

Oak Park City Council Agenda

June 20, 2022





AGENDA
REGULAR CITY COUNCIL MEETING
39th CITY COUNCIL
OAK PARK, MICHIGAN
June 20, 2022
7:00 PM

5A

1. CALL TO ORDER

2. PLEDGE OF ALLEGIANCE

3. ROLL CALL

4. APPROVAL OF AGENDA

5. CONSENT AGENDA

The following routine items are presented for City Council approval without discussion, as a single agenda item. Should any Council Member wish to discuss or disapprove any item it must be dropped from the blanket motion of approval and considered as a separate item.

- A. Regular City Council Meeting Minutes of June 7, 2022
- B. Request to approve Payment Application No. 1 for the Nine Mile Linear Park Landscape Project to Santoro Service, LLC of Chesterfield, Michigan in the amount of \$49,661.18
- C. Arts and Cultural Diversity Commission Meeting Minutes of May 12, 2022
- D. Licenses New and Renewals submitted for June 20, 2022

6. RECOGNITION OF VISITING ELECTED OFFICIALS

7. SPECIAL RECOGNITION/PRESENTATIONS:

- A. Special Retirement Recognition for Kevin Yee
- B. GFL Update Presentation

8. PUBLIC HEARINGS: None

9. COMMUNICATIONS: None

10. SPECIAL LICENSES:

- A. Request for a Special Event License and waiver of fee submitted by Julie Miller, 24221 Rensselaer, for the Rensselaer Block Party to be held July 16, 2022
- B. Request for a Special Event License and waiver of fee submitted by Solomon Radner, 26071 Radclift Place, for the Radclift Place Block Party to be held July 10, 2022
- C. Request for a Special Event License submitted by Janelle Smith, 8611 Troy St., for a graduation gathering to be held June 25, 2022
- D. Request for a Special Event License submitted by Uniquely Hand Crafts LLC, 21700 Greenfield Rd., #235 for an outside local business networking and marketing event to be held July 3, 2022
- E. Request for a Special Event License submitted by Uniquely Hand Crafts LLC, 21700 Greenfield Rd., #235 for an outside local business networking and marketing event to be held August 28, 2022

11. ACCOUNTING REPORTS:

- A. Approval for payment of invoices submitted by Garan, Lucow, Miller, P.C. for legal services in the total amount of \$14,523.64

12. BIDS: None

13. ORDINANCES:

- A. Second reading and adoption of an ordinance to amend Chapter 82, Utilities, of the Code of Ordinances of the City of Oak Park, Michigan, by amending Section 82-311 thereof
- B. Second reading and adoption of an ordinance to amend Article 2, Zoning Districts and Article 2, Approval Procedures of Appendix A, Zoning Code of Ordinances of the City of Oak Park by amending Article 2, Division 3; Article 2, Division 4; Article 5, Division 3 thereof

14. CITY ATTORNEY:

15. CITY MANAGER:

Finance

- A. Resolution regarding facsimile signatures at Fidelity Investments for Retiree Health Care
- B. Resolution approving requested Budget Amendment #2022-4 for period ending 6/30/22

Public Safety

- C. Request to approve the emergency purchase of a new Ladder Fire Truck from the manufacturer Smeal in the amount of \$1,389,356 and waive the competitive bid process

Department of Public Works

- D. Request to authorize the Public Works Department to participate in the Oakland County pre-bid contract for vehicle purchases totaling \$69,939.00

Technical & Planning/Engineering

- E. Request to approve a cost Sharing Agreement with Michigan Department of Transportation (MDOT) for the hot mix asphalt cold milling and two course overlay along Highway M-102 (Eight Mile Road), M-741 and to authorize City Manager Tungate to sign the agreement on behalf of the city

Administration

- F. Request to approve the appointment of Carla Allen to the Oak Park Youth Assistance Board

16. CALL TO THE AUDIENCE

Each speaker's remarks are a matter of public record; the speaker, alone, is responsible for his or her comments and the City of Oak Park does not, by permitting such remarks, support, endorse or accept the content, thereof, as being true or accurate. "Any person while being heard at a City Council Meeting may be called to order by the Chair, or any Council Member for failure to be germane to the business of the City, vulgarity, or personal attacks on persons or institutions." There is a three-minute time limit per speaker.

17. CALL TO THE COUNCIL

18. ADJOURNMENT

The City of Oak Park will comply with the spirit and intent of the American with Disabilities Act. We will provide support and make reasonable accommodations to assist people with disabilities to access and participate in our programs, facilities and services. Accommodations to participate at a Council Meeting will be made with 7-day prior notice.



**CITY OF OAK PARK, MICHIGAN
REGULAR COUNCIL MEETING OF THE
39th OAK PARK CITY COUNCIL
June 7, 2022
7:00 PM**

MINUTES

The meeting was called to order at 7:00 PM by Mayor McClellan in the Council Chambers of City Hall located at 14000 Oak Park Boulevard, Oak Park, MI 48237. (248) 691-7544.

PRESENT: Mayor McClellan, Mayor ProTem Edgar, Council Member Radner,
Council Member Whitehead

ABSENT: Council Member Burns

OTHERS

PRESENT: City Manager Tungate, City Clerk Norris, City Attorney Duff

APPROVAL OF AGENDA:

**CM-06-184-22 (AGENDA ITEM #4) ADOPTION OF THE AGENDA AS
PRESENTED – APPROVED**

Motion by Edgar, seconded by Whitehead, CARRIED UNANIMOUSLY, to approve the agenda with the following addition:

Voice Vote:	Yes:	McClellan, Radner, Edgar, Whitehead
	No:	None
	Absent:	Burns

MOTION DECLARED ADOPTED

CONSENT AGENDA:

CM-06-185-22 (AGENDA ITEM #5A-K) CONSENT AGENDA - APPROVED

Motion by Edgar, seconded by Radner, CARRIED UNANIMOUSLY, to approve the Consent Agenda consisting of the following items:

- A. Regular City Council Meeting Minutes of May 16, 2022 **CM-06-186-22**
- B. Recycling and Environmental Conservation Commission Meeting Minutes of March 17, 2022 **CM-06-187-22**
- C. Corridor Improvement Authority Board Meeting Minutes of April 21, 2022 **CM-06-188-22**
- D. Beautification Advisory Commission Meeting Minutes of April 19, 2022 **CM-06-189-22**
- E. Payment request for OHM Advisors in the total amount of \$30,998.25 **CM-06-190-22**
- F. Final Payment Application No. 5 for the 2020 Miscellaneous Concrete Project, M-714 **CM-06-191-22**
- G. Payment Application No. 1 for the 2021 Sidewalk Replacement Project, M-713 **CM-06-192-22**
- H. Payment Application No. 2 and Change Order No. 1 for the 2022 Joint and Crack Sealing Project, M-734 **CM-06-193-22**

- I. Payment Application No. 3 for the 2021 Sewer & Catch Basin Cleaning and TV Inspection Project, M-728 **CM-06-194-22**
- J. Payment of invoice from SmithGroup for Parks and Recreation Master Plan Update and Comprehensive Asset Management Contract **CM-06-195-22**
- K. Licenses New and Renewals submitted for June 7, 2022 **CM-06-196-22**

MERCHANT'S LICENSES – June 7, 2022
(Subject to All Departmental Approvals)

<u>NEW MERCHANT</u>	<u>ADDRESS</u>	<u>FEE</u>	<u>BUSINESS TYPE</u>
BOSS BLINKS	8550 NINE MILE	\$150.00	HAIR BOUTIQUE
<u>RENEWALS (2022)</u>	<u>ADDRESS</u>	<u>FEE</u>	
APOLLO HEAT TREATING	10400 CAPITAL AVE	\$225.00	METAL HEAT TREATING
BRUTTELL ROOFING	10821 CAPITAL AVE	\$150.00	CONTRACTOR
LIVE TMG LLC	21320 COOLIDGE HWY	\$150.00	MUSIC COWORKING SPACE
DEFINITELY DIFFERENT	22011 COOLIDGE HWY	\$150.00	RETAIL WOMENS CLOTHING
PROFESSIONAL BEAUTY CTR	23150 COOLIDGE HWY	\$150.00	SALON
PENNZOIL OIL CHANGE	13601 W ELEVEN MILE	\$225.00	AUTO - OIL CHANGE
OAK PARK SOCIAL	14691 W ELEVEN MILE	\$225.00	RESTAURANT
SALON TRULY BLESSED	21700 GREENFIELD RD	\$225.00	SALON
GLAMOUR IS LIFE BOUTIQUE	21700 GREENFIELD RD	\$225.00	WOMEN CLOTHING STORE
PAPERDOLLS KOUTURE	21700 GREENFIELD RD	\$225.00	RETAIL WOMENS CLOTHING
KEEPIFLY BRAIDING STUDIO	21900 GREENFIELD RD	\$225.00	HAIR BRAIDING SERVICES
LAVISH AMOR LASHES	23300 GREENFIELD RD	\$225.00	LASHES, WAXING
STREET CORNER MUSIC	26020 GREENFIELD RD	\$187.50	MUSIC ITEMS
BREAD BASKET	26052 GREENFIELD RD	\$225.00	RESTAURANT
GREAT HANDS MASSAGE	8230 W NINE MILE RD	\$150.00	MASSAGE
GATHERING ASSOCIATION	12724 W NINE MILE RD	\$225.00	SENIOR ASSOCIATION
GLENCO SALES CO	21600 WYOMING AVE	\$225.00	MANUFACTURING REP

Voice Vote:	Yes:	McClellan, Edgar, Radner, Whitehead
	No:	None
	Absent:	Burns

MOTION DECLARED ADOPTED

RECOGNITION OF VISITING ELECTED OFFICIALS: None

SPECIAL RECOGNITION/PRESENTATIONS:

(AGENDA ITEM #7A) Farmer's Market Presentation. Recreation Director Stasiak and Maralee Rosemond presented information about the upcoming Farmer's Market for the Summer of 2022.

PUBLIC HEARINGS: None

COMMUNICATIONS: None

SPECIAL LICENSES:

CM-06-197-22 (AGENDA ITEM #10A) SPECIAL EVENT REQUEST – EAST OAK PARK NEIGHBORHOOD ASSOC. – BLOCK PARTY IN BEST PARK – APPROVED

Motion by Radner, seconded by Whitehead, CARRIED UNANIMOUSLY, to approve the following Special Event request subject to all departmental approvals:

Name	Event	Fee
East Oak Park Neighborhood Assoc.	Block Party – Best Park July 23, 2022 Noon – 4:00 p.m.	Application fee waived

Voice Vote: Yes: McClellan, Radner, Edgar, Whitehead
 No: None
 Absent: Burns

MOTION DECLARED ADOPTED

CM-06-198-22 (AGENDA ITEM #10B) SPECIAL EVENT REQUEST – FIRST BAPTIST CHURCH OF OAK PARK – COMMUNITY OUTREACH EVENT – APPROVED

Motion by Radner, seconded by Whitehead, CARRIED UNANIMOUSLY, to approve the following Special Event request subject to all departmental approvals:

Name	Event	Fee
First Baptist Church of Oak Park 24201 Coolidge	Community Outreach Event July 9, 2022 Noon – 3:00 p.m.	Application fee waived

Voice Vote: Yes: McClellan, Radner, Edgar, Whitehead
 No: None
 Absent: Burns

MOTION DECLARED ADOPTED

ACCOUNTING REPORTS:

CM-06-199-22 (AGENDA ITEM #11A) PAYMENT OF AN INVOICE SUBMITTED BY THE LAW OFFICES OF SHIFMAN FOURNIER FOR LEGAL SERVICES IN THE TOTAL AMOUNT OF \$18,000.00 - APPROVED

Motion by Radner, Seconded by Edgar, CARRIED UNANIMOUSLY, to approve payment of invoice #15250 to Shifman Fournier for legal services from July 1, 2022 – September 30, 2022 in the total amount of \$18,000.00.

Roll Call Vote: Yes: McClellan, Radner, Edgar, Whitehead
 No: None
 Absent: Burns

MOTION DECLARED ADOPTED

BIDS: None

ORDINANCES:

CM-06-200-22 (AGENDA ITEM #13A) FIRST READING OF AN ORDINANCE TO AMEND CHAPTER 82, UTILITIES, OF THE CODE OF ORDINANCES OF THE CITY OF OAK PARK, MICHIGAN, BY AMENDING SECTION 82-311 THEREOF - APPROVED

Motion by Burns seconded by Edgar, CARRIED UNANIMOUSLY, to approve the first reading of an ordinance to amend Chapter 82, Utilities, of the Code of Ordinances of the City of Oak Park, Michigan, by amending Section 82-311 thereof.

Roll Call Vote:	Yes:	McClellan, Radner, Edgar, Whitehead
	No:	None
	Absent:	Burns

MOTION DECLARED ADOPTED

CM-06-201-22 (AGENDA ITEM #13B) FIRST READING OF AN ORDINANCE TO AMEND ARTICLE 2, ZONING DISTRICTS AND ARTICLE 2, APPROVAL PROCEDURES OF APPENDIX A, ZONING CODE OF ORDINANCES OF THE CITY OF OAK PARK BY AMENDING ARTICLE 2, DIVISION 3; ARTICLE 2, DIVISION 4; ARTICLE 5, DIVISION 3 THEREOF - APPROVED

Motion by Edgar, seconded by Whitehead, CARRIED UNANIMOUSLY, to approve the first reading of an ordinance to amend Article 2, Zoning Districts and Article 2, Approval Procedures of Appendix A, Zoning Code of Ordinances of the City of Oak Park by amending Article 2, Division 3; Article 2, Division 4; Article 5, Division 3 thereof

Roll Call Vote:	Yes:	McClellan, Radner, Edgar, Whitehead
	No:	None
	Absent:	Burns

MOTION DECLARED ADOPTED

CITY ATTORNEY: No Report

CITY MANAGER:

Administration

CM-06-202-22 (AGENDA ITEM #15A) RESOLUTION IN SUPPORT OF ACCEPTING MICHIGAN DEPARTMENT OF NATURAL RESOURCES LAND AND WATER CONSERVATION FUND GRANT - APPROVED

Motion by Whitehead, seconded by Edgar, CARRIED UNANIMOUSLY, to approve the following resolution in support of accepting Michigan Department of Natural Resources Land and Water Conservation Fund Grant:

STATE OF MICHIGAN
COUNTY OF OAKLAND
CITY OF OAK PARK

RESOLUTION IN SUPPORT OF ACCEPTING MICHIGAN DEPARTMENT OF NATURAL
RESOURCES LAND AND WATER CONSERVATION FUND GRANT

June 7, 2022

BE IT HEREBY RESOLVED, that the City Council of the City of Oak Park, Michigan, does hereby accept the terms of the Agreement for (grant number 26-01844) as received from the Michigan Department of Natural Resources, and that the City Council of the City of Oak park does hereby specifically agree, but not by way of limitation, as follows:

1. To appropriate all funds necessary to complete the project during the project period and to provide One Hundred Thousand (\$100,000.00) dollars to match the grant authorized by the Department of Natural Resources.
2. To maintain satisfactory financial accounts, documents, and records to make them available to the Department of Natural Resources for auditing at reasonable times.
3. To construct the project and provide such funds, services and materials as may be necessary to satisfy the terms of said Agreement.
4. To regulate the use of the facility constructed and reserved under this Agreement to assure the use thereof by the public on equal and reasonable terms.
5. To comply with any and all terms of said Agreement including all terms not specifically set forth in the foregoing portions of this Resolution

Voice Vote:	Yes:	McClellan, Radner, Edgar, Whitehead
	No:	None
	Absent:	Burns

MOTION DECLARED ADOPTED

**CM-06-203-22 (AGENDA ITEM #15B) RAISE FLAG REQUEST SUBMITTED BY
STATE REPRESENTATIVE REGINA WEISS - APPROVED**

Motion by Edgar, seconded by Radner, CARRIED UNANIMOUSLY, to waive the 30-day request requirement to fly the Pride Flag at City Hall during the Month of June, 2022.

Voice Vote:	Yes:	McClellan, Radner, Edgar, Whitehead
	No:	None
	Absent:	Burns

MOTION DECLARED ADOPTED

Finance

(AGENDA ITEM #15C) Quarterly Investment Report for period ending 03/31/2022
Finance Director Crawford presented the third quarter investment report.

Third Quarter Fiscal 2021/2022 Investment Report

The State of Michigan Public Act 213 of 2007 requires the City's investment officer to provide a written report quarterly to the governing body concerning the investment of all funds of the City that fall under Public Act 20. Public Act 20 governs how non-pension and non-OPEB funds can be invested. The attached report details the cash and investments (citywide for all funds) held by the City at March 31, 2022. The report includes a description of each investment by type, market and book values, current and yield to maturity interest rates and the number of days to maturity.

The third quarter investment report shows total citywide cash and investments of \$33,417,180 (market value) including cash in the operating account of \$1,134,204 (excluding outstanding checks and other adjustments), short-term investments in the Oakland County Investment Pool of \$19,937,338, money market of \$17,540, commercial paper of \$7,978,744 and long-term investments total \$4,349,354. The City has maximized investment return on short-term cash by utilizing the Oakland County Investment Pool and minimizing the amount maintained in the checking and daily depository accounts. During the past quarter, interest rates rose very quickly and are projected to continue to rise significantly to offset the very high inflation rate. The result of the rate increase is twofold, the interest rates on new investment are up more than 1-2% over the previous quarter helping future returns but the market value of the existing investments dropped substantially. While the existing investments will not realize a true loss as they will be held until maturity, the accounting rules require that the City realize for book purposes that the investments are worth less than they were three months ago. Going forward we will be looking to move the majority of the funds from the County Investment Pool into short-term commercial paper until interest rates and inflation stabilize as any investments with maturities over 2 years are at risk of significant unrealized losses moving forward. Investment

income for the months of January through March 2022 included interest income of \$39,607 and an unrealized loss on investments of \$129,320 for a net loss of \$98,125. As stated previously, this is a paper loss only and the unrealized loss will reverse as each investment gets closer to maturity.

During the third quarter overall investment return started moving forward with the rise in interest rates and the promise by the Feds of numerous additional rate increases over the coming months. The return for the third quarter was a net loss of approximately 1.1% primarily due the unrealized market adjustment. If the Fed's continue to raise rates several times in the near term as they have promised, the City can expect to see increased real rates of returns offset by unrealized losses on current long-term investments until interest rates stabilize.

(AGENDA ITEM #15D) Quarterly Financial Report for period ending 03/31/2022

Finance Director Crawford presented the third quarter financial report.

GENERAL FUND

REVENUES

Total revenues for the through the third quarter total approximately \$20.4 million, representing approximately 86% of the annual amended budget. Overall revenues are on track with budget with the following items of note:

- Property Tax Revenue – City property tax levies are billed July 1 and payable in full without penalty by August 31, 2021. As of the end of the third quarter approximately 96% of the billed taxes had been paid. Any unpaid real property taxes will be purchased from the City by Oakland County in May 2022. Property tax revenue is the primary reason the overall revenues are at 86% to date.
- Intergovernmental Revenue (State Revenue Sharing) – The City receives six bi-monthly payments annually for state-shared revenue. The third quarter report reflects three payments as the August 31, 2021, payment by statute is included as part of the June 30, 2021 revenues. The City will receive the remaining payments on April 30, June 30 and August 31 (2022) related to the current fiscal year. The estimated annual revenue included in the budget totals \$3,744,122.

- Fines and forfeiture revenue received from the 45th District Court is budgeted for a total of \$1,300,000 of which \$832,820 or 64% was received in through the third quarter. Overall court revenue continues to be less than prior year and less than budget due to the slow rebound from COVID-19 and the reduced number of and tickets written. The court has done a good job reducing their costs to offset some of the lost revenue. The revenue received is used to offset a portion of the court's operating costs. Finance will continue to monitor both the court revenue and expenditure budgets and propose amendments as necessary.
- Federal grants revenue represents the balance FEMA federal CARES funds and ARPA federal funds totaling \$1,484,571 passed through the state of Michigan Department of Treasury. 100% of the FY 2022 amended budget has been received as of March 31, 2022.

EXPENDITURES

Total expenditures through the third quarter total approximately \$18.9 million, representing approximately 77% of the annual amended budget. Overall departmental expenditure budgets are on track with the following items of note (departments over 75%):

- DPW Admin Department is at 80% of their amended budgets due to the increased costs of self-insured health insurance. A budget amendment will be presented during the fourth quarter to address the cost increase.
- The K-9 and Public Safety Departments are at 83% and 85%, respectively, of their amended budget primarily due almost 100% of their annual DB pension contribution has been made during the first nine months of the fiscal year.
- The Finance and Admin Services Department is slightly over budget primarily due to approximately 83% of the annual DB pension contribution has been made through the first three quarters of the fiscal year. The overall contribution will be on budget as contributions will be adjusted during the final quarter.
- Non-Departmental is at 93% of the amended budget. The primary reason for the budget overage is health insurance costs for general and public safety retirees are running more than budget. After meetings with the City's healthcare consultant, the hopes are the final actual costs will be near budget or slightly above the budget. Finance will continue to monitor the actual costs and bring forth amendments as needed.

Overall, the General Fund operations are in line with the annual budget. The projected fund balance remains at the targeted level of approximately 20% of annual expenditures

CM-06-204-22 (AGENDA ITEM #15E) BUDGET AMENDMENT #2022-3 FOR PERIOD ENDING MARCH 31, 2022 - APPROVED

Motion by Radner, seconded by Whitehead, CARRIED UNANIMOUSLY, to adopt the following resolution approving Budget Amendment #2022-3 for period ending March 31, 2022 as follows:

RESOLUTION

NOW, THEREFORE BE IT RESOLVED that the following
Budget Amendment #2022-3 is authorized:

GENERAL FUND		INCREASE (DECREASE)
REVENUES		
PROPERTY TAXES	\$	11,314
INTERGOVERNMENTAL		13,385
INTEREST INCOME	\$	242,557
TOTAL REVENUES		<u>267,256</u>
EXPENDITURES		
PUBLIC SAFETY		207,256
PUBLIC WORKS		(295,000)
TRANSFERS OUT		355,000
TOTAL EXPENDITURES		<u>267,256</u>
Net Increase to Fund Balance	\$	<u>-</u>

PARKS AND RECREATION IMPROVEMENT FUND		
REVENUES		
TRANSFER IN	\$	355,000
TOTAL REVENUES		<u>355,000</u>
EXPENDITURES		
CAPITAL OUTLAY		1,350,000
TOTAL EXPENDITURES		<u>1,350,000</u>
Net Increase to Fund Balance	\$	<u>(1,349,000)</u>

Roll Call Vote:	Yes:	McClellan, Edgar, Radner, Whitehead
	No:	None
	Absent:	Burns

MOTION DECLARED ADOPTED

Technical & Planning/Engineering

CM-06-205-22 (AGENDA ITEM #15F) PROPOSED PAYMENT REQUEST AND CHANGE ORDER FOR ENGINEERING CONSULTING SERVICES BY OHM ADVISORS IN THE TOTAL AMOUNT OF \$89,975.00 - APPROVED

Motion by Whitehead, seconded by Edgar, CARRIED UNANIMOUSLY, to approve the proposed payment request and change order for Engineering Consulting Services by OHM Advisors in the total amount of \$89,975.00

Roll Call Vote:	Yes:	McClellan, Edgar, Radner, Whitehead
	No:	None
	Absent:	Burns

MOTION DECLARED ADOPTED

**CM-06-206-22 (AGENDA ITEM #15G) RESOLUTION IN SUPPORT OF THE
LOCAL ROAD IMPROVEMENT MATCHING FUND PROGRAM
- APPROVED**

Motion by Radner, seconded by Edgar, CARRIED UNANIMOUSLY, to approve the following resolution in support of the Local Road Improvement Matching Fund Program:

STATE OF MICHIGAN
COUNTY OF OAKLAND
CITY OF OAK PARK

**RESOLUTION IN SUPPORT OF THE LOCAL ROAD IMPROVEMENT
MATCHING FUND PROGRAM**

WHEREAS, the Oakland County Board of Commissioners established the Local Road Improvement Matching Fund Program (LRIP); and

WHEREAS, the City of Oak Park has applied for LRIP funding; and

WHEREAS, the City of Oak Park was awarded \$69,871.00 in LRIP reimbursement funds to be used on the Nine Mile Road Improvement Project, M-740; and

WHEREAS, the City of Oak Park agrees to fund administrative, coordination, permit fees, preliminary engineering, right-of-way acquisition and construction engineering services related to the implementation of the Nine Mile Road Improvement Project; and

WHEREAS, the City of Oak Park acknowledges and agreed that the City shall assume any and all responsibilities and liabilities arising out of the administration of the project; and

NOW, THEREFORE, BE IT RESOLVED, that the City of Oak Park will utilize LRIP funds to improve economic development as part of the Nine Mile Road Improvement Project, M-740.

Voice Vote:	Yes:	McClellan, Edgar, Radner, Whitehead
	No:	None
	Absent:	Burns

MOTION DECLARED ADOPTED

Department of Public Works

**CM-06-207-22 (AGENDA ITEM #15H) REQUEST TO AUTHORIZE THE PUBLIC
WORKS DEPARTMENT TO PARTICIPATE IN THE STATE OF
MICHIGAN (MIDEAL) AND ROCHESTER HILLS PRE-BID
CONTRACTS FOR THE PURCHASE OF VEHICLES TOTALING
\$556,994.13 AND TO AUTHORIZE MOVING FORWARD THE
BUDGETED AMOUNT OF \$240,000 FROM THE WATER/SEWER**

**FUND IN FY 2023-24 TO FY 2022-23 TO PURCHASE THE 2024
TANDEM AXLE FREIGHTLINER - APPROVED**

Motion by Radner, seconded by Edgar, CARRIED UNANIMOUSLY, to authorize the Public Works Department to participate in the State of Michigan (MiDeal) and Rochester Hills pre-bid contracts for the purchase of the following vehicles totaling \$556,994.13 and to authorize moving forward the budgeted amount of \$240,000 from the Water/Sewer fund in FY 2023-24 to FY 2022-23 to purchase the 2024 Tandem Axle Freightliner:

Vehicle:	Department:	Amount: (Pre-Bid Contract)	Account:
2024 Freightliner 39,000 GVW Chassis Single Axle Dump Truck	Public Works	\$234,942.20 (Rochester Hills Co-op RFP-RH-20-023)	Major Streets: 202-18.479-970 Local Streets: 203-18.479.970
2024 Freightliner 64,000 GVW Chassis Tandem Axle Dump Truck	Public Works	\$193,982.00 (Rochester Hills Co-op RFP-RH-20-023)	Water/Sewer: 592-18.538-970
John Deere 310SL Backhoe with accessories	Public Works	\$128,069.93 (MiDeal Contract 071B77000090)	Water/Sewer: 592-18.538-970 Major Streets: 202-18.479-970 Local Streets: 203-18.479.970

Roll Call Vote: Yes: McClellan, Edgar, Radner, Whitehead
 No: None
 Absent: Burns

MOTION DECLARED ADOPTED

**CM-06-208-22 (AGENDA ITEM #15I) PROPOSAL FOR PROFESSIONAL
SERVICES TO PROVIDE GPS/GIS SERVICES AS PART OF THE
DRINKING WATER ASSET MANAGEMENT (DWAM) GRANT -
APPROVED**

Motion by Radner, seconded by Whitehead, CARRIED UNANIMOUSLY, to approve the proposal for professional services to provide GPS/GIS services as part of the Drinking Water Asset Management (DWAM) Grant.

Roll Call Vote: Yes: McClellan, Edgar, Radner, Whitehead
 No: None
 Absent: Burns

MOTION DECLARED ADOPTED

Economic Development

**CM-06-209-22 (AGENDA ITEM #15J) REQUEST TO APPROVE THE
RECOMMENDATION TO SELECT FPJ INVESTMENT, LLC AS
THE SELECTED BIDDER AS THE DEVELOPER FOR THE 2022
TAX FORECLOSURES - APPROVED**

Motion by Burns, seconded by Whitehead, CARRIED UNANIMOUSLY, to approve the recommendation to select FPJ Investment, LLC as the selected bidder as the developer for the 2022 tax foreclosures.

Roll Call Vote:	Yes:	McClellan, Edgar, Radner, Whitehead
	No:	None
	Absent:	Burns

MOTION DECLARED ADOPTED

Communications

(AGENDA ITEM #15K) Event and Activity Update

Communications Director Flynn reported upcoming activities and events for the city.

CALL TO THE AUDIENCE:

Dana Braxton, discussed construction on Northend and Zoom meetings.
Ms. Atkins, discussed the need for ordinances to help regulate shrub height.
Ken Sherman discussed garbage pick-up problems regarding GFL.
Gloria Slade, discussed overgrown hedges near 14161 Greenbriar.
Eddie Howard, asked about getting rid of a mattress.

ADJOURNMENT:

There being no further business to come before the City Council, Mayor McClellan adjourned the meeting at 8:50 P.M.

T. Edwin Norris, City Clerk

Marian McClellan, Mayor

**BUSINESS OF THE CITY COUNCIL, OAK PARK, MICHIGAN****AGENDA OF:** June 20, 2022**AGENDA#****SUBJECT:** Payment Application No. 1 for the Nine Mile Linear Park Landscape Project, M-739.**DEPARTMENT:** Technical & Planning – Engineering KMG**SUMMARY:** Attached is Payment Application No. 1 for the Nine Mile Linear Park Landscape Project, M-739 by Santoro Service, LLC of Chesterfield, Michigan. This project is installing the landscaping in the linear park in the area shown on the attached map. This project is approximately 36% complete.**FINANCIAL STATEMENT:**

Original Contract Amount:	\$152,566.90
Total Completed to Date:	\$ 55,179.09
Less Retainage:	\$ 5,517.91
Net Earned:	\$ 49,661.18
Deductions:	\$ 0.00
Balance:	\$ 49,661.18
Payments to Date:	\$ 0.00
Amount Due Santoro Service:	\$ 49,661.18

RECOMMENDED ACTION: It is recommended that Payment Application No. 1 for the Nine Mile Linear Park Landscape Project to Santoro Service, LLC of Chesterfield, Michigan be approved for the amount of \$49,661.18. Funding is available in the Public Improvement Fund 401-70-900-970 for this expenditure.**APPROVALS:**City Manager: ET Department Director: RBDirector of Finance: SC Legal: NABudgeted: ☒**EXHIBITS:** Payment Application No. 1, map

PAYMENT APPLICATION

PROJECT: Nine Mile Linear Park Landscaping Project
OWNER: City of Oak Park, Michigan
CONTRACTOR: Santoro Services, LLC
 29500 23 Mile Road
 Chesterfield, MI 48047

JOB NUMBER: M-739
APPLICATION NO.: 1
PERIOD ENDING: 6/11/22
PAGE: 1 of 2

Item No.	Description	Original Bid Quantity	Unit	Unit Price	Period Quantity	Period Amount	Quantity To Date	Amount To Date
1	Mobilization, Max	1	LSUM	\$6,500.00	1.00	\$6,500.00	1.00	\$6,500.00
2	Cobblestone, 12 inch depth	40	SYD	\$98.75	0.00	\$0.00	0.00	\$0.00
3	Acer Rubrum, 3 inch	4	EACH	\$350.00	2.00	\$700.00	2.00	\$700.00
4	Achillea millefolium, #1 cont.	83	EACH	\$18.00	0.00	\$0.00	0.00	\$0.00
5	Amelanchier canadensis 'Autumn Brilliance'	9	EACH	\$495.00	5.00	\$2,475.00	5.00	\$2,475.00
6	Arctostaphylos uva-ursi, quant.	1,039	EACH	\$13.50	0.00	\$0.00	0.00	\$0.00
7	Aronia melanocarpa, 'Autumn Magic', #5 cont.	23	EACH	\$79.00	0.00	\$0.00	0.00	\$0.00
8	Asclepias Tuberosa, #1 cont.	22	EACH	\$22.00	0.00	\$0.00	0.00	\$0.00
9	Celtis Occidentalis, 3 inch	5	EACH	\$425.00	3.00	\$1,275.00	3.00	\$1,275.00
10	Cercis Canadensis, 10 ft height	5	EACH	\$425.00	0.00	\$0.00	0.00	\$0.00
11	Cornus sericea, #5 cont.	5	EACH	\$79.00	0.00	\$0.00	0.00	\$0.00
12	Echinacea purpurea, #1 cont.	81	EACH	\$18.00	33.00	\$594.00	33.00	\$594.00
13	Geranium maculatum, #1 cont.	255	EACH	\$18.00	13.00	\$234.00	13.00	\$234.00
14	Ilex verticillata, #5 cont.	8	EACH	\$79.00	0.00	\$0.00	0.00	\$0.00
15	Iris virginica, #1 cont.	26	EACH	\$18.00	0.00	\$0.00	0.00	\$0.00
16	Juniperus Chinensis 'Nick's Compact', #5 cont.	177	EACH	\$75.00	0.00	\$0.00	0.00	\$0.00
17	Juniperus virginiana, 10 ft height	2	EACH	\$365.00	0.00	\$0.00	0.00	\$0.00
18	Larix Laricina, 10 ft height	1	EACH	\$495.00	0.00	\$0.00	0.00	\$0.00
19	Monarda spicata, #1 cont.	5	EACH	\$18.00	0.00	\$0.00	0.00	\$0.00
20	Panicum virgatum 'Shenandoah', #1 cont.	19	EACH	\$20.00	0.00	\$0.00	0.00	\$0.00
21	Physocarpus opulifolius 'Diabolo', #5 cont.	8	EACH	\$79.00	0.00	\$0.00	0.00	\$0.00
22	Potentilla fruticosa 'Goldfinger', #1 cont.	89	EACH	\$19.00	0.00	\$0.00	0.00	\$0.00
23	Quercus rubra, 3 inch	5	EACH	\$495.00	5.00	\$2,475.00	5.00	\$2,475.00
24	Rhus aromatica 'Gro-Low', #1 cont.	125	EACH	\$18.00	0.00	\$0.00	0.00	\$0.00
25	Rudbeckia fulgida var sulivansii 'Goldsturm', #1 cont.	27	EACH	\$20.00	0.00	\$0.00	0.00	\$0.00
26	Schizachyrium scoparium, #1 cont.	21	EACH	\$18.00	0.00	\$0.00	0.00	\$0.00
27	Sporobolus heterolepis, #1 cont.	264	EACH	\$18.00	69.00	\$1,242.00	69.00	\$1,242.00
28	Symphoricarpon novae-angliae, #1 cont.	10	EACH	\$18.00	0.00	\$0.00	0.00	\$0.00
29	Vitis x 'Frontier', 3 inch	5	EACH	\$425.00	3.00	\$1,275.00	3.00	\$1,275.00
30	Viburnum dentatum 'Blue Muffin', #5 cont.	15	EACH	\$79.00	0.00	\$0.00	0.00	\$0.00
31	Watering and cultivating, 1st year	1	LSUM	\$9,100.00	0.00	\$0.00	0.00	\$0.00
32	Watering and cultivating, 2nd year	1	LSUM	\$10,400.00	0.00	\$0.00	0.00	\$0.00
33	Plant bed preparation	1,525	SYD	\$32.95	1,006.50	\$33,164.18	1,006.50	\$33,164.18
34	Acer rubrum, 3 inch	1	EACH	\$350.00	0.00	\$0.00	0.00	\$0.00
35	Aronia melanocarpa 'Autumn Magic', #5 cont.	6	EACH	\$79.00	0.00	\$0.00	0.00	\$0.00
36	Cercis canadensis, 10 ft height	2	EACH	\$425.00	0.00	\$0.00	0.00	\$0.00
37	Geranium maculatum, #1 cont.	47	EACH	\$18.00	0.00	\$0.00	0.00	\$0.00
38	Panicum virgatum 'Shenandoah', #1 cont.	9	EACH	\$20.00	0.00	\$0.00	0.00	\$0.00
39	Rhus aromatica 'Gro-Low', #1 cont.	5	EACH	\$18.00	0.00	\$0.00	0.00	\$0.00
40	Rudbeckia fulgida var sulivansii 'Goldsturm', #1 cont.	3	EACH	\$20.00	0.00	\$0.00	0.00	\$0.00
41	Sporobolus heterolepis, #1 cont.	22	EACH	\$18.00	0.00	\$0.00	0.00	\$0.00
42	Vitis x 'Frontier', 3 inch	1	EACH	\$425.00	0.00	\$0.00	0.00	\$0.00
43	Plant bed preparation	67	SYD	\$32.95	0.00	\$0.00	0.00	\$0.00
44	Grass Restoration	0	SFT	\$0.65	8,069.10	\$5,244.92	8,069.10	\$5,244.92
						\$55,179.09		\$55,179.09

Original Contract Amount: \$152,566.90

Earnings This Period: \$55,179.09
 Total Earnings to Date: \$55,179.09
 Less Retainage: \$5,517.91
 Net Earned: \$49,661.18
 Deductions: \$0.00
 Balance: \$49,661.18
 Payments to Date: \$0.00

Amount Due: \$49,661.18

Accepted By:

Francis Santoro
 Francis Santoro (Jun 14, 2022 13:22 EDT)

Santoro Services, LLC

Kara M. Grisamer

Kara Grisamer, City Engineer
 City of Oak Park, Michigan

Date:

Jun 14, 2022

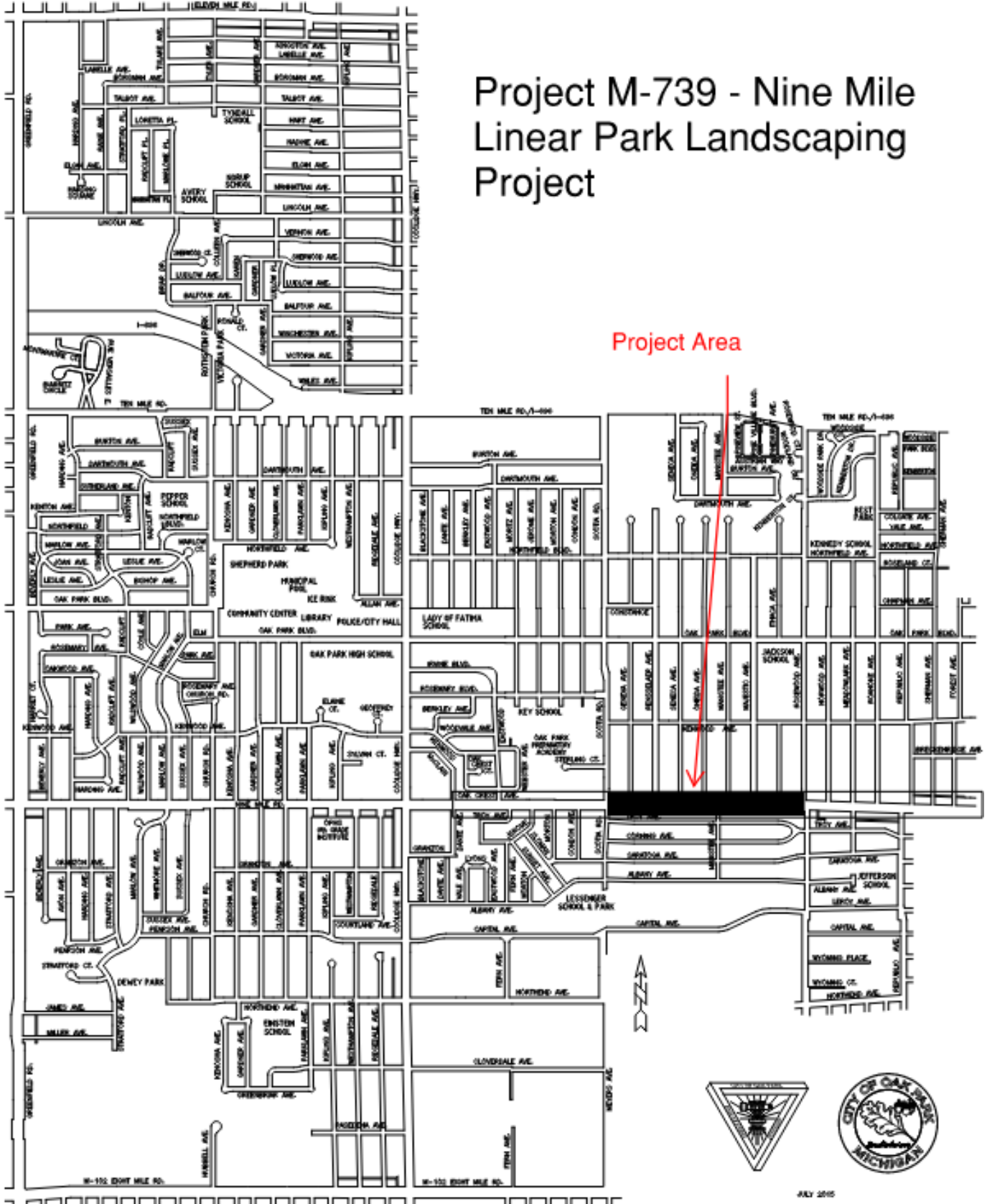
Date:

Jun 14, 2022

City of Oak Park

Project M-739 - Nine Mile Linear Park Landscaping Project

Project Area



JULY 2015

7. **Crystal Van Vleck, Gallery artist, Richard Halpern. Can't keep up with inventory. Give him option for next show. Sports themed artist next up for installation.**
8. **Donny Wilson, Film fest has no submissions yet, need to share info as much as possible. File special permit. Three thousand dollars in Film Fest fund. 48 hour film contest; write, direct, edit, show. Carla motioned to fund OPFF \$600.00 from AC/DC for domain site.**
9. **Councilman Whitehead, Juneteenth, Essay Contest, \$500.00 for top entry, \$3000.00 in funds, looking for sponsors. Need performers/artists. Sunday is Father's Day. Honoring fathers & grandfathers. \$5,000.00 in budget from city for 2023 Juneteenth.**
10. **Crystal Van Vleck, Woodward Corridor Improvement Authority, grant for Beer Garden, (blocking Gardener, seating in parking lot) Oktoberfest location.**
11. **Independence Day, Stefanie's car. \$100.00 in candy. Wear t-shirts or polos?**
12. **Artist Cynthia, showed examples of crafts being offered during Summer Blast, Sunday June 19, 12-4p.m. Terri McQueen and Avi Snider offered to help during event.**
- 13.

14. ITEMS FOR NEXT MONTH'S AGENDA

- a. Summer Blast/Juneteenth
- b. Fourth of July
- c. Oak Park Film Fest
- d. Beer Garden on Gardener
- e.

15. ADJOURNMENT

- a. **Next Meeting:** Thursday July 14, 2022
- b. **Time of Adjournment:** 8:12p.m.

MERCHANT'S LICENSES - JUNE 20th, 2022

(Subject to All Departmental Approvals)

NEW MERCHANT	ADDRESS	FEES	BUSINESS TYPE
UNTANGLED HAIR	23059 COOLIDGE	\$150.00	HAIR SALON
EVERY BODY KNEADED MASSAGE	25900 GREENFIELD 258	\$150.00	PROFESSIONAL MASSAGE THERAPY SERVICES

RENEWALS FOR 2022	ADDRESS	FEES	BUSINESS TYPE
IMPASTO	12930 CAPITAL AVE	\$225.00	FOOD TRUCK
CLOSEOUTS RR US	13240 CAPITAL AVE B	\$225.00	WHOLESALE
CAMBRIDGE CHIROPRACTIC	21580 GREENFIELD RD	\$225.00	CHIROPRACTIC PRACTICE/OFFICE
CATCH A FADE BARBER LOUNGE	21700 GREENFIELD RD # 115	\$225.00	SALON
LOCLIFE DREAD HOT	21700 GREENFIELD RD # 131	\$225.00	NATURAL HAIR SALON
TOTAL ONE RESOURCES	23300 GREENFIELD RD # 122	\$225.00	PROVIDE COUNSELING SERVICES AND JOB TRAINING FOR THE DISABLED.
HAIRBEAU	23300 GREENFIELD RD # 223	\$225.00	HAIR SALON AND HAIR RETAIL
BBQ CENTRAL	25298 GREENFIELD RD	\$225.00	BBQ CARRY OUT
ONE STOP CASH ADVANCE	8530 W NINE MILE RD A	\$225.00	CASH ADVANCE
OAK PARK MAX CARE PHYSICAL THERAPY	12702 W NINE MILE RD	\$225.00	THERAPY SERVICES
WALGREENS #5425	13550 W NINE MILE RD	\$225.00	RETAIL/PHARMACY

MASSAGE FACILITY LICENSE - June 20, 2022

(Subject to All Departmental Approvals)

NAME	ADDRESS	FEE
EVERY BODY KNEADED MASSAGE FACILITY	25900 GREENFIELD	\$125

**CITY OF OAK PARK
MICHIGAN
APPLICATION FOR SPECIAL EVENT LICENSE**

Today's Date: June 5, 2022

Applicant Information

Applicant/Business Name: Rensselaer Block Club, C/O Julie Miller

Applicant/Business Address: 24221 Rensselaer

Phone number: 248-542-9086

E-Mail Address: julie.h.miller@wayne.edu

Relation of applicant to business: Organizer

Has applicant ever been convicted of a felony? ☐ Yes ☒ No

Owner Information

Owner or manager of site: Block Club

Phone: _____

Names and addresses of partners or officers of corporation:

24221 Rensselaer, Oak Park, MI 48237

Event Information

Proposed date(s) of event: July 16, 2022

Has this event been held previously? ☒ Yes ☐ No

Address or location of event: Rensselaer between Northfield and the Apartments

Is this a City owned park? No

If this event is to take place in a City owned park, have you received and do you agree to abide by the City's Parks and Recreation rules and regulations? ☐ Yes ☐ No

Nature, purpose, and detailed description of event: Annual block party for residents of this block of Rensselaer

Will the event be open to the public? ☒ Yes ☐ No

If yes, please describe how so: Residents of the block and family members

Estimated number of people attending event? 40

Hours of Event: 5:30 p.m. to 10:00 p.m.

Are you requesting to have a parade? ☐ Yes ☒ No **If yes, please attach a map of the parade route**

Where will the parade participants be walking? ☐ Sidewalks ☐ Streets

Will the parade require streets to be blocked off? ☐ Yes ☐ No

If yes, how many streets/intersections will need to be blocked : _____

Please attach a sign off from the residences located on the affected streets, indicating that they are aware of the event to take place, the date, times and location.

Food Services

Will food or beverages be sold at event? ☐ Yes ☒ No, if yes please list type(s) of food to be sold:

Will the food be prepackaged or prepared on site: _____

Please note: *If your application is approved and you plan to prepare food on site, you will need to contact the Oakland County Health Department at 248-424-7000 for inspection. You will also need to provide temporary water services at the site where the food is prepared.*

Mechanical Amusement

Will there be any mechanical rides at event? ☐ Yes ☒ No, if yes, please provide the name and the address of amusement operators: _____

Will the event have a moonwalk? ☐ Yes ☒ No, if yes, please provide the name and address of Company/Entity providing moonwalk: _____

Will the event have video games, etc.? If so, please provide the names and address of company providing the Games: No _____

Please Note: *You must provide proof of insurance for all mechanical rides, moonwalks, circus rides/games, etc. The City of Oak Park must be listed on the insurance certificate as "additionally insured." A copy of the City Ordinance with required liability insurance coverage for these events is attached. Also, certification by the State of Michigan Department of Labor is required for all mechanical amusement devices and rides.*

Technical/Support

Will the event require use of electrical supply source? ☐ Yes ☒ No, if yes, please describe:

Will sanitary facilities be required at event? ☐ Yes ☒ No

Will tent(s) be used at the event? ☐ Yes ☐ No, if yes, please state size(s) of tent:

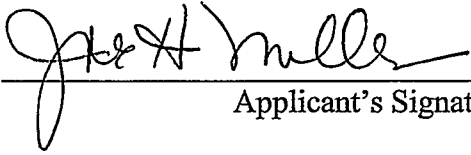
Will the event have banners displayed? ☒ Yes ☐ No, if so, please provide the number of signs and dimension(s): Yes, just a sign at the end of the block on the barricades to advise of the block party

Please Note: *If a temporary generator or electric supply source is provided, you must provide an Electrical permit by a licensed electrical contractor. Also, you will need certification of flame spread rates of all canvas and/or cloth enclosures.*

Other possible Special Event requirements include: additional application, inspection and bond fees, temporary sign permit.

The fee for a Special Event application is \$100: The fee is non-refundable. Once an application is received, the City Clerk's Office will send copies of the application to the following departments: City Manager, Public Safety, Public Works, and Recreation. Each department will review the application and provide a written estimate of services they will need to provide, along with man-hours and costs (if any). The City Clerks' office will contact the applicant to inform them of the additional costs involved. At that time the applicant can decide whether or not to proceed with the event. If so, the event will be placed on the City Council agenda for approval.

Should any of the above information prove to be inaccurate or untruthful, it will be grounds to deny the applicant's request or revoke any approvals. I hereby certify the above information to be true and accurate to the best of my knowledge.



Applicant's Signature

We request a waiver of the \$120 fee -
this is a non-profit event - just a gathering
of neighbors -

Thank you!

Joe Miller

PETITION FOR TEMPORARY STREET CLOSURE

We the undersigned hereby request that RENSSELAER STREET BETWEEN NORTHFIELD AND THE VILLAGE GREEN APPARTMENTS be closed to vehicle traffic for the purpose of conducting a block party. The time and date of the requested closure is 5:30 p.m. to 10:00 p.m. on Saturday, July 16, 2022.

NAME AND RENSSELAER ADDRESS (NUMBER ONLY)

No.	Name	Address
1	C. G. Gifford	24321
2		24311
3	Juleen Heath-Sones	24301
4	Juliana Astor	24291
5		24271
6	Heather Sch	24261
7		24251
8		24247
9	Michelle Simon	24245
10		24241
11	Lanise Smith	24231
12	Greg Miller	24221
13	Maria Fellman	24211
14		24201
15	Bonnie Murray	24320
16	Mike Espejo	24310
17		24300
18	R. Bowman	24290
19	James	24270
20		24260
21		24250
22		24240
23		24230
24	Earl Allen	24220
25	Not Public	24210
26		24200

SPECIAL EVENT LICENSE APPLICATION FEE ESTIMATION

Rensselaer Block Party
Juile Miller, 24221 Rensselaer
DATE: July 16, 2022 at 5:30 pm – 10:00 pm

<u>DEPARTMENT</u>	<u>SERVICES</u>	<u>ESTIMATED HOURS</u>	<u>ESTIMATED COST</u>
TECHNICAL AND PLANNING <i>Rob Barrett</i> <i>Dan Fairless*</i>	Signs/banners cannot create a clear vision obstruction for vehicles	N/A	N/A
PUBLIC SAFETY <i>Steve Cooper</i>	Normal Patrol Functions	N/A	N/A
RECREATION <i>Laurie Stasiak</i>	N/A	N/A	N/A
DPW <i>Dave DeCoster</i>	Drop off / Pick Up Barricades	1.0	N/A
ADDITIONAL <i>Administration</i>	N/A	N/A	\$100 fee waiver requested

**CITY OF OAK PARK
MICHIGAN
APPLICATION FOR SPECIAL EVENT LICENSE**

Today's Date: June 10, 2022

Applicant Information

Applicant/Business Name: Solomon M Radner

Applicant/Business Address: 26071 Radcliff Place

Phone number: 248-372-1749 E-Mail Address: SolomonRadner@gmail.com

Relation of applicant to business: I reside on the block

Has applicant ever been convicted of a felony? ☐ Yes ☒ No

Owner Information

Owner or manager of site: Radcliff Place residents - no owners Phone: n/a

Names and addresses of partners or officers of corporation:

everyone who resides on Radcliff Place

Event Information

Proposed date(s) of event: July 10, 2022 Has this event been held previously? ☒ Yes ☐ No

Address or location of event: Radcliff Place

Is this a City owned park? _____

If this event is to take place in a City owned park, have you received and do you agree to abide by the City's Parks and Recreation rules and regulations? ☐ Yes ☐ No

Nature, purpose, and detailed description of event: _____

To gather with our neighbors and enjoy the summer together. We would like to block off the street from 11 AM thorough 4 PM.

Will the event be open to the public? ☒ Yes ☐ No

If yes, please describe how so: everyone can come join the party

Estimated number of people attending event? 50 Hours of Event: 11 AM - 4 PM

Are you requesting to have a parade? ☐ Yes ☒ No If yes, please attach a map of the parade route

Where will the parade participants be walking? ☐ Sidewalks ☐ Streets

Will the parade require streets to be blocked off? ☐ Yes ☐ No

If yes, how many streets/intersections will need to be blocked : _____

Please attach a sign off from the residences located on the affected streets, indicating that they are aware of the event to take place, the date, times and location.

Food Services

Will food or beverages be sold at event? ☒ Yes ☐ No, if yes please list type(s) of food to be sold:

hot dogs, sodas, chips, candies, and other goodies for the kids - and anything else that anyone wants to bring out for the kids.

Will the food be prepackaged or prepared on site: no

Please note: *If your application is approved and you plan to prepare food on site, you will need to contact the Oakland County Health Department at 248-424-7000 for inspection. You will also need to provide temporary water services at the site where the food is prepared.*

Mechanical Amusement

Will there be any mechanical rides at event? ☐ Yes ☒ No, if yes, please provide the name and the address of amusement operators: _____

Will the event have a moonwalk? ☐ Yes ☒ No, if yes, please provide the name and address of Company/Entity providing moonwalk: _____

Will the event have video games, etc.? If so, please provide the names and address of company providing the Games: No way! the whole point is to turn off the screens and get outside!

Please Note: *You must provide proof of insurance for all mechanical rides, moonwalks, circus rides/games, etc. The City of Oak Park must be listed on the insurance certificate as "additionally insured." A copy of the City Ordinance with required liability insurance coverage for these events is attached. Also, certification by the State of Michigan Department of Labor is required for all mechanical amusement devices and rides.*

Technical/Support

Will the event require use of electrical supply source? ☐ Yes ☒ No, if yes, please describe:

Will sanitary facilities be required at event? ☐ Yes ☒ No

Will tent(s) be used at the event? ☐ Yes ☒ No, if yes, please state size(s) of tent:

Will the event have banners displayed? ☐ Yes ☒ No, if so, please provide the number of signs and dimension(s):

Please Note: *If a temporary generator or electric supply source is provided, you must provide an Electrical permit by a licensed electrical contractor. Also, you will need certification of flame spread rates of all canvas and/or cloth enclosures.*

Other possible Special Event requirements include: additional application, inspection and bond fees, temporary sign permit.

The fee for a Special Event application is \$100: The fee is non-refundable. Once an application is received, the City Clerk's Office will send copies of the application to the following departments: City Manager, Public Safety, Public Works, and Recreation. Each department will review the application and provide a written estimate of services they will need to provide, along with man-hours and costs (if any). The City Clerks' office will contact the applicant to inform them of the additional costs involved. At that time the applicant can decide whether or not to proceed with the event. If so, the event will be placed on the City Council agenda for approval.

A fee Waiver

SPECIAL EVENT LICENSE APPLICATION FEE ESTIMATION

Radcliff Place Block Party
Solomon Radner, 26071 Radcliff Place
DATE: July 10, 2022 at 11:00 a.m. – 4:00 pm

<u>DEPARTMENT</u>	<u>SERVICES</u>	<u>ESTIMATED HOURS</u>	<u>ESTIMATED COST</u>
TECHNICAL AND PLANNING <i>Rob Barrett</i> <i>Dan Fairless*</i>	N/A	N/A	N/A
PUBLIC SAFETY <i>Steve Cooper</i>	Normal Patrol Functions	NA	NA
RECREATION <i>Laurie Stasiak</i>	N/A	N/A	N/A
DPW <i>Dave DeCoster</i>	Drop Off / Pick up barricades	1 Hr	N/A
ADDITIONAL <i>Administration</i>	N/A	N/A	\$100 fee waiver requested

**CITY OF OAK PARK
MICHIGAN
APPLICATION FOR SPECIAL EVENT LICENSE**

Today's Date: 5/31/2022

Applicant Information

Applicant/Business Name: Janelle Smith

Applicant/Business Address: 8611 Troy St. Oak Park 48237

Phone number: 248-790-2686 E-Mail Address: Janelle f Smith@yahoo.com

Relation of applicant to business: _____

Has applicant ever been convicted of a felony? ☐ Yes ☒ No

Owner Information

Owner or manager of site: Janelle Smith Phone: 248-790-2686

Names and addresses of partners or officers of corporation:

Event Information

Proposed date(s) of event: 06-25-22 Has this event been held previously? ☒ Yes ☐ No
Address or location of event: 8611 Troy St. Oak Park a different graduation party.

Is this a City owned park? No

If this event is to take place in a City owned park, have you received and do you agree to abide by the City's Parks and Recreation rules and regulations? ☐ Yes ☒ No

Nature, purpose, and detailed description of event: High School graduation gathering.

Will the event be open to the public? ☐ Yes ☒ No

If yes, please describe how so: _____

Estimated number of people attending event? 75-100 Hours of Event: 3p - 10pm

Are you requesting to have a parade? ☐ Yes ☒ No **If yes, please attach a map of the parade route**

Where will the parade participants be walking? ☐ Sidewalks ☒ Streets

Will the parade require streets to be blocked off? ☒ Yes ☐ No

If yes, how many streets/intersections will need to be blocked : 1

asking to block off meadowlark St. between Troy + Saratoga.

Please attach a sign off from the residences located on the affected streets, indicating that they are aware of the event to take place, the date, times and location.

Food Services

Will food or beverages be sold at event? ☐ Yes ☒ No, if yes please list type(s) of food to be sold:

Will the food be prepackaged or prepared on site: No

Please note: *If your application is approved and you plan to prepare food on site, you will need to contact the Oakland County Health Department at 248-424-7000 for inspection. You will also need to provide temporary water services at the site where the food is prepared.*

Mechanical Amusement

Will there be any mechanical rides at event? ☐ Yes ☒ No, if yes, please provide the name and the address of amusement operators: _____

Will the event have a moonwalk? ☐ Yes ☒ No, if yes, please provide the name and address of Company/Entity providing moonwalk: _____

Will the event have video games, etc.? If so, please provide the names and address of company providing the Games: No

Please Note: *You must provide proof of insurance for all mechanical rides, moonwalks, circus rides/games, etc. The City of Oak Park must be listed on the insurance certificate as "additionally insured." A copy of the City Ordinance with required liability insurance coverage for these events is attached. Also, certification by the State of Michigan Department of Labor is required for all mechanical amusement devices and rides.*

Technical/Support

Will the event require use of electrical supply source? ☐ Yes ☒ No, if yes, please describe:

Will sanitary facilities be required at event? ☒ Yes ☐ No

Will tent(s) be used at the event? ☒ Yes ☐ No, if yes, please state size(s) of tent:

porter potty + 20x20 Tent.

