provided that prevents activation of the hydraulic pump until the transmission is placed in neutral and the parking brake set as outlined in the current NFPA 1901 standard.

The hydraulic system will be of a constant pressure design and incorporate features to minimize heat build up and provide smooth control of the aerial ladder.

The system will meet the performance requirement in the current NFPA 1901 standard, which requires adequate cooling less than 2.5 hours of operations.

All hydraulic components that are non-sealing whose failure could result in the movement of the aerial will comply with current NFPA 1901 standards and have burst strength of 4:1.

Dynamic sealing components whose failure could cause aerial movement will have a margin of 2:1 on maximum operating pressure per the current NFPA 1901 standard.

All hydraulic hoses, tubes and connections will have minimum burst strength of 4:1 per the current NFPA 1901 standard.

A hydraulic oil sight gauge will be supplied at the rear of the unit for easy fluid level verification.

A chassis-mounted positive displacement piston pump for consistent pressure and rapid response will supply hydraulic power for all aerial operations.

The positive displacement piston pump will provide 3,150 psi.

The hydraulic pump will be solely dedicated to aerial operations.

The hydraulic system will consist of a 20-gallon reservoir mounted to the pedestal and plumbed to the hydraulic pump.

There will be plumbing for a supply and return line and a tank drain on the reservoir.

The hydraulic oil reservoir will be labeled per the current NFPA 1901 standard.

The hydraulic system will use multi-weight, SAE grade oil. ISO grade will be based on geographical location.

The oil will be pre-filtered before it is installed into the reservoir.

Oil samples taken from the oil diagnostic test ports must meet or exceed the hydraulic rating of 18/16/13 per ISO 4406:1999 before delivery.

The low pressure oil filter will be integrated with the hydraulic manifold and designed to prevent oil loss during filter change.

The system will incorporate the following filters to provide dependable service:

- Return filter: Beta 200 at 6 micron
- Desiccant breather filter: Water capacity 13 fluid oz, 2 micron rating

The aerial hydraulic system will be designed in such a manner that a hydraulic pump failure or line rupture will not allow the aerial or outriggers to lose position.

Hydraulic holding valves will be mounted directly on cylinders.

To insure reliable performance of holding valves, no hoses will be permitted between a holding valve and cylinder.

The aerial will incorporate the use of trombone steel tubes inside the stabilizer beams to eliminate hydraulic hose wear and leaks.

Hydraulic power to the ladder will be transferred from the pedestal by a hydraulic swivel.

EMERGENCY PUMP

The hydraulic system will be designed with an auxiliary power unit meeting the guidelines of the current NFPA 1901 standard.

The auxiliary power unit will be a 12-volt pump connected to the chassis electrical system.

The pump will provide operation at reduced speeds to store the aerial device and outriggers for road transportation.

Self-centering switches will be provided at the turntable and each stabilizer control station to activate the system.

The system will be designed to provide a minimum of 30 minutes of hydraulic power to operate functions.

HYDRAULIC SWIVEL

The aerial ladder will be equipped with a six (6) port, high pressure hydraulic swivel which will connect the hydraulic lines from the hydraulic pump and reservoir through the rotation point to the aerial control bank. The hydraulic swivel will allow for 360 degree continuous rotation of the aerial.

ELECTRIC SWIVEL

The ladder will be equipped with an electric swivel to allow 360 degrees rotation of the aerial while connecting all electrical circuits through the rotation point. A minimum of 28 collector rings will be provided that are capable of supplying 20 amp continuous service. All collector rings will be enclosed and protected with desiccant plugs against condensation and corrosion. No oil or silicone will be used.

WATER SWIVEL

Water will be transferred to the aerial waterway by means of a 5.00" internal diameter waterway through the swivel, permitting 360 degree continuous rotation.

13-BIT ABSOLUTE ENCODER

The aerial ladder will be equipped with a 13-Bit Absolute Encoder, CAN-based, which provides 8192 counts per shaft turn for position and direction reference.

The 13-Bit Absolute Encoder will provide a unique binary word to reference each position and direction for all 360 degrees of rotation.

If the power is interrupted for any reason, the 13-Bit Absolute Encoder will allow power to be returned to the system without having to re-zero the settings.

The 13-Bit Absolute Encoder will be an integral part of a micro-processor based control system.

ELECTRICAL SYSTEM

The aerial device will utilize a microprocessor-based control system. The system will consist of the following components:

Control System Modules

Each of the control system modules will be configured as follows:

Sealed to a NEMA 4X rating

Operating range from -40 degrees F to 156 degrees F (-40 degrees C to 70 degrees C)

Communicate using J1939 data link

Two (2) diagnostic LED lights

One (1) green light that illuminates when module has power (B+) and ground

One (1) red light that flashes to indicate the module is capable of communicating via the data link

Up to 16 diagnostic LEDs on each module

Ground matrix identification system

The following control system modules will be used:

Control Module

Main controller for the system

USB connection allows for computer diagnostics

Power Module

Built-in fault sensing

Eight (8) digital outputs

Pulse width modulating (PWM) capable

10A continuous per output

Circuit protection based on actual current draw (not affected by heat)

Current Control Module

Built-in fault sensing

Three (3) analog inputs

Eight (8) digital outputs

Pulse width modulating (PWM) capable

3A continuous per output

Closed Loop System

Circuit protection based on actual current draw (not affected by heat)

Input Module

16 software selectable (digital or analog) inputs

Output Module

16 digital outputs

Input/Output Module

Eight (8) software selectable (digital or analog) inputs

Eight (8) digital outputs

AERIAL TIP AND TRACKING LIGHTS

There will be four (4) Whelen 12 volt DC LED lights furnished on the aerial device. The lights will be mounted below the handrail height so as not to increase the overall height of the apparatus. The lights will be installed in the following locations:

- One (1) Model PFP1P* 8,100 lumens light will be mounted on the driver's side of the fly section of the aerial device.
- One (1) Model PFP1P* 8,100 lumens light will be mounted on the passenger's side of the fly section of the aerial device.
- One (1) Model MPB* 4,100 lumens light will be mounted on the passenger's side of the base section of the aerial device.
- One (1) Model MPB* 4,100 lumens light will be mounted on the driver's side of the base section of the aerial device.

The painted parts of this light assembly to be black.

The power to the lights will be controlled by a switch located turntable, driver's side cab switch panel and driver's side pump panel.

LIGHTING ON AERIAL LADDER

There will be TecNiq, Model D02 LED rung lighting provided on both sides of the aerial ladder base, lower and upper mid, and fly sections. The lighting will be located adjacent to the ladder rungs along the lower rail of the ladder sections and will run the length of the ladder section.

The color of the sections will be:

- The base section of the ladder to be white. **RED**
- The lower mid section of the ladder to be red. **WHITE**
- The upper mid section of the ladder to be red. **BLUE**
- The fly section of the ladder to be blue. **BLUE**

The LED rung lighting will be activated when a switch within reach of the driver and a switch at the turntable operator's panel is activated through the master battery switch.

