



City of Sunnyvale

Notice and Agenda City Council

Tuesday, May 23, 2023

7:00 PM

Online and Bay Conference Room
(Room 145), City Hall,
456 W. Olive Ave.,
Sunnyvale, CA 94086

Regular Meeting - 7 PM

Meeting online link: <https://sunnyvale-ca-gov.zoom.us/j/96111580540>

Public Participation

- *In-person participation: You may provide public comment by filling out a speaker card (optional) and giving it to the City Clerk.*
- *Online participation: You may provide audio public comment by connecting to the meeting online or by telephone. Use the Raise Hand feature to request to speak (*9 on a telephone):*

Meeting online link: <https://sunnyvale-ca-gov.zoom.us/j/96111580540>

*Meeting call-in telephone number: 833-548-0276 | Meeting ID: 961 1158 0540
(*9 to request to speak | *6 to unmute/mute)*

- *Watch the City Council meeting at <http://youtube.com/SunnyvaleMeetings> or on television over Comcast Channel 15, AT&T Channel 99*
- *Submit written comments to the City Council no later than 4 hours prior to the meeting start to council@sunnyvale.ca.gov or by mail to:
City Clerk, 456 W. Olive Ave., Sunnyvale, CA 94086*
- *Review recordings of this meeting and past meetings at
<https://sunnyvaleca.legistar.com/calendar.aspx> or
<http://youtube.com/SunnyvaleMeetings>*

Accessibility/Americans with Disabilities Act (ADA) Notice

Pursuant to the Americans with Disabilities Act (ADA), if you need special assistance to provide public comment, or for other special assistance; please

contact the City at least 48 hours prior to the meeting to enable the City to make reasonable arrangements to ensure accessibility to this meeting. The Office of the City Clerk may be reached at 408-730-7483 or cityclerk@sunnyvale.ca.gov (28 CFR 35.160 (b) (1)).

7 P.M. COUNCIL MEETING

Pursuant to Council Policy, City Council will not begin consideration of any agenda item after 11:30 p.m. without a vote. Any item on the agenda which must be continued due to the late hour shall be continued to a date certain. Information provided herein is subject to change from date of printing of the agenda to the date of the meeting.

CALL TO ORDER

Call to Order in the Bay Conference Room (Room 145)

SALUTE TO THE FLAG

ROLL CALL

SPECIAL ORDER OF THE DAY

A [23-0074](#) Ceremonial Oath of Office for Board and Commission Members

ORAL COMMUNICATIONS

This category provides an opportunity for members of the public to address the City Council on items not listed on the agenda and is limited to 15 minutes (may be extended or continued after the public hearings/general business section of the agenda at the discretion of the Mayor) with a maximum of up to three minutes per speaker. Please note the Brown Act (Open Meeting Law) does not allow the Council to take action on an item not listed on the agenda. If you wish to address the Council, please refer to the notice at the beginning of this agenda. Individuals are limited to one appearance during this section.

CONSENT CALENDAR

All matters listed on the consent calendar are considered to be routine and will be acted upon by one motion. There will be no separate discussion of these items. If a member of the public would like a consent calendar item pulled and discussed separately, please refer to the notice at the beginning of this agenda.

- 1.A [23-0245](#) Approve City Council Meeting Minutes of April 25, 2023

Recommendation: Approve the City Council Meeting Minutes of April 25, 2023 as submitted.

- 1.B [23-0578](#) Authorize the Purchase of Four Engines from Golden State Fire Apparatus (F23-155)

Recommendation: Take the following actions:

- Authorize the City Manager to issue a Purchase Agreement in the amount of \$4,010,233.32, including an estimated amount of \$334,618.24 in sales tax to Golden State Fire Apparatus, in substantially the same form as Attachment 1, Option B; and
- Approve a 4% contingency in the amount of \$160,409.33.

- 1.C [23-0625](#) Adopt Ordinance No. 3214-23 to Add Chapter 10.66 (PEDESTRIAN MALL ON SOUTH MURPHY AVENUE) to Title 10 (VEHICLES AND TRAFFIC) of the Sunnyvale Municipal Code Establishing a Pedestrian Mall on South Murphy Avenue and to Amend Various Sections of Chapter 10.56 (BICYCLES) of the Sunnyvale Municipal Code Related to Bicycles on Pedestrian Malls

Recommendation: Adopt Ordinance No. 3214-23 23 to Add Chapter 10.66 (PEDESTRIAN MALL ON SOUTH MURPHY AVENUE) to Title 10 (VEHICLES AND TRAFFIC) of the Sunnyvale Municipal Code establishing a pedestrian mall on South Murphy Avenue and to Amend various Sections of Chapter 10.56 (BICYCLES) of the Sunnyvale Municipal Code Related to Bicycles on Pedestrian Malls.

- 1.D [23-0626](#) Adopt Ordinance No. 3215-23 to Add Chapter 19.71 (RESIDENTIAL TENANT PROTECTIONS PROGRAMS) to Title 19 (ZONING) of the Sunnyvale Municipal Code Relating to Tenant Protections and Right to Lease

Recommendation: Adopt Ordinance No. 3215-23 to Add Chapter 19.71 (RESIDENTIAL TENANT PROTECTIONS PROGRAMS) to Title 19 (ZONING) of the Sunnyvale Municipal Code relating to Tenant Protections and Right to Lease

PUBLIC HEARINGS/GENERAL BUSINESS

If you wish to speak to a public hearing/general business item, please refer to notice at the beginning of this agenda. Each speaker is limited to a maximum of three minutes. For land-use items, applicants are limited to a maximum of 10 minutes for opening comments and 5 minutes for closing comments.

- 2 [23-0031](#) Selection of the Preferred Alignment of the Bernardo Avenue Undercrossing Project to be Defined as the Proposed Project for the Project for Environmental Review

Recommendation: Alternative 1: Selection of the Eastern Alignment as the Preferred Alignment of the Bernardo Avenue Undercrossing Project.

- 3 [23-0067](#) Accept the Findings of the Poplar Avenue Sidewalk Study (DPW 21-04), Approval of Installation of a 6-foot Wide Sidewalk and 4-foot Wide Park Strip Along the East Side of Poplar Avenue Between El Camino Real and Peterson Middle School, and Approval of Installation of a Minimum 6-foot Wide Sidewalk on the North and South Sides of Bryant Way East of Poplar Avenue

Recommendation: Alternative 1: Accept the findings of the Poplar Avenue Sidewalk Study (DPW 21-04), approval of installation of Concept A: 6-foot wide sidewalk and 4-foot wide park strip along the east side of Poplar Avenue, between El Camino Real and Peterson Middle School, and install a minimum 6-foot wide sidewalk on the north and south sides of Bryant Way east of Poplar Avenue.

COUNCILMEMBERS REPORTS ON ACTIVITIES FROM INTERGOVERNMENTAL COMMITTEE ASSIGNMENTS

NON-AGENDA ITEMS & COMMENTS

-Council

-City Manager

INFORMATION ONLY REPORTS/ITEMS

Visit <http://Sunnyvale.ca.gov/TCMAC> to view the Tentative Council Meeting Agenda Calendar (TCMAC) online. The TCMAC is updated each Thursday afternoon.

23-0415	Tentative Council Meeting Agenda Calendar
23-0416	Board/Commission Meeting Minutes
23-0417	Information/Action Items
23-0160	Council Advocacy Letters

ADJOURNMENT**NOTICE TO THE PUBLIC**

The agenda reports to council (RTCs) may be viewed on the City's website at sunnyvale.ca.gov after 7 p.m. on Thursdays or at the NOVA Workforce Services reception desk located on the first floor of City Hall at 456 W. Olive Avenue, during normal business hours, prior to Tuesday City Council meetings. Any agenda related writings or documents distributed to members of the City of Sunnyvale City Council regarding any open session item on this agenda will be made available for public inspection in the Office of the City Clerk located on the fourth floor of City Hall at 456 W. Olive Avenue, during normal business hours and in the Bay Conference Room (Room 145) on the evening of the Council Meeting, pursuant to Government Code §54957.5. Please contact the Office of the City Clerk at 408-730-7483 for specific questions regarding the agenda.

PLEASE TAKE NOTICE that if you file a lawsuit challenging any final decision on any public hearing item listed in this agenda, the issues in the lawsuit may be limited to the issues which were raised at the public hearing or presented in writing to the Office of the City Clerk at or before the public hearing.

PLEASE TAKE FURTHER NOTICE that Code of Civil Procedure section 1094.6 imposes a 90-day deadline for the filing of any lawsuit challenging final action on an agenda item which is subject to Code of Civil Procedure 1094.5.

Planning a presentation for a City Council meeting?

To help you prepare and deliver your public comments, please review the "Making Public Comments During City Council or Planning Commission Meetings" available at <http://Sunnyvale.ca.gov/PublicComments>

Planning to provide materials to Council?

If you wish to provide the City Council with copies of your presentation materials,

please provide 12 copies of the materials to the Office of the City Clerk. The City Clerk will distribute your items to the Council.

Upcoming Meetings

Visit <https://sunnyvaleca.legistar.com> for upcoming Council, board and commission meeting information.



City of Sunnyvale

Agenda Item

23-0074

Agenda Date: 5/23/2023

Ceremonial Oath of Office for Board and Commission Members



City of Sunnyvale

Agenda Item

23-0245

Agenda Date: 5/23/2023

SUBJECT

Approve City Council Meeting Minutes of April 25, 2023

RECOMMENDATION

Approve the City Council Meeting Minutes of April 25, 2023 as submitted.



City of Sunnyvale

Meeting Minutes - Draft

City Council

Tuesday, April 25, 2023

5:00 PM

Online and Bay Conference Room
(Room 145), City Hall,
456 W. Olive Ave.,
Sunnyvale, CA 94086

Special Meeting: Study Session - 5 PM | Regular Meeting - 7 PM

5 P.M. SPECIAL COUNCIL MEETING (Study Session)

Call to Order

Vice Mayor Din called the meeting to order at 5:00 p.m.

Roll Call

Present: 7 - Mayor Larry Klein
Vice Mayor Omar Din
Councilmember Russ Melton
Councilmember Alysia Cisneros
Councilmember Richard Mehlinger
Councilmember Murali Srinivasan
Councilmember Linda Sell

Pursuant to Government Code Section 54953(b), Mayor Klein participated via teleconference from Element Bend, The Bulletin Conference Room, 1526 NW Wall Street, Bend, OR 97703.

Study Session

A [23-0398](#) Equity, Access and Inclusion Training and Update

Deputy City Manager Jaqui Guzmán and Paul Hudson, Seed Collaborative, provided the staff report and presentation.

Public Comment opened at 6:47 p.m.

No speakers.

Public Comment closed at 6:47 p.m.

Adjourn Special Meeting

Vice Mayor Din adjourned the meeting at 6:48 p.m.

7 P.M. COUNCIL MEETING

CALL TO ORDER

Vice Mayor Din called the meeting to order at 7:00 p.m.

SALUTE TO THE FLAG

Vice Mayor Din led the salute to the United States flag.

ROLL CALL

Present: 7 - Mayor Larry Klein
Vice Mayor Omar Din
Councilmember Russ Melton
Councilmember Alysa Cisneros
Councilmember Richard Mehlinger
Councilmember Murali Srinivasan
Councilmember Linda Sell

Pursuant to Government Code Section 54953(b), Mayor Klein participated via teleconference from Element Bend, The Bulletin Conference Room, 1526 NW Wall Street, Bend, OR 97703.

SPECIAL ORDER OF THE DAY

B [23-0368](#) Small Business Week

Vice Mayor Din spoke in recognition of small business week.

Mike D'Ambrosio, Owner, New York Style Sausage, communicated their appreciation for Sunnyvale honoring their business.

C [23-0369](#) Asian Pacific American (APA) Heritage Month

Vice Mayor Din spoke in recognition of Asian Pacific American (APA) Heritage Month.

D [23-0371](#) Arab-American Heritage Month

Vice Mayor Din spoke in recognition of Arab American Heritage Month.

Maha Elgenaidi, Executive Director, Islamic Networks Group, provided words in honor of Arab American Heritage Month.

E [23-0367](#) Library Week

Vice Mayor Din spoke in recognition of Library Week.

Director of Library and Recreation Services Michelle Perera accepted the recognition.

ORAL COMMUNICATIONS

Councilmember Sell announced details of the current recruitment for various Boards and Commissions, the upcoming Ride and Drive Event and Older Americans Month events being held at the Sunnyvale Senior Center.

Ammar Khan shared their safety and privacy concerns regarding individuals living in mobile homes in front of their home.

John Keho provided remarks seeking assistance and support for Sunnyvale's Baylands Park and Grassroots Ecology's efforts to support the park.

Suh Jean Lin shared their traumatic experiences dealing with the Home First organization and living in their homeless shelter.

Stephen Meier communicated their concerns with pedestrian and bicycle safety in Sunnyvale after the recent death of a pedestrian on Fair Oaks Avenue.

Sharon Salmons shared their safety and privacy concerns regarding individuals living in mobile homes in the Cherry Chase neighborhood.

Chakkaravarthy Periyasamy Balalah communicated their safety and privacy concerns regarding individuals living in mobile homes in the Cherry Chase neighborhood.

CONSENT CALENDAR

Public Comment opened at 7:47 p.m.

No speakers.

Public Comment closed at 7:47 p.m.

Councilmember Mehlinger pulled agenda item 1.A for separate consideration.

MOTION: Councilmember Mehlinger moved and Councilmember Cisneros seconded the motion to approve agenda items 1.B through 1.H.

The motion carried with the following vote:

Yes: 7 - Mayor Klein
Vice Mayor Din
Councilmember Melton
Councilmember Cisneros
Councilmember Mehlinger
Councilmember Srinivasan
Councilmember Sell

No: 0

1.A [23-0293](#) Approve City Council Meeting Minutes of March 14, 2023

Public Hearing opened at 7:52 p.m.

No speakers.

Public Hearing closed at 7:52 p.m.

MOTION: Councilmember Mehlinger moved and Councilmember Melton seconded the motion to approve the City Council Meeting Minutes of March 14, 2023 as submitted.

The motion carried with the following vote:

Yes: 7 - Mayor Klein
Vice Mayor Din
Councilmember Melton
Councilmember Cisneros
Councilmember Mehlinger
Councilmember Srinivasan
Councilmember Sell

No: 0

1.B [23-0050](#) Approve City Council Meeting Minutes of March 21, 2023

Approve the City Council Meeting Minutes of March 21, 2023 as submitted.

1.C [23-0267](#) Approve the List(s) of Claims and Bills Approved for Payment
by the City Manager

Approve the list(s) of claims and bills.

- 1.D** [23-0496](#) Adopt a Resolution Amending the Classification Plan and the City's Salary Resolution to Add the Classification of Homeless Services Manager and Update the Schedule of Pay

Adopt a Resolution to amend the Classification Plan and the City's Salary Resolution to add the new Classification of Homeless Services Manager and make corresponding updates to the Schedule of Pay effective April 30, 2023.

- 1.E** [23-0426](#) Receive and File the FY 2021/22 Annual Agreed Upon Procedure Audit Reports

Receive and file the agreed upon Procedure Reports.

- 1.F** [23-0210](#) Authorize the Issuance of a Purchase Agreement to Reed & Graham, Inc. for Asphaltic Materials and Pavement Reinforcement Fabric (F23-065)

Take the following actions:

- Authorize the issuance of a Purchase Agreement with Reed & Graham, Inc. in a not-to-exceed amount of \$1,535,000; and
- Authorize the City Manager to amend the not-to-exceed amount and to renew the contract for four (4) additional one-year periods, subject to available budget and if pricing and services remain acceptable to the City.

- 1.G** [23-0487](#) Award a Contract to Storm Water Inspection & Maintenance Services Inc. for Manufacturing and Installing 350 Full Trash Capture Devices (F23-116)

Take the following actions:

- Approve a Services Agreement in substantially the same form as Attachment 1 to the report in an amount not-to-exceed \$473,412.00 to Storm Water Inspection & Maintenance Services Inc. for the manufacture and installation of 350 Stormtek ST3G Connector Pipe Screens;
- Authorize the City Manager to execute the Agreement when all conditions have been met; and
- Approve a 10% contingency in the amount of \$47,340.

- 1.H** [23-0185](#) Authorize the Public Works Director, or Designee, to Execute a Change Order in the Amount of \$5,100,000 for the Contract with C. Overaa & Co. for Primary Treatment Facility Package 2

Settle a Construction Claim Related to PG&E Delays and
Other Associated Delay Claims and Approve Budget
Modification No. 19 in the Amount of \$5,200,000

Take the following actions:

- Authorize the Public Works Director, or designee, to execute a Change Order, in substantially the same form as updated Attachment 1 to the Report (posted 4/25/2023), in the amount of \$5,100,000 for the Contract with C. Overaa & Co. for Primary Treatment Facility Package 2 to settle a construction claim related to PG&E delays and other associated delay claims; and
- Approve Budget Modification No. 19 in the amount of \$5,200,000.

- 1.I [23-0443](#) Reject all Bids Received for South Hill Slope Repair project (F23-060)

Reject all bids received in response to Invitation for Bids F23-060 South Hill Slope Repair Project.

PUBLIC HEARINGS/GENERAL BUSINESS

- 2 [23-0515](#) Introduce an Ordinance to Add Chapter 19.71 of Title 19 of the Sunnyvale Municipal Code Creating a Residential Tenant Protections Program (Study Issue)

Housing Officer Jenny Carloni provided the staff report and presentation.

Public Hearing opened at 9:01 p.m.

Planning Commission Chair Martin Payne, spoke to the Commission's recommendations to Council regarding this item.

Anil Babbar, California Apartment Association, provided feedback on the written Ordinance and Council's discussion and questions to city staff.

Agnes Veith, spoke in support of the Ordinance and the recommendation for payments of two months of rent in the case of a no fault, just cause eviction.

Jessica Martin, Silicon Valley@Home, communicated support for the Ordinance that will create a Residential Tenant Protections Program and proposed Sunnyvale explore further options to protect renters.

Janet Murdock spoke to how the Ordinance can negatively affect small business

landlords' efforts to offer affordable housing to their tenants.

Public Hearing closed at 9:15 p.m.

MOTION: Councilmember Cisneros moved and Councilmember Sell seconded the motion to approve Alternative 2: Introduce an Ordinance to add Chapter 19.71 (Residential Tenant Protections Ordinance) to Title 19 ("Zoning") of the Sunnyvale Municipal Code creating a Residential Tenant Protections Program with modifications to instruct staff to study extending the relocation assistance for tenants to 3 months and providing further tenant protections to the vulnerable and elderly and return to Council with the results to potentially amend the ordinance.

FRIENDLY AMENDMENT: Mayor Klein proposed a friendly amendment to include in the ordinance the requirement for posting notices to include the ordinance change, a summary of AB 1482, and contact details for the Sunnyvale Housing Department. Councilmember Cisneros and Councilmember Sell accepted the friendly amendment.

FRIENDLY AMENDMENT: Councilmember Mehlinger proposed a friendly amendment to direct staff to study reducing the just cause eviction tenant protections to retroactively begin on day 1 of a lease agreement. Councilmember Cisneros and Councilmember Sell accepted the friendly amendment.

The motion carried with the following vote:

Yes: 7 - Mayor Klein
Vice Mayor Din
Councilmember Melton
Councilmember Cisneros
Councilmember Mehlinger
Councilmember Srinivasan
Councilmember Sell

No: 0

City Council took a recess at 9:39 p.m. and returned at 9:46 p.m. with Vice Mayor Din and all Councilmembers present in the Bay Conference Room (Room 145) and Mayor Klein participating via teleconference from Element Bend, The Bulletin

Conference Room, 1526 NW Wall Street, Bend, OR 97703.

3 [23-0069](#) Evaluation of Wi-Fi Installation in the Community Center
Grounds Renovation Project (PR-21-05)

Public Works Director Chip Taylor provided the staff report and presentation.

Public Hearing opened at 10:09 p.m.

No speakers.

Public Hearing closed at 10:09 p.m.

MOTION: Councilmember Srinivasan moved and Councilmember Melton seconded the motion to approve Alternative 1: Approve Wi-Fi installation for Common Area Coverage to be included in the Community Center Grounds Renovation Project and direct staff to add associated operating funds to the operating budget.

The motion carried with the following vote:

Yes: 7 - Mayor Klein
 Vice Mayor Din
 Councilmember Melton
 Councilmember Cisneros
 Councilmember Mehlinger
 Councilmember Srinivasan
 Councilmember Sell

No: 0

City Council took a recess at 10:15 p.m. and returned at 10:20 p.m. with Vice Mayor Din and all Councilmembers present in the Bay Conference Room (Room 145) and Mayor Klein participating via teleconference from Element Bend, The Bulletin Conference Room, 1526 NW Wall Street, Bend, OR 97703.

4 [23-0350](#) Consider Adoption of a Resolution to Oppose Initiative
21-0042A1 Sponsored by the California Business Roundtable,
Also Known as "The Taxpayer Protection and Government
Accountability Act," Which has Qualified for the November
2024 Ballot

Finance Director Tim Kirby provided the staff report.

Public Hearing opened at 10:40 p.m.

Jen spoke in support of adopting the Resolution to oppose Initiative 21-0042A1.

Public Hearing closed at 10:44 p.m.

MOTION: Councilmember Mehlinger moved and Councilmember Melton seconded the motion to approve Alternative 1: Adopt a Resolution (Attachment 1) to oppose Initiative 21-0042A1 or “The Taxpayer Protection and Government Accountability Act” and find that the Action is not a project under the California Environmental Quality Act (“CEQA”) pursuant to CEQA Guidelines section 15378 (a).

The motion carried with the following vote:

Yes: 7 - Mayor Klein
Vice Mayor Din
Councilmember Melton
Councilmember Cisneros
Councilmember Mehlinger
Councilmember Srinivasan
Councilmember Sell

No: 0

COUNCILMEMBERS REPORTS ON ACTIVITIES FROM INTERGOVERNMENTAL COMMITTEE ASSIGNMENTS

Councilmember Melton shared Councilmember Srinivasan completing the process to become an Alternate Commissioner to the Santa Clara County Airport Land-Use Commission and announced he was installed as Chair of the Local Agency Formation Commission for 2023.