Will the event have banners displayed? ☐ Yes ☒ No, if so, please provide the number of signs and dimension(s):

Please Note: *If a temporary generator or electric supply source is provided, you must provide an Electrical permit by a licensed electrical contractor. Also, you will need certification of flame spread rates of all canvas and/or cloth enclosures.*

Other possible Special Event requirements include: additional application, inspection and bond fees, temporary sign permit.

The fee for a Special Event application is \$100: The fee is non-refundable. Once an application is received, the City Clerk's Office will send copies of the application to the following departments: City Manager, Public Safety, Public Works, and Recreation. Each department will review the application and provide a written estimate of services they will need to provide, along with man-hours and costs (if any). The City Clerks' office will contact the applicant to inform them of the additional costs involved. At that time the applicant can decide whether or not to proceed with the event. If so, the event will be placed on the City Council agenda for approval.

Should any of the above information prove to be inaccurate or untruthful, it will be grounds to deny the applicant's request or revoke any approvals. I hereby certify the above information to be true and accurate to the best of my knowledge.

Janelle Smith
Applicant's Signature

State of Michigan

County of ^{SS} Oakland

Subscribed and sworn to before me, a Notary Public this 6 day of June 2022, by
_____.

My Commission expires: 2-10-29

[Signature]
Notary Public

CITY OF OAK PARK
4000 OAK PARK BLVD
OAK PARK, MI 48237
WWW.OAKPARKMI.GOV

CITY OF OAK PARK

OFFICE OF THE CITY CLERK

Received From:
Date: 05/31/2022 Time: 8:29:09 AM
Posting Date: 05/31/2022
Receipt: 491423
Cashier: mstevens

DATE: _____

ITEM REFERENCE	AMOUNT	
BUSI Special Business Lic/Permits		
Special Business Lic/Permits	\$100.00	\$ 25.00
TOTAL	\$100.00	\$ _____
CASH	\$100.00	\$ 10.00
Total Tendered:	\$100.00	\$ 10.00
Change:	\$0.00	\$ 25.00
CITY OF OAK PARK		\$ 50.00
14000 OAK PARK BLVD		\$ 100.00
OAK PARK, MI 48237		\$ 10.00
WWW.OAKPARKMI.GOV		\$ 250.00

Received From:
Date: 05/31/2022 Time: 8:29:09 AM
Posting Date: 05/31/2022
Receipt: 491423 *** REPRINT ***
Cashier: mstevens

ITEM REFERENCE	AMOUNT	
BUSI Special Business Lic/Permits		\$ 5.00
Special Business Lic/Permits	\$100.00	\$ 400.00
TOTAL	\$100.00	\$ 10.00
CASH	\$100.00	\$ 100.00
Total Tendered:	\$100.00	\$ 800.00
Change:	\$0.00	\$ 200.00
		\$ 75.00
		\$ 250.00
		\$ 50.00
		\$ 50.00
		\$ _____
Other: _____		\$ _____

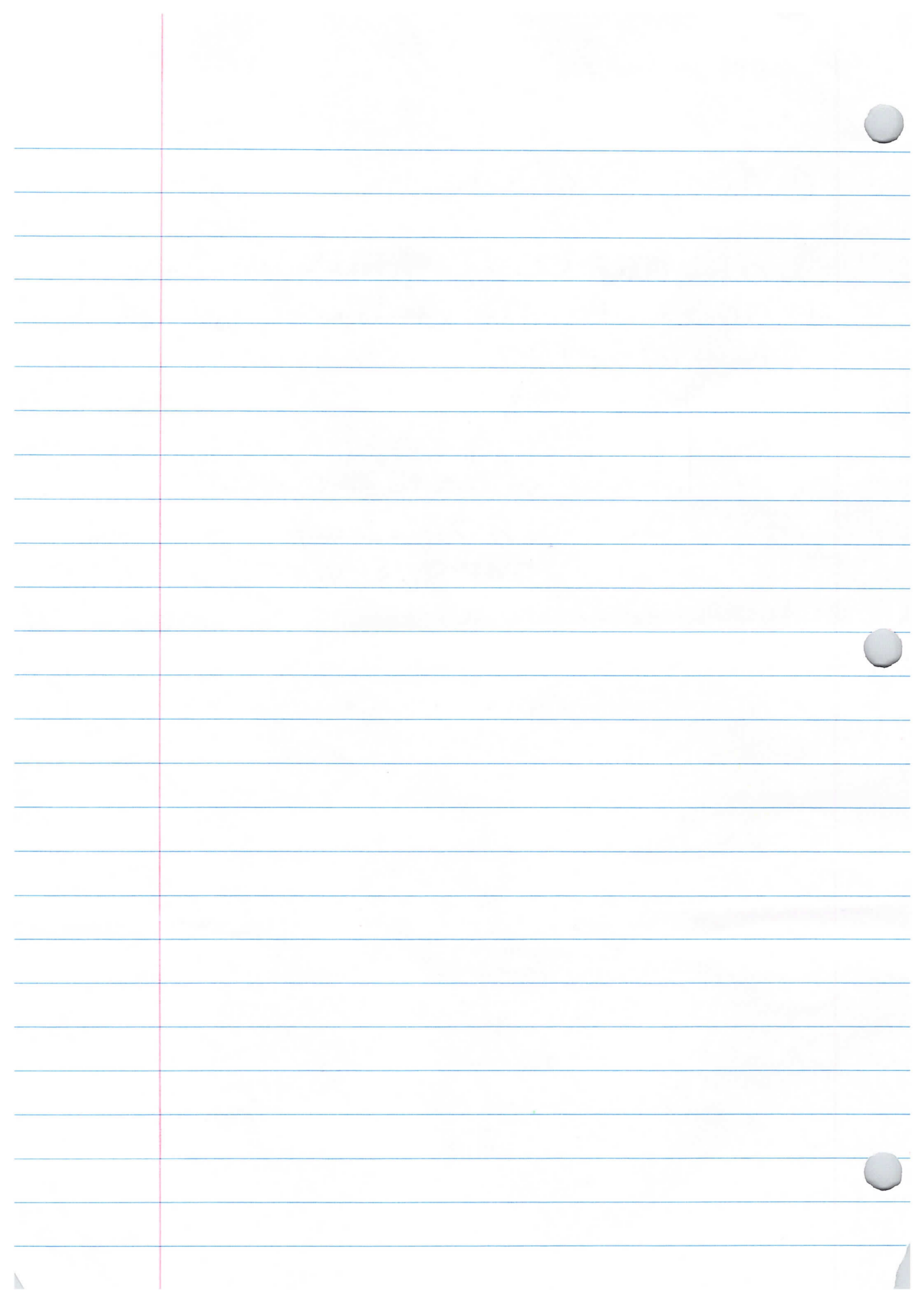
City of Oak Park

I am ~~aware~~ aware of grad party
+ agree to street being blocked
ff. 6/25/22

Glenn Swan

8701 Ivy

248 863 4465



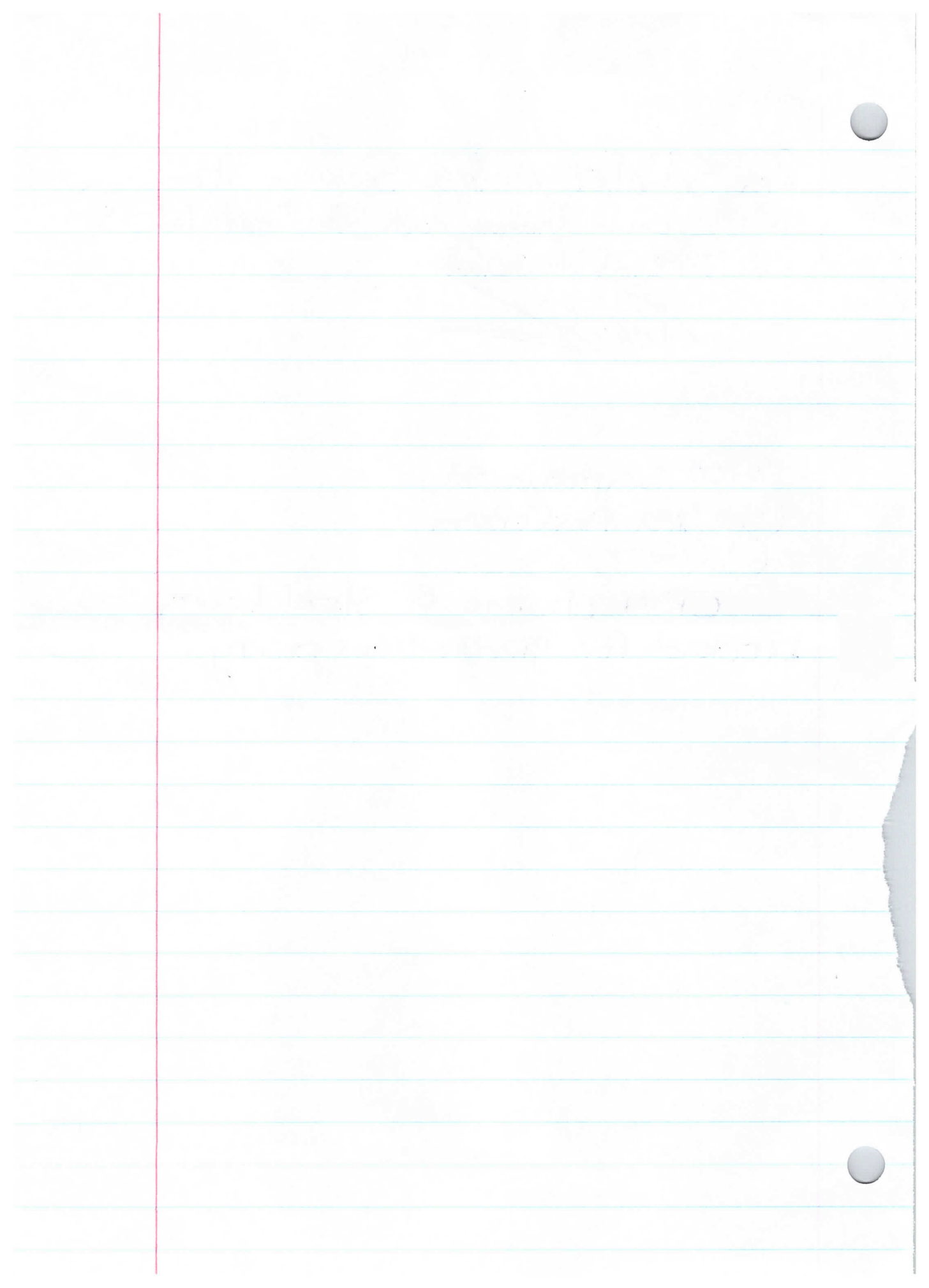
Ben Schlatter at 8630 Saratoga St
is ok with shutting down ~~the~~ Meadowlark St
on June 25th 2022



8700 Saratoga St.
Chelsea Andersen


OK & aware of street being
blocked for graduation party.





SPECIAL EVENT LICENSE APPLICATION FEE ESTIMATION

Janelle Smith, Graduation Party
86111 Troy St.
Graduation Party (Street closure request)
DATE: June 25, 2022 at 3:00 pm – 10:00 pm

<u>DEPARTMENT</u>	<u>SERVICES</u>	<u>ESTIMATED HOURS</u>	<u>ESTIMATED COST</u>
TECHNICAL AND PLANNING <i>Rob Barrett</i> <i>Dan Fairless*</i>	Flame spread certificate required for commercial tent.	N/A	N/A
PUBLIC SAFETY <i>Steve Cooper</i>	If approved by Council, Public Safety will provide periodic checks as part of normal patrol activity	20 mins	NA
RECREATION <i>Laurie Stasiak</i>	N/A	N/A	N/A
DPW <i>Dave DeCoster</i>	Deliver and pick up barricades to block off road.	1.0	N/A
ADDITIONAL <i>Administration</i>	N/A	N/A	\$100 fee paid

**CITY OF OAK PARK
MICHIGAN
APPLICATION FOR SPECIAL EVENT LICENSE**

Today's Date: 6/3/22

Applicant Information

Applicant/Business Name: Uniquely Hand Crafts LLC
 Applicant/Business Address: 21700 Greenfield Rd #235 Oak Park MI 48237
 Phone number: 313-743-1504 E-Mail Address: uniquelyhandcrafts@yahoo.co
 Relation of applicant to business: Owner

Has applicant ever been convicted of a felony? ☐ Yes ☒ No

Owner Information

Owner or manager of site: Erica Stovall Phone: 313-656-9612

Names and addresses of partners or officers of corporation:

Event Information

Proposed date(s) of event: 7/3/22 Has this event been held previously? ☐ Yes ☒ No
 Address or location of event: 21700 Greenfield Rd Oak Park MI 48237
 Is this a City owned park? NO

If this event is to take place in a City owned park, have you received and do you agree to abide by the City's Parks and Recreation rules and regulations? ☐ Yes ☐ No

Nature, purpose, and detailed description of event: Networking & Marketing Business Event.

Will the event be open to the public? ☒ Yes ☐ No

If yes, please describe how so: Network & Marketing
open to the Public

Estimated number of people attending event? 300 Hours of Event: 2pm to 6pm

Are you requesting to have a parade? ☐ Yes ☒ No **If yes, please attach a map of the parade route**

Where will the parade participants be walking? ☐ Sidewalks ☐ Streets

Will the parade require streets to be blocked off? ☐ Yes ☐ No

If yes, how many streets/intersections will need to be blocked : _____

Please attach a sign off from the residences located on the affected streets, indicating that they are aware of the event to take place, the date, times and location.

Food Services

Will food or beverages be sold at event? ☒ Yes ☐ No, if yes please list type(s) of food to be sold:
Soul Food

Will the food be prepackaged or prepared on site: prepackaged

Please note: *If your application is approved and you plan to prepare food on site, you will need to contact the Oakland County Health Department at 248-424-7000 for inspection. You will also need to provide temporary water services at the site where the food is prepared.*

Mechanical Amusement

Will there be any mechanical rides at event? ☐ Yes ☒ No, if yes, please provide the name and the address of amusement operators: _____

Will the event have a moonwalk? ☐ Yes ☒ No, if yes, please provide the name and address of Company/Entity providing moonwalk: _____

Will the event have video games, etc.? If so, please provide the names and address of company providing the Games: NO

Please Note: *You must provide proof of insurance for all mechanical rides, moonwalks, circus rides/games, etc. The City of Oak Park must be listed on the insurance certificate as "additionally insured." A copy of the City Ordinance with required liability insurance coverage for these events is attached. Also, certification by the State of Michigan Department of Labor is required for all mechanical amusement devices and rides.*

Technical/Support

Will the event require use of electrical supply source? ☐ Yes ☒ No, if yes, please describe:

Will sanitary facilities be required at event? ☐ Yes ☒ No

Will tent(s) be used at the event? ☒ Yes ☐ No, if yes, please state size(s) of tent:

10' x 10'

Will the event have banners displayed? ☒ Yes ☐ No, if so, please provide the number of signs and dimension(s):

(2) 2 x 6

Please Note: *If a temporary generator or electric supply source is provided, you must provide an Electrical permit by a licensed electrical contractor. Also, you will need certification of flame spread rates of all canvas and/or cloth enclosures.*

Other possible Special Event requirements include: additional application, inspection and bond fees, temporary sign permit.

The fee for a Special Event application is \$100: The fee is non-refundable. Once an application is received, the City Clerk's Office will send copies of the application to the following departments: City Manager, Public Safety, Public Works, and Recreation. Each department will review the application and provide a written estimate of services they will need to provide, along with man-hours and costs (if any). The City Clerks' office will contact the applicant to inform them of the additional costs involved. At that time the applicant can decide whether or not to proceed with the event. If so, the event will be placed on the City Council agenda for approval.



CITY OF OAK PARK

OFFICE OF THE CITY CLERK

NAME: _____

DATE: _____

ADDRESS: _____

CITY OF OAK PARK
14000 OAK PARK BLVD
OAK PARK, MI 48237
WWW.OAKPARKMI.GOV

(Highlight fee to be charged)

Day Care Registration	\$ 25.00
FOIA Request	\$ _____
Garage Sale Permit	\$ 10.00
Handbill - 1 day	\$ 10.00
Handbill - 1 week	\$ 25.00
Handbill - 3 months	\$ 50.00
Handbill - 1 year	\$ 100.00
Handbill - name change	\$ 10.00
Mechanical Amusement Distributor License	\$ 250.00
Mechanical Amusement Device License	
1 Machine	\$ 250.00
2 machines - \$200 per machine	\$ 400.00
3-4 machines - \$175.00 per machine	\$ _____
5-6 machines - \$150.00 per machine	\$ _____
7-10 machines - \$125.00 per machine	\$ _____
Notary Fee	\$ 5.00
Pawnbroker License	\$ 400.00
Precious Metals License	\$ 50.00
Sidewalk Sale	\$ 10.00
Special Event Fee	\$ 100.00 <i>X 2 = \$200.00</i>
Liquor License -	
New On-Premises Consumption or transfer of owner	\$ 800.00
Adding additional owners (Per Owner)	\$ 200.00
Background Check (Per applicant)	\$ 75.00
Annual Renewal	\$ 250.00
Vendor License - Food	\$ 50.00
Vendor License Lawn Care / Snow Removal	\$ 50.00
Voter List	\$ _____
Other: _____	\$ _____

Received From:
Date: 06/06/2022 Time: 2:55:50 PM
Posting Date: 06/06/2022
Receipt: 492524
Cashier: knives

ITEM REFERENCE	AMOUNT
BUSI Special Business Lic/Permits	
Special Business Lic/Permits	\$200.00
TOTAL	\$200.00
CASH	\$200.00
Total Tendered:	\$200.00
Change:	\$0.00

SPECIAL EVENT LICENSE APPLICATION FEE ESTIMATION

Uniquely Hand Crafts LLC
Local Business Networking & Marketing Event
21700 Greenfield Rd (parking lot)
DATE: July 3, 2022 at 2:00 pm – 6:00 pm

<u>DEPARTMENT</u>	<u>SERVICES</u>	<u>ESTIMATED HOURS</u>	<u>ESTIMATED COST</u>
TECHNICAL AND PLANNING <i>Rob Barrett</i> <i>Dan Fairless*</i>	Flame spread certificate required for commercial tent. Signs/banners shall not create clear vision obstruction for vehicle traffic.	N/A	N/A
PUBLIC SAFETY <i>Steve Cooper</i>	Normal Patrol Procedures	NA	NA
RECREATION <i>Laurie Stasiak</i>	N/A	N/A	N/A
DPW <i>Dave DeCoster</i>	N/A	N/A	N/A
ADDITIONAL <i>Administration</i>	N/A	N/A	\$100 fee paid

CITY OF OAK PARK
MICHIGAN
APPLICATION FOR SPECIAL EVENT LICENSE

10E

Today's Date: June 6, 2022

Applicant Information

Applicant/Business Name: Uniquely Hand Crafts LLC

Applicant/Business Address: 21700 Greenfield Rd #235 Oak Park MI 48237

Phone number: 313-743-1504 E-Mail Address: uniquelyhandcrafts@yahoo.com

Relation of applicant to business: Owner

Has applicant ever been convicted of a felony? ☐ Yes ☒ No

Owner Information

Owner or manager of site: Erica Storall Phone: 313-654-9612

Names and addresses of partners or officers of corporation:

Event Information

Proposed date(s) of event: 8/28/22 Has this event been held previously? ☐ Yes ☒ No

Address or location of event: 21700 Greenfield Rd Oak Park MI 48237

Is this a City owned park? NO

If this event is to take place in a City owned park, have you received and do you agree to abide by the City's Parks and Recreation rules and regulations? ☐ Yes ☐ No

Nature, purpose, and detailed description of event: Networking & Marketing
Back to School Event

Will the event be open to the public? ☒ Yes ☐ No

If yes, please describe how so: Networking & Marketing open
to the public

Estimated number of people attending event? 300 Hours of Event: 2pm to 6pm

Are you requesting to have a parade? ☐ Yes ☒ No **If yes, please attach a map of the parade route**

Where will the parade participants be walking? ☐ Sidewalks ☐ Streets

Will the parade require streets to be blocked off? ☐ Yes ☐ No

If yes, how many streets/intersections will need to be blocked : _____

Please attach a sign off from the residences located on the affected streets, indicating that they are aware of the event to take place, the date, times and location.

Food Services

Will food or beverages be sold at event? ☒ Yes ☐ No, if yes please list type(s) of food to be sold:

Mix of Food

Will the food be prepackaged or prepared on site: prepackaged

Please note: *If your application is approved and you plan to prepare food on site, you will need to contact the Oakland County Health Department at 248-424-7000 for inspection. You will also need to provide temporary water services at the site where the food is prepared.*

Mechanical Amusement

Will there be any mechanical rides at event? ☐ Yes ☒ No, if yes, please provide the name and the address of amusement operators: _____

Will the event have a moonwalk? ☐ Yes ☒ No, if yes, please provide the name and address of Company/Entity providing moonwalk: _____

Will the event have video games, etc.? If so, please provide the names and address of company providing the Games: NO

Please Note: *You must provide proof of insurance for all mechanical rides, moonwalks, circus rides/games, etc. The City of Oak Park must be listed on the insurance certificate as "additionally insured." A copy of the City Ordinance with required liability insurance coverage for these events is attached. Also, certification by the State of Michigan Department of Labor is required for all mechanical amusement devices and rides.*

Technical/Support

Will the event require use of electrical supply source? ☐ Yes ☒ No, if yes, please describe:

Will sanitary facilities be required at event? ☐ Yes ☒ No

Will tent(s) be used at the event? ☒ Yes ☐ No, if yes, please state size(s) of tent:

10 x 10

Will the event have banners displayed? ☒ Yes ☐ No, if so, please provide the number of signs and dimension(s):

(2) 2 x 6

Please Note: *If a temporary generator or electric supply source is provided, you must provide an Electrical permit by a licensed electrical contractor. Also, you will need certification of flame spread rates of all canvas and/or cloth enclosures.*

Other possible Special Event requirements include: additional application, inspection and bond fees, temporary sign permit.

The fee for a Special Event application is \$100: The fee is non-refundable. Once an application is received, the City Clerk's Office will send copies of the application to the following departments: City Manager, Public Safety, Public Works, and Recreation. Each department will review the application and provide a written estimate of services they will need to provide, along with man-hours and costs (if any). The City Clerks' office will contact the applicant to inform them of the additional costs involved. At that time the applicant can decide whether or not to proceed with the event. If so, the event will be placed on the City Council agenda for approval.

SPECIAL EVENT LICENSE APPLICATION FEE ESTIMATION

Uniquely Hand Crafts LLC
Local Business Networking & Marketing Event
21700 Greenfield Rd (parking lot)
DATE: August 28, 2022 at 2:00 pm – 6:00 pm

<u>DEPARTMENT</u>	<u>SERVICES</u>	<u>ESTIMATED HOURS</u>	<u>ESTIMATED COST</u>
TECHNICAL AND PLANNING <i>Rob Barrett</i> <i>Dan Fairless*</i>	Flame spread certificate required for commercial tent. Signs/banners shall not create clear vision obstruction for vehicle traffic.	N/A	N/A
PUBLIC SAFETY <i>Steve Cooper</i>	Normal Patrol Procedures	NA	NA
RECREATION <i>Laurie Stasiak</i>	N/A	N/A	N/A
DPW <i>Dave DeCoster</i>	N/A	N/A	N/A
ADDITIONAL <i>Administration</i>	N/A	N/A	\$100 fee paid

**GARAN
LUCOW
MILLER P.C.**

GREAT LAKES LAW FIRM SERVING CLIENTS NATIONALLY

1155 Brewery Park Blvd, Ste 200
Detroit, Michigan 48207
313-446-1530
Tax I.D. 38-1879991

Invoice 590083

June 13, 2022

Erik Tungate
City of Oak Park
14000 Oak Park Blvd.
Oak Park, MI 48327

Re: In Re: 45th District Court Matters

*Client 7406
Matter 45*

Statement for City Attorney Legal Services

For Legal Services Rendered Through Tuesday, May 31, 2022

\$ 980.00

Fee Total

Total Costs Advanced

\$ 0.00

Total Fees and Disbursements: \$ 980.00

*Invoices for legal services are due upon receipt. To ensure proper application of your payment,
Please indicate our invoice number and client/matter number on your remittance.*



GREAT LAKES LAW FIRM SERVING CLIENTS NATIONALLY

1155 Brewery Park Blvd, Ste 200
Detroit, Michigan 48207
313-446-1530
Tax I.D. 38-1879991

Invoice 590084

June 13, 2022

Erik Tungate
City of Oak Park
14000 Oak Park Blvd.
Oak Park, MI 48327

*Re: Leonard Cohen & Sara M. Cohen v City of
Oak Park*

*Client 7406
Matter 46*

Statement for City Attorney Legal Services

For Legal Services Rendered Through Tuesday, May 31, 2022

\$ 210.00

Fee Total

Total Costs Advanced

\$ 0.00

Total Fees and Disbursements: \$ 210.00

*Invoices for legal services are due upon receipt. To ensure proper application of your payment,
Please indicate our invoice number and client/matter number on your remittance.*



GREAT LAKES LAW FIRM SERVING CLIENTS NATIONALLY

1155 Brewery Park Blvd, Ste 200
Detroit, Michigan 48207
313-446-1530
Tax I.D. 38-1879991

Invoice 590085

June 13, 2022

Erik Tungate
City of Oak Park
14000 Oak Park Blvd.
Oak Park, MI 48327

Re: In Re: City of Oak Park

*Client 7406
Matter 1*

Statement for City Attorney Legal Services

For Legal Services Rendered Through Tuesday, May 31, 2022

\$13,333.34

Fee Total

Costs Advanced:

Date	Description	Amount
05/19/22	Reproduction Charges 2 @ 0.15	0.30
Total Costs Advanced		\$ 0.30

Total Fees and Disbursements: \$13,333.64

*Invoices for legal services are due upon receipt. To ensure proper application of your payment,
Please indicate our invoice number and client/matter number on your remittance.*

**BUSINESS OF THE CITY COUNCIL, OAK PARK, MICHIGAN****AGENDA OF:** June 21, 2022**AGENDA #****SUBJECT:** Second reading amending the Utility Ordinance, Chapter 82.**DEPARTMENT:** Finance / Utility Billing Division**SUMMARY:**

- (a) Updated ordinance to refer to the annual fee schedule for all rates and charges.
- (b) Updated basis of charges to reflect new billing methods.

RECOMMENDED ACTION: It is recommended that City Council adopt the amended ordinance.**APPROVALS:**

City Manager: _____ ET _____

Director of Finance: _____ SC _____

Budgeted: N/A

Legal: _____ CK _____

**CITY OF OAK PARK
OAKLAND COUNTY, MICHIGAN**

ORDINANCE NO. O-21-708

**AN ORDINANCE TO AMEND CHAPTER 82, UTILITIES, OF THE CODE OF ORDINANCES
OF THE CITY OF OAK PARK, MICHIGAN, BY AMENDING SECTION 82-36 THEREOF.**

THE CITY OF OAK PARK ORDAINS:

ARTICLE II. – WATER

DIVISION 1. - GENERALLY

Sec. 82-36. Definitions.

The following words, terms and phrases, when used in this article, shall have the meanings ascribed to them in this section, except where the context clearly indicates a different meaning:

Department means the ~~water~~ **public works** department of the city.

Division means the **utility billing division of the city.**

Water connection means that part of the water distribution system connecting the water main with the premises served.

Water main means that part of the water distribution system located within easement lines or streets designed to supply more than one water connection.

(Code 1973, § 42-17)

Cross reference —Definitions generally, § 1-2.

Sec. 82-37. Service connections.

Service connections shall be installed by the department upon payment of the required connection fee and meter installation fee. All meters and water connections shall be the property of the city. Connection fees and meter installation charges shall not be less than the cost of materials, installation and overhead attributable to such installations. Each dwelling unit and separate premises shall be connected to an individual tap at the water main and be provided with a meter; provided, however, that this requirement shall not apply to an apartment building containing more than two separate dwelling units. Each such apartment building, although containing multiple apartment units, may be served by one tap and a meter.

(Code 1973, § 42-18; Ord. No. O-94-317, § 2, 2-7-94; Ord. No. O-99-393, § 1, 6-21-99)

Sec. 82-38. Service connection and disconnection fees.

(a) Fees for water service connections and disconnections within the city shall be determined by **ordinance in the amount specified by the fee schedule approved by the city council.** ~~from time to time.~~
~~and kept on file in the office of the city clerk.~~

(b) Fees for water service connections and meter installation **as listed on the annual fee schedule approved by city council** will be the sum of the following four (4) items, based on the size of the water service and meter to be installed, and include plan review and inspection by the city:

(1) Water main tap and inspection fee. ~~\$500.00 per inch of diameter of water service desired.~~ This fee covers the cost for persons other than city employees to make the necessary watertap to the water main. It includes the cost of required inspections by the city from the tap at the water main to the stop box. Persons involved with the water tap process must secure the necessary permits and/or bonds prior to the start of construction. ~~The minimum fee per water main tap will be \$500.00~~

(2) Meter installation fee. ~~\$100.00 per installation.~~ This fee covers the cost for the city to install the required meter and outside reading device for an individual property.

(3) Meter charge fee. This fee covers the cost of the meter and outside reading device. ~~This cost shall be determined by contract with an outside vendor from time to time, and shall be kept on file in the office of the water department and/or at the department of public works.~~

(4) Construction water charge. ~~Construction charges covering~~ This charge covers water used during construction of buildings, as well as the sewage disposal charge connected therewith, prior to the ~~installation of the water meter~~ date of the occupancy certificate. ~~in addition to water service and meter charges in section 82-313(b) of this chapter, shall be as follows:~~

Meter Size (inches)	Residential	Commercial
$\frac{3}{4}$	\$48.00	\$95.00
1	48.00	95.00
1½	48.00	95.00
2	48.00	95.00
Over 2		95.00

(c) *Service disconnection fee.* The fee for disconnecting water service ~~is listed on the annual fee schedule approved by the city council.~~ ~~for a water service of two inches in diameter or less, shall be \$500.00 per service disconnection.~~ This fee covers the cost for the city to provide the necessary services to discontinue the water service to a property or dwelling unit. Disconnection of a water service larger than two inches in diameter shall be the responsibility of the owner, and an inspection fee ~~listed on the annual fee schedule approved by the city council,~~ ~~of \$200.00~~ shall be charged. If the city does the work, the owner shall be charged a fee calculated on a time and materials basis.

(Code 1973, § 42-19; Ord. No. O-99-393, § 2, 6-21-99; Ord. No. O-02-478, § 1, 12-2-02)

MADE, PASSED AND ADOPTED by the Council of the City of Oak Park on this 21st day of June, 2022.

7. Edwin Norris

T. EDWIN NORRIS
City Clerk

Marian McClellan

MARIAN McCLELLAN
Mayor

I, T. Edwin Norris, duly authorized Clerk of the City of Oak Park, Michigan do hereby certify that the foregoing Ordinance was adopted by the Council of the City of Oak Park at its regular meeting held on June 21, 2022.

7. Edwin Norris

T. EDWIN NORRIS, City Clerk

First Reading:	June 7, 2022
Second Reading:	June 21, 2022
Adopted:	June 21, 2022
Published	June 27, 2022

**CITY OF OAK PARK
OAKLAND COUNTY, MICHIGAN**

ORDINANCE NO. O-21-708

**AN ORDINANCE TO AMEND CHAPTER 82, UTILITIES, OF THE CODE OF ORDINANCES
OF THE CITY OF OAK PARK, MICHIGAN, BY AMENDING SECTION 82-311 THEREOF.**

THE CITY OF OAK PARK ORDAINS:

ARTICLE V. – RATES AND CHARGES

Sec. 82-311. – Definitions.

The following words, terms and phrases, when used in this article, shall have the meanings ascribed to them in this section, except where the context clearly indicates a different meaning:

~~Department~~ *Division* means the city ~~department~~ *division* of utility billing.

Finance director means the director of the city department of finance.

Premises means each lot or parcel of land, building or premises having any connection to the water distribution system of the city or the sewage disposal system of the city.

~~Superintendent~~ means the superintendent of the city department of water supply.

(Code 1973, § 42-115; Ord. No. O-94-317, § 4, 2-7-94)

Cross reference— Definitions generally, § 1-2.

Sec. 82-312. – Basis of charges.

~~All water service shall be charged for on the basis of water consumed as determined by the meter installed in the premises of water or sewage disposal service customers by the department. All sewage disposal service shall be charged for on the basis of water consumed and pollutants discharged into the sewage system. Stormwater runoff service shall be charged on the basis of a premises' pervious and impervious surface areas. No free water service, sewage disposal service, or stormwater runoff service shall be furnished to any person.~~

- (a) All water service shall be charged for on the basis of water consumed as determined by the meter installed at the premises of utility service customers by the city.
- (b) All sewage disposal service shall be charged for on the basis of water consumed as determined by the meter installed at the premises of utility service customers by the city.
- (c) All stormwater runoff service shall be charged on the basis of a premises' pervious and impervious surface areas.
- (d) All infrastructure service shall be charged for on the basis of the size of the water meter at the premises no matter the state of installation.
- (e) All industrial waste control service shall be charged for on the basis of the meter installed at the premises. No such charge shall be levied on the basis of any meter which serves exclusively residential users, including all structures designed for habitation including, but not limited to,

single-family or two-family dwellings, apartment buildings, condominiums, townhouses, and mobile homes, nor shall such charge be levied on the basis of any meter which serves exclusively for fire protection, irrigation, educational institutions, and government entities.

- (f) All high-strength pollutant disposal service shall be charged to commercial and industrial customers, other than restaurants, contributing sewage to the sewage disposal system with concentrations of pollutants exceeding the following levels:
1. 275 milligrams per liter (mg/l) of biochemical oxygen demand (BOD);
 2. 350 milligrams per liter (mg/l) of total suspended solids (TSS);
 3. 12 milligrams per liter (mg/l) of phosphorus (P);
 4. 100 milligrams per liter (mg/l) of fats, oils, and grease (fog).
- (g) No free water, sewage disposal, stormwater runoff, infrastructure, industrial waste control or high-strength pollutant disposal service shall be furnished to any person.

(Code 1973, § 42-116)

Charter reference— Utility rates and charges, collection, § 14.3 et seq.

Sec. 82-313. – Determination.

- (a) *Generally.* The ~~rates~~ **rate model** and charges to be imposed for the consumption and use of water, sewage disposal, ~~and stormwater runoff, infrastructure, industrial waste control, high-strength pollutant disposal~~ services furnished by the city shall be determined by ordinance ~~and the fee schedule approved annually~~ by the city council. ~~from time to time and kept on file in the office of the city clerk.~~
- (b) *Enumeration.* The rates and charges for consumption and use of water, sewage disposal, ~~and stormwater runoff, infrastructure, industrial waste control, high-strength pollutant disposal~~ services are as follows:
- (1) *Water rates* **rate**. ~~Effective on all bills rendered on or after July 1, 2021 the~~ **The rates** **rate** to be charged for water service shall be **listed on the annual fee schedule approved by the city council.** ~~as follows:~~
- a. ~~— \$4.51 per centum cubic feet (CCF).~~
- b. ~~— Monthly meter service and maintenance charges, in addition to subsection (b)(1) of this section as follows:~~
- ~~¾ inch meter \$1.59~~
- ~~¾ inch meter \$1.68~~
- ~~1 inch meter \$1.81~~
- ~~1½ inch meter \$2.68~~
- ~~2 inch meter \$3.05~~

3 inch meter \$21.27

4 inch meter \$23.19

6 inch meter \$26.47

e. ~~The minimum monthly (one month) water charge (includes water and meter service charge for a ½ inch meter service) to each premises connected with the water supply system shall be the sum of \$10.61 provided that if there were two or more premises using the city water supply and such premises use one meter, the minimum consumption charge herein specified shall apply to each such premises and to the owner or tenant of each such premises, as applicable.~~

(2) ~~Sewage disposal rates~~ *rate*. ~~Effective on all bills rendered on or after July 1, 2021 the~~ **The rates** ~~rate~~ to be charged for sewage disposal shall be **listed on the annual fee schedule approved by the city council.** ~~as follows:~~

a. ~~Basic sewage disposal rate.~~ Four dollars and eighty six cents (\$4.86) per centum cubic feet (CCF) of water consumed. The minimum monthly sewage disposal charge to each sewage disposal services customer shall be \$9.72, provided that if there are two or more premises using the city water supply and such premises use one meter, the minimum consumption charge herein specified shall apply to each such premises and to the owner or tenant of each such premises, as applicable.

b a. ~~High strength surcharge.~~ Great Lakes Water Authority is responsible for billing this surcharge. Effective with all bills rendered on or after August 1, 2021, for flows beginning on or after July 1, 2021 a high strength surcharge shall be levied against commercial and industrial customers, other than restaurants, contributing sewage to the sewage disposal system with concentrations of pollutants exceeding the following levels:

1. ~~275 milligrams per liter (mg/l) of biochemical oxygen demand (BOD);~~
2. ~~350 milligrams per liter (mg/l) of total suspended solids (TSS);~~
3. ~~12 milligrams per liter (mg/l) of phosphorus (P);~~
4. ~~100 milligrams per liter (mg/l) of fats, oils, and grease (fog).~~

The high strength surcharge will be imposed at the following rates:

Pollutant	Charge per pound of excess pollutant
Biochemical oxygen demand (BOD)	0.347
Total suspended solids (TSS)	0.476
Phosphorus (P)	6.368
Fats, oils and grease	0.111

e. ~~Industrial waste control charge.~~ Effective with all bills rendered on or after August 1, 2021, for flows beginning on or after July 1, 2021 an industrial waste control charge shall be levied

~~against non-residential customers in an amount determined by the size of the water meter or meters serving such customers as set forth below:~~

Water meter size (inches)	Monthly charge
½ inch meter	3.54
¾ inch meter	5.31
1 inch meter	8.85
1½ inch meter	19.47
2 inch meter	28.32
3 inch meter	51.33
4 inch meter	70.80
6 inch meter	106.20

~~No such surcharge shall be levied on the basis of any meter which serves exclusively residential users, including all structures designed for habitation including, but not limited to, single family or two family dwellings, apartment buildings, condominiums, townhouses, and mobile homes, nor shall such surcharge be levied on the basis of any meter used exclusively for fire protection purposes.~~

- (3) *Stormwater runoff rate.* ~~Effective on all bills rendered on or after July 1, 2021, the~~ **The** rate to be charged for stormwater runoff shall be **listed on the annual fee schedule approved by the city council. \$601.65 per unit.**
- (4) *Infrastructure fee.* The fee to be charged for infrastructure shall be listed on the annual fee schedule approved by the city council.
- (5) *Industrial waste control charge.* The fee to be charged for industrial waste control shall be listed on the annual fee schedule approved by the city council.
- (6) *High-strength pollutant disposal surcharge.* The fee to be charged for high-strength pollutants shall be listed on the annual fee schedule approved by the city council. Great Lakes Water Authority is responsible for billing and collecting this surcharge.
- (4)(7) *Collection policy.* Charges for water, sewage disposal, stormwater runoff, **infrastructure, industrial waste control, high-strength pollutant disposal** and garbage collection services furnished by the city to any premises shall be a lien thereon, and on March 1 and on September 1 of each year, the person or agency charged with the management of the systems shall certify any such charges which have been delinquent six months or more, to the city assessor who shall enter the same upon the next available tax roll against the premises to which such services shall have

been rendered, together with a penalty of an additional ten percent. The charges shall be collected and the lien shall be enforced in the same manner as provided in the respect to taxes assessed upon such roll; provided, that no such charge shall become a lien when a tenant is responsible for the payment of any such charge against any premises and the city has been so notified by the filing of an affidavit that the lease contains a provision that the landlord shall not be liable for payment of water or sewage system bills accruing subsequent to the filing of the affidavit. The affidavit shall be filed with the official in charge of the water works system and 20 days' notice shall be given by the landlord of any cancellation, change in, or termination of the lease. The affidavit shall contain a notation of the expiration date of the lease. In the event of the filing of such affidavit, no further service shall be rendered by the systems to such premises until payment to the city of a cash deposit in accordance with section 82-316.

- (5) *Services outside the city.* Water service provided outside the corporate limits of the city shall be provided by contract only with approval of the city council, and in no event shall the rates and charges for such service be less than the rates charged to customers residing within the corporate limits of the city.

(Code 1973, § 42-117; Ord. No. O-94-322, § 2, 6-20-94; Ord. No. O-95-339, § 1, 6-19-95; Ord. No. O-96-351, § 1, 6-17-96; Ord. No. O-97-369, § 1, 6-16-97; Ord. No. O-98-377, § 1, 6-15-98; Ord. No. O-99-393, § 3, 6-21-99; Ord. No. O-00-421, § 1, 6-19-00; Ord. No. O-01-445, § 1, 6-18-01; Ord. No. O-02-466, § 1, 6-17-02; Ord. No. O-03-484, § 1, 6-16-03; Ord. No. O-04-499, § 1, 6-21-04; Ord. No. O-05-514, § 1, 6-20-05; Ord. No. O-06-526, § 1, 6-19-06; Ord. No. O-07-531, § 1, 6-18-07; Ord. No. O-08-551, § 1, 6-16-08; Ord. No. O-09-560, § 1, 6-15-09; Ord. No. O-10-571, § 1, 6-21-10; Ord. No. O-11-578, § 1, 6-20-11; Ord. No. O-12-591, § 1, 6-18-12; Ord. No. O-13-594, § 1, 6-17-13; Ord. No. O-14-604, § 1, 6-16-14; Ord. No. [O-15-613](#), § 1, 6-15-15; Ord. No. [O-17-636](#), § 1, 6-19-17; Ord. No. [O-18-674](#), § 1, 6-18-18; Ord. No. [O-19-688](#), § 1, 6-17-19; Ord. No. [O-20-693](#), 6-15-20)

Sec. 82-314. - Service to city.

The city shall pay the same water, sewage disposal, ~~and~~ stormwater runoff, ~~and infrastructure fees~~ ~~rates~~ for service to ~~it~~ ~~itself~~ as would be payable by a private customer for the same service.

(Code 1973, § 42-118; Ord. No. O-94-317, § 6, 2-7-94; Ord. No. [O-21-708](#), 6-21-21)

Sec. 82-315. - Payment.

- (a) The fees, rates, and charges imposed for water and sewer services furnished by the city shall be effective as to bills paid on or before the due date indicated on each billing. Thereafter, a penalty of five (5) percent of the outstanding balance of the account shall be added to each bill. The city manager, or his designee, shall be permitted to waive one penalty per year. The penalty must be assessed and removed in the same calendar year. In addition to other applicable penalties or late fees, a service charge ~~in the amount of \$30.00~~, ~~as listed on the annual fee schedule approved by the city council~~, shall be added to all bills for which payment is made by check, debit card, or credit card if such payment is returned to the city after being dishonored upon presentment. In the event that the charges for any such services furnished to any premises shall not be paid within 30 days after the due date thereof, then the water services furnished by the system to such premises shall in all cases be discontinued. The failure to receive a utility bill shall not invalidate any charges imposed for water, sewage disposal, stormwater runoff, ~~infrastructure, industrial waste control, high-strength pollutant disposal and garbage collection~~ services furnished by the city.
- (b) The customer will be notified of the consequences of failure to pay the utility bill in the following methods prior to actual discontinuation:
 - (1) A shutoff notice will be mailed via first-class mail to the mailing address on file for any property where service is scheduled for shut off. The shutoff notice will indicate the past due balance to be paid by acceptable funds, other than personal check, and the earliest date the water could be shut off. A fee ~~of \$10.00~~ will be added to each account receiving a shutoff notice ~~as listed on the annual fee schedule approved by the city council~~.
 - (c) In the case of a disputed bill, the customer, prior to the mailing of a shutoff notice, may request a hearing to show cause of why the billing is incorrect. A hearing shall be scheduled before a hearing officer, who may be the city manager or his or her designee. The hearing officer will provide the customer with an opportunity to be heard regarding the dispute over the amount of the bill, and will hear such evidence as the customer may have in support thereof. The hearing officer shall review the bill, perform such additional investigation of the matter as may be determined to be warranted under the circumstances, and correct any billing errors. Such hearings shall be informal and the decision of the hearing officer shall be final.
- (d) Payment plans are available in the utility billing ~~department~~ ~~division~~ to stop a disconnection if the following rules are adhered to:
 - (1) The payment plan shall be signed by the property owner and filed in the utility billing ~~department~~ ~~division~~ prior to a shutoff notice being mailed.
 - (2) One fourth of the past due amount shall be paid in acceptable funds, other than personal check, at the time of filing of the payment plan, with the balance to be paid in monthly installments. Charges that accrue following the start date of the plan—including regular billing—are not covered by the plan, and therefore must be paid by their indicated due date.

If the customer falls behind on any payment as stated in the payment plan, the water will be shut off—as stated in the plan—without notice. Payment plans will not be accepted after a shutoff notice has been mailed. At this point the full amount must be paid in acceptable funds other than personal check.
- (e) Fees upon shut off:

- (1) If the service is shut off, a shutoff for delinquency fee, in an amount **as listed on the annual fee schedule approved by the city council** ~~established by resolution of the council from time to time,~~ will be charged. This fee must be paid along with the past due amount in acceptable funds other than personal check before the service will be restored. The water service will be restored between 8:00 a.m. and 3:00 p.m. Monday through Thursday, except for holidays when the city offices are closed. In order to have service restored the same day, charges must be paid prior to 3:00 p.m. If the customer desires, service may be restored outside the hours stated above if personnel are available and the customer is willing to pay overtime charges as follows: two employees times their overtime rate times two hours. Overtime charges must be paid along with the past due amount and the shutoff for delinquency fee in acceptable funds other than personal check. Any restoration of water service requires an adult of at least 18 years of age to be inside of the premises. Any water shut off for 45 days or more requires an appointment to restore water service.
 - (2) Any water service shut off by the city and found restored without city approval shall be deemed an "illegal turn on" and shall result in ~~a charge in the amount of \$120.00 in~~ additional fees for the first occurrence. Any subsequent occurrence will result in an additional charge ~~of \$250.00~~. If the city elects to disable the water service line, an additional fee ~~of \$350.00~~ will be assessed. Any balance on an account deemed an illegal turn on must be paid in full by acceptable funds other than personal check to restore water service. **Fees shall be listed on the annual fee schedule approved by the city council.**
- (f) If a scheduled appointment with the utility billing ~~department~~ **division** is missed, a missed appointment fee ~~of \$45.00~~ will be assessed to the account **as listed on the annual fee schedule approved by the city council.**

(Code 1973, § 42-119; Ord. No. O-94-322, § 3, 6-20-94; Ord. No. O-94-332, § 1, 12-19-94; Ord. No. O-95-335, § 2, 6-19-95; Ord. No. O-97-369, § 2, 6-16-97; Ord. No. O-98-377, § 2, 6-15-98; Ord. No. O-00-421, § 1, 6-19-00; Ord. No. O-02-466, § 2, 6-17-02; Ord. No. O-03-484, § 2, 6-16-03; Ord. No. O-04-499, § 2, 6-21-04; Ord. No. O-05-514, § 2, 6-20-05; Ord. No. O-07-531, § 1, 6-18-07; Ord. No. O-11-580, § 1, 8-1-11; Ord. No. O-11-581, § 1, 11-21-11; Ord. No. [O-15-620](#), § 1, 10-19-15) Sec. 82-316. - Deposits—Required in certain circumstances.

In cases where the city is properly notified in accordance with section 82-313 that a tenant is responsible for water ~~service~~, ~~or~~ sewage disposal ~~service~~, stormwater runoff ~~service~~, **infrastructure, industrial waste control, high-strength pollutant disposal** or garbage collection ~~service~~ charges, no such service shall be commenced or continued to such premises until there has been deposited with the utility billing ~~department~~ **division** a sum sufficient to cover **6 times the average monthly utility one and a half (1.5) times the average annual** bill for such premises, as estimated by the finance director. Where the water service to any premises is shut off to enforce the payment of water ~~service~~ charges, sewage disposal ~~service~~ charges, stormwater runoff charges, **infrastructure, industrial waste control, high-strength pollutant disposal** or garbage collection fees, the water service shall not be restored until all delinquent charges have been paid and a deposit, as in the case of tenants, is made. There shall be a water turn-on charge ~~of \$90.00, i.e., \$45.00 to shut off the water and then \$45.00 to turn the water back on~~ **as listed on the annual fee schedule approved by the city council.**

(Code 1973, § 42-120; Ord. No. O-94-317, § 8, 2-7-94; Ord. No. [O-15-620](#), § 2, 10-19-15) Sec. 82-317. - Same—Use.

Deposits collected under the provisions of this article may be applied against any delinquent water, sewage disposal, stormwater runoff, **infrastructure, industrial waste control, high-strength pollutant disposal** or garbage collection fees, and the application thereof shall not affect the right of the utility billing ~~department~~ **division** to shut off the water service to any premises for any delinquency thereby satisfied. No such deposit shall bear interest. Any remaining balance, after all charges are satisfied, will be returned to the tenant who made the deposit.

(Code 1973, § 42-121; Ord. No. O-94-317, § 9, 2-7-94)

SECTION 3. SEVERABILITY.

No other portion, paragraph or phrase of the Code of Ordinances of the City of Oak Park shall be affected by this Ordinance, except as to the above sections, and in the event that any portion, section or subsection of this Ordinance shall be held invalid for any reason, such invalidation shall not be construed to affect the validity of any other part or portion of the Ordinance or the Code of Ordinances, City of Oak Park.

SECTION 4. EFFECTIVE DATE.

This Ordinance shall become effective ten (10) days from the date of its passage and shall be published as required by the Charter of the City of Oak Park.

MADE, PASSED AND ADOPTED by the Council of the City of Oak Park on this 21st day of June, 2022.

T. Edwin Norris

T. EDWIN NORRIS
City Clerk

Marian McClellan

MARIAN McCLELLAN
Mayor

I, T. Edwin Norris, duly authorized Clerk of the City of Oak Park, Michigan do hereby certify that the foregoing Ordinance was adopted by the Council of the City of Oak Park at its regular meeting held on June 21, 2022.

T. Edwin Norris

T. EDWIN NORRIS, City Clerk

First Reading: June 7, 2022
Second Reading: June 21, 2022
Adopted: June 21, 2022
Published: June 27, 2022

CITY OF OAK PARK, OAKLAND COUNTY, MICHIGAN

**RESOLUTION REGARDING FACSIMILE SIGNATURES AT
FIDELITY INVESTMENTS FOR RETIREE HEALTH CARE**

BE IT RESOLVED,

The institution of Fidelity Investments (the “Bank”) is hereby authorized and directed to honor as genuine and authorized instruments of the City of Oak Park Employees Retirement System for the Benefit of Oak Park Retirees Health Care any and all checks, drafts or other orders for the payment of money drawn in the name of the City of Oak Park and signed with the Authorized Facsimile(s) of any of the following:

AUTHORIZED TRUSTEES

Name:	Title:
Erik Tungate	City Manager
Saundra Crawford	Director of Finance/Treasurer
Steven Lukasik	Deputy Treasurer
Jamen Winters	Deputy Finance Director

FURTHER RESOLVED, that:

- (i) the City of Oak Park assumes full responsibility for any and all payments made by the Bank in reliance upon the Authorized Facsimile of any person or persons named in the foregoing resolution;
- (ii) the foregoing resolutions shall be in addition to any other resolutions now on file with the Bank, and that said resolutions shall continue in full force and effect; and
- (iii) an official of the City of Oak Park is authorized and directed to deliver to the Bank, a copy of this resolution and specimens of the Authorized Facsimiles of the persons named above.

I, T. Edwin Norris, duly authorized City Clerk of the City of Oak Park, Michigan; do hereby certify that the above resolution is a true and correct copy of a resolution adopted by the Oak Park City Council at a Regular Council Meeting held on June 20, 2022.

I further certify that there is no provision in the law or regulations governing said City of Oak Park which limits the power of the City of Oak Park to pass the foregoing resolution and that the same is in conformity with the law and regulations governing the City of Oak Park and has not been modified or rescinded and is in full force and effect.

T. Edwin Norris, City Clerk

CITY OF OAK PARK, OAKLAND COUNTY, MICHIGAN

**TRUSTEE SIGNATURES FOR FIDELITY
INVESTMENTS FOR RETIREE HEALTH CARE**

AUTHORIZED TRUSTEES

Name:	Title:	Signature:
Erik Tungate	City Manager	
Saundra Crawford	Director of Finance/Treasurer	
Steven Lukasik	Deputy Treasurer	
Jamen Winters	Deputy Finance Director	



BUSINESS OF THE CITY COUNCIL, OAK PARK, MICHIGAN

AGENDA OF: June 20, 2022

AGENDA #

SUBJECT: Approval of resolution to authorize Budget Amendment #2022-4

DEPARTMENT: Finance

SUMMARY: The City's annual budget was adopted on May 12, 2021 and is effective July 1st. The budget is adopted at the departmental level. In accordance with the State Budget Act, budget amendments are to be completed throughout the fiscal year in order to reflect the most current information available related to revenue and expenditure budgets. Budget amendments that have a positive or negative impact on fund balance or change the department total require Council approval

The fourth quarter (6/30/22) budget amendment for the General Fund is attached and is also summarized below.

GENERAL FUND	
Beginning Fund Balance July 1, 2021	\$ 5,305,331
Amended Budget as of June 20, 2022	\$ (665,056)
Net Change in Fund Balance (Amendment #2022-4)	<u>\$ 0</u>
Estimated Ending Fund Balance June 30, 2022	<u><u>\$ 4,640,275</u></u>

The proposed amendment has no net impact on fund balance and includes the following notable items:

- Adjustment of various expenditure accounts to ensure no department is over budget for audit purposes and to continue to be compliant with the State Budget Act
- Increases in self-funded healthcare costs greater than anticipated – expenditure increases offset by increase in stop-loss reimbursement revenue
- Increase in property tax revenue based on final tax settlement with Oakland County
- Increase in revenue sharing from the State based on the latest estimates from the Department of Treasury including all census adjustment
- Increase/decrease in various salary accounts to reflect changes from the budget due to payouts of leave time, vacancies and any other variances

- Increase in pension contributions to reflect variances in departments and ensure overall contribution matches the actuary required amounts for both systems
- Increase in transfer to the District Court Fund to cover the net cost of the fund (ticket revenues continue to lag budget projects despite court costs being under budget)

SPECIAL REVENUE FUNDS

- Creation of new Parks and Recreation Improvement Fund to account for the currently budgeted and future recreation
- Library Fund budget was adjusted to reflect the increase in storm water charges from the City along with adjusting wages to the balance to date. These cost increases were completely offset by adjusting property tax revenue to the final settlement and recognizing the additional state aid actually received from the State to date

CAPITAL IMPROVEMENT FUNDS

- Reduction of recreation capital outlay costs and increase in transfer out to new Parks and Recreation Improvement Fund (equal amounts) for current budgeted projects which are pending due to the current recreation study

Note: The State of Michigan does not require budgets for any funds except the General and Special Revenue Funds. The City has chosen to be fiscally responsible and adopt budgets for all funds to assist in monitoring the overall financial activity of the City.

FINANCIAL STATEMENT: The proposed budget amendment has an impact on the fund balance of General Fund while keeping the estimated fund balance at approximately 20% of annual expenditures. The amendments to all other funds keep the fund balance at targeted ranges and are done in compliance with State of Michigan requirements and guidelines.