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

STABILIZER WARNING LIGHTS

There will be two (2) Whelen, Model 60*02F*R, flashing LED warning lights installed on the stabilizer cover panel, one (1) each side.

The color of these lights will be red Super LED/red lens each side.

These lights will be mounted with a flange.

These warning lights will be activated by the same switch as the side warning lights.

STABILIZER BEAM WARNING LIGHTS

There will be two (2) Whelen®, Model T0R00FRR, 2.00" round red LED flashing lights mounted on each stabilizer, one (1) facing forward and one (1) facing rearward.

The lights will be recessed in the horizontal beam of the stabilizer.

These warning lights will be activated with the aerial master switch.

STABILIZER SCENE LIGHTS

There will be one (1) Amdor Luma Bar H2O, Model AY-9500-012 LED strip light installed under each stabilizer beam to illuminate the surrounding area. A total of two (2) lights will be installed. These lights will be activated by the aerial master switch.

2-WAY AERIAL COMMUNICATION SYSTEM- LOOK AT ADD ICA-900-213 WITH ADDITIONAL SPEAKER AND CONTROL BOX ON PUMP PANEL.

There will be a Fire Research model ICA900-112 two-way intercom system provided. The control module will be located on the turntable operator console, provided there is room, and have an LED volume display and push-button volume control.

A hands free module will be located at the aerial tip or platform and constantly transmit to the other module unless the control module push-to-talk button is pressed.

Each intercom unit will be weatherproof.

AERIAL PEDESTAL

The aerial pedestal will accommodate the height of the cab.

RESCUE LIFTING SYSTEM

A rescue lifting attachment will be provided. The lifting attachment will mount to the aerial egress and will consist of a pair of nylatron pulleys mounted to a stainless steel shaft. The pulleys will be adjustable from side to side and will have a total lifting capacity of 500lb, regardless of whether one (1) or both pulleys are being utilized.

LIFTING EYE ASSEMBLY - ROPE RESCUE ATTACHMENT

A lifting eye assembly will be provided that is designed to evenly distribute load at the tip of the aerial.The lift eye assembly is retained by two (2) locking pins, one (1) at each end outboard side of the egress. Leveling is maintained by the lifting eye assembly rotating within the egress mounting.

AIR HORN CONTROL AT AERIAL TURNTABLE

A push button control for the air horns will be provided at the aerial turntable.

MANSAVER™ BARS, AERIAL TURNTABLE

ManSaver™ bars will be red in color and installed at the aerial turntable.

WATER SYSTEM

A waterway system will be provided consisting of the following components and features:

A 5.00" pipe will be connected to the water supply on one end and to a 5.00" internal diameter water swivel at the rotation point of the turntable. The water swivel will permit 360 degree continuous rotation of the aerial device.

The 5.00" waterway swivel is to be routed through the rotation point up to the heel pin swivel. The heel pin swivel will allow the water to flow to the ladder pipe while elevating the aerial ladder from -10 degrees to 77 degrees. The heel pivot pin is not integral with the waterway swivel at any point. The design of the waterway will allow complete servicing of the waterway swivel without disturbing the heel pivot pin.

The integral telescopic water system will consist of a 4.50" diameter tube in the base section, a 4.00" diameter tube in the mid-section and a 3.50" diameter tube in the fly section. The telescopic waterway will be constructed of anodized aluminum pipe.

The aerial will be capable of discharging up to 1000 gpm at 100 psi parallel to the ladder and 90 degrees to each side of center while maintaining the 500lb tip load.

The aerial will be capable of discharging between 1001 and up to 1500 gallons per minute at 100 psi parallel to the ladder and 40 degrees to each side of center while maintaining the 500lb tip load.

When the aerial device is positioned at -10 to 0 degrees of elevation, the master stream will be capable of flow up to 30 degrees above horizontal.

An adjustable pressure relief valve will be furnished to protect the aerial waterway from a pressure surge.

A 1.50" drain valve will be located at the lowest point of the waterway system.

WATERWAY SEALS

The waterway seals will be of type-B PolyPak design, composed of nitroxile seal and a nitrile wiper, which together offer maximum stability and extrusion resistance on the waterway. The seal will be capable of withstanding pressures up to 2000 psi, temperatures in excess of 250 degrees Fahrenheit and have resistance to all foam generating solutions. The seals will be internally lubricated.

The waterway seals will have automatic centering guides constructed of synthetic thermalpolymer. The guides will provide positive centering of the extendible sections within each other and the base section to insure longer service life and smoother operation.

AERIAL MONITOR- REVISIST IN APPLETON, NEED TO GET WITH VESTAVIA

An Akron Model 3480 monitor with stow and deploy will be provided at the tip with a Akron 1500 gpm Model 5178. This monitor will allow for an additional 30 degrees of travel above horizontal at the aerial tip.

The monitor's functions will be controlled electrically from two (2) separate locations. One (1) control will be located at the control console and the other at the ladder tip.

There will be a courtesy light at the tip of the aerial to illuminate the controls.

If the aerial has a quick-lock waterway, a limit switch will be provided to disable the extended vertical travel when the monitor is locked to the lower ladder section.

AERIAL WATERWAY FLOW METER

Waterway flow, including total water flowed, will be monitored by the microprocessor. An LCD display will be located at the turntable control station.

REAR INLET- ADD DRAIN

A 5.00" NST inlet to the aerial waterway will be provided at the rear of the apparatus. The inlet will have 5.00" aluminum plumbing. It will be furnished with a 5.00" chrome plated adapter and a 5.00" chrome plated, long handle cap.

WATERWAY LOCKING SYSTEM

The aerial ladder waterway monitor will be capable of being positioned at either the fly section or at the next lower section of the ladder.

The monitor location will be changeable by the use of a single handle, located at the side of the ladder.

The handle, attached to a cam bracket, will simply be moved forward to lock the monitor at the fly section and back to lock it to the previous section.

There will be no pins to remove and reinstall.

The monitor will be operational at all times, regardless of its position, without connecting or disconnecting electrical lines.

QUICK-LOCK WATER WAY LOCK LABELING- CHANGE LABELING

The Quick-Lock waterway locking mechanism will be labeled **"RESCUE MODE"** "LOWER FLY" "RELEASE" **"FIRE MODE"** "UPPER FLY". Three (3) labels will be installed on the side and three (3) on the top of the pinnable waterway release lever mounting bracket.

TOOLS

The following tools will be provided for retorquing of all specified bolts as recommended by the manufacturer:

Torque Wrench

All Required Extensions, Sockets and Adapters

4-to-1 Multiplier

MANUALS

Two (2) operator maintenance manuals and two (2) wiring diagrams pertaining to the aerial device will be provided with the apparatus at time of pick-up.

INITIAL INSTRUCTION

On initial delivery of the fire apparatus, the contractor will supply a qualified representative to demonstrate the apparatus and provide initial instruction to the fire department regarding the operation, care, and maintenance of the apparatus for a period of three (3) days.