NON-AGENDA ITEMS & COMMENTS

-Council

Councilmember Mehlinger inquired if the City utilizes facial recognition technology.

Councilmember Mehlinger proposed a study issue to examine the possibility of establishing a sanctioned encampment for unhoused individuals in Sunnyvale. Mayor Klein, Vice Mayor Din, and Councilmembers Cisneros, Srinivasan, and Sell co-sponsored the study issue.

-City Manager

City Manager Kent Steffens provided an update on the emergency declaration related to storm damage at the Stevens Creek embankment on Mockingbird Lane.

INFORMATION ONLY REPORTS/ITEMS

- | | |
|--------------------------------|--|
| <u>23-0290</u> | Board/Commission Meeting Minutes |
| <u>23-0299</u> | Tentative Council Meeting Agenda Calendar |
| <u>23-0300</u> | Information/Action Items |
| <u>23-0297</u> | Notice of Public Works Director's Decision on Final Maps
(Information Only) |
| <u>23-0255</u> | Moffett Park Specific Plan Pros and Cons of Taller Buildings
(Information Only) |

ADJOURNMENT

Vice Mayor Din adjourned the meeting at 11:01 p.m.



City of Sunnyvale

Agenda Item

23-0578

Agenda Date: 5/23/2023

REPORT TO COUNCIL

SUBJECT

Authorize the Purchase of Four Engines from Golden State Fire Apparatus (F23-155)

REPORT IN BRIEF

Approval is requested to authorize the purchase of four engines to replace existing equipment in the amount of \$4,010,233.32, including an estimated amount of \$334,618.24 in sales tax, from Golden State Fire Apparatus. Approval is also requested for a 4% contingency in the amount of \$160,409.33. Contingencies are typically not requested for vehicle purchases, but historically a nominal amount has been requested for fire apparatuses to make minor required modifications during the manufacturing process.

EXISTING POLICY

Pursuant to Section 2.08.040 of the Sunnyvale Municipal Code, City Council approval is required for the procurement of good and/or services greater than \$250,000 in any one transaction.

Further, Section 2.08.220(a) of the Sunnyvale Municipal Code, authorizes the Purchasing Officer to direct the City's participation with one or more governmental, public, or quasi-public agencies in a cooperative agreement for the procurement of goods and/or services, provided that at least one of the agencies has solicited bids.

ENVIRONMENTAL REVIEW

The action being considered does not constitute a "project" within the meaning of the California Environmental Quality Act ("CEQA") pursuant to CEQA Guidelines section 15378(a) as it has no potential for resulting in either a direct physical change in the environment, or a reasonably foreseeable indirect physical change in the environment.

BACKGROUND AND DISCUSSION

Economic operations of the City's fleet require that vehicles be replaced before operating costs become excessive. The vehicle replacement schedule includes the replacement of two American LaFrance fire apparatuses (pumpers) in 2023 and two American LaFrance fire apparatuses (pumpers) in 2024.

Since 2019, the department has acquired six (6) Pierce Velocity pumper apparatus. The four being replaced by this agreement are the last four American LaFrance pumpers the department has in service. DPS can better manage training costs by having uniformity in all pumper apparatus. If the fleet of pumper apparatus are homogenous, movement of personnel to respond to calls throughout the city will no longer require that personnel are trained and certified on two types of apparatus.

The Department of Public Safety (DPS) is requesting replacement of all four pumpers in one

purchase agreement for the following reasons:

- All four apparatuses have reached a life of 15 years and have high maintenance costs, which make their replacements appropriate now.
- As of January 17, 2014, American LaFrance ceased operations. This has caused extreme difficulty in acquiring repair parts for these aged units which has resulted in extended downtimes for maintenance and repair.
- The vendor will begin buildout of all four vehicles upon receipt of a signed contract to reducing the wait time.

The fire pumper apparatuses that meet the specified requirements can be provided by Pierce Manufacturing and are available through Sourcewell, a national cooperative procurement organization offering publicly solicited contracts to government entities nationwide.

It is in the best interest of the City to purchase through the Sourcewell contract with Golden State Fire Apparatus, its local authorized dealer, as utilizing the Sourcewell contract pricing saves time developing vehicle specifications while benefiting from established vehicle pricing. Golden State has proposed the following three payment options for this purchase: Sourcewell

Payment Option	Proposed Price	Savings	% Savings
A - 100% at time of order	\$ 3,973,338	\$ 210,750	5%
B - 75% at time of order	\$ 4,010,233	\$ 173,854	4.15%
C - Pay at Delivery	\$ 4,184,088	-	-

As stated above, a small contingency has been requested fire apparatuses to make minor required modifications during the manufacturing process.

Therefore, it is recommended that Council authorize the issuance of a purchase order to Golden State Fire Apparatus for four (4) fire pumper apparatuses, using Option B above (payment of 75% at time of order), with a contingency of 4% added to the project for required buildout.

FISCAL IMPACT

Fleet equipment is budgeted for and accounted for in the Fleet Services Internal Service Fund. The FY 2023/24 Recommended Budget estimates \$4,150,900 in replacement cost for these vehicles. The apparatus' being replaced will be processed in accordance with the disposition of surplus property. Due to the long lead times for manufacturing and the final payment due upon delivery, the additional \$200,552 in cost can be included in the FY 2024/25 Budget.

PUBLIC CONTACT

Public contact was made by posting the Council meeting agenda on the City's official-notice bulletin board at City Hall, at the Sunnyvale Public Library and in the Department of Public Safety Lobby. In addition, the agenda and this report are available at the NOVA Workforce Services reception desk located on the first floor of City Hall at 456 W. Olive Avenue (during normal business hours), and on the City's website.

RECOMMENDATION

Take the following actions:

- Authorize the City Manager to issue a Purchase Agreement in the amount of \$4,010,233.32, including an estimated amount of \$334,618.24 in sales tax to Golden State Fire Apparatus, in substantially the same form as Attachment 1, Option B; and
- Approve a 4% contingency in the amount of \$160,409.33.

Prepared by: Lisa Vo, Acting Purchasing Officer

Reviewed by: Tim Kirby, Director of Finance

Reviewed by: Phan Ngo, Director of Public Safety

Reviewed by: Jaqui Guzmán, Deputy City Manager

Approved by: Kent Steffens, City Manager

ATTACHMENTS

1. Golden State Fire Apparatus Product Proposal



GOLDEN STATE

FIRE APPARATUS

PREPARED ESPECIALLY FOR:

CITY OF SUNNYVALE

**Four (4) Pierce Manufacturing, Inc.
Velocity 1500 GPM Pumpers**



TABLE OF CONTENTS

- 1** Product Proposal
- 2** Standard Terms and Conditions (Exhibit A)
- 3** Product Specifications (Exhibit B)
 - Supporting Documents (If Applicable)
 - Electrical Analysis
 - Turning Radius Report
- 4** Product Warranties (Exhibit C)
- 5** Dealer Supplied Products and/or Services (Exhibit D)

1 PRODUCT PROPOSAL

OPTION A

100% PRE-PAYMENT

This will be the price of the Product(s) contingent upon the Customer paying the Grand Total Purchase Price to GSFA within thirty (30) calendar days of the Executed Date pursuant to the Payment Terms

IF YOU ELECT THIS OPTION,
IT RESULTS IN A SAVINGS OF
(\$210,749.64) OFF
OF THE GRAND TOTAL OF OPTION C

Please note this discount is also available contingent upon a Third Party (Leasing Company) paying 100% of the Grand Total Purchase Price on behalf of the Customer to GSFA within thirty (30) calendar days of the Executed Date pursuant to the Payment Terms

PRODUCT PROPOSAL FOR:**City of Sunnyvale**700 All America Way
Sunnyvale, CA 94086**Sales Consultant**Ryan Wright
ryan@goldenstatefire.com
Mobile: (209) 613-3809

SUBMITTED DATE	EXPIRATION DATE	GSFA PROPOSAL #	MANUFACTURER BID #	MANUFACTURER	CONSORTIUM
05/01/2023	05/31/2023	70501-23A	945	Pierce Manufacturing, Inc.	Sourcewell #113021, ID #259 – Member #112774

Golden State Fire Apparatus, Inc. ("GSFA") is pleased to provide this proposal for the fire apparatus(es) and equipment identified below (the "**Product**") to CITY OF SUNNYVALE ("**Customer**") for consideration. This proposal (this "**Product Proposal**") includes the following exhibits attached hereto: the Standard Terms and Conditions attached as Exhibit A (the "**Terms and Conditions**"); the Product Specifications attached as Exhibit B (the "**Specifications**"); the Product Warranties attached as Exhibit C; and the Dealer Supplied Products and/or Services attached as Exhibit D (the "**Dealer Supplied Products/Services List**") (all of the foregoing, collectively, the "**Agreement**"). Through its signature below or other Acceptance (as defined on page 2), Customer acknowledges having received and read, and agrees to be bound by, the Agreement. The Agreement shall be effective as of the latest date appearing in the signature blocks below (the "**Executed Date**").

ITEM	PRODUCT DESCRIPTION	EXTENDED PRICE
A	Four (4) Pierce Manufacturing, Inc. Velocity 1500 GPM Pumps	3,824,043.40
B	Sourcewell Fee	2,000.00
C	Travel	0.00
D	<i>Discount for 100% Payment at Time of Order (the "Prepayment Discount")</i>	<i>(192,738.28)</i>
E	SUBTOTAL	3,633,305.12
F	9.125% State Sales Tax	331,539.08
G	California Tire Fee	42.00
H	100% Performance Bond	8,452.00
I	GRAND TOTAL PURCHASE PRICE	3,973,338.20

PAYMENT TERMS – Customer shall pay the total purchase price set forth directly above (the "Grand Total Purchase Price") to GSFA within thirty (30) calendar days of the Executed Date. If payment of the Grand Total Purchase Price is late, a late fee as specified in section 6 of the Terms and Conditions may be applied, and the Prepayment Discount may be adjusted and the Grand Total Purchase Price increased in accordance with section 2.c of the Terms and Conditions. Customer shall pay any balance due as a result of Change Orders to GSFA at the time of GSFA's delivery of the applicable Product to Customer's address listed above (or Customer's pick up of such Product at GSFA's facilities, as applicable and if approved by GSFA).

MANUFACTURER – Customer acknowledges that GSFA is not an agent of the Product manufacturer identified above ("**Manufacturer**") and is not capable of binding Manufacturer. Within five (5) business days of the Executed Date, GSFA shall submit

an order form to the Manufacturer for the Product. GSFA's further performance under the Agreement is contingent upon Manufacturer's acceptance of such order form at the price and on the terms GSFA believed to be available when submitting this Product Proposal to Customer. If Manufacturer rejects such order as submitted or fails to respond to GSFA within a reasonable amount of time, GSFA shall notify Customer in writing, and unless GSFA and Customer otherwise agree in writing, the Agreement shall then terminate and have no further force or effect.

PRODUCT COMPLETION – The Product shall be ready for final inspection by Customer at the manufacturing facility within approximately **26.5 to 29.5 MONTHS** after the Executed Date. The foregoing estimate is provided as a good faith approximation as of the date of submission of this Product Proposal and is subject to the Terms and Conditions.

PREDELIVERY SERVICE – If applicable, after transportation from the manufacturing facility and prior to final delivery or pick up, the Product shall receive those additional Products and/or services identified on the Dealer Supplied Products/Services List. It is estimated that such a service will add approximately **1 to 1.5 MONTH(S)** to the above Product completion estimate. The foregoing estimate is provided as a good faith approximation as of the date of submission of this Product Proposal and is subject to the Terms and Conditions.

PROPOSAL EXPIRATION – This Product Proposal supersedes any previous proposal(s) presented to Customer by GSFA and its employees and may be accepted by Customer on or before the Expiration Date identified above. Unless accepted by the Expiration Date, GSFA reserves the right to withdraw this Product Proposal or to alter its terms (including by providing updated Product pricing) prior to an order being accepted.

PURCHASE ORDER – If the Customer elects to issue a Purchase Order (PO) it shall be made out to: *Golden State Fire Apparatus, Inc. – 7400 Reese Road – Sacramento, CA 95828.*

ACCEPTANCE – ACCEPTANCE OF THIS PROPOSAL CREATES AN ENFORCEABLE BINDING AGREEMENT BETWEEN GSFA AND CUSTOMER. "**ACCEPTANCE**" MEANS THAT THE CUSTOMER DELIVERS TO GSFA: (A) A SIGNED COPY OF THIS PRODUCT PROPOSAL, OR (B) A SIGNED COPY OF A PURCHASE ORDER INCORPORATING THE AGREEMENT IN ITS ENTIRETY. ANY ADDITIONAL OR DIFFERENT TERMS, WHETHER CONTAINED IN CUSTOMER'S FORMS OR OTHERWISE PRESENTED BY CUSTOMER AT ANY TIME, ARE HEREBY REJECTED AND OF NO EFFECT UNLESS APPROVED IN WRITING SIGNED BY GSFA.

COUNTERPARTS - This Product Proposal may be executed in multiple counterparts, each of which shall be deemed an original (including copies sent to a party by electronic transmission) as against the party signing such counterpart, but which together shall constitute one and the same instrument. A signed copy of this Product Proposal delivered by facsimile, email or other means of electronic transmission will be deemed to have the same legal effect as delivery of an original signed copy of this Product Proposal. If this Product Proposal is returned to GSFA with the signature of Customer's authorized representative but without an attestation or co-signers signature, then absent Customer's written notice to the contrary, GSFA shall be entitled to rely on such single signature as sufficient evidence of the signatory's authority to execute the Agreement and bind Customer thereby.

[Signature Page Follows]

INTENDING TO CREATE A BINDING AGREEMENT, Customer and GSFA have each caused this Product Proposal dated 05/01/2023, GSFA Proposal Number 70501-23A to be executed by their duly authorized representatives effective as of the Executed Date.

ACCEPTED AND AGREED TO BY CUSTOMER

AUTHORIZED CUSTOMER REPRESENTATIVE:

Signature

Print Name

Title

Date

ACCEPTED AND AGREED TO BY GSFA

AUTHORIZED GSFA REPRESENTATIVE:

Signature

Print Name

Title

Date

OPTION B

75% PRE-PAYMENT

This will be the price of the Product(s) contingent upon the Customer paying \$3,007,674.99 to GSFA within thirty (30) calendar days of the Executed Date pursuant to the Payment Terms

IF YOU ELECT THIS OPTION,
IT RESULTS IN A SAVINGS OF
(\$173,854.52) OFF
OF THE GRAND TOTAL OF OPTION C

Please note this discount is also available contingent upon a Third Party (Leasing Company) paying \$3,007,674.99 on behalf of the Customer to GSFA within thirty (30) calendar days of the Executed Date pursuant to the Payment Terms

PRODUCT PROPOSAL FOR:**City of Sunnyvale**700 All America Way
Sunnyvale, CA 94086**Sales Consultant**Ryan Wright
ryan@goldenstatefire.com
Mobile: (209) 613-3809

SUBMITTED DATE	EXPIRATION DATE	GSFA PROPOSAL #	MANUFACTURER BID #	MANUFACTURER	CONSORTIUM
05/01/2023	05/31/2023	70501-23B	945	Pierce Manufacturing, Inc.	Sourcewell #113021, ID #259 – Member #112774

Golden State Fire Apparatus, Inc. (“GSFA”) is pleased to provide this proposal for the fire apparatus(es) and equipment identified below (the “**Product**”) to CITY OF SUNNYVALE (“**Customer**”) for consideration. This proposal (this “**Product Proposal**”) includes the following exhibits attached hereto: the Standard Terms and Conditions attached as Exhibit A (the “**Terms and Conditions**”); the Product Specifications attached as Exhibit B (the “**Specifications**”); the Product Warranties attached as Exhibit C; and the Dealer Supplied Products and/or Services attached as Exhibit D (the “**Dealer Supplied Products/Services List**”) (all of the foregoing, collectively, the “**Agreement**”). Through its signature below or other Acceptance (as defined on page 2), Customer acknowledges having received and read, and agrees to be bound by, the Agreement. The Agreement shall be effective as of the latest date appearing in the signature blocks below (the “**Executed Date**”).

ITEM	PRODUCT DESCRIPTION	EXTENDED PRICE
A	Four (4) Pierce Manufacturing, Inc. Velocity 1500 GPM Pumps	3,824,043.40
B	Sourcewell Fee	2,000.00
C	Travel	0.00
D	<i>Discount for 75% Payment at Time of Order (the “Prepayment Discount”)</i>	<i>(158,994.32)</i>
E	SUBTOTAL	3,667,049.08
F	9.125% State Sales Tax	334,618.24
G	California Tire Fee	42.00
H	100% Performance Bond	8,524.00
I	GRAND TOTAL PURCHASE PRICE	4,010,233.32

PAYMENT TERMS – Customer shall pay \$3,007,674.99 to GSFA within thirty (30) calendar days of the Executed Date. If payment of \$3,007,674.99 is late, a late fee as specified in section 6 of the Terms and Conditions may be applied, and the Prepayment Discount may be adjusted and the Grand Total Purchase Price increased in accordance with section 2.c of the Terms and Conditions. Customer shall pay any balance due as a result of Change Orders to GSFA at the time of GSFA’s delivery of the applicable Product to Customer’s address listed above (or Customer’s pick up of such Product at GSFA’s facilities, as applicable and if approved by GSFA).

MANUFACTURER – Customer acknowledges that GSFA is not an agent of the Product manufacturer identified above (“**Manufacturer**”) and is not capable of binding Manufacturer. Within five (5) business days of the Executed Date, GSFA shall submit an order form to the Manufacturer for the Product. GSFA’s further performance under the Agreement is contingent upon

Manufacturer's acceptance of such order form at the price and on the terms GSFA believed to be available when submitting this Product Proposal to Customer. If Manufacturer rejects such order as submitted or fails to respond to GSFA within a reasonable amount of time, GSFA shall notify Customer in writing, and unless GSFA and Customer otherwise agree in writing, the Agreement shall then terminate and have no further force or effect.

PRODUCT COMPLETION – The Product shall be ready for final inspection by Customer at the manufacturing facility within approximately **26.5 to 29.5 MONTHS** after the Executed Date. The foregoing estimate is provided as a good faith approximation as of the date of submission of this Product Proposal and is subject to the Terms and Conditions.

PREDELIVERY SERVICE – If applicable, after transportation from the manufacturing facility and prior to final delivery or pick up, the Product shall receive those additional Products and/or services identified on the Dealer Supplied Products/Services List. It is estimated that such a service will add approximately **1 to 1.5 MONTH(S)** to the above Product completion estimate. The foregoing estimate is provided as a good faith approximation as of the date of submission of this Product Proposal and is subject to the Terms and Conditions.

PROPOSAL EXPIRATION – This Product Proposal supersedes any previous proposal(s) presented to Customer by GSFA and its employees and may be accepted by Customer on or before the Expiration Date identified above. Unless accepted by the Expiration Date, GSFA reserves the right to withdraw this Product Proposal or to alter its terms (including by providing updated Product pricing) prior to an order being accepted.

PURCHASE ORDER – If the Customer elects to issue a Purchase Order (PO) it shall be made out to: *Golden State Fire Apparatus, Inc. – 7400 Reese Road – Sacramento, CA 95828.*

ACCEPTANCE – ACCEPTANCE OF THIS PROPOSAL CREATES AN ENFORCEABLE BINDING AGREEMENT BETWEEN GSFA AND CUSTOMER. “**ACCEPTANCE**” MEANS THAT THE CUSTOMER DELIVERS TO GSFA: (A) A SIGNED COPY OF THIS PRODUCT PROPOSAL, OR (B) A SIGNED COPY OF A PURCHASE ORDER INCORPORATING THE AGREEMENT IN ITS ENTIRETY. ANY ADDITIONAL OR DIFFERENT TERMS, WHETHER CONTAINED IN CUSTOMER'S FORMS OR OTHERWISE PRESENTED BY CUSTOMER AT ANY TIME, ARE HEREBY REJECTED AND OF NO EFFECT UNLESS APPROVED IN WRITING SIGNED BY GSFA.

COUNTERPARTS - This Product Proposal may be executed in multiple counterparts, each of which shall be deemed an original (including copies sent to a party by electronic transmission) as against the party signing such counterpart, but which together shall constitute one and the same instrument. A signed copy of this Product Proposal delivered by facsimile, email or other means of electronic transmission will be deemed to have the same legal effect as delivery of an original signed copy of this Product Proposal. If this Product Proposal is returned to GSFA with the signature of Customer's authorized representative but without an attestation or co-signers signature, then absent Customer's written notice to the contrary, GSFA shall be entitled to rely on such single signature as sufficient evidence of the signatory's authority to execute the Agreement and bind Customer thereby.

[Signature Page Follows]

INTENDING TO CREATE A BINDING AGREEMENT, Customer and GSFA have each caused this Product Proposal dated 05/01/2023, GSFA Proposal Number 70501-23B to be executed by their duly authorized representatives effective as of the Executed Date.

ACCEPTED AND AGREED TO BY CUSTOMER

AUTHORIZED CUSTOMER REPRESENTATIVE:

Signature

Print Name

Title

Date

ACCEPTED AND AGREED TO BY GSFA

AUTHORIZED GSFA REPRESENTATIVE:

Signature

Print Name

Title

Date

OPTION C

PAYMENT AT TIME OF DELIVERY OR PICKUP

This will be the price of the Product(s) contingent
upon the Customer paying the Grand Total
Purchase Price to GSFA at time of delivery or pickup
pursuant to the Payment Terms

PRODUCT PROPOSAL FOR:**City of Sunnyvale**700 All America Way
Sunnyvale, CA 94086**Sales Consultant**Ryan Wright
ryan@goldenstatefire.com
Mobile: (209) 613-3809

SUBMITTED DATE	EXPIRATION DATE	GSFA PROPOSAL #	MANUFACTURER BID #	MANUFACTURER	CONSORTIUM
05/01/2023	05/31/2023	70501-23C	945	Pierce Manufacturing, Inc.	Sourcewell #113021, ID #259 – Member #112774

Golden State Fire Apparatus, Inc. (“**GSFA**”) is pleased to provide this proposal for the fire apparatus(es) and equipment identified below (the “**Product**”) to CITY OF SUNNYVALE (“**Customer**”) for consideration. This proposal (this “**Product Proposal**”) includes the following exhibits attached hereto: the Standard Terms and Conditions attached as Exhibit A (the “**Terms and Conditions**”); the Product Specifications attached as Exhibit B (the “**Specifications**”); the Product Warranties attached as Exhibit C; and the Dealer Supplied Products and/or Services attached as Exhibit D (the “**Dealer Supplied Products/Services List**”) (all of the foregoing, collectively, the “**Agreement**”). Through its signature below or other Acceptance (as defined on page 2), Customer acknowledges having received and read, and agrees to be bound by, the Agreement. The Agreement shall be effective as of the latest date appearing in the signature blocks below (the “**Executed Date**”).