RECOMMENDED ACTION: Approval of resolution to authorize Budget Amendment #2022-4

APPROVALS:

City Manager: _____ ET _____

Finance Director: _____ SC _____

City of Oak Park
Proposed Budget Amendments
June 30, 2022

<u>Account Number</u>	<u>Account Name</u> <u>General Fund</u>	<u>Amount</u>	<u>Description</u>
101-00.000-403.000	Property Tax	\$ 182,897	Adjust to final settlement
101-00.000-574.000	State Revenue Sharing	388,286	Increase per activity to date and projections thru year-end
101-00.000-632.000	Housing Inspections	40,000	Increase per activity to date and projections thru year-end
101-00.000-664.000	Interest Income	(11,183)	Decrease per activity to date and projections thru year-end
101-00.000-644.142	Special Events	30,000	Increase per activity to date and projections thru year-end
101-00.000-676.001	Reimbursement - Miscellaneous	300,000	Increase in stop loss reimbursement per activity to date
Total Revenue Increase (Decrease)		930,000	
101-11.172-713.000	Health Insurance	6,000	Increase per activity to date and projections thru year-end
101-11.611-713.000	Health Insurance	7,000	Increase per activity to date and projections thru year-end
101-13.210-802.100	Legal Services - Other	(10,000)	Reduce per activity to date and projections thru year-end
101-14.191-702.000	Salaries and Wages	15,000	Increase per activity to date and projections thru year-end
101-15.201-713.000	Health Insurance	20,000	Increase per activity to date and projections thru year-end
101-15.201-714.000	Retirement - Defined Benefit	80,000	Adjust to actuary required contribution for FY 2022
101-16.371-713.000	Health Insurance	20,000	Increase per activity to date and projections thru year-end
101-16.401-713.000	Health Insurance	15,000	Adjust to actual costs to date - greater than budget & prior yr
101-16.448-921.000	Utilities - Electric	(10,000)	Reduce per activity to date and projections thru year-end
101-17.345-702.000	Salaries and Wages	332,000	Increase per activity to date and projections thru year-end
101-17.345-713.000	Health Insurance	135,000	Increase per activity to date and projections thru year-end
101-17.346-702.000	Salaries and Wages	12,000	Increase per activity to date and projections thru year-end
101-17.346-713.000	Health Insurance	4,400	Increase per activity to date and projections thru year-end
101-17.346-714.001	Retirement Contribution PSD	2,000	Additional contrib to comply with PA 202
101-17.346-715.000	Dental Insurance	2,600	Increase per activity to date and projections thru year-end
101-18.265-921.000	Utilities - Electric	(30,000)	Reduce per activity to date and projections thru year-end
101-18.441-713.000	Health Insurance	25,000	Increase per activity to date and projections thru year-end
101-19.752-702.000	Salaries and Wages	(31,000)	Reduce per activity to date and projections thru year-end
101-21.890-712.001	Retiree Healthcare	192,000	Increase per activity to date and projections thru year-end
101-21.890-999.136	Transfer Out - District Court	105,000	Court subsidy running more than budget and prior year
101-21.890-999.733	Contribution to Public Safety Pension Fund	75,000	Pub Safety retiree HC running more than budget and prior year
101-22.806-702.000	Salaries and Wages	(17,000)	Reduction due to vacancy savings
101-22.806-713.000	Health Insurance	(20,000)	Reduction due to vacancy savings
Total Expenditure Increase (Decrease)		930,000	
Net Increase (Decrease) to Fund Balance		\$ -	
<u>Library Fund</u>			
111-00.000-403.000	Property Tax	\$ 15,571	Adjust to final tax settlement
111-00.000-567.000	Library - State Aid	14,429	Greater than anticipated ppt loss reimbursement
Total Revenue Increase (Decrease)		30,000	
111-20.790-702.000	Salaries and Wages	9,650	Adjust to actual and estimated thru year-end
111-20.790-920.003	Utilities - Water	20,350	Adjust to actual and estimated thru year-end
Total Expenditure Increase (Decrease)		30,000	
Net Increase (Decrease) to Fund Balance		\$ -	
<u>Public Improvement Fund</u>			
401-70.900-664.000	Interest Income	\$ -	
Total Revenue Increase (Decrease)		\$ -	
401-70.900-999.407	Transfer Out - Parks and Recreation Imp Fund	150,000	Rollover budget for Shepherd Park Restrooms to new fund 407
Total Expenditure Increase (Decrease)		\$ 150,000	
Net Increase (Decrease) to Fund Balance		\$ (150,000)	
<u>Parks and Recreation Improvement Fund</u>			
407-00.000-699.401	Transfer In - Public Improvement Fund	\$ 150,000	Budget for Shepherd Park Restrooms from fund 401
407-00.000-673.000	Sale of Fixed Assets	-	
Total Revenue Increase (Decrease)		\$ 150,000	
407-18.443-970.000	Capital Outlay	150,000	Shepherd Park restroom renovations to new fund
Total Expenditure Increase (Decrease)		\$ 150,000	
Net Increase (Decrease) to Fund Balance		\$ -	

Resolution

NOW, THEREFORE BE IT RESOLVED that the following
Budget Amendment #2022-4 is authorized:

		INCREASE (DECREASE)
GENERAL FUND		
REVENUES		
PROPERTY TAXES	\$	182,897
INTERGOVERNMENTAL		388,286
CHARGES FOR SERVICES		40,000
INTEREST INCOME		(11,183)
OTHER REVENUE		<u>330,000</u>
TOTAL REVENUES		930,000
EXPENDITURES		
CITY MANAGER		6,000
COMMUNITY & ECONOMIC DEVELOPMENT		7,000
CITY CLERK - ELECTIONS		15,000
FINANCE		100,000
CITY ATTORNEYS - CIVIL AND LABOR		(10,000)
TECHNICAL AND PLANNING		25,000
PUBLIC SAFETY		488,000
PUBLIC WORKS		(5,000)
RECREATION		(31,000)
NON-DEPARTMENTAL		192,000
PUBLIC INFORMATION		(37,000)
TRANSFERS OUT		<u>180,000</u>
TOTAL EXPENDITURES		930,000
Net Increase to Fund Balance	\$	<u>-</u>
LIBRARY AUTHORITY FUND		
REVENUES		
PROPERTY TAX	\$	15,571
INTERGOVERNMENTAL		<u>14,429</u>
TOTAL REVENUES		30,000
EXPENDITURES		
SALARIES		9,650
OPERATIONS		<u>20,350</u>
TOTAL EXPENDITURES		30,000
Net Increase to Fund Balance	\$	<u>-</u>
PUBLIC IMPROVEMENT FUND		
REVENUES		
INTEREST INCOME	\$	-
TOTAL REVENUES		-
EXPENDITURES		
TRANSFER OUT		<u>150,000</u>
TOTAL EXPENDITURES		150,000
Net Decrease to Fund Balance	\$	<u>(150,000)</u>
		INCREASE (DECREASE)
PARKS AND RECREATION IMPROVEMENT FUND		
REVENUES		
CHARGES TO OTHER FUNDS	\$	-
INTEREST EARNINGS		-
TRANSFER IN		<u>150,000</u>
TOTAL REVENUES		150,000
EXPENDITURES		
OPERATIONS		-
CAPITAL OUTLAY		<u>150,000</u>
TOTAL EXPENDITURES		150,000
Net Decrease to Fund Balance	\$	<u>-</u>

I certify that the forgoing is a true and complete copy of a Resolution adopted by
the City Council of the City of Oak Park at a regular Meeting held on this 20th day
of June, 2022.

T. Edwin Norris, City Clerk

**BUSINESS OF THE CITY COUNCIL, OAK PARK, MICHIGAN****AGENDA OF:** June 20, 2022**SUBJECT:** Emergency Purchase (Fire Truck)**DEPARTMENT:** Public Safety

SUMMARY: The Department of Public Safety is requesting to purchase a new Ladder Fire Truck. The current Ladder Truck #541 is 15 years old and was manufactured by American Lafrance who is no longer in business. Currently it is extremely difficult to acquire parts for this truck. We have consistently experienced significant problems with the ladder and pump operations for this apparatus, as well as many other mechanical issues. With American Lafrance no longer in business, if this truck were to become involved in a significant accident it would not be able to be repaired. Ladder Truck #541 currently has 2,517 hours logged on the engine and pump operations, which is equivalent of 151,031 miles. The Ladder Truck is used for rescue operations and the lives of the community could literally depend on it. We use the tele-squirt nozzle that is affixed to the tip of the ladder for extinguishing fires where Officers cannot manually reach with hand lines or areas where it is too dangerous to send our Officers (residential rooftops, unstable structures, confined spaces, etc.). The National Fire Protection Association (NFPA) recommends that any truck 15 years or older not be used as a frontline truck, but used for a secondary response.

We also have a second American Lafrance fire truck, Engine #542. This truck is currently 14 years old. Although we have not experienced any significant mechanical issues with this truck, we face the same concern if it were to become involved in a serious accident. The truck would not be able to be repaired.

Our third fire truck is a 25 year old Pierce, Engine #544. The Pierce has 3,043 hours logged on the engine and pump operations. The equivalent mileage is 182,622 miles. Although the Pierce is 25 years old and NFPA recommends that after 25 years the truck be removed from service. Public Safety has not experienced any major mechanical or pump operation problems with this apparatus. For this specific reason, Public Safety plans to keep this truck in service and closely monitor and evaluate its continued performance.

At the March 2019 Council Meeting, Council approved repairs for 3 of our 4 fire trucks totaling \$52,134.08. At that time Engine #543 which was 33 years old and

unfortunately had to be decommissioned. Engine #543 had logged 3,245 hours of service on the engine and pump operations, which is the equivalent of 205,500 miles. There were several safety features that the truck was not equipped with due to its age. The cost to upgrade such features would have been extremely costly and some were not possible due to the age of the apparatus. There were also several other costly repairs that had to be addressed and considered in order to keep the truck in service. Simply stated, the truck had exceeded its life expectancy and to continuously invest further in repairs would not have been advisable.

Due to the age, continuous electrical, mechanical issues with our fire truck fleet and the fact that American Lafrance was no longer in business. I placed a request on the Capital Outlay Program for the 2018-2019 FY, requesting the purchase of a new Ladder Truck. Since that time, several of these issues have persisted and even worsened. This has placed a tremendous strain on our current resources and put the Public Safety Department in a very fragile and immediate situation. Due to a combination of the aforementioned issues, Public Safety is in a position where an emergency purchase of a Ladder Truck is critical for the continued safe and proficient operation of our fire services.

Also, due to the state of affairs that is taking place around the world with supply shortages, etc. the lead time in ordering the vast majority of fire trucks is 24 months. In thoroughly researching the market for the specific needs of the Public Safety Department as it relates to product, availability, pricing, etc. We believe that the Ladder Truck manufactured by Smeal best meets our needs. The estimated delivery time is 12 months and the price of the Ladder Truck is \$1,389,356. We have been cautioned by the manufacturer that there is a possibility of an additional increase in price for materials due to shortages, etc. between now and time of our estimated delivery date of July 2023. The buyer would have to absorb the increase.

FINANCIAL STATEMENT: specifications for the Ladder Truck and purchase agreement attached.

RECOMMENDED ACTION: I am requesting that City Council approve the emergency purchase of a new Ladder Fire Truck from the manufacturer Smeal in the amount of \$1,389,356 and waive the competitive bid process. Subject to the purchase contract approval by the City Attorney. Also, with the understanding that the price is subject to an increase. Any increase in price would need to be brought before Council for approval.

APPROVALS:

City Manager: _____ ET

Department Director: _____

Director of Finance: _____ SC

Budgeted: ☐ NA

EXHIBITS: NA

Oak Park Fire Department

Aerial Specifications

Smeal branded badging and Logo's shall be supplied.

INTENT OF SPECIFICATIONS

It is the intent of these specifications to cover the furnishing and delivery to the purchaser of a complete apparatus equipped as herein specified. With a view to obtaining the best results and the most acceptable apparatus for service in the fire department, these specifications cover the general requirements as to the type of construction, together with certain details as to finish, equipment, and appliances with which the successful bidder must conform. Minor details of construction and materials where not otherwise specified are left to the discretion of the contractor, who shall be solely responsible for the design and construction of all features.

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

Each bidder shall furnish satisfactory evidence of his ability to construct the apparatus specified. The bidder shall also show that they are in a position to render prompt service and furnish replacement parts for said apparatus.

Aerials containing load ratings and capabilities of the highest level within the respective model class shall be accepted. Bids submitted containing medium duty or light duty aerial ladders shall not be considered as meeting minimum requirements and will automatically be rejected.

CONTRACTOR'S SPECIFICATIONS

Each bid shall be accompanied by a set of "Contractor's Specifications" consisting of a detailed description of the apparatus and equipment proposed and to which the apparatus furnished under contract shall conform.

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

The submitted bids shall clearly describe the capabilities of the aerial device. Items such as safety factor certification, horizontal reach, vertical reach, scrub chart information, load capabilities, flow ratings, monitor capabilities, short set capabilities, safety interlock information, estimated completed weight information and other pertinent information shall be either submitted with the bid or readily available if requested.

TIMELY PROPOSALS

It is the bidder's responsibility to see that their proposals arrive on time. Late proposals, facsimiles, e-mails, telegram, or telephone bids shall not be considered.

Oak Park Fire Department

Aerial Specifications

DRAWINGS

All bid drawings shall be stamped PROPOSAL.

- A total of six (6) drawings shall be supplied. The provided drawings can be printed to any paper size, but the scale will only be valid when printed to the paper size listed in the title block
- Drawings shall show five (5) views: left (drivers), right (officers), front, rear, and top
- OAL (overall length) in feet and inches. The estimated length shall be rounded up to the nearest inch
- OAH (overall height) in feet and inches. The estimated height shall be rounded up to the nearest inch
- Wheelbase in inches
- Pump house width in inches
- Front of the body to the centerline of the rear axle in inches
- Front and rear overhang in inches
- Angle of approach and departure
- Roll up doors will be shown in open position. Lap doors will be shown in the closed position
- Compartment dimensions shall be shown in a table on the drawing. The table shall display
 1. Clear door opening - The width/height of the clear door opening
 2. Interior dimensions - The interior compartment dimensions excluding any accessories or pockets (i.e. roll up door drums, hard suction hose pans, suspension pockets, etc.)
 3. Divide heights - The measurement where the compartment changes from full depth to shallow depth
 4. Compartment depths - Depth of the compartment with the door closed
- Ground ladders shall be labeled with a letter designation referring to the table for an explanation of the ladder
- No pump panel or instrument panel controls, discharges or inlets shall be shown. The panel space is to be left blank and labeled "Pump Panel"
- Rear plumbing, such as 2-1/2" discharges, rear steamers, and direct tank fills, shall be shown
- Water tank outline (if applicable)
- Water tank and foam cell fill towers (If applicable)
- Generator outline (if applicable)
- Warning lights
- D.O.T. lights

Oak Park Fire Department

Aerial Specifications

Text Block Items

- Chassis make/model
- Fire pump make/model
- Water tank capacity (if applicable)
- Foam cell capacity (if applicable)
- Body material
- Hose bed capacity in cubic feet (if applicable)
- Total compartment cubic feet
- Utilize an unique bid number
- Drawings shall be printed on white paper with black ink

PURCHASER'S OBLIGATIONS

The purchaser reserves the right to accept or reject any or all bids on such basis as the purchaser deems to be in its best interest. All bidders shall be advised that the purchaser is not bound in any manner to automatically accept the lowest bid. The purchaser shall only be obligated to purchase the lowest bid that meets these detailed specifications as closely as possible.

SPECIALIZATION

Due to the complexity of the apparatus proposed, it is the desire of the purchaser to obtain equipment that is built by companies that specialize in the construction in accordance with NFPA 1901, current edition compliant aerial devices.

The aerial device shall be engineered and fabricated by a manufacturer with a minimum of 40 years of experience in the aerial field. No exceptions shall be allowed.

No prototype devices or aerials without a proven field record shall be acceptable. The aerial device provided shall be of the highest quality available in the industry.

SAFETY REQUIREMENTS

It is required that the bidder shall meet all State and Federal safety standards and laws that are in effect on the date of the bid for the item(s) that are specified and the particular use for which they are meant.

ACQUAINTANCE WITH SPECIFICATIONS

It is the responsibility of the bidder to review all of the bidding requirements. Failure of a bidder to be acquainted with this information shall not relieve them from any obligations of the bid requirements.

Oak Park Fire Department

Aerial Specifications

QUALITY AND WORKMANSHIP

The design of the apparatus shall embody the latest approved automotive engineering practices. Experimental designs and methods shall not be acceptable.

The workmanship shall be of the highest quality in its respective field. Special consideration shall be given to the following points: accessibility of the various units that require periodic maintenance, ease of operation (including pumping and driving), and symmetrical proportions.

Construction shall be rugged and ample safety factors shall be provided to carry loads as specified.

GENERAL CONSTRUCTION

The complete apparatus, assemblies, sub-assemblies, component parts etc., shall be designed and constructed with due consideration to the nature and distribution of the load to be sustained and to the general character of service which the apparatus is to be subjected when placed in service.

All parts of the apparatus shall be strong enough to withstand the general service under full load. The apparatus shall be so designed that the various parts are readily accessible for lubrication, inspection, adjustment, and repair.

The apparatus shall be designed and constructed, and the equipment mounted, with due consideration to the distribution of the load between the front and rear axles, and side to side loading that all specified equipment, including a full complement of specified ground ladders, full water tank, loose equipment, and firefighters; shall be carried without overloading or damaging the apparatus in accordance with NFPA 1901, current edition requirements.

LIABILITY

The bidder, if their bid is accepted, shall defend any and all suits and assume all liability for the use of any patented process, device or article forming a part of the apparatus or any appliance furnished under the contract.

WARRANTY

A copy of the warranties for the chassis, pump, body, paint, water tank (if applicable), aerial device, waterway, and waterway seals shall be furnished with each bidder's proposal.

INFORMATION REQUIRED UPON DELIVERY

The manufacturer shall supply at the time of delivery at least two copies of a complete operation and maintenance manual covering the completed aerial device as delivered.

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Aerial Specifications

Parts manuals, where possible, shall be cross-referenced to show the actual manufacturer's name, part number and description on all parts and fittings that are commercially available.

DESIGN / CONSTRUCTION / TESTING CRITERIA

The following criteria shall be applicable to this specification to the extent specified herein:

- NFPA 1901, Current Edition
- American Society for Testing and Materials (ATSM A-36)
- Society of Automotive Engineers, Inc. (SAE) "SAE Handbook"
- American Welding Society (AWS) AWSO 14.4-77
- American Welding Society (AWS) D1.1 and D1.2
- American Society of Non-Destructive Testing (ASNT) "ASNT CP-189"

The aerial ladder shall be designed, fabricated, and tested in accordance with the above codes and specifications, as well as all other applicable codes, standards, and specifications that may be referenced by any of the above.

NON-DESTRUCTIVE TESTING

Steel ladders, turntable, stabilizers, and torque box shall have 100% of all welds tested using both magnetic particle method and visual testing method. Aerials that are fabricated of aluminum shall have 100% of all welds tested using dye penetrant method and visual method. All testing shall be performed by certified technicians, which are employees of an independent nationally recognized and certified third-party testing company. Manufacturers who rely on visual inspection (either in-house or by a third party) as the primary method of testing, and magnetic particle or dye penetrant as a secondary or "proving" test method for only suspect areas shall not be acceptable. In any case, welds shall be tested using two (2) separate NDT inspection methods regardless of the material used to construct the aerial device.

THIRD PARTY CERTIFICATION

All bids shall include copies of the certification of testing of the aerial device. The purchaser desires a device that has been tested by a third party for compliance with the minimum 2 to 1 safety factor specified in accordance with NFPA 1901, current edition. Devices that have not been certified by a third party engineering firm that is independent of the manufacturer shall not be acceptable, no exceptions.

AERIAL DEVICE SAFETY FACTOR AND RATED CAPACITY

The purchaser desires to purchase, using these specifications, an aerial device with a minimum 2.0:1 Safety Factor as required and defined in accordance with NFPA 1901, current edition. Therefore, the aerial manufacturer shall hereby certify, by submitting a bid for these specifications that the aerial device meets or exceeds all requirements and conditions in these specifications, no exceptions.

Oak Park Fire Department

Aerial Specifications

BID FORMS / SPECIFICATIONS

All bid forms shall be submitted on the attached bid form. The bid form and/or these specifications shall be filled out by checking either the "YES" or "NO" column for each and every section/paragraph. Failure to use this form and/or these specifications shall be cause for immediate rejection of any bid.

EXCEPTION TO SPECIFICATIONS

The following chassis, pump, and body specifications shall be strictly adhered to. Exceptions shall be allowed if they are equal to or superior to that specified and provided, they are listed and fully explained on a separate page entitled "EXCEPTIONS TO SPECIFICATIONS". Exception lists shall refer to the specification page number. Each check in the "NO" column shall be listed and fully explained. Where no check is made in a particular paragraph either "YES" or "NO", it shall be assumed the bidder is taking exception to that paragraph. If a paragraph contains an empty column, where the bidder neglected to check the proper "YES" or "NO" column, it is assumed the bidder is not conforming to the requirements of this paragraph. If no explanation is given in the "EXCEPTIONS TO SPECIFICATIONS" document, the bid is subject to immediate rejection.

PROPOSALS TAKING TOTAL EXCEPTION TO THESE SPECIFICATIONS WILL BE IMMEDIATELY REJECTED.

The buyer is aware that all bidders shall have to take some exceptions, therefore; BIDDERS THAT TAKE NO EXCEPTIONS shall BE REQUIRED TO MEET EVERY PARAGRAPH TO THE FULLEST EXTENT SHOULD THEIR BID BE ACCEPTED. It is the intent of the purchaser to receive bids that do not require telephone calls or other communications to ascertain what a bidder is intending to supply.

Upon delivery, the apparatus shall be inspected against these specifications and not those supplied by the bidder with their proposal. Deviations shall not be acceptable unless noted as exceptions at the time of bid. The apparatus shall be rejected until said deviations are corrected to the satisfaction of the buyer.

Decisions regarding equal to or better than shall be the sole responsibility of the recipient of the bids rather than companies submitting bids. All deviations, regardless of significance, must be explained in the "EXCEPTIONS TO SPECIFICATIONS" section of the bid.

When exceptions are not taken but inconsistencies are noted in the submitted detailed specifications, the bid may be rejected.

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ROADABILITY

The apparatus, when fully equipped and loaded, shall be capable of the following performance while on dry paved roads that are in good condition:

- Accelerating from 0 to 35 mph within 25 seconds on a 0 percent grade
- Attaining a speed of 50 mph on 0 percent grade
- Maintaining a speed of at least 20 mph on any grade up to and including 6 percent
- The maximum top speed of the apparatus shall not exceed the tire manufacturer's maximum speed rating for the tires installed on the apparatus

FAILURE TO MEET TESTS

In the event the apparatus fails to meet the test requirements of these specifications on the first trials, second trials may be made at the option of the bidder within 30 days of the date of the first trials.

Such trials shall be final and conclusive and failure to comply with these requirements shall be cause for rejection. Failure to comply with changes as required to conform to any clause of the specifications within 30 days after notice is given to the bidder of such changes, shall be cause for rejection of the apparatus.

Permission to keep or store the apparatus in any building owned or occupied by the department during the specified period, with the permission of the bidder, shall not constitute acceptance.

PROPOSAL SEQUENCE

Bid specifications shall be submitted in the same sequence as these specifications for ease of checking compliance. No exceptions shall be allowed to this requirement. The apparatus committee intends to be thorough during the evaluation of bids process. In order to maximize efficiency and minimize time to thoroughly evaluate all received bids, this requirement must be strictly enforced.

AWARD OF CONTRACT

All bids submitted shall be valid for a minimum of 30 days during which time bid securities submitted with the proposals shall be held by the purchaser. Criteria for the award shall include, but not be limited to, the following:

- Apparatus Performance And Safety Levels / Considerations
- Completeness of proposal
- Accuracy of accompanying data
- Past performance of bidder
- Compliance with the detailed specifications
- Compliance with purchasers request(s) for personnel qualifications or certifications
- Exceptions and clarifications
- Financial stability of bidder

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- Local representation of the manufacturer
- Serviceability of the proposed apparatus
- Service capabilities of the bidder's local representative
- Compliance with NFPA 1901, current edition
- Any other factor the purchaser deems relevant

After the evaluation and award process is complete, all bidders shall be notified of the results and securities shall be returned.

PREREQUISITE BIDDING REQUIREMENTS

Any manufacturer submitting a proposal or bid, to these specifications, shall meet the following conditions:

- The manufacturer of the apparatus herein specified, shall be wholly owned (100%) and managed by a Company, Corporation, and/or Parent Company that is wholly based and permanently resides in the United States of America.
- The Company, Corporation, and/or Parent Company, and all assets belonging to such, shall be wholly owned and managed (100%) by the entities specified above.

Any proposal, bid, or response to these specifications by any foreign based, owned, or managed (in part or in whole) Company, Corporation, and/or Parent Company shall be cause for immediate rejection. Any proposal, bid, or response to these specifications by any Company, Corporation, and/or Parent Company, that is owned, operated, managed, or held in contract, in part or wholly by a partnership or other agreement, shall be cause for immediate rejection.

Exceptions to these conditions will not be allowed under any circumstances.

NFPA 1901-2016

The National Fire Protection Association "Standard for Automotive Fire Apparatus", 2016 edition, is hereby adopted and made a part of these specifications, the same as if it were written out in full detail, with the exception of the section dealing with "Equipment Recommended for Various Types of Apparatus". Bidders shall provide the equipment requested herein and the buyer shall supply the rest before the apparatus is put into service. It is the intent of the purchaser to purchase an apparatus that meets 100% of the minimum standards defined and outlined in NFPA 1901-2016 edition. There are to be no exceptions to this requirement.

INSPECTION CERTIFICATE - NFPA 1901 COMPLIANCE

An OEM inspection certificate for the apparatus shall be furnished upon delivery. The purpose of this NFPA 1901 compliance inspection shall be to serve as proof to the customer that all applicable standards have been met or exceeded by the responsible manufacturer.

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The following objectives shall be achieved as a result (this listing shall not be construed as being all inclusive):

- Ensure that understanding of all parties respective responsibilities have been addressed by the actual referencing of NFPA 1901 and the amendments in these specifications and the purchase contract and documentation.
- Ensure that only structural materials complying with appropriate standards and codes are used for construction.
- Ensure the applicable standards of design and manufacturing have been met or exceeded.
- Ensure that safety factors have been met or exceeded where required.
- Ensure that applicable standards for testing and inspection have been met or exceeded by personnel with the appropriate qualifications, experience, and certifications.
- Ensure that where applicable components, equipment, and loose equipment carry the appropriate characteristics, classifications, and/or certifications.
- Ensure that in general and as a whole, all applicable requirements set forth in NFPA 1901, and those codes, standards, and specifications referenced by said parties are met, exceeded, and/or addressed.

CONSTRUCTION DOCUMENTATION

The contractor shall supply, at the time of delivery, at least one (1) copy of the following documents:

1. The manufacturer's record of apparatus construction details, including the following information:

- Owners name and address
- Apparatus manufacturer, model, and serial number
- Chassis make, model, and serial number
- GAWR of front and rear axles
- Front tire size and total rated capacity in pounds or kilograms
- Rear tire size and total rated capacity in pounds or kilograms
- Chassis weight distribution in pounds with water and manufacturer mounted equipment (front and rear)
- Engine make, model, serial number, rated horsepower, related speed, and governed speed
- Type of fuel and fuel tank capacity
- Electrical system voltage and alternator output in amps
- Battery make, model, and capacity in cold cranking amps (CCA)
- Chassis transmission make, model, and serial number; and if so equipped, chassis transmission PTO(s) make, model, and gear ratio
- If applicable, the pump make, model, rated capacity in gallons or liters per minute, and serial number
- Pump transmission make, model, serial number, and gear ratio, if unit is equipped with a pump

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- If applicable, the auxiliary pump make, model, rated capacity in gallons or liters per minute, and serial number
 - Water tank certified capacity in gallons or liters
 - On aerial apparatus, the device type, rated vertical height in feet or meters, rated horizontal reach in feet or meters, and rated capacity in pounds or kilograms
 - Paint manufacturer and paint number(s)
 - Company name and signature of responsible company representative
2. Certification of slip resistance of all stepping, standing, and walking surfaces
3. If the apparatus has a fire pump, a copy of the following shall be provided: pump manufacturers certification of suction capability, apparatus manufacturers approval for stationary pumping applications, engine manufacturers certified brake horsepower curve showing the maximum governed speed, pump manufacturers certification of the hydrostatic test, and the certification of inspection and test for the fire pump
4. If the apparatus has an aerial device, the certification of inspection and test for the aerial device, and all the technical information required for inspections to comply with NFPA 1914, Standard for Testing Fire Department Aerial Devices
5. If the apparatus has a fixed line voltage power source, the certification of the test for the fixed power source
6. If the apparatus is equipped with an air system, test results of the air quality, the SCBA fill station, and the air system installation
7. Weight documents from a certified scale showing actual loading on the front axle, rear axle(s), and overall fire apparatus (with the water tank full but without personnel, equipment, and hose)
8. Written load analysis and results of the electrical system performance tests
9. When the apparatus is equipped with a water tank, the certification of water tank capacity

OPERATION AND SERVICE DOCUMENTATION

The contractor shall supply at the time of delivery, at least two (2) sets of complete operation and service documentation covering the completed apparatus as delivered and accepted. The documentation shall address at least the inspection, service, and operations of the fire apparatus and all major components thereof. The contractor shall also provide documentation of the following items for the entire apparatus and each major operating system or major component of the apparatus:

- Manufacturers name and address
- Country of manufacturer
- Source of service and technical information
- Parts and replacement information

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- Descriptions, specifications, and ratings of the chassis, pump, and aerial device
- Wiring diagrams for low voltage and line voltage systems to include the following information: representations of circuit logic for all electrical components and wiring, circuit identification, connector pin identification, zone location of electrical components, safety interlocks, alternator-battery power distribution circuits, and input/output assignment sheets or equivalent circuit logic implemented in multiplexing systems
- Lubrication charts
- Operating instructions for the chassis, any major components such as a pump or aerial device, and any auxiliary systems
- Precautions related to multiple configurations of aerial devices, if applicable
- Instructions regarding the frequency and procedure for recommended maintenance
- Overall apparatus operating instructions
- Safety considerations
- Limitations of use
- Inspection procedures
- Recommended service procedures
- Troubleshooting guide
- Apparatus body, chassis, and other component manufacturers warranties
- Special data required by this standard
- Copies of required manufacturer test data or reports, manufacturer certifications, and independent third-party certifications of test results
- A material safety data sheet (MSDS) for any fluid that is specified for use on the apparatus
- One (1) copy of the FAMA Safety Guide

The contractor shall deliver with the apparatus all manufacturers operations and service documents supplied with components and equipment that are installed or supplied by the contractor.

STATEMENT OF EXCEPTIONS

The proposed apparatus as described in this specification document and all related material with the bid package shall meet or exceed all applicable sections for the category of apparatus as defined by NFPA 1901 unless specifically noted within this specification or other official documents associated with this bid.

Should any area, section or portion of the apparatus not meet the intent and applicable requirements, a clearly defined listing or explanation of what and why compliance was not achieved shall be provided to the purchaser at the time of delivery.

OWNER'S MANUAL

An owner's manual containing the construction, operation, and service documentation shall be provided on a USB Drive. One (1) copy of the USB shall be provided with the apparatus.

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ELECTRICAL MANUAL

A complete electrical manual for the apparatus shall also be provided on the USB Drive. This manual shall be specifically prepared for this individual unit rather than a generic schematic manual designed to accommodate all apparatus. The electrical manual shall also include electrical schematics, harness layouts, V-Mux specifications (including Node Input/output Spreadsheet and Node Relationship Spreadsheet), and Master Wire Listing.

A contact letter shall also be provided by the electrical engineer, who built the manual, with instructions on using the manual and contact information for assistance with electrical manual questions.

ELECTRICAL SCHEMATICS

A section of the electrical manual shall include schematics of the electrical system and components on the apparatus. These schematics shall be specifically prepared for this individual unit rather than a generic schematic designed to accommodate all apparatus.

PUMP PLUMBING SCHEMATICS (if applicable)

A section of the electrical manual shall include a schematic of the pump plumbing. This schematic shall be specifically prepared for this individual unit rather than a generic schematic designed to accommodate all apparatus.

HYDRAULIC SCHEMATICS (if applicable)

A section of the electrical manual shall include schematics of the hydraulic components on the apparatus including but not limited to:

- Ladder Rack(s) and Hose Bed Door(s) (if applicable)
- Aerial - Retraction/Extension (if applicable)
- Aerial - Rotation (if applicable)
- Tiller - HVAC Hydraulics System (if applicable)

FIRE APPARATUS SAFETY GUIDE

One (1) printed copy of the FAMA Fire Apparatus Safety Guide shall be provided with the apparatus. This guide provides safety instructions for operations of the fire apparatus.

AERIAL OPERATION/PARTS/MAINTENANCE MANUALS

One (1) printed aerial operation and maintenance manual shall be provided with the apparatus at the time of delivery. These manuals shall be written in a "step by step" format for ease of reference. One (1) USB shall be provided with a digital copy of the aerial manuals included with the printed version. Finally, a digital version of the aerial manuals will also be included with the complete Owner's Manual USB for the apparatus.

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Information included in the manuals shall include, but no be limited to the following:

1. Manufacturer Defined Terminology; (to help impart full understanding of terminology used in the manuals)
2. Safety Information and Warnings; (to warn of dangerous conditions/personnel injury/equipment damage)
3. Complete Rated Capacities Information; (allowable loads and GPM flows)
4. Complete and Detailed Operating Systems Descriptions; (to impart understanding of operation/capabilities/working principles)
5. Instruction For Manufacturer Recommended Deployment and Operation Of All Systems During All Specific Conditions; (to ensure safer, more efficient operation of the aerial device)
6. Current, Actual Illustrations Of Aerial Components Throughout The Manual; (to aid in location of specific components, being addressed in the manual)
7. Complete Maintenance Instructions/Methods/Materials/Intervals/Inspections.

AERIAL LADDER DEVICE DEMONSTRATION - (4) DAYS

A factory trained and authorized instructor shall provide four (4) consecutive days of on-site classes after apparatus acceptance.

Topics covered in the class shall include:

- General familiarization and demonstration of aerial device
- Aerial apparatus safety including a review of all safety devices, interlocks. and operational hazards
- Positioning and locating the vehicle for safe operations
- Chassis parking brakes and engagement of hydraulic system
- Deployment of stabilization devices and use of ground pads
- Operation of elevation, extension, and rotation of the aerial device
- Operation of waterway, nozzle, and other firefighting devices of aerial device
- Operation and use of breathing air system
- Specific aerial device maintenance and service areas for operators

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- Shutdown and return to service operations
- Operation of tip controls and platform controls if equipped

Classes shall consist of presentations as well as hands-on demonstration.

MISCELLANEOUS EQUIPMENT ALLOWANCE

The Gross Axle Weight Rating (GAWR) and the Gross Combined Weight Rating (GCWR) or Gross Vehicle Weight Rating (GVWR) of the chassis shall be adequate to carry the weight of the unequipped apparatus with the water tank and other tanks full, specified hose load, unequipped personnel weight, ground ladders, and miscellaneous equipment allowance of 2,500 pounds.

TILT TABLE TESTING NOT REQUIRED

The chassis of the apparatus is equipped with Electronic Stability Control (ESC), which is in accordance with NFPA 1901, current edition requirement of maintaining a stability of 26.5 degrees in both directions.

VEHICLE STABILITY

The apparatus shall comply with the requirements of NFPA 1901 as it applies to vehicle stability. The particular apparatus as described in the specification provided within the bid package shall be classified into one of the following categories:

- The apparatus shall go through actual tilt table testing which shall be determined by the apparatus manufacturer.
- The apparatus shall be equipped with a rollover stability control system as defined in section 4.13.1.2 of NFPA 1901.
- The apparatus shall be deemed a similar apparatus and meeting the intent of section 4.13.1.1.2 of NFPA 1901.

INDEPENDENT THIRD PARTY PUMP CERTIFICATION

The fire pump shall be tested and certified by an independent third party testing company. Tests shall be conducted so that the pump performs as listed below:

- 100% of rated capacity at 150 pounds net pressure
- 70% of rated capacity at 200 pounds net pressure
- 50% of rated capacity at 250 pounds net pressure
- 100% of rated capacity at 165 pounds net pressure

The entire pump, both suction and discharge passages, shall be hydrostatically tested to a pressure of 600 PSI. The pump shall be fully tested at the pump manufacturer's factory to the performance spots as outlined in accordance with NFPA 1901, current edition. The pump shall be free from objectionable pulsation and vibration.

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Aerial Specifications

PUMP CERTIFICATION

The pump shall be certified in U.S. gallons per minute (GPM).

ONLINE CUSTOMER INTERACTION

Smeal Holding LLC. shall provide the capability for online access.

The fire department shall be able to view digital photos of their apparatus in the specified phases of construction.

The following phases will be captured and displayed:

- Chassis arrival to the OEM
- Fabrication
- Pump and Plumbing
- Paint
- Assembly
- Completion of production

The photos shall be uploaded to a secure website, only accessible to the customer and representatives of the OEM.

PRE-CONSTRUCTION MEETING

A pre-construction meeting shall be held at the apparatus manufacturer's factory. Fire department personnel, dealer representative(s) and factory representative(s) shall be present during the pre-construction meeting process. The purpose of conducting this meeting at the factory is to allow the fire department personnel to see various features of or similar components on other apparatus that may be found on the production floor. The pre-construction meeting is the most important meeting during the after-sale production process. The purpose of this meeting is to finalize all aspects of the specifications, discuss and clarify all design details of the apparatus, and to share or provide all information so all parties are in agreement on the apparatus being constructed. The ultimate goal of the pre-construction meeting is for the fire department officials, dealer representative(s), and factory representative(s) to discuss and clarify all aspects of the proposed apparatus and to provide all necessary information to the apparatus manufacturer that will ensure the apparatus is built to the satisfaction of all parties involved.

The apparatus manufacturer shall create and forward to the dealer a "Pre-construction" document containing the following items:

- Complete specifications of the apparatus including the chassis
- Detailed amp draw report
- Listing of clarifications or questions from the manufacturer that require attention (shelf locations, lettering details, etc.)

Oak Park Fire Department

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- A pre-construction drawing shall be provided that encompasses all views on a single page

During this pre-construction meeting, any changes or clarifications must be documented on a manufacturer issued change order. The change order shall be signed by the customer and dealership and ultimately by the apparatus manufacturer. The change order becomes an extension of the contract with the official signatures of all three parties. All change order items resulting from the pre-construction meeting shall be implemented into the official shop order document.

FINAL INSPECTION

The department/dealer representative will inspect the final apparatus prior to it leaving the apparatus body manufacturer's facility. This will allow any changes that may be required, to be done so in a timely manner. After leaving the facility, all repairs or alterations will be performed by either the dealer or an OEM-approved service center.

MODEL

The chassis shall be a Gladiator model. The cab and chassis shall include design considerations for multiple emergency vehicle applications, rapid transit and maneuverability. The chassis shall be manufactured for heavy duty service with the strength and capacity to support a fully laden apparatus, one hundred (100) percent of the time.

MODEL YEAR

The chassis shall have a vehicle identification number that reflects a 2023 model year.

COUNTRY OF SERVICE

The chassis shall be put in service in the country of United States of America (USA).

The chassis will meet applicable U.S.A. federal motor vehicle safety standards per CFR Title 49 Chapter V Part 571 as clarified in the incomplete vehicle book per CFR Title 49 Chapter V Part 568 Section 4 which accompanies each chassis. The chassis manufacturer is not responsible for compliance to state, regional, or local regulations. Dealers should identify those regulations and order any necessary optional equipment from the chassis manufacturer or their OEM needed to be in compliance with those regulations.

CAB AND CHASSIS LABELING LANGUAGE

The cab and chassis shall include the applicable caution, warning, and safety notice labels with text to be written in English. All applicable caution, warning, and safety notice labels shall be Innovative Controls brand.

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Aerial Specifications

Where applicable to the location within the specific layout and label package of the cab and chassis, the labels shall include decorative chrome bezels. Designs shall include bezels that fit individual labels or packaged configurations of labels in certain common locations.

The following labels shall be Innovative Controls brand, each including a decorative chrome bezel (where applicable):

- Shoreline
 - Aerial Stowed
 - Aerial Breakers 2
 - Air Conditioner
 - Cab Tilt Plate
 - Air Compressor Breaker
 - Battery Conditioner Breaker
 - Helmet Caution
 - Horn Tag
 - Q2B Tag
 - Load Center Plate
 - Not a Step Label
 - Occupancy Tag
 - Do Not Move
 - Occupants Must Be Seated
 - Do Not Stand
 - Danger Do Not Weld
 - Danger--Untrained Operator
 - DEF Fill Access (Including Additional 2907 Optional Labels)
 - Battery Direct
 - Kneeling
 - IFS Air Fault
 - Engine Brake
 - Retarder
 - LR 100 Amp Node
 - 300 Amp EPU
 - 100 Amp Front O/R Node
 - 100 Amp T/T Node
 - 100 Amp RR O/R Node
 - 10 Amp EPU
 - Master Power
 - 12 Volt Power
 - Aerial Hours
 - Pump In Drive
- Windshield Washer Fluid

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APPARATUS TYPE

The apparatus shall be a Quint vehicle designed for emergency service use. The apparatus shall include a permanently mounted fire pump which has a minimum rated capacity of 750 gallons per minute (3000 L/min), a water tank, a hose storage area, a compliment of ground ladders, and an aerial ladder or elevating platform with a permanently mounted waterway that shall be rear mounted thus providing the following vehicle benefits:

- Improved mobility vs. mid-ship mounted units, due to shorter overall travel length and wheelbase.
- Increased compartment space, hose load, and water capacity in the body, resulting from ladder being raised to clear the cab.
- Shorter vehicle wheelbase.

Shorter overall length of vehicle.

VEHICLE TYPE

The chassis shall be manufactured for use as a straight truck type vehicle and designed for the installation of a permanently mounted apparatus behind the cab. The apparatus of the vehicle shall be supplied and installed by the apparatus manufacturer.

VEHICLE ANGLE OF APPROACH PACKAGE

The angle of approach of the apparatus shall be a minimum of 8.00 degrees.

NFPA1901 Angle of Approach definition:

"To determine the angle of approach, place a thin steel strip against the front of the tires where they touch the ground or stretch a tight string from one front tire to the other at the front where they touch the ground. Determine the lowest point (component or equipment) on the vehicle forward of the front tire that would make the smallest angle of approach. Hang a plumb bob from the lowest point and mark the point on the ground where the point of the plumb bob touches. Measure the vertical distance from the ground to the point where the plumb bob was hung (distance V). Measure the horizontal distance from the plumb bob point to the steel strip or string running from front tire to front tire (distance H). Divide the vertical distance by the horizontal distance. The ratio of V/H is the tangent of the angle of approach. If the ratio is known, the angle of approach can be determined from a table of trigonometric functions of angles or from a math calculator. The standard requires a minimum angle of approach of 8.00 degrees: since the tangent of 8.00 degrees is 0.1405, if V divided by H is 0.1405 or larger, the angle of approach is 8.00 degrees or greater."

Oak Park Fire Department

Aerial Specifications

AXLE CONFIGURATION

The chassis shall feature a 6 x 4 axle configuration consisting of a tandem rear drive axle set with a single front steer axle.

GROSS AXLE WEIGHT RATINGS FRONT

The front gross axle weight rating (GAWR) of the chassis shall be 23,000 pounds.

This front gross axle weight rating shall be adequate to carry the weight of the completed apparatus including all equipment and personnel.

GROSS AXLE WEIGHT RATINGS REAR

The rear gross axle weight rating (GAWR) of the chassis shall be 54,000 pounds.

This rear gross axle weight rating shall be adequate to carry the weight of the completed apparatus including all equipment and personnel.

PUMP PROVISION

The chassis shall include provisions to mount a drive line pump in the middle of the chassis, behind the cab, more commonly known as the midship location. Chassis driveline pump provisions shall include an interlock feature for automatic setting of the park brake when the vehicle is shifted into pump mode while the transmission is in neutral and the transmission output speed translates to less than 1 mph. When the conditions are met the driver side parking brake valve shall activate. Once shifted to road mode the condition for electric automatic brake engagement is no longer present and the driver's parking brake control valve shall function normally.

WATER & FOAM TANK CAPACITY

The chassis shall include a carrying capacity of up to 750 gallons (2839 liters). The water and/or foam tank(s) shall be supplied and installed by the apparatus manufacturer.

CAB STYLE

The cab shall be a custom, fully enclosed, MFD model with a flat roof over the driver, officer, and crew area, designed and built specifically for use as an emergency response vehicle by a company specializing in cab and chassis design for all emergency response applications. The cab shall be designed for heavy-duty service utilizing superior strength and capacity for the application of protecting the occupants of the vehicle. This style of cab shall offer up to eight (8) seating positions.

The cab shall incorporate a fully enclosed design with side wall roof supports, allowing for a spacious cab area with no partition between the front and rear sections of the cab.

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To provide a superior finish by reducing welds that fatigue cab metal; the roof, the rear wall and side wall panels shall be assembled using a combination of welds and proven industrial adhesives designed specifically for aluminum fabrication for construction.

The cab shall be constructed using multiple aluminum extrusions in conjunction with aluminum plate, which shall provide proven strength and the truest, flattest body surfaces ensuring less expensive paint repairs if needed. All aluminum welding shall be completed to the American Welding Society and ANSI D1.2-96 requirements for structural welding of aluminum.

All interior and exterior seams shall be sealed for optimum noise reduction and to provide the most favorable efficiency for heating and cooling retention.

The cab shall be constructed of 5052-H32 corrosion resistant aluminum plate. The cab shall incorporate tongue and groove fitted 6061-T6 0.13 & 0.19 inch thick aluminum extrusions for extreme duty situations. A single formed, one (1) piece extrusion shall be used for the "A" pillar, adding strength and rigidity to the cab as well as additional roll-over protection. The cab side walls and roof skin shall be 0.13 inch thick; the rear wall skin shall be 0.09 inch thick; the front cab structure shall be 0.19 inch thick.

The exterior width of the cab shall be 99.40 inches wide with a minimum interior width of 91.00 inches. The overall cab length shall be 131.10 inches with 54.00 inches from the centerline of the front of the axle to the back of the cab.

The cab interior shall be designed to afford the maximum usable interior space and attention to ergonomics with hip and legroom while seated which exceeds industry standards. The crew cab floor shall be flat across the entire walking area for ease of movement inside the cab.

The cab shall offer an interior height of 57.50 inches from the front floor to the headliner in the non-raised roof area and a rear floor to headliner height of 55.00 inches at a minimum. The cab shall offer an interior measurement at the floor level from the rear of the engine tunnel to the rear wall of the cab of 49.88 inches. All interior measurements shall include the area within the interior trimmed surfaces and not to any unfinished surface.

The cab shall include a driver and officer area with two (2) cab doors large enough for personnel in full firefighting gear. The front doors shall offer a clear opening of 40.25 inches wide X 53.50 inches high, from the cab floor to the top of the door opening. The cab shall also include a crew area with up to two (2) cab doors, also large enough for personnel in full firefighting gear. The rear doors shall offer a clear opening of 32.25 inches wide X 51.00 inches high, from the cab floor to the top of the door opening.

The cab shall incorporate a progressive two (2) step configuration from the ground to the cab floor at each door opening. The progressive steps are vertically staggered and extend the full width of each step well allowing personnel in full firefighting gear to enter and exit the cab easily and safely.

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The first step for the driver and officer area shall measure approximately 11.50 inches deep X 31.13 inches wide. The intermediate step shall measure approximately 8.50 inches deep X 32.50 inches wide. The height from the first step to the intermediate step and the intermediate step to the cab floor shall not exceed 11.00 inches.

The first step for the crew area shall measure approximately 11.50 inches deep X 20.44 inches wide. The intermediate step shall measure approximately 10.25 inches deep X 22.75 inches wide. The height from the first step to the intermediate step and the intermediate step to the cab floor shall not exceed 12.80 inches.

CAB FRONT FASCIA

The front cab fascia shall be constructed of 5052-H32 Marine Grade, 0.13 of an inch thick aluminum plate which shall be an integral part of the cab.

The cab fascia will encompass the entire front of the aluminum cab structure from the bottom of the windshield to the bottom of the cab and shall be the "Classic" design.

The front cab fascia shall include two (2) molded plastic modules on each side accommodating a total of up to four (4) Hi/Low beam headlights and two (2) turn signal lights or up to four (4) warning lights. A chrome plated molded plastic bezel shall be provided on each side around each set of four lamps.

FRONT GRILLE

The front cab fascia shall include a classic box style, 304 stainless steel front grille. The grille shall measure 55.45 wide X 33.50 inches high X 1.50 inches deep. The upper portion of the grille shall be hinged to provide service access behind the grille. The grille shall include a minimum free air intake of 750.00 square inches.

CAB UNDERCOAT

There shall be a rubberized undercoating applied to the underside of the cab that provides abrasion protection, sound deadening and corrosion protection.

CAB SIDE DRIP RAIL

There shall be a drip rail along the top radius of each cab side. The drip rails shall help prevent water from the cab roof running down the cab side.

CAB PAINT EXTERIOR

The cab shall be painted prior to the installation of glass accessories and all other cab trim to ensure complete paint coverage and the maximum in corrosion protection of all metal surfaces.

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All metal surfaces on the entire cab shall be ground by disc to remove any surface oxidation or surface debris which may hinder the paint adhesion. Once the surface is machine ground a high quality acid etching of base primer shall be applied. Upon the application of body fillers and their preparation, the cab shall be primed with a coating designed for corrosion resistance and surface paint adhesion. The maximum thickness of the primer coat shall be 2.00 mils.

The entire cab shall then be coated with an intermediate solid or epoxy surfacing agent that is designed to fill any minor surface defects, provide an adhesive bond between the primer and the paint and improve the color and gloss retention of the color. The finish to this procedure shall be a sanding of the cab with 360 grit paper followed by sealing the seams with SEM brand seam sealer.

The cab shall then be painted the specific color designated by the customer with an acrylic urethane type system designed to retain color and resist acid rain and most atmospheric chemicals found on the fire ground or emergency scene. The paint shall have a minimum thickness of 2.00 mils, followed by a clear top coat not to exceed 2.00 mils. The entire cab shall then be baked at 180 degrees for one (1) hour to speed the curing process of the coatings.

CAB PAINT MANUFACTURER

The cab shall be painted with Sikkens paint.

CAB PAINT PRIMARY/LOWER COLOR

The primary/lower paint color shall be Sikkens FLNA 31979 Red.

CAB PAINT SECONDARY/UPPER COLOR

The secondary/upper paint color shall be Sikkens FLNA 90962 Metallic Blue.

CAB PAINT EXTERIOR BREAKLINE

The upper and lower paint shall meet at a breakline on the cab which shall be located approximately 1.00 inch below the door windows on each side of the cab. The breakline shall curve down at the front cab corners to approximately 5.00 inches below the windshields on the front of the cab.

CAB PAINT PINSTRIPE

Where the upper and lower paint colors meet a temporary 0.50 inch wide black pinstripe shall be applied over this break line to offer a more finished look prior to the final pinstripe being installed by the OEM.

Oak Park Fire Department

Aerial Specifications

CAB PAINT WARRANTY

Purchaser shall receive a Paint and Finish (Exterior Clear coated) Ten (10) Years limited warranty in accordance with, and subject to, warranty certificate RFW0710. The warranty certificate is incorporated by reference into this proposal, and included with this proposal or available upon request.

CAB PAINT INTERIOR

The visible interior cab structure surfaces shall feature a medium gray spray on bedliner coating which shall mold to each surface of the cab interior. The bedliner shall be environmentally friendly and chemically resistant.

CAB ENTRY DOORS

The cab shall include four (4) entry doors, two (2) front doors and two (2) crew doors designed for ease of entering and egress when outfitted with an SCBA. The doors shall be constructed of extruded aluminum with a nominal thickness of 0.13 inch. The exterior skins shall be constructed of 0.13 inch aluminum plate.

The doors shall include a double rolled style automotive rubber seal around the perimeter of each door frame and door edge which ensures a weather tight fit.

All door hinges shall be hidden within flush mounted cab doors for a pleasing smooth appearance and perfect fit along each side of the cab. Each door hinge shall be piano style with a 0.38 inch pin and shall be constructed of stainless steel.

CAB ENTRY DOOR TYPE

All cab entry doors shall be barrier clear design resulting in exposed lower cab steps. The doors shall provide approximately 32.00 inches of clearance from the ground to the bottom of the door so cab doors may be opened un-hindered by most obstacles encountered, such as guard rails along interstate highways.

Entry doors shall include Pollak mechanical plunger style switches for electrical component activation.

CAB INSULATION

The cab ceiling and walls shall include a nonwoven polyester fiber insulation. The insulation shall act as a barrier absorbing noise as well as assisting in sustaining the desired climate within the cab interior.

Oak Park Fire Department

Aerial Specifications

CAB STRUCTURAL WARRANTY

Purchaser shall receive a Cab Structure (Aluminum) Ten (10) Years or 100,000 Miles limited warranty in accordance with, and subject to, warranty certificate RFW0602. The warranty certificate is incorporated by reference into this proposal, and included with this proposal or available upon request.

CAB TEST INFORMATION

The cab shall have successfully completed the preload side impact, static roof load application and frontal impact without encroachment to the occupant survival space when tested in accordance with Section 4 of SAE J2420 COE Frontal Strength Evaluation Dynamic Loading Heavy Trucks, Section 5 of SAE J2422 Cab Roof Strength Evaluation Quasi -Static Loading Heavy Trucks and ECE R29 Uniform Provisions Concerning the Approval of Vehicles with regard to the Protection of the Occupants of the Cab of a Commercial Vehicles Annex 3 Paragraph 5.

The above tests have been witnessed by and attested to by an independent third party. The test results were recorded using cameras, high speed imagers, accelerometers and strain gauges. Documentation of the testing shall be provided upon request.

ELECTRICAL SYSTEM

The chassis shall include a single starting electrical system which shall include a 12 volt direct current multiplexing system, suppressed per SAE J551. The wiring shall be appropriate gauge cross link with 311 degree Fahrenheit insulation. All SAE wires in the chassis shall be color coded and shall include the circuit number and function where possible. The wiring shall be protected by 275 degree Fahrenheit minimum high temperature flame retardant loom. All nodes and sealed Deutsch connectors shall be waterproof.

OEM WIRING

The wiring system shall include a prewire for ECM park brake input and engine ground return circuits located behind the switch panel. The circuits shall include an extra 2.00 feet of wire and shall be labeled "ECM Park Brake Input".

MULTIPLEX DISPLAY

The multiplex electrical system shall include a Weldon Vista IV display which shall be located on the left side of the dash in the switch panel. The Vista IV shall feature a full color LCD display screen which includes a message bar displaying the time of day and important messages requiring acknowledgement by the user which shall all be displayed on the top of the screen in the order they are received. There shall be eight (8) push button virtual controls, four (4) on each side of the display for the on-board diagnostics. The display screen shall be video ready for back-up cameras, thermal cameras, and DVD.

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Aerial Specifications

The Vista IV display shall offer varying fonts and background colors. The display shall be fully programmable to the needs of the customer and shall offer virtually infinite flexibility for screen configuration options.

LOAD MANAGEMENT SYSTEM

The apparatus load management shall be performed by the included multiplex system. The multiplex system shall also feature the priority of sequences and shall shed electrical loads based on the priority list specifically programmed.

DATA RECORDING SYSTEM

The chassis shall have a Weldon Vehicle Data Recorder (VDR) system installed. The system shall be designed to meet NFPA 1901 and shall be integrated with the Weldon Multiplex electrical system. The following information shall be recorded:

- Vehicle Speed
- Acceleration
- Deceleration
- Engine Speed
- Engine Throttle Position
- ABS Event
- Seat Occupied Status
- Seat Belt Status
- Master Optical Warning Device Switch Position
- Time
- Date

Each portion of the data shall be recorded at the specified intervals and stored for the specified length of time to meet NFPA 1901 guidelines and shall be retrievable by connecting a laptop computer to the VDR system. The laptop connection shall be a panel mounted female type B USB connection point, remotely mounted in the left side foot well.

ACCESSORY POWER

The electrical distribution panel shall include two (2) power studs. The studs shall be size #10 and each of the power studs shall be circuit protected with a fuse of the specified amperage. One (1) power stud shall be capable of carrying up to a 40 amp battery direct load. One (1) power stud shall be capable of carrying up to a 15 amp ignition switched load. The two (2) power studs shall share one (1) #10 ground stud.

An OEM body connections bracket shall be installed on the chassis near the left hand battery box. The bracket shall include one (1) set each of a 350 amp master power switched and 300 amp battery direct power and ground studs. The 300 amp & 350 amp studs will not have any fuse protection and will be the responsibility of anyone using these studs to have fuse protection for each load attached. The studs will be labeled with max available amperage.

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AUXILIARY ACCESSORY POWER

An auxiliary set of power and ground studs shall be provided and installed behind the electrical center cover with a 40 amp breaker. The studs shall be 0.38 inch diameter and capable of carrying up to a 40 amp load switched with the master power switch.

EXTERIOR ELECTRICAL TERMINAL COATING

All terminals exposed to the elements will be sprayed with a high visibility protective rubberized coating to prevent corrosion.

ELECTRICAL SYSTEM WARRANTY

Purchaser shall receive an Electrical System Two (2) Years or 36,000 Miles limited warranty in accordance with, and subject to, warranty certificate RFW0202. The warranty certificate is incorporated by reference into this proposal, and included with this proposal or available upon request.

ENGINE

The chassis engine shall be a Cummins X12 engine. The X12 engine shall be an in-line six (6) cylinder, four cycle diesel powered engine. The engine shall offer a rating of 525 horse power at 1900 RPM and shall be governed at 2000 RPM. The torque rating shall feature 1695 foot pounds of torque at 1000 RPM with 720 cubic inches (11.8 liter) of displacement.

The X12 engine shall feature a VGT™ Turbocharger, a high pressure common rail fuel system, fully integrated electronic controls with an electronic governor, and shall be EPA certified to meet the 2021 emissions standards using cooled exhaust gas recirculation and selective catalytic reduction technology.

The engine shall include an engine mounted combination full flow/by-pass oil filter with replaceable spin on cartridge for use with the engine lubrication system. The engine shall include Citgo brand Citgard 500, or equivalent SAE 15W40 CK-4 low ash engine oil which shall be utilized for proper engine lubrication.

A wiring harness shall be supplied ending at the back of the cab. The harness shall include a connector which shall allow an optional harness for the pump panel. The included circuits shall be provided for a tachometer, oil pressure, engine temperature, hand throttle, high idle and a PSG system. A circuit for J1939 data link shall also be provided at the back of the cab.

CAB ENGINE TUNNEL

The cab interior shall include an integrated engine tunnel constructed of 5052-H32 Marine Grade 0.19 of an inch thick aluminum alloy plate. The tunnel shall be a maximum of 46.50 inches wide X 29.00 inches high.

Oak Park Fire Department

Aerial Specifications

DIESEL PARTICULATE FILTER CONTROLS

There shall be two (2) controls for the diesel particulate filter. One (1) control shall be for regeneration and one (1) control shall be for regeneration inhibit.

ENGINE PROGRAMMING HIGH IDLE SPEED

The engine high idle control shall maintain the engine idle at approximately 1250 RPM when engaged.

ENGINE HIGH IDLE CONTROL

The vehicle shall be equipped with a virtual Vista button and an automatic high-idle speed control. It shall be pre-set so when activated, it will operate the engine at the appropriate RPM to increase alternator output. This device shall operate only when the engine is running and the transmission is in neutral with the parking brake set. The device shall disengage when the operator depresses the brake pedal, or the transmission is placed in gear, and shall be available to manually or automatically re-engage when the brake is released, or when the transmission is placed in neutral. There shall be an indicator on the Vista display and control screen for the high idle speed control.

ENGINE PROGRAMMING ROAD SPEED GOVERNOR

The engine shall include programming which will govern the top speed of the vehicle.

AUXILIARY ENGINE BRAKE

A compression brake, for the six (6) cylinder engine shall be provided. A cutout relay shall be installed to disable the compression brake when in pump mode or when an ABS event occurs. The engine compression brake shall activate upon 0% accelerator when in operation mode and actuate the vehicle's brake lights.

The engine shall utilize a variable geometry turbo (VGT) as an integrated auxiliary engine brake to offer a variable rate of exhaust flow, which when activated in conjunction with the compression brake shall enhance the engine's compression braking capabilities.