LOOSE EQUIPMENT

The following equipment will be furnished with the completed unit:

- One (1) bag of chrome, stainless steel, or cadmium plated screws, nuts, bolts and washers, as used in the construction of the unit.

NFPA REQUIRED LOOSE EQUIPMENT PROVIDED BY FIRE DEPARTMENT

The following loose equipment as outlined in NFPA 1901, 2016 edition, section 9.9.3 and 9.9.4 will be provided by the fire department.

- 800 ft (240 m) of 2.50" (65 mm) or larger fire hose, in any combination.

- 400 ft (120 m) of 1.50" (38 mm), 1.75" (45 mm), or 2.00" (52 mm) fire hose, in any combination.
- One (1) handline nozzle, 200 gpm (750 L/min) minimum.
- Two (2) handline nozzles, 95 gpm (360 L/min) minimum.
- One (1) playpipe with shutoff and 1.00" (25 mm), 1.125" (29 mm), and 1.25" (32 mm) tips.
- One (1) SCBA complying with NFPA 1981 for each assigned seating position, but not fewer than four (4), mounted in brackets fastened to the apparatus or stored in containers supplied by the SCBA manufacturer.
- One (1) spare SCBA cylinder for each SCBA carried, each mounted in a bracket fastened to the apparatus or stored in a specially designed storage space(s).
- One (1) first aid kit.
- Four (4) salvage covers, each a minimum size of 12 ft × 14 ft (3.6 m × 5.5 m).
- Four (4) combination spanner wrenches.
- Two (2) hydrant wrenches.
- One (1) double female 2.50" (65 mm) adapter with National Hose threads.
- One (1) double male 2.50" (65 mm) adapter with National Hose threads.
- One (1) rubber mallet, for use on suction hose connections.
- Four (4) ladder belts meeting the requirements of NFPA 1983.
- One (1) 150 ft (45 m) light-use life safety rope meeting the requirements of NFPA 1983.
- One (1) 150 ft (45 m) general-use life safety rope meeting the requirements of NFPA 1983.
- One (1) traffic vest for each seating position, each vest to comply with ANSI/ISEA 207, *Standard for High Visibility Public Safety Vests*, and have a five-point breakaway feature that includes two (2) at the shoulders, two (2) at the sides, and one (1) at the front.
- Five (5) fluorescent orange traffic cones not less than 28.00" (711 mm) in height, each equipped with a 6.00" (152 mm) retro-reflective white band no more than 4.00" (152 mm) from the top of the cone, and an additional 4.00" (102 mm) retro-reflective white band 2.00" (51 mm) below the 6.00" (152 mm) band.
- Five (5) illuminated warning devices such as highway flares, unless the five (5) fluorescent orange traffic cones have illuminating capabilities.
- One (1) automatic external defibrillator (AED).
- If the supply hose carried does not use sexless couplings, an additional double female adapter and double male adapter, sized to fit the supply hose carried, will be carried mounted in brackets fastened to the apparatus.
- If none of the pump intakes are valved, a hose appliance that is equipped with one or more gated intakes with female swivel connection(s) compatible with the supply hose used on one side and a swivel connection with pump intake threads on the other side will be carried. Any intake connection larger than 3.00" (75 mm) will include a pressure relief device that meets the requirements of 16.6.6.

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

SOFT SUCTION HOSE PROVIDED BY FIRE DEPARTMENT

NFPA 1901, 2016 edition, section 9.8.2.1 requires a minimum of 20' of suction hose or 15' of supply hose will be carried.

Hose is not on the apparatus as manufactured. The fire department will provide suction or supply hose.

DRY CHEMICAL EXTINGUISHER PROVIDED BY FIRE DEPARTMENT

NFPA 1901, 2016 edition, section 9.9.4 requires one (1) approved dry chemical portable fire extinguisher with a minimum 80-B:C rating mounted in a bracket fastened to the apparatus.

The extinguisher is not on the apparatus as manufactured. The fire department will provide and mount the extinguisher.

WATER EXTINGUISHER PROVIDED BY FIRE DEPARTMENT

NFPA 1901, 2016 edition, section 9.9.4 requires one (1) 2.5 gallon or larger water extinguisher mounted in a bracket fastened to the apparatus.

The extinguisher is not on the apparatus as manufactured. The fire department will provide and mount the extinguisher.

FLATHEAD AXE PROVIDED BY FIRE DEPARTMENT

NFPA 1901, 2016 edition, Section 9.9.4 requires one (1) flathead axe mounted in a bracket fastened to the apparatus.

The axe is not on the apparatus as manufactured. The fire department will provide and mount the axe.

PICKHEAD AXE PROVIDED BY FIRE DEPARTMENT

NFPA 1901, 2016 edition, Section 9.9.4 requires one (1) pickhead axe mounted in a bracket fastened to the apparatus.

The axe is not on the apparatus as manufactured. The fire department will provide and mount the axe.

PAINT - BODY PAINTED TO MATCH CAB

The exterior custom cab and body painting procedure will consist of a seven (7) step finishing process as follows:

1. Manual Surface Preparation - All exposed metal surfaces on the custom cab and body will be thoroughly cleaned and prepared for painting. Imperfections on the exterior surfaces will be removed and sanded to a smooth finish. Exterior seams will be sealed before painting. Exterior surfaces that will not be painted include; chrome plating, polished stainless steel, anodized aluminum and bright aluminum treadplate.
2. Chemical Cleaning and Pretreatment - All surfaces will be chemically cleaned to remove dirt, oil, grease, and metal oxides to ensure the subsequent coatings bond well. The aluminum surfaces will be properly cleaned and treated using a high pressure, high temperature 4 step Acid Etch process. The steel and stainless surfaces will be properly cleaned and treated using a high temperature 3 step process specifically designed for steel or stainless. The chemical treatment converts the metal surface to a passive condition to help prevent corrosion. A final pure water rinse will be applied to all metal surfaces.
3. Surfacer Primer - The Surfacer Primer will be applied to a chemically treated metal surface to provide a strong corrosion protective basecoat. A minimum thickness of 2 mils of Surfacer Primer is applied to surfaces that require a Critical aesthetic finish. The Surfacer Primer is a two-component high solids urethane that has excellent sanding properties and an extra smooth finish when sanded.
4. Finish Sanding - The Surfacer Primer will be sanded with a fine grit abrasive to achieve an ultra-smooth finish. This sanding process is critical to produce the smooth mirror like finish in the topcoat.
5. Sealer Primer - The Sealer Primer is applied prior to the Basecoat in all areas that have not been previously primed with the Surfacer Primer. The Sealer Primer is a two-component high solids urethane that goes on smooth and provides excellent gloss hold out when topcoated.
6. Basecoat Paint - Two coats of a high performance, two component high solids polyurethane basecoat will be applied. The Basecoat will be applied to a thickness that will achieve the proper color match. The Basecoat will be used in conjunction with a urethane clear coat to provide protection from the environment.
7. Clear Coat - Two (2) coats of Clear Coat will be applied over the Basecoat color. The Clear Coat is a two-component high solids urethane that provides superior gloss and durability to the exterior surfaces. Lap style and roll-up doors will be Clear Coated to match the body. Paint warranty for the roll-up doors will be provided by the roll-up door manufacture.