ITEM	PRODUCT DESCRIPTION	EXTENDED PRICE
A	Four (4) Pierce Manufacturing, Inc. Velocity 1500 GPM Pumps	3,824,043.40
B	Sourcewell Fee	2,000.00
C	Travel	0.00
D	9.125% State Sales Tax	349,126.44
E	California Tire Fee	42.00
F	100% Performance Bond	8,876.00
G	GRAND TOTAL PURCHASE PRICE	4,184,087.84

PAYMENT TERMS – Customer shall pay the total purchase price set forth directly above (the “**Grand Total Purchase Price**”) (as such amount may be adjusted by Change Order in accordance with the Terms and Conditions) to GSFA at the time of GSFA’s delivery of the applicable Product to Customer’s address listed above (or Customer’s pick up of such Product at GSFA’s facilities, if approved by GSFA). GSFA shall have no obligation to deliver, or permit pick up of the Product if the Customer does not have full payment ready when the Product is complete and ready to deliver or pick up, as applicable.

MANUFACTURER – Customer acknowledges that GSFA is not an agent of the Product manufacturer identified above (“**Manufacturer**”) and is not capable of binding Manufacturer. Within five (5) business days of the Executed Date, GSFA shall submit an order form to the Manufacturer for the Product. GSFA’s further performance under the Agreement is contingent upon Manufacturer’s acceptance of such order form at the price and on the terms GSFA believed to be available when submitting this Product Proposal to Customer. If Manufacturer rejects such order as submitted or fails to respond to GSFA within a reasonable

amount of time, GSFA shall notify Customer in writing, and unless GSFA and Customer otherwise agree in writing, the Agreement shall then terminate and have no further force or effect.

PRODUCT COMPLETION – The Product shall be ready for final inspection by Customer at the manufacturing facility within approximately **26.5 to 29.5 MONTHS** after the Executed Date. The foregoing estimate is provided as a good faith approximation as of the date of submission of this Product Proposal and is subject to the Terms and Conditions.

PREDELIVERY SERVICE – If applicable, after transportation from the manufacturing facility and prior to final delivery or pick up, the Product shall receive those additional Products and/or services identified on the Dealer Supplied Products/Services List. It is estimated that such a service will add approximately **1 to 1.5 MONTH(S)** to the above Product completion estimate. The foregoing estimate is provided as a good faith approximation as of the date of submission of this Product Proposal and is subject to the Terms and Conditions.

PROPOSAL EXPIRATION – This Product Proposal supersedes any previous proposal(s) presented to Customer by GSFA and its employees and may be accepted by Customer on or before the Expiration Date identified above. Unless accepted by the Expiration Date, GSFA reserves the right to withdraw this Product Proposal or to alter its terms (including by providing updated Product pricing) prior to an order being accepted.

PURCHASE ORDER – If the Customer elects to issue a Purchase Order (PO) it shall be made out to: *Golden State Fire Apparatus, Inc. – 7400 Reese Road – Sacramento, CA 95828.*

ACCEPTANCE – ACCEPTANCE OF THIS PROPOSAL CREATES AN ENFORCEABLE BINDING AGREEMENT BETWEEN GSFA AND CUSTOMER. “**ACCEPTANCE**” MEANS THAT THE CUSTOMER DELIVERS TO GSFA: (A) A SIGNED COPY OF THIS PRODUCT PROPOSAL, OR (B) A SIGNED COPY OF A PURCHASE ORDER INCORPORATING THE AGREEMENT IN ITS ENTIRETY. ANY ADDITIONAL OR DIFFERENT TERMS, WHETHER CONTAINED IN CUSTOMER’S FORMS OR OTHERWISE PRESENTED BY CUSTOMER AT ANY TIME, ARE HEREBY REJECTED AND OF NO EFFECT UNLESS APPROVED IN WRITING SIGNED BY GSFA.

COUNTERPARTS - This Product Proposal may be executed in multiple counterparts, each of which shall be deemed an original (including copies sent to a party by electronic transmission) as against the party signing such counterpart, but which together shall constitute one and the same instrument. A signed copy of this Product Proposal delivered by facsimile, email or other means of electronic transmission will be deemed to have the same legal effect as delivery of an original signed copy of this Product Proposal. If this Product Proposal is returned to GSFA with the signature of Customer’s authorized representative but without an attestation or co-signers signature, then absent Customer’s written notice to the contrary, GSFA shall be entitled to rely on such single signature as sufficient evidence of the signatory’s authority to execute the Agreement and bind Customer thereby.

[Signature Page Follows]

INTENDING TO CREATE A BINDING AGREEMENT, Customer and GSFA have each caused this Product Proposal dated 05/01/2023, GSFA Proposal Number 70501-23C to be executed by their duly authorized representatives effective as of the Executed Date.

ACCEPTED AND AGREED TO BY CUSTOMER

AUTHORIZED CUSTOMER REPRESENTATIVE:

Signature

Print Name

Title

Date

ACCEPTED AND AGREED TO BY GSFA

AUTHORIZED GSFA REPRESENTATIVE:

Signature

Print Name

Title

Date

2 STANDARD TERMS AND CONDITIONS

Exhibit "A"

STANDARD TERMS AND CONDITIONS

1. Definitions.

- a. **"Agreement"** has the meaning given in the Product Proposal.
- b. **"Customer"** means the customer identified in the Product Proposal.
- c. **"Dealer Preparation,"** if applicable, means additional product(s) and/or services added by GSFA after Manufacturer's completion of the Product and prior to delivery, in accordance with the Dealer Supplied Products/Services List.
- d. **"Dealer Supplied Products/Services List"** means the Dealer Supplied Products and/or Services List attached to the Product Proposal as Exhibit D, which reflects all Dealer Preparation under the Agreement absent a valid Change Order(s).
- e. **"Grand Total Purchase Price"** means the total purchase price for the Product identified in the Product Proposal (subject to any adjustments required or permitted by these Terms and Conditions, including by the execution of a valid Change Order(s)).
- f. **"GSFA"** means Golden State Fire Apparatus, Inc., a California corporation.
- g. **"Manufacturer"** means the person or persons, company, firm, corporation, partnership, or other organization identified in the Product Proposal as responsible for manufacturing the Product.
- h. **"Party"** or **"Parties"** means GSFA and/or Customer, as applicable.
- i. **"Prepayment Discount"** means a discount to the purchase price for the Product granted to Customer in connection with Customer's advance payment of the Grand Total Purchase Price (or portion thereof, as specified in the Product Proposal).
- j. **"Product"** means the fire apparatus(es) and any associated equipment listed in the Product Proposal and further described in the Specifications.
- k. **"Product Proposal"** means the GSFA proposal executed by Customer to which these Terms and Conditions are attached.
- l. **"Product Warranties"** means the Manufacturer warranties for the Product attached to the Product Proposal as Exhibit C.
- m. **"Specifications"** means the specifications for the Product attached to the Product Proposal as Exhibit B.
- n. **"Terms and Conditions"** means these Standard Terms and Conditions, which are attached to the Product Proposal as Exhibit A.

2. Purchase and Payment.

a. Purchase. Customer agrees to purchase the Product at the Grand Total Purchase Price (as such amount may be adjusted in accordance with these Terms and Conditions), pursuant to the payment terms set forth in the Product Proposal. The Grand Total Purchase Price is payable in U.S. dollars.

b. Contingency Reserve Fund. The Grand Total Purchase Price may include an amount to be set aside for the purpose of funding any future costs or financial obligations incurred by Customer under the Product Proposal or any valid Change Order(s) (the **"Contingency Reserve Fund"**). If applicable, the amount of any required Contingency Reserve Fund will be set forth in either the Product Proposal or Exhibit D. The Contingency Reserve Fund may be withdrawn against by Customer or GSFA for the purpose of satisfying Customer's payment obligations under the initial Product Proposal or any valid Change Order(s) (including, without limitation, a Change Order submitted by GSFA pursuant to Section 8.b). If a Contingency Reserve Fund is required under the Agreement, the amount of such fund is not intended as an estimate of the actual additional costs of contingencies, Change Orders, unforeseen items or other required work that may be incurred under the Agreement after submission of the Product Proposal to Customer, which amounts Customer acknowledges may exceed the Contingency Reserve Fund amount. The balance of any Contingency Reserve Fund will be credited against Customer's payment obligations, or otherwise returned to Customer within thirty (30) calendar days of delivery of all Products under the Agreement (provided that Customer has paid all amounts owed under the Agreement as of such date).

c. Prepayment Discount. If GSFA has granted Customer a Prepayment Discount, Customer must provide each associated prepayment (each, a “**Prepayment**”) within the time frame specified in the Product Proposal in order to receive such discount. Customer’s failure to timely make such Prepayment may result in: (i) GSFA’s termination of the Agreement; and/or (ii) Customer’s loss of the Prepayment Discount for the portion of the Grand Total Purchase Price represented by such outstanding Prepayment and the application of a late fee as set forth in Section 6, in each case in GSFA’s sole discretion.

d. State Sales Tax. Customer shall be responsible for the cost of state sales tax associated with, or attributable to, the Product. The taxes stated in the Product Proposal are subject to adjustment for the applicable state sales tax rate in effect at the time of delivery. Therefore, the sales tax set forth on the Product Proposal is only an estimate of such taxes and will be increased or decreased at the time of delivery if a change in the applicable sales tax rate has occurred, in which case Customer shall pay GSFA (or be refunded by GSFA) the difference in the applicable sales tax.

3. Product Completion Date. Within thirty (30) calendar days of the date on which the last required signatory executes the Product Proposal (such date, the “**Executed Date**”), GSFA shall submit to Customer a tentative Product completion date (which may differ from the Product completion estimate contained in the Product Proposal). Due to global supply chain constraints, any Product completion date contained herein, or in the Product Proposal, or otherwise provided to Customer, is a good faith estimate only as of the date provided to Customer, and merely an approximation based on current information available to GSFA and Manufacturer. Customer shall not be entitled to rely on any such estimate, and GSFA shall have no liability to Customer for a failure by GSFA or Manufacturer to meet any such estimate. All Product completion estimates are subject to modification and, if applicable, GSFA will provide updates to such estimates to Customer when available.

4. Stock / Demo Units. Notwithstanding any other provision contained in the Agreement (including Section 12 hereof concerning warranties), any Products constituting stock/demo unit(s) are sold to Customer on an as-is, first-come and first served-basis and GSFA makes no further representation or warranty to any customer with respect to such unit(s). Regardless of the terms of the Product Proposal, GSFA shall only be obligated to sell such stock/demo unit(s) to the first customer to enter into a purchase agreement with GSFA identifying such unit(s), and after the execution by GSFA of such agreement any subsequent purchase agreement (including the Agreement, as applicable) shall have no further force or effect with respect to such unit(s).

5. Multiple Unit Purchase. If the Grand Total Purchase Price includes pricing for multiple Products, the Product price stated in the Product Proposal shall only be valid if the quantity of Products being proposed are purchased at the same time, pursuant to the same Agreement. GSFA shall have no obligation to offer the same price for any Product if purchased by Customer pursuant to a later purchase agreement.

6. Late Fee; Storage Fee. A late fee equal to 0.033% of the outstanding portion of the Grand Total Purchase Price will be charged per calendar day for overdue payments beginning ten (10) calendar days after the payment is due and continuing for the first thirty (30) calendar days thereafter. After such thirty (30) calendar day period, the late fee shall increase to 0.044% per calendar day until payment of the outstanding portion of the Grand Total Purchase Price is received. If Customer is unable to satisfy the delivery requirements hereunder or is unwilling to take delivery of the Product, then GSFA shall be entitled to a storage charge running from the earlier of: (i) the date of delivery agreed to between GSFA and Customer (provided GSFA is willing and able to deliver the Product on such date), or (ii) twenty-one (21) calendar days after GSFA notifies Customer that the Product is available for delivery. The storage charge is equal to: (i) \$175.00 per calendar day per apparatus stored, or (ii) the actual charges incurred by GSFA with a third party for storage of the Product, whichever is greater. Such storage charge shall continue until the actual time of delivery and Customer’s possession of the Product, and any such storage by GSFA or such third party shall be at the sole risk of Customer.

7. Delivery; Inspection and Acceptance.

a. Delivery. Subject to Section 5 hereof, the Product is scheduled to be delivered to the location and within the time period specified in the Product Proposal. Such delivery date is an estimate, and GSFA is, notwithstanding this Section 7.a, not bound to such date unless it otherwise agrees in a separate writing to complete delivery by a date certain. For the avoidance of doubt, GSFA is not responsible for delivery delays caused by or because of actions, omissions or conduct of Customer, the Manufacturer, or their respective employees, affiliates, suppliers, contractors, and carriers. Risk of loss for the Product shall pass to Customer at the point and time of delivery (which shall include an attempted delivery by GSFA which cannot be completed due to any act of Customer). However, title to the Product shall only pass to Customer upon delivery if Customer has then fully paid GSFA all amounts due hereunder (including additional amounts due under any valid Change Order). Absent GSFA's separate written agreement, which it may or may not provide in its sole and absolute discretion, delivery of the Product will not occur before Customer has fully paid all amounts due under the Agreement and provided proof of insurance reasonably satisfactory to GSFA. If GSFA permits Customer to take possession of the Product, Customer may not mount equipment, conduct training, or place the Product into service until all amounts due under the Agreement have been paid. If Customer has ordered multiple Products, GSFA reserves the right to deliver such Products in installments and to separately invoice Customer for such Products.

b. Inspection and Acceptance. Upon delivery, Customer shall have ten (10) calendar days within which to inspect the Product for substantial conformance to the Specifications, and in the event of substantial non-conformance to the Specifications to furnish GSFA with written notice sufficient to permit GSFA to evaluate such non-conformance ("**Notice of Nonconformance to Specifications**"). Contingent upon part availability and Customer's cooperation, any Product not in substantial conformance to material Specifications shall be remedied by GSFA (by repair or replacement, at GSFA's election) within thirty (30) calendar days from GSFA's receipt of the Notice of Nonconformance to Specifications. In the event GSFA does not receive a Notice of Nonconformance to Specifications within ten (10) calendar days of delivery, the Product will be deemed to be in conformance with Specifications and accepted by Customer.

8. Changes to Agreement Terms.

a. Change Orders. The Customer may request that GSFA incorporate a change to the Product or the Specifications for the Product, or GSFA may submit changes to the Agreement required or permitted to be made by GSFA (pursuant to Section 8.b or otherwise) by delivering a written Change Order to the other party hereto, which shall include a description of the proposed change sufficient to permit the receiving party to evaluate the feasibility of such change (either, a "**Change Order**"). For any Change Order submitted by Customer, GSFA will provide Customer a written response (a "**Response**") stating (i) whether GSFA will accommodate such Change Order (which GSFA may decide in its sole and absolute discretion); and (ii) the terms of the modification to the order, including any increase or decrease in the Grand Total Purchase Price resulting from such Change Order, a date on which any increase in the Grand Total Purchase Price must be paid, and an estimate of any effect on production scheduling or delivery resulting from such Change Order. Customer shall have seven (7) calendar days after receipt of the Response to notify GSFA as to whether Customer desires to make the changes GSFA has approved in the Response. In the event Customer countersigns GSFA's Response, Customer shall pay the increase (or be refunded the decrease) in the Grand Total Purchase Price by the date specified in the Response. GSFA may also send Customer a Change Order to account for any changes to the Agreement required or permitted to be made by GSFA (including those changes required pursuant to Section 8.b hereof), and such Change Order shall be effective upon delivery to Customer unless Customer elects to terminate the applicable Product order under the Agreement in accordance with Section 9.

b. Additional Changes.

i. Component Price Volatility. GSFA shall not be responsible for any unforeseen price increase or surcharge enacted by suppliers of major components of the Product (including but not limited to commercial chassis, engine, transmission, and fire pump) after Customer becomes bound by the Agreement. Customer shall be responsible for all amounts arising from any price increases for major components of the Product (including all

associated taxes and fees thereon) occurring after the execution of the Agreement which increases the cost of the Product to GSFA, and such amounts will be documented on a Change Order adjusting the Grand Total Purchase Price accordingly. Customer shall pay any such price increase prior to Product delivery.

ii. New Legal Standards. In the event the Product design, materials or specifications require an alteration arising from new regulations issued by any governmental entity or trade association, including, but not limited to, the NFPA, DOT, and EPA, and such alteration increases the cost of the Product to GSFA, Customer shall be responsible for changes to the Grand Total Purchase Price arising from such alteration. GSFA shall promptly notify Customer when it becomes aware of any potential or required change in regulations occurring prior to delivery that would impact the Product purchased.

iii. Change Orders. Customer shall execute any Change Order submitted by GSFA documenting any of the changes required or permitted by Sections 8.b.i and 8.b.ii above (which shall, to the extent practicable, itemize any increases in the Grant Total Purchase Price and specify a commercially reasonable date by which Customer must pay such increase), unless Customer instead elects to terminate the applicable Product order under the Agreement within fifteen (15) calendar days of Customer's receipt of such Change Order and in accordance with Section 9. Absent such a termination, failure to execute a Change Order does not alter Customer's obligations under this Section 8.b.

c. Changes in Commercial Specifications. Specifications for all components of the Product manufactured by companies other than the Manufacturer are subject to change without notice. Specifications for such components will be as available at the time of manufacture of the Product. GSFA shall not be liable for any deviations in such specifications arising from a substitution of components or changes in the design of any component by their original manufacturer.

9. Termination.

a. By Customer. Customer may terminate a Product order identified in the Product Proposal or a Change Order by providing written notice to GSFA in accordance with Section 16 hereof. If Customer elects to terminate a Product order, Customer shall pay GSFA a cancellation fee as follows: (a) after the Product order is accepted and entered by GSFA, 10% of the portion of the Grand Total Purchase Price applicable to such Product (including all associated taxes, fees and costs) (such amount, the "**Product Purchase Price**"); (b) after completion of the pre-construction phase of the order process, 20% of the Product Purchase Price; and (c) after the requisition of any materials or commencement of any manufacturing or assembly of the Product by either GSFA or Manufacturer but before substantial completion of such Product, 50% of the Product Purchase Price. Customer shall not be permitted to terminate a Product order after substantial completion of manufacturing and assembly of such Product (excluding any Dealer Preparation or other pre-delivery services or untypical Product customization, if applicable). Notwithstanding the foregoing, if the applicable tier of cancellation fee is not sufficient to cover all actual costs and fees incurred by GSFA with Manufacturer in connection with Customer's termination of the Product order ("**Manufacturer Termination Fees**"), then in addition to such cancellation fee Customer shall pay the balance of all Manufacturer Termination Fees. If Customer received a Prepayment Discount, such discount shall not be considered for the purpose of calculating the above cancellation fee. The tier of cancellation fee applicable to any cancellation, as well as the determination of whether a Product has reached substantial completion, shall be in the sole and absolute discretion of GSFA. Customer may request a fee waiver, and GSFA, in its sole discretion, may agree to waive and/or adjust such fee. GSFA will return the balance of the Grand Total Purchase Price or Product Purchase Price, as applicable, within thirty (30) calendar days of the effective date of the cancellation of the Product order or termination of the Agreement.

Customer may terminate the Agreement for an Event of Default by GSFA after providing GSFA with written notice in accordance with Section 16 (which notice shall describe with reasonably particularity the Event of Default justifying such termination) if such Event of Default remains uncured (if capable of cure) thirty (30) days following GSFA's receipt of such notice; provided, however, that the foregoing cure period shall continue if and for so long as GSFA

has commenced and is continuing to undertake commercially reasonable efforts to cure such Event of Default as promptly as reasonably practicable.

b. By GSFA. GSFA may terminate the Agreement for an Event of Default by Customer after providing Customer with written notice in accordance with Section 16 (which notice shall describe with reasonable particularity the Event of Default justifying such termination) if such Event of Default remains uncured (if capable of cure) thirty (30) days following Customer's receipt of such notice; provided, however, that the foregoing cure period shall continue if and for so long as Customer has commenced and is continuing to undertake commercially reasonable efforts to cure such Event of Default as promptly as reasonably practicable. Notwithstanding the foregoing, GSFA may terminate the Agreement effective immediately upon written notice to Customer for Customer's failure to pay any amount owed under the Agreement when due.

Notwithstanding any other provision of this Agreement, if Customer terminates a Product order in accordance with Section 9.a above, GSFA may elect to instead terminate the Agreement upon notice to Customer in accordance with Section 16 hereof. If GSFA terminates the Agreement in accordance with this Section 9.b, Customer shall pay the applicable tier of cancellation fee for all Products pursuant to Section 9.a above as if Customer had elected to terminate each applicable Product order.

c. Based on Discontinuation or Cancellation by Manufacturer. In the event that Manufacturer cancels a Product order (provided that such cancellation is not the result of an act by Customer in violation of the Agreement) or discontinues the manufacture of a Product prior to its completion and delivery: (i) if such Product is the only Product contemplated under the Agreement, then the Agreement shall terminate; or (ii) if additional Products are contemplated under the Agreement, then only the Product order for the applicable cancelled or discontinued Product shall be terminated. Such Agreement termination or Product termination, as applicable, shall be effective upon GSFA's written notice to Customer of such cancellation or discontinuance in accordance with Section 16 hereof. GSFA's only obligation to Customer in such event shall be the return of any Prepayment paid by Customer for the cancelled or discontinued Product. For the avoidance of doubt, the cancellation fees contemplated in Section 9.a hereof shall not apply in the event of a termination pursuant to this Section 9.c.

10. Customer's Obligations. Customer shall provide its timely and best efforts to cooperate with GSFA and Manufacturer during the Product manufacturing process. Reasonable and timely cooperation includes, without limitation, Customer's providing timely information in response to any requests from Manufacturer or GSFA and the participation of Customer's authorized representatives in traveling to Manufacturer's facility for inspections and approval of the Product, including a final approval before the Product leaves Manufacturer's facility.