AUXILIARY ENGINE BRAKE CONTROL

An engine compression brake control device shall be included. The electronic control device shall monitor various conditions and shall activate the engine brake only if all of the following conditions are simultaneously detected:

- A valid gear ratio is detected.
- The driver has requested or enabled engine compression brake operation.
- The throttle is at a minimum engine speed position.
- The electronic controller is not presently attempting to execute an electronically controlled final drive gear shift.

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Aerial Specifications

The compression brake shall be controlled via an off/low/medium/high virtual button on the Vista display and control screen. The multiplex system shall remember and default to the last engine brake control setting when the vehicle is shut off and re-started.

ELECTRONIC ENGINE OIL LEVEL INDICATOR

The engine oil shall be monitored electronically and shall send a signal to activate a warning in the instrument panel when levels fall below normal. The warning shall activate in a low oil situation upon turning on the master battery and ignition switches without the engine running.

FLUID FILLS

The front of the chassis shall accommodate fluid fill for the engine oil through the grille. This area shall also accommodate a check for the engine oil. The transmission, power steering, and coolant fluid fills and checks shall be under the cab. The windshield washer fill shall be accessible through the front left side mid step.

ENGINE DRAIN PLUG

The engine shall include an original equipment manufacturer installed oil drain plug.

ENGINE WARRANTY

The Cummins engine shall be warranted for a period of five (5) years or 100,000 miles, whichever occurs first.

REMOTE THROTTLE HARNESS

An apparatus interface wiring harness for the engine and transmission pump interlocks shall be supplied with the chassis. The harness shall include a connector for connection to a chassis pump panel harness supplied by the body builder and shall terminate in the left frame rail behind the cab for connection by the body builder. The harness shall include circuits deemed for a pump panel and shall contain circuits for a hand throttle, and a multiplexed gauge. Separate circuits shall also be included for a pump control switch, "Pump Engaged" and "OK to Pump" indicator lights, open compartment ground, start signal, park brake ground, ignition signal, master power, clean power, customer ignition, air horn solenoid switch, high idle switch and high idle indicator light. The harness shall contain interlocks that will prevent shifting to road or pump mode unless the transmission output speed translates to less than 1 mph and the transmission is in neutral. The shift to pump mode shall also require the park brake be set.

ENGINE PROGRAMMING REMOTE THROTTLE

The engine ECM (Electronic Control Module) discreet wire remote throttle circuit shall be turned off for use with a J1939 based pump controller or when the discreet wire remote throttle controls are not required.

Oak Park Fire Department

Aerial Specifications

ENGINE PROGRAMMING IDLE SPEED

The engine low idle speed will be programmed at 700 rpm.

ENGINE AIR INTAKE

The engine air intake system shall include an ember separator. This ember separator shall be designed to protect the downstream air filter from embers using a combination of unique flat and crimped metal screens packaged in a heavy duty galvanized steel frame. This multilayered screen shall trap embers and allow them to burn out before passing through the pack.

The engine air intake system shall also include an air cleaner mounted above the radiator. This air cleaner shall utilize a replaceable dry type filter element designed to prevent dust and debris from being ingested into the engine. A service cover shall be provided on the housing, reducing the chance of contaminating the air intake system during air filter service.

The air intake system shall include a restriction indicator light in the warning light cluster on the instrument panel, which shall activate when the air cleaner element requires replacement.

ENGINE FAN DRIVE

The engine cooling system fan shall incorporate a thermostatically controlled, Horton fully variable type fan drive with SmartClutch J-1939 CAN controller.

The variable speed fan clutch only engages at the amount needed for proper cooling to facilitate improved vehicle performance, cab heating in cold climates, and fuel economy. The fan clutch design shall be fail-safe so that if the clutch drive fails the fan shall engage to prevent engine overheating due to the fan clutch failure. The fan speed shall include a J-1939 CAN clutch controller to receive signal from the engine control module to activate at variable rates of speed. Variable speeds shall be set through thermostatic and engine speed signals to run as efficiently and quietly as required to maintain temperature.

ENGINE COOLING SYSTEM

There shall be a heavy-duty aluminum cooling system designed to meet the demands of the emergency response industry. The cooling system shall have the capacity to keep the engine properly cooled under all conditions of road and pumping operations. The cooling system shall be designed and tested to meet or exceed the requirements specified by the engine and transmission manufacturer and all EPA requirements. The complete cooling system shall be mounted to isolate the entire system from vibration or stress. The individual cores of the cooling system shall be mounted in a manner to allow expansion and contraction at various rates without inducing stress into the adjoining cores.

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Aerial Specifications

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

The radiator shall be a down-flow design constructed with aluminum cores, plastic end tanks, and a steel frame. The radiator shall be equipped with a drain cock to drain the coolant for serviceability.

The cooling system shall include a one piece injected molded polymer fan with a three (3) piece fiberglass fan shroud.

The cooling system shall be equipped with a surge tank that is capable of removing entrained air from the system. The surge tank shall be equipped with a low coolant probe and rearward oriented sight glass to observe coolant in the system. A cold fill and observation line shall be included within the frame mounted translucent recovery bottle to monitor the level of the coolant. The surge tank shall have a dual seal cap that meets the engine manufacturer's pressure requirements and allows for expansion and recovery of coolant into a separate integral expansion chamber.

All radiator tubes shall be formed from aluminized steel tubing. Recirculation shields shall be installed where required to prevent heated air from reentering the cooling package and affecting performance.

The charge air cooler shall be a cross-flow design constructed completely of aluminum with cast tanks. All charge air cooler tubes shall be formed from aluminized steel tubing and installed with silicone hump hoses and stainless steel "constant torque" style clamps meeting the engine manufacturer's requirements.

The radiator and charge air cooler shall be removable through the bottom of the chassis.

ENGINE COOLING SYSTEM PROTECTION

The engine cooling system shall include a recirculation shield designed to act as a light duty skid plate below the radiator to provide additional protection for the engine cooling system from light impacts, stones, and road debris. The skid plate shall be painted to match the frame components.

ENGINE COOLANT

The cooling package shall include Extended Life Coolant (ELC). The use of ELC provides longer intervals between coolant changes over standard coolants providing improved performance. The coolant shall contain a 50/50 mix of ethylene glycol and de-ionized water to keep the coolant from freezing to a temperature of -34 degrees Fahrenheit.

Proposals offering supplemental coolant additives (SCA) shall not be considered, as this is part of the extended life coolant makeup.

Oak Park Fire Department

Aerial Specifications

ELECTRONIC COOLANT LEVEL INDICATOR

The instrument panel shall feature a low engine coolant indicator light which shall be located in the center of the instrument panel. An audible tone alarm shall also be provided to warn of a low coolant incident.

ENGINE PUMP HEAT EXCHANGER

A single bundle type coolant to water heat exchanger shall be installed between the engine and the radiator. The heat exchanger shall be designed to prohibit water from the pump from coming in contact with the engine coolant. This shall allow the use of water from the discharge side of the pump to assist in cooling the engine.

COOLANT HOSES

The cooling system hoses shall be blue stripe heater hose with formed silicone radiator coolant hoses and formed aluminized steel tubing. The heater hose, radiator hose, and tubing shall be secured with stainless steel constant torque band clamps.

ENGINE COOLANT OVERFLOW BOTTLE

A remote engine coolant overflow expansion bottle shall be provided in the case of over filling the coolant system. The overflow bottle shall capture the expansion fluid or overfill rather than allow the fluid to drain on the ground.

ENGINE EXHAUST SYSTEM

The exhaust system shall include an end-in end-out horizontally mounted single module after treatment device, and downpipe from the charge air cooled turbo. The single module shall include four temperature sensors, diesel particulate filter (DPF), urea dosing module (UL2), and a selective catalytic reduction (SCR) catalyst to meet current EPA standards. The selective catalytic reduction catalyst utilizes a diesel exhaust fluid solution consisting of urea and purified water to convert NOx into nitrogen, water, and trace amounts of carbon dioxide. The solution shall be mixed and injected into the system through the DPF and SCR.

The system shall utilize 0.07 inch thick stainless steel exhaust tubing between the engine turbo and the DPF. Zero leak clamps seal all system joints between the turbo and DPF.

The single module after treatment through the end of the tailpipe shall be connected with zero leak clamps. The discharge shall terminate horizontally on the right side of the vehicle ahead of the rear tires.

The exhaust system after treatment module shall be mounted below the frame in the inboard position. The mounting brackets shall be mounted on the inside of the frame.

Oak Park Fire Department

Aerial Specifications

DIESEL EXHAUST FLUID TANK

The exhaust system shall include a molded cross linked polyethylene tank for Diesel Exhaust Fluid (DEF). The tank shall have a capacity of six (6) usable gallons and shall be mounted on the left hand side of the chassis frame behind the batteries below the frame.

The DEF tank shall be designed with capacity for expansion in case of fluid freezing. Engine coolant, which shall be thermostatically controlled, shall be run through lines in the tank to help prevent the DEF from freezing and to provide a means of thawing the fluid if it should become frozen.

The tank fill tube shall be routed under the rear of the cab with the fill neck and splash guard accessible in the top rear step.

ENGINE EXHAUST ACCESSORIES

The exhaust system shall be modified to accept a Plymovent exhaust extraction system collar.

ENGINE EXHAUST WRAP

The exhaust tubing between the engine turbo and the diesel particulate filter (DPF) shall be wrapped with a thermal cover in order to retain the necessary heat for DPF regeneration. The exhaust wrap shall also help protect surrounding components from radiant heat which can be transferred from the exhaust.

The exhaust flex joint shall not include the thermal exhaust wrap.

EMISSIONS SYSTEMS WARRANTY

Purchaser shall receive a Regulated Emissions Systems Five (5) Years or 100,000 Miles limited warranty in accordance with, and subject to, warranty certificate RFW0140. The warranty certificate is incorporated by reference into this proposal, and included with this proposal or available upon request.

TRANSMISSION

The drive train shall include an Allison model EVS 4000 torque converting, automatic transmission which shall include electronic controls. The transmission shall feature two (2) 10-bolt PTO pads located on the converter housing.

The transmission shall include two (2) internal oil filters which shall offer Castrol TranSynd™ synthetic TES 295 transmission fluid which shall be utilized in the lubrication of the EVS transmission. An electronic oil level sensor shall be included with the readout located in the shift selector.

Oak Park Fire Department

Aerial Specifications

The transmission gear ratios shall be:

1st	3.51:1
2nd	1.91:1
3rd	1.43:1
4th	1.00:1
5th	0.74:1
6th	0.64:1 (if applicable)
Rev	4.80:1

TRANSMISSION MODE PROGRAMMING

The transmission, upon start-up, will select the fifth speed operation without the need to press the mode button.

TRANSMISSION FEATURE PROGRAMMING

The Allison Gen V/VI-E transmission EVS group package number 127 shall contain the 198 vocational package in consideration of the duty of this apparatus as a pumper. This package shall incorporate an automatic neutral with selector override. This feature commands the transmission to neutral when the park brake is applied, regardless of drive range requested on the shift selector. This requires re-selecting drive range to shift out of neutral for the override.

This package shall be coupled with the use of a split shaft PTO and incorporate pumping circuits. These circuits shall be used allowing the vehicle to operate in the fourth range lockup while operating the pump mode due to the 1 to 1 ratio through the transmission, therefore the output speed of the engine is the input speed to the pump. The pump output can be easily calculated by using this input speed and the drive ratio of the pump itself to rate the gallons of water the pump can provide.

A transmission interface connector shall be provided in the cab. This package shall contain the following input/output circuits to the transmission control module. The Gen V/VI-E transmission shall include prognostic diagnostic capabilities. These capabilities shall include the monitoring of the fluid life, filter change indication, and transmission clutch maintenance.

<u>Function ID</u>	<u>Description</u>	<u>Wire assignment</u>
Inputs		
C	PTO Request	142
J	Fire Truck Pump Mode (4th Lockup)	122 / 123
Outputs		
C	Range Indicator	145 (4th)
G	PTO Enable Output	130
	Signal Return	103

Oak Park Fire Department

Aerial Specifications

TRANSMISSION SHIFT SELECTOR

An Allison pressure sensitive range selector touch pad shall be provided and located to the right of the driver within clear view and easy reach. The shift selector shall have a graphical Vacuum Florescent Display (VFD) capable of displaying two lines of text. The shift selector shall provide mode indication and a prognostic indicator (wrench symbol) on the digital display. The prognostics monitor various operating parameters and shall alert you when a specific maintenance function is required.

ELECTRONIC TRANSMISSION OIL LEVEL INDICATOR

The transmission fluid shall be monitored electronically and shall send a signal to activate a warning in the instrument panel when levels fall below normal.

TRANSMISSION PRE-SELECT WITH AUXILIARY BRAKE

When the auxiliary brake is engaged, the transmission shall automatically shift to second gear to decrease the rate of speed assisting the secondary braking system and slowing the vehicle.

TRANSMISSION COOLING SYSTEM

The transmission shall include a water to oil cooler system located in the cooling loop between the radiator and the engine. The transmission cooling system shall meet all transmission manufacturer requirements. The transmission cooling system shall feature continuous flow of engine bypass water to maintain uninterrupted transmission cooling.

TRANSMISSION DRAIN PLUG

The transmission shall include an original equipment manufacturer installed magnetic transmission fluid drain plug.

TRANSMISSION WARRANTY

The Allison EVS series transmission shall be warranted for a period of five (5) years with unlimited mileage. Parts and labor shall be included in the warranty.

LH PTO

A PTO shall be installed on the transmission by the OEM.

LH PTO MODEL

A ten (10) bolt Chelsea model 280-GGFJP-B5XD heavy duty transmission driven PTO shall be installed. The clutched shifted PTO is designed specifically for the Allison world transmission and provides an intermittent and continuous torque rating of 360 lb. ft.

Oak Park Fire Department

Aerial Specifications

PTO LOCATION

The transmission shall have two (2) power take off (PTO) mounting locations, one (1) in the 8:00 o'clock position and one (1) in the 1:00 o'clock position.

LH PTO CONTROL

Switches for the power take off shall be wired to the V-mux node to be used by the OEM. There shall be an on/off rocker switch labeled "Aerial Master" wired to a V-mux input and output with integral light wired to the v-mux input terminal of the switch that shall illuminate when the switch is on and the v-mux output is active.

There shall be an on/off rocker switch labeled "Aerial PTO" activated by the "Aerial Master" rocker switch with an input to the V-mux node when the switch is on and an integral light activated by an independent V-mux output. The switches shall be located on dash.

DRIVELINE

All drivelines shall be heavy duty metal tube and equipped with MSI 1810 series universal joints for the main drivelines, and 1710 series for the inter-axle shaft. The shafts shall be dynamically balanced prior to installation to alleviate future vibration. In areas of the driveline where a slip shaft is required, the splined slip joint shall be coated with Glide Coat®. The drivelines shall include Meritor brand u-joints with thrust washers.

MIDSHIP PUMP / GEARBOX

A temporary jackshaft driveline shall be installed by the chassis manufacturer to accommodate the mid-ship split shaft pump as specified by the apparatus manufacturer. Holes shall be provided in the frame as specified by the OEM for mounting a Smeal aerial pump module.

See PDF for specific hole pattern.

MIDSHIP PUMP / GEARBOX MODEL

The midship pump/gearbox provisions shall be for a Waterous CSUC20 pump.

MIDSHIP PUMP GEARBOX DROP

The Waterous pump gearbox shall have a "C" (medium length) drop length.

MIDSHIP PUMP RATIO

The ratio for the midship pump shall be 2.27:1.

Oak Park Fire Department

Aerial Specifications

MIDSHIP PUMP LOCATION C/L SUCTION TO C/L REAR AXLE

The midship pump shall be located so the dimension from the centerline of the suction to the centerline of the rear axle is 111.00 inches.

PUMP SHIFT CONTROLS

One (1) air pump shift control panel shall be located on the left hand side of the engine tunnel, integrated with the shifter pod. The following shall be provided on the panel: a three (3) position control lever; an engraved PUMP ENGAGED identification light; and an engraved OK TO PUMP identification light. The pump shift control panel shall be black with a yellow border outline and shall include pump instructions. An instruction plate describing the transmission shift selector position used for pumping shall be provided and located so it can be read from the driver's position per NFPA **16.10.1.3**. The road mode shall be selected when the control lever is in the forward position and pump mode shall be selected when the control lever is in the rearward position.

The control lever center position shall exhaust air from both pump and road sides of the pump gear box shift cylinder.

PUMP SHIFT CONTROL PLUMBING

Air connections shall be provided from the air supply tank to the pump shift control valve and from the pump shift control valve to the frame mounted bracket. The frame mounted bracket shall include labeling identifying the pump and road connection points with threaded 0.25 inch NPT fittings on the solenoid for attaching the customer installed pump. The air supply shall be pressure protected from service brake system.

FUEL FILTER/WATER SEPARATOR

The fuel system shall have a Racor GreenMAX 6600R fuel filter/water separator as a primary filter. The fuel filter shall have a drain valve and a see-through cover to allow visual inspection of fuel and filter condition. The Racor 6600R shall meet engine requirements for particulate size, collection capacity, removal efficiency, and water removal efficiency. The filter shall be capable of handling a maximum flow rate of 150 gallons per hour.

A secondary fuel filter shall be included as approved by the engine manufacturer.

An instrument panel lamp and audible alarm which indicates when water is present in the fuel-water separator shall also be included.

FUEL LINES

The fuel system supply and return lines installed from the fuel tank to the engine shall be black textile braided lines which are reinforced with braided high tensile steel wire. The fuel lines shall be connected with reusable steel fittings.

Oak Park Fire Department

Aerial Specifications

FUEL SHUTOFF VALVE

A fuel shutoff valve shall be installed in the fuel draw line at the primary fuel filter to allow the fuel filter to be changed without loss of fuel to the fuel pump.

A second fuel shutoff valve shall be installed in the fuel draw line, near the fuel tank to allow maintenance to be performed with minimal loss of fuel. The valves shall all include plastic labels indicating the shutoff valve function attached directly to the valve.

ELECTRIC FUEL PRIMER

Integral to the engine assembly is an electric lift pump that serves the purpose of pre-filter fuel priming.

FUEL COOLER

An aluminum cross flow air to fuel cooler shall be provided to lower fuel temperature allowing the vehicle to operate at higher ambient temperatures. The fuel cooler shall be located behind the rear axle.

FUEL TANK

The fuel tank shall have a capacity of fifty (50) gallons and shall measure 35.00 inches in width X 15.00 inches in height X 24.00 inches in length.

The baffled tank shall have a vent port to facilitate venting to the top of the fill neck for rapid filling without "blow-back" and a roll over ball check vent for temperature related fuel expansion and draw.

The tank is designed with dual draw tubes and sender flanges. The tank shall have 2.00 inch NPT fill ports for right or left hand fill. A 0.50 inch NPT drain plug shall be centered in the bottom of the tank.

The fuel tank shall be mounted below the frame, behind the rear axle. Two (2) three-piece strap hanger assemblies with "U" straps bolted midway on the fuel tank front and rear shall be utilized to allow the tank to be easily lowered and removed for service purposes. Rubber isolating pads shall be provided between the tank and the upper tank mounting brackets. Strap mounting studs through the rail, hidden behind the body shall not be acceptable.

FUEL TANK MATERIAL AND FINISH

The fuel tank shall be constructed of 12 gauge aluminized steel. The exterior of the tank shall be powder coated black and then painted to match the frame components.

All powder coatings, primers and paint shall be compatible with all metals, pretreatments and primers used. The cross hatch adhesion test per ASTM D3359 Method B, results to be 5B minimum.

Oak Park Fire Department

Aerial Specifications

The pencil hardness test per ASTM D3363 shall have a final post-curved pencil hardness of H-2H. The direct impact resistance test per ASTM D2794, results to be 5B minimum.

Any proposals offering painted fuel tanks with variations from the above process shall not be accepted. The film thickness of vendor supplied parts shall also be sufficient to meet the performance standards as stated above.

FUEL TANK STRAP MATERIAL

The fuel tank straps shall be constructed of ASTM A-36 hot-dip galvanized steel. The fuel tank straps shall include a natural galvanized finish.

FUEL TANK MISCELLANEOUS OPTIONS

The fuel tank shall be temporarily mounted, to be permanently relocated by the OEM. The tank and mounting straps as specified shall be included with the chassis along with components for permanent standard installation.

FUEL TANK FILL PORT

The fuel tank fill ports shall be offset with the left fill port located in the rearward position and the right fill port located in the middle position on the fuel tank.

FUEL TANK SERVICEABILITY PROVISIONS

The chassis fuel lines and sender wiring shall have additional length provided so the tank can be easily lowered and removed for service purposes. The additional 12.00 feet of length shall be located above the fuel tank and shall be coiled and secured. The fuel line fittings shall be pointed towards the right side (curbside) of the chassis.

FUEL TANK DRAIN PLUG

A 0.5 inch NPT magnetic drain plug shall be centered in the bottom of the fuel tank.

FRONT AXLE

The front axle shall be a Meritor Easy Steer Non drive front axle, model number MFS-20. The axle shall include a 3.74 inch drop and a 71.00 inch king pin intersection (KPI). The axle shall include a conventional style hub with a standard knuckle. The weight capacity for the axle shall be rated to 23,000 pounds. This rating shall require special approvals from the wheel manufacturers.

FRONT AXLE WARRANTY

The front axle shall be warranted by Meritor for five (5) years with unlimited miles under the general service application. Details of the Meritor warranty are provided on the PDF document attached to this option.

Oak Park Fire Department

Aerial Specifications

FRONT WHEEL BEARING LUBRICATION

The front axle wheel bearings shall be lubricated with oil. The oil level can be visually checked via clear inspection windows in the front axle hubs.

FRONT SHOCK ABSORBERS

Two (2) Bilstein inert, nitrogen gas filled shock absorbers shall be provided and installed as part of the front suspension system. The shocks shall be a monotubular design and fabricated using a special extrusion method, utilizing a single blank of steel without a welded seam, achieving an extremely tight peak-to-valley tolerance and maintains consistent wall thickness. The monotubular design shall provide superior strength while maximizing heat dissipation and shock life.

The ride afforded through the use of a gas shock is more consistent and shall not deteriorate with heat, the same way a conventional oil filled hydraulic shock would.

The Bilstein front shocks shall include a digressive working piston assembly allowing independent tuning of the compression and rebound damping forces to provide optimum ride and comfort without compromise. The working piston design shall feature fewer parts than most conventional twin tube and "road sensing" shock designs and shall contribute to the durability and long life of the Bilstein shock absorbers.

Proposals offering the use of conventional twin tube or "road sensing" designed shocks shall not be considered.

FRONT SUSPENSION

The front suspension shall include an eleven (11) leaf spring pack in which the longest leaf measures 53.38 inch long and 4.00 inches wide. The springs shall be shot peened for long life and include a military double wrapped front eye. The springs shall be bolted in place with M20 10.9 bolts and have replaceable polyurethane bushings in the spring eyes. The spring capacity shall be rated at 23,000 pounds.

STEERING COLUMN/ WHEEL

The cab shall include a Douglas Autotech steering column which shall include a seven (7) position tilt, a 2.25 inch telescopic adjustment, and an 18.00 inch, four (4) spoke steering wheel located at the driver's position. The steering wheel shall be covered with black polyurethane foam padding.

The steering column shall contain a horn button, self-canceling turn signal switch, four-way hazard switch and headlamp dimmer switch.

Oak Park Fire Department

Aerial Specifications

ELECTRONIC POWER STEERING FLUID LEVEL INDICATOR

The power steering fluid shall be monitored electronically and shall send a signal to activate an audible alarm and visual warning in the instrument panel when fluid level falls below normal.

POWER STEERING PUMP

The hydraulic power steering pump shall be a TRW PS and shall be gear driven from the engine. The pump shall be a balanced, positive displacement, sliding vane type. The power steering system shall include an oil to air passive cooler.

FRONT AXLE CRAMP ANGLE

The chassis shall have a front axle cramp angle of 48-degrees to the left and 44-degrees to the right.

POWER STEERING GEAR

The power steering gear shall be a TRW model TAS 85 with an assist cylinder.

CHASSIS ALIGNMENT

The chassis frame rails shall be measured to insure the length is correct and cross checked to make sure they run parallel and are square to each other. The front and rear axles shall be laser aligned. The front tires and wheels shall be aligned and toe-in set on the front tires by the chassis manufacturer.

REAR AXLE

The rear axle shall be a Meritor model RT-52-185 tandem drive axle. The axle shall include precision forged, single reduction differential gearing, and shall have a fire service rated capacity of 54,000 pounds.

The axle shall be built of superior construction and quality components to provide the rugged dependability needed to stand up to the fire industry's demands. The axle shall include rectangular shaped, hot-formed housing with a standard wall thickness of 0.56 of an inch for extra strength and rigidity and a rigid differential case for high axle strength and reduced maintenance.

The axle shall have heavy-duty Hypoid gearing for longer life, greater strength and quieter operation. Industry-standard wheel ends for compatibility with both disc and drum brakes, and unitized oil seal technology to keep lubricant in and help prevent contaminant damage will be used.

Oak Park Fire Department

Aerial Specifications

REAR AXLE DIFFERENTIAL LUBRICATION

The rear axle differential shall be lubricated with oil.

REAR AXLE WARRANTY

The rear axle shall be warranted by Meritor for five (5) years with unlimited miles under the general service application. Details of the Meritor warranty are provided on the PDF document attached to this option.

WHEEL HUB PAINT

Each of the wheel hubs shall be coated with primer and finish top coat painted the same as the lower color of the cab.

REAR WHEEL BEARING LUBRICATION

The rear axle wheel bearings shall be lubricated with oil.

REAR AXLE DIFFERENTIAL CONTROL

The tandem axle chassis shall include an inter-axle differential lock, which shall allow both axles to be engaged as drive axles. The inter-axle differential lock shall be controlled by a locking rocker switch on the switch panel. The light on the switch shall illuminate with positive engagement of the inter-axle differential lock.

VEHICLE TOP SPEED

The top speed of the vehicle shall be approximately 60 MPH +/-2 MPH at governed engine RPM.

REAR SUSPENSION

The tandem rear axle shall feature a Ridewell Dynalastic RD202 with accordion style elastomer springs. The suspension shall incorporate a straddle mount pedestal and urethane pivot bushings, preset load distribution and independent axle movement. The rear tandem suspension shall include 54.00 inch axle centers.

The rear tandem suspension capacity shall be rated at 54,000 pounds.

REAR SHOCK ABSORBERS

Shock absorbers shall be supplied by the suspension manufacturer and installed on the rear axle suspension.

Oak Park Fire Department

Aerial Specifications

TIRE INTERMITTENT SERVICE RATING

The chassis shall be rated using Intermittent Service ratings provided to the emergency vehicle market by the tire manufacturers as the basis for determining the maximum vehicle load and speed.

FRONT TIRE

The front tires shall be Michelin 425/65R22.5 "L" tubeless radial XFE regional tread.

The front tire stamped load capacity shall be 22,800 pounds per axle with a nominal speed rating of 65 miles per hour when properly inflated to 120 pounds per square inch.

The Michelin Intermittent Service Rating maximum load capacity shall be 24,396 pounds per axle with a maximum speed of 65 miles per hour when properly inflated to 120 pounds per square inch.

The Michelin Intermittent Service Rating maximum speed capacity shall be 22,800 pounds per axle with a speed rating of 75 miles per hour when properly inflated to 120 pounds per square inch.

The Michelin Intermittent Service Rating limits the operation of the emergency vehicle to no more than fifty (50) miles of continuous operation under maximum recommended payload, or without stopping for at least twenty (20) minutes. The emergency vehicle must reduce its speed to no more than 50 MPH after the first fifty (50) miles of travel.

REAR TIRE

The rear tires shall be Michelin 12R-22.5 16PR "H" tubeless radial XDN2 all-weather tread.

The rear tire stamped load capacity shall be 27,120 pounds per axle with a nominal speed rating of 75 miles per hour when properly inflated to 120 pounds per square inch.

The Michelin Intermittent Service Rating maximum load capacity shall be 29,020 pounds per axle with a maximum speed of 75 miles per hour when properly inflated to 120 pounds per square inch.

The Michelin Intermittent Service Rating maximum speed capacity shall match the nominal speed rating.

The Michelin Intermittent Service Rating limits the operation of the emergency vehicle to no more than fifty (50) miles of continuous operation under maximum recommended payload, or without stopping for at least twenty (20) minutes. The emergency vehicle must reduce its speed to no more than 50 MPH after the first fifty (50) miles of travel.

Oak Park Fire Department

Aerial Specifications

REAR AXLE RATIO

The rear axle ratio shall be 5.38:1.

TIRE PRESSURE INDICATOR

There shall be electronic chrome LED valve caps shipped loose for installation by the OEM which shall illuminate with a red LED when tire pressure drops 8psi provided. The valve caps are self-calibrating and set to the pressure of the tire upon installation.

FRONT WHEEL

The front wheels shall be Alcoa hub piloted, 22.50 inch X 12.25 inch aluminum wheels featuring a mirror polish on the outer face. The hub piloted mounting system shall provide easy installation and shall include two-piece flange nuts.

REAR WHEEL

The outer rear wheels shall be Alcoa hub piloted, 22.50 inch X 9.00 inch aluminum wheels with a mirror polished outer surface. The inner rear wheels shall be Alcoa hub piloted, 22.50 inch X 9.00 inch aluminum wheels with bright machine finish. The hub piloted mounting system shall provide easy installation and shall include two-piece flange nuts.

WHEEL TRIM

The front wheels shall include stainless steel lug nut covers and stainless steel baby moons shipped loose with the chassis for installation by the apparatus builder. The baby moons shall have cutouts for oil seal viewing when applicable.

The rear wheels shall include stainless steel lug nut covers and band mounted spring clip stainless steel high hats shipped loose with the chassis for installation by the apparatus builder.

The lug nut covers, baby moons, and high hats shall be RealWheels® brand constructed of 304L grade, non-corrosive stainless steel with a mirror finish. Each wheel trim component shall meet D.O.T. certification.

BRAKE SYSTEM

A rapid build-up air brake system shall be provided. The air brakes shall include, at a minimum, a three (3) air tank, four (4) reservoir system with a total of 6236 cubic inch of air capacity. A floor mounted treadle valve shall be mounted inside the cab for graduated control of applying and releasing the brakes. An inversion valve shall be installed to provide a service brake application in the unlikely event of primary air supply loss. All air reservoirs provided on the chassis shall be labeled for identification.

Oak Park Fire Department

Aerial Specifications

The tandem rear axle spring brakes shall automatically apply in any situation when the air pressure falls below 25 PSI and shall include a mechanical means for releasing the spring brakes when necessary. An audible alarm shall designate when the system air pressure is below 60 PSI.

A six (6) sensor, six (6) modulator Anti-lock Braking System (ABS) shall be installed on the front and tandem rear axles in order to prevent the brakes from locking or skidding while braking during hard stops or on icy or wet surfaces. This in turn shall allow the driver to maintain steering control under heavy braking and in most instances, shorten the braking distance. The electronic monitoring system shall incorporate diagonal circuitry which shall monitor wheel speed during braking through a sensor and tone ring on each wheel. A dash mounted ABS lamp shall be provided to notify the driver of a system malfunction. The ABS system shall automatically disengage the auxiliary braking system device when required. The speedometer screen shall be capable of reporting all active defaults using PID/SID and FMI standards.

Additional safety shall be accommodated through Automatic Traction Control (ATC) which shall be installed on the tandem rear axle. The ATC system shall apply the ABS when the drive wheels loose traction. The system shall scale the electronic engine throttle back to prevent wheel spin while accelerating on ice or wet surfaces.

A virtual style switch shall be provided and properly labeled "mud/snow". When the switch is pressed once, the system shall allow a momentary wheel slip to obtain traction under extreme mud and snow conditions. During this condition the ATC light shall blink continuously notifying the driver of activation. Pressing the switch again shall deactivate the mud/snow feature.

The Electronic Stability Control (ESC) unit is a functional extension of the electronic braking system. It is able to detect any skidding of the vehicle about its vertical axis as well as any rollover tendency. The control unit comprises an angular-speed sensor that measures the vehicle's motion about the vertical axis, caused, for instance, by cornering or by skidding on a slippery road surface. An acceleration sensor measures the vehicle's lateral acceleration. The Controller Area Network (CAN) bus provides information on the steering angle. On the basis of lateral acceleration and steering angle, an integrated microcontroller calculates a theoretical angular speed for the stable vehicle condition.

FRONT BRAKES

The front brakes shall be Meritor EX225 Disc Plus disc brakes with 17.00 inch vented rotors.

REAR BRAKES

The rear brakes shall be Meritor 16.50 inch X 7.00 inch S-cam drum type. The brakes shall feature a cast iron shoe.

Oak Park Fire Department

Aerial Specifications

PARK BRAKE

Upon application of the push-pull valve in the cab, the rear brakes will engage via mechanical spring force. This is accomplished by dual chamber rear brakes, satisfying the FMVSS parking brake requirements.

PARK BRAKE CONTROL

A Meritor-Wabco manual hand control push-pull style valve shall operate the parking brake.

The parking brake actuation valve shall be mounted to the left side of the engine tunnel integrated into the transmission shift pod console within easy access of the driver.

REAR BRAKE SLACK ADJUSTERS

Haldex rear brake automatic slack adjusters shall be installed on the axle.

REAR BRAKE DUST SHIELDS

The rear brakes shall be equipped with brake dust shields.

AIR DRYER

The brake system shall include a Wabco System Saver 1200 air dryer with an integral 100 watt heater with a Metri-Pack sealed connector. The air dryer incorporates an internal turbo cutoff valve that closes the path between the air compressor and air dryer purge valve during the compressor "unload" cycle. The turbo cutoff valve allows purging of moisture and contaminants without the loss of turbo boost pressure. The air dryer shall be located on the right hand frame rail forward of the front wheel behind the right hand cab step.

FRONT BRAKE CHAMBERS

The front brakes shall be provided with MGM type 24 long stroke brake chambers.

REAR BRAKE CHAMBERS

The rear axle shall include TSE 30/36 brake chambers which shall convert the energy of compressed air into mechanical force and motion. This shall actuate the brake camshaft, which in turn shall operate the foundational brake mechanism forcing the brake shoes against the brake drum. The TSE Type 36 brake chamber has a 36.00 square inch effective area.

Oak Park Fire Department

Aerial Specifications

AIR COMPRESSOR

The air compressor provided for the engine shall be a naturally aspirated Wabco® SS440 single cylinder pass-through drive type compressor which shall be capable of producing 26.0 CFM at 1200 engine RPMs. The compressor shall include an aluminum cylinder head which shall improve cooling, reduce weight and decrease carbon formation.

AIR GOVERNOR

An air governor shall be provided to control the cut-in and cut-out pressures of the engine mounted air compressor. The governor shall be calibrated to meet FMVSS requirements. The air governor shall be located on the air dryer bracket.

AUXILIARY AIR RESERVOIR

One (1) auxiliary air reservoir with a 2084 cubic inch capacity shall be installed on the chassis to act as an additional reserve supply to the air system for air horn, air tool, or other non-service brake use. The reservoir shall be isolated with a 90 PSI pressure protection valve on the reservoir supply side to prevent depletion of the air to the air brake system.

MOISTURE EJECTORS

Manual ¼ turn type drain valves shall be installed on all reservoirs of the air supply system.

AIR SUPPLY LINES

The air system on the chassis shall be plumbed with color coded reinforced nylon tubing air lines. The primary (rear) brake line shall be green, the secondary (front) brake line red, the parking brake line orange and the auxiliary (outlet) will be blue.

Push to connect type fittings shall be used on the nylon tubing. All drop hoses shall include fiber reinforced neoprene covered hoses.

AIR INLET CONNECTION

An air connection for the shoreline air inlet shall be supplied.

AIR INLET LOCATION

The air inlet shall be installed in the left hand side lower front step in the forward position.

AIR INLET/ OUTLET FITTING TYPE

The air connector supplied shall be a 0.25 inch size Tru-Flate Interchange style manual connection which is compatible with Milton 'T' style, Myers 0.25 inch Automotive style and Parker 0.25 inch 10 Series connectors.

Oak Park Fire Department

Aerial Specifications

REAR AIR TANK MOUNTING

If a combination of wheel base, air tank quantity, or other requirements necessitate the location of one or more air tanks to be mounted rear of the fuel tank, these tank(s) will be mounted perpendicular to frame.

WHEELBASE

The chassis wheelbase shall be 225.00 inches.

REAR OVERHANG

The chassis rear overhang shall be 64.00 inches.

FRAME

The frame shall consist of double rails running parallel to each other with cross members forming a ladder style frame. The frame rails shall be formed in the shape of a "C" channel, with the outer rail measuring 10.25 inches high X 3.50 inches deep upper and lower flanges X 0.38 inches thick with an inner channel of 9.44 inches high X 3.13 inches deep and 0.38 inches thick. Each rail shall be constructed of 110,000 psi minimum yield high strength low alloy steel. Each double rail section shall be rated by a Resistance Bending Moment (RBM) minimum of 3,213,100 inch pounds and have a minimum section modulus of 29.21 cubic inches. The frame shall measure 35.00 inches in width.

Proposals calculating the frame strength using the "box method" shall not be considered.

Proposals including heat treated rails shall not be considered. Heat treating frame rails produces rails that are not uniform in their mechanical properties throughout the length of the rail. Rails made of high strength, low alloy steel are already at the required yield strength prior to forming the rail.

A minimum of seven (7) fully gusseted 0.25 inch thick cross members shall be installed. The inclusion of the body mounting, or bumper mounting shall not be considered as a cross member. The cross members shall be attached using zinc coated grade 8 fasteners. The bolt heads shall be flanged type, held in place by distorted thread flanged lock nuts. Each cross member shall be mounted to the frame rails utilizing a minimum of 0.25 inch thick gusset reinforcement plates at all corners balancing the area of force throughout the entire frame.

Any proposals not including additional reinforcement for each cross member shall not be considered.

All relief areas shall be cut in with a minimum 2.00 inch radius at intersection points with the edges ground to a smooth finish to prevent a stress concentration point.

Oak Park Fire Department

Aerial Specifications

MISCELLANEOUS FRAME OPTIONS

The frame shall include drillings which shall be specific to mounting a Smeal 105RM, 100RM, 125RM, or 100MM substructure.

See PDF for OEM Specified pattern.

FRAME CLEAR AREA

The chassis frame shall be left clear of chassis mounted components inside or outside the frame rails within the first 30.00 inches behind the cab to allow space for OEM installed components. Cross members may be installed in the clear area if required for proper frame or driveline configuration.

FRAME PAINT

The frame shall be hot dip galvanized prior to assembly and attachment of any components. The components that shall be galvanized shall include:

- Main frame "C" channel or channels
- Front splayed rails and fish plates
- Cross members (excluding suspension cross members)
- Cross member gussets
- Fuel tank mounting brackets
- Fuel tank straps (unless material/finish is specified in 3130 subcat)
- Air tank mounting brackets (unless material/finish is specified in 3205, 3305, or 2232 subcat)
- Exhaust mounting brackets
- Air dryer bracket
- Air cleaner skid plate (if applicable)
- Radiator skid plate (if applicable)
- Battery supports
- Battery trays (unless material/finish is specified in 5106 subcat)
- Battery covers (unless material/finish is specified in 5107 subcat)

The frame parts which are not galvanized shall be powder coated prior to any attachment of components. Parts which shall be powder coated shall include but are not limited to:

- Bumper extensions
- Steering gear bracket
- Air tanks (unless color coded tanks are specified in 3205 subcat)

Other non-galvanized under carriage components which are received from the suppliers with coatings already applied shall include but are not limited to:

- Suspension components
- Front and rear axles

Oak Park Fire Department

Aerial Specifications

All powder coatings, primers and paint used on the non-galvanized components shall be compatible with all metals, pretreatments and primers used. The cross hatch adhesion test per ASTM D3359 shall not have a fail of more than ten (10) squares. The pencil hardness test per ASTM D3363 shall have a final post-cured pencil hardness of H-2H. The direct impact resistance test per ASTM D2794 shall have an impact resistance of 120.00 inches per pound at 2 mils.

FRAME ASSEMBLY STRUCTURAL

Purchaser shall receive a Frame Assembly Structural Twenty (20) Years or 100,000 Miles limited warranty in accordance with, and subject to, warranty certificate RFW0304. The warranty certificate is incorporated by reference into this proposal, and included with this proposal or available upon request.

FRAME RAIL CORROSION

Purchaser shall receive a Frame Rail Corrosion (Zinc Plate and Powder Coat) Twenty Five (25) Years or 150,000 Miles limited warranty in accordance with, and subject to, warranty certificate RFW0316. The warranty certificate is incorporated by reference into this proposal, and included with this proposal or available upon request.

FRAME COMPONENTS CORROSION

Purchaser shall receive a Frame Components Corrosion (Zinc Plate) Twenty (20) Years or 132,000 Miles limited warranty in accordance with, and subject to, warranty certificate RFW0314. The warranty certificate is incorporated by reference into this proposal, and included with this proposal or available upon request.

FRONT BUMPER

A one piece, two (2) rib wrap-around style, polished stainless steel front bumper shall be provided. The material shall be 10 gauge 304 stainless steel, 12" high and 104.50 inches wide.

FRONT BUMPER EXTENSION LENGTH

The front bumper shall be extended approximately 21.00 inches ahead of the cab.

FRONT BUMPER APRON

The 21.00 inch extended front bumper shall include an apron constructed of 0.19 inch thick embossed aluminum tread plate.

The apron shall be installed between the bumper and the front face of the cab affixed using stainless steel bolts attaching the apron to the top bumper flange.

Oak Park Fire Department

Aerial Specifications

FRONT BUMPER DISCHARGE

The bumper apron shall include a 2.50 inch diameter plumbed line intended for use as a discharge trash line. The discharge line shall be routed from the right side bumper apron position down the right hand rail to the area rear of the front axle, ahead of the battery box. The discharge shall terminate vertically at the right side apron position with a, 2.50 inch NPT (national pipe thread) x 2.50 inch NST (national standard thread) SST (stainless steel thread). A Chicksan swivel to accommodate deployment of hose in different directions with an aluminum diamond plate Chicksan guard and two (2) rubber bump stops to prevent the Chicksan from contacting the cab shall be shipped loose for OEM installation. The smooth side of the guard shall feature a DA finish.

The discharge shall pipe shall be a, 2.50 inch stainless steel schedule 10 tube. The discharge shall include a Victaulic groove for connecting to the pump on the end of the tube.

The apparatus manufacturer shall plumb the discharge pipe to the pump and shall provide all valves as required.

FRONT BUMPER COMPARTMENT CENTER

The front bumper shall include a compartment in the bumper apron located in the center between the frame rails which may be used as a hose well. The compartment shall be constructed of 0.13 inch 5052-H32 grade aluminum and shall include drain holes in the bottom corners to allow excess moisture to escape. The compartment shall be the full size of available space in the apron from the cab fascia to the bumper and 38.00 inches wide X 10.88 inches deep. The clear opening shall be 37.75 inches wide. The compartment shall include a cover constructed of 0.19 inch thick bright embossed aluminum tread plate.

FRONT BUMPER COMPARTMENT COVER HARDWARE

The front bumper compartment cover(s) shall include gas cylinder stays which shall hold the cover open. Each cover shall be held in the closed position via a D-ring style latch.

MECHANICAL SIREN

The front bumper shall include an electro mechanical Federal Q2B™ siren, which shall be streamlined, chrome-plated and shall produce 123 decibels of sound at 10.00 feet. The Q2B™ siren produces a distinctive warning sound that is recognizable at long distances. A unique clutch design provides a longer coast down sound while reducing the amp draw to 100 amps. The siren shall measure 10.50 inches wide X 10.00 inches high X 14.00 inches deep. The siren shall include a pedestal mount to surface mount on a horizontal surface.

MECHANICAL SIREN LOCATION

The siren shall be pedestal mounted on the bumper apron on the furthest outboard section of the bumper on the driver side.

Oak Park Fire Department

Aerial Specifications

AIR HORN

The front bumper shall include two (2) Hadley brand E-Tone air horns which shall measure 21.00 inches long with a 6.00 inch round flare. The air horns shall be trumpet style with a chrome finish on the exterior and a painted finish deep inside the trumpet.

AIR HORN LOCATION

The air horns shall be recess mounted in the front bumper face, one (1) on the right side of the bumper in the outboard position relative to the right hand frame rail and one (1) on the left side of the bumper in the outboard position relative to the left hand frame rail.

AIR HORN RESERVOIR

One (1) air reservoir, with a 2084 cubic inch capacity, shall be installed on the chassis to act as a supply tank for operating air horns. The reservoir shall be isolated with a 90 PSI pressure protection valve on the reservoir supply side to prevent depletion of the air to the air brake system.

ELECTRONIC SIREN SPEAKER

There shall be two (2) Cast Products Inc. model SA4301, 100 watt speakers provided. Each speaker shall measure 6.20 inches tall X 7.36 inches wide X 3.06 inches deep. Each speaker shall include a flat mounting flange which shall be polished aluminum.

ELECTRONIC SIREN SPEAKER LOCATION

The two (2) electronic siren speakers shall be located on the front bumper face outboard of the frame rails with one (1) on the right side and one (1) on the left side in the inboard positions.

FRONT BUMPER TOW HOOKS

Two (2) heavy duty tow hooks, painted to match the frame components, shall be installed in the rearward position out of the approach angle area, bolted directly to the side of each chassis frame rail with grade 8 bolts.

CAB TILT SYSTEM

The entire cab shall be capable of tilting approximately 45-degrees to allow for easy maintenance of the engine and transmission. The cab tilt pump assembly shall be located on the right side of the chassis above the battery box.

The electric-over-hydraulic lift system shall include an ignition interlock and red cab lock down indicator lamp on the tilt control which shall illuminate when holding the "Down" button to indicate safe road operation.

Oak Park Fire Department

Aerial Specifications

It shall be necessary to activate the master battery switch and set the parking brake in order to tilt the cab. As a third precaution the ignition switch must be turned off to complete the cab tilt interlock safety circuit.

Two (2) spring-loaded hydraulic hold down hooks located outboard of the frame shall be installed to hold the cab securely to the frame. Once the hold-down hooks are set in place, it shall take the application of pressure from the hydraulic cab tilt lift pump to release the hooks.

Two (2) cab tilt cylinders shall be provided with velocity fuses in each cylinder port. The cab tilt pivots shall be 1.90 inch ball and be anchored to frame brackets with 1.25 inch diameter studs.

A steel safety channel assembly, painted safety yellow shall be installed on the right side cab lift cylinder to prevent accidental cab lowering. The safety channel assembly shall fall over the lift cylinder when the cab is in the fully tilted position. A cable release system shall also be provided to retract the safety channel assembly from the lift cylinder to allow the lowering of the cab.

CAB TILT AUXILIARY PUMP

A manual cab tilt pump module shall be attached to the cab tilt pump housing.

CAB TILT LIMIT SWITCH

A cab tilt limit switch shall be installed. The switch will effectively limit the travel of the cab when being tilted. The limit adjustment of the switch shall be preset by the chassis manufacturer to prevent damage to the cab or any bumper mounted option mounted in the cab tilt arc. Further adjustment to the limit by the apparatus manufacturer shall be available to accommodate additional equipment.

CAB TILT CONTROL RECEPTACLE

The cab tilt control cable shall include a receptacle which shall be temporarily located on the right hand chassis rail rear of the cab to provide a place to plug in the cab tilt remote control pendant. The tilt pump shall include 8.00 feet of cable with a six (6) pin Deutsch receptacle with a cap.

The remote control pendant shall include 20.00 feet of cable with a mating Deutsch connector. The remote control pendant shall be shipped loose with the chassis.

CAB TILT LOCK DOWN INDICATOR

The cab dash shall include a message located within the dual air pressure gauge which shall alert the driver when the cab is unlocked and ajar. The alert message shall cease to be displayed when the cab is in the fully lowered position and the hold down hooks are secured and locked to the cab mounts.

Oak Park Fire Department

Aerial Specifications

In addition to the alert message an audible alarm shall sound when the cab is unlocked and ajar and the parking brake is released.

CAB WINDSHIELD

The cab windshield shall have a surface area of 2969.88 square inches and be of a two (2) piece wraparound design for maximum visibility.

The glass utilized for the windshield shall include standard automotive tint. The left and right windshield shall be fully interchangeable thereby minimizing stocking and replacement costs.

Each windshield shall be installed using black self locking window rubber.

GLASS FRONT DOOR

The front cab doors shall include a window which is 27.00 inches in width X 26.00 inches in height. These windows shall have the capability to roll down completely into the door housing. This shall be accomplished manually utilizing a crank style handle on the inside of the door. A reinforced window regulator assembly shall be provided for severe duty use.

There shall be an irregular shaped fixed window which shall measure 2.50 inches wide at the top, 8.00 inches wide at the bottom X 26.00 inches in height, more commonly known as "cozy glass" ahead of the front door roll down windows.

The windows shall be mounted within the frame of the front doors trimmed with a black anodized ring on the exterior.

GLASS TINT FRONT DOOR

The windows located in the left and right front doors shall have a standard green automotive tint which shall allow seventy-five percent (75%) light transmittance.

GLASS REAR DOOR RH

The rear right hand side door shall include a window which is 27.00 inches in width X 26.00 inches in height. This window shall roll up and down manually utilizing a crank style handle on the inside of the door. A reinforced window regulator assembly shall be provided for severe duty use.

GLASS TINT REAR DOOR RIGHT HAND

The window located in the right hand side rear door shall include a standard green automotive tint which shall allow seventy-five percent (75%) light transmittance.

Oak Park Fire Department

Aerial Specifications

GLASS REAR DOOR LH

The rear left hand side door shall include a window which is 27.00 inches in width X 26.00 inches in height. This window shall roll up and down manually utilizing a crank style handle on the inside of the door. A reinforced window regulator assembly shall be provided for severe duty use.

GLASS TINT REAR DOOR LEFT HAND

The window located in the left hand side rear door shall include a standard green automotive tint which shall allow seventy-five percent (75%) light transmittance.

GLASS SIDE MID RH

The cab shall include a window on the right side behind the front and ahead of the crew door which shall measure 16.00 inches wide X 26.00 inches high. This window shall be fixed within this space and shall be rectangular in shape. The window shall be mounted using self locking window rubber. The glass utilized for this window shall include a green automotive tint unless otherwise noted.

GLASS TINT SIDE MID RIGHT HAND

The window located on the right hand side of the cab between the front and rear doors shall include a standard green automotive tint which shall allow seventy-five percent (75%) light transmittance.

GLASS SIDE MID LH

The cab shall include a window on the left side behind the front door and ahead of the crew door and above the wheel well which shall measure 16.00 inches wide X 26.00 inches high. This window shall be fixed within this space and shall be rectangular in shape. The window shall be mounted using self locking window rubber. The glass utilized for this window shall include a green automotive tint unless otherwise noted.

GLASS TINT SIDE MID LEFT HAND

The window located on the left hand side of the cab between the front and rear doors shall include a standard green automotive tint which shall allow seventy-five percent (75%) light transmittance.

Oak Park Fire Department

Aerial Specifications

CLIMATE CONTROL

A ceiling mounted combination defroster and cabin heating and air conditioning system shall be located above the engine tunnel area. The system covers and plenums shall be of severe duty design made of aluminum which shall be coated with a customer specified interior paint. The design of the system's covers shall provide quick access to washable air intake filters as well as easy access to other serviceable items.

The air delivery plenums provide targeted airflow directly to the vehicle occupants. Six (6) adjustable louvers will provide comfort for the front seat occupants and ten (10) adjustable louvers will provide comfort for the rear crew occupants.

The system shall be capable of producing up to 12 FPM of air velocity at all occupant seating positions. Separate front and rear blower motors shall be of brushless design and shall be controlled independently. It shall be capable of reducing the interior cabin air temperature from 122° F (+/- 3° F) to 80° F in thirty minutes with 50% relative humidity and full solar load as described in SAE J2646.

The system shall also provide heater pull up performance which meets or exceeds the performance requirements of SAE J1612 as well as defrost performance that meets or exceeds the performance requirements of SAE J381.

A gravity drain system shall be provided that is capable of evacuating condensate from the vehicle while on a slope of up to a 13% grade in any direction.

The air conditioning system plumbing shall be a mixture of custom bent zinc coated steel fittings and Aeroquip flexible hose with Aeroquip EZ-Clip fittings.

The overhead heater/defroster plumbing shall include an electronic flow control valve that re-directs hot coolant away from the evaporator, via a bypass loop, as the temperature control is moved toward the cold position.

Any component which needs to be accessed to perform system troubleshooting shall be accessible by one person using basic hand tools. Regularly serviced items shall be replaceable by one person using basic hand tools.

*****The chassis manufacturer recommends that the overall climate system performance be based off third-party testing in accordance with the Society of Automotive Engineering standards as a complete system.***

Oak Park Fire Department

Aerial Specifications

Individual component level BTU ratings is not an accurate indicator of the performance capability of the completed system. System individual component BTU ratings:

- Air conditioning evaporator total BTU/HR: 82,000
- Air conditioning condenser total BTU/HR: 59,000
- Heater coil total BTU/HR: 98,000

Performance data specified is based on testing performed by an independent third-party test facility using a medium four-door 10" raised roof cab equipped with an ISL engine.

CLIMATE CONTROL DRAIN

The climate control system shall include a gravity drain for water management. The gravity drain shall remove condensation from the air conditioning system without additional mechanical assistance.

CLIMATE CONTROL ACTIVATION

The heating, defrosting and air conditioning controls shall be located on the Vista display and control screen.

CABIN AIR FILTRATION SYSTEM

An SGM cabin air filtration system with two (2) HEPA™ rated air filters will be installed in the cab to provide another level of air filtration. The HEPA system shall be located on the upper rear slope of the engine tunnel, mounted in a horizontal orientation. The system housing shall be approximately 12.00 inches high X 32.50 inches wide X 8.19 inches deep in a trapezoid shape. Each angled slope of the housing shall house the 11.00 inches high X 11.00 inches wide filter element. The system shall be activated through a virtual button on the Vista display and control screen.

HVAC OVERHEAD COVER PAINT

The overhead HVAC cover shall be painted with a multi-tone silver gray texture finish.

A/C CONDENSER LOCATION

A roof mounted A/C condenser shall be installed on the left side of the cab, mid-roof.

A/C COMPRESSOR

The air-conditioning compressor shall be a belt driven, engine mounted compressor. The compressor shall be compatible with R134-a refrigerant.

Oak Park Fire Department

Aerial Specifications

*****The chassis manufacturer recommends that the overall climate system performance be based off third-party testing in accordance with the Society of Automotive Engineering standards as a complete system.***

Individual component level ratings are not an accurate indicator of the performance capability of the completed system.

Refrigerant Compressor displacement: 19.1 cubic inches per revolution.

UNDER CAB INSULATION

The underside of the cab tunnel surrounding the engine shall be lined with multi-layer insulation, engineered for application inside diesel engine compartments.

The insulation shall act as a noise barrier, absorbing noise thus keeping the decibel level in the cab well within NFPA recommendations. As an additional benefit, the insulation shall assist in sustaining the desired temperature within the cab interior.

The engine tunnel insulation shall measure approximately 0.30 inch thick including a multi-layer foil faced glass cloth and polyester fiber layer. The foil surface acts as protection against heat, moisture and other contaminants. The insulation shall meet or exceed FMVSS 302 flammability test.

The cab floor insulation shall measure approximately 0.30 inch thick including a multi-layer foil faced glass cloth and polyester fiber layer. The foil surface acts as protection against heat, moisture and other contaminants. The insulation shall meet or exceed FMVSS 302 flammability test.

The insulation shall be cut precisely to fit each section and sealed for additional heat and sound deflection. The insulation shall be held in place by acrylic pressure sensitive adhesive.

INTERIOR TRIM FLOOR

The floor of the cab shall be covered with a multi-layer mat consisting of 0.25 inch thick sound absorbing closed cell foam with a 0.06 inch thick non-slip vinyl surface with a pebble grain finish. The covering shall be held in place by a pressure sensitive adhesive and aluminum trim molding. All exposed seams shall be sealed with silicone caulk matching the color of the floor mat to reduce the chance of moisture and debris retention.

CAB MODIFICATION

The cab floor and engine tunnel shall include an addition into the cab interior to provide clearance for chassis special option design provisions. The pocket shall be constructed of 0.19 inch thick aluminum, covered by floor mat. The pocket shall span the width of the engine tunnel and shall be 5.52 inches high and 7.60 inches long rearward of the tunnel.

Oak Park Fire Department

Aerial Specifications

INTERIOR TRIM

The cab interior shall include trim on the front ceiling, rear crew ceiling, and the cab walls. It shall be easily removable to assist in maintenance. The trim shall be constructed of insulated vinyl over a hard board backing.

REAR WALL INTERIOR TRIM

The rear wall of the cab shall be trimmed with aluminum sheet metal coated with a customer specified interior paint or protective coating.

HEADER TRIM

The cab interior shall feature header trim over the driver and officer dash constructed of 5052-H32 Marine Grade, 0.13 inch thick aluminum.

TRIM CENTER DASH

The main center dash area shall be constructed of 5052-H32 Marine Grade, 0.13 inch thick aluminum plate. There shall be four (4) holes located on the top of the dash near each outer edge of the electrical access cover for ventilation. The center dash electrical access cover shall include a gas cylinder stay which shall hold the cover open during maintenance.

TRIM LH DASH

The left hand dash shall be constructed of 5052-H32 Marine Grade, 0.13 inch thick aluminum plate for a perfect fit around the instrument panel. For increased occupant protection the extreme duty left hand dash utilizes patent pending break away technology to reduce rigidity in the event of a frontal crash. The left hand dash shall offer lower vertical surface area to the left and right of the steering column to accommodate control panels.

TRIM RH DASH

The right hand dash shall be constructed of 5052-H32 Marine Grade, 0.13 of an inch thick aluminum plate and shall include a glove compartment with a hinged door and a Mobile Data Terminal (MDT) provision. The glove compartment size will measure 14.00 inches wide X 6.38 inches high X 5.88 inches deep. The MDT provision shall be provided above the glove compartment.

ENGINE TUNNEL TRIM

The cab engine tunnel shall be covered with a multi-layer mat consisting of 0.25 inch closed cell foam with a 0.06 inch thick non-slip vinyl surface with a pebble grain finish. The mat shall be held in place by pressure sensitive adhesive. The engine tunnel mat shall be trimmed with anodized aluminum stair nosing trim for an aesthetically pleasing appearance.