Each batch of basecoat color is checked for a proper match before painting of the cab and the body. After the cab and body are painted, the color is verified again to make sure that it matches the color standard. Electronic color measuring equipment is used to compare the color sample to the color standard entered into the computer. Color specifications are used to determine the color match. A Delta E reading is used to determine a good color match within each family color.

All removable items such as brackets, compartment doors, door hinges, and trim will be removed and separately if required, to ensure paint behind all mounted items. Body assemblies that cannot be finish painted after assembly will be finish painted before assembly.

Pierce Manufacturing paint finish quality levels for critical areas of the apparatus (cab front and sides, body sides and doors, and boom lettering panels) meet or exceed the Cadillac/General Motors GMW15777 global paint requirements. Orange peel levels meet or exceed the #6 A.C.T.standard in critical areas. These requirements are met in order for the exterior paint finish to be considered acceptable. The Pierce Manufacturing written paint standards will be available upon request.

The cab and body will be two-tone, with the upper section painted 623 charcoal mettalic along with a shield design on the cab face and lower section of the cab and body painted 90.

PAINT - ENVIRONMENTAL IMPACT

Contractor will meet or exceed all current State regulations concerning paint operations. Pollution control will include measures to protect the atmosphere, water and soil. Controls will include the following conditions:

- Topcoats and primers will be chrome and lead free.
- Metal treatment chemicals will be chrome free. The wastewater generated in the metal treatment process will be treated on-site to remove any other heavy metals.
- Particulate emission collection from sanding operations will have a 99.99% efficiency factor.
- Particulate emissions from painting operations will be collected by a dry filter or water wash process. If the dry filter is used, it will have an efficiency rating of 98.00%. Water wash systems will be 99.97% efficient
- Water from water wash booths will be reused. Solids will be removed on a continual basis to keep the water clean.
- Paint wastes are disposed of in an environmentally safe manner.
- Empty metal paint containers will be to recover the metal.
- Solvents used in clean-up operations will be recycled on-site or sent off-site for distillation and returned for reuse.

Additionally, the finished apparatus will not be manufactured with or contain products that have ozone depleting substances. Contractor will, upon demand, present evidence that the manufacturing facility meets the above conditions and that it is in compliance with his State EPA rules and regulations.

PAINT CHASSIS FRAME ASSEMBLY

The chassis frame assembly will be painted black before the installation of the cab and body, and before installation of the engine and transmission assembly, air brake lines, electrical wire harnesses, etc.

Components that are included with the chassis frame assembly that will be painted are:

- Frame rails
- Frame liners
- Cross members
- Axles

- Suspensions
- Steering gear
- Battery boxes
- Bumper extension weldment
- Frame extensions
- Body mounting angles
- Rear Body support substructure (front and rear)
- Pump house substructure
- Air tanks
- Fuel tank
- Castings
- Individual piece parts used in chassis and body assembly

Components treated with epoxy E-coat protection prior to paint:

- Two (2) C-channel frame rails
- Two (2) frame liners

The E-coat process will meet the technical properties shown.

PAINT, FRONT WHEELS

All wheel surfaces, inside and outside, will be provided with powder coat paint #90 red. **CLEAR COAT AFTER SILVER STRIP APPLIED**

PAINT, REAR WHEELS

All wheel surfaces, inside and outside, will be provided with powder coat paint #90 red. **CLEAR COAT AFTER SILVER STRIP APPLIED**

The paint break will extend through four (4) roll-up doors located D3,P3,D4,P4.

AERIAL MONITOR PAINT

The monitor on the aerial device will be painted 623 Charcoal Mettallic.

AERIAL DEVICE BOOM SUPPORT PAINT

The aerial device boom support will be painted job color to match upper body paint color.

PAINT, PUMP AND PLUMBING

The pump and plumbing, contained within the pump house, will be painted black.

COMPARTMENT INTERIOR PAINT

The compartment interior will be painted with a gray spatter finish for ease of cleaning and to make it easier to touch up scratches and nicks.

AERIAL DEVICE PAINT COLOR

The aerial device paint procedure will consist of a six (6) step finishing process as follows:

1. Manual Surface Preparation - All exposed metal surfaces on the aerial device structural components above the rotation point will be thoroughly cleaned and mechanically shot-blasted to remove metal impurities and prepare the aerial for painting.

2. Primer/Surfacer Coats - A two (2) component urethane primer/surfacer will be hand applied to the chemically treated metal surfaces to provide a strong corrosion protective base coat and to smooth out the surface. All seams will be caulked before painting.

3. Hand Sanding - The primer/surfacer coat will be lightly sanded to an ultra smooth finish.

4. Sealer Primer Coat - A two (2) component sealer primer coat will be applied over the sanded primer.

5. Topcoat Paint - Urethane base coat will be applied to opacity for correct color matching.

6. Clearcoat - Two (2) coats of an automotive grade two (2) component urethane will be applied.

Surfaces that will not be painted include all chrome plated, polished stainless steel, anodized aluminum and bright aluminum treadplate.

All buy out components, such as monitor, nozzle, gauges, etc. will be supplied as received from the vendor.

Removable items such as brackets will be removed and painted separately to ensure paint coverage behind all mounted items.

The aerial device (turntable and ladder sections) will be painted 623 charcoal mettalic using the six (6) step finishing process. The support structure, rotation motor, components below the rotation point and the stabilizers will be cleaned, caulked, primed and painted high gloss black.

The stabilizer beams, pedestal and torque box (including water tank cradle) will be treated with epoxy E-coat prior to painting to help provide resistance to corrosion and chemicals.

The tip of the ladder will be painted a contrasting color for high visibility.

REFLECTIVE STRIPES

Three (3) reflective stripes will be provided across the front of the vehicle and along the sides of the body. The reflective band will consist of a 1.00" black stripe at the top with a 1.00" gap then a 6.00" black stripe with a 1.00" gap and a 1.00" black stripe on the bottom.

The reflective band provided on the cab face will be at the headlight level.

REAR CHEVRON STRIPING

There will be alternating chevron striping located on the rear-facing vertical surface of the apparatus. Covered surfaces will include the rear wall and aluminum doors. Roll up doors and stainless steel access doors will not be covered in chevron.

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

Each stripe will be 6.00" in width.

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

REFLECTIVE STRIPE ON STABILIZERS

There will be a 4.00" wide fluorescent yellow green diamond grade reflective stripe provided on the forward and rear facing side of all aerial stabilizers.

"Z" JOG IN REFLECTIVE STRIPE

There will be one (1) "Z"-shaped jog(s) provided in the reflective stripe design.

CAB DOOR REFLECTIVE STRIPE

A 6.00" x 16.00" white reflective stripe will be provided across the interior of each cab door. The stripe will be located approximately 1.00" up from the bottom, on the door panel.