11. Representations and Warranties. Customer hereby represents and warrants to GSFA as of the Executed Date that the execution of the Agreement and the purchase of the Product(s) and performance of the other obligations of Customer under the Agreement have been approved by Customer in accordance with applicable general laws and, as applicable, Customer's charter, ordinances, purchasing policies, and other governing documents, and executed by the appropriate Customer employees, officials, and/or representatives, and funding for Customer's performance of its obligations under the Agreement has been duly budgeted and appropriated by Customer.

12. Standard Warranty. All applicable Manufacturer warranties are contained in the Product Warranties. Any additional warranties must be expressly approved in a writing signed by GSFA, and Customer acknowledges and agrees that Manufacturer will not be liable for any such additional warranties.

a. Disclaimer. OTHER THAN AS EXPRESSLY SET FORTH IN THE AGREEMENT, GSFA, ITS AFFILIATES, AND THEIR RESPECTIVE OFFICERS, DIRECTORS, EMPLOYEES, SHAREHOLDERS, AGENTS, OR REPRESENTATIVES, DO NOT MAKE ANY EXPRESS OR IMPLIED WARRANTIES WITH RESPECT TO THE PRODUCT (WHETHER RELATING TO THE CONDITION OR QUALITY OF THE PRODUCT, OR OTHERWISE) PROVIDED HEREUNDER OR OTHERWISE REGARDING THE AGREEMENT (INCLUDING, WITHOUT LIMITATION, WITH RESPECT TO ANY APPLICABLE DEALER PREPARATION), WHETHER ORAL OR WRITTEN, EXPRESS, IMPLIED OR STATUTORY. WITHOUT LIMITING THE FOREGOING, ANY IMPLIED WARRANTY OR CONDITION OF MERCHANTABILITY, THE IMPLIED WARRANTY AGAINST INFRINGEMENT, THE

IMPLIED WARRANTY OR CONDITION OF FITNESS FOR A PARTICULAR PURPOSE, AND ANY IMPLIED WARRANTIES ARISING FROM COURSE OF DEALING OR USAGE OF TRADE ARE EXPRESSLY EXCLUDED AND DISCLAIMED. STATEMENTS MADE BY SALES CONSULTANTS OR IN PROMOTIONAL MATERIALS DO NOT CONSTITUTE WARRANTIES.

b. Exclusions of Incidental and Consequential Damages. In no event shall GSFA be liable for consequential, incidental, or punitive damages incurred by Customer in connection with any matter arising out of or relating to the Agreement, or the breach thereof, even if GSFA has been advised of the possibility of such damages, and regardless of whether such damages arise out of breach of warranty, the Agreement, indemnity, whether resulting from non-delivery or from GSFA's own negligence, or otherwise, except and solely to the extent such damages arise from the gross negligence or willful misconduct of GSFA.

13. Default. The occurrence of one or more of the following events (each, an "**Event of Default**") shall constitute a default under the Agreement: (a) Customer's failure to pay any amounts due or to perform any of its obligations under the Agreement; (b) GSFA's failure to perform any of its obligations under the Agreement; (c) either Party becoming insolvent or becoming subject to bankruptcy or insolvency proceedings; (d) any representation made by either Party under the Agreement which is false in any material respect; (e) any action by Customer to dissolve, merge, consolidate or transfer a substantial portion of its property to another entity during the term of the Agreement; (f) any other material breach of the terms of the Agreement by a Party; or (g) a default or breach by Customer under any other agreement with GSFA or its affiliates.

14. Indemnification of GSFA. Customer shall indemnify, defend, and hold harmless GSFA, its agents, servants, successors and assigns from and against all losses, damages, injuries, claims, demands and expenses, including attorneys' fees and other legal expenses, of whatever nature ("**Damages**"), to the extent Damages arise out of or in connection with: (i) Customer's breach of the Agreement, or (ii) Customer's use, storage, or operation of the Product following delivery, regardless of where, how, and by whom operated (excluding any negligent operation by GSFA). The indemnification and assumptions of liability and obligation herein provided shall continue in full force and effect notwithstanding the termination of the Agreement, whether by expiration of time, by operation of law or otherwise. This provision is not intended to and shall not constitute the exclusive remedy of the Parties under the Agreement; the Parties may seek indemnity from one another under other legal principles, whether based in equity or law, so long as they do not nullify or cancel the effects of this paragraph.

15. Force Majeure. GSFA shall not be responsible nor deemed to be in default of any provision of the Agreement on account of delays in performance due to causes which are beyond GSFA's or Manufacturer's control and which make GSFA's performance impracticable, including but not limited to wars, insurrections, strikes or labor unrest, riots, fires, storms, floods, other acts of nature, explosions, earthquakes, accidents, any act of federal, state or local government, failure or delays in transportation, inability to obtain necessary labor, supplies or manufacturing facilities, supply chain issues, allocation regulations or orders affecting materials, equipment, facilities or completed products, failure to obtain any required license or certificates, acts of God or the public enemy or terrorism, failure of transportation, disease, pandemics or epidemics, quarantine restrictions, failure of vendors (due to causes similar to those within the scope of this clause) to perform their agreements or labor troubles causing cessation, slowdown, or interruption of work.

16. Notice. Any notices, requests, consents, claims, demands, waivers and other communications required or permitted to be given hereunder must be given in writing at the address of each Party set forth below, or to such other address as either Party may substitute by written notice to the other in accordance with this Section 16, by one of the following methods: hand delivery; registered, express, or certified mail, return receipt requested, postage prepaid; or nationally recognized private express courier. All such communications will be deemed to have been given: (i) when delivered by hand (with written confirmation of receipt); (ii) on the third (3rd) calendar day after the date mailed, by registered, express or certified mail; or (iii) when delivered by the addressee if sent by a nationally recognized private express courier.

GSFA:
Golden State Fire Apparatus Inc.
7400 Reese Road
Sacramento, CA 95828

CUSTOMER:
To the address listed in the Product Proposal

17. Contradictions. In the event of a conflict between the Agreement and any Change Order, or between Change Orders, the terms of the latest executed Change Order shall control.

18. Manufacturer's Statement of Origin. It is agreed that the manufacturer's statement of origin ("**MSO**") for the Product covered by the Agreement, if applicable, shall be retained and remain in the possession of GSFA per California Department of Vehicles (DMV) directives. Notwithstanding the foregoing, GSFA shall provide Customer with the original MSO if the Customer is self-registering, and Customer shall comply with all good-faith Process of Duty and other DMV requirements applicable to the Product and retain its own MSO.

19. Assignment. The relationship of the Parties established under the Agreement is that of independent contractors and neither Party is a partner, employee, agent, or joint venturer of or with the other. Neither Party may assign its rights and obligations under the Agreement unless it has obtained the prior written approval of the other Party.

20. Governing Law; Jurisdiction; Disputes. Without regard to any conflict of laws provisions, the Agreement is to be governed by and under the laws of the state of California. Prior to taking any legal action that may and/or can arise out of the Agreement, the Parties shall first attempt mediation with an agreed upon mediator. If the Parties cannot agree upon a mediator within thirty (30) calendar days of the submission of written notice of a dispute in accordance with Section 16 hereof, if any disputed matter remain unresolved within thirty (30) calendar days of the commencement of discussions, or if any party refuses to meet, then either party may submit any remaining disputes concerning and/or claim regarding the Agreement and/or the terms and conditions herein to the Superior Court, County of Sacramento (and the parties expressly consent to exclusive personal jurisdiction and venue before such court).

21. Entire Agreement; Amendments. The Agreement, including the Product Proposal, its exhibits and all valid Change Orders, is the exclusive agreement between the Parties regarding the subject matter contained herein and therein. No change in, modification of, or revision of the Agreement shall be valid unless in writing and signed by duly authorized representatives of both Parties with authority to sign such amendments to the Agreement.

END OF STANDARD TERMS AND CONDITIONS

3 PRODUCT SPECIFICATIONS

Exhibit "B"



Proposal Details Report

Customer: Sunnyvale Department of Public Safety
Representative: Klockzien, Dave
Requirements Manager:
Description: Four (4) 1500 GPM Velocity Pumper
Chassis: Velocity Chassis (Big Block), 2010
Body: Pumper, Medium, Aluminum, 2nd Gen
Bid Number: 945
Job Number:
Organization: Golden State Fire Apparatus, Inc

OptionCode	Type	Option	ProposalText
0766611		Boiler Plates, Pumper	<p>GSFA is pleased to submit a proposal to the Sunnyvale Department of Public Safety for a Pierce® triple combination pumper per your request for quotation. The following paragraphs will describe in detail the apparatus, construction methods, and equipment proposed. This proposal will indicate size, type, model and make of components parts and equipment, providing proof of compliance with each and every item (except where noted) in the departments advertised specifications.</p> <p>PIERCE MANUFACTURING was founded in 1913. Since then we have been building bodies with one philosophy, "BUILD THE FINEST". Our skilled craftsmen take pride in their work, which is reflected, in the final product. We have been building fire apparatus since the early "forties" giving Pierce Manufacturing over 75 years of experience in the fire apparatus market. Pierce Manufacturing has built and put into service more than 62,500 apparatus, including more than 33,900 on Pierce custom chassis designed and built specifically for fire and emergency applications. Our Appleton, Wisconsin facility has over 870,000 total square feet of floor space situated on approximately 105 acres of land. Our Bradenton, Florida facility has 300,000 square feet of floor space situated on approximately 38 acres of land.</p> <p>Our beliefs in high ethical standards are carried through in all of our commitments and to everyone with whom we do business. Honesty, Integrity, Accountability and Citizenship are global tenets by which we all live and work. Consequently, we neither engage in, nor have we ever been convicted of price fixing, bid rigging, or collusion in any domestic or international fire apparatus market.</p> <p>Pierce has only one brand of fire apparatus "Pierce", ensuring you are receiving top of the line product that meets your specification.</p> <p>In accordance with the current edition of NFPA 1901 standards, this proposal will specify whether the fire department, manufacturer, or apparatus dealership will provide required loose equipment. Images and illustrative material in this proposal are as accurate as known at the time of publication, but are subject to change without notice. Images and illustrative material is for reference only, and may include optional equipment and accessories and may not include all standard equipment.</p> <p>GENERAL DESIGN AND CONSTRUCTION</p> <p>To control quality, ensure compatibility, and provide a single source for service and warranty, the custom cab, chassis, pump module and body will be entirely designed, assembled/welded and painted in Pierce owned manufacturing facilities. This includes, but not limited to the cab weldment, the pumphouse module assembly, the chassis assembly, the body and the electrical system.</p> <p>QUALITY AND WORKMANSHIP</p> <p>Pierce has set the pace for quality and workmanship in the fire apparatus field. Our tradition of building the highest quality units with craftsmen second to none has been the rule right from the beginning and we demonstrate that ongoing commitment by: Ensuring all steel welding follows American Welding Society D1.1-2004 recommendations for structural steel welding. All aluminum welding follows American Welding society and ANSI D1.2-2003 requirements for structural welding of aluminum. All sheet metal welding follows American welding Society B2.1-2000 requirements for structural welding of sheet metal. Our flux core arc welding uses alloy rods, type 7000 and is performed to American Welding Society standards A5.20-E70T1. Furthermore, all employees classified as welders are tested and certified to meet the American welding Society codes upon hire and every three (3) years thereafter. Pierce also employs an American Welding Society certified welding inspector in plant during working hours to monitor weld quality.</p> <p>Pierce Manufacturing operates a Quality Management System under the requirements of ISO 9001. These standards sponsored by the International Organization for Standardization (ISO) specify the quality systems that are established by the manufacturer for design, manufacture, installation and service. A copy of the certificate of compliance is included with this proposal. In addition to the Quality Management system, we also employ a Quality Achievement Supplier program to insure the vendors and suppliers that we utilize meet the high standards we demand. That is just part of our overall "Quality at the Source" program at Pierce.</p> <p>To demonstrate the quality of our products and services, a list of at least twenty five (25) fire departments/municipalities that have purchased vehicles for a second time is provided.</p> <p>DELIVERY</p> <p>The apparatus will be delivered under its own power to insure proper break-in of all components while the apparatus is still under warranty. A qualified delivery representative shall deliver the apparatus and remain for a sufficient length of time to instruct personnel in proper operation, care and maintenance of the equipment delivered.</p> <p>MANUAL AND SERVICE INFORMATION</p> <p>At time of delivery, complete operation and maintenance manuals covering the apparatus will be provided. A permanent plate will be mounted in the driver's compartment specifying the quantity and type of fluids required including engine oil, engine coolant, transmission, pump transmission lubrication, pump primer and drive axle.</p> <p>SAFETY VIDEO</p> <p>At the time of delivery Pierce will also provide one (1) 39-minute, professionally produced apparatus safety video, in DVD format. This video will address key safety considerations for personnel to follow when they are driving, operating, and maintaining the apparatus, including the following: vehicle pre-trip inspection, chassis operation, pump operation, aerial operation, and safety during maintenance.</p> <p>PERFORMANCE TESTS</p> <p>A road test will be conducted with the apparatus fully loaded and a continuous run of no less than</p>

ten (10) miles. During that time the apparatus will show no loss of power nor will it overheat. The transmission drive shaft or shafts and the axles will run quietly and be free of abnormal vibration or noise. The apparatus when fully loaded will not have less than 25 percent nor more than 50 percent on the front axle, and not less than 50 percent nor more than 75 percent on the rear axle. The apparatus will meet NFPA 1901 acceleration and braking requirements.

SERVICE AND WARRANTY SUPPORT

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

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

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

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

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

LIABILITY

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

INSURANCE PROVIDED BY BIDDER

COMMERCIAL GENERAL LIABILITY INSURANCE

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

Each Occurrence \$1,000,000

Products/Completed Operations Aggregate \$1,000,000

Personal and Advertising Injury \$1,000,000

General Aggregate \$2,000,000

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

COMMERCIAL AUTOMOBILE LIABILITY INSURANCE

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

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

UMBRELLA/EXCESS LIABILITY INSURANCE

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

Aggregate: \$3,000,000

Each Occurrence: \$3,000,000

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

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

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

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

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

INSURANCE PROVIDED BY MANUFACTURER

PRODUCT LIABILITY INSURANCE

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

Each Occurrence \$1,000,000

Products/Completed Operations Aggregate \$1,000,000

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

UMBRELLA/EXCESS LIABILITY INSURANCE

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

limits of umbrella liability insurance:**Each Occurrence: \$25,000,000****Aggregate: \$25,000,000****The umbrella policy will be written on an occurrence basis and provide excess to the manufacturer's General Liability/Products policies.****The required limits can be provided by one (1) or more policies provided all other insurance requirements are met.****Coverage will be provided by a carrier(s) rated A- or better by A.M. Best.****All policies will provide a 30-day notice of cancellation to the named insured. The Certificate of Insurance will provide the following cancellation clause: Should any of the above described policies be cancelled before the expiration date thereof, notice will be delivered in accordance with the policy provisions.****Manufacturer agrees to furnish owner with a current Certificate of Insurance with the coverages listed above along with the bid. The certificate will show the purchaser as the certificate holder.**

0661794	Single Source Compliance	<p>SINGLE SOURCE MANUFACTURER</p> <p>Pierce Manufacturing, Inc. provides an integrated approach to the design and manufacture of our products that delivers superior apparatus and a dedicated support team. From our facilities, the chassis, cab weldment, cab, pumphouse (including the sheet metal enclosure, valve controls, piping and operators panel) and body will be entirely designed, tested, and hand assembled to the customer's exact specifications. The electrical system either hardwired or multiplexed, will be both designed and integrated by Pierce Manufacturing. The warranties relative to these major components (excluding component warranties such as engine, transmission, axles, pump, etc.) will be provided by Pierce as a single source manufacturer. Pierce's single source solution adds value by providing a fully engineered product that offers durability, reliability, maintainability, performance, and a high level of quality.</p>
0584456	Manufacture Location, Appleton, Wisconsin	Your apparatus will be manufactured in Appleton, Wisconsin.
0584452	RFP Location: Appleton, Wisconsin	
0588609	Vehicle Destination, US	
0670275	Unit to be Similar in some Aspects, Excluding Pump Panel	<p>SPECIAL INSTRUCTIONS</p> <p>The apparatus being proposed will be designed and built to match the 35817. However, some variation may be necessary due to changes in our manufacturing processes or our product offering. Revisions in NFPA guidelines and/or other regulations may also affect our ability to match the previous unit.</p>
0764706	SP BMP Truck- Pre-Approval at Bid - Approved Option Will be Required at Booking	
0610784	Comply NFPA 1901 Changes Effective Jan 1, 2016, With Exceptions	<p>NFPA 2016 STANDARDS</p> <p>This unit will comply with the NFPA standards effective January 1, 2016, except for fire department directed exceptions. These exceptions will be set forth in the Statement of Exceptions.</p> <p>Certification of slip resistance of all stepping, standing and walking surfaces will be supplied with delivery of the apparatus.</p> <p>All horizontal surfaces designated as a standing or walking surface that are greater than 48.00" above the ground must be defined by a 1.00" wide line along its outside perimeter. Perimeter markings and designated access paths to destination points will be identified on the customer approval print and are shown as approximate. Actual location(s) will be determined based on materials used and actual conditions at final build. Access paths may pass through hose storage areas and opening or removal of covers or restraints may be required. Access paths may require the operation of devices and equipment such as the aerial device or ladder rack.</p> <p>A plate that is highly visible to the driver while seated will be provided. This plate will show the overall height, length, and gross vehicle weight rating.</p> <p>The manufacturer will have programs in place for training, proficiency testing and performance for any staff involved with certifications.</p> <p>An official of the company will designate, in writing, who is qualified to witness and certify test results.</p>
0533347	Pumper/Pumper with Aerial Device Fire Apparatus	
0588611	Vehicle Certification, Pumper	

0661778	Agency, Apparatus Certification, Pumper/Tanker, U.L.	<p>NFPA COMPLIANCY Apparatus proposed by the bidder will meet the applicable requirements of the National Fire Protection Association (NFPA) as stated in current edition at time of contract execution. Fire department's specifications that differ from NFPA specifications will be indicated in the proposal as "non-NFPA".</p> <p>PUMP TEST Underwriters Laboratory (UL) will test, approved, and certify the pump. The test results and the pump manufacturer's certification of hydrostatic test; the engine manufacturer's certified brake horsepower curve; and the pump manufacturer's record of pump construction details will be forwarded to the Fire Department.</p> <p>GENERATOR TEST If the unit has a generator, Underwriters Laboratory (UL) will test, approved, and certify the generator. The test results will be provided to the Fire Department at the time of delivery.</p> <p>BREATHING AIR TEST If the unit has breathing air, Pierce Manufacturing will draw an air sample from the air system and have the sample certified that the air quality meets the requirements of NFPA 1989, <i>Standard on Breathing Air Quality for Fire and Emergency Services Respiratory Protection</i>.</p>
0891947	Certification, Vehicle Inspection Program, NFPA 1901	<p>VEHICLE INSPECTION PROGRAM CERTIFICATION To assure the vehicle is built to current NFPA 1901 standards, the apparatus, in its entirety, will be third-party, independent, audit-certified through Underwriters Laboratory (UL) that it is built and complies to all applicable standards in the current edition. The certification includes: all design, production, operational, and performance testing of not only the apparatus, but those components that are installed on the apparatus. A placard will be affixed in the driver's side area stating the third party agency, the date, the standard and the certificate number of the whole vehicle audit.</p>
0766110	Consortium, Sourcewell	
0537375	Unit of Measure, US Gallons	
0030006	Bid Bond Not Requested	<p>BID BOND NOT REQUESTED A bid bond will not be included. If requested, the following will apply: All bidders will provide a bid bond as security for the bid in the form of a 5% bid bond to accompany their bid. This bid bond will be issued by a Surety Company who is listed on the U.S. Treasury Departments list of acceptable sureties as published in Department Circular 570. The bid bond will be issued by an authorized representative of the Surety Company and will be accompanied by a certified power of attorney dated on or before the date of bid. The bid bond will include language, which assures that the bidder/principal will give a bond or bonds as may be specified in the bidding or contract documents, with good and sufficient surety for the faithful performance of the contract, including the Basic One (1) Year Limited Warranty, and for the prompt payment of labor and material furnished in the prosecution of the contract. Notwithstanding any document or assertion to the contrary, any surety bond related to the sale of a vehicle will apply only to the Basic One (1) Year Limited Warranty for such vehicle. Any surety bond related to the sale of a vehicle will not apply to any other warranties that are included within this bid (OEM or otherwise) or to the warranties (if any) of any third party of any part, component, attachment or accessory that is incorporated into or attached to the vehicle. In the event of any contradiction or inconsistency between this provision and any other document or assertion, this provision will prevail.</p>
0807710	Performance Bond, 100% with 25% Warranty Bond, 1 Yr, and Payment Bond	<p>PERFORMANCE BOND, 1 YEAR The successful bidder will furnish a Performance and Payment bond (Bond) equal to 100 percent of the total contract amount within 30 days of the notice of award. Such Bond will be in a form acceptable to the Owner and issued by a surety company included within the Department of Treasury's Listing of Approved Sureties (Department Circular 570) with a minimum A.M. Best Financial Strength Rating of A and Size Category of XV. In the event of a bond issued by a surety of a lesser Size Category, a minimum Financial Strength rating of A+ is required. Bidder and Bidder's surety agree that the Bond issued hereunder, whether expressly stated or not, also includes the surety's guarantee of the vehicle manufacturer's Basic One (1) Year Limited Warranty period included within this proposal. Owner agrees that the penal amount of this bond will be simultaneously amended to 25 percent of the total contract amount upon satisfactory acceptance and delivery of the vehicle(s) included herein. Notwithstanding anything contained within this contract to the contrary, the surety's liability for any warranties of any type will not exceed one (1) year from the date of such satisfactory acceptance and delivery, or the actual Basic One (1) Year Limited Warranty period, whichever is shorter. Due to global supply chain constraints, any delivery date contained herein is a good faith estimate as of the date of this order/contract, and merely an approximation based on current information. Delivery updates will be made available, and a final firm delivery date will be provided as soon as possible.</p>