Oak Park Fire Department

Aerial Specifications

POWER POINT DASH MOUNT

The cab shall include one (1) Dual universal serial bus (USB) charging receptacle in the cab dash rocker switch cutout to provide a power source for USB chargeable electrical equipment. One (1) USB port shall be capable of a 5 Volt-2.4 amp output and One (1) USB port shall be capable of a 5 Volt-2.4 amp output. The receptacles shall be wired battery direct and include a backlit legend.

STEP TRIM

Each cab entry door shall include a three step entry. The first step closest to the ground shall be constructed of SAE 304 stainless steel with embossed perforations and diamond shaped cutout. The perforations and cutouts shall allow water and other debris to flow through rather than becoming trapped within the stepping surface. The step shall feature a splash guard to reduce water and debris from splashing in to the step. The splash guard shall have drainage holes beneath the back of the step to allow debris and water to flow through rather than becoming trapped within the stepping surface. The stainless steel material shall have a number 8 mirror finish. The lower step shall be mounted to a frame which is integral with the construction of the cab for rigidity and strength. The middle step shall be integral with the cab construction and shall be trimmed with a Flex-Tred® adhesive grit surface material.

UNDER CAB ACCESS DOOR

The cab shall include an aluminum access door in the left crew step riser painted to match the cab interior paint with a push and turn latch. The under cab access door shall provide access to the diesel exhaust fluid fill.

INTERIOR DOOR TRIM

The interior trim on the doors of the cab shall consist of an aluminum panel constructed of Marine Grade 5052-H32 0.13 of an inch thick aluminum plate. The door panels shall include a painted finish.

DOOR TRIM CUSTOMER NAMEPLATE

The interior door trim on the front doors shall include a customer nameplate which states the vehicle was custom built for their Department.

CAB DOOR TRIM REFLECTIVE

The interior of each door shall include high visibility reflective tape. A white reflective tape shall be provided vertically along the rear outer edge of the door. The lowest portion of each door skin shall include a reflective tape chevron with red and white stripes and a Spartan logo. The chevron tape shall measure 6.00 inches in height.

Oak Park Fire Department

Aerial Specifications

INTERIOR GRAB HANDLE "A" PILLAR

There shall be two (2) rubber covered 11.00 inch grab handles installed inside the cab, one on each "A" post at the left and right door openings. The left handle shall be located 7.88 inches above the bottom of the door window opening and the right handle shall be located 2.88 inches above the bottom of the door window opening. The handles shall assist personnel in entering and exiting the cab.

INTERIOR GRAB HANDLE FRONT DOOR

Each front door shall include one (1) ergonomically contoured 9.00 inch cast aluminum handle mounted horizontally on the interior door panels to assist personnel entering and exiting the cab. The handle shall feature a black spray on bedliner coating.

INTERIOR GRAB HANDLE REAR DOOR

A cast aluminum assist handle shall be provided on the inside of each rear crew door to assist personnel in exiting and entering the cab. The 30.00 inch long handle shall extend horizontally the width of the window just above the window sill. Each handle shall feature a black spray on bedliner coating.

INTERIOR SOFT TRIM COLOR

The cab interior soft trim surfaces shall be gray in color.

INTERIOR TRIM SUNVISOR

The header shall include two (2) sun visors, one each side forward of the driver and officer seating positions above the windshield. Each sun visor shall be constructed of Masonite and covered with padded vinyl trim.

INTERIOR FLOOR MAT COLOR

The cab interior floor mat shall be gray in color.

CAB PAINT INTERIOR

The inner door panel surfaces shall feature a medium gray spray on bedliner coating.

HEADER TRIM INTERIOR PAINT

The metal surfaces in the header area shall feature a medium gray spray on bedliner coating.

Oak Park Fire Department

Aerial Specifications

TRIM CENTER DASH INTERIOR PAINT

The entire center dash and any accessory pods attached to the dash shall feature a medium gray spray on bedliner coating.

TRIM LEFT HAND DASH INTERIOR PAINT

The left hand dash shall feature a medium gray spray on bedliner coating.

TRIM RIGHT HAND DASH INTERIOR PAINT

The right hand dash shall feature a medium gray spray on bedliner coating.

REAR WALL INTERIOR PAINT

The rear wall of the cab shall be trimmed with aluminum sheet metal which shall feature a medium gray spray on bedliner coating.

DASH PANEL GROUP

The main center dash area shall include three (3) removable panels located one (1) to the right of the driver position, one (1) in the center of the dash and one (1) to the left of the officer position. The center panel shall be within comfortable reach of both the driver and officer.

SWITCHES CENTER PANEL

The center dash panel shall include six (6) switch positions in the upper left portion of the panel.

A rocker switch with a blank legend installed directly above shall be provided for any position without a switch and legend designated by a specific option. The non-specified switches shall be two-position, black switches with a green indicator light. Each blank switch legend can be custom engraved by the body manufacturer. All switch legends shall have backlighting provided.

SWITCHES LEFT PANEL

The left dash panel shall include one (1) windshield wiper/washer control switch located in the left hand side of the panel and one (1) rocker switch located in the left hand side of the panel.

A rocker switch with a blank legend installed directly above shall be provided for this position if not designated by a specific option. The non-designated switch shall be a two-position, black switch with a green indicator light. The blank switch legend can be custom engraved by the body manufacturer. The switch legend shall have backlighting provided.

Oak Park Fire Department

Aerial Specifications

SWITCHES RIGHT PANEL

The right dash panel shall include one (1) rocker switch.

A rocker switch with a blank legend installed directly above shall be provided for any position without a switch and legend designated by a specific option. The non-specified switch shall be a two-position, black switch with a green indicator light. The blank switch legend can be custom engraved by the body manufacturer. The switch legend shall have backlighting provided.

SEAT BELT WARNING

A Weldon seat belt warning system, integrated with the Vehicle Data Recorder system, shall be installed for each seat within the cab. The system shall provide a visual warning indicator in the Vista display and control screen(s).

The warning system shall activate when any seat is occupied with a minimum of 60 pounds, the corresponding seat belt remains unfastened, and the park brake is released. The warning system shall also activate when any seat is occupied, the corresponding seat belt was fastened in an incorrect sequence, and the park brake is released. Once activated, the visual indicators and applicable audible alarm shall remain active until all occupied seats have the seat belts fastened.

SEAT MATERIAL

The Bostrom Firefighter seats shall include a covering of extra high strength, wear resistant fabric made of durable low seam Durawear Plus™ ballistic polyester. A PVC coating shall be bonded to the back side of the material to help protect the seats from UV rays and from being saturated or contaminated by fluids. Durawear Plus™ meets or exceeds specification of the common trade name Imperial 1800. The material meets FMVSS 302 flammability requirements.

If applicable, Theatre style seats located in the cab shall be high strength, wear resistant fabric made of durable ballistic polyester. A PVC coating shall be bonded to the back side of the material to help protect the seats from UV rays and from being saturated or contaminated by fluids. Common trade names for this material are Imperial 1200 and Durawear.

SEAT COLOR

All seats supplied with the chassis shall be black in color. All seats shall include red seat belts.

SEAT BACK LOGO

The seat back shall include the "Smeal Fire Apparatus Co." logo. The logo shall be centered on the standard headrest of the seat back and on the left side of a split headrest.

Oak Park Fire Department

Aerial Specifications

SEAT DRIVER

The driver's seat shall be an H.O. Bostrom 400 Series Sierra model seat with air suspension. The four-way seat shall feature 3.00 inch vertical travel air suspension and manual fore and aft adjustment with 5.00 inches of travel. The suspension control shall be located on the seat below the left front corner of the bottom cushion. The seat shall also feature integral springs to isolate shock.

The seat position shall include a three-point shoulder harness with lap belt and an automatic retractor attached to the cab. The buckle portion of the seat belt shall be mounted on a semi-rigid stalk extending from the seat base within easy reach of the occupant.

The minimum vertical dimension from the seat H-point to the ceiling for this belted seating position shall be 37.00 inches measured with the seat suspension height adjusted to the upper limit of its travel.

This model of seat shall have successfully completed the static load tests set forth by FMVSS 207, 209, and 210 in effect at the time of manufacture. This testing shall include a simultaneous forward load of 3000 pounds each on the lap and shoulder belts and twenty (20) times the weight through the center of gravity.

The materials used in construction of the seat shall also have successfully completed testing with regard to the flammability of materials used in the occupant compartments of motor vehicles as outlined in FMVSS 302, of which dictates the allowable burning rate of materials in the occupant compartments of motor vehicles.

SEAT BACK DRIVER

The driver's seat shall feature a two (2) way adjustable lumbar support and offer an infinite fully reclining adjustable titling seat back. The seat back shall also feature a contoured head rest.

SEAT MOUNTING DRIVER

The driver's seat shall be installed in an ergonomic position in relation to the cab dash.

SEAT OFFICER

The officer's seat shall be an H.O. Bostrom 500 Series Sierra model seat. The seat shall feature two-way manual adjustment and shall include a tapered and padded seat cushion. The seat shall also feature integral springs to isolate shock.

The seat shall feature an all belts to seat (ABTS) style of safety restraint. The ABTS feature shall include a three-point shoulder harness with the lap belt, automatic retractor and buckle as an integral part of the seat assembly.

Oak Park Fire Department

Aerial Specifications

The ABTS feature shall also include the RiteHite™ shoulder adjustment feature to provide enhanced comfort and safety by allowing customized seat belt fit.

The minimum vertical dimension from the seat H-point to the ceiling for this belted seating position shall be 35.00.

This model of seat shall have successfully completed the static load tests by FMVSS 207, 209, 210 and 302 in effect at the time of manufacture. This testing shall include a simultaneous forward load of 3000 pounds each on the lap and shoulder belts and twenty (20) times the weight through the center of gravity. The model of seats shall also have successfully completed the flammability of materials used in the occupant compartments of motor vehicles as outlined in FMVSS 302, of which decides the burning rate of materials in the occupant compartments of motor vehicles.

SEAT BACK OFFICER

The officer's seat shall include a standard seat back incorporating the all belts to seat feature (ABTS). The seat back shall feature a contoured head rest.

SEAT MOUNTING OFFICER

The officer's seat shall be installed in an ergonomic position in relation to the cab dash.

SEAT BELT ORIENTATION CREW

The crew position seat belts shall follow the standard orientation which extends from the outboard shoulder extending to the inboard hip.

SEAT REAR FACING OUTER LOCATION

The crew area shall include two (2) rear facing crew seats, which include one (1) located directly behind the left side front seat and one (1) located directly behind the right side front seat.

SEAT CREW REAR FACING OUTER

The crew area shall include a seat in the rear facing outboard position which shall be a H.O. Bostrom 500 Series Firefighter model seat. The seat shall feature a tapered and padded seat, and cushion. The seat shall be mounted in a fixed position.

The seat shall feature an all belts to seat (ABTS) style of safety restraint. The ABTS feature shall include a three-point shoulder harness with the lap belt and automatic retractor as an integral part of the seat assembly. The buckle portion of the seat belt shall extend from the seat base towards the driver position within easy reach of the occupant. The ABTS feature shall also include the RiteHite™ shoulder adjustment feature to provide enhanced comfort and safety by allowing customized seat belt fit.

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The minimum vertical dimension from the seat H-point to the ceiling for this belted seating position shall be 35.00 inches.

This model of seat shall have successfully completed the static load tests by FMVSS 207/210. This testing shall include a simultaneous forward load of 3000 pounds each on the lap and shoulder belts and twenty (20) times the weight through the center of gravity. This model of seat installed in the cab model, as specified, shall have successfully completed the dynamic sled testing using FMVSS 208 as a guide with the following accommodations. In order to reflect the larger size outfitted firefighters, the test dummy used shall be a 95th percentile hybrid III male weighing 225 pounds rather than the 50th percentile male dummy weighing 165 pounds as referenced in FMVSS 208. The model of seats shall also have successfully completed the flammability of materials used in the occupant compartments of motor vehicles as outlined in FMVSS 302, of which decides the burning rate of materials in the occupant compartments of motor vehicles.

SEAT BACK REAR FACING OUTER

The rear facing outer seat(s) shall include a standard seat back incorporating the all belts to seat feature (ABTS). The seat back shall feature a contoured head rest.

SEAT MOUNTING REAR FACING OUTER

The rear facing outer seats shall offer special mounting positions which shall be 2.00 inches towards the rear wall offering additional space between the front seats and the outer rear facing seats.

SEAT FRAME FORWARD FACING

The forward facing center seating positions shall include an enclosed seat frame located and installed on the rear wall. The seat frame shall measure 42.38 inches wide X 12.38 inches high X 22.00 inches deep. The seat frame shall be constructed of Marine Grade 5052-H32 0.19 inch thick aluminum plate. The seat box shall be painted with the same color as the remaining interior.

SEAT FRAME FORWARD FACING STORAGE ACCESS

There shall be two (2) access points to the seat frame storage area, one (1) on each side of the seat frame. Each access point shall be covered by a hinged door which measures 15.00 inches in width X 10.63 inches in height.

CAB FRONT UNDERSEAT STORAGE ACCESS

The left and right under seat storage areas shall have a solid aluminum hinged door with non-locking latch.

Oak Park Fire Department

Aerial Specifications

SEAT COMPARTMENT DOOR FINISH

All underseat storage compartment access doors shall feature a medium gray spray on bedliner coating.

WINDSHIELD WIPER SYSTEM

The cab shall include a triple arm linkage wiper system which shall clear the windshield of water, ice and debris. There shall be two (2) windshield wipers; each shall be affixed to a radial arm. The wiper motor shall be activated by an intermittent wiper control located within easy reach of the driver's position. The windshield wipers shall be interlocked with the park brake allowing activation only when the park brake is released.

ELECTRONIC WINDSHIELD FLUID LEVEL INDICATOR

The windshield washer fluid level shall be monitored electronically. When the washer fluid level becomes low the yellow "Check Message Center" indicator light on the instrument panel shall illuminate and the message center in the dual air pressure gauge shall display a "Check Washer Fluid Level" message.

CAB DOOR HARDWARE

The cab entry doors shall be equipped with exterior pull handles, suitable for use while wearing firefighter gloves. The handles shall be made of a fiber reinforced plastic composite with a black matt finish.

The interior exit door handles shall be flush paddle type with a black finish, which are incorporated into the upper door panel.

All cab entry doors shall include locks which are keyed alike. The door locks shall be designed to prevent accidental lockout.

The exterior pull handles shall include a scuff plate behind the handle constructed of stainless steel and painted gloss black.

DOOR LOCKS

The cab entry doors shall include a Controller Area Network (CAN) based electronic door lock system which shall include two (2) external keypads, one (1) located on the left side next to the front grab handle and one (1) on the right side next to the front grab handle. There shall be one (1) red rocker switch provided on the inside of each front cab entry door to actuate the cab door locks. Each door lock may also be manually actuated from the inside of the cab by means of a red knob located on the paddle handle of the respective door. The electronic door lock system shall include four (4) key fobs for actuation with buttons for cab entry door locks and for compartment door locks.

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When the doors are unlocked using the external keypad or the key fobs the interior dome lights shall illuminate and remain on for a period of twenty (20) seconds. The interior dome safety feature shall require the interior lighting power to be battery direct.

Wiring shall also be provided for up to four (4) exterior cab compartments and up to four (4) body compartments.

POWER DOOR LOCK COMPARTMENT ACTIVATION

The power door lock feature shall include activation for exterior compartment door locks through the key fob and keypads.

GRAB HANDLES

The cab shall include one (1) 18.00 inch knurled, anti-slip, one-piece exterior assist handle behind each cab door. The grab handle shall be made of SAE 304 stainless steel and be 1.25 inch diameter to enable non-slip assistance with a gloved hand.

AUXILIARY GRAB HANDLE

There shall be a 7.00 inch molded stainless steel grab handle with a bright finish attached to the front fascia of the cab in the center below the windshield.

REARVIEW MIRRORS

Retrac Aerodynamic West Coast style single vision mirror heads model 613275 shall be provided and installed on each of the front cab doors.

The mirrors shall be mounted via 1.00 inch diameter tubular stainless steel arms to provide a rigid mounting to reduce mirror vibration.

The mirrors shall measure 8.00 inches wide X 19.00 inches high and shall include an 8.00 inch convex mirrors with a stainless steel back, model 980-4, installed below the flat glass to provide a wider field of vision. The flat mirrors shall be motorized with remote horizontal and vertical adjustment. The control switches shall be mounted within easy reach of the driver. The convex mirrors shall be manually adjustable. The flat mirror glass shall be heated for defrosting in severe cold weather conditions.

The mirrors shall be constructed of a vacuum formed chrome plated ABS plastic housing that is corrosion resistant and shall include the finest quality non-glare glass.

REARVIEW MIRROR HEAT SWITCH

The heat for the rearview mirrors shall be controlled through a virtual button on the Vista display and control screen.

Oak Park Fire Department

Aerial Specifications

CAB FENDER

Full width wheel well liners shall be installed on the extruded cab to limit road splash and enable easier cleaning. Each two-piece liner shall consist of an inner liner 16.00 inches wide made of vacuum formed ABS composite and an outer fenderette 3.50 inches wide made of SAE 304 polished stainless steel.

MUD FLAPS FRONT

The front wheel wells shall have mud flaps installed on them.

CAB EXTERIOR FRONT & SIDE EMBLEMS

The cab shall include three (3) Spartan emblems. There shall be one (1) installed on the front air intake grille and one (1) emblem on each of the cab sides.

IGNITION

A master battery system with a keyless start ignition system shall be provided. Each system shall be controlled by a one-quarter turn Cole Hersee switch, both of which shall be mounted to the left of the steering wheel on the dash. A chrome push type starter button shall be provided adjacent to the master battery and ignition switches.

Each switch shall illuminate a green LED indicator light on the dash when the respective switch is placed in the "ON" position.

The starter button shall only operate when both the master battery and ignition switches are in the "ON" position.

BATTERY

The single start electrical system shall include six (6) Interstate 31-XHD 1000 CCA batteries with a 210 minute reserve capacity and 4/0 welding type dual path starter cables per SAE J541.

BATTERY TRAY

The batteries shall be installed within two (2) steel battery trays located on the left side and right side of the chassis, securely bolted to the frame rails. The battery trays shall be coated with the same material as the frame.

The battery trays shall include drain holes in the bottom for sufficient drainage of water. A durable, non-conducting, interlocking mat made by Dri-Dek shall be installed in the bottom of the trays to allow for air flow and help prevent moisture build up. The batteries shall be held in place by non-conducting phenolic resin hold down boards.

Oak Park Fire Department

Aerial Specifications

BATTERY BOX COVER

Each battery box shall include a steel cover which protects the top of the batteries. Each cover shall include flush latches which shall keep the cover secure as well as a black powder coated handle for convenience when opening.

BATTERY CABLE

The starting system shall include cables which shall be protected by 275 degree F. minimum high temperature flame retardant loom, sealed at the ends with heat shrink and sealant.

BATTERY JUMPER STUD

The starting system shall include battery jumper studs. These studs shall be located in the forward most portion of the driver's side lower step, 8.00 inches apart. The studs shall allow the vehicle to be jump started, charged, or the cab to be raised in an emergency in the event of battery failure.

ALTERNATOR

The charging system shall include a 320 amp Leece-Neville 12 volt alternator. The alternator shall include a self-exciting integral regulator.

STARTER MOTOR

The single start electrical system shall include a Delco brand starter motor.

BATTERY CONDITIONER

A Kussmaul Auto Charge 40 LPC battery conditioner shall be supplied. The battery conditioner shall provide a 40 amp output for the chassis batteries and a 15 amp output circuit for accessory loads. The battery conditioner shall be mounted in the cab in the LH rear facing outer seating position.

BATTERY CONDITIONER DISPLAY

A Kussmaul battery conditioner display shall be supplied. The battery conditioner display shall be mounted in the cab, viewable through the cab mid side window behind the left front door.

AUXILIARY AIR COMPRESSOR

A Kussmaul Auto Pump 120V air compressor shall be supplied. The air compressor shall be installed under the dashboard on the right-hand side, forward of the officer's seating position. The air compressor shall be plumbed to the air brake system to maintain air pressure.

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Aerial Specifications

ELECTRICAL INLET LOCATION

An electrical inlet shall be installed on the left hand side of cab over the wheel well.

ELECTRICAL INLET

A Kussmaul 20 amp super auto-eject electrical receptacle shall be supplied. It shall automatically eject the plug when the starter button is depressed.

A single item or an addition of multiple items must not exceed the rating of the electric inlet that it's connected to.

Amp Draw Reference List:

Kussmaul 40 LPC Charger - 5 Amps
Kussmaul 40/20 Charger - 8.5 Amps
Kussmaul 80 LPC Charger - 13 Amps
Kussmaul EV-40 - 6.2 Amps
Blue Sea P12 7532 - 7.5 Amps
Iota DLS-45/IQ4 - 11 Amps
1000W Engine Heater - 8.33 Amps
1500W Engine Heater - 12.5 Amps
120V Air Compressor - 4.2 Amps
120V Dometic HVAC - 15 Amps

ELECTRICAL INLET CONNECTION

The electrical inlet shall be connected to the battery conditioner and the air pump.

ELECTRICAL INLET COLOR

The electrical inlet connection shall include a yellow cover.

HEADLIGHTS

The cab front shall include four (4) rectangular LED headlamps with separate high and low beams mounted in bright chrome bezels. Each lamp shall include a heating system that de-ices the headlight.

HEADLIGHT LOCATION

The headlights shall be located on the front fascia of the cab directly below the front warning lights.

Oak Park Fire Department

Aerial Specifications

FRONT TURN SIGNALS

The front fascia shall include two (2) Whelen model 600 4.00 inches X 6.00 inches programmable amber LED turn signals which shall be installed in an outboard position within the front fascia chrome bezel.

SIDE TURN/MARKER LIGHTS

The sides of the cab shall include two (2) Tecniq S170 LED side marker lights which shall be provided just behind the front cab radius corners. The lights shall be amber with chrome bezels.

MARKER AND ICC LIGHTS

In accordance with FMVSS, there shall be five (5) Tecniq S170 LED cab marker lamps designating identification, center and clearance provided. These lights shall be installed on the face of the cab within full view of other vehicles from ground level. The lights shall be amber with chrome bezels.

HEADLIGHT AND MARKER LIGHT ACTIVATION

The headlights and marker lights shall be controlled via a virtual button on the Vista display. The marker lights shall turn on when the master switch is in the "On" position. The headlamps and markers lamps shall illuminate to 100% brilliance when the ignition switch is in the "On" position. There shall be a virtual dimmer control on the Vista display to adjust the brightness of the dash lights.

LIGHTBAR SWITCH

The light bar shall be controlled through a virtual button on the Vista display and control screen. There shall be an additional button located on the Vista display and control screen to control the clear lights.

INTERIOR OVERHEAD LIGHTS

The cab shall include a LED dome lamp located over each door. The lights shall include push switches on each lamp to activate both the clear and red portions of the light individually.

INTERIOR OVERHEAD LIGHTS ACTIVATION

The clear portion of each lamp shall be activated by opening the respective door and via the multiplex display.

Oak Park Fire Department

Aerial Specifications

LIGHTBAR PROVISION

There shall be two (2) light bars installed on the cab roof. The light bars shall be provided and installed by the chassis manufacturer. The light bar installation shall include mounting and wiring to a control switch on the cab dash.

CAB FRONT LIGHTBAR MODEL

The cab shall be provided with two (2) Whelen model F4NMINI light bars. Each light bar shall be 21.50 inches in length and feature eight (8) customizable pods.

See the light bar layout for specific details.

FRONT SCENE LIGHTS

The front of the cab shall include two (2) HiViz model Firetech FT-MB-12-FT-W scene lights installed on the brow of the cab.

Each lamp head shall operate on 12 volt DC and incorporate a 12 LED optic that combines both spot and flood lighting. Each lamp head shall draw 5.0 amps, generate 6,336 total lumens, and measure approximately 2.00 inches in height X 16.00 inches in width. The lamp heads and brackets shall be powder coated white.

FRONT SCENE LIGHT LOCATION

There shall be two (2) scene lights mounted to the front brow of the cab in the outboard position centered over the outer front marker lights.

FRONT SCENE LIGHTS ACTIVATION

The front scene lighting shall be activated by a virtual button on the Vista display and control screen.

SIDE SCENE LIGHTS

The side of the cab shall include two (2) Whelen M9 Series LED combination scene and warning lights, one (1) each side which shall be surface mounted within a chrome bezel. Each light head shall measure approximately 6.50 inches high X 10.38 inches wide X 2.70 inches deep. The scene light portion of each lighthouse shall consist of six (6) white Super-LEDs. The scene light lens shall include a metalized angled reflector.

SIDE SCENE LIGHT LOCATION

The scene lighting located on the left and right sides of the cab shall be mounted in the upper forward portion of the cab between the front and rear crew doors.

Oak Park Fire Department

Aerial Specifications

SIDE SCENE ACTIVATION

The scene lights shall be activated by two (2) virtual buttons on the Vista display and control screen(s), one (1) for each light.

GROUND LIGHTS

Each door shall include a Tecniq T44 LED ground light mounted to the underside of the cab step below each door. The lights shall include a polycarbonate lens, a housing which is vibration welded and LEDs which shall be shock mounted for extended life.

GROUND LIGHTS

The ground lighting shall be activated when the parking brake is set, by the opening of the door on the respective cab side, and through a virtual button on the Vista display and control screen.

UNDER BUMPER LIGHTS

There shall be two (2) 4.00 inch round LED ground lights mounted under the bumper. The lights shall include a polycarbonate lens, a housing which is vibration welded, and LEDs which shall be shock mounted for extended life. The under bumper ground lighting shall be interlocked with the park brake.

LOWER CAB STEP LIGHTS

The middle step located at each door shall include a Tecniq T44 LED light which shall activate with the opening of the respective door. The lights shall include a polycarbonate lens, a housing which is vibration welded and LEDs which shall be shock mounted for extended life.

INTERMEDIATE STEP LIGHTS

The intermediate step well area at the front doors shall include a TecNiq D06 LED light within a chrome housing. The front egress step lights shall provide visibility to the step well area for the first step exiting the vehicle. The Egress step lights shall activate with entry step lighting.

ENGINE COMPARTMENT LIGHT

There shall be a LED NFPA compliant light mounted under the engine tunnel for area work lighting on the engine. The light shall include a polycarbonate lens, a housing which is vibration welded and a bulb which shall be shock mounted for extended life. The light shall activate automatically when the cab is tilted.

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Aerial Specifications

DO NOT MOVE APPARATUS LIGHT

The front headliner of the cab shall include a flashing red TecNiq K50 LED light clearly labeled "Do Not Move Apparatus". In addition to the flashing red light, an audible alarm shall be included which shall sound while the light is activated.

The flashing red light shall be located centered left to right for greatest visibility.

The light and alarm shall be interlocked for activation when either a cab door is not firmly closed, or an apparatus compartment door is not closed, and the parking brake is released.

MASTER WARNING SWITCH

A master switch shall be included, as a virtual button on the Vista display and control screen which shall be labeled "E Master" for identification. The button shall feature control over all devices wired through it. Any warning device switches left in the "ON" position when the master switch is activated shall automatically power up.

HEADLIGHT FLASHER

An alternating high beam headlight flashing system shall be installed into the high beam headlight circuit which shall allow the high beams to flash alternately from left to right.

Deliberate operator selection of high beams will override the flashing function until low beams are again selected. Per NFPA, these clear flashing lights will also be disabled "On Scene" when the park brake is applied.

HEADLIGHT FLASHER SWITCH

The flashing headlights shall be activated through a virtual button on the Vista display and control screen.

INBOARD FRONT WARNING LIGHTS

The cab front fascia shall include two (2) Whelen 600 series Super LED front warning lights in the left and right inboard positions. The lights shall feature multiple flash patterns including steady burn for solid colors and multiple flash patterns for split colors. The lights shall be mounted to the front fascia of the cab within a chrome bezel.

INBOARD FRONT WARNING LIGHTS COLOR

The warning lights mounted on the cab front fascia in the inboard positions shall be red with a clear lens.

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Aerial Specifications

FRONT WARNING SWITCH

The front warning lights shall be controlled through a virtual control on the Vista display and control screen. This switch shall be clearly labeled for identification.

INTERSECTION WARNING LIGHTS

The chassis shall include two (2) Whelen 600 series Super LED intersection warning lights, one (1) each side. The lights shall feature multiple flash patterns including steady burn for solid colors and multiple flash patterns for split colors.

INTERSECTION WARNING LIGHTS COLOR

The intersection lights shall be red with a clear lens.

INTERSECTION WARNING LIGHTS LOCATION

The intersection lights shall be mounted on the side of the bumper in the rearward position.

SIDE WARNING LIGHTS

The cab sides shall include two (2) Whelen 600 series Super LED warning lights, one (1) on each side. The lights shall feature multiple flash patterns including steady burn for solid colors and multiple flash patterns for split colors. The lights shall be mounted to the sides of the cab within a chrome bezel.

SIDE WARNING LIGHTS COLOR

The warning lights located on the side of the cab shall be red with clear lens.

SIDE WARNING LIGHTS LOCATION

The warning lights on the side of the cab shall be mounted over the front wheel well directly over the center of the front axle.

AUXILIARY SIDE WARNING LIGHTS

The cab shall include an auxiliary set of Whelen M9 Series warning lights integrated within the side scene lighting. Each warning light portion of each light head shall consist of twelve (12) Super-LEDs. The warning light portion of each lighthouse shall have an optic collimator and metalized reflector. Each light shall feature multiple flash patterns including steady burn.

AUXILIARY SIDE WARNING LIGHTS COLOR

The auxiliary warning lights located on the side of the cab shall be red with clear lens.

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Aerial Specifications

AUXILIARY SIDE WARNING LIGHTS LOCATION

The auxiliary warning lights on the side of the cab shall be integrated within the side scene lighting.

SIDE AND INTERSECTION WARNING SWITCH

The side warning lights shall be controlled through a virtual button on the Vista display and control screen. This button shall be clearly labeled for identification.

TANK LEVEL LIGHTS

There shall be two (2) Whelen Strip-Light Plus XL tank lights surface mounted within a chrome bezel.

The light strips shall feature four (4) colors of LED lights to indicate the fluid level of a tank. The lights shall change in color to indicate the water level of the tank in ¼ tank increments, the colors shall change from green indicating a full tank to blue, amber, and red as the tank level drops.

TANK LEVEL LIGHTS ACTIVATION

An FRC remote large light driver shall be installed under the dash with the signal wire for the primary display routed to the rear of cab on the chassis.

The light activation shall be active with the park brake set and ignition on.

TANK LEVEL LIGHTS LOCATION

There shall be water level lights mounted on each side of the cab, behind the rear cab doors.

INTERIOR DOOR OPEN WARNING LIGHTS

The interior of each door shall include one (1) 15.87 inch long X 0.73 inch tall amber Weldon LED warning light. The light shall be located on the upper portion of the door frame to be visible when a person is standing in front of the door while entering or exiting the cab. Each light shall activate with a scrolling directional flash pattern which moves from inside to outside when the door is in the open position. This shall serve as a warning to oncoming traffic.

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Aerial Specifications

SIREN CONTROL HEAD

A Whelen 295HFSA7 electronic siren control head with remote dual amplifier shall be provided and flush mounted in the switch panel with a location specific to the customer's needs. The siren shall feature 200-watt output, radio broadcast, public address, wail, yelp, or piercer tones and hands free operation which shall allow the operator to turn the siren on and off from the horn ring if a horn/siren selector switch option is also selected.

STEERING WHEEL HORN BUTTON SELECTOR SWITCH

A virtual button on the Vista display and control screen shall be provided to allow control of either the electric horn or the air horn from the steering wheel horn button. The electric horn shall sound by default when the selector switch is in either position to meet FMCSA requirements.

AUDIBLE WARNING RH FOOT SWITCH

A foot switch wired to actuate the mechanical siren(s) shall be supplied for installation in the front section of the cab for officer actuation.

MECHANICAL SIREN FOOT SWITCH RH

The mechanical siren foot switch shall be a Linemaster model 491-S.

MECHANICAL SIREN FOOT SWITCH RH LOCATION

The mechanical siren foot switch shall be temporarily tied up with a coiled wire drop at the firewall inboard for installation by the customer on the right hand side accessible to the officer.

AIR HORN AUXILIARY ACTIVATION

The air horn activation shall be accomplished by two (2) lanyard cables, one (1) on the left hand side accessible to the driver and one (1) on the right hand side accessible to the officer. An air horn activation circuit shall be provided to the chassis harness pump panel harness connector.

MECHANICAL SIREN BRAKE/AUXILIARY ACTIVATION

The mechanical siren shall be actuated by two (2) black push buttons in the switch panel on the dash. Two (2) red momentary siren brake rocker switches shall be provided in the switch panel on the dash.

MECHANICAL SIREN INTERLOCK

The siren shall only be active when master warning switch is on to prevent accidental engagement.

Oak Park Fire Department

Aerial Specifications

BACK-UP ALARM

An ECCO model 575 backup alarm shall be installed at the rear of the chassis with an output level of 107 dB. The alarm shall automatically activate when the transmission is placed in reverse.

INSTRUMENTATION

An ergonomically designed instrument panel shall be provided. Each gauge shall be backlit with LED lamps. Stepper motor movements shall drive all gauges. The instrumentation system shall be multiplexed and shall receive ABS, engine, and transmission information over the J1939 data bus to reduce redundant sensors and wiring.

A twenty eight (28) icon lightbar message center with integral LCD odometer/trip odometer shall be included. The odometer shall display up to 999,999.9 miles. The trip odometer shall display 9,999.9 miles. The LCD message center screen shall be capable of custom configuration by the users for displaying certain vehicle status and diagnostic functions.

The instrument panel shall contain the following gauges:

One (1) three-movement gauge displaying vehicle speed, fuel level, and Diesel Exhaust Fluid (DEF) level. The primary scale on the speedometer shall read from 0 to 100 MPH, and the secondary scale on the speedometer shall read from 0 to 160 KM/H. The scale on the fuel and DEF level gauges shall read from empty to full as a fraction of full tank capacity. Red indicator lights in the gauge and an audible alarm shall indicate low fuel or low DEF at 1/8th tank level.

One (1) three-movement gauge displaying engine RPM, and primary and secondary air system pressures shall be included. The scale on the tachometer shall read from 0 to 3000 RPM. The scale on the air pressure gauges shall read from 0 to 150 pounds per square inch (PSI) with a red line zone indicating critical levels of air pressure. Red indicator lights in the gauge and an audible alarm shall indicate low air pressure.

One (1) four-movement gauge displaying engine oil pressure, coolant temperature, voltmeter, and transmission temperature shall be included. The scale on the engine oil pressure gauge shall read from 0 to 100 pounds PSI with a red line zone indicating critical levels of oil pressure. A red indicator light in the gauge and audible alarm shall indicate low engine oil pressure. The scale on the coolant temperature gauge shall read from 100 to 250 degrees Fahrenheit (°F) with a red line zone indicating critical coolant temperatures. A red indicator light in the gauge and audible alarm shall indicate high coolant temperature. The scale on the voltmeter shall read from 9 to 18 volts with a red line zone indicating critical levels of battery voltage. A red indicator light in the gauge and an audible alarm shall indicate high or low system voltage. The low voltage alarm shall indicate when the system voltage has dropped below 11.8 volts for more than 120 seconds in accordance with the requirements of NFPA 1901. The scale on the transmission temperature gauge shall read from 100 to 300 degrees °F with a red line zone indicating critical temperatures.

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A red indicator light in the gauge and an audible alarm shall indicate a high transmission temperature.

The light bar portion of the message center shall include twenty-eight (28) LED backlit indicators. The lightbar shall be split with fourteen (14) indicators on each side of the LCD message screen. The lightbar shall contain the following indicators and produce the following audible alarms when supplied in conjunction with applicable configurations:

RED INDICATORS

Stop Engine - indicates critical engine fault

Air Filter Restricted - indicates excessive engine air intake restriction

Park Brake - indicates parking brake is set

Seat Belt - indicates a seat is occupied and corresponding seat belt remains unfastened

Low Coolant - indicates critically low engine coolant

Cab Tilt Lock - indicates the cab tilt system locks are not engaged.

AMBER INDICATORS

Malfunction Indicator Lamp (MIL) - indicates an engine emission control system fault

Check Engine - indicates engine fault

Check Transmission - indicates transmission fault

Anti-Lock Brake System (ABS) - indicates anti-lock brake system fault

High exhaust system temperature – indicates elevated exhaust temperatures

Water in Fuel - indicates presence of water in fuel filter

Wait to Start - indicates active engine air preheat cycle

Windshield Washer Fluid – indicates washer fluid is low

DPF restriction - indicates a restriction of the diesel particulate filter

Regen Inhibit-indicates regeneration of the DPF has been inhibited by the operator

Range Inhibit - indicates a transmission operation is prevented and requested shift request may not occur.

SRS - indicates a problem in the supplemental restraint system

Check Message - indicates a vehicle status or diagnostic message on the LCD display requiring attention.

GREEN INDICATORS

Left and Right turn signal indicators

ATC - indicates low wheel traction for automatic traction control equipped vehicles, also indicates mud/snow mode is active for ATC system

High Idle - indicates engine high idle is active.

Cruise Control - indicates cruise control is enabled

OK to Pump - indicates the pump is engaged and conditions have been met for pump operations

Pump Engaged - indicates the pump transmission is currently in pump gear

Auxiliary Brake - indicates secondary braking device is active

BLUE INDICATORS

High Beam indicator

Oak Park Fire Department

Aerial Specifications

AUDIBLE ALARMS

Air Filter Restriction
Cab Tilt Lock
Check Engine
Check Transmission
Open Door/Compartment
High Coolant Temperature
High or Low System Voltage
High Transmission Temperature
Low Air Pressure
Low Coolant Level
Low DEF Level
Low Engine Oil Pressure
Low Fuel
Seatbelt Indicator
Stop Engine
Water in Fuel
Extended Left/Right Turn Signal On
ABS System Fault

BACKLIGHTING COLOR

The instrumentation gauges and the switch panel legends shall be backlit using red LED backlighting.

CAMERA

An FRC branded inView 360-HD™ heavy duty 360° camera system powered by SEON shall be supplied. Three (3) HD cameras with box shaped housing shall be shipped loose for OEM installation in the body to afford the driver a clear view to the rear and sides of the vehicle and one (1) HD camera shall be mounted on the front of the cab, above the windshield.

The system shall provide a dual camera view. One (1) view shall be a stitched bird's eye 360.00 degrees view around the truck and one (1) shall be a direct feed from a single camera. This feed shall display the rear camera when the transmission is placed in reverse, the left or right camera with the activation of the respective side turn signal, or the front camera at all other times.

CAMERA DISPLAY

The camera system shall be wired to a 7.00 inch flip down HD monitor which shall include a color display and day and night brightness modes installed above the driver position.

CAB EXTERIOR PROTECTION

The cab face shall have a removable plastic film installed over the painted surfaces to protect the paint finish during transport to the body manufacturer.

Oak Park Fire Department

Aerial Specifications

FIRE EXTINGUISHER

A 2.50 pound D.O.T approved fire extinguisher with BC rating shall be shipped loose with the cab.

ROAD SAFETY KIT

The cab and chassis shall include one (1) emergency road safety triangle kit.

DOOR KEYS

The cab and chassis shall include a total of four (4) door keys for the manual door locks.

WARRANTY

Purchaser shall receive a Custom Chassis Two (2) Years or 36,000 Miles limited warranty in accordance with, and subject to, warranty certificate RFW0102. The warranty certificate is incorporated by reference into this proposal, and included with this proposal or available upon request.

CHASSIS OPERATION MANUAL

There shall be two (2) digital copies of the chassis operation manual provided with the chassis. The digital data shall include a parts list specific to the chassis model.

ENGINE AND TRANSMISSION OPERATION MANUALS

The following manuals specific to the engine and transmission models ordered will be included with the chassis in the ship loose items:

- (1) Hard copy of the Engine Operation and Maintenance manual with digital copy
- (1) Digital copy of the Transmission Operator's manual
- (1) Digital copy of the Engine Owner's manual

CAB/CHASSIS AS BUILT WIRING DIAGRAMS

The cab and chassis shall include two (2) digital copies of wiring schematics and option wiring diagrams.

PAINT CONFIRMATION

There shall be a paint confirmation letter sent to the body manufacturer with paint spray outs to confirm the cab primary paint color or primary and secondary paint color as specified by the paint options.

Oak Park Fire Department

Aerial Specifications

CUSTOMER INSPECTION

There shall be a customer inspection of the chassis at Spartan Chassis in Charlotte, Michigan. The customer, the dealer, or the OEM shall be responsible for all travel costs and arrangements.

The date of the chassis inspection shall be determined based on the requested chassis completion date, OEM production schedules, the chassis off-line date, and the chassis completion date.

The inspection must be coordinated between the OEM/Dealer representative and Andy Torrence the Spartan Chassis FT Auditor/Inspection Coordinator. Andy can be contacted by phone at 517-543-6400 extension 3148, on his cell at 517-231-0959, or by email to andy.torrence@spartanchassis.com.

SALES TERMS

The sale of the chassis shall be governed by the terms contained on the Sales Terms – Acceptance of Purchase Order document, a copy of which is attached to this option.

DRIVELINE LAYOUT CONFIRMATION

During the design phase of the chassis the Spartan Chassis driveline engineer shall submit the driveline layout to an OEM engineer to review the chassis design for any potential problems integrating the OEM body to the chassis. The OEM engineer shall provide approval to the driveline engineer prior to driveline bills of materials being released.

MAXIMUM OVERALL HEIGHT

The overall height of the apparatus shall not exceed 145" (12'-1") from the ground. This measurement shall be taken with the tires properly inflated and with the apparatus in the unloaded condition to ensure a maximum overall height. In order to provide the maximum overall height, proposed units using calculated weight as a means to achieve a lower overall height shall not be accepted. The measurement shall be taken at the highest point of the apparatus.

MAXIMUM OVERALL LENGTH

The overall length of the apparatus shall not exceed 505" (42'-1").

WHEELBASE

The wheelbase of the apparatus shall not exceed 225".

ANGLE OF APPROACH

The angle of approach of the apparatus shall be a minimum of 8 degrees.

Oak Park Fire Department

Aerial Specifications

ANGLE OF DEPARTURE

The angle of departure of the apparatus shall be a minimum of 8 degrees.

SPARTAN GLADIATOR CHASSIS

The chassis shall be a Spartan Gladiator.

MUD FLAPS

In addition to the chassis supplied front mud flaps, two (2) mud flaps shall be provided rearward of the rear axles on the apparatus.

The chassis supplied and installed heat exchanger shall be attached to the pump by the OEM manufacturer.

RELOCATE CAB TILT

The cab tilt pendant shall be relocated as deemed best fit by the OEM.

MAP CONSOLE

A map console shall be installed in the chassis cab. The console shall be 10-1/4" wide x 14-3/4" long and 10" deep. The console shall hold three (3) binders up to 3" thick. The map console shall be constructed of aluminum and shall have an interior abraded finish and an exterior MultiSpec MS90 finish that matches the other interior cab color.

The map console shall be mounted on the engine tunnel. The map console shall be mounted upright, utilizing a "drop-in" style so the maps are accessible from the top.

HELMET BRACKETS

Six (6) Zico, model UHH-1, helmet brackets shall be installed in the chassis cab. The helmet brackets shall hold both traditional and contemporary style helmets without any adjustments necessary. The brackets shall meet the 9G requirements of NFPA 1901.

WATER TANK

The apparatus shall be equipped with a United Plastic Fabricating (UPF) 500 U.S. gallon water tank. Certification of the tank capacity shall be recorded on the manufacturer's record of construction and shall be provided to the purchaser upon delivery of the apparatus. The water tank shall be constructed of 1/2" thick PT2E polypropylene sheet stock, a non-corrosive stress relieved thermoplastic material, black in color, and UV-stabilized for maximum protection. The tank shall be of a specific configuration and shall be designed to be completely independent of the body and compartments. All joints and seams shall be nitrogen welded and tested for maximum strength and integrity.

Oak Park Fire Department

Aerial Specifications

The top of the tank shall be fitted with removable lifting eyes designed with a 3:1 safety factor to facilitate easy removal.

TANK BAFFLES

The swash partitions shall be manufactured of natural color 3/8" PT2E polypropylene, with the transverse partitions extending from approximately 4" off the floor to just under the cover and the longitudinal partitions extending to the floor of the tank through the cover to allow for positive welding and maximum integrity. All partitions shall be equipped with vent and air holes to permit movement of air and water between compartments. The partitions shall be designed to provide maximum water flow, interlock with one another, and be welded to each other and the walls of the tank.

TANK SUMP

One (1) sump shall be provided in the bottom of the water tank, constructed of 1/2" polypropylene, and located in the drivers side front quarter of the tank. Tanks requiring a front suction shall incorporate a 4" schedule 40 polypropylene pipe with a dip tube from the front of the tank to the sump location. The sump shall be used as a combination clean-out and drain. An anti-swirl plate shall be located approximately 2" above the sump.

TANK FILL CONNECTION

All tank fill couplings shall be backed with flow deflectors to break up the stream of water entering the tank, and shall be capable of withstanding sustained fill rates of up to 1,000 GPM.

TANK LID

The tank lid shall be constructed of 1/2" thick PT2E polypropylene and incorporate a three-piece locking design allowing for individual removal and inspection if necessary. The tank lid shall be recessed 3/8" from the top of the tank and welded to the sides and the longitudinal partitions for maximum integrity. The lid shall have hold downs consisting of 2" polypropylene dowels spaced a maximum of 30" apart. These dowels shall extend through the covers, ensuring the covers remain rigid under fast filling conditions. A minimum of two lifting dowels shall be drilled and tapped 1/2" x 13" to accommodate the lifting eyes.

WATER TANK MOUNTING

The water tank carrier shall be designed specifically for this apparatus. The carrier structure shall be supported by and welded directly to the top plate of the torque-box.

WATER TANK DRAIN

A 1-1/2" drain valve shall be provided in the pump compartment to drain the water tank. The valve shall include a locking lever to prevent accidental draining of the water tank.

Oak Park Fire Department

Aerial Specifications

WATER TANK FILL TOWER

The tank shall have a combination vent and manual fill tower, marked "Water Fill", located at the driver's side front corner of the tank. The fill tower shall be constructed of blue 1/2" PT2E polypropylene and be a minimum dimension of 8" x 8" at the outer perimeter. The tower shall have a 1/4" thick removable polypropylene screen and a PT2E polypropylene hinged-type cover.

WATER TANK LEVEL GAUGE

One (1) Innovative Controls SL Plus Tank Level Monitor System shall be provided on the pump operator's control panel. The system shall include one (1) electronic display module, a stainless steel pressure transducer sending unit, and wiring with water-tight plug terminations not requiring sealing grease.

The master display module shall show the tank level using 16 super-bright easy-to-see LEDs. Tank level indication shall be achieved by the appropriate illumination of 4 horizontal rows of LEDs, with 4 LEDs per row. Full and near-full levels shall be indicated by the illumination of all 4 rows of LEDs, tank levels between 1/2 and 3/4 full shall be indicated by the illumination of the bottom 3 rows of LEDs, tank levels between 1/4 and 1/2 full shall be indicated by the illumination of the bottom 2 rows of LEDs, and tank levels between 1/4 full and near empty shall be indicated by the illumination of the bottom row of 4 red LEDs only. Tank levels between near empty and empty shall be indicated by flashing the bottom row of 4 red LEDs.

The master display shall have a backlit area at the top with an illuminated water icon and a backlit area at the bottom with an illuminated OEM logo.

4" WATER TANK OVERFLOW

The tank shall be equipped with a minimum of a 4" schedule 40 polypropylene overflow/air vent pipe installed in the fill tower extending through the tank and dumping behind the rear axle.

FOAM CELL

One (1) United Plastic Fabricating (UPF) 20 U.S. gallon foam cell shall be incorporated into the water tank. One (1) pressure/vacuum vent shall be installed and one (1) drain hose shall be connected to the foam cell. The drain shall have a quarter-turn valve installed inside the pump compartment and it shall drain below the frame rail of the chassis.

The foam cell shall be designed for use with Class "A" foam.

The foam cell shall have a manual fill tower constructed of 1/2" PT3 polypropylene and shall be a minimum dimension of 8" x 8" outer perimeter. The foam fill tower shall be green in color, indicating the type of foam to be utilized and located on the officer's side front corner of the water tank. The capacity of the cell shall be engraved on the top of the fill tower lid.

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Aerial Specifications

The tower shall have a 1/4" thick removable polypropylene screen and a stainless steel hinged-type cover. Inside the fill tower, approximately 1.5" down from the top, there shall be an anti-foam fill tube that extends down to the bottom of the cell. A pressure vacuum vent shall be provided in the lid of the fill tower.

FOAM CELL LEVEL GAUGE

One (1) Innovative Controls SL Plus Tank Level Monitor System for indicating foam level shall be provided on the pump operator's control panel. The system shall include one (1) electronic display module, a stainless steel pressure transducer sending unit, and wiring with water-tight plug terminations that do not require sealing grease.

The master display module shall show the tank level using 16 super-bright easy-to-see LEDs. Tank level indication shall be achieved by the appropriate illumination of 4 horizontal rows of LEDs, with 4 LEDs per row. Full and near-full levels shall be indicated by the illumination of all 4 rows of LEDs, tank levels between 1/2 and 3/4 full shall be indicated by the illumination of the bottom 3 rows of LEDs, tank levels between 1/4 and 1/2 full shall be indicated by the illumination of the bottom 2 rows of LEDs, and tank levels between 1/4 full and near empty shall be indicated by the illumination of the bottom row of 4 red LEDs only. Tank levels between near empty and empty shall be indicated by flashing the bottom row of 4 red LEDs.

The master display shall have a backlit area at the top with an illuminated Foam "A" icon and a backlit area at the bottom with an illuminated OEM logo.

HOSE BED

The hose bed shall be located within the enclosed torque box and accessible from the rear of the apparatus. The hose bed shall allow department personnel to deploy and reload hose from ground level without the use of steps or climbing on the apparatus. Hose bed designs that require department personnel to climb on the apparatus to reload hose into the hose bed area, or that utilize hose chutes in the design, shall only be acceptable if they provide guard railings around the perimeter of reloading area and tether capabilities to protect firefighters and aid in preventing them from accidentally falling off the apparatus.

Storage capacity shall be for a minimum of 1,000 feet of 5" double-jacket or rubber, large diameter fire hose in 100' lengths. The hose shall be stored in a storage box specifically designed for ease of operation and maximum safety. The hose box shall be located within the torque box when the apparatus is in travel condition. The storage box shall contain a bottom floor, two sidewalls, and a front wall. For rapid ease of unloading hose, there shall be no rear wall. The hose storage structure shall contain a mechanical means that shall extend and lower the storage box out the rear of the truck for ease of loading the hose. Once reloading operations have been completed the structure shall raise and retract into the bedded condition.

Oak Park Fire Department

Aerial Specifications

The aerial hydraulic pump shall be the power source for the mechanical operational functions of the storage box system. The operational control shall consist of an electric switch that shall be located at the rear of the apparatus for ease of operation. When the box is fully extended and lowered to reload position, it shall extend out the rear of the apparatus approximately 12' 6". For ease of reloading hose, the top portion of the storage box shall be no higher than 50" from ground level when in the reload position while on flat terrain. A hydraulic motor pinion gear assembly shall be utilized for the extension/retraction function. One hydraulic cylinder shall be utilized for the lowering/raising function. Provisions shall allow for this system to be manually positioned to the travel position should a mechanical malfunction occur.

The extending substructure shall consist of heavy-duty steel structural members. The storage box shall be fabricated from 3/16" aluminum. The approximate dimensions shall be 144" long x 15-1/2" high x 32" wide. Drain holes shall be located in the bottom of the aluminum storage box. The interior of the hose bed shall be coated with black Line-X, a thermoplastic polyurethane coating.

Two flashing warning lights shall be installed, one (1) each side on the end of the substructure tubes that alert personnel of the deployed position of the hose box structure. An aluminum side safety shield shall be installed designed to keep items from being caught and damaged when the structure is being lowered and raised. There shall be a 4" white reflective striping secured to the safety shield to alert motorist during night operations.

Nylon wear pads impregnated with molybdenum disulfide and high in molecular weight shall be used between the telescoping sections for maximum weight distribution, strength, and smoothness of operation. The system shall be designed in such a manner to only allow activation of the down function after full-extension has been achieved. The retraction function will not be activated until the maximum upward travel has been reached.

The torque box enclosure door shall not be connected to the open door warning light system. The hose bed shall include a separate warning light in the cab to specifically warn the driver that the hose bed structure is not in the stowed position. The inside, upper portion of the torque box area shall be free of items that may cause interference with the rapid deployment of the hose. The design shall ensure that hose couplers do not bind up or get caught during the deployment operation.

The floor of the hose bed shall be constructed of Dura-Dek fiber reinforced plastic material to prevent the accumulation of water and to allow ventilation to aid in drying hose. The flooring shall be fabricated of "T" beam pultrusions in parallel connected with cross slats that are first mechanically bonded and then epoxied, forming a large sheet. The top portion of each "T" cross section shall measure 1-1/4" wide and 3/16" thick with beaded ends. The vertical portion shall be 3/8" thick, beading out at the bottom to a thickness of 1/2" and tall enough to result in an overall height of 1". The "T" sections shall be spaced 3/4" apart to allow for drainage and ventilation.

Oak Park Fire Department

Aerial Specifications

Each "T" beam shall be constructed utilizing a core of 250,000 continuous glass fiber strands that are high in resistance to tension, compression, and bending. An outer sheath consisting of a continuous strand mat to prevent linear splitting and slipping shall surround the core. The sheath shall also serve to draw the protective resin to the bar surface. Both reinforcements shall be pulled through an isophthalic polyester resin, treated with antimony trioxide for fire resistance, to form a solid length.

The flooring shall then be protected with a polyurethane coating to screen out ultraviolet rays. The bright white coating shall be baked on.

The hose bed shall contain the following hose load:

750' of 5" double jacket hose

ALUMINUM BODY CONSTRUCTION

The apparatus body shall be fabricated from 3/16" 5052-H32, smooth aluminum sheet. The total outside width of the apparatus body shall not exceed 100 inches. The width measurement of the sidewalls shall be made from the outside wall of the two opposite sides of the body.

The complete apparatus body shall be fabricated utilizing the break and bend techniques in order to form a strong, yet flexible, uni-body structure. The body shall be constructed with holding fixtures to ensure proper dimensioning. Each apparatus body is specific in design in order to meet the unique requirements of the purchasing fire department.

The main body compartments on each side, as well as the rear center compartment if applicable, shall contain a sweep out floor design. Each compartment shall be made to the most practical dimensions in order to provide maximum storage capacity for the fire department's equipment. The door opening threshold shall be positioned lower than the compartment floor permitting easy cleaning of the compartments.

Continuous, solid welded seams shall be located at the upper front and upper rear corners of the apparatus body. The flooring of all lower, main body compartmentation shall also have solid weld seams. All door jams, on both the top and the bottom, shall be solid welded as well. Each main door jam consists of a double jam design; this is comparable to a double struck frame design, which provides superior strength and durability. All double door jams are to be welded together utilizing the plug weld technique. All remaining compartment walls shall be stitch welded.

The compartment floors, specifically L1 and R1, shall have a minimum of two (2) 1" x 2" rectangular tubes welded to the entire width of the compartment floor. The two (2) rear side compartments as well as the rear center compartment, if applicable, shall be welded to the rear deck support structure. This rear deck support structure is specially designed for the galvanized apparatus body substructure. A minimum of two (2) square tubes, which are 1/4" x 3" x 3", shall run the entire width of the body from sidewall to sidewall.

Oak Park Fire Department

Aerial Specifications

Each lower, rear compartment shall be adequately stitch welded to the cross tubes providing strength and durability to the entire apparatus body.

The body design shall include a "false wall" design in the lower portion of each lower, rear compartment. This "false wall" is required in order to allow for easy accessibility to the rear electrical components found in the rear tail light cluster area.

On the upper area of the apparatus body, directly above the side compartment door openings, a header is to be fabricated from smooth, aluminum sheet. This area shall be free of any body seams and shall be painted the same color as the apparatus body. The height of the header may vary depending on the following factors: apparatus design, lettering requirements, scene lights and warning light requirements as well as various other options. A "J" channel shall be incorporated into the body design in order to provide a rain gutter to further assist in preventing excessive moisture from getting into the compartments.

SIDE COMPARTMENT DOORS

ROM roll-up doors shall be installed on each side body compartment. Each door shall be a shutter type with slats that roll onto a spool at the top of the compartment. Each slat shall be equipped with nylon end shoes to assure operation without the need for constant lubrication. Each roll-up door shall have a satin finish.

Each ROM roll-up door shall be supplied with a full-width lift bar and finger pull handle integrated into the bottom rail for easy one hand operation.

DOOR HANDLES

The door handles on the side body compartments of the apparatus shall be non-locking style.

DRIP TRAYS

Drip trays with drains shall be provided in the upper section of all body compartments with roll-up doors. Each drip tray shall prevent moisture from the roll-up door spool from entering the compartment interior.

PULL DOWN STRAP

There shall be a nylon pull down strap installed on each roll-up door. The straps shall be installed as followed: There shall be a nylon strap with loops sewn into each end. The strap shall be long enough to be installed at the midpoint of the compartment and the bottom of the door, and shall be long enough to completely open the door but not so long that it will hang out of the door when it is in the closed position. There shall be a footman loop installed on the bottom of the door just inside the jam. The footman loop shall be threaded through the loop in the strap and secured to the door with nut zerts.

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Aerial Specifications

The other end of the strap shall be installed vertically at the mid point of the compartment opening just inside the door track. The footman loop shall be threaded through the nylon strap and secured to the compartment opening with nut Zerts.

One (1) horizontally hinged lap type compartment door shall be installed on the compartment face. The lap door shall be a single panel construction and fabricated of aluminum. The door shall be painted job color. The edges of the door shall be formed to an inward angle for added rigidity. Rubber molding shall be installed in the overlap area of the door to ensure a weatherproof seal and prevent water from collecting in the door sill. The compartment door shall have a polished stainless steel continuous hinge with a rubber seal installed between the hinge and the aluminum door to separate the dissimilar metals. The hinge pin shall be stainless steel with a minimum diameter of 1/4".