This stripe will meet the NFPA 1901 requirement.

LETTERING

The lettering will be totally encapsulated between two (2) layers of clear vinyl.

LETTERING

Forty-one (41) to sixty (60) genuine gold leaf lettering, 3.00" high, with outline and shade will be provided.

LETTERING

There will be genuine gold leaf lettering, 7.00" high, with outline and shade provided. There will be 24 letters provided.

LETTERING

One (1) to twenty (20) genuine gold leaf lettering, 5.00" high, with outline and shade will be provided.

LETTERING

There will be reflective lettering, 16.00" high, with outline and shade provided. There will be six (6) letters provided.

LETTERING
There will be reflective lettering, 14.00" high, with outline and shade provided. There will be three (3) letters provided.

LETTERING
There will be reflective lettering, 4.00" high, with outline and shade provided. There will be eight (8) letters provided.

LETTERING
There will be genuine gold leaf lettering, 8.00" high, with outline and shade provided. There will be six (6) letters provided.

CAB GRILLE DESIGN
An American flag design will be painted on the cab grille.

EMBLEM
There will be two (2) reflective emblem(s), approximately 18.00" - 20.00" in size, installed cab doors(double check fr apparatus number on decal. unknown currently). the emblem will be modeled after the department submitted information (art, patch, etc).

FIRE APPARATUS PARTS CD MANUAL
There will be two (2) custom parts manuals for the complete fire apparatus provided in CD format with the completed unit.

The manuals will contain the following:

- Job number
- Part numbers with full descriptions
- Table of contents
- Parts section sorted in functional groups reflecting a major system, component, or assembly
- Parts section sorted in alphabetical order
- Instructions on how to locate parts

The manuals will be specifically written for the chassis and body model being purchased. It will not be a generic manual for a multitude of different chassis and bodies.

SERVICE PARTS INTERNET SITE
The service parts information included in these manuals are also available on the factory website. The website offers additional functions and features not contained in this manual, such as digital photographs and line drawings of select items. The website also features electronic search tools to assist in locating parts quickly.

CHASSIS SERVICE CD MANUALS

There will be two (2) CD format chassis service manuals containing parts and service information on major components provided with the completed unit.

The manual will contain the following sections:

- Job number
- Table of contents
- Troubleshooting
- Front Axle/Suspension
- Brakes
- EngineTires
- Wheels
- Cab
- Electrical, DC
- Air Systems
- Plumbing
- Appendix

The manual will be specifically written for the chassis model being purchased. It will not be a generic manual for a multitude of different chassis and bodies.

CHASSIS OPERATION CD MANUALS

There will be two (2) CD format chassis operation manuals provided.

ONE (1) YEAR MATERIAL AND WORKMANSHIP

A Pierce basic apparatus limited warranty certificate, WA0008, is included with this proposal.

ENGINE WARRANTY

A Detroit Diesel **five (5) year** limited engine warranty will be provided. A limited warranty certificate, WA0180, is included with this proposal.

STEERING GEAR WARRANTY

A TRW **one (1) year** limited steering gear warranty will be provided. A copy of the warranty certificate will be submitted with the bid package.

FIFTY (50) YEAR STRUCTURAL INTEGRITY

The Pierce custom chassis frame limited warranty certificate, WA0013, is included with this proposal.

FRONT AXLE WARRANTY

A Eaton **five (5)-year/100,000 mile** parts and labor warranty will be provided.

REAR AXLE TWO (2) YEAR MATERIAL AND WORKMANSHIP WARRANTY

A Meritor axle limited warranty certificate, WA0046, is included with this proposal.

ABS BRAKE SYSTEM THREE (3) YEAR MATERIAL AND WORKMANSHIP WARRANTY

A Meritor Wabco™ABS brake system limited warranty certificate, WA0232, is included with this proposal.

TEN (10) YEAR STRUCTURAL INTEGRITY

The Pierce custom cab limited warranty certificate, WA0012, is included with this proposal.

TEN (10) YEAR PRO-RATED PAINT AND CORROSION

A Pierce cab limited pro-rated paint warranty certificate, WA0055, is included with this proposal.

FIVE (5) YEAR MATERIAL AND WORKMANSHIP

The Pierce Command Zone electronics limited warranty certificate, WA0014, is included with this proposal.

CAMERA SYSTEM WARRANTY

A Pierce fifty four (54) month warranty will be provided for the camera system**.**

COMPARTMENT LIGHT WARRANTY

The Pierce 12 volt DC LED strip lights limited warranty certificate, WA0203, is included with this proposal.

TRANSMISSION WARRANTY

The transmission will have a **five (5) year/unlimited mileage** warranty covering 100 percent parts and labor. The warranty will be provided by Allison Transmission.

Note: The transmission cooler is not covered under any extended warranty you may be getting on your Allison Transmission. Please review your Allison Transmission warranty for coverage limitations.

TRANSMISSION COOLER WARRANTY

The transmission cooler will carry a five (5) year parts and labor warranty (exclusive to the transmission cooler). In addition, a collateral damage warranty will also be in effect for the first three (3) years of the warranty coverage and will not exceed $10,000 per occurrence. A copy of the warranty certificate will be submitted with the bid package.

WATER TANK WARRANTY

A UPF poly water tank limited warranty certificate, WA0195, is included with this proposal.

TEN (10) YEAR STRUCTURAL INTEGRITY

The Pierce apparatus body limited warranty certificate, WA0009, is included with this proposal.

ROLL UP DOOR MATERIAL AND WORKMANSHIP WARRANTY

A Gortite roll-up door limited warranty will be provided. The mechanical components of the roll-up door will be warranted against defects in material and workmanship for the lifetime of the vehicle. A **six (6) year** limited warranty will be provided on painted and satin roll up doors.

The limited warranty certificate, WA0190, is included with this proposal.

SIX (6) YEAR MATERIAL AND WORKMANSHIP

A Pierce PUC pump limited warranty certificate, WA0039, is included with this proposal.

TEN (10) YEAR PUMP PLUMBING WARRANTY

The Pierce apparatus plumbing limited warranty certificate, WA0035, is included with this proposal.

FOAM SYSTEM WARRANTY

The Husky 3 foam system limited warranty certificate, WA0231, is included with this proposal.

TWENTY (20) YEAR AERIAL DEVICE STRUCTURAL INTEGRITY WARRANTY

The Pierce device limited warranty certificate, WA0052, is included with this proposal.

AERIAL SWIVEL WARRANTY

An Amity five (5) year limited swivel warranty will be provided. A copy of the warranty certificate will be submitted with the bid package.

HYDRAULIC SYSTEM COMPONENTS WARRANTY

Aerial hydraulic system components will be provided with a five (5) year material and workmanship limited warranty.

HYDRAULIC SEAL WARRANTY

Aerial hydraulic seals will be provided with a three (3) year material and workmanship limited warranty.

A copy of the warranty certificates will be submitted with the bid package.

AERIAL WATERWAY WARRANTY

An Amity ten (10) year limited waterway warranty will be provided. A copy of the warranty certificate will be submitted with the bid package.