0000007	Approval Drawing	APPROVAL DRAWING A drawing of the proposed apparatus will be prepared and provided to the purchaser for approval before construction begins. The Pierce sales representative will also be provided with a copy of the same drawing. The finalized and approved drawing will become part of the contract documents. This drawing will indicate the chassis make and model, location of the lights, siren, horns, compartments, major components, etc. A "revised" approval drawing of the apparatus will be prepared and submitted by Pierce to the purchaser showing any changes made to the approval drawing.
0002928	Electrical Diagrams	ELECTRICAL WIRING DIAGRAMS Two (2) electrical wiring diagrams, prepared for the model of chassis and body, will be provided.
0564202	Velocity Chassis (Big Block), 2010	VELOCITY CHASSIS The Pierce Velocity® is the custom chassis developed exclusively for the fire service. Chassis provided will be a new, tilt-type custom fire apparatus. The chassis will be manufactured in the apparatus body builder's facility eliminating any split responsibility. The chassis will be designed and manufactured for heavy-duty service, with adequate strength and capacity for the intended load to be sustained and the type of service required. The chassis will be the manufacturer's first line tilt cab.
0000110	Wheelbase	WHEELBASE The wheelbase of the vehicle will be 195.50.
0000070	GVW Rating	GVW RATING The gross vehicle weight rating will be 43,500.
0000203	Frame Rails, 13.38 x 3.50 x .375, Qtm/AXT/Imp/Vel/DCF	FRAME The chassis frame will be built with two (2) steel channels bolted to five (5) cross members or more, depending on other options of the apparatus. The side rails will have a 13.38" tall web over the front and mid sections of the chassis, with a continuous smooth taper to 10.75" over the rear axle. Each rail will have a section modulus of 25.992 cubic inches and a resisting bending moment (rbm) of 3,119,040 in-lb over the critical regions of the frame assembly, with a section modulus of 18.96 cubic inches with an rbm of 2,275,200 in-lb over the rear axle. The frame rails will be constructed of 120,000 psi yield strength heat-treated 0.38" thick steel with 3.50" wide flanges.
0020018	Frame Liner Not Req'd	
0648752	Axle, Front, Dana, D2200, 22,800 lb	FRONT AXLE The front axle will be a reverse "I" beam type with inclined king pins. It will be a Dana®, model D2200 with a rated capacity of 22,800 pounds. The turning angle will be 39 degrees to the right and 45 degrees to the left. Highly specialized options may limit the cramp.
0579308	Suspension, Front Spring, 23,000 lb, Dana Axle	FRONT SUSPENSION Front springs will be a heavy-duty, taper leaf design, 54.00" long by 4.00" wide, with a ground rating of 23,000 lb. Kaiser spring pins will be provided, with double "figure-eight" grease grooves and a layer of electroless nickel plating, 1.0 mil thick around the entire pin. The bushing that holds the spring pin in place will also have a grease groove.
0000319	Shock Absorbers on Front Axle, Qtm/AXT/Imp/Vel	SHOCK ABSORBERS To provide a smoother ride, the front axle will be furnished with Monroe® Gas-Magnum® 65 heavy-duty telescoping shock absorbers.
0000322	Oil Seals, Front Axle	FRONT OIL SEALS Oil seals with viewing window will be provided on the front axle.
0899438	Tires, Front, Goodyear, Armor MAX MSA, 425/65R22.50, 20 ply	FRONT TIRES Front tires will be Goodyear 425/65R22.50 radials, 20 ply Armor Max MSA, rated for 22,800 lb maximum axle load and 68 mph maximum speed.
0019611	Wheels, Front, Alcoa, 22.50" x 12.25", Aluminum, Hub Pilot	The tires will be mounted on Alcoa 22.50" x 12.25" polished aluminum disc type wheels with a ten (10)stud, 11.25" bolt circle.

0698643	Axle, Rear, Dana S23-190, 24,000 lb	REAR AXLE The rear axle will be a Dana Model S23-190, single axle assembly with a capacity of 24,000 lb.
0544253	Top Speed of Vehicle, 68 MPH	TOP SPEED OF VEHICLE A rear axle ratio will be furnished to allow the vehicle to reach a top speed of 68 mph.
0122076	Suspen, Rear, Standens, Spring, 24,000 lb, Imp/Vel	REAR SUSPENSION The rear suspension will be Standens, semi-elliptical, 3.00" wide x 53.00" long, 12-leaf pack with a ground rating of 24,000 lb. The spring hangers will be castings. The two (2) top leaves will wrap the forward spring hanger pin, and the rear of the spring will be a slipper style end that will ride in a rear slipper hanger. To reduce bending stress due to acceleration and braking, the front eye will be a berlin eye that will place the front spring pin in the horizontal plane within the main leaf. A steel encased rubber bushing will be used in the spring eye. The steel encased rubber bushing will be maintenance free and require no lubrication.
0000485	Oil Seals, Rear Axle	REAR OIL SEALS Oil seals will be provided on the rear axle(s).
0782552	Tires, Rear, Goodyear, Endurance RSA, 12R22.50, LRH, Single	REAR TIRES Rear tires will be four (4) Goodyear 12R22.50 radials, load range H, Endurance RSA highway tread, rated for 27,120 lb maximum axle load and 75 mph maximum speed.
0019625	Wheels, Rear, Alcoa, 22.50" x 8.25", Aluminum, Hub Pilot, Single	The tires will be mounted on Alcoa 22.50" x 8.25" polished aluminum disc wheels with a ten (10) stud 11.25" bolt circle.
0568081	Tire Balancing, Counteract Beads	TIRE BALANCE All tires will be balanced with Counteract balancing beads. The beads will be inserted into the tire and eliminate the need for wheel weights.
0602747	No Tire Pressure Indicator, Fire Department Omits, Non-NFPA 2016 Compliant	TIRE PRESSURE INDICATOR NFPA 1901, 2016 edition, section 4.13.4 requires each tire be equipped with a visual indicator or monitoring system that indicates tire pressure. Per Fire Department specification, a tire pressure indicator is not on the apparatus as manufactured. This apparatus will be non-compliant to NFPA 1901 standards effective at time of contract execution.
0002045	Mud Flap, Front and Rear, Pierce Logo	MUD FLAPS Mud flaps with a Pierce logo will be installed behind the front and rear wheels.
0544802	Chocks, Wheel, SAC-44-E, Folding	WHEEL CHOCKS There will be one (1) pair of folding Ziamatic, Model SAC-44-E, aluminum alloy, Quick-Choc wheel blocks, with easy-grip handle provided.
0544806	Mounting Brackets, Chocks, SAC-44-E, Folding, Horizontal	Wheel Chock Brackets There will be one (1) pair of Zico, Model SQCH-44-H, horizontal mounting wheel chock brackets provided for the Ziamatic, Model SAC-44-E, folding wheel chocks. The brackets will be made of aluminum and consist of a quick release spring loaded rod to hold the wheel chocks in place. The brackets will be mounted forward of the left side rear tire and rearward of the left side front tire.
0010670	ABS Wabco Brake System, Single rear axle	ANTI-LOCK BRAKE SYSTEM The vehicle will be equipped with a Meritor WABCO 4S4M, anti-lock braking system. The ABS will provide a 4-channel anti-lock braking control on both the front and rear wheels. A digitally controlled system that utilizes microprocessor technology will control the anti-lock braking system. Each wheel will be monitored by the system. When any particular wheel begins to lockup, a signal will be sent to the control unit. This control unit then will reduce the braking of that wheel for a fraction of a second and then reapply the brake. This anti-lock brake system will eliminate the lockup of any wheel thus helping to prevent the apparatus from skidding out of control.
0690932	Brakes, Bendix, ADB-22X, 17" Disc, Front	BRAKES The service brake system will be full air type by Bendix®. Front brakes will be Model ADB22X™, disc type with automatic pad wear adjustment and 17.00" rotors for improved stopping distance.
0580500	Brakes, Bendix, Disc, Rear, Model ADB-22X, Single	The rear brakes will be Bendix Model ADB-22X, air disc.

0735527	Air Compressor, Brake, Wabco 26.8 CI, Paccar	AIR COMPRESSOR, BRAKE SYSTEM The air compressor will be a Wabco single piston compressor with a 26.8 CI displacement.
0000785	Brake Reservoirs, Three	BRAKE SYSTEM The brake system will include: Bendix® dual brake treadle valve Heated automatic moisture ejector on air dryer Total air system capacity of 4,362 cubic inches Two (2) air pressure gauges with a red warning light and an audible alarm, that activates when air pressure falls below 60 psi Spring set parking brake system Parking brake operated by a push-pull style control valve A parking "brake on" indicator light on instrument panel Park brake relay/inversion and anti-compounding valve, in conjunction with a double check valve system, with an automatic spring brake application at 40 psi A pressure protection valve to prevent all air operated accessories from drawing air from the air system when the system pressure drops below 80 psi (550 kPa) 1/4 turn drain valve on each air tank The air tank will be primed and painted to meet a minimum 750 hour salt spray test. To reduce the effects of corrosion, the air tank will be mounted with stainless steel brackets.
0568012	Air Dryer, Wabco System Saver 1200, Heater, 2010	BRAKE SYSTEM AIR DRYER The air dryer will be WABCO System Saver 1200 with spin-on coalescing filter cartridge and 100 watt heater.
0000790	Brake Lines, Nylon	BRAKE LINES Color-coded nylon brake lines will be provided. The lines will be wrapped in a heat protective loom in the chassis areas that are subject to excessive heat.
0636573	Inlet/Outlet, Air, Female Fitting, Milton "M"	AIR INLET/OUTLET One (1) air inlet/outlet will be installed with the female coupling located on the driver side pump panel. This system will tie into the "wet" tank of the brake system and include a check valve in the inlet line and an 85 psi pressure protection valve in the outlet line. The air outlet will be controlled by a needle valve. A mating male coupling will be provided with the loose equipment. The air inlet will allow a shoreline air hose to be connected to the vehicle. This will allow station air to be supplied to the brake system of the vehicle to insure constant air pressure with out the need to open the needle valve, by a series of fittings and a check valve. All fittings will be Milton "M" brand.
0811017	SP Engine, Paccar MX13, 510HP, 1850 lb-ft W/OBD, EPA 2024, Velocity, BMP/HDR/STK	ENGINE The chassis will be powered by an electronically controlled engine as described below: Make: Paccar Model: MX13 Power: 510 hp at 1600rpm Torque: 1850 lb-ft at 1000rpm Governed Speed: 1900 rpm Emissions Certification: EPA 2024 Fuel: Diesel Cylinders: Six (6) Displacement: 12.9L Starter: DP60 Fuel Filters: Dual cartridge style with check valve, water separator, and water in fuel sensor The engine will include On-board diagnostics (OBD), which provides self diagnostic and reporting. The system will give the owner or repair technician access to state of health information for various vehicle sub systems. The system will monitor vehicle systems, engine and after treatment. The system will illuminate a malfunction indicator light on the dash console if a problem is detected.
0001244	High Idle w/Electronic Engine, Custom	HIGH IDLE A high idle switch will be provided, inside the cab, on the instrument panel, that will automatically maintain a preset engine rpm. A switch will be installed, at the cab instrument panel, for activation/deactivation. The high idle will be operational only when the parking brake is on and the truck transmission is in neutral. A green indicator light will be provided, adjacent to the switch. The light will illuminate when the above conditions are met. The light will be labeled "OK to Engage High Idle."

0735687	Engine Brake, Fully Integrated, Paccar MX13 Engine	ENGINE BRAKE The compression release brake option is a fully integrated MX engine braking system. It utilizes the turbocharger and backpressure valve, but adds in a hydraulically operated compression brake to increase overall retarding power. To maximize the effectiveness of the compression brake the MX engine brake system works in conjunction with the turbocharger and back pressure valve. The driver will be able to turn the engine brake system on/off and have a high, medium and low setting
0733852	Clutch, Fan, Air Actuated, Paccar, VEL	CLUTCH FAN A fan clutch will be provided. The fan clutch will be automatic when the pump transmission is in "Road" position, and constantly engaged when in "Pump" position.
0734434	Air Intake, Water & Ember Screen, Paccar, VEL	ENGINE AIR INTAKE The engine air intake will be located above the engine cooling package. It will draw fresh air from the front of the apparatus through the radiator grille. The ember separator is designed to prevent road dirt and recirculating hot air from entering the engine. The ember separator will be easily accessible by tilting the cab.
0794743	Exhaust System, 5", X12/X15, MX13, Engine, Horizontal, Right Side	EXHAUST SYSTEM The exhaust system will include a Single Module™ aftertreatment device to meet current EPA standards. The exhaust system will be stainless steel from the turbo to the inlet of the aftertreatment device, and will be 5.00" in diameter. An insulation wrap will be provided on all exhaust pipes between the turbo and aftertreatment device to minimize the heat loss to the aftertreatment device. The exhaust will terminate horizontally ahead of the right side rear wheels. A tailpipe diffuser will be provided to reduce the temperature of the exhaust as it exits. Heat deflector shields will be provided to isolate chassis and body components from the heat of the tailpipe diffuser.
0734440	Radiator, VEL, Paccar	RADIATOR The radiator and the complete cooling system will meet or exceed NFPA and engine manufacturer cooling system standards. For maximum corrosion resistance and cooling performance, the entire radiator core will be constructed using long life aluminum alloy. The radiator core will consist of aluminum fins, having a serpentine design, brazed to aluminum tubes. Supply tank will be made of heavy duty glass-reinforced nylon and the return tank will be made of aluminum. Both tanks will be crimped onto the core assembly using header tabs and a compression gasket to complete the radiator core assembly. There will be a full steel frame around the inserts to enhance cooling system durability and reliability. The radiator will be compatible with commercial antifreeze solutions. The radiator assembly will be isolated from the chassis frame rails with rubber isolators to prevent the development of leaks caused by twisting or straining when the apparatus operates over uneven terrain. The radiator will include a de-aeration/expansion tank. For visual coolant level inspection, the radiator will have a built-in sight glass. The radiator will be equipped with a 15 psi pressure relief cap. A drain port will be located at the lowest point of the cooling system and/or the bottom of the radiator to permit complete flushing of the coolant from the system. Shields or baffles will be provided to prevent recirculation of hot air to the inlet side of the radiator.
0511425	Cooling Hoses, Rubber	COOLANT LINES Gates, or Goodyear, rubber hose will be used for all engine coolant lines installed by the chassis manufacturer. Hose clamps will be stainless steel "constant torque type" to prevent coolant leakage. They will react to temperature changes in the cooling system and expand or contract accordingly while maintaining a constant clamping pressure on the hose.
0051125	Fuel Tank, 75 Gallon, Left Side Fill, Qtm/AXT/Vel/Imp/DCF/SFR/Enf	FUEL TANK A 75 gallon fuel tank will be provided and mounted at the rear of the chassis. The tank will be constructed of 12-gauge, hot rolled steel. It will be equipped with swash partitions and a vent. To eliminate the effects of corrosion, the fuel tank will be mounted with stainless steel straps. A .75" drain plug will be located in a low point of the tank for drainage. A fill inlet will be located on the left hand side of the body and is covered with a hinged, spring loaded, stainless steel door that is marked "Ultra Low Sulfur - Diesel Fuel Only." The fuel door will be painted job color A .50" diameter vent will be installed from tank top to just below fuel fill inlet. The fuel tank will meet all FHWA 393.67 requirements including a fill capacity of 95 percent of tank volume.
0001129	Lines, Fuel	All fuel lines will be provided as recommended by the engine manufacturer.

0813303	SP DEF Tank, 6.0 Gallon, LS Fill, Rr of Axle, Common Triangular Door, C2 Latch, Paccar	DIESEL EXHAUST FLUID TANK A 6.0 gallon diesel exhaust fluid (DEF) tank will be provided and mounted in the driver's side body rearward of the rear axle. A fill inlet will be provided and marked "Diesel Exhaust Fluid Only". The fill inlet will be located adjacent to the engine fuel inlet behind a common hinged, spring loaded, painted door on the driver side of the vehicle. The door will have one (1) chrome raised Southco C2 latch. The selector flap within the common area for the fuel and DEF fills will have a flush lift & turn latch. The latch will be provided so that the selector flap will be latched when the flap is in the position over the DEF fill. The tank will meet the engine manufacturers requirement for 10 percent expansion space in the event of tank freezing. The tank will include an integrated heater unit that utilizes engine coolant to thaw the DEF in the event of freezing.
0552793	Not Required, Fuel Priming Pump	
0552567	Shutoff Valve, Fuel Line @ Fuel Tank	FUEL SHUTOFF A shutoff valve will be installed in the fuel line, at the fuel tank.
0699437	Cooler, Chassis Fuel, Not Req'd.	
0690880	No Selection Required From This Category	
0887546	Trans, Allison 6th Gen, 4000 EVS P, w/Prognostics, Imp/Vel/SFR/Enf	TRANSMISSION An Allison 6th generation, Model EVS 4000P, electronic, torque converting, automatic transmission will be provided. The transmission will be equipped with prognostics to monitor oil life, filter life, and transmission health. A wrench icon on the shift selector's digital display will indicate when service is due. Two (2) PTO openings will be located on left side and top of converter housing (positions 8 o'clock and 1 o'clock). A transmission temperature gauge with an amber light and buzzer will be installed on the cab instrument panel.
0625331	Transmission, Shifter, 6-Spd, Push Button, 4000 EVS	TRANSMISSION SHIFTER A six (6)-speed push button shift module will be mounted to right of driver on console. Shift position indicator will be indirectly lit for after dark operation. The transmission ratio will be: 1st 3.51 to 1.00 2nd 1.91 to 1.00 3rd 1.43 to 1.00 4th 1.00 to 1.00 5th 0.75 to 1.00 6th 0.64 to 1.00 R 4.80 to 1.00
0684459	Transmission Oil Cooler, Modine, External	TRANSMISSION COOLER A Modine plate and fin transmission oil cooler will be provided using engine coolant to control the transmission oil temperature.
0001375	Driveline, Spicer 1810	DRIVELINE Drivelines will be a heavy-duty metal tube and be equipped with Spicer® 1810 universal joints. The shafts will be dynamically balanced before installation. A splined slip joint will be provided in each driveshaft where the driveline design requires it. The slip joint will be coated with Glidecoat® or equivalent.
0733849	Steering, Ross TAS-85 w/tilt, Pump, w/ Cooler, Paccar, AXT/VEL	STEERING A steering gear with integral heavy-duty power steering, will be provided. For reduced system temperatures, the power steering will incorporate a Paccar hydraulic pump with integral pressure and flow control. All power steering lines will have wire braided lines with crimped fittings. A tilt and telescopic steering column will be provided to improve fit for a broader range of driver configurations.

0001545	Steering Assist Cylinder on Front Axle	STEERING ASSIST CYLINDER ON FRONT AXLE To aid in the steering of the apparatus, the front axle will be equipped with a Ross power assist cylinder.
0509230	Steering Wheel, 4 Spoke without Controls	STEERING WHEEL The steering wheel will be 18.00" in diameter, have tilting and telescoping capabilities, and a 4-spoke design.
0690274	Logo/Emblem, on Dash	LOGO AND CUSTOMER DESIGNATION ON DASH The dash panel will have an emblem containing the Pierce logo and customer name. The emblem will have three (3) rows of text for the customer's department name. There will be a maximum of eight (8) characters in the first row, 11 characters in the second row and 11 characters in the third row. The first row of text will be: - The second row of text will be: SUNNYVALE The third row of text will be: FIRE
0530385	Bumper, 16" Extended, Steel Painted, Imp/Vel	BUMPER A one (1)-piece bumper manufactured from 0.25" formed steel with a 0.38" bend radius will be provided. The bumper will be a minimum of 10.00" high with a 1.50" top and bottom flange, and will extend 16.00" from the face of the cab. The bumper will be 102.00" wide with 45 degree corners and side plates. The bumper will be metal finished and painted job color. To provide adequate support strength, the bumper will be mounted directly to the front of the C channel frame. The frame will be a bolted modular extension frame constructed of 50,000 psi tensile steel. Gravel Pan A gravel pan, constructed of bright aluminum treadplate, will be furnished between the bumper and the cab face. The pan will be properly supported from the underside to prevent flexing and vibration.
0616508	Tray, Hose, Center, 16" Bumper, Outside Air Horns, Imp/Vel	CENTER HOSE TRAY A hose tray, constructed of aluminum, will be placed in the center of the bumper extension. The tray will have a capacity of 100' of 1.75" double jacket cotton-polyester hose. Black rubber grating will be provided at the bottom of the tray. Drain holes are also provided.
0630809	Cover, Aluminum Treadplate, One (1) D-Ring Latch, Hose Tray, Notched	Center Hose Tray Cover A bright aluminum treadplate cover will be provided over the center hose tray. The cover will be "notched" allowing the hose to be pre connected to hose connection. The cover will be attached with a stainless steel hinge. A D-ring latch will secure the cover in the closed position and a pneumatic stay arm will hold the cover in the open position. The arm will be RS.
0510226	Lift & Tow Package, Imp/Vel, AXT, Dash CF	LIFT AND TOW MOUNTS Mounted to the frame extension will be lift and tow mounts. The lift and tow mounts will be designed and positioned to adapt to certain tow truck lift systems. The lift and tow mounts with eyes will be painted the same color as the frame.
0072306	Tow Eyes, Chrome, Extended Out Front of Bumper	TOW EYES Two (2) chrome tow eyes will be mounted through the front face of the bumper. The inner and outer edges of the tow eyes will have a .25" radius. Tow eyes will be mounted directly to the bumper frame. Cutouts will be provided in the front face of stainless steel bumper to allow tow eyes to extend out the front. The tow eyes will be designed and positioned to allow up to a 9,000 lb straight horizontal pull in line with the centerline of the vehicle. The tow eyes will not be used for lifting of the apparatus.
0660435	Coating, Top Flange, Front Bumper, Outside Exterior, Rhino Lining, Black	RHINO COATING - FRONT BUMPER Protective black Rhino Linings® coating will be provided on the outside exterior of the top front bumper flange. It will not be sprayed on the underside of the flange. The lining will be properly installed by an authorized Rhino Linings® dealer.

The Velocity cab will be designed specifically for the fire service and will be manufactured by Pierce Manufacturing.

To provide quality at the source and single source customer support, the cab will be built by the apparatus manufacturer in a facility located on the manufacturer's premises.