The compartment door handle shall be a non-locking grab handle.

Two (2) pressurized gas-filled cylinders shall be furnished on the compartment door. The cylinders shall hold the door in the open position and assist in raising it. The gas filled cylinders shall assist in closing the door automatically when the door is positioned over center.

The inner lap type door panel shall be painted the primary body color. The panels shall have a grade "B" paint finish, therefore it will not be buffed and may be subject to imperfections.

BODY COMPARTMENT LIGHTING

A total of sixteen (16) ROM V4 LED compartment lights shall be installed in the body compartments. Each light shall feature solid state construction and be waterproof to IPX7 rating. The V4 LED lights shall offer 250 lumens per 12" of lighting.

COMPARTMENT COATING

The interior of the body compartments shall be coated with gray Line-X unless otherwise specified. The coating shall be durable enough to withstand the everyday wear and tear of equipment removal and shifting.

TURTLE TILES

Black Turtle Tile Plastics interlocking squares shall be in all body compartments. The Turtle Tiles shall be applied in all body compartment shelves, adjustable-height trays, floor-mounted trays, and on compartment floors that do not contain floor-mounted trays. No Turtle Tiles shall be applied on compartment floors underneath floor-mounted trays. For maximum slip resistance and drainage each square shall have a grid surface design

Oak Park Fire Department

Aerial Specifications

COMPARTMENT AIR RELEASE

Each compartment shall be vented to help remove trapped air when closing the compartment door. The vent shall be a rubber gasket in the area of the outboard corners of the compartment. Wiring may also be run through these areas.

COMPARTMENT DRAIN HOLES

Each body compartment shall be equipped with drain holes to allow standing water to exit underneath the apparatus.

SILL PROTECTORS

An anodized aluminum angle sill protector shall be installed on the bottom sill area of the compartment with lap style doors to aid in reducing paint damage from equipment. The sill protectors shall be attached using permanent-bonding double-sided tape.

FUEL FILL

A fuel fill pocket shall be located in the rear wheel well area on the driver's side. The fuel fill shall utilize a stainless steel OEM door that is painted primary body color. The hinge and frame shall all be constructed out of stainless steel material.

STANDARD WHEEL WELL STORAGE

The wheel well area of the apparatus shall be designed to additional components.

DRIVER'S (LEFT) SIDE BODY COMPARTMENTS

COMPARTMENT L1

A full height compartment shall be located ahead of the rear wheels on the driver's side of the apparatus body. This compartment shall be designated as L1 within these specifications and any ensuing paperwork or drawings after contract execution.

The dimensions of the compartment shall be:

- Height: 60"
- Width: 23"
- Depth: 23" Upper and 23" Lower
- Intermediate Divide Height: "

Oak Park Fire Department

Aerial Specifications

COMPARTMENT L2

A standard height compartment shall be located above the rear wheels on the driver's side of the apparatus body. This compartment shall be designated as L2 within these specifications and any ensuing paperwork or drawings after contract execution.

The dimensions of the compartment shall be:

- Height: 27"
- Width: 78"
- Depth: 23" Upper and 23" Lower
- Intermediate Divide Height: "

COMPARTMENT L3

A standard height compartment shall be located above the rear wheels on the driver's side of the apparatus body. This compartment shall be designated as L3 within these specifications and any ensuing paperwork or drawings after contract execution.

The dimensions of the compartment shall be:

- Height: 20"
- Width: 51"
- Depth: 23" Upper and 23" Lower
- Intermediate Divide Height: "

COMPARTMENT L4

A full height compartment shall be located behind the rear wheels on the driver's side of the apparatus body. This compartment shall be designated as L4 within these specifications and any ensuing paperwork or drawings after contract execution.

The dimensions of the compartment shall be:

- Height: 51"
- Width: 29"
- Depth: 23" Upper and 23" Lower
- Intermediate Divide Height: "

L1 Components

ADJUSTABLE SHELVES

Two (2) aluminum adjustable full-depth shelves shall be installed in the compartment. Each shelf shall be constructed of 3/16" aluminum sheet with a minimum of 2" lips. The shelves shall be coated with Line-X and shall be designed in such a manner as to allow liquids to readily drain.

Oak Park Fire Department

Aerial Specifications

COMPARTMENT STRUTS

Aluminum vertical strut channels shall be welded in the compartment. Two (2) struts shall be provided for any full depth portion and one (1) strut shall be provided for any shallow depth portion.

The compartment layout shall be detailed at the pre-construction meeting.

L2 Components

ADJUSTABLE SHELF

One (1) aluminum adjustable full-depth shelf shall be installed in the compartment. The shelf shall be constructed of 3/16" aluminum sheet with a minimum of 2" lips. The shelf shall be coated with Line-X and shall be designed in such a manner that will allow liquids to readily drain.

COMPARTMENT STRUTS

Aluminum vertical strut channels shall be welded in the compartment. Two (2) struts shall be provided for any full depth portion and one (1) strut shall be provided for any shallow depth portion.

The compartment layout shall be detailed at the pre-construction meeting.

L3 Components

COMPARTMENT STRUTS

Aluminum vertical strut channels shall be welded in the compartment. Two (2) struts shall be provided for any full depth portion and one (1) strut shall be provided for any shallow depth portion.

The compartment layout shall be detailed at the pre-construction meeting.

L4 Components

COMPARTMENT STRUTS

Aluminum vertical strut channels shall be welded in the compartment. Two (2) struts shall be provided for any full depth portion and one (1) strut shall be provided for any shallow depth portion.

The compartment layout shall be detailed at the pre-construction meeting.

Oak Park Fire Department

Aerial Specifications

DRIVER'S SIDE REAR WHEEL WELL POSITION - WL1

A single extinguisher/water can compartment shall be installed in the forward portion of the rear wheel well area, on the driver's side. The compartment shall be large enough to hold an extinguisher/water can up to 9" in diameter, with sufficient space for the discharge tube. The compartment door, flange, and hinges shall be constructed of stainless steel material. The door shall have a rubber gasket to create a 100% seal to protect the interior of the compartment. The storage compartment shall be a molded component that is assembled to the door and flange. The door shall have a polished stainless steel finish.

DRIVER'S SIDE REAR WHEEL WELL POSITION - WL2

Two (2) single air bottle compartments shall be installed in the rear wheel well area, between the tandem axles. The compartment door, flange, and hinges shall be constructed of stainless steel material. The door shall have a rubber gasket to create a 100% seal to protect the interior of the compartment. The storage compartment shall be a molded component that is assembled to the door and flange. The doors shall have a polished stainless steel finish.

DRIVER'S SIDE REAR WHEEL WELL POSITION - WL3

A two (2) air bottle compartment shall be installed in the rearward portion of the rear wheel well area, on the driver's side. The compartment shall be a vertical design. The compartment door, flange, and hinges shall be constructed of stainless steel material. The door shall have a rubber gasket to create a 100% seal to protect the interior of the compartment. The storage compartment shall be a molded component that is assembled to the door and flange. The door shall have a polished stainless steel finish.

OFFICER'S (RIGHT) SIDE BODY COMPARTMENTS

COMPARTMENT R1

A full height compartment shall be located ahead of the rear wheels on the officer's side of the apparatus body. This compartment shall be designated as R1 within these specifications and any ensuing paperwork or drawings after contract execution.

The dimensions of the compartment shall be:

- Height: 60"
- Width: 23"
- Depth: 14" Upper and 23" Lower
- Intermediate Divide Height: 27"

Oak Park Fire Department

Aerial Specifications

COMPARTMENT R2

A standard height compartment shall be located above the rear wheels on the officer's side of the apparatus body. This compartment shall be designated as R2 within these specifications and any ensuing paperwork or drawings after contract execution.

The dimensions of the compartment shall be:

- Height: 27"
- Width: 78"
- Depth: 14" Upper and 14" Lower
- Intermediate Divide Height: "

COMPARTMENT R3

A standard height compartment shall be located above the rear wheels on the officer's side of the apparatus body. This compartment shall be designated as R3 within these specifications and any ensuing paperwork or drawings after contract execution.

The dimensions of the compartment shall be:

- Height: 20"
- Width: 51"
- Depth: 14" Upper and 14" Lower
- Intermediate Divide Height: "

COMPARTMENT R4

A full height compartment shall be located behind the rear wheels on the officer's side of the apparatus body. This compartment shall be designated as R4 within these specifications and any ensuing paperwork or drawings after contract execution.

The dimensions of the compartment shall be:

- Height: 51"
- Width: 53"
- Depth: 14" Upper and 23" Lower
- Intermediate Divide Height: 25"

R1 Components

ADJUSTABLE SHELF

One (1) aluminum adjustable full-depth shelf shall be installed in the compartment. The shelf shall be constructed of 3/16" aluminum sheet with a minimum of 2" lips. The shelf shall be coated with Line-X and shall be designed in such a manner that will allow liquids to readily drain.

Oak Park Fire Department

Aerial Specifications

COMPARTMENT STRUTS

Aluminum vertical strut channels shall be welded in the compartment. Two (2) struts shall be provided for any full depth portion and one (1) strut shall be provided for any shallow depth portion.

The compartment layout shall be detailed at the pre-construction meeting.

R2 Components

ADJUSTABLE SHELF

One (1) aluminum adjustable full-depth shelf shall be installed in the compartment. The shelf shall be constructed of 3/16" aluminum sheet with a minimum of 2" lips. The shelf shall be coated with Line-X and shall be designed in such a manner that will allow liquids to readily drain.

COMPARTMENT STRUTS

Aluminum vertical strut channels shall be welded in the compartment. Two (2) struts shall be provided for any full depth portion and one (1) strut shall be provided for any shallow depth portion.

The compartment layout shall be detailed at the pre-construction meeting.

R3 Components

COMPARTMENT STRUTS

Aluminum vertical strut channels shall be welded in the compartment. Two (2) struts shall be provided for any full depth portion and one (1) strut shall be provided for any shallow depth portion.

The compartment layout shall be detailed at the pre-construction meeting.

R4 Components

COMPARTMENT STRUTS

Aluminum vertical strut channels shall be welded in the compartment. Two (2) struts shall be provided for any full depth portion and one (1) strut shall be provided for any shallow depth portion.

The compartment layout shall be detailed at the pre-construction meeting.

Oak Park Fire Department

Aerial Specifications

OFFICER'S SIDE REAR WHEEL WELL POSITION - WR1

A single extinguisher/water can compartment shall be installed in the forward portion of the rear wheel well area, on the officer's side. The compartment shall be large enough to hold extinguisher/water can up to 9" in diameter, with sufficient space for the discharge tube. The compartment door, flange, and hinges shall be constructed of stainless steel material. The door shall have a rubber gasket to create a 100% seal to protect the interior of the compartment. The storage compartment shall be a molded component that is assembled to the door and flange. The door shall have a polished stainless steel finish.

OFFICER'S SIDE REAR WHEEL WELL POSITION - WR2

Two (2) single air bottle compartments shall be installed in the rear wheel well area, between the tandem axles. Each compartment door, flange, and hinges shall be constructed of stainless steel material. The doors shall have a rubber gasket to create a 100% seal to protect the interior of the compartment. The storage compartments shall be a molded component that is assembled to the doors and flanges. The doors shall have a polished stainless steel finish.

OFFICER'S SIDE REAR WHEEL WELL POSITION - WR3

A two (2) air bottle compartment shall be installed in the rearward portion of the rear wheel well area, on the officer's side. The compartment shall be a vertical design. The compartment door, flange, and hinges shall be constructed of stainless steel material. The door shall have a rubber gasket to create a 100% seal to protect the interior of the compartment. The storage compartment shall be a molded component that is assembled to the door and flange. The door shall have a polished stainless steel finish.

REAR BODY COMPARTMENT

A compartment shall be located at the rear of the apparatus that extends into the apparatus torque box.

HOT-DIP GALVANIZED STEEL BODY MOUNT SUB FRAME

The main body mount sub frame shall be constructed from formed steel channel bolted and welded to the torque box. The sub frame shall be located at the front and rear of the body and in front of, above, and rear of the wheel well opening.

The compartment area behind the rear axle shall be supported by a drop frame fabricated of steel tube and angles. All drop frame structures shall be welded directly to the torque box to allow the body to be a completely separate structure from the chassis.

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FRONT STABILIZER COMPARTMENTS

An upper compartment shall be located above the front stabilizers on both sides of the apparatus. The compartments shall be designated as SL1 (driver's side) and SR1 (officer's side) within these specifications and any ensuing paperwork or drawings after contract execution. Each compartment shall be equipped with a double pan lap door and a chrome non-locking D-Ring door handle.

The inner lap type door panels shall be painted the primary body color. The panels shall have a grade "B" paint finish, therefore it will not be buffed and may be subject to imperfections.

The compartments above the front stabilizers shall be not be transverse.

COMPARTMENT LIGHTING

One (1) ROM V4 Series LED light shall be installed in each compartment. Each light shall feature solid state construction and be waterproof to IPX7 rating. Each V4 LED light shall offer 250 lumens per 12" of lighting.

BODY RUB RAILS

Rub rails shall be installed beneath the compartment doors to protect the apparatus body from damage should the body be brushed or rubbed against another object. The rub rails shall be 2-1/2" x 1" , 3/16" aluminum channel. The rub rails shall be highly polished and then bright dip anodized.

The rub rails shall be installed on the body utilizing non-corrosive nylon spacers and secured with stainless steel bolts. The outside edge of the rub rails shall be even with the fenderettes and bolt-on steps to prevent snagging.

TWO REAR TOW EYES

Two (2) chrome plated tow eyes shall be installed at the rear of the apparatus above the rear step area. The tow eyes shall be bolted to a heavy-duty assembly that is welded to the torque box. The tow eyes shall have a 2-1/2" ID hole.

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REAR WHEEL WELLS

The fenders shall be integral with the body sides and compartments with a seamless appearance. The fenders shall be fitted with bolt-in removable full circular inner liners in the wheel well area for ease of cleaning and maintenance. The liners shall match the material used to build the body. Sufficient clearance shall be provided in the wheel well to allow the use of tire chains when the apparatus is fully loaded.

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STAINLESS STEEL FENDERETTES

Four (4) stainless steel fenderettes shall be installed at the outboard edge of the rear wheel well area, two (2) on each side. The fenderettes shall be bolted to the apparatus body using nylon washers to space them slightly away from the body to reduce the build-up of road grime. The fenderettes shall be constructed of stainless steel that has been polished to a high-quality finish.

EXHAUST HEAT DEFLECTOR SHIELD

A 4" heat deflector shield shall be installed over the exhaust to aid in dissipating the heat to prevent exhaust heat from adversely affecting contents stored in the body.

LICENSE PLATE BRACKET

A license plate bracket shall be mounted on the rear of the apparatus. A clear LED light shall be incorporated into the bracket.

TRIMRITE STAINLESS STEEL FASTENERS

TrimRite stainless steel fasteners shall be provided for all exposed and unpainted fasteners throughout the body in locations such as overlays, pump panels, and other numerous hardware mounting locations. TrimRite stainless is a hardenable martensitic stainless steel that provides a high level of corrosion resistance, hardness up to Rockwell C 51, good cold formability and ease of heat treatment, all of which combine to provide an alloy which has been used for many applications. TrimRite stainless is tested to salt spray standard ASTM B117, which is a 200-hour salt spray test. The OEM shall use TrimRite stainless with an added blue patch which provides improved vibration resistance for the fasteners.

ADDITIONAL HARDWARE

A bag of stainless steel nuts, bolts, and washers shall be supplied with the apparatus for mounting of equipment.

WALKWAYS AND OVERLAYS

All exterior surfaces designated by the manufacturer as stepping, standing, or walking areas shall be overlaid with 3003 H22 bright tread plate to provide a slip resistant surface, even when the surface is wet. All interior surfaces designated by the manufacturer as stepping, standing, or walking areas shall be slip resistant when the surface is dry. The degree of slip resistance shall be in accordance with NFPA 1901, current edition.

Horizontal walkways shall have .080" aluminum tread plate overlays installed and vertical surfaces shall have .125" aluminum tread plate overlays. Overlays shall be installed that are totally insulated from the apparatus with nylon shoulder washers that extend into holes in the body. Stainless steel cap nuts shall be employed where bolt ends may damage equipment or cause injury.

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After the apparatus is painted and the overlays are reinstalled, they shall be additionally sealed at the edges with a caulking compound. The exterior top tread plate overlay shall be mounted flush with the outer edges of the apparatus body.

Any designated horizontal standing or walking surface higher than 48" from the ground and not guarded by a railing, or structure at least 12" high shall have a "safety yellow line" marking the outside perimeter of the designated standing or walking surface area. Yellow reflective SCENE dots shall be used to create the line along the outside edges of standing and walking surfaces. Steps and ladders shall not be required to have the yellow line.

STEPPING SURFACES

All steps shall have a surface area of at least 35 square inches and shall be able to withstand a load of at least 500 pounds. Steps shall be provided at any area that personnel may need to climb and shall be adequately lit.

TURNTABLE ACCESS LADDER - DRIVER'S SIDE

For access to the turntable, a turntable access ladder shall be furnished on the driver's side of the apparatus. The ladder design shall utilize two (2) air cylinders to aid in the deployment of the ladder into the climbing position and a positively locking mechanism to lock the ladder assembly into the travel position. The main structural members of the assembly shall be fabricated from 12 gauge 304 stainless steel with aluminum tread plate overlays on the step area. The degree of slip resistance shall be in accordance with NFPA 1901, current edition.

The access ladder shall be designed as a two (2) part assembly. The lower ladder assembly shall swing out and down and the upper ladder assembly will angle when the lower assembly is in the down position to an approximate slope of 81 degrees to provide ease of access from the ground to the first step and allow for the maximum angle of departure of the apparatus. When the access ladder is in the down position, the maximum height from the ground to the first step shall not exceed 24". All remaining steps shall have a maximum stepping height that shall not exceed 18".

The access ladder shall be connected to the door open warning circuit to warn the driver it is not in the stored position. The access ladder shall be illuminated for night time operation with Grote LED lighting. The lights shall be activated by the parking brake. To aid in ascending and descending the access steps, knurled aluminum handrails shall be provided on each side of the steps as well as one (1) on top of the body above the steps.

FRONT TREAD PLATE OVERLAYS

A tread plate overlay shall be located on the front vertical areas of each side of the apparatus body. The overlays shall be located on the front of the body compartments.

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FRONT BODY STEPS AND LIGHTING

Four (4) Cast Products folding steps shall be located on the front of the driver's side body compartments. The folding steps shall have two large open slots to prevent the buildup of ice or mud and to provide a hand-hold when necessary. The steps shall have a surface area of at least 35 square inches and shall be able to withstand a load of 500 pounds.

The steps shall be adequately lit with LED lighting. One (1) light shall be located above the steps.

FRONT BODY STEPS AND LIGHTING

Four (4) Cast Products folding steps shall be located on the front of the officer's side body compartments. The folding steps shall have two large open slots to prevent the buildup of ice or mud and to provide a hand-hold when necessary. The steps shall have a surface area of at least 35 square inches and shall be able to withstand a load of 500 pounds.

The steps shall be adequately lit with LED lighting. One (1) light shall be located above the steps.

HANDRAILS

All handrails, unless otherwise stated, shall be constructed of knurled aluminum of not less than 1-1/4" in diameter. All railing shields and brackets shall be chrome plate and bolted to the body with stainless steel bolts. The lower bracket on all vertical handrails shall have a drain hole at the lowest point.

The following handrails shall be provided on the apparatus:

A handrail shall be installed forward on the top of the body, on the driver's side.

A handrail shall be installed on the top officer's side front of the body.

GROUND LADDER STORAGE

The ground ladders shall be stored within the enclosed compartment located between the torque box and the inside wall of the right side compartments, and one two located inside torque box. The ladders shall be removable from the rear of the apparatus. The ladders shall be enclosed so road dirt and debris cannot foul or damage the ladders. The ladders shall rest in full-length slides and be arranged so they can be removed individually. The slides shall be lined with Nylon to aid in moving ladders. Access to the ladder(s) in each enclosed compartment shall be from the rear of the apparatus through a door matching the same material and finish as the torque box compartment door.

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The following ground ladders shall be supplied with the apparatus:

One (1) Duo-Safety, model 585-A, 10' aluminum folding ladder shall be provided.

One (1) Duo-Safety, model 900-A, 24' aluminum two-section extension ladder shall be provided.

One (1) Duo-Safety, model 1225-A, 35' aluminum three-section extension ladder shall be provided.

FRESNO LADDER STORAGE

Brackets shall be located inside the EHL hose bed to provide storage for one Fresno ladder. The ladder shall be secured in place with a tread plate end cap on the forward end and adjustable straps on the rear end.

PIKE POLE STORAGE

Four (4) aluminum tubes for the storage of pike poles shall be installed inside the upper portion of the torque box.

The following pike poles shall be supplied with this location on the apparatus:

Two (2) Duo Safety, model FP6, 6' fiberglass pike poles with a standard hook and a butt-style handle shall be provided.

One (1) Duo Safety, model FP8, 8' fiberglass pike pole with a standard hook and a butt-style handle shall be provided.

One (1) Duo Safety, model FP12, 12' fiberglass pike pole with a standard hook and a butt-style handle shall be provided.

PIKE POLE STORAGE

Two (2) aluminum trays for the storage of pike poles shall be installed inside the upper portion of the torque box.

The following pike poles shall be supplied with this location on the apparatus:

Two (2) Duo Safety, model FP4D, 4' fiberglass pike poles with a standard hook and an aluminum "D" style handle shall be provided.

WHEEL CHOCK STORAGE

The wheel chocks shall be stored in locations that are easily accessible under the front of the body on the driver's side of the apparatus.

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WHEEL CHOCKS

One (1) pair of Zico, model SAC-44, wheel chocks shall be provided with the apparatus. The wheel chocks shall be mounted in Zico model, SQCH-44-H, mounting brackets.

WHEEL CHOCK STORAGE

The wheel chocks shall be stored in locations that are easily accessible under the front of the body on the officer's side of the apparatus.

WHEEL CHOCKS

One (1) pair of Zico, model SAC-44, wheel chocks shall be provided with the apparatus. The wheel chocks shall be mounted in Zico model, SQCH-44-H, mounting brackets.

INDEPENDENT ALUMINUM PUMP MODULE

The pump module shall be fabricated from 3/16" 5052-H32, smooth aluminum sheet. The module shall be fabricated as an individual unit, independent from the body. The module shall be fabricated utilizing the break and bend technique in order to form a strong yet flexible structure. The pump module shall be fabricated using precision holding fixtures to ensure proper dimensions and all attachment points shall be heavily reinforced.

PUMP COMPARTMENT LIGHTS

Two (2) 9" On-Scene Night Axe LED lights shall be installed in the pump compartment. The lights shall be rated at 100,000 hours of service. The lights shall be waterproof and magnesium chloride resistant. The lights shall be enclosed in tough 5/8" Lexan tube.

DRIVER'S SIDE RUNNING BOARD

A modular bolt-on running board, constructed of anti-slip tread plate, shall be installed on the driver's side of the pump module. The outside edge of the running board shall be flush with the rub rail installed on the body to maintain a uniform appearance. The running board shall be installed with sufficient support to form a sturdy, non-deflecting step area for personnel.

OFFICER'S SIDE RUNNING BOARD

A modular bolt-on running board shall be installed on the officer's side of the pump module. The running board shall be constructed of anti-slip tread plate. A floating storage well compartment shall be recessed in the running board. The outside edge of the running board shall be flush with the rub rail that is installed on the body to maintain a uniform appearance. The running board shall be installed with sufficient support to form a sturdy, non-deflecting step area for personnel.

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A vinyl cover shall be provided on the storage well. The cover shall be attached to the running board with a C-rail channel and velcro strips around the edges. The cover shall be black in color.

The floor of the storage well shall be covered with Turtle Tile flooring.

PULL-OUT PLATFORM

One (1) Innovative Industries pull-out platform shall be located on the driver's side of the pump module. The top surface of the platform shall be constructed of aluminum serrated bar grating for ease of maintenance and to provide a slip resistant surface for the operator. The platform shall lock in both the retracted and the extended position. The pull-out platform shall be capable of supporting a maximum of 500 pounds and shall be wired to the door ajar circuit.

The pull-out platform's roller assembly shall have a powder coat finish for added corrosion protection.

DUNNAGE COMPARTMENT

A dunnage compartment shall be located above the pump module. The dunnage compartment floor shall be constructed of tread plate.

FRONT PUMP ACCESS PANEL

A tread plate access panel shall be provided on the front of the pump compartment. The panel shall be of the single pan design and shall be positively latched in the closed position utilizing compression latches. An aluminum sill protector shall be installed on the bottom of the door opening to protect the paint from chipping and scratching. This area shall be accessible when the cab is tilted.

OFFICER'S SIDE PUMP ACCESS PANEL

A tread plate access panel shall be above the officer's side pump panel to allow access to the pump compartment. The vertically hinged panel shall be of the single pan design and shall be positively latched in the closed position utilizing compression latches. A gas strut shall be provided on the door. An aluminum sill protector shall be installed on the bottom of the door opening to protect the paint from chipping and scratching. The door shall be wired into the door open warning light circuit.

CONTROL PANEL

The driver's side of the pump enclosure shall be divided into two sections. The lower section shall contain all valve controls, primer controls, discharge relief valve controls (pilot valve), and other mechanical controls. This surface shall be referred to as the "control panel".

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All valve controls shall be the self-locking type, activated by either direct control or with a direct linkage utilizing friction locking bell cranks and universal ball swivels. The primary valve handles shall have color coded tags installed in a recessed area to clearly denote the purpose of each control.

INSTRUMENT PANEL

The surface up above the control panel shall contain all instruments, gauges, test fittings, and optional controls. This surface shall be referred to as the "instrument panel".

The instrument panel shall be independent and hinged and latched. All instruments, gauges, and other equipment shall be installed with sufficient slack in any cabling, tubing, or plumbing to allow the panel to swivel to the fully open position.

The instrument and gauge panel shall be vertically hinged "swing out" to provide access for service.

OFFICER'S SIDE PUMP PANEL

A single panel shall be installed on the officer's side of the pump enclosure. This shall be the area where any officer's side discharges, inlets, steamers, and other pump-associated equipment are located. This panel shall be easily removed and held in place with quick release push latches. It shall be fully removable for pump and plumbing access without the need to use hand tools. Any electrical equipment installed shall be equipped with connectors so they may be easily separated when the below described front access panel is removed.

PANEL SURFACES

The control panel, instrument panel, and officer's side pump panel shall be coated with black Line-X for maximum resistance to abrasion and to minimize glare. The material shall be capable of withstanding the effects of extreme temperatures and weather.

GARNISH RING BEZEL ASSEMBLIES

Innovative Controls intake and discharge garnish rings shall be installed on the apparatus with mounting bolts. These bezel assemblies shall be used to identify intake and discharge ports with color and verbiage.

VERBIAGE TAG BEZEL ASSEMBLIES

Innovative Controls verbiage tag bezels shall be installed. The bezel assemblies will be used to identify apparatus components.

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SAFETY MESSAGE BEZEL ASSEMBLIES

Innovative Controls safety message bezels shall be installed. The bezel assemblies will be used to identify, instruct, or warn the operators.

The garnish rings, verbiage tags and safety message bezels shall be designed and manufactured to withstand the specified apparatus service environment and shall be backed by a warranty equal to that of the exterior paint and finish. The specified assemblies shall feature a chrome-plated panel-mount bezel with durable UV resistant polycarbonate inserts. These UV resistant polycarbonate graphic inserts shall be sub-surface screen printed to eliminate the possibility of wear and protect the inks from fading. All insert labels shall be backed with 3M permanent adhesive (200MP), which meets UL969 and is in accordance with NFPA 1901, current edition.

PUMP PANEL LIGHTING

The pump operator's control panel and the officer's side pump panel shall each be illuminated by Grote LED Radius lighting. The pump panel lights shall become energized upon setting the parking brake activation so the gauge information provided may be consulted. A shield shall be over each pump panel light to further protect them from the elements and to act as a reflector for additional illumination.

PUMP PANEL LIGHT SWITCH

An on/off switch shall be located on the operator pump panel to control the pump panel lights.

MIDSHIP MOUNT FIRE PUMP

The pump shall be a Waterous CSUC20 2000 U.S. GPM fire pump. The pump shall be a single stage centrifugal class "A" rated fire pump, designed specifically for the fire service.

The pump body shall be cast as two (2) horizontally split pieces. The body shall be made of high tensile, close-grained gray iron with a minimum tensile strength of 40,000 PSI.

FLAME PLATED IMPELLER HUBS

The pump impellers shall be bronze, specifically designed for the fire service and accurately balanced for vibration free running. The stripping edges shall be located on opposite sides of the impellers to reduce shaft deflection.

The impeller shaft shall be stainless steel, accurately ground to size and supported at each end by oil or grease lubricated anti-friction ball bearings for rigid, precise support. The bearings used on the impeller shaft shall be automotive type bearings, easily cross-referenced and readily available at normal parts or bearing stores.

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The impeller hubs shall be flame plated with tungsten carbide to hardness approximately twice that of tool steel to assure maximum pump life and efficiency. During the flame plating process, the base metal shall not be allowed to exceed a temperature of 300 degrees Fahrenheit to prevent altering the metallurgical properties of the impeller material.

IMPELLER WEAR RINGS

The pump shall be equipped with replaceable bronze wear rings for increased pump life and minimum maintenance cost. The wear rings shall be designed to fit into a groove in the face of the impeller hubs forming a labyrinth that, as the clearance increases with age, directs water from the discharge side in several directions eventually exiting outward, away from the eye of the impeller hub.

LUBRICATION SYSTEM

An internal lubrication system shall deliver lubricant directly to the drive chain. This unique design shall eliminate the need for an external lubrication pump and auxiliary cooling. Oil shall be supplied with the lubrication system.

PUMP TRANSMISSION

The pump shall have a Waterous model C20 series transmission. The housing of the transmission shall be constructed of high strength, three-piece, horizontally split aluminum. The drive line shafts shall be made from alloy steel forgings, hardened and ground to a size 2.350 inch 46 tooth involute spline. The drive and driven sprockets shall be made of steel and shall be hardened and have ground bores. The drive chain shall be a Morse HV high strength involute form chain. Bearings shall be deep-groove, anti-friction ball bearings and shall give support and proper alignment with the impeller shaft assembly. Bearings shall be oil splash lubricated, completely separated from the water being pumped, and protected by a V-ring and oil seal. An internal lubrication system shall deliver lubricant directly to the drive chain. This unique design eliminates the need for an external lubrication pump and auxiliary cooling. The pump and transmission shall be easily separable. A two-piece shaft shall be splined allowing for individual repair of either the pump or transmission, to keep down time to a minimum. All drive line components shall have a torque rating equal to or greater than the final net engine torque.

MECHANICAL SEALS

The pump shall be equipped with self-adjusting, maintenance free mechanical shaft seals that shall not require manual adjustment. These seals shall be designed in a manner such that they shall remain functional enough to permit continued use of the pump in the unlikely event of a seal failure.

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ZINC ANODES

Four (4) Waterous Magnesium anodes shall be provided with the fire pump. The anodes shall aid in preventing galvanic corrosion within the water pump and be easily replaceable. The anodes shall be installed as follows:

- Two (2) on the intake side of the pump
- Two (2) in the discharge manifold of the fire pump.

The pump shall be rated at 2000 gallons per minute.

FIRE PUMP MOUNTING

The fire pump shall be mounted within a separate body module that is not directly connected to the apparatus body.

The pump shall be frame mounted; therefore minimizing the likelihood of the pump casing cracking should the apparatus be involved in a collision.

The pump module shall be mounted to the frame in a minimum of four (4) locations and shall be reinforced appropriately in order to carry the expected load for the life of the apparatus.

PUMP SHIFT

The pump shift actuating mechanism shall be air operated from a valve in the cab identified as "PUMP SHIFT". Full instructions for shifting the pump shall be inscribed on the valve plate.

Two (2) green pump system shift indicator lights shall be in the chassis cab. The first light shall become energized when the pump has completed its shift into pump gear and shall be labeled "Pump Engaged". The second light shall become energized when the chassis parking brake has been set and the pump and the chassis transmissions have been shifted completely into the correct gears for pumping. This light shall be labeled "OK to Pump".

One (1) green pump system shift indicator light shall be located on the operator's panel. This light shall become engaged when the chassis parking brake has been set and when the pump and the chassis transmissions have been completely shifted into the correct gears. The light shall be located adjacent to the throttle control and shall be labeled "Warning: Do Not Open Throttle Unless Light Is On".

PRESSURE GOVERNOR

The apparatus shall be equipped with a Class 1 Total Pressure Governor (TPG) that is connected to the engine Electronic Control Module. The TPG shall operate as a pressure sensor (regulating) governor (PSG) utilizing the engines J1939 data for optimal resolution and response. Programmable presets for RPM and pressure settings shall be easily configurable using the TPG's straightforward menu structure.

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The TPG shall also include an indication of engine RPM, system voltage, engine oil pressure and engine temperature with audible alarm output for all. The TPG uses the J1939 data bus for engine information requiring no additional sensors to be installed.

An interlock system shall be provided to prevent advancement of the engine speed at the pump operator's panel unless the apparatus has "Throttle Ready" indication.

The TPG shall also include a pump hour meter to track total hours of pump operation.

INTAKE RELIEF VALVE

An Elkhart Brass intake relief valve shall be installed on the suction side of the pump. The valve shall be the preset type, adjustable from 75 to 250 PSI, and shall be designed to prevent vibration from altering the setting. The relief outlet shall be directed below the pump with the discharge terminating in a 2-1/2" male NH threads connection. The discharge shall be away from the pump operator and labeled "Do Not Cap".

TRIDENT PRIMING PUMP

The priming pump shall be a Trident Emergency Products three-barrel, compressed air powered, high efficiency, multi-stage, venturi based AirPrime System. All wetted metallic parts of the priming system are to be of brass and stainless steel construction. A pressure protection valve shall be installed with the priming pump. A single panel mounted control shall activate the priming pump and open the priming valve to the pump.

MASTER DRAIN VALVE

A Trident manifold drain valve assembly shall be supplied. This drain shall provide the capability to drain the entire pump by turning a single control. The valve assembly shall consist of a stainless steel plate and shaft in a bronze body with multiple ports. The drain valve control shall be mounted on the driver's side pump panel and labeled "Master Drain".

WATEROUS OVERHEAT PROTECTION MANAGER WITH INDICATOR LIGHTS

A Waterous Overheat Protection Manager (OPM) shall be installed on the pump. The relief valve shall automatically relieve water from the pump when the temperature of the pump water exceeds 140° F. In addition, a warning light on the pump panel shall be triggered by a thermal switch when the water in the pump reaches 180° F. The warning light acts as an additional protection device if the temperature inside the pump keeps rising although the valve is open. The valve shall automatically reset after activation.

PAINT PUMP GRAY/PAINT INTAKES PRIMARY BODY COLOR

The pump body shall be painted with AkzoNobel High Solids polyurethane paint. The paint color shall be a neutral gray. The pump enclosure shall be painted the same color as the apparatus body.

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The main intake(s) and auxiliary intake valves shall be painted with a AkzoNobel High Solids polyurethane paint. The paint color shall be the same as the apparatus body.

PUMP MANUALS

Two (2) Pump Operation and Maintenance manuals shall be provided in digital format with the apparatus.

PUMP AND ENGINE COOLING SYSTEM

A pump and engine cooling system shall be provided on the apparatus. The cooling system shall keep the engine cool when running for long periods of time and the pump cool during long periods of pumping when water is not being discharged. The cooling system shall also be set up in a way that the cooling system lines can be easily drained through the master pump drain.

The cooling system lines shall consist of high-temperature 3/8" (inside diameter) hose. The engine cooling lines shall be installed with one (1) line going from the discharge side of the water pump through an Innovative Controls model 3008220-2-2, 3/8" in-line quarter turn ball valve assembly and continuing on to the chassis heat exchanger. The return line from the heat exchanger shall then run into the suction side of the pump. The pump cooling lines shall be installed with one (1) line going from the discharge side of the water pump through an Innovative Controls model 3008220-2-2, 3/8" in-line quarter-turn ball valve assembly up to the water tank. At the water tank, the pump cooling line shall be plumbed into a 3/8" check valve on the "Tank Fill" valve. The check valve shall prevent tank water from back flowing into the pump when the cooling system is not in use. A return line from the water tank shall be plumbed into the water pump.

The engine cooling system valve shall be controlled on the operator's panel, and shall be clearly labeled, "Engine Cooler".

The pump cooling system valve shall be controlled on operator's panel, and shall be clearly labeled, "Pump Cooler".

FOAM SYSTEM

A FoamPro 2002 single foam system shall be installed on the apparatus. The system shall be an electronic, fully automatic, variable speed, direct injection, and discharge side foam proportioning system. The system shall be capable of handling Class A foam concentrates and most Class B foam concentrates. The system shall be set up to utilize Class A foam. The foam proportioning operation shall be based on direct measurement of water flows, and remain consistent within the specified flows and pressures. The system shall be equipped with a digital electronic control display, suitable for installation on the pump panel. Incorporated within the control display shall be a microprocessor that receives input from the system flow meter, while also monitoring foam concentrate pump output, comparing values to ensure that the operator's preset proportional amount of foam concentrate is injected into the discharge side of the fire pump.

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A paddlewheel type flow meter shall be installed in a manifold for the specified foam capable discharges.

The digital computer control display shall enable the pump operator to perform the following control and operation functions for the foam proportioning system:

- Provide push-button control of foam proportioning rates from 0.1% to 9.9% in 0.1% increments.
- Show current gallon-per-minute water flow rate.
- Show total gallons of water discharged, during and after foam operations are completed.
- Show total gallons of foam concentrate consumed.
- Simulate flow rates for manual operation.
- Perform set-up and diagnostic functions for the computer control microprocessor.
- Flash a "low concentrate" warning when the foam concentrate tank(s) run(s) low.
- Flash a "no concentrate" warning and shut the foam concentrate pump off, preventing damage to the pump, should the foam tank(s) empty.

A 12-volt electric motor driven positive displacement foam-concentrate pump, rated up to 5 GPM with operating pressures up to 400 PSI, shall be installed in a suitable compartment near the apparatus pump house. A pump motor electronic driver (mounted to the base of the pump) shall receive signals from the computer control display, and power the 3/4 horsepower electric motor directly coupled to the concentrate pump in a variable speed duty cycle to ensure that the correct proportion of concentrate preset by the pump operator is injected into the water stream.

System capacity shall be as follows:

- 0.2% Foam Concentrate / 2500 Maximum GPM
- 0.5% Foam Concentrate / 1000 Maximum GPM
- 1.0% Foam Concentrate / 500 Maximum GPM
- 3.0% Foam Concentrate / 166 Maximum GPM

A full flow check valve shall be provided to prevent foam contamination of fire pump and water tank or water contamination of foam tank.

Components of the complete proportioning system as described above shall include:

- Operator control and display
- One (1) Paddlewheel flow meter
- Pump and electric motor/motor driven
- Wiring harnesses
- Foam injection check valve
- One (1) low-level foam tank switch

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An installation and operation manual shall be provided for the unit, along with a one (1) year limited warranty. A system-schematic-placard and a system-rating-placard shall be supplied and installed in accordance with NFPA 1901, current edition.

FLUSH SYSTEM

A single foam flush system shall be installed to provide a clean water flush of the foam concentrate pump preventing foam concentrates from mixing and possible jelling. Clean water from the booster tank shall be plumbed to a 1/4 turn valve located on the pump panel. The valve shall be capable of operating pressures to 500 PSI.

FOAM REFILL SYSTEM

The apparatus shall be equipped with a FoamPro single foam, electronic, automatic concentrate refill system. It shall be separate from the proportioning system to allow for simultaneous operations. The system shall be capable of handling Class A or Class B foam concentrate. The apparatus shall be plumbed from the externally accessed intake/ flush port to the foam cell. The external intake/flush connection shall be quick connect, cam-lock type and incorporated a check valve to prevent back flow. The refill line shall be positioned in the lower portion of the foam cell to minimize agitation. The refill operation shall be based on direct measurement of the concentrate level in the cell and the refill pump intake performance. The system must be capable of automatically stopping when the foam cell is full and warn the operator when the concentrate source is empty or any other conditions preventing flow occurs. The system shall be equipped and electronic control suitable for installation on the pump panel. Incorporated within the control shall be a microprocessor that receives input from the system while also monitoring foam concentrate pump output. An all bronze three-way valve shall be included to allow that operator to flush the system after use.

A 12-volt electric motor driven positive concentrate pump, with a minimum of 10 U.S. GPM @ 20 PSI rating, with concentrate viscosity exceeding 5500 CPS, shall be installed per manufacturer recommendations. A pump motor electronic driver shall receive signals from the computer control display and power the electric motor directly coupled to the concentrate pump. The system shall receive readings when the concentrate tank is full and stop operation to prevent overfill. The system shall terminate operations when flow is not detected on the intake side for twelve (12) seconds.

FOAM PROPORTIONING SYSTEM TESTING

The foam proportioning system shall be tested and certified after final installation in accordance with NFPA 1901, current edition.

PLUMBING MANIFOLD

The plumbing manifold shall consist of the inlet side manifold and the discharge side manifold. Galvanized Victaulic couplings shall be used wherever possible for ease of maintenance and superior corrosion protection.

Oak Park Fire Department

Aerial Specifications

The inlet side of the plumbing manifold shall utilize schedule 10, 304-grade stainless steel tubing and preformed elbows for inlets that are larger than 3". Side auxiliary inlets that are 3" or smaller shall utilize schedule 10, 304-grade stainless steel threaded tubing and preformed elbows. The inlet manifold shall thread into the pump auxiliary inlet ports and each inlet valve shall thread onto the inlet manifold.

The discharge side of the plumbing manifold shall utilize schedule 10, 304-grade stainless steel tubing and preformed elbows to ensure the quality of the manifold where welds are required. The discharge manifold shall connect to the pump discharge ports using 1/2" stainless steel flanges that shall be machined to seat an O-ring to ensure a leak proof seal. Each discharge shall derive from a port on the manifold assembly connected to a discharge valve with 1/2" 304-grade stainless steel flanges. Discharges that terminate in a location other than the pump module (i.e. rear discharges) that do not require welding shall utilize a combination of high-pressure flex hose and schedule 10, 304-grade stainless steel tubing to allow flexibility between the body and the pump module.

A 3/4" quarter turn drain valve shall be included. A chrome plated rectangular handle shall be provided on the drain valve to facilitate use with a gloved hand. The drain valve shall be located just above the running board and below the pump panel to reduce clutter in the pump panel area. The drain valve shall be connected to the valve with a flexible hose that is routed in such a manner as to assure complete drainage to below the apparatus. A matching color coded bezel shall be included.

INNOVATIVE CONTROLS DISCHARGE GAUGES - 2-1/2" - 0-400 PSI

The discharge gauges on the apparatus shall be 2-1/2" diameter Innovative Controls pressure gauges. The gauges shall have a one-piece case that integrates the valve stem connection, movement support, and bourdon tube support into a single unit that eliminates distortion and leakage. Clear scratch resistant molded lenses shall be used to ensure distortion-free viewing and they shall be sealed to the gauge by being trapped together with a profile gasket by a crimped stainless steel bezel. The gauges shall be filled with a synthetic mixture to dampen shock and vibration, lubricate the internal mechanisms, prevent lens condensation and ensure proper operation from -40° F to +160° F.

The gauges shall exceed ASME B40.100 Grade B requirements with an accuracy of +/- 1.5% full scale and include a size appropriate phosphorous bronze bourdon tube with a reinforced lap joint and large tube base to increase the tube life and gauge accuracy.

Highly-polished stainless steel bezels shall be provided to prevent corrosion and protect lenses and gauge cases. The gauges shall be installed into decorative chrome-plated mounting bezels that incorporate valve identifying verbiage and/or color labels.

The gauges shall display a range from 0 to 400 PSI.

Oak Park Fire Department

Aerial Specifications

MASTER PRESSURE CENTER ASSEMBLY

The master gauges shall be installed on the pump panel no more than 6 inches apart in an integrated master pressure assembly that includes the two (2) master gauges and the test port manifold.

The master intake and master discharge gauges shall be 4" diameter Innovative Controls pressure gauges. Each gauge shall have a Nylon case that integrates the valve stem connection, movement support, and bourdon tube support into a single unit that eliminates distortion and leakage. A clear scratch resistant molded lens shall be used to ensure distortion-free viewing and it shall be sealed to the gauge by being trapped together with a profile gasket by a crimped stainless steel bezel. The gauge shall be filled with a synthetic mixture to dampen shock and vibration, lubricate the internal mechanisms, prevent lens condensation and ensure proper operation from -40° F to +160° F.

Each gauge shall exceed ASME B40.100 Grade B requirements with an accuracy of +/- 1% full scale and include a size appropriate phosphorous bronze bourdon tube with a reinforced lap joint and large tube base to increase the tube life and gauge accuracy. A highly-polished stainless steel bezel shall be provided to prevent corrosion and protect the lens and gauge case.

The two (2) master gauges shall be installed into a decorative chrome-plated zinc mounting bezel that also incorporates a test port manifold and a graphic overlay that identifies the master intake and discharge gauges, the vacuum test port, and the pressure test port. The test port manifold is solid cast brass with chrome-plated plugs.

The gauge on the left shall be the master pump intake gauge and display a range from -30 to 400 PSI with black graphics on a white background. The gauge on the right shall be the master pump discharge gauge and display a range from 0 to 400 PSI with burgundy graphics on a white background.

HARDWARE BRAND

The non-Storz discharge and intake fittings provided on this apparatus shall be South Park Corp. Brand. The adapter/cap/plug fittings shall be manufactured from high-quality brass that shall be polished to remove manufacturing irregularities with a chrome finish applied to the polished surface.

The Storz discharge and intake fittings provided on this apparatus shall be Task Force Tips Brand. For corrosion resistance, the adapter shall be constructed of hard coat anodized aluminum alloy and include a polymer bearing ring for prevention of galvanic corrosion.

The auxiliary intake(s) shall terminate with special thread swivels, and the discharges shall terminate with NH male threads with special thread adapters.

Oak Park Fire Department

Aerial Specifications

SPECIAL THREADS - DETROIT/WAYNE COUNTY, MI

The special threads on the hardware and fittings shall be the same style (3.125 ODM x 7.5 TPI) as is used in Detroit/Wayne County MI.

Shop Note: The special threads on the hardware and fittings shall be the same style (3.125

DISCHARGE, PRE-CONNECT, AND INTAKE DRAINS

An Innovative Controls 3/4" quarter turn drain valve shall be included on each discharge, gated intake, and steamer valve (if applicable). A side stem, long stroke chrome plated lift handle shall be provided on the drain valve to facilitate use with a gloved hand. The drain valve shall have a verbiage tag that angles upward so that it can easily be seen and read by the operator before opening. The drain valve shall be located just above the running board and below the pump panel to reduce clutter in the pump panel area. The drain valve shall be connected to the valve with a flexible hose that is routed in such a manner as to assure complete drainage to below the apparatus. A matching color coded bezel shall be included.

AUTOMATIC DRAINS

A Class 1 automatic drain shall be installed on the deluge valve (if applicable). The drains shall also be located in low laying areas (i.e., front discharge) The Drains will open whenever the pressure in the line drops below 6 PSI.

PLUMBING LABELS

Innovative Controls brand labels shall be used to identify any pump valve controller, gauge, or drain on the apparatus. The labels shall be color coded in accordance with NFPA 1901, current edition compliance. The colors and verbiage of the labels shall be the OEM standard label package. Each discharge label shall have a unique color and shall have verbiage to identify it.

For easy identification of each component, the verbiage of each label shall be size 22 pt, font "Helvetica Neue Condensed Bold"

See label order form (required)

2" TANK FILL

A 2" tank fill shall be plumbed from the pump to the tank. Installation shall be completed with 2" rubber hose and stainless steel hose couplings.

An Akron Brass, model 8820, 2" Swing-Out valve shall be provided. The valve shall have an all brass body with flow optimizing stainless steel ball and dual polymer seats. The valve shall be capable of dual directional flow while incorporating a self-locking ball feature using an automatic friction lock design and specially designed flow optimizing stainless steel ball.

Oak Park Fire Department

Aerial Specifications

The valve shall not require lubrication of seats or any other internal waterway parts, and must be capable of swinging out of the waterway for maintenance by the removal of six bolts. The valve shall carry a ten (10) year warranty by the valve manufacturer.

4" TANK-TO-PUMP

A 4" tank-to-pump shall be plumbed with a flexible hose from the tank to the suction side of the pump. An Akron Brass, model 8830, 3" Swing-Out valve shall be provided. The valve shall have an all brass body with flow optimizing stainless steel ball and dual polymer seats. The valve shall be capable of dual directional flow while incorporating a self-locking ball feature using an automatic friction lock design and specially designed flow optimizing stainless steel ball. The valve shall not require lubrication of seats or any other internal waterway parts and must be capable of swinging out of the waterway for maintenance by the removal of six bolts. The valve shall also include a necessary B3-SH pump flange adapter, which shall be specifically used for the tank-to-pump line to properly adjust the plumbing based on the pitch of the pump. The valve shall carry a ten (10) year warranty by the valve manufacturer.

A check valve shall be between the pump suction and the booster tank valve. The check valve shall eliminate back flow into the water tank when the pump is connected to a pressurized source.

The valve shall be actuated by a manual actuator. The manual actuator shall be controlled by an Innovative Controls push/pull T-handle.

6" DRIVER SIDE MAIN INTAKE

A 6" main intake shall be located on the driver's side of the pump module. The suction fittings shall include a removable die-cast screen to provide cathodic protection for the pump thus reducing corrosion. A short steamer barrel shall be installed to accommodate an intake valve without exceeding the legal overall body width. The intake shall terminate male NH threads.

One (1) 6" NH thread long handle chrome plated vented steamer cap shall be provided.

2-1/2" DRIVER'S SIDE AUXILIARY INTAKE

A 2-1/2" gated auxiliary intake with 2-1/2" plumbing shall be provided on the driver's side of the pump module. The auxiliary intake shall be fully recessed behind the panel in order to keep the valve protected from the elements.

An Akron Brass, model 8825, 2-1/2" Swing-Out valve shall be provided. The valve shall have an all brass body with flow optimizing stainless steel ball and dual polymer seats. The valve shall be capable of dual directional flow while incorporating a specially designed flow optimizing stainless steel ball. The valve shall not require lubrication of seats or any other internal waterway parts and must be capable of swinging out of the waterway for maintenance by the removal of six bolts.

Oak Park Fire Department

Aerial Specifications

The valve shall be manufactured and assembled in the United States. The valve shall carry a ten (10) year warranty by the valve manufacturer.

The valve shall be actuated by an Akron Brass, model TS manual actuator installed directly on the valve. The handle shall allow the valve to be controlled directly at the valve.

One (1) 2-1/2" special thread rocker lug chrome plated vented plug, complete with cable or chain, shall be provided.

6" OFFICER SIDE MAIN INTAKE

A 6" main intake shall be located on the officer's side of the pump module. The suction fittings shall include a removable die-cast screen to provide cathodic protection for the pump thus reducing corrosion. A short steamer barrel shall be installed to accommodate an intake valve without exceeding the legal overall body width. The intake shall terminate male NH threads.

One (1) 6" NH thread long handle chrome plated vented steamer cap shall be provided.

See label order form (required)

2-1/2" DRIVER'S SIDE DISCHARGE

A 2-1/2" discharge with 2-1/2" plumbing shall be located on the driver's side of the pump compartment. The discharge shall terminate with male NH thread.

An Akron Brass, model 8825, 2-1/2" Swing-Out valve shall be provided. The valve shall have an all brass body with flow optimizing stainless steel ball and dual polymer seats. The valve shall be capable of dual directional flow while incorporating a specially designed flow optimizing stainless steel ball. The valve shall not require lubrication of seats or any other internal waterway parts and must be capable of swinging out of the waterway for maintenance by the removal of six bolts. The valve shall be manufactured and assembled in the United States. The valve shall carry a ten (10) year warranty by the valve manufacturer.

The valve shall be actuated by an Akron Brass, model TS manual actuator installed directly on the valve. The handle shall allow the valve to be controlled directly at the valve.

The discharge shall have a 2-1/2" glass filled nylon 66 case gauge with bezel and a display range from 0 to 400 PSI. The gauge shall have a black dial graphic and pointer.

One (1) 2-1/2" female NH thread swivel rocker lug x 2-1/2" male special thread 30 degree elbow adapter shall be provided.

One (1) 2-1/2" special thread rocker lug chrome plated vented cap, complete with cable or chain, shall be provided.

Oak Park Fire Department

Aerial Specifications

2-1/2" DRIVER'S SIDE DISCHARGE

A 2-1/2" discharge with 2-1/2" plumbing shall be located on the driver's side of the pump compartment. The discharge shall terminate with male NH thread.

An Akron Brass, model 8825, 2-1/2" Swing-Out valve shall be provided. The valve shall have an all brass body with flow optimizing stainless steel ball and dual polymer seats. The valve shall be capable of dual directional flow while incorporating a specially designed flow optimizing stainless steel ball. The valve shall not require lubrication of seats or any other internal waterway parts and must be capable of swinging out of the waterway for maintenance by the removal of six bolts. The valve shall be manufactured and assembled in the United States. The valve shall carry a ten (10) year warranty by the valve manufacturer.

The valve shall be actuated by an Akron Brass, model TS manual actuator installed directly on the valve. The handle shall allow the valve to be controlled directly at the valve.

The discharge shall have a 2-1/2" glass filled nylon 66 case gauge with bezel and a display range from 0 to 400 PSI. The gauge shall have a black dial graphic and pointer.

One (1) 2-1/2" female NH thread swivel rocker lug x 2-1/2" male special thread 30 degree elbow adapter shall be provided.

One (1) 2-1/2" special thread rocker lug chrome plated vented cap, complete with cable or chain, shall be provided.

2-1/2" OFFICER'S SIDE DISCHARGE

A 2-1/2" discharge with 2-1/2" plumbing shall be located on the officer's side of the pump compartment. The discharge shall terminate with male NH thread.

An Akron Brass, model 8825, 2-1/2" Swing-Out valve shall be provided. The valve shall have an all brass body with flow optimizing stainless steel ball and dual polymer seats. The valve shall be capable of dual directional flow while incorporating a specially designed flow optimizing stainless steel ball. The valve shall not require lubrication of seats or any other internal waterway parts and must be capable of swinging out of the waterway for maintenance by the removal of six bolts. The valve shall be manufactured and assembled in the United States. The valve shall carry a ten (10) year warranty by the valve manufacturer.

The valve shall be actuated by a manual actuator installed on the valve. The manual actuator shall be controlled by an Innovative Controls push/pull T- handle at the pump operator's panel.

The discharge shall have a 2-1/2" glass filled nylon 66 case gauge with bezel and a display range from 0 to 400 PSI. The gauge shall have a black dial graphic and pointer.

Oak Park Fire Department

Aerial Specifications

One (1) 2-1/2" female NH thread swivel rocker lug x 2-1/2" male NH thread 30 degree chrome plated elbow adapter shall be provided.

One (1) 2-1/2" NH thread rocker lug chrome plated vented cap, complete with cable or chain, shall be provided.

4" OFFICER'S SIDE DISCHARGE

A 4" large diameter discharge, with 4" plumbing, shall be located on the officer's side of the pump compartment. The discharge shall terminate with male NH thread.

One (1) Akron Brass, model 8840, 4" Swing-Out valve shall be provided. The valve shall have an all cast brass valve body with a 4" full flow waterway ideal for flows up to 2000 GPM and a maximum body length of 4". The valve shall utilize a bronze flat ball design with a single urethane seat and be structurally rated to 500 PSI with a 250 PSI operating pressure. The valve shall not require the lubrication of seats or any other internal waterway parts and shall be capable of swinging out of the waterway for maintenance by the removal of six bolts. The valve shall carry a ten (10) year warranty by the valve manufacturer.

The valve shall be actuated by an Akron Brass electric actuator installed on the valve. The electric actuator shall have a 25:1 gear ratio, which actuates from fully open to fully closed in eight (8) seconds, a clutchless motor, and utilizes an electric controller with current limiting design.

The electric actuator shall be controlled by an Akron Brass, model 9333, Navigator Pro electric valve controller. The electric controls shall be of true position feedback design, requiring no clutches in the motor or current limiting. The unit shall be completely sealed with momentary open, close as well as an optional one (1) touch full open feature to operate the actuator. Two (2) additional buttons shall be available to be used for preset selection, preset activation and menu navigation. The controller shall have up to three (3) preset locations that can be user set and easily recalled upon each use. The unit shall be capable of being used in conjunction with at least two (2) additional displays to control one (1) valve. The unit shall provide position indication through a full-color backlit LCD display. The display shall be a full-color LCD display with a backlight. It shall have manual adjustment of the brightness as well as an auto-dimming option. The unit shall carry a five (5) year warranty.

The discharge shall have a 2-1/2" glass filled nylon 66 case gauge with bezel and a display range from 0 to 400 PSI. The gauge shall have a black dial graphic and pointer.

One (1) 5" Storz x 4" female NH thread swivel rocker lug 30 degree elbow adapter shall be provided. The elbow shall be constructed of hard coat anodized aluminum alloy and have a silver powder coat finish inside and out.

One (1) 5" rigid Storz coupling and a 2-1/2" male special thread rigid adapter shall be provided.

Oak Park Fire Department

Aerial Specifications

One (1) 2-1/2" special thread rocker lug chrome plated vented cap, complete with cable or chain, shall be provided.

2-1/2" FRONT BUMPER DISCHARGE

A 2-1/2" discharge shall be located above the gravel shield on the driver's side of the front bumper. The discharge shall be plumbed with 2-1/2" chassis installed stainless steel plumbing and OEM installed stainless steel plumbing and high-pressure flex hose with stainless steel couplings. The discharge shall terminate in male NH thread.

The discharge shall have Class1 automatic drains installed in the low routed areas below the manual drain. The automatic drains shall open whenever the pressure in the line drops below 6 PSI.

The discharge shall be foam capable.