FOUR (4) YEAR PRO-RATED PAINT AND CORROSION

A Pierce aerial device limited pro-rated paint warranty certificate, WA0047, is included with this proposal.

TEN (10) YEAR PRO-RATED PAINT AND CORROSION

A Pierce body limited pro-rated paint warranty certificate, WA0057, is included with this proposal.

THREE (3) YEAR MATERIAL AND WORKMANSHIP

The Pierce Goldstar gold leaf lamination limited warranty limited warranty certificate, WA0018, is included with this proposal.

VEHICLE STABILITY CERTIFICATION

The fire apparatus manufacturer will provide a certification stating the apparatus complies with NFPA 1901, current edition, section 4.13, Vehicle Stability. The certification will be provided at the time of bid.

ENGINE INSTALLATION CERTIFICATION

The fire apparatus manufacturer will provide a certification, along with a letter from the engine manufacturer stating they approve of the engine installation in the bidder's chassis. The certification will be provided at the time of bid.

POWER STEERING CERTIFICATION

The fire apparatus manufacturer will provide a certification stating the power steering system as installed meets the requirements of the component supplier. The certification will be provided at the time of bid.

CAB INTEGRITY CERTIFICATION

The fire apparatus manufacturer will provide a cab crash test certification with this proposal. The certification will state that a specimen representing the substantial structural configuration of the cab has been tested and certified by an independent third party test facility. Testing events will be documented with photographs, real-time and high-speed video, vehicle accelerometers, cart accelerometers, and a laser speed trap. The fire apparatus manufacturer will provide a state licensed professional engineer to witness and certify all testing events. Testing will meet or exceed the requirements below:

- European Occupant Protection Standard ECE Regulation No.29.

- SAE J2422 Cab Roof Strength Evaluation - Quasi-Static Loading Heavy Trucks.

- SAE J2420 COE Frontal Strength Evaluation - Dynamic Loading Heavy Trucks.

- Roof Crush

The cab will be subjected to a roof crush force of 22,500 lb. This value meets the ECE 29 criteria, and is equivalent to the front axle rating up to a maximum of ten (10) metric tons.

- Side Impact

The same cab will be subjected to dynamic preload where a 13,275-lb moving barrier is slammed into the side of the cab at 5.50 mph, striking with an impact of 13,000 ft-lb of force. This test is part of the SAE J2422 test procedure and more closely represents the forces a cab will see in a rollover incident.

- Frontal Impact

The same cab will withstand a frontal impact of 32,600 ft-lb of force using a moving barrier in accordance with SAE J2420.

- Additional Frontal Impact

The same cab will withstand a frontal impact of 65,200 ft-lb of force using a moving barrier. (Twice the force required by SAE J2420)

The same cab will withstand all tests without any measurable intrusion into the survival space of the occupant area.

CAB DOOR DURABILITY CERTIFICATION

Robust cab doors help protect occupants. Cab doors will survive a 200,000 cycle door slam test where the slamming force exceeds 20 G's of deceleration. The bidder will certify that the sample doors similar to those provided on the apparatus have been tested and have met these criteria without structural damage, latch malfunction, or significant component wear.

WINDSHIELD WIPER DURABILITY CERTIFICATION

Visibility during inclement weather is essential to safe apparatus performance. Windshield wipers will survive a 3 million cycle durability test in accordance with section 6.2 of SAE J198 *Windshield Wiper Systems - Trucks, Buses and Multipurpose Vehicles.* The bidder will certify that the wiper system design has been tested and that the wiper system has met these criteria.

SEAT BELT ANCHOR STRENGTH

Seat belt attachment strength is regulated by Federal Motor Vehicle Safety Standards and should be validated through testing. Each seat belt anchor design will withstand 3000 lb of pull on both the lap and shoulder belt in accordance with FMVSS 571.210 Seat Belt Assembly Anchorages. The bidder will certify that each anchor design was pull tested to the required force and met the appropriate criteria.

SEAT MOUNTING STRENGTH

Seat attachment strength is regulated by Federal Motor Vehicle Safety Standards and should be validated through testing. Each seat mounting design will be tested to withstand 20 G's of force in accordance with FMVSS 571.207 Seating Systems. The bidder will certify, at time of delivery, that each seat mount and cab structure design was pull tested to the required force and met the appropriate criteria.

CAB DEFROSTER CERTIFICATION

Visibility during inclement weather is essential to safe apparatus performance. The defroster system will clear the required windshield zones in accordance with SAE J381 Windshield Defrosting Systems Test Procedure And Performance Requirements - Trucks, Buses, And Multipurpose Vehicles. The bidder will certify that the defrost system design has been tested in a cold chamber and passes the SAE J381 criteria.

CAB HEATER CERTIFICATION

Good cab heat performance and regulation provides a more effective working environment for personnel, whether in-transit, or at a scene. The cab heaters will warm the cab 77 degrees Fahrenheit

from a cold-soak, within 30 minutes when tested using the coolant supply methods found in SAE J381. The bidder will certify, at time of delivery, that a substantially similar cab has been tested and has met these criteria.

CAB AIR CONDITIONING PERFORMANCE CERTIFICATION

Good cab air conditioning temperature and air flow performance keeps occupants comfortable, reduces humidity, and provides a climate for recuperation while at the scene. The cab air conditioning system will cool the cab from a heat-soaked condition at 100 degrees Fahrenheit to an average of 78 degrees Fahrenheit in 30 minutes. The bidder will certify that a substantially similar cab has been tested and has met these criteria.

AMP DRAW REPORT

The bidder will provide, at the time of bid and delivery, an itemized print out of the expected amp draw of the entire vehicle's electrical system.

The manufacturer of the apparatus will provide the following:

- Documentation of the electrical system performance tests.
- A written load analysis, which will include the following:
    - The nameplate rating of the alternator.
    - The alternator rating under the conditions specified per:
        - Applicable NFPA 1901 or 1906 (Current Edition).
    - The minimum continuous load of each component that is specified per:
        - Applicable NFPA 1901 or 1906 (Current Edition).
    - Additional loads that, when added to the minimum continuous load, determine the total connected load.
    - Each individual intermittent load.

All of the above listed items will be provided by the bidder per the applicable NFPA 1901 or 1906 (Current Edition).

File Attachments for Item:

D. A Resolution of the Town Commission of the Town of Highland Beach, Florida, amending Resolution No. 2022-020, which appropriated funds for the 2022-2023 Fiscal Year Budget, and providing for an effective date.

RESOLUTION NO. 2022-033

A RESOLUTION OF THE TOWN COMMISSION OF THE TOWN OF HIGHLAND BEACH, FLORIDA, AMENDING RESOLUTION NO. 2022-020, WHICH APPROPRIATED FUNDS FOR THE 2022-2023 FISCAL YEAR BUDGET, AND PROVIDING AN EFFECTIVE DATE.