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

The cab will have 12 main vertical structural members located in the A-pillar (front cab corner posts), B-pillar (side center posts), C-pillar (rear corner posts) and rear wall areas. The A-pillar will be constructed of 0.25" heavy wall extrusions joined by a solid A356-T6 aluminum joint casting. The B-pillar and C-pillar will also be constructed from 0.25" heavy wall extrusions. The rear wall will be constructed of two (2) 4.00" x 2.00" outer aluminum extrusions and two (2) 3.00" x 2.00" inner aluminum extrusions. All main vertical structural members will run from the floor to 7.50" x 3.50" x 0.125" thick roof extrusions to provide a cage-like structure with the A-pillar and roof extrusions being welded into a 0.75" thick corner casting at each of the front corners of the roof assembly.

The front of the cab will be constructed of a 0.25" thick firewall, covered with a 0.125" front skin (for a total thickness of 0.38"), and reinforced with 24.50" wide x 10.00" deep x 0.50" thick supports on each side of the engine tunnel. The cross-cab support will be welded to the A-pillar, 0.25" firewall, and engine tunnel, on the left and right sides.

The cab floors will be constructed of 0.1875" thick aluminum plate and reinforced at the firewall with an additional 0.25" thick cross-floor support providing a total thickness of 0.44" of structural material at the front floor area. The front floor area will also be supported with three (3) 0.50" plates bolted together that also provides the mounting point for the cab lift. This tubing will run from the front of the cab to the 0.1875" thick engine tunnel, creating the structure to support the forces created when lifting the cab.

The cab will be a full-tilt style. A 3-point cab mount system with rubber isolators will improve ride quality by isolating chassis vibrations from the cab.

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

The forward cab section will have an overall height (from the cab roof to the ground) of approximately 102.00". The crew cab section will have a 10.00" raised roof, with an overall cab height of approximately 112.00". The raised portion will start at the most forward point of the B-pillar and continue rearward to the back of the cab. The overall height listed will be calculated based on a truck configuration with the lowest suspension weight ratings, the smallest diameter tires for the suspension, no water weight, no loose equipment weight, and no personnel weight. Larger tires, wheels, and suspension will increase the overall height listed.

The cab will have an interior width of not less than 93.50". The driver and passenger seating positions will have a minimum 24.00" clear width at knee level.

To reduce injuries to occupants in the seated positions, proper head clearance will be provided.

The floor-to-ceiling height inside the forward cab will be no less than 60.25". The floor-to-ceiling height inside the crew cab will be no less than 62.95" in the center position and 68.75" in the outboard positions.

The crew cab will measure a minimum of 57.50" from the rear wall to the backside of the engine tunnel (knee level) for optimal occupant legroom.

INTERIOR CAB INSULATION

The cab walls, ceiling and engine tunnel will be insulated in all strategic locations to maximize acoustic absorption and thermal insulation. The cab will be insulated with 2.00" insulation in the rear wall, 3.00" insulation in the side walls, and 1.50" insulation in the ceiling.

FENDER LINERS

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

PANORAMIC WINDSHIELD

A one (1)-piece, safety glass windshield with more than 2,802 square inches of clear viewing area will be provided. The windshield will be full width and will provide the occupants with a panoramic view. The windshield will consist of three (3) layers: the outer light, the middle safety laminate, and the inner light. The 0.114" thick outer light layer will provide superior chip resistance. The middle safety laminate layer will prevent the windshield glass pieces from detaching in the event of breakage. The inner light will provide yet another chip resistant layer. The cab windshield will be bonded to the aluminum windshield frame using a urethane adhesive. A custom frit pattern will be applied on the outside perimeter of the windshield for a finished automotive appearance.

WINDSHIELD WIPERS

Three (3) electric windshield wipers with a washer, in conformance with FMVSS and SAE requirements, will be provided. The wiper blades will be 21.65" long and together will clear a minimum of 1,783 square inches of the windshield for maximum visibility in inclement weather. The windshield washer fluid reservoir will be located at the front of the vehicle and be accessible through the access hood for simple maintenance.

FAST SERVICE ACCESS FRONT TILT HOOD

A full-width access hood will be provided for convenient access to engine coolant, steering fluid, wiper fluid, cab lift controls, headlight power modules, and ember separator. The hood will also provide complete access to the windshield wiper motor and components. The hood will be contoured to provide a sleek, automotive appearance. The hood will be constructed of two (2) fiberglass panels bonded together and will include reinforcing ribs for structural integrity. The hood will include air cylinders to hold the hood in open and closed positions, and a heavy duty latch system that will meet FMVSS 113 (Hood Latch System). The spring-loaded hood latch will be located at the center of the hood with a double-action release lever located behind the Pierce logo. The two (2)-step release requires the lever first be pulled to the driver side until the hood releases from the first latch (primary latch) then to the passenger side to fully release the hood (secondary latch).

0724207	Engine Tunnel, X12-15, MX13, Mech Fasteners, Velocity FR	ENGINE TUNNEL To provide structural strength, the engine tunnel sidewalls will be constructed of .50" aluminum plate that is welded to both the .25" firewall and .38" heavy wall extrusion under the crew cab floor. To maximize occupant space, the top edges will be tapered. The engine tunnel will be insulated for protection from heat and sound. Perforated foil faced insulation will be over a 1.00" thick closed cell foam affixed with pressure sensitive adhesive and further secured with mechanical fasteners. Thermal rating for this insulation will be -40 degrees Fahrenheit to 300 degrees Fahrenheit. The noise insulation keeps the dBA level within the limits stated in the current NFPA 1901 standards.
0677478	Rear Wall, Exterior, Cab, Aluminum Treadplate	CAB REAR WALL EXTERIOR COVERING The exterior surface of the rear wall of the cab will be overlaid with bright aluminum treadplate except for areas that are not typically visible when the cab is lowered.
0122466	Cab Lift, Elec/Hyd, w/Manual Override, Imp/Vel	CAB LIFT A hydraulic cab lift system will be provided, consisting of an electric-powered hydraulic pump, fluid reservoir, dual lift cylinders, remote cab lift controls and all necessary hoses and valves. The hydraulic pump will have a backup manual override, for use in the event of an electrical failure. The cab lift controls will be located at the driver side front of the cab, easily accessible under the full width front access hood. The controls will include a permanently mounted raise/lower switch. For enhanced visibility during cab tilt operations, a remote control tether with on/off switch will be supplied on a coiled cord that will extend from 2.00' (coiled) to 6.00' (extended). The cab will be capable of tilting 42 degrees and 80 degrees with crane assist to accommodate engine maintenance and removal. The cab pivots will be located 46.00" apart to provide stability while tilting the cab. The rear of the cab will be locked down by a two (2)-point, automatic, hydraulic, double hook mechanism that fully engages after the cab has been lowered (self-locking). The dual 2.25" diameter hydraulic cylinders will be equipped with a velocity fuse that protects the cab from accidentally descending when the cab is in the tilt position. For increased safety, a redundant mechanical stay arm will be provided that must be manually put in place on the driver side between the chassis and cab frame when cab is in the raised position. This device will be manually stowed to its original position before the cab can be lowered. Cab Lift Interlock The cab lift safety system will be interlocked to the parking brake. The cab tilt mechanism will be active only when the parking brake is set and the ignition switch is in the on position. If the parking brake is released, the cab tilt mechanism will be disabled.
0123176	Grille, Bright Finished, Front of Cab, Velocity	GRILLE A bright finished aluminum mesh grille screen, inserted behind a formed bright finished grille surround, will be provided on the front center of the cab, and will serve as an air intake to the radiator.
0646179	Trim, S/S, Rect Headlights, VEL/IMP	FRONT CAB TRIM There will be polished stainless steel rectangular garnish plates installed behind the two (2) headlight bezels for an enhanced appearance. There will be no covers provided over the painted cab corner where the cab turn signals are located.
0015440	No Chrome Molding, On side of cab	
0521669	Mirrors, Retractable, West Coast Style, Htd/Rmt, w/Htd/Rmt Convex	MIRRORS A Retractable, Model 613423, dual vision, motorized, west coast style mirror, with chrome finish, will be mounted on each side of the front cab door with spring loaded retractable arms. The flat glass and convex glass will be heated and adjustable with remote control within reach of the driver.

0667921	Door, Half-Height, Velocity FR 4-Door Cab, Raised Roof	<p>CAB DOORS</p> <p>The forward cab and crew cab doors will be the half-height style door. To enhance entry and egress to the cab, the forward cab doors will be a minimum of 43.59" wide x 64.71" high. The crew cab doors will measure a minimum of 37.87" wide x 73.75" high.</p> <p>The forward cab and crew cab doors will be constructed of extruded aluminum with a nominal material thickness of 0.125". The exterior door skins will be constructed from 0.090" aluminum. The forward cab door windows will include a 7.50" high x 10.00" wide drop area at the front to enhance visibility.</p> <p>A customized, vertical, pull-down type door handle will be provided on the exterior of each cab door. The finish of the door handle will be chrome/black. The exterior handle will be designed specifically for the fire service to prevent accidental activation, and will provide 4.00" wide x 2.00" deep hand clearance for ease of use with heavy gloved hands.</p> <p>Each door will also be provided with an interior flush, open style paddle handle that will be readily operable from fore and aft positions, and be designed to prevent accidental activation. The interior handles will provide 4.00" wide x 1.25" deep hand clearance for ease of use with heavy gloved hands.</p> <p>The cab doors will be provided with both interior (rotary knob) and exterior (keyed) locks exceeding FMVSS standards. The keys will be Model 751. The locks will be capable of activating when the doors are open or closed. The doors will remain locked if locks are activated when the doors are opened, then closed.</p> <p>A full length, heavy duty, stainless steel, piano-type hinge with a 0.38" pin and 11 gauge leaf will be provided on all cab doors. There will be double automotive-type rubber seals around the perimeter of the door framing and door edges to ensure a weather-tight fit.</p> <p>A chrome grab handle will be provided on the inside of each cab and crew cab door.</p> <p>A red webbed grab handle will be installed on the crew cab door stop strap. The grab handles will be securely mounted.</p> <p>The cab steps at each cab door location will be located below the cab doors and will be exposed to the exterior of the cab.</p>
0655511	Door Panel, Brushed Stainless Steel, Impel/Velocity 4-Door Cab	<p>Door Panels</p> <p>The inner cab door panels will be constructed out of brushed stainless steel. The cab door panels will be removable.</p>
0648267	Face Plate/s, Blank, Lower Instrument Panel, Imp/Vel, Dash CF	<p>BLANK FACE PLATE</p> <p>Blank face plate/s will be provided, in place of standard storage pockets, in all available locations on the lower instrument panel console.</p>
0667902	Controls, Electric Windows, All Cab Doors, Impel/Velocity FR	<p>ELECTRIC WINDOW CONTROLS</p> <p>Each cab entry door will be equipped with an electrically operated tempered glass window. A window control panel will be located on the door panel within easy reach of the respective occupant. Each switch will allow intermittent or auto down operation for ease of use. Auto down operation will be actuated by holding the window down switch for approximately 1 second. The driver control panel will contain a control switch for each cab door's window. All other door control panels will contain a single switch to operate the window within that door.</p> <p>The window switches will be connected directly to the battery power. This allows the windows to be raised and lowered when the battery switch is in the off position.</p>
0512419	Electric Door Locks, Cab Doors, Imp/Vel	<p>ELECTRIC CAB DOOR LOCKS</p> <p>The front driver and passenger doors will have a door lock master switch (custom designed rotary lock knob) built into the interior door latch that will control all front and rear side exit door locks. Each rear cab door will have its own lock control. Each door will have a keyed exterior lock mechanism built into the door handle assembly.</p> <p>There will be one (1) concealed switch on the exterior of the cab, located under the front full width service access panel, that operates the cab door locks.</p> <p>The lock system will include two (2) key FOBs that allow for keyless entry into the vehicle. The key FOB system will use code hopping technology for high security and be FCC part 15 compliant.</p>
0555485	Steps, 4-Door Full Tilt Cab, Imp/Vel	<p>CAB STEPS</p> <p>The forward cab and crew cab access steps will be a full size two (2) step design to provide largest possible stepping surfaces for safe ingress and egress. The bottom steps will be designed with a grip pattern punched into bright aluminum treadplate material to provide support, slip resistance, and drainage. The bottom steps will be a bolt-in design to minimize repair costs should they need to be replaced. The forward cab steps will be a minimum 31.00" wide, and the crew cab steps will be 24.25" wide with an 8.00" minimum depth. The inside cab steps will not exceed 18.00" in height and be limited to two (2) steps.</p>
0770194	Handrail, Exterior, Knurled, Alum, 4-Door Cab	<p>CAB EXTERIOR HANDRAILS</p> <p>A 1.25" diameter slip-resistant, knurled aluminum handrail will be provided adjacent to each cab and crew cab door opening to assist during cab ingress and egress.</p>

0892637	Lights, Cab & Crw Cab Acs Stps, P25, LED w/Bezel, 1Lt Per Step	STEP LIGHTS There will be four (4) white P25 LED step lights provided. The lights will be installed at each cab and crew cab door, one (1) per step. The lights will be located in the driver side front doorstep, driver side crew cab doorstep, passenger side front doorstep and passenger side crew cab doorstep. In order to ensure exceptional illumination, each light will provide a minimum of 25 foot-candles (fc) covering an entire 15.00" x 15.00" square placed 10.00" below the light and a minimum of 1.5 fc covering an entire 30.00" x 30.00" square at the same 10.00" distance below the light. The light(s) will have a chrome housing. The lights will be activated when the adjacent door is opened.
0002140	Fenders, S/S on Cab	FENDER CROWNS Stainless steel fender crowns will be installed at the cab wheel openings.
0592071	No Windows, Side of Crew Cab, Vel/Imp	
0568605	Not Required, Interior Trim, No Cab Side Windows	
0012090	Not Required, Windows, Front/Side of raised roof	
0509286	Not Required, Windows Rear of Crew Cab, Imp/Vel	
0558334	Not Required, Trim, Cab Rear Windows, No Rear Windows	
0721071	Compt, Storage, 10.71 W x 30 H x 14 D, (1) Ea Side C/C, Sgl Pan, Imp/Vel	STORAGE COMPARTMENTS Provided on each side of the cab, to the rear of the crew cab access doors, will be a storage compartment. The compartments will be 10.71" wide x 30.00" high x 14.00" deep. There will be two (2) single pan doors painted to match the cab exterior with a non-locking D-ring latch, one (1) on each side of the cab. A pneumatic stay arm for each exterior door will be provided as a door stop. The compartment interior will be painted to match the cab interior. Compartment Light There will be two (2) white LED strip lights provided, one (1) horizontally above each compartment door opening.
0199285	Visor, Exterior, Vel/Imp	EXTERIOR VISOR The exterior sun visor will be a painted composite to match the job color. The five (5) forward facing marker lights will be mounted to the visor.
0123686	Drip Rail, Cab Roof, Impel/Veloccity/Veloccity SLT	CAB ROOF DRIP RAIL For enhanced protection from inclement weather, a drip rail will be furnished on the sides of the cab. The drip rail will be constructed of bright polished extruded aluminum, and be bonded to the sides of the cab. The drip rail will extend the full length of the cab roof.
0635628	Mounting Provisions, 1/4" Alum, Full Engine Tunnel, Lip, Vel/Imp	MOUNTING PLATE ON ENGINE TUNNEL Equipment installation provisions will be installed on the engine tunnel. A 0.25" smooth aluminum plate will be bolted to the top surface of the engine tunnel. The plate will be located to the left of the officer and on the rear of the tunnel. It will follow the contour of the engine tunnel and will run the entire length of the engine tunnel. The plate will be spaced off the engine tunnel 1.00" to allow for wire routing below the plate. There will be a 2.00" lip around the entire edge of the plate. The mounting surface will be painted to match the cab interior.

0748671	Cab Interior, Vinyl, Velocity FR, CARE	<p>CAB INTERIOR</p> <p>With safety as the primary objective, the wrap-around style cab instrument panel will be designed with unobstructed visibility to instrumentation. The dash layout will provide the driver with a quick reference to gauges that allows more time to focus on the road.</p> <p>The center console will be a high impact ABS polymer and will be easily removable.</p> <p>The passenger side dashboard will be constructed of painted aluminum for durability and low maintenance. For enhanced versatility, the passenger side dash will include a flat working surface.</p> <p>To provide optional (service friendly) control panels, switches and storage modules, a painted aluminum overhead console will also be provided.</p> <p>To complete the cab front interior design, painted aluminum modesty panels will be provided under the dash on both sides of the cab. The driver side modesty panel will provide mounting for the battery switch and diagnostic connectors, while the passenger side modesty panel provides a glove box, and ground access to the main electrical distribution panel via quick quarter turn fasteners.</p> <p>To provide a deluxe automotive interior, the engine tunnel, side walls and rear wall will be covered by a leather grain vinyl that is resistant to oil, grease, and mildew.</p> <p>The headliner will be installed in both forward and rear cab sections. The headliner panel will be a composition of an aluminum panel covered with a sound barrier and upholstery.</p> <p>The cab structure will include designated raceways for electrical harness routing from the front of the cab to the rear upper portion of the cab. Raceways will be extruded in the forward door frame, floor, walls and overhead in the area where the walls meet the ceiling. The raceways located in the floor will be covered by aluminum extrusion, while the vertical and overhead raceways will be covered by painted aluminum covers. The raceways will improve harness integrity by providing a continuous harness path that eliminates wire chafing and abrasion associated with exposed wiring or routing through drilled metal holes. Harnesses will be laid in place.</p> <p>CAB INTERIOR UPHOLSTERY</p> <p>The cab interior upholstery will be 36 oz dark silver gray vinyl. All cab interior materials will meet FMVSS 302 (flammability of interior materials).</p>
0667943	Cab Interior, Paint Color, Impel/Velocity FR	<p>CAB INTERIOR PAINT</p> <p>The following metal surfaces will be painted black, vinyl textured paint:</p> <ul style="list-style-type: none">Modesty panel in front of driverVertical surface of dash in front of the officer (not applicable for recessed dash)Glove box in front of the officer (if applicable)Power distribution in front of the officerRear heater vent panels <p>The remaining cab interior metal surfaces will be painted fire smoke gray, vinyl texture paint.</p>
0509532	Floor, Rubber Padded Cab & Crew Cab, Imp/Vel, Dash CF	<p>CAB FLOOR</p> <p>The cab and crew cab floor areas will be covered with Polydamp™ acoustical floor mat consisting of a black pyramid rubber facing and closed cell foam decoupler.</p> <p>The top surface of the material has a series of raised pyramid shapes evenly spaced, which offer a superior grip surface. Additionally, the material has a 0.25" thick closed cell foam (no water absorption) which offers a sound dampening material for reducing sound levels.</p>

0894651	HVAC, Velocity FR, w/PACCAR, CARE	<p>DEFROST/AIR CONDITIONING SYSTEM</p> <p>A ceiling mounted combination heater, defroster and air conditioning system will be installed in the cab above the engine tunnel area.</p> <p>Cab Defroster</p> <p>A 54,000 BTU heater-defroster unit with 690 SCFM of air flow will be provided inside the cab. The heater-defrost will be installed in the forward portion of the cab ceiling. Air outlets will be strategically located in the cab header extrusion per the following:</p> <p>One (1) adjustable will be directed towards the left side cab window</p> <p>One (1) adjustable will be directed towards the right side cab window</p> <p>Six (6) fixed outlets will be directed at the windshield</p> <p>The defroster will be capable of clearing 98 percent of the windshield and side glass when tested under conditions where the cab has been cold soaked at 0 degrees Fahrenheit for 10 hours, and a 2 ounce per square inch layer of frost/ice has been able to build up on the exterior windshield. The defroster system will meet or exceed SAE J382 requirements.</p> <p>Cab/Crew Auxiliary Heater</p> <p>There will be one (1) 31,000 BTU auxiliary heater with 560 SCFM of air flow provided in each outboard rear facing seat risers with a dual scroll blower. An aluminum plenum incorporated into the cab structure used to transfer heat to the forward positions.</p> <p>Air Conditioning</p> <p>A 13.10 cubic inch compressor will be installed on the engine.</p> <p>A roof-mounted condenser with a 78,000 BTU output at 2,400 SCFM that meets and exceeds the performance specification will be installed on the cab roof. The condenser cover to be painted to match the cab roof.</p> <p>The air conditioning system will be capable of cooling the average cab temperature from 100 degrees Fahrenheit to 75 degrees Fahrenheit at 50 percent relative humidity within 30 minutes. The cooling performance test will be run only after the cab has been heat soaked at 100 degrees Fahrenheit for a minimum of 4 hours.</p> <p>The evaporator unit will be installed in the rear portion of the cab ceiling over the engine tunnel. The evaporator will include one (1) high performance heating core, one (1) high performance cooling core with (1) plenum directed to the front and one (1) plenum directed to the rear of the cab.</p> <p>The evaporator unit will have a 52,000 BTU at 690 SCFM rating that meets and exceeds the performance specifications.</p> <p>Adjustable air outlets will be strategically located on the forward plenum cover per the following:</p> <p>Four (4) will be directed towards the seating position on the left side of the cab</p> <p>Four (4) will be directed towards the seating position on the right side of the cab</p> <p>Adjustable air outlets will be strategically located on the evaporator cover per the following:</p> <p>Five (5) will be directed towards crew cab area</p> <p>A high efficiency particulate air (HEPA) filter will be included for the system. Access to the filter cover will be secured with four (4) screws.</p> <p>The air conditioner refrigerant will be R-134A and will be installed by a certified technician.</p> <p>Climate Control</p> <p>An automotive style controller will be provided to control the heat and air conditioning system within the cab. The controller will have three (3) functional knobs for fan speed, temperature, and air flow distribution (front to rear) control.</p> <p>The system will control the temperature of the cab and crew cab automatically by pushing the center of the fan speed control knob. Rotate the center temperature control knob to set the cab and crew cab temperature.</p> <p>The AC system will be manually activated by pushing the center of the temperature control knob. Pushing the center of the air flow distribution knob will engage the AC for max defrost, setting the fan speeds to 100 percent and directing all air flow to the overhead forward position.</p> <p>Gravity Drain Tubes</p> <p>Two (2) condensate drain tubes will be provided for the air conditioning evaporator. The drip pan will have two (2) drain tubes plumbed separately to allow for the condensate to exit the drip pan. No pumps will be provided.</p>
0639675	Sun Visor, Smoked Lexan, AXT, Imp/Vel, Saber FR/Enforcer	<p>SUN VISORS</p> <p>Two (2) smoked Lexan™ sun visors will be provided. The sun visors will be located above the windshield with one (1) mounted on each side of the cab.</p> <p>There will be a black plastic thumb latch provided to help secure each sun visor in the stowed position.</p>
0548173	Grab Handles, Driver and Passenger Door Post, Imp/Vel	<p>GRAB HANDLE</p> <p>A black rubber covered grab handle will be mounted on the door post of the driver side and passenger side cab door to assist in entering the cab. The grab handle will be securely mounted to the post area between the door and windshield.</p>
0583938	Lights, Engine Compt, Custom, Auto Sw, W/in 3SC0CDCR, 3" LED, Trim	<p>ENGINE COMPARTMENT LIGHTS</p> <p>There will be two (2) Whelen, Model 3SC0CDCR, 12 volt DC, 3.00" white LED light(s) with Whelen, Model 3FLANGEC, chrome flange kit(s) installed under the cab to be used as engine compartment illumination.</p> <p>These light(s) will be activated automatically when the cab is raised.</p>