An Akron Brass, model 8825, 2-1/2" Swing-Out valve shall be provided. The valve shall have an all brass body with flow optimizing stainless steel ball and dual polymer seats. The valve shall be capable of dual directional flow while incorporating a specially designed flow optimizing stainless steel ball. The valve shall not require lubrication of seats or any other internal waterway parts and must be capable of swinging out of the waterway for maintenance by the removal of six bolts. The valve shall be manufactured and assembled in the United States. The valve shall carry a ten (10) year warranty by the valve manufacturer.

The valve shall be actuated by a manual actuator installed on the valve. The manual actuator shall be controlled by an Innovative Controls push/pull T-handle.

The discharge shall have a 2-1/2" glass filled nylon 66 case gauge with bezel and a display range from 0 to 400 PSI. The gauge shall have a black dial graphic and pointer.

The discharge shall be designated as a pre-connect so no cap and chain shall be required.

CROSSLAY CONFIGURATION

Two (2) 1-1/2" and one (1) 2-1/2" crosslay pre-connects shall be located above the pump panel. High-pressure flex hose with stainless steel couplings shall be used in the plumbing.

A 90 degree swivel elbow shall be utilized to keep the hose from kinking when pulled from either side of the apparatus. The swivel for each crosslay shall be located outboard for ease of making connections while changing hose.

There shall be (2) 9" On-Scene Night Axe lights with housings in the crosslay area to provide adequate lighting to meet requirements. The lights will be activated when the park brake is set.

Oak Park Fire Department

Aerial Specifications

The pre-connect hose beds shall be sized to accommodate the following hose load:

The interior of the pre-connect hose bed shall have a maintenance free abraded finish.

FLOORING

The floor of the pre-connect area shall be covered with Dura-Dek fiber reinforced material. The Dura-Dek shall have "T" beams in parallel connected with cross slats that are first mechanically bonded and then epoxied. The "T" sections shall be spaced 3/4" apart to allow for drainage and ventilation.

ROLLERS

Stainless steel rollers shall be provided at each end of the crosslay hose bed to facilitate deployment of hose. Vertical rollers shall be installed on each side of the hose bed opening and a horizontal roller shall be installed under the opening.

DIVIDERS

Two (2) dividers shall be in the crosslay area. Each divider shall be fabricated of 3/16" aluminum and shall be mounted in a channel on each end for adjustability. The dividers shall have a maintenance free abraded finish.

TOP/END COVERS

A heavy duty 22 oz. hypalon vinyl coated nylon cover shall be located over the top and on each end of the preconnected crosslays. The top of the cover shall be connected to the top-forward portion of the crosslays through a C-Rail channel and shall attach on the top-rear portion using Velcro. The bottom of the end covers shall be connected using footman loop and J-Hooks with an adjustable buckle. The cover color shall be black.

END COVERS

The end covers of the crosslays shall be incorporated with the top cover.

1-1/2" PRE-CONNECT

A 1-1/2" pre-connect with 2" plumbing shall be provided. The pre-connect shall terminate out a swivel male NST threads.

The 1-1/2" crosslay pre-connect shall have a capacity of 200' of 1-3/4" double jacket fire hose stored in a single stack.

The discharge shall be foam capable.

Oak Park Fire Department

Aerial Specifications

An Akron Brass, model 8820, 2" Swing-Out valve shall be provided. The valve shall have an all brass body with flow optimizing stainless steel ball and dual polymer seats. The valve shall be capable of dual directional flow while incorporating a specially designed flow optimizing stainless steel ball. The valve shall not require lubrication of seats or any other internal waterway parts and must be capable of swinging out of the waterway for maintenance by the removal of six bolts. The valve shall be manufactured and assembled in the United States. The valve shall carry a ten (10) year warranty by the valve manufacturer.

The valve shall be actuated by a manual actuator installed on the valve. The manual actuator shall be controlled by an Innovative Controls push/pull T- handle.

The discharge shall have a 2-1/2" glass filled nylon 66 case gauge with bezel and a display range from 0 to 400 PSI. The gauge shall have a black dial graphic and pointer.

The discharge shall be designated as a pre-connect so no cap and chain shall be required.

1-1/2" PRE-CONNECT

A 1-1/2" pre-connect with 2" plumbing shall be provided. The pre-connect shall terminate out a swivel male NST threads.

The 1-1/2" crosslay pre-connect shall have a capacity of 200' of 1-3/4" double jacket fire hose stored in a single stack.

The discharge shall be foam capable.

An Akron Brass, model 8820, 2" Swing-Out valve shall be provided. The valve shall have an all brass body with flow optimizing stainless steel ball and dual polymer seats. The valve shall be capable of dual directional flow while incorporating a specially designed flow optimizing stainless steel ball. The valve shall not require lubrication of seats or any other internal waterway parts and must be capable of swinging out of the waterway for maintenance by the removal of six bolts. The valve shall be manufactured and assembled in the United States. The valve shall carry a ten (10) year warranty by the valve manufacturer.

The valve shall be actuated by a manual actuator installed on the valve. The manual actuator shall be controlled by an Innovative Controls push/pull T- handle.

The discharge shall have a 2-1/2" glass filled nylon 66 case gauge with bezel and a display range from 0 to 400 PSI. The gauge shall have a black dial graphic and pointer.

The discharge shall be designated as a pre-connect so no cap and chain shall be required.

Oak Park Fire Department

Aerial Specifications

2-1/2" PRE-CONNECT

A 2-1/2" pre-connect with 2-1/2" plumbing shall be provided. The pre-connect shall terminate out a swivel NST.

The 2-1/2" crosslay pre-connect shall have a capacity of 150' of 2-1/2" double jacket fire hose stored in a single stack.

The discharge shall be foam capable.

An Akron Brass, model 8825, 2-1/2" Swing-Out valve shall be provided. The valve shall have an all brass body with flow optimizing stainless steel ball and dual polymer seats. The valve shall be capable of dual directional flow while incorporating a specially designed flow optimizing stainless steel ball. The valve shall not require lubrication of seats or any other internal waterway parts and must be capable of swinging out of the waterway for maintenance by the removal of six bolts. The valve shall be manufactured and assembled in the United States. The valve shall carry a ten (10) year warranty by the valve manufacturer.

The valve shall be actuated by a manual actuator installed on the valve. The manual actuator shall be controlled by an Innovative Controls push/pull T-handle.

The discharge shall have a 2-1/2" glass filled nylon 66 case gauge with bezel and a display range from 0 to 400 PSI. The gauge shall have a black dial graphic and pointer.

The discharge shall be designated as a pre-connect so no cap and chain shall be required.

AERIAL WATERWAY DISCHARGE

A discharge shall be plumbed to the aerial waterway with 4" plumbing. The plumbing shall be constructed from schedule 10 stainless steel components.

An Akron Brass, model 8940, 4" Swing-Out valve shall be provided. The valve shall have an all brass body with flow optimizing Fusion CF composite ball with Hydromax technology. The valve shall not require lubrication of seats or any other internal waterway parts, and must be capable of swinging out of the waterway for maintenance by the removal of four bolts. The valve shall carry a ten (10) year warranty by the valve manufacturer.

The valve shall be actuated by an Akron Brass electric actuator installed on the valve. The electric actuator shall have a 25:1 gear ratio, which actuates from fully open to fully close in eight (8) seconds, a clutchless motor, and utilizes an electric controller with current limiting design.

The electric actuator shall be controlled by an Akron Brass, model 9333, Navigator Pro electric valve controller. The electric controls shall be of true position feedback design, requiring no clutches in the motor or current limiting.

Oak Park Fire Department

Aerial Specifications

The unit shall be completely sealed with momentary open, close as well as an optional one (1) touch full open feature to operate the actuator. Two (2) additional buttons shall be available to be used for preset selection, preset activation and menu navigation. The controller shall have up to three (3) preset locations that can be user set and easily recalled upon each use. The unit shall be capable of being used in conjunction with at least two (2) additional displays to control one (1) valve. The unit shall provide position indication through a full-color backlit LCD display. The display shall be a full-color LCD display with a backlight. It shall have manual adjustment of the brightness as well as an auto-dimming option. The unit shall carry a five (5) year warranty.

The discharge shall have a 2-1/2" glass filled nylon 66 case gauge with bezel and a display range from 0 to 400 PSI. The gauge shall have a black dial graphic and pointer.

WATERWAY FLOW METER

One (1) Class 1 Flowminder shall be installed to monitor the flow of the aerial waterway. The Flowminder shall have a LED display to indicate the volume of water being discharged. The display shall be weatherproof. The Flowminder shall be located at the pump panel.

See label order form (required)

ELECTRICAL SYSTEM

Wiring harnesses shall be the automotive type, engineered specifically for the builder's apparatus, and shall meet the following criteria. Under no circumstances shall diodes, resistors, or fusible links be located within the wiring harness. All such components shall be located in an easy to access wiring junction box or the main circuit breaker area. All wire shall meet white book, baseline advanced design transit coach specification and Society of Automotive Engineers recommended practices. It shall be stranded copper wire core with cross-linked polyethylene insulation complying with SAE specification J1128. Each wire shall be hot stamp function coded every three inches starting one inch from the end and continuing throughout the entire harness. In addition to function coding, each wire shall be numbered, colored, and gauge coded.

Wire harnesses shall be protected by 275 degree Fahrenheit minimum high temperature flame retardant loom. All nodes and sealed Deutsch connectors shall be waterproof.

Harnesses shall be modular in design; main harness system subdivided into several smaller sub-harnesses. The harness subsections shall be connected using Deutsch branded, heavy duty, environmentally sealed, connectors with silicone seals and a rear insertion/removal contact system. For isolation of electrical "zones" the harness subsections shall consist of a main harness, a pump harness with a separate pump gauge panel harness, a left body harness with a separate left compartment harness, a right body harness with a separate right compartment harness, and a rear body harness with two separate rear compartment harnesses.

Oak Park Fire Department

Aerial Specifications

The main harness and three body harnesses shall interconnect at a central, easy to reach location and their connectors shall not be obstructed by other harnesses or fuel/air lines. In addition, the main and body harness connectors shall be color-coded for ease of identification with their respective colors noted on the accompanying electrical diagrams.

Where connectors are not provided by the electrical component manufacturer, all 12-volt lights and other electrical components (excluding rocker and toggle switches) shall connect to the harnesses using Deutsch brand connectors; butt connectors are considered unacceptable.

All Deutsch connectors shall meet the following criteria:

- All connectors shall be rated for three feet submersion in water.
- Temperature range from -67° F to 257° F continuous at rated current.
- All contacts shall be soldered unless a crimping tool or machine is used that gives an even and precise pressure for the terminal being used.
- All contacts shall be pull-tested to ensure their integrity.

WEATHERPROOF DOOR SWITCHES

Because of the harsh environment and susceptibility to moisture on the fire ground, the fire apparatus compartment doors shall utilize weatherproof switches. No Exceptions.

The switches shall be used for activation of the compartment lights and to provide a signal to the door open circuit in the cab.

V-MUX ELECTRICAL MANAGEMENT SYSTEM

The apparatus shall be equipped with a V-MUX Multiplex System. There are several key benefits to multiplexing, one is to reduce the number of connections in a vehicle's electrical system, because of this it is important to limit the amount of modules that control certain functions of the vehicle.

Outputs:

The outputs shall perform all the following items without added modules to perform any of the tasks:

- Load Shedding: The System shall have the capability to Load Shed with 8 levels any output. This means you can specify which outputs (barring NFPA restrictions) you would like Load Shed. Level 1 12.9v, Level 2 12.5V, Level 3 - 12.1V, Level 4 - 11.7V, Level 5 11.3V, Level 6 10.9V, Level 7 10.5, Level 8 10.1. Unlike conventional load shedding devices you can assign a level to any or all outputs. No add-on modules shall be acceptable; the module with the outputs must perform this function.

Oak Park Fire Department

Aerial Specifications

- **Load Sequencing:** The System shall be able to sequence from 0 8 levels any output. With 0 being no delay and 1 being a 1-second delay, 2 being a 2-second delay and so on. Sequencing reduces the amount of voltage spikes and drops on your vehicle, and can help limit damage to your charging system. No add-on modules shall be acceptable; the module with the outputs must perform this function.
- **Output Device:** The System shall have solid-state output devices. Each solid-state output shall be a MOS-FET (Metal Oxide Semiconductor - Field Effect Transistors); MOS-FETs are solid-state devices with no moving parts to wear out. A typical relay, when loaded to spec, has a life of 100,000 cycles. The life of a FET is more than 100 times that of a relay. No add-on modules shall be acceptable; the module with the outputs must perform this function.
- **Flashing Outputs:** The System shall be able to flash any output in either A or B phase, and logic is used to shut down needed outputs in park, or any one of several combined interlocks. The flash rate can be selected at either 80, or 160 FPM. This means any light can be specified with a multiplex truck with no need to add flashers. Flashing outputs can also be used to warn of problems. No add-on modules shall be acceptable; the module with the outputs must perform this function.
- **PWM:** The modules shall have the ability to PWM at some outputs so that a Headlight PWM module is not needed. No add-on modules shall be acceptable; the module with the outputs must perform this function.
- **Diagnostics:** An output shall be able to detect either a short or open circuit.

Inputs:

The inputs shall have the ability to be switched by a ground or battery signal.

The inputs shall be filtered for noise suppression via hardware and software so that RF or dirty power will not trick an input into changing its status.

System Network:

The Multiplex system shall contain a Peer-to-Peer network. A Master-Slave Type network is not suitable for the Fire/Rescue industry. A Peer-to-Peer network means that all the modules are equal on the network; a Master is not needed to tell other nodes when to talk.

System Reliability:

The Multiplex system shall be able to perform in extreme temperature conditions, from - 40° to +85° C (-40 degree to +185 degree Fahrenheit) The system shall be sealed against the environment, moisture, humidity, salt or fluids such as diesel fuel, motor oil or brake fluid. The enclosures shall be rugged to withstand being mounted in various locations or compartments around the vehicle. The modules shall be protected from over voltage and reverse polarity.

Oak Park Fire Department

Aerial Specifications

12-VOLT SYSTEMS TEST

After completion of the unit, the 12-volt electrical system shall undergo a battery of tests as listed in NFPA 1901. These tests shall include, but not be limited to:

- Reserve capacity test
- Alternator performance test at idle
- Alternator performance test at full load
- Low voltage alarm test

Certification of the results shall be supplied with the apparatus at the time of delivery.

TAIL LIGHTS

A Whelen 600 series LED tail light assembly shall be installed on each side of the rear of the apparatus. Each assembly shall include the following:

- One (1) red LED stop/tail combination light
- One (1) amber LED turn light with arrow
- One (1) clear LED backup light

The lights shall be mounted in a chrome plated four (4) light composite housing. The remaining slot in the housing shall be populated with a warning light specified in the warning light section.

REAR WORK LIGHT SWITCH

A switch shall be installed above the tail light bezel on the left side of the rear of the apparatus. The switch shall be wired to the backup lights to provide additional work lighting. The rear work light circuit shall be deactivated when the park brake is disengaged. In addition to the lights being activated by the above switch, the lights shall also come on when the transmission is placed in reverse.

MIDSHIP TURN SIGNALS

Two (2) Truck-Lite model 21 LED midship auxiliary/turn signal lights shall be installed in the rub rail, one (1) on each side of the body.

PERIMETER GROUND LIGHTING

Tecniq, model T44-WD0B-1, 4" round LED lights shall be installed beneath the apparatus in areas where personnel may be expected to climb on and off the apparatus. The lights shall illuminate the ground within 30" of the apparatus to provide visibility of any obstructions or hazards. These areas shall include, but not be limited to, side running boards and the rear step area.

The lights shall be activated when the parking brake is engaged.

Oak Park Fire Department

Aerial Specifications

CLEARANCE LIGHTS

Grote red LED clearance lights shall be installed in the outside corners of the rear bumper and a Truck-Lite bar cluster located in the lower middle portion of the rear of the apparatus. Clearance reflectors shall be placed on the apparatus to be in full compliance with applicable ICC and DOT codes and regulations.

CHASSIS SUPPLIED BACK UP CAMERA SYSTEM

A backup camera system shall be installed in the cab with the chassis. The camera shall be installed on the rear center upper portion of the apparatus.

UPPER ZONE A

The upper zone A warning lights shall be supplied and installed by the chassis manufacturer.

UPPER ZONE C

Two (2) Whelen L31 series Super-LED beacons shall be installed in Upper Zone C. The high profile 12v beacons shall incorporate thirty-two (32) Super-LEDs installed in sets of eight (8) on four (4) PC boards. The four (4) PC boards will be installed on a LED ballast. The beacons shall have an optic hard coated polycarbonate lens and a metalized reflector with clear optic collimators. The hard coated lens shall provide extended life/luster protection against UV and chemical stresses. The four (4) conformal coated PC boards shall provide additional protection against environmental elements. The beacons shall include 28 Scan-Lock patterns including four (4) simulated rotating patterns and synchronized features. The beacons shall also contain cruise mode and low power mode. The beacon dome lenses shall be sealed to a black powder coated die- cast aluminum base with an "O" ring gasket assembly. The solid state beacon light shall be vibration resistant.

The driver's and officer's side lights shall both have red LED and red lenses unless otherwise specified.

LOWER ZONE WARNING LIGHT PACKAGE

Four (4) Whelen 600 Series Super-LED lights with chrome-plated flanges shall be installed in the lower zone of the apparatus to be in accordance with NFPA 1901, current edition compliance. The hard coated lens shall provide extended life/luster protection against UV and chemical stresses. The conformal coated PC board and sealed lens/reflector assembly shall provide additional protection against environmental elements. The solid state warning lights shall be vibration resistant.

The lower zone warning lights shall all have red LED's and red lenses unless otherwise specified.

Oak Park Fire Department

Aerial Specifications

AIR HORN ACTIVATION

One (1) air horn button shall be provided on the driver's side pump panel. The button shall be red in color and include a label reading "AIR HORN".

12V POWER LEAD DROP

One (1) 12-volt power lead drop shall be provided. The power lead drop shall consist of one (1) hot and one (1) ground wire run from the batteries to the specified location. The power lead drop shall be battery direct and have a minimum of a 20 amp fuse provided with the power circuit.

The power lead shall be located in the L5 compartment.

The exact location will be determined by the apparatus manufacturer, unless a specific location is clarified in the shop note.

FIRETECH HI VIZ SURFACE MOUNT SCENE LIGHT

One (1) Firetech Hi-Viz Guardian Elite series scene light, model FT-GESM surface mount light with chrome bezel shall be installed on the apparatus. The light shall be mounted with four (4) screws to a flat surface. The light shall be no more than 8.65" high by 10.61" wide and have a profile of less than 2.79" beyond the mounting surface.

The Guardian Elite shall draw 10.41 amps, and generate 20,000 raw lumens of light. The LED scene lights shall be for fire service use.

The light shall be located on the rear face of the body in the center.

The rear scene light(s) shall be controlled by a switch located on the V-Mux display in the chassis cab and one (1) switch located at the pump panel. The switch at the pump panel shall have an indicator that shall illuminate when the switch is in the "ON" position. The activation on the V-Mux display and the pump panel switch shall be labeled "REAR SCENE."

In addition to the switch located on the V-Mux, the rear scene light(s) shall be activated by the rear work light switch and when the apparatus is placed in reverse.

FIRETECH HI VIZ SURFACE MOUNT SCENE LIGHTS

Two (2) Firetech Hi-Viz Guardian series scene light, model FT-GSMJR surface mount lights with chrome bezels shall be installed on the apparatus. Each light shall be mounted with four (4) screws to a flat surface. They shall be no more than 5.05" high by 7.41" wide and have a profile of less than 1.75" beyond the mounting surface.

Each light shall draw 3.33 amps, and generate 5,000 lumens of light. The LED scene lights shall be for fire service use.

Oak Park Fire Department

Aerial Specifications

The two (2) lights shall be installed on the rear side face of the body, one (1) on each side.

The driver's side and officer's side scene light(s) shall be controlled by a switch located on the V-Mux display in the chassis cab. One (1) rocker switch shall be located on the pump panel for each side of scene lights, for a total of two (2). The switch at the pump panel shall have an indicator that shall illuminate when the switch is in the "ON" position.

The activation for the driver's side scene lights on the V-Mux display and the pump panel switch shall be labeled "LEFT SCENE" and the officer's side shall be labeled "RIGHT SCENE."

FIRETECH HI VIZ SURFACE MOUNT SCENE LIGHTS

Two (2) Firetech Hi-Viz Guardian series scene light, model FT-GSMJR surface mount lights with chrome bezels shall be installed on the apparatus. Each light shall be mounted with four (4) screws to a flat surface. They shall be no more than 5.05" high by 7.41" wide and have a profile of less than 1.75" beyond the mounting surface.

Each light shall draw 3.33 amps, and generate 5,000 lumens of light. The LED scene lights shall be for fire service use.

The two (2) lights shall be installed forward on the side face of the apparatus body, one (1) on each side.

The driver's side and officer's side scene light(s) shall be controlled by a switch located on the V-Mux display in the chassis cab. One (1) rocker switch shall be located on the pump panel for each side of scene lights, for a total of two (2). The switch at the pump panel shall have an indicator that shall illuminate when the switch is in the "ON" position.

The activation for the driver's side scene lights on the V-Mux display and the pump panel switch shall be labeled "LEFT SCENE" and the officer's side shall be labeled "RIGHT SCENE."

107 AERIAL LADDER CONSTRUCTION STANDARDS

The aerial ladder shall be a rear mount design with the ladder extending toward the front of the apparatus when stowed. The aerial ladder shall be comprised of four sections and shall extend to a nominal height of 107 feet at 72 degrees, measured in a vertical plane from the top rung to the ground. To maintain a maximum level of safety, units exceeding a 76 degree angle of inclination, in accordance with NFPA 1931/1932, current edition, shall not be acceptable.

OPERATIONAL ENVELOPE/REACH

The aerial ladder shall have an operations range of negative 8 degrees elevation to positive 72 degrees elevation.

Oak Park Fire Department

Aerial Specifications

A minimum horizontal reach of 101'-5" shall be measured from the turntable centerline to the outermost rung on the outermost fly section, with the aerial at full extension and at 0 degrees elevation.

STRUCTURAL MATERIAL

The primary load support members of the ladder shall be constructed of certified 100,000 PSI yield strength (minimum) steel tubing, with full traceability on all structural materials. Each section shall be trussed diagonally, vertically, and horizontally using welded steel tubing. All critical points shall be reinforced for extra rigidity and to provide a high strength to weight ratio.

All ladder rungs shall be constructed of A606 Type 4 certified steel tested per ASTM A370 standards. A606 Type 4 exhibits superior corrosion resistance over regular carbon steel as a result of the development of a protective oxide film on the surface. A606 Type 4 shall meet a minimum 6.0 Atmospheric Corrosion Factor. The ladder rungs shall be round and welded to each section utilizing "K" bracing for torsional rigidity.

All welding of structural 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. Materials used to manufacture the structural components are to be certified by the mill that manufactured the materials. Certifications or re-certifications of structural materials by vendors other than the mill they were manufactured at will not be acceptable. Any material testing that is performed after the mill test will be for verification only and not completed with the intent of changing the classification. Any welded structural component for the ladder will be traceable to their mill lots.

PRIMARY DIMENSIONS

The inside dimensions of the ladder shall be as follows:

- Base Section - 40.250"
- First Fly Section - 33.500"
- Second Fly Section - 27.750"
- Last Fly Section - 22.500"

The height of the handrails above the center line of the rungs shall be as follows:

- Base Section - 28.875"
- First Fly Section - 24.875"
- Second Fly Section - 21.375"
- Last Fly Section - 17.375"

Oak Park Fire Department

Aerial Specifications

NFPA SAFETY FACTOR AND RATED CAPACITIES

The methodology, definitions, testing, and criteria used by the aerial manufacturer to determine the preceding and following Safety Factor and Rated Capacity of the aerial device shall be in strict compliance with the definitions of such, in accordance with NFPA 1901, current edition, and these specifications. Any apparatus claiming to exceed the testing requirements of NFPA 1901 shall provide certified documentation of the tests.

AERIAL DEVICE SAFETY FACTOR AND RATED CAPACITY

The purchaser desires to purchase with these specifications, an aerial device with a minimum 2.0:1 safety factor as required and in accordance with NFPA 1901, current edition. Therefore, the aerial manufacturer shall hereby certify, by submitting a bid for these specifications; that the aerial device meets or exceeds the following requirements.

The design stress or primary stress within all structural load supporting members of the aerial device shall not exceed 50% of the minimum as welded yield strength of the material based on the combination of the dead load of the aerial plus the rated capacity of 750 lbs. at the tip of the aerial; while flowing 1500 GPM, at a 90 degree angle to ladder centerline; with the structural load supporting members of the aerial device at either; an ambient temperature of 75 degrees F or an elevated temperature of 350 degrees F- thereby exhibiting a minimum 2.0:1 safety factor in all feasible operational conditions.

These capabilities shall be valid and true when the apparatus is deployed in the unsupported configuration, while flowing 1500 GPM, based upon 360-degree rotation, from full retraction to full extension, and at any degree of elevation (-8 to +72). In order to provide a clear picture of apparatus capabilities, any manufacturer with any restrictions to any of these capabilities shall provide the lowest ratings of tip load and water flow.

AERIAL DEVICE SAFETY FACTOR SERVICE LIFE

The purchaser desires to purchase an aerial device with a safety factor that remains NFPA compliant and constant throughout the life of the aerial device. The safety factor of every structural load bearing member in the aerial device shall remain above 2.0:1 for a "Safety Factor Service Life" of up to 20 years minimum. Any apparatus claiming to exceed the guidelines of NFPA 1901 shall provide certified documentation.

AERIAL SPECIAL LABELS

Legible, permanent signs shall be installed in positions readily visible to the operator to provide operational directions, warnings, and cautions. The signs shall describe the function of each control and provide operating instructions.

Oak Park Fire Department

Aerial Specifications

Warning and caution signs shall indicate hazards inherent in the operation of the aerial device. These hazards shall include, but shall not be limited to:

- Electrical hazards involved where the aerial device does not provide protection to the personnel from contact with, or near proximity to, an electrically charged conductor.
- Electrical hazards involved where the aerial device does not provide protection to ground personnel who might contact the vehicle when in contact with energized electrically charged conductors.
- Hazards from stabilizer motion.
- Hazards that can result from failure to follow the manufacturer's operating instructions.

AERIAL DEVICE SPECIFICATION PLACARD

A permanent label shall disclose the following information relative to the aerial device:

- Make
- Model
- Insulated or non-insulated
- Serial number
- Date of manufacture
- Rated capacity (s)
- Rated vertical height
- Rated horizontal reach
- Maximum hydraulic system pressure
- Hydraulic oil type and capacity
- All other appropriate labels to ensure safe operation of the aerial device shall be permanently secured in conspicuous locations.

THIRD PARTY NON-DESTRUCTIVE TESTING

Welds shall be tested using two (2) non-destructive methods by an independent third party. Devices that have not been certified by an engineer that is independent of the manufacturer shall not be acceptable. Welds shall be tested using two-(2) non-destructive methods by an independent third party inspection firm. Steel and aluminum ladders shall, at a minimum, have all welds tested using two-(2) separate NDT methods.

Aerial structures shall have 100 % of all structural welds tested using both magnetic particle method and visual testing method. Aerials that are fabricated of aluminum shall have 100% of all structural welds tested using dye penetrate method and visual method. Manufacturers who rely only on visual inspection, performed in-house or by a third party, as a primary method of testing shall not be considered, and their bid shall be rejected.

Oak Park Fire Department

Aerial Specifications

STRUCTURAL SAFETY FACTOR

The purchaser desires a device that has been tested by a third party for compliance with the 2 to 1 safety factor specified by NFPA 1901. Devices that have not been certified by an engineer that is independent of the manufacturer shall not be acceptable.

NFPA AERIAL STABILITY FACTOR AND TESTING

A one and one-half to one (1.5:1) stability factor shall be provided. These capabilities shall be established in an unsupported configuration. Since the device is rated while flowing water, stability testing shall account for the distributed weight of water in a full waterway and water reactionary force as required by NFPA 1901.

The following are specific descriptions of what tests are to be performed, and conditions they shall be performed under, and strictly adhered to by the aerial manufacture set forth in these specifications and the current edition of NFPA 1901.

For both of the following tests, the only obstructions to a full 360-degree rotation with the aerial at 0 degrees elevation and full extension; shall be presented by the apparatus itself, and not external obstructions at the manufacturer's test location. This means that the aerial device manufacturer shall ensure that the testing grounds present no obstruction (trees, buildings, etc.) to the full 360-degree rotation at 0 degrees elevation and full extension, which may cause the need to raise the aerial to clear the obstruction.

Additionally, the apparatus shall be tested for stability only after the entire apparatus is complete. Manufacturers using a third-party to manufacture the aerial device must provide certified documentation the unit was tested by the manufacturer of the aerial and the final OEM manufacturer. This requirement is specified in NFPA 1901 as the apparatus being in "service-ready condition". There shall be no exception to this requirement due to the fact that it would be unlikely that actual weight distribution could be accurately simulated for the stability testing.

TEST 1

After the above conditions have been satisfied, the aerial shall be subjected to the following test in the presence of the third party testing company that is in compliance with these specifications. Specifically, the aerial device shall be placed on level ground with the stabilizers deployed per manufacturer recommendations. The aerial device then shall have 1.5 times the rated capacity placed at the tip of the aerial, with the device at full extension and at 0 degrees elevation, which is the most stringent configuration. The device shall be rotated 360 degrees raising and lowering the aerial as needed to clear the cab of the apparatus. The aerial shall prove to be stable during the entire test and no component of the aerial shall permanently deform.

Oak Park Fire Department

Aerial Specifications

TEST 2

After the above conditions have been satisfied, the aerial shall be subjected to the following test in the presence of the third party testing company that complies with these specifications. Specifically, the aerial device shall be placed on a 5-degree downward slope with the stabilizers deployed per manufacturer recommendations. The aerial device then shall have 1.33 times the rated capacity placed at the tip of the aerial, with the device at full extension and at 0 degrees elevation, which is the most stringent configuration. The device shall be rotated 360 degrees raising and lowering the aerial as needed to clear the cab of the apparatus. The aerial shall prove to be stable during the entire test and no component of the aerial permanently deform.

RUNG COVERS

Each rung shall be covered with secure, heavy duty, deeply serrated rubber sheathing. The rung cover shall be installed on a minimum of sixty percent (60%) of each ladder rung. Attachment of the sheathing to the rung shall be by mechanical means and an adhesive application. Under no circumstance shall the rung covers turn when a rung is at ambient temperature (75 degrees F) or at an elevated temperature (350 degrees F); there shall be no exception to this requirement for the safety of persons climbing the ladder sections.

The sheathing shall be easily replaceable if the rubber becomes worn, however, the rung covers shall be designed, constructed, and installed with lifetime service as the objective. To ensure ease of maintenance if damaged, manufacturers using embossed metal in place of the rubber rung covers are not acceptable.

To prevent corrosion of the rungs by introducing air to the inside, under no circumstances will rung covers attached with screws or rivets be acceptable.

HEAVY DUTY LADDER TRAVEL SUPPORT

A heavy duty ladder rest with poly pads shall be provided for support of the ladder in the travel position. The location of the travel support shall be directly behind the chassis cab. The travel support shall be fabricated from heavy duty steel and painted to match the primary body color. If the body is a two-tone design, the travel support shall be painted to match the top body color. The travel support shall be designed to be easily removable to allow for ease of maintenance and repair if necessary.

The base section of the ladder shall contain stainless steel scuff plates where the ladder comes into contact with the ladder support.

An indicator light shall be provided on the turntable to indicate when the ladder is aligned with the travel support and may be lowered into it. The ladder rest shall be attached to the front outrigger box assembly for added stability.

The ladder rest shall be illuminated for night time operation. The illumination light shall automatically activate with the aerial master switch.

Oak Park Fire Department

Aerial Specifications

CRADLE INTERLOCK SYSTEM

A cradle interlock system shall be provided to prevent the lifting of the ladder from the nested position until the operator has positioned all of the stabilizers in a load supporting configuration. An interlock switch shall be installed at the cradle to prevent operation of the stabilizers once the aerial has been elevated from the nested position.

ELEVATION SYSTEM

Two (2) double acting lift cylinders shall be utilized to provide smooth precise elevation from 8 degrees below horizontal to 72 degrees above horizontal. The lift cylinders shall have a 6" internal diameter (bore) and a 2.5" solid cylinder rod. The lift cylinders shall be equipped with counterbalance valves located on the cylinder to prevent the unit from lowering should the charged lines be severed at any point within the hydraulic system.

The lowering of the ladder shall be controlled by a pressure limiting valve to limit the downward pull of the ladder when it is bedded. Both raising and lowering functions shall be influenced by flow compensation, which shall maintain ladder tip speed within the design speed regardless of load, angle, or extension. Ladder tip speed shall be decelerated above 65 degrees in order to reduce "tip-lash". Ladder lowering shall be controlled on the down motion to prevent the cylinders from completely retracting, thus allowing a cushion of oil for continuous ladder load readout.

The elevation cylinder upper and lower pivot pins shall be installed with a secondary tensioning system to secure the pins and prevent them from slipping out over time. The design shall not inhibit the pins from being removed for future servicing purposes.

EXTENSION/RETRACTION SYSTEM

A fully hydraulic powered extension and retraction system shall be provided using two (2) sets of Siamese hydraulic cylinders and cables. Each set shall be capable of operating the ladder in the event of a failure of the other. The extension cylinders shall each have a 3.5" internal diameter (bore) and a 1.5" diameter solid rod. Extension and retraction of the telescopic sections shall be internally limited within the cylinders, eliminating excess strain on the cables, sheaves, and ladder structure. Each of the cylinder, cable, and sheave assemblies shall be completely independent of the other, to provide a safety factor wherein a failure of one assembly will not affect the function and operation of the other. The extension cylinders shall be equipped with counter balance holding valves to synchronize the cylinders for smoother operation and prevent the unit from retracting should the charged lines be severed at any point within the hydraulic system. The holding valves shall be mounted directly on the cylinders with no hoses between the valve and the cylinder.

The reeling of the cable shall be such to provide synchronized, simultaneous movement of all sections from full extension to full retraction. All pulleys and sheaves shall be enclosed as an added safety feature as well as to prevent personnel on the ladder from becoming entangled in them.

Oak Park Fire Department

Aerial Specifications

MAINTENANCE FREE SHEAVE BEARINGS

The aerial sheave bearings shall be made with continuous wound PTFE and high-strength fibers encapsulated in a lubricated, high-temperature epoxy resin. This material shall be corrosion-resistant, have a high load capacity, and be self-lubricating.

It shall also be resistant to shocks, misalignment, and wear. The bearings shall not require lubrication. Aerial cable systems that require extensive maintenance, and constant lubrication, are not acceptable.

AERIAL CABLES

To ensure a maximum level of safety the following standards shall be used on the extension and retraction cable system with no exception:

- Cables shall have a 5:1 safety factor based on ultimate strength under all safe operating conditions.
- The factor of safety shall remain above 2:1 during any extension or retraction system stall
- The minimum ratio of the diameter of cable to the diameter of sheave shall be 1:12

All cables shall be pre-stressed, proof-loaded, and certified by the cable manufacturer to minimize changes to the cable lengths and performance.

CERTIFIED CABLE SWAGED SHACKLES

All swaged shackle ends shall have a certification test from the manufacturer of the assembly.

IGUS ENERGY CHAIN

The electrical cable, hydraulic hose and/or air hose shall be routed through the interior of the structural tubing of the ladder sections as well as utilizing Igus energy chain. The energy chain shall be routed through the inside section of the vertical side walls of the aerial ladder device. The cable and/or hose routing shall use one or both bottom cord rectangular tube(s) on the base section of the ladder and the bottom cord rectangular tube(s) on the last ladder fly section. The ladder sections between the base and last fly shall utilize the energy chain in order to route all electrical cables and hose lines.

Each model of energy chain used shall be adequately sized to fit the application.

Rollers, which are located in the lower portion of the ladder section(s), shall be constructed of a nylon plastic material that is specifically designed for these types of applications. Spacer pads, made from the same material as the rollers, shall be installed and evenly spaced in order to secure the Igus energy chain within the specifically designed carrier shield(s).

Oak Park Fire Department

Aerial Specifications

The electrical cables used to transfer power to the ladder tip shall be Igus Chain Flex cables. These cables are specially designed for the Igus energy chain system and custom fit for each aerial apparatus.

Igus Energy chain is virtually wear-free and offers extremely quiet operation. Igus energy chain is very well suited to resist the harsh environmental conditions by being able to withstand extreme temperatures and is UV resistant.

WEAR PADS/BEARING SURFACES

Nylon wear pads impregnated with molybdenum disulfide and high in molecular weight shall be used between the telescoping sections for maximum weight distribution, strength, and smoothness of operation. This impregnation shall provide a lubricating function.

Stainless steel adjustment screws shall be provided on the wear pads to permit proper side tension. Plates shall be installed on the sides of the slide pads where adjustment screws come into contact with them. No exceptions shall be allowed to this requirement to prohibit the adjustment screws from embedding themselves into the pads, which may cause the pad to crack and fail.

To prevent additional maintenance and pressure points from the limited surface area, roller systems in place of wear pads will not be considered acceptable.

ROTATION BEARING

A 44-inch diameter external tooth, swing circle bearing shall be used for the rotation system. The bearing shall provide 360-degree continuous rotation. The bearing shall be designed specifically for the aerial device in lieu of the aerial device being designed to accommodate a particular bearing.

The bearing shall be bolted to the turntable and to the base support structure with SAE grade 8 bolts. Welding on the bearing in any manner shall not be acceptable.

The turntable base and the torque box bearing plate surfaces that contact the bearing shall be machined to prevent loading the bearing when the attaching bolts are brought to full torque. Machining of the surfaces shall be done after all welding to assure no further distortion of the material.

Shims shall not be acceptable as they reduce the surface contact area significantly thereby causing a concentration of forces at the shims.

BOLT TORQUING FROM TOP SIDE

All rotation bearing bolts shall be torqued from the top side of the turntable without the bolt or nut being held under the turntable by a person. Units requiring removal of equipment to access the torque bolts shall be considered unacceptable.

Oak Park Fire Department

Aerial Specifications

This design shall prevent the bolt from "spinning" while torque is being applied to the fastener. Application of Loctite or a similar compound alone, without any other means provided to hold the fastener shall not be acceptable. Additionally, this design feature shall not incorporate drilling, bending, welding on, or in any way modifying the structural fastener, nut, or washers.

ROTATION GEAR REDUCTION BOX

A hydraulically driven planetary gearbox with a drive speed reducer shall be used to provide infinite and minute rotation control throughout the entire rotational travel. The rotation gear reduction box shall be installed on the top side of the turntable so that it is easily accessible, yet it shall be installed so that it does not provide an obstruction or tripping hazard to persons on the turntable. Specifically, it shall be installed toward the front of the turntable, under the aerial ladder base section. Under no circumstance shall the gear box present any interference with the aerial device, even at low elevations.

Due to the additional maintenance required to keep two (2) rotation motors functioning properly without binding, units requiring more than one (1) rotation motor are not considered acceptable.

A spring applied, hydraulically released disc type swing brake shall be furnished to provide positive braking of the turntable assembly.

Provisions shall be made for manual operation of the rotation system should complete loss of hydraulic power occur. These provisions shall include a manual rotation drive tool supplied with the apparatus.

The hydraulic system shall be equipped with pressure relief valves, which shall limit the rotational torque to a nondestructive power. All moving parts of the rotation gear reduction box shall be enclosed or under the turntable decking eliminating safety hazards.

ROTATION INTERLOCK SYSTEM

The aerial device shall be equipped with a rotation interlock system to prevent the ladder from being rotated to any side where the stabilizers are not sufficiently extended to provide for the tip load rating. The appropriate load chart will appear on the display screens on the display depending on the outrigger spread.

The system shall monitor the stabilizers for extension. When a stabilizer is not sufficiently extended to achieve a tip load rating, the system shall prevent the aerial from being rotated to a position past the front or rear center line of the apparatus that would create an unstable condition.

A slowdown feature shall be built into the rotation interlock system.

The rotation interlock system shall allow for normal operation of the side of the apparatus where the stabilizers are sufficiently extended to provide a load rating.

Oak Park Fire Department

Aerial Specifications

VERRIDE SYSTEM

An override system shall be provided that allows the operator to rotate the aerial into the short-set side of the apparatus, should the situation absolutely demand it.

AERIAL STOW OPERATION INTERLOCK SYSTEM

A feature shall be included in the aerial operational system that limits the possibility of damage to the apparatus when stowing the aerial.

When a rear mounted aerial is positioned over the cab area of the apparatus, the interlock system shall not allow the downward movement of the aerial below a preset angle of elevation, unless the aerial is rotated into the bed-zone envelope. Once this bed-zone envelope is attained, downward movement of the aerial shall be allowed for proper positioning into the bed support.

An indicator shall be located at the turntable pedestal on the display to inform the aerial operator when the bed-zone envelope is attained.

AERIAL COLLISION PROTECTION INTERLOCK SYSTEM

The apparatus shall be equipped with an aerial collision protection system. This system shall prevent the aerial device from moving into zones where it would contact parts of the cab or body.

A manual override consisting of three (3) levers at the turntable shall be provided to override the aerial collision protection.

POWER TAKE-OFF

The apparatus shall be equipped with a power take-off (PTO) driven by the chassis transmission and actuated by an electric shift, located inside the cab. The PTO, which drives the hydraulic pump, shall meet all the requirements for the aerial unit operations.

"THRU-DRIVE" HYDRAULIC PUMP

The hydraulic system shall be supplied by a pressure compensated, load sensing, variable gallonage type pump. The pump shall provide adequate fluid volume to allow all ladder functions to operate simultaneously, without noticeable loss of speed. The pump shall supply oil only when the ladder is in motion, thereby preventing overheating of the hydraulic oil.

The pump shall be a "thru-drive" design. This design shall be provided for applications that require a power source for additional hydraulically operated accessories or tools.

Oak Park Fire Department

Aerial Specifications

An interlock shall be provided that allows operation of the aerial device PTO shift only after the chassis spring brake has been applied and the chassis transmission has either been placed in the neutral position or the drive position if the driveline has been disengaged from the rear axle.

HYDRAULIC SYSTEM

The tubing and hoses used in the hydraulic system shall have a high-pressure rating, with the tubing having a minimum burst pressure of 9,600 to 17,400 PSI and the hoses being a minimum of 8,000 to 13,000.

The hydraulic oil tank shall be a polypropylene tank with an approximate capacity of 28 gallons. A sight gage shall be provided to check the oil level. The oil fill shall be furnished with a cap that shall act as a ventilator to provide clean fresh air into the oil tank and a 3-micron filter to provide positive protection from contaminants. An easily accessible 10-micron replaceable return oil filter shall be installed in the hydraulic oil tank and a 3-micron high pressure oil filter shall be installed near the oil tank. The hydraulic oil tank shall have a main suction outlet for normal operation and a reserve line that will tee off the drain to provide reserve oil for EPU operation in case the suction line is compromised.

The hydraulic system shall be protected from possible hydraulic pump malfunctions by a relief valve, which shall route the excess oil into the oil tank when the pressure in the hydraulic system exceeds 3,500 PSI. The hydraulic control valves shall also be plumbed to a pressure relief valve to protect them from excessive pressure.

The hydraulic system shall be designed in such a way that all non-sealing moving components whose failure could result in motion of the aerial device shall have a minimum bursting strength of four times the maximum operating pressure to which the component is subjected. The hydraulic system shall use a forced air heat exchanger to provide adequate cooling for continuous operation of not less than 2-1/2 hours.

HYDRAULIC PRESSURE GAUGE SMART REACH

A hydraulic pressure gauge shall be programmed into the Smart Reach system.

EMERGENCY PUMP

The apparatus shall be equipped with one (1) emergency hydraulic pump electrically driven from the chassis battery system. The emergency pump shall be capable of providing adequate ladder functions to stow the aerial and stabilizers in the case of main hydraulic pump failure.

Two (2) control switches for this emergency pump shall be provided. One switch shall be installed at the turntable control console and the stabilizer control station. The switches shall be labeled EPU.

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Aerial Specifications

The switch at the stabilizer control station shall be a lighted momentary switch. The switch at the turntable control pedestal shall be a lighted switch on the switch pad.

HYDRAULIC SWIVEL

The aerial ladder shall be equipped with a swivel at the turntable. The swivel shall connect the hydraulic lines from the hydraulic pump and reservoir to the aerial control bank at the turntable, above the point of rotation.

The swivel shall connect all the electrical circuits through the rotation point. A minimum of thirty-two (32) collector rings shall be provided. All collector rings shall be enclosed and protected with desiccant plugs to protect against condensation and corrosion. Due to the possibility of paint contamination and dirt attraction, units requiring oil or silicone to protect the collector rings shall not be acceptable.

The swivel shall allow for 360 degrees of continuous rotation of the aerial device with no loss of speed or capacity in functions.

ANGLE INDICATOR

A liquid filled angle indicator shall be mounted on the base section of the aerial ladder. The indicator shall give accurate elevation in degrees from -20 to +80 degrees in relation to level. The liquid shall be of proper viscosity and composition to remain in liquid form even when exposed to below zero temperatures. Reading of the indicator shall be accomplished by observing the position of a suspended ball in relation to the degrees of elevation as marked on the indicator housing. The indicator shall be backlit for visibility in low light conditions.

EXTENSION INDICATORS

Numerals shall be applied to the inside of the handrail of the base section opposite the turntable control console. The numerals shall be at appropriate intervals indicating total aerial extension in 5-foot increments. A band on the first fly section shall align with these marks at the appropriate extension distance. The extension indicator color shall provide a high contrast with the color of the ladder section to which it is applied. This shall make the length of aerial extension easily readable by the operator by merely glancing at the indicators. Numerals indicating the length of extension shall be placed adjacent to indicating bands.

MANUAL ROTATION DRIVE TOOL

As required by NFPA 1901, one (1) manual rotation drive tool shall be provided as a means to rotate the turntable in the unlikely event of power loss. This drive tool shall be provided as standard equipment.

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Aerial Specifications

TORQUE BOX

A "torsion box" subframe shall be installed on the chassis frame rails, integral with the stabilizers. The torque box shall be constructed of steel plate. The steel plates shall have a minimum yield strength of 36,000 psi and ultimate tensile strength of 58,000 - 80,000 psi. The torque box subframe assembly shall be capable of withstanding all torsional and horizontal loads when the apparatus is supported by the stabilizers. The torque box shall be bolted in place to the chassis frame rails.

The torque box shall have a section modulus of 516.9 cubic inch and a resistance to bending moment of 18,611,273 inch pounds.

The aerial torque box shall be painted with AkzoNobel High Solids polyurethane paint. The color shall be black.

To prevent unnecessary stress on the chassis, apparatus that use the chassis frame in place of a true torque box shall not be acceptable.

The torque Box will be adequately lit for night time operations.

FRONT AND REAR STABILIZERS

Two (2) sets of stabilizers shall be installed for stability. Both sets shall be an extending box beam "H" style. Each set of stabilizers shall support full, certified aerial capabilities at a spread of 16.8 feet, measured from the outermost edge of the stabilizers on each side of the apparatus.

The apparatus shall be equipped with the Multi-Stance system. There will be three (3) outrigger spread zones for tip load ratings of 250, 500 and 750 pounds.

For additional stability, the stabilizers on each side of the apparatus shall have the capability of extending to a maximum spread of 18 feet. Apparatus using measurements other than from each outside edge of the stabilizers shall not be considered acceptable.

The front stabilizers shall be located directly behind the chassis cab rear wall for maximum setup ability with minimal cab deflection. The stabilizers shall be an integral part of the torque box. A heavy-duty undersling assembly shall attach the front stabilizers to the front portion of the torque box. The overlap of the undersling and the torque box shall be a minimum of 24". The bottom side of the tubes shall contain a truss assembly that shall maximize the torsional strength of the undersling assembly.

The front stabilizers and torque box shall be attached to the truck frame in six (6) separate locations, three (3) on each side of the apparatus, utilizing steel plate. The mounting plates shall be located directly under the front stabilizers, under the front torque box area and at the rear stabilizer area.

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Aerial Specifications

The rear stabilizers shall be located directly behind the chassis rear wheels. The stabilizers shall be an integral part of the torque box.

The stabilizers shall be of the double box tube design with jack cylinders that have a 5" internal diameter (bore) and a 2.5" diameter solid cylinder rod. The jack cylinders shall be equipped with integral holding valves, which shall hold the cylinders either in the stowed or the working position, should a charged line be severed at any point within the hydraulic system.

The steel used to build the stabilizer system shall have a minimum yield strength of 36,000 psi and ultimate tensile strength of 58,000 80,000 psi.

Vertical jack cylinder rods shall be fully enclosed by a telescoping inner box to protect the cylinder rods, seal glands and pistons against damage from nicks, abrasion, and chrome damage. All vertical stabilizer cylinders shall be removable from the top of the box tube. The inner double box system shall be further designed to stabilize the column load imparted upon the cylinder rod, thereby also protecting against damage which may occur from lateral loading possibly caused by side slopes, shifting or sliding of the apparatus on icy or unstable surfaces, sudden sinking of one or more jack pads, or on scene collision while the aerial device is deployed. Vertical stabilizers that require cylinders to be removed from the bottom, or have the vertical stabilizer cylinders exposed, shall not be acceptable.

The stabilizers shall be connected to the hazard light circuit to warn the driver if they are not stowed when the parking brake is released.

Each extending style stabilizer shall have a polished stainless steel stabilizer cover. The cover shall be adjustable to allow for a proper fit.

The stabilizers shall contain safety lock valves and require no mechanical stabilizer pin locks, pin storage holders, or pin holes machined in the stabilizer extending beams.

STABILIZER STROKE

The stroke of the stabilizers shall be a minimum of 25". The stabilizer pad shall be maintained at a stored height of approximately 12" to 15" (dependent on required ground clearance and angle of departure) resulting in a minimum ground penetration of 10" or greater.

STABILIZER FINISH

The extending front/rear stabilizer beams, inner jack tubes, and stabilizer pads shall be shot blasted to remove any mill scale or contamination. The individual components shall then be hot dip galvanized. The galvanizing process shall require that the entire assembly is completely submerged. Following the galvanizing process, the surface shall be ground smooth to remove dross. This preparation shall provide maximum protection for these critical components. No exceptions shall be allowed to this requirement due to stabilizers exposure to salt spray and road debris.

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Aerial Specifications

The outer tubes shall be finished with a water-based, high quality, single component acrylic primer. The primer color shall be flat black.

STABILIZER EXTENSION SYSTEM

Extension of the front and rear horizontal beams shall be activated by dual extension cylinders, which shall each have a 2" internal diameter (bore) and a 1.25" diameter cylinder rod. The extension cylinders shall be totally enclosed within the extension beams to prevent damage to the rod and hoses. The extension beams shall be 6.00" x 8.00" x .375" wall steel tubing with a .62" steel plate welded to the top and bottom of each beam.

WEAR PADS/BEARING SURFACES

Nylon wear pads impregnated with molybdenum disulfide and high in molecular weight shall be used between the stabilizer housing assembly and the extension tube for maximum smoothness of operation.

Two (2) Nylatron wear pads shall be installed in each stabilizer extension system. There shall be one wear pad located on the top back portion of the extension tube assembly that shall glide on the inner wall of the top housing tube wall. There shall be an additional pad located on the inner wall of the bottom housing tube wall that shall separate the bottom side of the extension tube and the bottom wall of the housing tube. The pads shall be installed in such a manner as to reduce friction for ease of operation and to reduce the amount of metal to metal contact.

Each stabilizer down jack housing tube shall contain four wear pads, one (1) on each side of the tubes.

STABILIZER ANGLE LEVEL GAUGES

One (1) manual angle level gauge shall be located on the rear of the apparatus. The gauge shall have a sight bubble that will measure the side-to-side angle of the apparatus in 2 degree increments.

One (1) manual angle level gauge shall be located on the side of the apparatus, near the rear. The gauge shall have a sight bubble that will measure the fore-to-aft angle of the apparatus in 2 degree increments.

STABILIZER MOTION CONTROLS

The stabilizer controls shall be located at the rear of the apparatus. Two (2) stations with brushed stainless steel doors shall be installed, one (1) on each side at the rear, arranged so that the operator has visibility of the stabilizers being positioned.

All stabilizer control functions shall be of the electric paddle switch style. The controls shall allow each stabilizer to be operated independently.

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Aerial Specifications

The diverter valve shall automatically allow the hydraulic fluid to flow either to the stabilizer circuit or the turntable and ladder circuit. A stabilizer deployment alarm shall sound from the time the first stabilizer is deployed until all stabilizers are in the load supporting configuration.

STABILIZER SYSTEM CONTROLS

A control panel with a brushed stainless steel door shall be located at the center rear of the apparatus. The control panel shall be illuminated for night time operation.

A 7.0 inch diagonal sunlight-readable screen will at a minimum display the following information:

- Apparatus Slope The absolute value of the side to side slope to nearest 0.2 degree. Cab image will be shown tilted on display.
- Apparatus Grade Value The absolute value of the fore and aft grade value of apparatus to nearest 0.2 degree. Truck image will be shown tilted on display.
- Outrigger spread and plant status
- High Idle status
- PTO Engaged status

AUTO LEVEL SYSTEM

The apparatus shall be equipped with an auto leveling system programmed into the Smart Reach display.

AUXILIARY STABILIZER PADS

An auxiliary pad for additional load distribution on soft surfaces shall be supplied for each stabilizer. The pads shall be constructed of ultra-high molecular weight composite material that is a minimum of 1" thick with a minimum surface area of 576 square inches. The auxiliary pads shall be stored in locations that are readily accessible.

STABILIZER COVER WARNING LIGHTS

One (1) Whelen 600 Series Super-LED flashing light shall be installed on each extending stabilizer cover panel, for a total of four (4). These lights shall be red in color and activated by the aerial master switch.

STABILIZER ARM WARNING LIGHTS

Eight (8) Whelen 5G Series Super-LED red flashing lights shall be mounted on the stabilizer beams. Each stabilizer beam shall include two (2) lights, one (1) facing forward and one (1) facing rearward. The lights shall be mounted inboard of vertical jack tubes. The warning lights shall be activated by the aerial master switch.

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Aerial Specifications

STABILIZER WORK LIGHTS

Four (4) Truck-Lite LED clear floodlights shall be provided at each stabilizer location to illuminate the surrounding area. The lights shall be located under the stabilizer beams and activated by the aerial master switch.

TURNTABLE

The turntable shall provide a generous working area, regardless of the position of the aerial, including when positioned at maximum elevation.

The turntable shall be a minimum of 95" side to side and 95" forward to aft.

It shall be covered with Tread-Grip Safe-Deck pattern decking to allow the walking surface to shed liquids and to provide secure footing for the operator per NFPA requirements.

A downward lip shall "skirt" the turntable decking around the entire circumference to provide protection from hazards.

All hoses and electrical lines shall be routed under removable covers in order to prevent a tripping hazard. The covers shall also be designed to prevent damage from occurring to these components. The center of the turntable shall have a removable step cover to prevent tripping hazards as well as provide for an easier transition to the first rung of the aerial ladder.

AERIAL PIVOT PINS

The aerial device pivot pins shall be located on the turntable and shall attach the aerial device base section to the turntable. To maintain a suitable safety factor, the pivot pins shall be composed of certified structural steel, thereby ensuring structural integrity.

In the interest of safety, the pivot pins shall be located as low as possible and shall be at the aerial device base rails. This shall keep the pivot points away from the areas where persons regressing to and from the aerial base section, might place their hand(s).

Aerial pivot pins shall be installed with a means to keep the pins in place. The design shall not inhibit the pins from being removed by a qualified mechanic.

TURNTABLE HANDRAILS

Three (3) handrails shall be of one piece construction and provide large sweep corners at the edge of the turntable. Each shall be 42" high and shall be constructed of knurled stainless steel. The handrails shall be installed around the rear 180 degree perimeter of the turntable for operator and personnel safety. Each individual handrail shall be secured to the turntable by the use of two (2) minimum 5/8" anchor bolts on the underside of the turntable. Additionally, chrome plated stanchions with rubber gaskets shall be provided on the top surface of the turntable where each railing meets the decking surface.

Oak Park Fire Department

Aerial Specifications

There will be two (2) openings in the handrails for access from the turntable access ladders.

TURNTABLE RESTRAINTS

Two (2) FRC ManSaver Bars, without covers, shall be installed in the spaces between the handrails. They shall be permanently attached at one end.

TURNTABLE WORK LIGHTING

The turntable shall be lighted for night time operation with four (4) LED angled work lights, which shall be automatically activated by the aerial master switch (day or night). The work lights shall be positioned so the light is directed toward the decking. The lights shall have integral chrome hoods to keep light from glaring upward into the operator's eyes.

An additional Fire Tech LED light shall be mounted on the control stand.

AERIAL HOUR METER

Total aerial run time shall be available on the control console display.

PRIMARY OPERATOR CONTROL CONSOLE

The Primary Operator control console shall be located on the turntable to the left of the ladder. The console controls shall be illuminated by a Fire Tech LED light and have a hinged protective cover with gas-spring assist. The console surface shall be angled toward the operator so controls may be viewed and operated ergonomically.

Three (3) joysticks for the ladder hydraulic functions (elevation, rotation, and extension) shall be installed at the control console. Each joystick shall feature redundant signals to maximize reliability. The joysticks shall be capable of being operated independently or simultaneously with a gloved hand. The speed of the aerial device shall be minimally affected when multiple controls are activated simultaneously.

The control console surface shall be fabricated from aluminum and shall include a scratch-resistant graphic overlay.

The following standard items shall be furnished at the console, clearly identified and located for ease of operation and viewing:

- Elevation, Extension and Rotation Joystick Controls
- Machine-Stop Control Button
- Panel Light Mounted in Cover
- Panel Lighting Control
- Ladder Rung Lights Control
- Aerial Device Enable Control
- Aerial Base Lighting Control

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Aerial Specifications

- Emergency Power Unit Engage Control
- Operators Load Chart Mounting Location
- Sunlight-Readable Touch-Screen Dynamic Load Chart Display
- Safety Signs
- Aerial Speed Adjustment Control

The following optional items shall be furnished at the console when specified:

- Ladder Tip Lights Control
- Tip Controls Enable Switch
- Positional Waterway Controls
- Water Monitor Controls
- Turntable to Tip Intercom
- Automatic Device Stow Control
- Aerial Waterway Discharge Valve Control
- Aerial Waterway Drain Valve Control
- Air Horn Control

AERIAL SMART REACH INFORMATION SYSTEM

AERIAL DISPLAY

The aerial shall be equipped with an 11" class color LVDS TFT LCD display with backlight located at the primary operator control console. The display shall be viewable in direct sunlight, equipped with anti-glare surface and a resolution of 1280x768 pixels, 24-bit color and PCAP touch technology allowing capacitive touch with a gloved hand.