WHEREAS, the Town Commission adopted its 2022-2023 Fiscal Year Budget effective October 1, 2022; and

WHEREAS, the Town passed Resolution No. 2021-023 to establish, operate, and fund a Highland Beach Fire and Rescue Department: and,

WHEREAS, the Town amended its Fund Balance Policy for the General Fund to assign funds for the establishment of the Highland Beach Fire Rescue Department Resolution No. 2022-005 fund balance policy; and,

WHEREAS, staff have identified a pre-owned 2017 Pierce 107' PUC Aerial Ladder truck (VIN# 4P1BCAGF4HA017946) that meets the Town's operational standards, budget limits and time constraints of this project; and,

WHEREAS, pursuant to the Town's purchasing policy, specific factual findings that support the Best Interest Acquisition method of procurement have been satisfied; and,

WHEREAS, the Town Commission has determined that it is in the best interest of the residents of the Town of Highland Beach to amend the 2022-2023 Fiscal Year Budget through the adjustments set forth in the attached Exhibit 1.

NOW, THEREFORE, BE IT RESOLVED BY THE TOWN COMMISSION OF THE TOWN OF HIGHLAND BEACH, FLORIDA, THAT:

Section 1. That the foregoing "WHEREAS" clauses are ratified and confirmed as being true and correct and are incorporated in this Resolution.

Section 2. That the Amendment of funding to the 2022-2023 Budget for the Town's General Fund Operations (Fund 001) for the Fiscal Year beginning October 1, 2022, and as set forth in Exhibit 1 is adopted and authorized as an Amendment to the General Fund Operations of the Town of Highland Beach, Florida for Fiscal Year 2023.

Section 3. This Resolution shall become effective upon its passage and approval.

DONE AND ADOPTED by the Town Commission of the Town of Highland Beach, Florida, this **6th** day of **December** 2022.

ATTEST:

Douglas Hillman, Mayor

REVIEWED FOR LEGAL SUFFICIENCY

Lanelda Gaskins, MMC
Town Clerk

Glen Torcivia, Town Attorney
Town of Highland Beach

VOTES:	**YES**	**NO**
Mayor Douglas Hillman	____	____
Vice Mayor Natasha Moore	____	____
Commissioner Peggy Gossett-Seidman	____	____
Commissioner Evalyn David	____	____
Commissioner John Shoemaker	____	____

EXHIBIT 1

FUND 001 – GENERAL FUND OPERATIONS
AMENDMENT TO
FY 2023 OPERATING BUDGET

The following item is an amendment to the existing FY 2023 General Fund Budget to recognize an additional *Appropriation from Fire Rescue Reserve* accompanied by an increase in the Machinery and Equipment expenditure to cover the purchase of 2017 Pierce ladder truck.

REVENUES

Account Number	Description	Amount
001-310.000-389.900	Appropriation from Reserve	$850,000
Total Revenues		**$850,000**

EXPENDITURES

Account Number	Description	Amount
001-522.000-564.000	Machinery and Equipment	$850,000
Total Expenditures		**$850,000**

Line No.	Description	Cost
1	2017 Pierce Ladder Truck	$ 830,000
2	* Transportation & Delivery	20,000
	Total	$ 850,000

* Estimate

File Attachments for Item:

E. Approval of Meeting Minutes

November 15, 2022 - Commission Meeting Minutes

November 22, 2022 - Commission Meeting Special Minutes

DRAFT

TOWN OF HIGHLAND BEACH
TOWN COMMISSION MEETING MINUTES

Town Hall / Commission Chambers
3614 South Ocean Boulevard
Highland Beach, Florida 33487

Date: November 15, 2022
Time: 1:30 PM

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1. CALL TO ORDER

Mayor Hillman called the meeting to order at 1:30 P.M.

2. ROLL CALL

Commissioner John Shoemaker
Commissioner Evalyn David
Mayor Douglas Hillman
Town Manager Marshall Labadie
Town Attorney Glen Torcivia
Town Clerk Lanelda Gaskins

ABSENT
Vice Mayor Natasha Moore

3. PLEDGE OF ALLEGIANCE

The Town Commission led the Pledge of Allegiance to the United State of America.

4. APPROVAL OF THE AGENDA

Mayor Hillman mentioned two (2) new items were added to the Consent Agenda as Item 9.B., Resolution No. 2022-028, and Item 9.B., Resolution No. 2022-030.

MOTION: David - Moved to approve the agenda as amended, which passed unanimously 3 -0.

5. PRESENTATIONS / PROCLAMATIONS

A. None.

6. PUBLIC COMMENTS

Mr. Paul Resnick spoke about comments that he made at a previous Town Commission meeting related to the Town's fire code.

Florida House Representative Elect Peggy Gossett-Seidman provided comments about the accomplishment of the Town such as the Marina Patrol vessel, Fire Rescue Department, the beaches, and State Road A1A.

7. ANNOUNCEMENTS

Mayor Hillman read the announcements as follows:

Board Vacancies

Board of Adjustment and Appeals - Two (2) vacancies for a three-year term

Meetings and Events

November 16, 2022 - 1:00 P.M.	Code Enforcement Board Regular Meeting
November 17, 2022 - 9:30 A.M.	Planning Board Regular Meeting
November 22, 2022 - 1:30 P.M.	Town Commission Special Meeting
December 06, 2022 - 1:30 P.M.	Town Commission Meeting
December 07, 2022 – 6:00 P.M.	Public Meeting Accessory Marine Facility Regulations

Board Action Report

A. None.

8. ORDINANCES

A. None.

9. CONSENT AGENDA

Mayor Hillman announced the Consent Agenda items.

A. Resolution No. 2022-029

A Resolution of the Town Commission of the Town of Highland Beach, Florida, ratifying the selection, appointments, and term of office of members of the Planning Board; and providing for an effective date.

B. Resolution No. 2022-028

A Resolution of the Mayor of the Town of Highland Beach, Florida, declaring a State of Emergency within the Town of Highland Beach and authorizing the evacuation of residents from certain areas of the Town or the whole Town; and providing for an effective date. (This item was added to the agenda).

C. Resolution No. 2022-030
A Resolution of the Town Commission of the Town of Highland Beach, Florida, confirming the termination of the State of Local Emergency within the Town of Highland Beach, Florida; and providing for an effective date. (This item was added to the agenda).

MOTION: David/Shoemaker - Moved to approve Resolution Nos. 2022-028, 2022-029 and 2022-030 (Consent Agenda) as presented, which passed unanimously 3-0.

10. UNFINISHED BUSINESS

A. Fire Rescue Implementation Update

Town Manager Labadie provided an update on the Fire Rescue implementation. Additionally, he provided a PowerPoint depicting images of the fire station site plans. Town Commission discussion ensued about the fire rescue station.

11. NEW BUSINESS

A. Consideration of the proposal from CivicPlus to update and centralize web services related to the Town's website.

Management Analyst Skender Coma presented this item and explained the benefits of modernizing the Town's website using CivicPlus. Town Manager Labadie also provided comments about modifying the Town's website.