0122516		Fluid Check Access, Imp/Vel	<p>ACCESS TO ENGINE DIPSTICKS</p> <p>For access to the engine oil and transmission fluid dipsticks, there will be a door on the engine tunnel, inside the crew cab. The door will be on the rear wall of the engine tunnel, on the vertical surface. The door will be 20.00" wide x 8.25" high and be flush with the wall of the engine tunnel. The engine oil dipstick will allow for checking only. The transmission dipstick will allow for both checking and filling. An additional port will be provided for filling the engine oil. The door will have a rubber seal for thermal and acoustic insulation. One (1) flush lift and turn latch will be provided on the access door.</p>
0583039		Not Required, Side Roll and Frontal Impact Protection	
0622619		Seating Capacity, 4 Seats	<p>SEATING CAPACITY</p> <p>The seating capacity in the cab will be four (4).</p>
0697007		Seat, Driver, Pierce PS6, Premium, Air Ride, High Back	<p>DRIVER SEAT</p> <p>A Pierce PS6® seat will be provided in the cab for the driver. The seat design will be a cam action type, with air suspension. For increased convenience, the seat will include electric controls to adjust the rake (15 degrees), height (1.75" travel) and horizontal (7.00" travel) position. Electric controls will be located below the forward part of the seat cushion. To provide flexibility for multiple driver configurations, the seat will have a reclining back, adjustable from 20 degrees back to 45 degrees forward. The seat back will be a high back style with manual lumbar adjustment lever, for lower back support, and will include minimum 7.50" deep side bolster pads for maximum support. For optimal comfort, the seat will be provided with 17.00" deep dual density foam cushions designed with EVC (elastomeric vibration control). The seat will be furnished with a 3-point, shoulder type seat belt. The seat belt will be furnished with dual automatic retractors that will provide ease of operation in the normal seating position.</p>
0696997		Seat, Officer, Pierce PS6, Premium, Air Ride, High Back	<p>OFFICER SEAT</p> <p>A Pierce PS6® seat will be provided in the cab for the officer. The seat will be a cam action type with air suspension. For increased convenience, the seat will include a manual control to adjust the horizontal position (6.00" travel). The manual horizontal control will be a towel-bar style located below the forward part of the seat cushion. To provide flexibility for multiple passenger configurations, the seat will have a reclining back adjustable from 20 degrees back to 0 degrees forward. The seat back will be a high back style with manual lumbar adjustment lever and will include minimum 7.50" deep side bolster pads for maximum support. For optimal comfort, the seat will be provided with 17.00" deep dual density foam cushions designed with EVC (elastomeric vibration control). To ensure safe operation, the seat will be equipped with seat belt sensors in the seat cushion and belt receptacle that will activate an alarm indicating a seat is occupied but not buckled. The seat will be furnished with a 3-point, shoulder type seat belt. The seat belt will be furnished with dual automatic retractors that will provide ease of operation in the normal seating position.</p>
0002517		Not Required, Radio Compartment	
0811505	SP	Cabinet, Rear Facing, LS, 30.5 W x 38 H x 24 D, Roll Ext Acc Only, Imp/Vel	<p>REAR FACING LEFT SIDE CABINET</p> <p>A rear facing cabinet will be provided in the crew cab at the left side outboard position. The cabinet will be 30.50" wide x 38.00" high x 24.00" deep. The cabinet will provide access from outside the cab only with one (1) Amdor rollup door painted to match the two-tone paint color scheme of the cab exterior, locking with #751 key. The frame to frame opening will be 19.75" wide x 36.25" high. The minimum clear door opening will be 17.00" wide x 30.37" high. The door will be located on the side of the cab over the wheelwell. The cabinet will include no adjustable shelves or trays in the cabinet interior. The cabinet will be constructed of smooth aluminum, and painted to match the cab interior.</p> <p>Cabinet Light</p> <p>There will be one (1) white LED strip light installed on the left side of the exterior cabinet door opening. The lights will be controlled by an automatic door switch.</p>
0102783		Not Required, Seat, Rr Facing C/C, Center	
0811507	SP	Cabinet, Rear Facing, RS, 26.5 W x 38 H x 21.5 D, Roll Ext Acc Only, Imp/Vel	<p>REAR FACING RIGHT SIDE CABINET</p> <p>A rear facing cabinet will be provided in the crew cab at the right side outboard position. The cabinet will be 26.50" wide x 38.00" high x 21.50" deep. The cabinet will only provide access from outside the cab with one (1) Amdor rollup door painted to match the two-tone paint color scheme of the cab exterior, locking with #751 key. The frame to frame opening will be 16.00" wide x 36.25" high. The minimum clear door opening will be 13.25" wide x 30.37" high. The door will be located on the side of the cab over the wheelwell. The cabinet will include no adjustable shelves or trays in the cabinet interior. The cabinet will include no louvers. The cabinet will be constructed of smooth aluminum and painted to match the cab interior.</p> <p>Cabinet Light</p> <p>There will be one (1) white LED strip light installed on the right side of the exterior cabinet door opening. The lights will be controlled by an automatic door switch.</p>

0660826	Seat, Forward Facing C/C, DS Outboard, Pierce PS6, Hi-Back, Foldup, 9 Deg, 17"Btm	FORWARD FACING DRIVER SIDE OUTBOARD SEAT There will be one (1) forward facing, Pierce PS6® foldup seat provided at the driver side outboard position in the crew cab. To provide improved ride comfort, and maximize accessibility to the crew cab, the seat will be a minimum of 17.00" from the front of the cushion to the face of the seat back and the seat back will be provided with 9 degree fixed recline angle. To ensure safe operation, the seat will be equipped with seat belt sensors in the seat cushion and belt receptacle, that will activate an alarm indicating a seat is occupied but not buckled. The seat back will be high back style. The seat will be furnished with a 3-point, shoulder type seat belt. The seat belt will be furnished with dual automatic retractors that will provide ease of operation in the normal seating position.
0783717	Cabinet, Forward Facing, Center, 42 W x 48 H x 24 D, Roll, Imp/Vel	FORWARD FACING CENTER CABINET A forward facing cabinet will be provided in the crew cab at the center position. The cabinet will be 42.00" wide x 48.00" high x 24.00" deep with one (1) Amdor rollup door with anodized finish, non-locking. The cabinet will be provided with no false floor. The frame to frame opening of the cabinet will be 39.50" wide x 42.75" high. The minimum clear door opening will be 36.75" wide x 36.87" high. The cabinet will include two (2) infinitely adjustable shelves with a 0.75" up-turned lippainted to match the cab interior. The cabinet will include no louvers. The cabinet will be constructed of smooth aluminum and painted to match the cab interior. Cabinet Light There will be one (1) white LED strip light installed on the left side of the interior cabinet door opening. The lighting will be controlled by an automatic door switch.
0660820	Seat, Forward Facing C/C, PS Outboard, Pierce PS6, Hi-Back, Foldup, 9 Deg, 17"Btm	FORWARD FACING PASSENGER SIDE OUTBOARD SEAT There will be one (1) forward facing, Pierce PS6® foldup seat provided at the passenger side outboard position in the crew cab. To provide improved ride comfort, and maximize accessibility to the crew cab, the seat will be a minimum of 17.00" from the front of the cushion to the face of the seat back and the seat back will be provided with 9 degree fixed recline angle. To ensure safe operation, the seat will be equipped with seat belt sensors in the seat cushion and belt receptacle, that will activate an alarm indicating a seat is occupied but not buckled. The seat back will be high back style. The seat will be furnished with a 3-point, shoulder type seat belt. The seat belt will be furnished with dual automatic retractors that will provide ease of operation in the normal seating position.
0550553	Louvers, Overhead Compartment	LOUVERS There will be four (4) louvers provided in the RS rear facing overhead, one per side, two (2) on the door, on each side of the latch, as large as possible for all four overhead compartment for ventilation.
0644702	Compt, Storage, (2) Rear Facing, Overhead, 22 W x 10 H x 20 D, Imp/Vel FR	REAR FACING OVERHEAD STORAGE COMPARTMENT There will be two (2) overhead rear facing storage compartments installed at the raised roof within the crew cab, on each side of the air conditioner. The compartments will be approximately 22.00" wide x 10.00" high x 20.00" deep at the bottom. Each compartment will include one (1) lift up compartment door. Non-locking latch, paddle handle, and gas operated stay arms will be provided. The compartment will be constructed of smooth aluminum and painted to match the cab interior. COMPARTMENT LIGHT The storage compartment lighting will consist of one (1) white LED strip light installed horizontally above each compartment door opening.
0766467	Upholstery, Seats In Cab, All Vinyl, Seats Inc, CARE	SEAT UPHOLSTERY All seat upholstery will be leather grain 36 oz dark silver gray vinyl resistant to oil, grease and mildew. The cab will have four (4) seating positions.
0511471	No SCBA Brackets Required In Cab Seats, Imp/Vel, AXT 2010, Qtm 2010, Saber FR/Enf	
0603867	Seat Belt, ReadyReach	SEAT BELTS All seating positions in the cab, crew cab and tiller cab (if applicable) will have red seat belts. To provide quick, easy use for occupants wearing bunker gear, the female buckle and seat belt webbing length will meet or exceed the current edition of NFPA 1901 and CAN/ULC - S515 standards. The 3-point shoulder type seat belts will also include the ReadyReach D-loop assembly to the shoulder belt system. The ReadyReach feature adds an extender arm to the D-loop location placing the D-loop in a closer, easier to reach location. Any flip up seats will include a 3-point shoulder type belts only.
0604867	Seat Belt Height Adjustment, 4 Seats, Imp/Vel, Dash CF	SHOULDER HARNESS HEIGHT ADJUSTMENT All seating positions furnished with 3-point shoulder type seat belts will include a height adjustment. This adjustment will optimize the belts effectiveness and comfort for the seated firefighter. A total of four (4) seating positions will have the adjustable shoulder harness.

0602464	Helmet Storage, Provided by Fire Department, NFPA 2016	HELMET STORAGE PROVIDED BY FIRE DEPARTMENT NFPA 1901, 2016 edition, section 14.1.7.4.1 requires a location for helmet storage be provided. There is no helmet storage on the apparatus as manufactured. The fire department will provide a location for storage of helmets.
0647647	Lights, Dome, FRP Dual LED 4 Lts	CAB DOME LIGHTS There will be four (4) dual LED dome lights with black bezels provided. Two (2) lights will be mounted above the inside shoulder of the driver and officer and two (2) lights will be installed and located, one (1) on each side of the crew cab. The color of the LED's will be red and white. The white LED's will be controlled by the door switches and the lens switch. The color LED's will be controlled by the lens switch. In order to ensure exceptional illumination, each white LED dome light will provide a minimum of 10.1 foot-candles (fc) covering an entire 20.00" x 20.00" square seating position when mounted 40.00" above the seat.
0896451	Enhanced Software for Cab and Crew Cab Dome Lts	ENHANCED SOFTWARE FOR CAB AND CREW CAB DOME LIGHTS The cab and crew cab dome lights will remain on for 10 seconds for improved visibility after the doors are closed. The dome lights will dim after 10 seconds or immediately if the vehicle's transmission is put into gear.
0631776	Not Required, Overhead Map Lights	
0614669	Light, Map, Overhead, Round, Add, Sunnex SL9-200B25L LED Clr Lens, Ceiling Mount	ADDITIONAL MAP LIGHT There will be one (1) Sunnex Model SL9-200B25L LED additional map light(s) installed in the cab and located officer side left shoulder. The light will be controlled by the switch on the base. The light switch(es) will be connected directly to the battery switched power.
0602637	Portable Hand Light, Provided by Fire Dept, Pumper NFPA 2016 Classification	PORTABLE HAND LIGHTS, PROVIDED BY FIRE DEPARTMENT NFPA 1901, 2016 edition, section 5.9.4 requires two portable hand lights mounted in brackets fastened to the apparatus. The hand lights are not on the apparatus as manufactured. The fire department will provide and mount these hand lights.
0568369	Cab Instruments, Ivory Gauges, Chrome Bezels, Impel/Velocity 2010	CAB INSTRUMENTATION The cab instrument panel will consist of gauges, an LCD display, telltale indicator lights, alarms, control switches, and a diagnostic panel. The function of instrument panel controls and switches will be identified by a label adjacent to each item. Actuation of the headlight switch will illuminate the labels in low light conditions. Telltale indicator lamps will not be illuminated unless necessary. The cab instruments and controls will be conveniently located within the forward cab section directly forward of the driver. Gauge and switch panels will be designed to be removable for ease of service and low cost of ownership. Gauges The gauge panel will include the following ten (10) ivory gauges with chrome bezels to monitor vehicle performance: Voltmeter gauge (Volts) Low volts (11.8 VDC) Amber indicator on gauge assembly with alarm High volts (15 VDC) Amber indicator on gauge assembly with alarm Very low volts (11.3 VDC) Amber indicator on gauge assembly with alarm Very high volts (16 VDC) Amber indicator on gauge assembly with alarm Tachometer (RPM) Speedometer (Primary (outside) MPH, Secondary (inside) Km/H) Fuel level gauge (Empty - Full in fractions) Low fuel (1/8 full) Amber indicator on gauge assembly with alarm Very low fuel (1/32) fuel Amber indicator on gauge assembly with alarm Engine oil pressure gauge (PSI) Low oil pressure to activate engine warning lights and alarms Red indicator on gauge assembly with alarm Front air pressure gauge (PSI) Low air pressure to activate warning lights and alarm Red indicator on gauge assembly with alarm Rear air pressure gauge (PSI) Low air pressure to activate warning lights and alarm Red indicator on gauge assembly with alarm Transmission oil temperature gauge (Fahrenheit) High transmission oil temperature activates warning lights and alarm Amber indicator on gauge assembly with alarm Engine coolant temperature gauge (Fahrenheit) High engine temperature activates an engine warning light and alarm

Red indicator on gauge assembly with alarm
Diesel Exhaust Fluid Level Gauge (Empty - Full in fractions)
Low fluid (1/8 full)

Amber indicator on gauge assembly with alarm

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

Indicator Lamps

To promote safety, the following telltale indicator lamps will be integral to the gauge assembly and are located above and below the center gauges. The indicator lamps will be "dead-front" design that is only visible when active. The colored indicator lights will have descriptive text or symbols.

The following amber telltale lamps will be present:

Low coolant

Trac cntl (traction control) (where applicable)

Check engine

Check trans (check transmission)

Aux brake overheat (Auxiliary brake overheat)

Air rest (air restriction)

Caution (triangle symbol)

Water in fuel

DPF (engine diesel particulate filter regeneration)

Trailer ABS (where applicable)

Wait to start (where applicable)

HET (engine high exhaust temperature) (where applicable)

ABS (antilock brake system)

MIL (engine emissions system malfunction indicator lamp) (where applicable)

SRS (supplemental restraint system) fault (where applicable)

DEF (low diesel exhaust fluid level)

The following red telltale lamps will be present:

Warning (stop sign symbol)

Seat belt

Parking brake

Stop engine

Rack down

The following green telltale lamps will be provided:

Left turn

Right turn

Battery on

The following blue telltale lamp will be provided:

High beam

Alarms

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

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

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

Indicator Lamp and Alarm Prove-Out

Telltale indicators and alarms will perform prove-out at initial power-up to ensure proper performance.

Control Switches

For ease of use, the following controls will be provided immediately adjacent to the cab instrument panel within easy reach of the driver.

Emergency master switch: A molded plastic push button switch with integral indicator lamp will be provided. Pressing the switch will activate emergency response lights and siren control. A green lamp on the switch provides indication that the emergency master mode is active. Pressing the switch again disables the emergency master mode.

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

Panel backlighting intensity control switch: A three (3)-position momentary rocker switch will be provided. The first switch position decreases the panel backlighting intensity to a minimum level as the switch is held. The second switch position is the default position that does not affect the backlighting intensity. The third switch position increases the panel backlighting intensity to a maximum level as the switch is held.

The following standard controls will be integral to the gauge assembly and are located below the right hand gauges. All switches have backlit labels for low light applications.

High idle engagement switch: A two (2)-position momentary rocker switch with integral indicator lamp will be provided. The first switch position is the default switch position.

The second switch position will activate and deactivate the high idle function when pressed and released. The "Ok To Engage High Idle" indicator lamp must be active for the high idle function to engage. A green indicator lamp integral to the high idle engagement switch will indicate when the high idle function is engaged.

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

The following standard controls will be provided adjacent to the cab gauge assembly within easy reach of the driver. All switches will have backlit labels for low light applications.

Ignition switch: A three (3)-position maintained/momentary rocker switch will be provided. The first switch position will deactivate vehicle ignition. The second switch position will activate vehicle ignition. The third momentary position will disable the Command Zone

audible alarm if held for 3 to 5 seconds. A green indicator lamp will be activated with vehicle ignition.

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

4-way hazard switch: A two (2)-position maintained rocker switch will be provided. The first switch position will deactivate the 4-way hazard switch function. The second switch position will activate the 4-way hazard function. The switch actuator will be red and includes the international 4-way hazard symbol.

Heater, defroster, and air conditioning control panel.

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

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

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

Custom Switch Panels

The design of cab instrumentation will allow for emergency lighting and other switches to be placed within easy reach of the operator thus improving safety. There will be positions for up to four (4) switch panels in the overhead console on the driver's side, up to four (4) switch panels in the engine tunnel console facing the driver, up to four (4) switch panels in the overhead console on the officer's side and up to two (2) switch panels in the engine tunnel console facing the officer. All switches will have backlit labels for low light applications.

Diagnostic Panel

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

The diagnostic panel will include the following:

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

Cab LCD Display

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

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

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

0509511	Air Restriction Indicator, Imp/Vel, AXT, Dash CF, Enf MUX	AIR RESTRICTION INDICATOR A high air restriction warning indicator light LCD message with amber warning indicator and audible alarm will be provided.
0602785	Light, Do Not Move Apparatus, WIn VTX609B, With Buzzer, Non-NFPA 2016	"DO NOT MOVE APPARATUS" INDICATOR There will be a Whelen, Model VTX609B blue LED indicator light with chrome trim located in the driving compartment installed over the over head. This light will be illuminated automatically when the ignition is on and per the current NFPA requirements. The light will be labeled "Do Not Move Apparatus" if light is on. An audible alarm will be provided with the open door indicator light. This alarm will be used only as the door open alarm when the parking brake is released. NFPA 1901, 2016 edition, section 13.11.1 requires a red flashing or rotating light located in the driving compartment, to be illuminated automatically whenever an item is not in the stowed position and the parking brake is not fully engaged. Per the fire department specification, a blue flashing indicator light is required. The apparatus will be non compliant to NFPA 1901 standards at time of contract execution.