The display shall feature LED backlighting, 1000 cd/m2 typical brightness. The display shall include an internal microprocessor Renesas R-Car M2 with Arm Cortex A15 dual-core processor at 1.5 GHz at 32-bit utilizing a QNX Realtime operating system. The display shall have a minimum 8 GB flash memory and 512 Mbytes SDRAM. The display shall support J1939 and RS-485 communication protocols.

User inputs shall be accomplished utilizing touchscreen menus located directly on the display. The display shall be capable of operating -40° C to +70° C and a minimum IP67 rating front and back. For maximum protection, the display case shall be constructed of Polycarbonate capable of random vibration, 3.9 Grms (10-350 Hz), 3 axis and a shock of +/- 50G in 3 axis.

The display will gather ladder positional data from an array of sensors. This data will not only be displayed for the device operator, but the rotation and elevation sensors will also be used to protect the body, cab, and installed components from collision damage caused by the aerial device.

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Aerial Specifications

SCREENS

The display will provide the operator a view of the aerial device in the current position. Images of firefighter will appear on the device image based on the relevant data from the following sensors:

- Stabilizer Plant Sensors
- Stabilizer Extension Sensors
- Aerial Extension Sensor
- Aerial Elevation Sensor
- Aerial Rotation Sensor

Using this information, the display will show an applicable dynamic load chart for the achieved stabilizer configuration.

In addition, the display shall provide the operator with critical aerial information in an easy to read format as follows:

- Dynamic Load Rating appropriate for the achieved stabilizer configuration
- Ladder Rotation Position Graphic
- Ladder Rotation Position 0 Â- 360 Degrees
- Ladder Extension Length-Percentage of total extension shown
- Vertical Height Percentage of full vertical height
- Horizontal Reach Percentage of full horizontal reach
- Stabilizer Extension Graphic showing achieved stability zone
- Bed Zone Alignment Display when ladder is positioned directly above the cradle
- Hydraulic System Pressure Hydraulic pressure
- Aerial Hours Aerial operational hours for maintenance tracking

Engine Information Screen An icon depicting an engine shall be displayed. Pressing this button shall allow the operator to switch to the screen displaying chassis engine information.

Day/Night Display Mode Â- An icon depicting the sun or the moon shall be displayed. Pressing this button shall switch the display to from a bright format for daytime use or a subdued format for nighttime use to maintain greater vision of the operator.

The following information shall be displayed on a system information page:

- Customer name
- Production number
- Aerial device type
- Aerial device model number
- Aerial device serial number
- Rated vertical height
- Rated horizontal reach
- Rated capacity

Oak Park Fire Department

Aerial Specifications

The following information shall be displayed on the chassis engine information screen

- Engine coolant temperature
- Oil pressure
- Transmission temperature
- Fuel level
- Battery voltage
- Engine RPM
- Engine warnings

SYSTEM LOCK CONTROL

A push/pull systems engagement control shall be installed at the turntable control console and a foot switch systems engagement control shall be installed beneath the turntable control console. With the mushroom switch pulled, depressing the foot switch shall energize the aerial ladder controls. Ladder movements will be locked when the foot switch is not depressed or the mushroom switch is pushed in. The controls shall energize the hydraulic system for the ladder function and provide the flow of hydraulic fluid to the master valve bank. An automatic throttle switch shall be attached to the systems engagement control that advances the engine speed to a preset RPM when any lever is moved. When all levers are returned to the neutral position, the engine speed shall return to the normal idle RPM.

HANDHELD RADIO REMOTE CONTROL SYSTEM

A six (6) function handheld radio remote control system shall be installed on the apparatus. The remote control system shall operate the normal aerial operation functions. The radio remote control system shall consist of a Magnetek MiniPGT radio remote and a Magnetek MHR radio receiver. Both the radio remote and the receiver shall be IP66 rated in order to provide maximum service life in harsh conditions. The system shall operate on the 2.4 Ghz frequency in accordance with FCC regulations for point to point radio equipment.

The radio remote control shall be the pistol grip type and contain three (3) booted momentary toggle switches for the aerial functions:

- Up/Down
- Left/Right
- Extend/Retract

The control module shall contain a finger trigger that is conveniently located on the back bottom portion of the control module. The trigger switch shall be utilized to determine the variable speed of the respective aerial functions. The radio control will contain battery and transmitter status lights as well as a push pull mushroom style emergency stop switch. All switch functions shall be labeled on the front cover. The receiver shall be powered using three (3) AA batteries.

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Aerial Specifications

The MHR radio receiver shall be equipped with a monochrome display that will show battery life and signal strength of the radio remote. The receiver will have six (6) proportional current controlled outputs (Up, Down, Extend, Retract, Left, Right), rated to a maximum of 3 amps. The speed of each function shall be programmed at the factory.

The radio remote and receiver shall be IP66 rated for harsh environments.

LADDER RETRACTION PAUSE

Ladder retraction will pause before the tip operator folding steps overlap with the rungs of another section. The turntable operator can only continue retraction by holding the enable button while activating the retraction joystick.

AIR HORN ACTIVATION

An air horn button shall be programmed in the smart display on the aerial turntable console.

AERIAL LADDER LOAD CHART

Real-time load chart animation shall be incorporated into the Smart Reach display providing the operator the exact device load allowance on each section of the ladder for the current configuration. The load chart shall illustrate the full operating range of the ladder, with the waterway dry or flowing water. In addition there shall be physical load charts provided at the pedestal to cover the multi-stance capabilities when the apparatus is leveled in either the green or yellow zones.

AERIAL COMMUNICATION SYSTEM

A Fire Research Always Clear Talking (ACT) Intercom, model ICA900-112, two-way system shall be provided between the aerial tip and the turntable control console. The intercom kit shall include two control modules, one at the aerial tip that is hands-free and one at the turntable control console that has a push-to-talk button, two speakers, and cables. The interconnection between control modules shall require two wires. The control modules shall have a LED volume display and push-button volume control. The hands-free module shall constantly transmit to the other module unless the push-to-talk button is pressed.

The intercom shall be designed for exterior use. The control module shall be no more than 2 7/8" high by 5 1/8" wide by 1 7/8". The speaker shall be no more than 5 1/8" high by 5 1/8" wide by 1 1/2" deep. The power requirements for each control module with a speaker shall not exceed 1/2 amp at 12 VDC.

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Aerial Specifications

ALIGNMENT ARROWS

There will be painted aluminum ladder alignment arrows installed on the apparatus. The arrows will be placed one (1) on the top surface of the turntable near the control station and the other arrow will be placed on the top of the body so that they are lined up when the ladder is bedded.

The color that the arrows shall be painted will be determined by the apparatus manufacturer, unless a specific color is clarified in the shop note.

TRACKING LIGHTS

Two (2) Fire Research SoBrite LED compact ultra bright lights shall be installed low ahead of the cradle, on the base section of the ladder, one (1) on each side. Each lamphead shall have three mounting holes to mount the light directly to a horizontal or vertical surface. Wiring shall extend from the rear of the lampheads.

Each lamphead shall have 22 ultra-bright white LEDs to provide a spot light beam pattern. They shall each operate at 12/24 volts DC, draw 5/2.5 amps, and generate 7,000 lumens of light. The lampheads shall have a unique lens that focuses the spotlight beam into the distance. Each lamphead shall weigh less than 2-1/2 pounds and be powder coated. The LED scene lights shall be for fire service use.

The tracking lights shall be controlled through the pedestal switch pad.

EGRESS CLEAN TIP DESIGN

A removable bolt on egress shall be installed on the tip of the fly section. The egress is a clean tip design. Only certified structural fasteners shall be utilized to attach the egress to the tip of the fly section. Additionally, the fasteners shall be stainless steel. This design shall allow for easy replacement should the egress become damaged during rescue operations. This shall minimize the risk and cost of downtime, as is common with welded on egresses. For this reason, a design that allows the egress to be welded to the fly section shall not be acceptable.

When the ladder is at 0 degrees elevation, the rungs on the egress shall be on a plane of - 11 degrees. This shall provide a smoother transition onto the ladder from the tip when it is at a high angle elevation.

The egress shall have handrails that match the fly section handrails for an unnoticeable transition between the two. The egress handrails shall have a radius design at the tip to eliminate corner joints, increase strength, and provide a pleasing appearance.

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Aerial Specifications

AERIAL LADDER TIP CONTROLS

A remote ladder control shall be provided at the tip of the fly section. Controls shall be of the proportional type, allowing fine control of the ladder movement. The control shall consist of three (3) spring loaded, proportional paddle switches, one for each main ladder function. Each function switch shall be labeled on a black and white label that is located adjacent to the switches. The tip control shall allow the crew member on the tip of the ladder to operate these three functions within the speed limitations as set forth in accordance with NFPA 1901, current edition.

A momentary switch shall be provided at the turntable control console to activate the tip control system. When the switch is held in the "on" position, it will enable the tip controls.

SECTION FOLDING STEPS

One (1) set of folding steps shall be installed at the tip of the ladder to provide solid footing for personnel while operating the elevated master stream device.

A kick plate shall be provided with each step.

When folded for storage, the steps shall not present significant obstruction to personnel on the apparatus.

FLY SECTION LOAD LIFTING/RAPPELLING EYES

The aerial ladder shall be equipped with two (2) load lifting/rappelling eyes at the tip of the fly section. The load lifting/rappelling eyes, as a pair, shall be rated not to exceed the tip load of the ladder structure.

FLY SECTION MOUNTED AXE

An axe mounting bracket and retention strap shall be installed on the fly section.

One (1) Fire Hooks Unlimited, model FAP-6, pickhead axe with fiberglass handle shall be provided.

FRC SOBRITE LED TIP LIGHTS

Two (2) Fire Research SoBrite LED compact ultra bright lights shall be installed at the tip of the aerial. Each lamphead shall have three mounting holes to mount the light directly to a horizontal or vertical surface. Wiring shall extend from the rear of the lampheads.

Each lamphead shall have 22 ultra-bright white LEDs to provide a spot light beam pattern. They shall each operate at 12/24 volts DC, draw 5/2.5 amps, and generate 7,000 lumens of light. The lampheads shall have a unique lens that focuses the spotlight beam into the distance. Each lamphead shall weight less than 2-1/2 pounds and be powder coated. The LED scene lights shall be for fire service use.

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The lights shall be located at the aerial tip, one (1) on the driver's side and one (1) on the officer's side.

The tip light(s) shall be controlled through the pedestal switch pad.

WATERWAY SYSTEM

A waterway system shall be provided consisting of the following components and features:

A 4-1/2" outside diameter pipe shall be connected to the water supply on one end and to a water swivel at the rotation point of the turntable. The swivel shall allow the ladder to rotate 360 degrees continuously while flowing water.

A 4" inside diameter pipe waterway shall be routed through the rotation point swivel up to the heel pin swivel. The heel pin swivel shall allow the water to flow to the waterway while elevating the aerial ladder from -8 degrees below to +72 degrees above horizontal.

The heel pivot pin shall not be integral with the waterway swivel at any point. The design of the waterway shall allow complete servicing of the waterway swivel without disturbing the heel pivot pin.

WATERWAY PIPE DIAMETERS

The integral telescopic waterway system shall consist of a 5" outside diameter steel pipe in the base section, a 4-1/2" diameter pipe on the second section, a 4" outside diameter pipe on the third section, and a 3-1/2" outside diameter pipe in the fly section.

CP-84 CHROME PLATED WATERWAY

The CP-84 telescopic waterway shall be composed of high quality 84K PSI steel. The pipes shall be professionally prepared to accept a highly durable, hot dipped galvanizing coating. Preparation shall include de-greasing as needed, followed by shot blasted to remove any contaminates or scale.

Following preparation, each water pipe shall be hot-dipped galvanized. The pipes shall be completely submerged in the galvanizing bath to ensure 100% coverage and intimate bonding of the galvanic coating to the steel. Following the dipping process, all dross shall be ground and the perimeter of the pipe shall be ground to a smooth finish.

Each pipe shall then be prepared to be heavily chrome plated. Materials (nickel/copper/chrome) used in the chrome plating process shall be of the highest purity to complete the chrome plating process. The chrome shall be polished to an extremely high luster.

The result of the preceding processes shall provide an aerial waterway that is of unequaled quality and durability. The heavy galvanizing and chrome plating shall ensure that no corrosion occurs on the waterway& and that the outer surface remains smooth for long seal life.

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Aerial Specifications

Additionally, the chrome plating shall aid in preventing nicks, scratches, and abrasions from occurring where they would otherwise easily occur with softer and more malleable aluminum tubes.

The waterway on the base section of the aerial device shall be galvanized with the process described above, followed by complete coverage utilizing AkzoNobel paint of job color.

POSITIONAL WATERWAY

The waterway shall be a positional or detachable type in order to allow the uppermost fly section to be clear of obstructions when using the aerial device for rescue purposes. It shall be designed in such a manner to allow the master stream device to be secured to either the tip of the fly or to the end of the next lower section. The device shall be designed in such a manner that when it is in the forward position the monitor master stream device shall be connected to the tip of the ladder and when it is toward the back, the device travels with the next lower ladder section. The connection for remote nozzle controls and electricity to the unit shall be permanent and not incorporate any spring loaded cable reels or electrical contact pads that can foul or become damaged allowing the monitor to become inoperable. In addition, the system shall require no external power supply such as a battery to operate the monitor.

Buttons shall be provided on the pedestal switch pad at the turntable control console for the positional waterway. The buttons shall activate an electric actuator mechanism that will lock the monitor in the desired position. Indication shall be provided on the pedestal switch pad to inform the aerial operator of the current position of the monitor. The verbiage on the pedestal switch pad for the two (2) positions shall read "Rescue Mode" and "Water Tower Mode".

Designs that require a firefighter to climb to the end of the ladder and manually change the position of the waterway will not be considered acceptable.

WATERWAY RELIEF VALVE

A 3/4" safety relief valve shall be installed in the base section waterway. The relief valve shall be preset at 240 psi. The valve shall protect the waterway from overpressure, which is normally caused by the capping of the monitor outlet. This valve in no way is to act as a relief for the total flow of the system.

WATERWAY DRAIN VALVE

A 1-1/2" drain valve shall be installed in the lower section of the aerial plumbing under the apparatus. The valve, when opened, shall drain the aerial waterway and lower plumbing.

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Aerial Specifications

WATERWAY FLOW METER

One (1) Class 1 Flowminder shall be installed to monitor the flow of the aerial waterway. The Flowminder shall have an LED display to indicate the volume of water being discharged. The display shall be weatherproof. The Flowminder shall be located at the turntable control station.

AERIAL WATERWAY INLET

A 4" aerial waterway inlet with 4" plumbing, shall be installed on the rear of the apparatus. The inlet shall be as low as possible to reduce the amount of weight on the fire hose coupling.

One (1) Akron Brass, model 8940, 4" Swing-Out valve shall be provided. The valve shall have an all cast brass valve body with a 4" full flow waterway ideal for flows up to 2000 GPM and a maximum body length of 4". The valve shall utilize a Fusion CF composite ball design with a single urethane seat and be structurally rated to 500 PSI with a 250 PSI operating pressure. The valve shall not require the lubrication of seats or any other internal waterway parts and shall be capable of swinging out of the waterway for maintenance by the removal of six bolts. The valve shall carry a ten (10) year warranty by the valve manufacturer.

The valve shall be actuated by an Akron Brass electric actuator installed on the valve. The electric actuator shall have a 25:1 gear ratio, which actuates from fully open to fully closed in eight (8) seconds, a clutchless motor, and utilizes an electric controller with current limiting design.

The electric actuator shall be controlled by an Akron Brass model 9333 Navigator Pro electric valve controller. The electric controls shall be of true position feedback design, requiring no clutches in the motor or current limiting. The unit shall be completely sealed with momentary open, close as well as an optional one (1) touch full open feature to operate the actuator. Two (2) additional buttons shall be available to be used for preset selection, preset activation and menu navigation. The controller shall have up to three (3) preset locations that can be user set and easily recalled upon each use. The unit shall be capable of being used in conjunction with at least two (2) additional displays to control one (1) valve. The unit shall provide position indication through a full-color backlit LCD display. The display shall be a full-color LCD display with a backlight. It shall have manual adjustment of the brightness as well as an auto-dimming option. The unit shall carry a five (5) year warranty.

INTAKE RELIEF VALVE

An Elkhart Brass intake relief valve shall be installed on the suction side of the pump. The valve shall be the preset type, adjustable from 75 to 250 PSI, and shall be designed to prevent vibration from altering the setting. The relief outlet shall be directed below the pump with the discharge terminating in a 2-1/2" male NH threads connection. The discharge shall be away from the pump operator and labeled "Do Not Cap".

Oak Park Fire Department

Aerial Specifications

A 4" NST waterway weld bushing shall be provided.

One (1) 4" NH thread rocker lug chrome plated vented cap, complete with cable or chain, shall be provided.

ELKHART BRASS COBRA EXM MONITOR

An Elkhart Brass 7250X2 Cobra EXM2 electrically controlled monitor shall be installed at the end of the waterway. The monitor shall have the following features:

- Durable, lightweight Elk-O-Lite construction with hardened steel worm gears
- Fully enclosed 90-degree gear cases and totally sealed electric motors for protection from the elements
- Manual override on both motors
- Motors are planetary gear type for maximum torque and minimum power drain
- Furnished with grease fittings for easy lubrication
- Stow signal for stow capabilities
- Male outlet 3-1/2" NHT

MONITOR FINISH

The monitor shall be hard anodized, lightweight unpainted Elk-O-Lite material and shall not be repainted by the OEM.

NOZZLE

An Elkhart Brass, model SM-1500E, X-Stream electric master stream nozzle with 3-1/2" NH thread swivel base shall be provided. The nozzle shall be constructed with a durable hard anodized Elk-O-Lite body. The nozzle shall have a heat treated stainless steel spring mechanism, which reacts automatically to water flow and delivers that flow efficiently throughout the specified flow range. The nozzle shall be designed for flows from 300 to 1500 GPM. The nozzle shall be rated at an operating pressure of 80 PSI. The nozzle shall include an encased 12-volt DC electric motor with manual override to change stream pattern.

MONITOR SWEEP

The monitor shall be capable of vertical positioning from -135 degrees to 0 degrees and horizontal positioning of 90 degrees from side to side, for a full 180-degree sweep.

MONITOR SAFETY INTERLOCK

The monitor shall be equipped with a monitor safety interlock (MSI) that shall prevent the monitor or nozzle from coming into contact with the cab windshield and/or roof. The MSI shall automatically stop the operator from lowering the aerial into the cradle until the monitor has been fully raised to prevent damage.

Oak Park Fire Department

Aerial Specifications

In addition, the blue bed zone indicator shall not illuminate until the ladder is aligned with the cradle and the monitor is in the fully raised position.

STOW FEATURE

The monitor shall be equipped with a stow feature. When activated, the stow feature shall return the monitor to a pre-programmed or nested position. The stow feature shall be activated by a covered momentary switch on the turntable control console. A light shall be provided on the control console to advise when the monitor is in the nested position.

MONITOR CONTROLS

The aerial master stream device shall have two (2) separate control stations. One station shall be at the main aerial turntable control console. The other station shall be located at the tip of the aerial ladder. Each station shall have the capability of controlling the nozzle pattern as well as the horizontal and vertical position of the device.

WIRELESS REMOTE MONITOR CONTROLLER

One Elkhart Scorpion EXM2 wireless controller shall be provided. The controller is a handheld wireless controller.

The Elkhart EXM2 electric monitor shall be controlled with an Elkhart EXM2 wireless controller/gateway, model 7015X2. The IP67 rated wireless remote control includes everything needed to operate a monitor, nozzle and optional unibody valve from a safe location. The docking station with built-in induction charging system eliminates the need for replaceable batteries. The wireless remote comes pre-configured to communicate via RF to the Gateway Module. The module, with an external antenna, can then be mounted in a location convenient to the apparatus builder. The Gateway connects via CANbus harnesses directly to the monitor.Â

The controller shall allow the electric monitor to be controlled using a wireless handheld transmitter to control the following functions:

- Up/Down
- Left/Right
- Fog/stream

2-1/2" AERIAL TIP DISCHARGE

A 2-1/2" discharge shall be located at the tip of the aerial ladder. The discharge shall have a Task Force Tips VUM electrically controlled monitor valve provided under the monitor. The valve shall be controlled by a remote panel mounted push-button switch with LED lights to indicate valve position and shall be included. The valve can also be controlled with an NFPA compliant slow-close knob which can be configured for left or right-hand operation on the valve. A position indicator shall be provided on the valve to allow for quick visualization of the status of the valve in the open, closed or partial positions.

Oak Park Fire Department

Aerial Specifications

The unit shall have a flow capability of up to 2000 GPM with friction loss no more than 6 psi. For maximum corrosion protection, the aluminum casting shall be hard-coat anodized, with a silver powder coat internal and external finish. The valve ball shall be stainless steel and have an automatic drain for draining waterway when the valve is closed and unpressurized. The unit shall have a unique serial number and be covered by a five-year warranty.

The valve shall be configured with a 4" ANSI 150 flange inlet and 4" ANSI 150 flange outlet. Port C1 shall be located on the left side of the ladder and have a left-hand elbow quarter turn ball valve with 2-1/2" NH male outlet installed. Ports C2 and C4 shall have blind plugs installed. C3 shall be located on the right side of the ladder and have an External Automatic Drain Valve. All 2-1/2" NH male discharges shall have a 2-1/2" NH female by 1-1/2" NH male thread reducer and a 1-1/2" NH female cap with lanyard.

RUNG ILLUMINATION LIGHTING

The aerial ladder sections shall be equipped with permanently installed blue LED rung illumination lights. The lights shall be mounted on the inside of the ladder sections, facing inward; on each aerial section in a "staggered" configuration. The blue colored lens shall serve to illuminate ladder rungs without inducing any glare, which would hinder safety. Each light shall be equipped with an integral guard to protect it from damage. The lights shall be positioned such that all light be directed inward toward the rungs of the aerial sections, maximizing safety for all personnel during night operations. The lights shall also aid the operator in locating aerial ladder section in conditions of reduced visibility.

Designs that use luminescent tape on the rungs shall not be permitted as they require previous exposure to sunlight and can wear off over time.

The rung lighting shall be controlled through the pedestal switch pad.

AERIAL LADDER SIGNS

Two (2) sign panels measuring 16" tall x 133" long shall be installed on the base section of the aerial ladder, one on each side. The sign panels shall be fabricated of 1/8" aluminum plate. The signs shall be large enough to accept a maximum lettering size of 12" high.

BASE SECTION MOUNTED ROOF LADDER

One (1) roof ladder mounting bracket set shall be provided on the outside of the base section, on the officer's side, for a solid beam roof ladder. The brackets shall be formed using break and bend techniques for added strength and an outstanding appearance. To enhance durability, the brackets shall be coated with Line-X. Stainless steel fasteners shall be employed where the ladder bracket is bolted to the aerial section or ladder sign panel. The roof ladder shall be secured using a spring-loaded handle, which is easily lifted away from the roof ladder with a gloved hand for safe access.

Oak Park Fire Department

Aerial Specifications

One (1) Duo-Safety, model 875-A, 16' aluminum roof ladder with folding roof hooks shall be provided.

BASE SECTION MOUNTED ROOF LADDER

One (1) roof ladder mounting bracket set shall be provided on the outside of the base section, on the driver's side, for a solid beam roof ladder. The brackets shall be formed using break and bend techniques for added strength and an outstanding appearance. To enhance durability, the brackets shall be coated with Line-X. Stainless steel fasteners shall be employed where the ladder bracket is bolted to the aerial section or ladder sign panel.

The roof ladder shall be secured using a spring-loaded handle, which is easily lifted away from the roof ladder with a gloved hand for safe access.

One (1) Duo-Safety, model 875-A, 16' aluminum roof ladder with folding roof hooks shall be provided.

CHASSIS PAINT

The single tone chassis cab shall be painted by the chassis manufacturer.

BODY PAINT PREPARATION

The apparatus body and components shall be metal finished as follows to provide a superior substrate for painting:

- All aluminum sections of the body shall undergo a thorough cleaning process, starting with a phosphoric acid solution to begin the etching process, followed by a complete rinse. The next step shall consist of a chemical conversion coating applied to seal the metal substrate and become part of the aluminum surface for greater film adhesion.
- After the cleaning process, the body and its components shall be primed with a high solids primer and the seams shall be caulked.
- All bright metal fittings, if unavailable in stainless steel or polished aluminum, shall be heavily chrome plated. Iron fittings shall be copper underplated prior to chrome plating.

PAINT PROCESS

The paint process shall follow the strict standards as set forth by AkzoNobel Guidelines.

The body shall go through a three-stage paint process: primer coat, base coat (color), and clear coat. In the first stage of the paint process, the body shall be coated with primer to achieve a total thickness of 2-4 mills. In the second stage of the paint process, the body shall be painted with BTLV650 High Solids Polyurethane Base Coat. A minimum of two to three coats of paint shall be applied to achieve covering. In the final stage of the paint process, the body shall be painted with a Clear Top Coat. A minimum of two to three coats shall be applied to achieve a total dry film thickness of 2-3 mills.

Oak Park Fire Department

Aerial Specifications

As part of the curing process, the painted body shall go through a Force Dry / Bake Cycle process. The painted components shall be baked at 185 degrees for 3 hours to achieve a complete coating cure on the finished product.

HAND POLISHED

After the Force Dry / Bake Cycle and ample cooldown time, the coated surface shall be sanded using 3M 1000, 1200, and/or 1500 grit sandpaper to remove surface defects. In the final step, the surface shall be buffed with 3M super-duty compound to add extra shine to coated surface. No more than .5 mil of clear shall be removed in this process.

BODY PAINT COLOR

The body shall be painted with High Solids Polyurethane Base Coat.

The single tone body shall be painted AkzoNobel #32545 red.

AERIAL COMPONENT PROTECTION / PAINT

All aerial device components above the rotation point that are not chrome plate, bright aluminum tread plate, or stainless steel shall be painted. All areas to be painted shall be sanded to remove any metal flakes and smooth any rough surfaces. All surfaces to be painted shall be phosphatized to remove metal impurities, aid paint adhesion and inhibit rust. The components shall be primed and finish painted with a high gloss polyurethane paint. The support structure and components below the rotation point shall be painted black.

The extending stabilizer beams, inner jack cylinder protective tubes, and stabilizer pads shall be hot dip galvanized. The extending stabilizer beams, inner jack tubes, and stabilizer pads shall be shot blasted to remove any mill scale, or contamination prior to galvanizing.

Following this preparation, the individual components shall be hot dip galvanized. The galvanizing process requires that the entire assembly be completely submerged. Following the galvanizing process, the surface shall be ground smooth to remove dross. This preparation shall provide maximum protection for these critical components. Following surface preparation, components shall be coated with black water-based self-etching coating. No exceptions shall be allowed to this requirement.

The high gloss polyurethane paint, which shall be applied to the aerial ladder sections and other components above the rotation point, shall be cured at an elevated temperature for a period not less than 2 hours to enhance durability and appearance. The temperature shall not be less than 180 degrees Fahrenheit. Curing of the paint shall promote a chemical reaction within the substrate that shall harden the paint. The curing shall be performed in a clean, sealed, controlled atmosphere. The atmosphere shall comply with all environmental standards and any air entering the chamber shall be filtered.

Oak Park Fire Department

Aerial Specifications

AERIAL DEVICE PAINT COLOR

The aerial device shall be painted with AkzoNobel High Solids polyurethane enamel paint. The color shall be AkzoNobel Navy Blue.

AERIAL CORROSION PROTECTION

Internal structural members of the aerial structure shall be 100% concealed from oxygen or have corrosion protection applied. Totally sealed members are not subject to the possibility of corrosion attacking the metal from the interior.

The structural tubing of the aerial structure that contains drilled holes or is exposed to outside air and elements shall be protected to eliminate the possibility of corrosion occurring on the inside of the tube. No exceptions as this is imperative to the strength and integrity of the aerial structure.

The interior of exposed tubing shall be coated with a compound labeled NWAC 120-4. The application of the coating shall be applied after the welding process of the aerial structure is complete and shall cover 100% of the interior of the structural tube. NWAC 120-4 is an effective cavity corrosion inhibitor that provides long-term protection for both ferrous and non-ferrous metals. The resulting water-repellent, flexible, air-dried film has crevice penetrating, spreading and clinging characteristics. The product dries to a nearly transparent film and provides maximum corrosion protection for all void spaces subject to humidity and condensation.

AERIAL LADDER EGRESS PAINT COLOR

The aerial ladder egress shall be painted with AkzoNobel High Solids polyurethane enamel paint. The color shall be red.

AERIAL LADDER SIGN PAINT COLOR

The aerial ladder signs, mounted on the base section, shall be painted the same color as the aerial ladder.

UNDERCOATING

The apparatus shall undergo a two-step undercoating process. The first step shall be a rubberized polyurethane base compound applied after the body has been primed. The materials used incorporate unused paint products to reduce the amount of waste released into the environment. This coat shall be applied to all hidden pockets and surfaces that are not visible after completion.

As a final step, the entire underside of the body shall be coated with a bituminous based automotive type undercoating when the apparatus is completed. During this application, special care shall be taken to avoid spraying the product on air lines, cables, or other items that would hinder normal maintenance.

Oak Park Fire Department

Aerial Specifications

CORROSION PREVENTION

One (1) 3.75 ounce tube of Electrolysis Corrosion Kontrol (ECK) shall be provided to use when additional items are mounted to the apparatus. ECK protects aluminum and stainless steel against electrolytic reaction, isolates dissimilar metals and gives bedding protection for hardware and fasteners. ECK contains an anti-seizing lubricant for threads. ECK is dielectric and perfect for use with electrical connectors.

LINE-X THERMOPLASTIC COATING

In designated areas, Line-X XS-350, a two-component spray-in-place thermoplastic polyurethane system shall be used for maximum protection of the body and equipment. Line-X XS-350 is a 100% high-performance aromatic solids pure Polyurea elastomeric membrane. The coating shall be a fast cure, textured surface, multi-purpose material designed for commercial and industrial applications. It shall adhere to the body and serve as a protective, abrasion resistant liner where applied.

The coating shall exhibit the following minimum typical physical properties:

- Tensile strength - 3,432 PSI (ASTM D-412)
- Elongation - 162% (ASTM D-412)
- Tear Strength - 783 PLI (ASTM D-624)
- Shore D Hardness - 60 +/-1 (ASTM D-2240)

SAMPLE PAINT CARD

One (1) sample paint card shall be provided with the apparatus. The card shall show an example of the apparatus body color on one side and have the specific AkzoNobel paint formula printed on the reverse side.

REFLECTIVE LETTERING - 3"

Up to twenty (20) reflective letters shall be provided and installed on the apparatus. The letters shall be approximately 3" tall with black outline and shadow.

REFLECTIVE LETTERING - 10"

Up to twenty (20) reflective letters shall be provided and installed on the apparatus. The letters shall be approximately 10" tall with black outline and shadow.

RUB RAIL REFLECTIVE STRIPING

There shall be 2" reflective striping installed in the rub rail channel. The reflective striping shall be diamond grade quality material for increased visibility. The reflective shall be silver in color.

Oak Park Fire Department

Aerial Specifications

REFLECTIVE STRIPING

3M Scotchlite Retroreflective striping shall be applied to the exterior of the apparatus and shall conform to the reflectivity requirements in accordance with NFPA 1901, current edition.

The striping shall consist of:

- 1" retroreflective stripe
- 1" gap
- 4" retroreflective stripe
- 1" gap
- 1" retroreflective stripe

The striping shall be low across the front of the chassis and along the sides up to the first compartment on each side where it shall angle up to a point in the upper compartments, where it then shall run level to the back edge of the body.

The upper stripe shall be black.

The main stripe shall be black.

The lower stripe shall be black.

REFLECTIVE STRIPING - STABILIZER BEAMS

Retroreflective striping shall be installed on the front and rear sides of the four (4) horizontally extending stabilizer beams for increased visibility when extended. The striping shall be 4" wide and white in color.

CHEVRON COLOR - RED/FLUORESCENT YELLOW-GREEN

The chevron striping shall consist of red, 3M part number 1172 EC, and fluorescent yellow-green, 3M part number 3983, and shall meet the chevron color requirements in accordance with NFPA 1901, current edition.

Only 3M Diamond Grade VIP Reflective Striping shall be used. 3M Diamond Grade VIP Reflective Striping is a wide-angle prismatic lens reflective sheeting designed for the production of durable traffic control signs and delineators that are exposed vertically in service. This sheeting is designed to provide higher sign brightness than sheeting's that use glass bead lenses. It is intended to also provide high sign brightness in the legibility distance where other sheeting's do not. If something other than 3M is being used, third party documentation must be provided with the bid to prove it is compliant with Federal DOT and NFPA 1901, current edition.

Oak Park Fire Department

Aerial Specifications

CHEVRON STRIPING - REAR BODY

Retroreflective striping shall cover at least 50% of the rear-facing vertical surfaces in accordance with NFPA 1901, current edition. The striping shall be in a chevron pattern sloping downward and away from the centerline of the apparatus at an angle of 45 degrees. Each stripe shall be a minimum of 6" in width. The striping shall consist of a solid base layer of reflective material and alternate between the exposed base layer material and durable, transparent, acrylic colored film.

The chevron pattern shall include rear face of the body, the torque box lap door, and the ladder storage compartment doors.

REFLECTIVE DECAL EAGLE / AMERICAN FLAG

One (1) 10" Eagle-American flag reflective decal shall be installed on the apparatus. The decal shall have an eagle landing, with an American flag waving behind the eagle.

General Two (2) Years or 36,000 Miles Limited Warranty

Purchaser shall receive a General Two (2) Years or 36,000 Miles limited warranty in accordance with, and subject to, warranty certificate RFW0002. The warranty certificate is incorporated by reference into this proposal, and included with this proposal or available upon request.

Body Structure (Aluminum) Ten (10) Years or 100,000 Miles Limited Warranty

Purchaser shall receive a Body Structure (Aluminum) Ten (10) Years or 100,000 Miles limited warranty in accordance with, and subject to, warranty certificate RFW0502. The warranty certificate is incorporated by reference into this proposal, and included with this proposal or available upon request.

Aerial Ladder Structure Twenty (20) Years or 100,000 Miles Limited Warranty

Purchaser shall receive a Aerial Ladder Structure Twenty (20) Years or 100,000 Miles limited warranty in accordance with, and subject to, warranty certificate RFW0403. The warranty certificate is incorporated by reference into this proposal, and included with this proposal or available upon request.

Aerial Leak-Free Hydraulics Three (3) Years or 48,000 Miles Limited Warranty

Purchaser shall receive a Aerial Leak-Free Hydraulics Three (3) Years or 48,000 Miles limited warranty in accordance with, and subject to, warranty certificate RFW0421. The warranty certificate is incorporated by reference into this proposal and included with this proposal or available upon request.

Oak Park Fire Department

Aerial Specifications

Aerial Waterway Ten (10) Years or 100,000 Miles Limited Warranty

Purchaser shall receive a Aerial Waterway Ten (10) Years or 100,000 Miles limited warranty in accordance with, and subject to, warranty certificate RFW0810. The warranty certificate is incorporated by reference into this proposal, and included with this proposal or available upon request.

Multiplex Electronics Five (5) Years or 72,000 Miles Limited Warranty

Purchaser shall receive a Multiplex Electronics Five (5) Years or 72,000 Miles limited warranty in accordance with, and subject to, warranty certificate RFW0215. The warranty certificate is incorporated by reference into this proposal, and included with this proposal or available upon request.

Plumbing and Piping (Stainless Steel) Ten (10) Years or 100,000 Miles Limited Warranty

Purchaser shall receive a Plumbing and Piping (Stainless Steel) Ten (10) Years or 100,000 Miles limited warranty in accordance with, and subject to, warranty certificate RFW0800. The warranty certificate is incorporated by reference into this proposal, and included with this proposal or available upon request.

WATER TANK WARRANTY

The tank shall be complete with a lifetime warranty. The tank manufacturer shall mark the tank and furnish notice that indicates proof of warranty. Full details shall be provided in the complete warranty document.

Paint and Finish (Exterior Clear coated) Ten (10) Years Limited Warranty

Purchaser shall receive a Paint and Finish (Exterior Clear coated) Ten (10) Years limited warranty in accordance with, and subject to, warranty certificate RFW0710. The warranty certificate is incorporated by reference into this proposal, and included with this proposal or available upon request.

PUMP WARRANTY

The fire pump shall be warranted by Waterous for a period of seven (7) years from the date of delivery to the fire department or seven and one-half (7-1/2) years from the shipment date by Waterous, whichever period expires first. Full details shall be provided in the complete warranty document.

POWER INVERTER

A Vanner 2,000 watt inverter shall be provided and installed on the apparatus. It shall be wired to a outlet. Location TBD

Oak Park Fire Department

Aerial Specifications

PLANT TRAVEL

There shall be two trips provided, one for pre-construction meeting for 3 personnel and one for final inspection for 2 personnel. All travel, meals and motels are provided.

**BUSINESS OF THE CITY COUNCIL, OAK PARK, MICHIGAN****AGENDA OF:** June 20, 2022**AGENDA #**

SUBJECT: Request authorization for the purchase of two vehicles to be assigned to the Public Safety Department.

DEPARTMENT: Public Works – *DED*

SUMMARY: The Public Works Department is requesting authorization to purchase the following vehicles from the Oakland County pre-bid contract:

Vehicle:	Department:	Amount: (Pre-Bid Contract)	Account:
2022 Chevrolet Tahoe Police Package	Public Safety	Total Cost: \$38,977.00 Upfitting not included (Oakland County #005218)	<u>Motor Pool:</u> 654-18.875.970
2022 Chevrolet Traverse AWD	Public Safety	Total Cost: \$30,962.00 (Oakland County #005218))	<u>Motor Pool:</u> 654-18.875.970

FINANCIAL STATEMENT: Funding for this vehicle purchase is available in the FY 2022-23 Motor Pool Fund.

RECOMMENDED ACTION: It is recommended that City Council authorize the Public Works Department to participate in the Oakland County pre-bid contract for the vehicle purchases totaling \$69,939.00. Funding is available in the FY 2022-23 Motor Pool Budget (654-18.875-970).

APPROVALS:

City Manager: _____ ET

Director of Public Works: _____ *DED*

Director of Finance: _____ SC

Legal: _____ CK

Budgeted: Yes

EXHIBITS: None



BUSINESS OF THE CITY COUNCIL, OAK PARK, MICHIGAN

AGENDA OF: June 20, 2022

AGENDA #

SUBJECT: Cost Sharing Agreement with Michigan Department of Transportation (MDOT) for the hot mix asphalt cold milling and two course overlay along Highway M-102 (Eight Mile Road), M-741.

DEPARTMENT: Department of Technical and Planning - *KMG*

SUMMARY: MDOT is planning to bid a pavement rehabilitation project on Highway M-102 from Greenfield Road to Meyers Road, including water main, sidewalk, curb and gutter, drainage structures, storm sewer, aggregate base and maintaining traffic work within the limits of the City. MDOT estimates the project cost to be \$5,852,900.00. The attached agreement is the next step of the process before MDOT publishes the project for bid. The project cost will be partially funded by federal agencies. MDOT and the City agree to share the balance of the project cost, with MDOT paying 91.25% and the City paying 8.75% of the cost. The City has designated the project M-741.

FINANCIAL STATEMENT: The City's portion of the project cost is estimated by MDOT to be \$141,300.00. This expenditure is not budgeted.

RECOMMENDED ACTION: It is recommended that the City Council approves the attached agreement and authorizes City Manager Erik Tungate to sign.

APPROVALS:

City Manager: _____ ET

Department Director: _____ *RMB*

Finance Director: _____ SC

Legal: _____ CK

Budgeted ☐

EXHIBITS: Agreement

FEDERAL AID PROGRESS PAYMENT

DA	
Control Section	NH 82142; M 82142
Job Number	210075CON; 210075PE
Federal Project	22A0637
Contract	21-5458

THIS CONTRACT is made by and between the MICHIGAN DEPARTMENT OF TRANSPORTATION, hereinafter referred to as the "DEPARTMENT"; and the CITY OF OAK PARK, a Michigan municipal corporation, hereinafter referred to as the "CITY"; for the purpose of fixing the rights and obligations of the parties in agreeing to construction improvements located within the corporate limits of the Oak Park, Michigan.

WITNESSETH:

WHEREAS, the parties hereto anticipate that payments by them and contributions by agencies of the Federal Government or other sources will be sufficient to pay the cost of construction or reconstruction of that which is hereinafter referred to as the "PROJECT" and which is located and described as follows:

Hot mix asphalt cold milling and two course overlay along Highway M-102 from Greenfield Road to Meyers Road, including watermain, sidewalk, curb and gutter, drainage structure, storm sewer, aggregate base, and maintaining traffic work; together with necessary related work, located within the corporate limits of the CITY; and

WHEREAS, the DEPARTMENT presently estimates the PROJECT COST as hereinafter defined in Section 1 to be: \$5,852,900

WHEREAS, the parties hereto have reached an understanding with each other regarding the performance of the PROJECT work and desire to set forth this understanding in the form of a written agreement.

NOW, THEREFORE, in consideration of the premises and of the mutual undertakings of the parties and in conformity with applicable law, it is agreed:

1. The CITY hereby consents to the designation of the PROJECT as a state trunkline highway. The parties shall undertake and complete the construction of the PROJECT as a state trunkline highway in accordance with this contract. The term "PROJECT COST", as herein used, is hereby defined as the cost of construction or reconstruction of the PROJECT including the costs of preliminary engineering (PE), plans and specifications; acquisition costs of the property for rights of way, including interest on awards, attorney fees and court costs; physical

construction necessary for the completion of the PROJECT as determined by the DEPARTMENT; and construction engineering (CE), legal, appraisal, financing, and any and all other expenses in connection with any of the above.

The Michigan Department of Environment, Great Lakes, and Energy has informed the DEPARTMENT that it adopted new administrative rules (R 325.10101, et. seq.) which prohibit any governmental agency from connecting and/or reconnecting lead and/or galvanized service lines to existing and/or new water main. Questions regarding these administrative rules should be directed to the Michigan Department of Environment, Great Lakes, and Energy. The cost associated with replacement of any lead and/or galvanized service lines, including but not limited to contractor claims, will be the sole responsibility of the CITY.

2. The cost of alteration, reconstruction and relocation, including plans thereof, of certain publicly owned facilities and utilities which may be required for the construction of the PROJECT, shall be included in the PROJECT COST; provided, however, that any part of such cost determined by the DEPARTMENT, prior to the commencement of the work, to constitute a betterment to such facility or utility, shall be borne wholly by the owner thereof.

3. The CITY shall make available to the PROJECT, at no cost, all lands required thereof, now owned by it or under its control for purpose of completing said PROJECT. The CITY shall approve all plans and specifications to be used on that portion of this PROJECT that are within the right of way which is owned or controlled by the CITY. That portion of the PROJECT which lies within the right of way under the control or ownership by the CITY shall become part of the CITY facility upon completion and acceptance of the PROJECT and shall be maintained by the CITY in accordance with standard practice at no cost to the DEPARTMENT. The DEPARTMENT assumes no jurisdiction of CITY right of way before, during or after completion and acceptance of the PROJECT.

4. The parties will continue to make available, without cost, their sewer and drainage structures and facilities for the drainage of the PROJECT.

5. The PROJECT COST shall be met in part by contributions from agencies of the Federal Government. The balance of the PROJECT COST shall be charged to and paid by the DEPARTMENT and the CITY in the following proportions and in the manner and at the times hereinafter set forth:

DEPARTMENT -	91.25%
CITY -	8.75%

The PROJECT COST and the respective shares of the parties, after Federal-aid, is estimated to be as follows:

	<u>TOTAL ESTIMATED COST</u>	<u>FEDERAL AID</u>	<u>BALANCE AFTER FEDERAL AID</u>	<u>DEPT'S SHARE</u>	<u>CITY'S SHARE</u>
Constr. & CE	\$5,177,600	\$4,237,900	\$ 939,700	\$ 857,500	\$ 82,200
PE	<u>\$ 675,300</u>	<u>\$ 0</u>	<u>\$ 675,300</u>	<u>\$ 616,200</u>	<u>\$ 59,100</u>
TOTAL	\$5,852,900	\$4,237,900	\$1,615,000	\$1,473,700	\$141,300

The PE costs will be apportioned in the same ratio as the actual construction award and the CE costs will be apportioned in the same ratio as the actual direct construction costs.

Participation, if any, by the CITY in the acquisition of trunkline right-of-way shall be in accordance with 1951 P.A. 51 Subsection 1d, MCL 247.651d. An amount equivalent to the federal highway funds for acquisition of right-of-way, as would have been available if application had been made thereof and approved by the Federal government, shall be deducted from the total PROJECT COST prior to determining the CITY'S share. Such deduction will be established from the applicable Federal-Aid matching ratio current at the time of acquisition.

6. The DEPARTMENT shall maintain and keep accurate records and accounts relative to the cost of the PROJECT. The DEPARTMENT may submit progress billings to the CITY on a monthly basis for the CITY'S share of the cost of work performed to date, less all payments previously made by the CITY. No monthly billings of a lesser amount than \$1,000 shall be made unless it is a final or end of fiscal year billing. All billings will be labeled either "Progress Bill Number _____", or "Final Billing". Payment is due within 30 days of receipt of invoice. Upon completion of the PROJECT, payment of all items of PROJECT COST and receipt of all Federal Aid, the DEPARTMENT shall make a final billing and accounting to the CITY.

7. In order to fulfill the obligations assumed by the CITY under the provisions of this contract, the CITY shall make prompt payments of its share of the PROJECT COST upon receipt of progress billings from the DEPARTMENT as herein provided. The CITY shall be billed for their share of the preliminary engineering costs upon award of the PROJECT. All payments will be made within 30 days of receipt of billings from the DEPARTMENT. Billings to the CITY will be based upon the CITY'S share of the actual costs incurred less Federal Aid earned as the work on the PROJECT progresses.

8. Pursuant to the authority granted by law, the CITY hereby irrevocably pledges a sufficient amount of funds received by it from the Michigan Transportation Fund to meet its obligations as specified herein. If the CITY shall fail to make any of its required payments when due, as specified herein, the DEPARTMENT shall immediately notify the CITY of the fact of such default and the amount thereof, and, if such default is not cured by payment within ten (10) days, the DEPARTMENT is then authorized and directed to withhold from the first of such monies thereafter allocated by law to the CITY from the Michigan Transportation Fund sufficient monies to remove the default, and to credit the CITY with payment thereof, and to notify the CITY in writing of such fact.

9. The DEPARTMENT shall secure from the Federal Government approval of plans, specifications, and such cost estimates as may be required for the completion of the PROJECT; and shall take all necessary steps to qualify for Federal Aid such costs of acquisition of rights of way, construction, and reconstruction, including cost of surveys, design, construction engineering, and inspection for the PROJECT as deemed appropriate. The DEPARTMENT may elect not to apply for Federal Aid for portions of the PROJECT COST.

10. This contract is not intended to increase or decrease either party's liability, or immunity from, tort claims.

11. All of the PROJECT work shall be done by the DEPARTMENT.

12. Upon completion of the PROJECT, the CITY shall accept the sidewalk constructed as built to specifications within the construction contract documents. It is understood that the CITY shall own the sidewalk and shall be operate and maintain the sidewalk in accordance with applicable law at no cost to the DEPARTMENT.

13. In connection with the performance of the PROJECT work under this contract the parties hereto (hereinafter in Appendix "A" referred to as the "contractor") agree to comply with the State of Michigan provisions for "Prohibition of Discrimination in State Contracts", as set forth in Appendix A, attached hereto and made a part hereof. The parties further covenant that they will comply with the Civil Rights Acts of 1964, being P.L. 88-352, 78 Stat. 241, as amended, being Title 42 U.S.C. Sections 1971, 1975a-1975d, and 2000a-2000h-6 and the Regulations of the United States Department of Transportation (49 C.F.R. Part 21) issued pursuant to said Act, including Appendix "B", attached hereto and made a part hereof, and will require similar covenants on the part of any contractor or subcontractor employed in the performance of this contract. The parties will carry out the applicable requirements of the DEPARTMENT'S Disadvantaged Business Enterprise (DBE) program and 49 CFR, Part 26, including, but not limited to, those requirements set forth in Appendix C.

14. This contract shall become binding on the parties hereto and of full force and effect upon the signing thereof by the duly authorized officials for the CITY and for the DEPARTMENT; upon the adoption of a resolution approving said contract and authorizing the signatures thereto of the respective officials of the CITY, a certified copy of which resolution shall be attached to this contract.

IN WITNESS WHEREOF, the parties hereto have caused this contract to be executed as written below.

CITY OF OAK PARK

MICHIGAN DEPARTMENT
OF TRANSPORTATION

By _____
Title:

By _____
Department Director MDOT

By _____
Title:



APPENDIX A
PROHIBITION OF DISCRIMINATION IN STATE CONTRACTS

In connection with the performance of work under this contract; the contractor agrees as follows:

1. In accordance with Public Act 453 of 1976 (Elliott-Larsen Civil Rights Act), the contractor shall not discriminate against an employee or applicant for employment with respect to hire, tenure, treatment, terms, conditions, or privileges of employment or a matter directly or indirectly related to employment because of race, color, religion, national origin, age, sex, height, weight, or marital status. A breach of this covenant will be regarded as a material breach of this contract. Further, in accordance with Public Act 220 of 1976 (Persons with Disabilities Civil Rights Act), as amended by Public Act 478 of 1980, the contractor shall not discriminate against any employee or applicant for employment with respect to hire, tenure, terms, conditions, or privileges of employment or a matter directly or indirectly related to employment because of a disability that is unrelated to the individual's ability to perform the duties of a particular job or position. A breach of the above covenants will be regarded as a material breach of this contract.
2. The contractor hereby agrees that any and all subcontracts to this contract, whereby a portion of the work set forth in this contract is to be performed, shall contain a covenant the same as hereinabove set forth in Section 1 of this Appendix.
3. The contractor will take affirmative action to ensure that applicants for employment and employees are treated without regard to their race, color, religion, national origin, age, sex, height, weight, marital status, or any disability that is unrelated to the individual's ability to perform the duties of a particular job or position. Such action shall include, but not be limited to, the following: employment; treatment; upgrading; demotion or transfer; recruitment; advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship.
4. The contractor shall, in all solicitations or advertisements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, national origin, age, sex, height, weight, marital status, or disability that is unrelated to the individual's ability to perform the duties of a particular job or position.
5. The contractor or its collective bargaining representative shall send to each labor union or representative of workers with which the contractor has a collective bargaining agreement or other contract or understanding a notice advising such labor union or workers' representative of the contractor's commitments under this Appendix.
6. The contractor shall comply with all relevant published rules, regulations, directives, and orders of the Michigan Civil Rights Commission that may be in effect prior to the taking of bids for any individual state project.

7. The contractor shall furnish and file compliance reports within such time and upon such forms as provided by the Michigan Civil Rights Commission; said forms may also elicit information as to the practices, policies, program, and employment statistics of each subcontractor, as well as the contractor itself, and said contractor shall permit access to the contractor's books, records, and accounts by the Michigan Civil Rights Commission and/or its agent for the purposes of investigation to ascertain compliance under this contract and relevant rules, regulations, and orders of the Michigan Civil Rights Commission.
8. In the event that the Michigan Civil Rights Commission finds, after a hearing held pursuant to its rules, that a contractor has not complied with the contractual obligations under this contract, the Michigan Civil Rights Commission may, as a part of its order based upon such findings, certify said findings to the State Administrative Board of the State of Michigan, which State Administrative Board may order the cancellation of the contract found to have been violated and/or declare the contractor ineligible for future contracts with the state and its political and civil subdivisions, departments, and officers, including the governing boards of institutions of higher education, until the contractor complies with said order of the Michigan Civil Rights Commission. Notice of said declaration of future ineligibility may be given to any or all of the persons with whom the contractor is declared ineligible to contract as a contracting party in future contracts. In any case before the Michigan Civil Rights Commission in which cancellation of an existing contract is a possibility, the contracting agency shall be notified of such possible remedy and shall be given the option by the Michigan Civil Rights Commission to participate in such proceedings.
9. The contractor shall include or incorporate by reference, the provisions of the foregoing paragraphs (1) through (8) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Michigan Civil Rights Commission; all subcontracts and purchase orders will also state that said provisions will be binding upon each subcontractor or supplier.

Revised June 2011

APPENDIX B

TITLE VI ASSURANCE

During the performance of this contract, the contractor, for itself, its assignees, and its successors in interest (hereinafter referred to as the "contractor"), agrees as follows:

1. **Compliance with Regulations:** For all federally assisted programs, the contractor shall comply with the nondiscrimination regulations set forth in 49 CFR Part 21, as may be amended from time to time (hereinafter referred to as the Regulations). Such Regulations are incorporated herein by reference and made a part of this contract.
2. **Nondiscrimination:** The contractor, with regard to the work performed under the contract, shall not discriminate on the grounds of race, color, sex, or national origin in the selection, retention, and treatment of subcontractors, including procurements of materials and leases of equipment. The contractor shall not participate either directly or indirectly in the discrimination prohibited by Section 21.5 of the Regulations, including employment practices, when the contractor covers a program set forth in Appendix B of the Regulations.
3. **Solicitation for Subcontracts, Including Procurements of Materials and Equipment:** All solicitations made by the contractor, either by competitive bidding or by negotiation for subcontract work, including procurement of materials or leases of equipment, must include a notification to each potential subcontractor or supplier of the contractor's obligations under the contract and the Regulations relative to nondiscrimination on the grounds of race, color, or national origin.
4. **Information and Reports:** The contractor shall provide all information and reports required by the Regulations or directives issued pursuant thereto and shall permit access to its books, records, accounts, other sources of information, and facilities as may be determined to be pertinent by the Department or the United States Department of Transportation (USDOT) in order to ascertain compliance with such Regulations or directives. If required information concerning the contractor is in the exclusive possession of another who fails or refuses to furnish the required information, the contractor shall certify to the Department or the USDOT, as appropriate, and shall set forth the efforts that it made to obtain the information.
5. **Sanctions for Noncompliance:** In the event of the contractor's noncompliance with the nondiscrimination provisions of this contract, the Department shall impose such contract sanctions as it or the USDOT may determine to be appropriate, including, but not limited to, the following:
 - a. Withholding payments to the contractor until the contractor complies; and/or
 - b. Canceling, terminating, or suspending the contract, in whole or in part.

6. **Incorporation of Provisions:** The contractor shall include the provisions of Sections (1) through (6) in every subcontract, including procurement of material and leases of equipment, unless exempt by the Regulations or directives issued pursuant thereto. The contractor shall take such action with respect to any subcontract or procurement as the Department or the USDOT may direct as a means of enforcing such provisions, including sanctions for non-compliance, provided, however, that in the event a contractor becomes involved in or is threatened with litigation from a subcontractor or supplier as a result of such direction, the contractor may request the Department to enter into such litigation to protect the interests of the state. In addition, the contractor may request the United States to enter into such litigation to protect the interests of the United States.

Revised June 2011

APPENDIX C

TO BE INCLUDED IN ALL FINANCIAL ASSISTANCE AGREEMENTS WITH LOCAL AGENCIES

Assurance that Recipients and Contractors Must Make (Excerpts from US DOT Regulation 49 CFR 26.13)

- A. Each financial assistance agreement signed with a DOT operating administration (or a primary recipient) must include the following assurance:**

The recipient shall not discriminate on the basis of race, color, national origin, or sex in the award and performance of any US DOT-assisted contract or in the administration of its DBE program or the requirements of 49 CFR Part 26. The recipient shall take all necessary and reasonable steps under 49 CFR Part 26 to ensure nondiscrimination in the award and administration of US DOT-assisted contracts. The recipient's DBE program, as required by 49 CFR Part 26 and as approved by US DOT, is incorporated by reference in this agreement. Implementation of this program is a legal obligation and failure to carry out its terms shall be treated as a violation of this agreement. Upon notification to the recipient of its failure to carry out its approved program, the department may impose sanctions as provided for under Part 26 and may, in appropriate cases, refer the matter for enforcement under 18 U.S.C. 1001 and/or the Program Fraud Civil Remedies Act of 1986 (31 U.S.C. 3801 et seq.).

- B. Each contract MDOT signs with a contractor (and each subcontract the prime contractor signs with a subcontractor) must include the following assurance:**

The contractor, sub recipient or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of US DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the recipient deems appropriate.

**BUSINESS OF THE CITY COUNCIL, OAK PARK, MICHIGAN****AGENDA OF:** June 20, 2022**SUBJECT:** Appointment of new member to the Oak Park Youth Assistance Board**DEPARTMENT:** City Manager's Office

SUMMARY: The Oakland County Youth Assistance Program is administered through the Oakland County Circuit Court/Family Division, and consists of local Youth Assistance offices in Oakland County communities through tri-sponsorship agreements between the Circuit Court, local municipalities and local school districts. The Oak Park Youth Assistance Program was created in 1983 by the Oakland County Circuit Court and includes the following sponsors: The City of Oak Park, the Oak Park School District, and the Charter Township of Royal Oak.

Membership eligibility includes civic leaders, organizational and governmental persons, professional people and individuals interested in serving youth in the area covered by the City of Oak Park and Oak Park School District. After new members are approved by the Oak Park Youth Assistance Board, they must be presented to the local sponsors for approval. Upon acceptance by the local sponsors, they must be sent to the Oakland County Circuit Court Judges for approval and formal appointment to the Board.

The Oak Park Youth Assistance has appointed Oak Park's Human Resource Generalist, Carla Allen, and is asking the local sponsors for approval.

FINANCIAL STATEMENT: N/A

RECOMMENDED ACTION: Request that City Council approve the appointment of Carla Allen to the Oak Park Youth Assistance Board.

APPROVALS:

City Manager: _____ ET _____

Department Director: _____ CV _____

Director of Finance: _____

Budgeted: ☐**EXHIBITS:**