Mayor Hillman asked that the Town Commission be kept up to date on the progress of CivicPlus implementation.

Town staff will bring back the CivicPlus presentation at a future Town Commission meeting.

MOTION: David/Hillman - Moved to approve the CivicPlus proposal, which passed unanimously 3-0.

B. Approval of Meeting Minutes

November 01, 2022 - Commission Meeting Minutes

November 04, 2022 - Commission Meeting Special Minutes

MOTION: David/Shoemaker - Moved to approve the November 01, 2022, and November 04, 2022, meeting minutes as presented, which passed unanimously 3-0.

12. TOWN COMMISSION COMMENTS

Commissioner John Shoemaker commented about the Veterans Day presentation. He also spoke about the storm damage on the beach.

Commissioner Evalyn David commented about the homes along Daytona Beach that were affected by the storm. She congratulated Florida House Representative Peggy Gossett-Seidman.

Mayor Douglas Hillman spoke about the private homes, private beaches, dunes, and seawalls in Highland Beach.

13. TOWN ATTORNEY'S REPORT

Town Attorney Torcivia has nothing to report.

14. TOWN MANAGER'S REPORT

Town Manager Labadie provided a report as follows:

The Natural Resources Preservation Advisory Board members are working on the dune issue.

He mentioned, due to Subtropical Storm Nicole the Marine Accessory Public Meeting has been postponed. The new meeting dates are December 5, 7, and 13 at 6:00 p.m. in the in the Library Community Room. Additionally, the new meeting dates will be placed on a post card, dispersed to the residents, placed on the Town's website and in the Manager's Monthly Minutes.

Town Manager Labadie reminded everyone that a Special Town Commission meeting will be held on Tuesday 22, 2022 at 1:30 P.M. to interview applicants for the temporary Town Commission vacant position.

Mayor Hillman mentioned each applicant will come to the podium for five minutes to speak and answer questions. Town Commission briefly spoke about the process for the upcoming special meeting.

15. ADJOURNMENT

The meeting adjourned at 2:37 p.m.

APPROVED December 06, 2022, Town Commission Meeting.

ATTEST:

Douglas Hillman, Mayor

Transcribed by
Lanelda Gaskins and Jaclyn DeHart

Lanelda Gaskins, MMC
Town Clerk

Date

Disclaimer: Effective May 19, 2020, per Resolution No. 20-008, all meeting minutes are transcribed as a brief summary reflecting the event of this meeting. Verbatim audio/video recordings are permanent records and are available on the Town's Media Archives & Minutes webpage: https://highlandbeach-fl.municodemeetings.com/.

DRAFT

TOWN OF HIGHLAND BEACH
TOWN COMMISSION SPECIAL MEETING
MINUTES

Town Hall / Commission Chambers
3614 South Ocean Boulevard
Highland Beach, Florida 33487

Date: November 22, 2022
Time: 1:30 PM

1. CALL TO ORDER

Mayor Hillman called the meeting to order at 1:33 P.M.

2. ROLL CALL

Commissioner John Shoemaker
Commissioner Evalyn David
Vice Mayor Natasha Moore
Mayor Douglas Hillman
Town Manager Marshall Labadie
Town Clerk Lanelda Gaskins

3. PLEDGE OF ALLEGIANCE

The Town Commission led the Pledge of Allegiance to the United States of America.

4. PUBLIC COMMENTS

Mr. Jack Halpern of 45 S. Ocean provided comments about the applicants who applied for the temporary Commissioner vacant position and the candidates running in the March 14, 2023, municipal election.

5. DESIGNATION OF CANVASSING BOARD MEMBERS

A. Resolution No. 2022-031

A Resolution of the Town Commission of the Town of Highland Beach, Florida, calling a General Election to be held on Tuesday, March 14, 2023, for the purpose of electing a Mayor-Commissioner, one Commissioner, and one Commissioner for an unexpired term; directing the election to be held within the municipal boundaries of the Town between the hours of 7:00 a.m. until 7:00 p.m.; requesting the Palm Beach County Supervisor of Elections to conduct the Town's General Election; designating the members of the Town's Canvassing Board; and providing for severability, conflicts and an effective date.

Mayor Hillman read the title of Resolution No. 2022-031.

MOTION: Hillman/Shoemaker - Moved to approve Resolution No. 2022-031 designing the Town Clerk and/or designee, Vice Mayor Moore, and Commissioner David as Canvassing Board Members, the motion passed unanimously 4 to 0.

6. FIRE RESCUE STATION UPDATES

Town Manager Labadie provided an update on the Fire Rescue Station as it relates to pilings, and the watch room area. He mentioned Fire Chief Glenn Joseph will be traveling to Alabama to look at a fire rescue vehicle.

7. COMMISSION INTERVIEW APPLICANTS / RESOLUTION NO. 2022-032 / SWEARING IN AND SEATING OF NEWLY APPOINTED COMMISSIONER

A. Commission Interview Applicants for the Vacant Commissioner position that is to be filled until the March 14, 2023, General Election, per Section 106(11) of the Town's Charter.

Applicants:

Margarita Chappelear

Joshua Davison

Judith Goldberg (virtually)

Peter Kosovsky

James B. Murray

Myles Schlam (virtually)

David Stern

Town Commission interviewed the above-referenced applicants excluding Mr. James Murray as he was not available to attend the meeting. Each applicant spoke about their interest to be a Town Commissioner, their professional experiences, community involvement, and town projects and/or accomplishments.

Town Clerk Lanelda Gaskins handed out a ballot to each Commissioner, and the Town Commission selected a person to fill the temporary vacancy. Town Clerk Lanelda Gaskins collected the ballots and read the results. Mr. David Stern received four (4) votes unanimously.

B. Resolution No. 2022-032

A Resolution of the Town Commission of the Town of Highland Beach, Florida filling a vacancy on the Town Commission created by the resignation of Peggy Gossett-Seidman, said appointment to be effective until the March 14, 2023, General Election.

Mayor Hillman read the title of Resolution No. 2022-032.

MOTION: David/Moore - Moved to approve Resolution No.2022-032 appointing David Stern as Commissioner until March 14, 2023, General Election.

C. Swearing In and Seating of the Newly Appointed Commissioner

Town Clerk Gaskins sworn in the Mr. David Stern, the newly appointed Commissioner. Commissioner Stern took his seat on the dais.

8. TOWN COMMISSION COMMENTS

Commissioner John Shoemaker had no comments.

Commissioner Evalyn David had no comments.

Commissioner David Stern thanked the Town Commission.

Vice Mayor Natasha Moore thanked the qualified candidates. She hopes the residents continue to step forward to be involved with the Town of Highland Beach.

Mayor Douglas Hillman made comments about the Town's website.

9. ADJOURNMENT

The meeting was adjourned at 3:57 P.M.

APPROVED December 06, 2022, Town Commission Meeting.

ATTEST:

Douglas Hillman, Mayor

Transcribed by
Lanelda Gaskins and Jaclyn DeHart

Lanelda Gaskins, MMC
Town Clerk

Date

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