0509042	Messages, Open Dr/DNMT, Color Dsply,	<p>DO NOT MOVE TRUCK MESSAGES</p> <p>Messages will be displayed on the Command Zone™, color display located within sight of the driver whenever the Do Not Move Truck light is active. The messages will designate the item or items not in the stowed for vehicle travel position (parking brake disengaged).</p> <p>The following messages will be displayed (where applicable):</p> <p>Do Not Move Truck</p> <p>DS Cab Door Open (Driver Side Cab Door Open)</p> <p>PS Cab Door Open (Passenger's Side Cab Door Open)</p> <p>DS Crew Cab Door Open (Driver Side Crew Cab Door Open)</p> <p>PS Crew Cab Door Open (Passenger's Side Crew Cab Door Open)</p> <p>DS Body Door Open (Driver Side Body Door Open)</p> <p>PS Body Door Open (Passenger's Side Body Door Open)</p> <p>Rear Body Door Open</p> <p>DS Ladder Rack Down (Driver Side Ladder Rack Down)</p> <p>PS Ladder Rack Down (Passenger Side Ladder Rack Down)</p> <p>Deck Gun Not Stowed</p> <p>Lt Tower Not Stowed (Light Tower Not Stowed)</p> <p>Fold Tank Not Stowed (Fold-A-Tank Not Stowed)</p> <p>Aerial Not Stowed (Aerial Device Not Stowed)</p> <p>Stabilizer Not Stowed</p> <p>Steps Not Stowed</p> <p>Handrail Not Stowed</p> <p>Any other device that is opened, extended, or deployed that creates a hazard or is likely to cause major damage to the apparatus if the apparatus is moved will be displayed as a caution message after the parking brake is disengaged.</p>
0611681	Switching, Cab, Membrane, Impel/Velocity/Quantum, Dash CF, AXT WiFi MUX	<p>SWITCH PANELS</p> <p>The emergency light switch panel will have a master switch for ease of use plus individual switches for selective control. Each switch panel will contain eight (8) membrane-type switches each rated for one million (1,000,000) cycles. Panels containing less than eight (8) switch assignments will include non-functioning black appliques. Documentation will be provided by the manufacturer indicating the rated cycle life of the switches. The switch panel(s) will be located in the overhead position above the windshield on the driver side overhead to allow for easy access. Additional switch panel(s) will be located in the overhead position(s) above the windshield or in designated locations on the lower instrument panel layout.</p> <p>The switches will be membrane-type and also act as an integral indicator light. For quick, visual indication the entire surface of the switch will be illuminated white whenever back lighting is activated and illuminated green whenever the switch is active. An active illuminated switch will flash when interlock requirements are not met or device is actively being load managed. For ease of use, a two (2)-ply, scratch resistant laser engraved Gravoply label indicating the use of each switch will be placed in the center of the switch. The label will allow light to pass through the letters for ease of use in low light conditions.</p>
0555915	Wiper Control, 2-Speed with Intermittent, MUX, Impel/Velocity	<p>WIPER CONTROL</p> <p>For simple operation and easy reach, the windshield wiper control will be an integral part of the directional light lever located on the steering column. The wiper control will include high and low wiper speed settings, a one (1)-speed intermittent wiper control and windshield washer switch. The control will have a "return to park" provision, which allows the wipers to return to the stored position when the wipers are not in use.</p>
0555472	Wiring, Spare, 10 A 12V DC 3rd	<p>SPARE CIRCUIT</p> <p>There will be one (1) pair of wires, including a positive and a negative, installed on the apparatus. The above wires will have the following features:</p> <p>The positive wire will be connected directly to the emergency master switched power.</p> <p>The negative wire will be connected to ground.</p> <p>Wires will be protected to 10 amps at 12 volts DC.</p> <p>Power and ground will terminate RS overhead rear facing cabinet with 4' coiled.</p> <p>Termination will be with heat shrinkable butt splicing.</p> <p>Wires will be sized to 125% of the protection.</p> <p>This circuit(s) may be load managed when the parking brake is set.</p>
0585914	Wiring, Spare, 20 A 12V DC, 6 Circuit Fuse Block, Blue Sea 5025 1st	<p>SPARE CIRCUIT</p> <p>There will be three (3) pair of wires, including a positive and a negative, installed on the apparatus. The above wires will have the following features:</p> <p>The positive wire will be connected directly to the battery power.</p> <p>The negative wire will be connected to ground.</p> <p>Wires will be protected to 20 amps at 12 volts DC.</p> <p>Power and ground will terminate Officer dash loose, LS3 and RS3, mounted on the forward bulkhead wall 12" from the ceiling..</p> <p>Termination will be to a Blue Sea System, Model 5025, 6 circuit with negative bus bar. The terminal block will include a cover with circuit labels.</p> <p>Wires will be sized to 125% of the protection.</p> <p>This circuit(s) may be load managed when the parking brake is set.</p>

0547478	Wiring, Spare, 7.5A 12V DC 1st	SPARE CIRCUIT There will be one (1) pair of wires, including a positive and a negative, installed on the apparatus. The above wires will have the following features: The positive wire will be connected directly to the battery switched power. The negative wire will be connected to ground. Wires will be protected to 7.5 amps at 12 volts DC. Power and ground will terminate officer side rear facing overhead cabinet. Termination will be with heat shrinkable butt splicing. Wires will be sized to 125% of the protection. This circuit(s) may be load managed when the parking brake is set.
0547505	Wiring, Spare, 10 A 12V DC 1st	SPARE CIRCUIT There will be one (1) pair of wires, including a positive and a negative, installed on the apparatus. The above wires will have the following features: The positive wire will be connected directly to the battery switched power. The negative wire will be connected to ground. Wires will be protected to 10 amps at 12 volts DC. Power and ground will terminate passenger side rear facing overhead cabinet. Termination will be with heat shrinkable butt splicing. Wires will be sized to 125 percent of the protection. This circuit(s) may be load managed when the parking brake is applied.
0548001	Wiring, Spare, 10 A 12V DC 2nd	SPARE CIRCUIT There will be one (1) pair of wires, including a positive and a negative, installed on the apparatus. The above wires will have the following features: The positive wire will be connected directly to the battery power. The negative wire will be connected to ground. Wires will be protected to 10 amps at 12 volts DC. Power and ground will terminate officer side overhead. Termination will be with heat shrinkable butt splicing. Wires will be sized to 125% of the protection. This circuit(s) may be load managed when the parking brake is set.
0548004	Wiring, Spare, 15 A 12V DC 1st	SPARE CIRCUIT There will be six (6) pair of wires, including a positive and a negative, installed on the apparatus. The above wires will have the following features: The positive wire will be connected directly to the battery power The negative wire will be connected to ground Wires will be protected to 15 amps at 12 volts DC Power and ground will terminate (2) LS panel loc #8, (2) switch panel #9 and (1) installed on front vertical surface of each forward facing crew cab seat riser inboard, (match 35817 for all) Termination will be with 15 amp, power point plug with rubber cover Wires will be sized to 125 percent of the protection The circuit(s) may be load managed when the parking brake is set.
0636439	Wiring, Spare, 37.5 A 12V DC, Cust Install Radio, 30A Bat Dir, 7.5A Ign & Grnd	CUSTOMER SUPPLIED RADIO WIRING There will be two (2) 12 volt combination wiring leads of which each will include one (1) direct battery, one (1) ignition and one (1) negative for use with radio equipment. Each lead will be 18.00" long and be provided R/S rear facing overhead compartment for BK and Motorola transceivers. The leads will be clearly marked in a coil and terminate with butt splices. A breaker rated for 30 amps will be provided for circuit protection of the direct battery lead with a minimum of 10 gauge wire. A breaker rated for 7.5 amps will be provided for circuit protection of the ignition lead. The wires will be colored coded as follows: red for direct battery yellow for ignition black for ground
0657222	Wiring, Spare, 20 A 12V DC, 12 Circuit Fuse Block, Blue Sea 5026 1st	SPARE CIRCUIT There will be two (2) pair of wires, including a positive and a negative, installed on the apparatus. The above wires will have the following features: The positive wire will be connected directly to the battery power. The negative wire will be connected to ground. Wires will be protected to 20 amps at 12 volts DC. Power and ground will terminate mounted on exterior of LS & RS rear facing EMS compartments, over engine tunnel, forward (match 35817). Termination will be to a Blue Sea System, Model 5026, 12 circuit with negative bus bar, straight blade fuse block. The terminal block will include a cover with circuit labels. Wires will be sized to 125% of the protection. This circuit(s) may be load managed when the parking brake is set.
0646930	Lights, (2), Illuminate Cab Floor, Wln Red OS Series, LED, Under Dash, Sep Sw	UNDER DASHBOARD LIGHT There will be two (2) Whelen, Model OSR00MCR, red LED rectangular style lights provided in the cab mounted under the dashboard. One (1) will be located under the driver side and one (1) under the officer side dashboard. The lights will activate with a switch in the cab located per the switch panel layout.

0803875

Radio, AM/FM/WB, Jensen, Frt,Rear
Aux In/Frt,Rear USB/Bluetooth**STEREO RADIO**

A Jensen, heavy duty AM/FM / Bluetooth / Weatherband stereo radio, with front and rear auxiliary input will be installed per switch panel layout. There will be 5.25" speakers installed one (1) pair of 5.25" speakers in the cab and one (1) pair of 5.25" speakers in the crew cab. The antenna will be a roof-mounted rubber antenna located in an open space, on the cab roof.

The following features will be included:

- 180 watts max power output (45W x 4)
- Bluetooth® streaming audio and controls (A2DP/AVRCP) with hands-free calling (HFP)
- Electronic AM/FM tuner (US/Euro)
- iPod®/iPhone® ready via USB
- SiriusXM-Ready®
- Seven-channel NOAA weatherband with S.A.M.E. technology
- USB 2.0 for playback of MP3 & WMA audio files
- RBDS with PTY search
- Front and rear USB input
- Front and rear AUX input

0615386

Vehicle Information Center, 7" Color
Display, Touchscreen, MUX**INFORMATION CENTER**

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

The information center will have the following specifications:

Operate in temperatures from -40 to 185 degrees Fahrenheit

An Optical Gel will be placed between the LCD and protective lens

Five weather resistant user interface switches

Grey with black accents

Sunlight Readable

Linux operating system

Minimum of 1000nits rated display

Display can be changed to an available foreign language

A LCD display integral to the cab gauge panel will be included as outlined in the cab instrumentation area.

Programmed to read US Customary

General Screen Design

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

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

An amber background/text color will indicate a caution condition

A red background/text color will indicate a warning condition

The information center will utilize an "Alert Center" to display text messages for audible alarm tones. The text messages will be written to identify the item(s) causing the audible alarm to sound. If more than one (1) text message occurs, the messages will cycle every second until the problem(s) have been resolved. The background color for the "Alert Center" will change to indicate the severity of the "warning" message. If a warning and a caution condition occur simultaneously, the red background color will be shown for all alert center messages.

A label for each button will exist. The label will indicate the function for each active button for each screen. Buttons that are not utilized on specific screens will have a button label with no text or symbol.

Home/Transit Screen

This screen will display the following:

Vehicle Mitigation (if equipped)

Water Level (if the water level system includes compatible communications to the information center)

Foam Level (if the foam level system includes compatible communications to the information center)

Seat Belt Monitoring Screen

Tire Pressure Monitoring (if equipped)

Digital Speedometer

Active Alarms

On Scene Screen

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

Battery Voltage

Fuel

Oil Pressure

Coolant Temperature

RPM

Water Level (if equipped)

Foam Level (if equipped)

Foam Concentration (if equipped)

Water Flow Rate (if equipped)

Water Used (if equipped)

Active Alarms

Virtual Buttons

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

Page Screen

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

Diagnostics

Faults

Listed by order of occurrence

Allows to sort by system

Interlock

Throttle Interlocks

Pump Interlocks (if equipped)

Aerial Interlocks (if equipped)

PTO Interlocks (if equipped)

Load Manager

A list of items to be load managed will be provided. The list will provide a description of the load. The lower the priority numbers the earlier the device will be shed should a low voltage condition occur.

The screen will indicate if a load has been shed (disabled) or not shed.

"At a glance" color features are utilized on this screen.

Systems

Command Zone

Module type and ID number

Module Version

Input or output number

Circuit number connected to that input or output

Status of the input or output

Power and Constant Current module diagnostic information

Foam (if equipped)

Pressure Controller (if equipped)

Generator Frequency (if equipped)

Live Data

General Truck Data

Maintenance

Engine oil and filter

Transmission oil and filter

Pump oil (if equipped)

Foam (if equipped)

Aerial (if equipped)

Setup

Clock Setup

Date & Time

12 or 24 hour format

Set time and date

Backlight

Daytime

Night time

Sensitivity

Unit Selection

Home Screen

Virtual Button Setup

On Scene Screen Setup

Configure Video Mode

Set Video Contrast

Set Video Color

Set Video Tint

Do Not Move

The screen will indicate the approximate location and type of item that is open or is not stowed for travel. The actual status of the following devices will be indicated

Driver Side Cab Door

Passenger's Side Cab Door

Driver Side Crew Cab Door

Passenger's Side Crew Cab Door

Driver Side Body Doors

Passenger's Side Body Doors

Rear Body Door(s)

Ladder Rack (if applicable)

Deck Gun (if applicable)

Light Tower (if applicable)

Hatch Door (if applicable)

Stabilizers (if applicable)

Steps (if applicable)

Notifications

View Active Alarms

Shows a list of all active alarms including date and time of the occurrence is shown with each alarm

Silence Alarms - All alarms are silenced

Timer Screen

HVAC (if equipped)

Tire Information (if equipped)

Ascendant Set Up Confirmation (if equipped)

Button functions and button labels may change with each screen.

0734857	Collision Mitigation, HAAS Alert (R2V), HA5	<p>COLLISION MITIGATION</p> <p>There will be a HAAS Alert®, Model HA5 Responder-to-Vehicle (R2V) collision avoidance system provided on the apparatus. The HA5 cellular transponder module will be installed behind the cab windshield, as high and near to the center as practical, to allow clear visibility to the sky. The module dimensions are 5.40" long x 2.70" wide x 1.30" high, and operating temperature range is -40 degree C to 85 degree C.</p> <p>The transponder will be connected to the vehicle's emergency master circuit and battery direct power and ground.</p> <p>While responding with emergency lights on, the HA5 transponder sends alert messages via cellular network to motorists in the vicinity of the responding truck that are equipped with the WAZE app.</p> <p>While on scene with emergency lights on, the HA5 transponder sends road hazard alerts to motorists in the vicinity of the truck that are equipped with the WAZE app.</p> <p>The HA5 Responder-to-Vehicle (R2V) collision avoidance system will include the transponder and a 5 year cellular plan subscription.</p> <p>Activation of the HAAS Alert system requires a representative of the customer to accept the End User License Agreement (EULA) via an on-line portal.</p>
0606247	Vehicle Data Recorder w/CZ Display Seat Belt Monitor	<p>VEHICLE DATA RECORDER</p> <p>There will be a vehicle data recorder (VDR) capable of reading and storing vehicle information provided.</p> <p>The information stored on the VDR can be downloaded through a USB port mounted in a convenient location determined by cab model. A USB cable can be used to connect the VDR to a laptop to retrieve required information. The program to download the information from the VDR will be available to download on-line.</p> <p>The vehicle data recorder will be capable of recording the following data via hardwired and/or CAN inputs:</p> <ul style="list-style-type: none"> Vehicle Speed - MPH Acceleration - MPH/sec Deceleration - MPH/sec Engine Speed - RPM Engine Throttle Position - % of Full Throttle ABS Event - On/Off Seat Occupied Status - Yes/No by Position Seat Belt Buckled Status - Yes/No by Position Master Optical Warning Device Switch - On/Off Time - 24 Hour Time Date - Year/Month/Day <p>Seat Belt Monitoring System</p> <p>A seat belt monitoring system (SBMS) will be provided on the Command Zone™ color display. The SBMS will be capable of monitoring up to 10 seating positions indicating the status of each seat position per the following:</p> <ul style="list-style-type: none"> Seat Occupied & Buckled = Green LED indicator illuminated Seat Occupied & Unbuckled = Red LED indicator with audible alarm No Occupant & Buckled = Red LED indicator with audible alarm No Occupant & Unbuckled = No indicator and no alarm <p>The seat belt monitoring screen will become active on the Command Zone color display when:</p> <ul style="list-style-type: none"> The home screen is active: and there is any occupant seated but not buckled or any belt buckled with an occupant. and there are no other Do Not Move Apparatus conditions present. As soon as all Do Not Move Apparatus conditions are cleared, the SBMS will be activated. <p>The SBMS will include an audible alarm that will warn that an unbuckled occupant condition exists and the parking brake is released, or the transmission is not in park.</p>
0606226	Signal, Recordable, VDR, Silence Alarm, AXT MUX, DCF, SFR/Enf, Imp/Vel, Qtm	<p>Vehicle Data Recordable Input</p> <p>When the VDR is active, the seat belt monitoring system alarm will be silenced through the standard silence alarm switch. The alarm will chirp in intervals to remind the operator that an alarm is still sounding.</p>
0788631	SP Install Customer Provided GPS/Multimode Antenna(s), Location	<p>GPS / MULTIMODE ANTENNA INSTALLATION</p> <p>There will be four (4) customer supplied GPS / Multimode antenna(s) with stud mount for thick roof material to be installed on the roof RS crew cab roof in row behind CZ antenna as follows: (1) Teardrop shaped future, (1) Cradlepoint to RS RF Overhead EMS, (1) Motorola to RS RF Overhead EMS, (1) GETAC to forward of officer seat (CUSTOMER TO PROVIDE AN ANTENNA ROOF PLACEMENT AND WIRING DI. The antenna coax cable(s) will be run per the packing list / instructions provided to the third party installer.</p> <p>Specific shipping requirements will be followed. The GPS / Multimode antenna will be sent to the apparatus manufacturers preferred installer prior to cab fabrication.</p>
0660489	Antenna Mount, Custom Chassis, Fill in Blank Mounting and Cable Locations	<p>RADIO ANTENNA MOUNT</p> <p>There will be three (3) standard 1.125", 18 thread, NMO type antenna mounting base(s) installed matching 35817 on the cab roof with high efficiency, low loss, coaxial cable(s) routed within the cab / crew area to the RS rear facing overhead cabinet . A weatherproof cap will be installed on the mount.</p>

0653519	Camera, Pierce, LS Mux, RS, LS, R, Cameras	VEHICLE CAMERA SYSTEM There will be a color vehicle camera system provided with the following: One (1) camera located at the rear of the apparatus, pointing rearward, displayed automatically with the vehicle in reverse. One (1) camera located on the right side of the apparatus, pointing rearward, displayed automatically with the right side turn signal. One (1) camera located on the left side of the apparatus, pointing rearward, displayed automatically with the left side turn signal. The camera images will be displayed on the left side vehicle information center display. Audio from the microphone on the rear camera will be emitted by an amplified speaker with volume control located behind the driver seat. The following components will be included: One (1) SV-CW134639CAI Rear Camera Two (2) CS134404CI Side Cameras All necessary cables
0653350	Guards, Vehicle Camera(s), Painted Smooth Aluminum	VEHICLE CAMERA GUARDS There will be two (2) smooth, tapered aluminum guard(s) fastened over the cab / body camera(s) located at the corner of the front nose piece, match 33329 exactly. The guards will be painted to match the surface they are attached to.
0896458	Pierce Command Zone, Advanced Electronics & Control System, Vel WiFi CZT	ELECTRICAL POWER CONTROL SYSTEM The primary power distribution will be located forward of the officer's seating position and be easily accessible while standing on the ground for simplified maintenance and troubleshooting. Additional electrical distribution centers will be provided throughout the vehicle to house the vehicle's electrical power, circuit protection, and control components. The electrical distribution centers will be located strategically throughout the vehicle to minimize wire length. For ease of maintenance, all electrical distribution centers will be easily accessible. All distribution centers containing fuses, circuit breakers and/or relays will be easily accessible. Distribution centers located throughout the vehicle will contain battery powered studs for supplying customer installed equipment thus providing a lower cost of ownership. Circuit protection devices, which conform to SAE standards, will be utilized to protect electrical circuits. All circuit protection devices will be rated per NFPA requirements to prevent wire and component damage when subjected to extreme current overload. General protection circuit breakers will be Type-I automatic reset (continuously resetting). When required, automotive type fuses will be utilized to protect electronic equipment. Control relays and solenoid will have a direct current rating of 125 percent of the maximum current for which the circuit is protected per NFPA. Solid-State Control System A solid-state electronics based control system will be utilized to achieve advanced operation and control of the vehicle components. A fully computerized vehicle network will consist of electronic modules, electronic control modules to include a see through housing, a power indicator, a status indicator and circuit indicators located near their point of use to reduce harness lengths and improve reliability. The control system will comply with SAE J1939-11 recommended practices. The control system will operate as a master-slave system whereas the main control module instructs all other system components. The system will contain patented Mission Critical software that maintains critical vehicle operations in the unlikely event of a main controller error. The system will utilize a Real Time Operating System (RTOS) fully compliant with OSEK/VDX™ specifications providing a lower cost of ownership. For increased reliability and simplified use the control system modules will include the following attributes: Green LED indicator light for module power Red LED indicator light for network communication stability status Control system self test at activation and continually throughout vehicle operation No moving parts due to transistor logic Software logic control for NFPA mandated safety interlocks and indicators Integrated electrical system load management without additional components Integrated electrical load sequencing system without additional components Customized control software to the vehicle's configuration Factory and field programmable to accommodate changes to the vehicle's operating parameters To assure long life and operation in a broad range of environmental conditions, the solid-state control system modules will meet the following specifications: Module circuit board will meet SAE J771 specifications Operating temperature from -40C to +70C Storage temperature from -40C to +70C Vibration to 50g IP67 rated enclosure (Totally protected against dust and also protected against the effect of temporary immersion between 15 centimeters and one (1) meter) Operating voltage from eight (8) volts to 32 volts DC The main controller will activate status indicators and audible alarms designed to provide warning of problems before they become critical. Circuit Protection and Control Diagram Copies of all job-specific, computer network input and output (I/O) connections will be provided with each chassis. The sheets will indicate the function of each module connection point, circuit protection information (where applicable), wire numbers, wire colors and load management information. On-Board Electrical System Diagnostics The on-board information center will include the following diagnostic information: Text description of active warning or caution alarms Simplified warning indicators Amber caution indication with intermittent alarm Red warning indication with steady tone alarm Advanced diagnostic feature will be provided in this control system. From the Command Zone display or connected wireless device, these features allow the user to monitor the real-time status of every input or output on the vehicle. It also allows users logged in as an administrator to force

on inputs or outputs to assist the troubleshooting process.

TCU Module with WiFi

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

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

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

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

Indicator Light and Alarm Prove-Out System

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

Voltage Monitor System

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

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

Dedicated Radio Equipment Connection Points

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

12-volt 40-amp battery switched power

12-volt 60-amp ignition switched power

12-volt 60-amp direct battery power

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

EMI/RFI Protection

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

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

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

0896456

Prognostics, Electrical System

ELECTRICAL SYSTEM PROGNOSTICS

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

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

Prognostics will include the following:

Engine oil and filter

Transmission oil and filter

0730603	Electrical System, Velocity ESP, Cummins, Paccar	<p>ELECTRICAL</p> <p>All 12-volt electrical equipment installed by the apparatus manufacturer will conform to modern automotive practices. All wiring will be high temperature crosslink type. Wiring will be run, in loom or conduit, where exposed and have grommets where wire passes through sheet metal. Automatic reset circuit breakers will be provided which conform to SAE Standards. Wiring will be color, function and number coded. Function and number codes will be continuously imprinted on all wiring harness conductors at 2.00" intervals. Exterior exposed wire connectors will be positive locking, and environmentally sealed to withstand elements such as temperature extremes, moisture and automotive fluids.</p> <p>Electrical wiring and equipment will be installed utilizing the following guidelines:</p> <p>All holes made in the roof will be caulked with silicon. Large fender washers, liberally caulked, will be used when fastening equipment to the underside of the cab roof.</p> <p>Any electrical component that is installed in an exposed area will be mounted in a manner that will not allow moisture to accumulate in it. Exposed area will be defined as any location outside of the cab or body.</p> <p>Electrical components designed to be removed for maintenance will not be fastened with nuts and bolts. Metal screws will be used in mounting these devices. Also a coil of wire will be provided behind the appliance to allow them to be pulled away from mounting area for inspection and service work.</p> <p>Corrosion preventative compound will be applied to all terminal plugs located outside of the cab or body. All non-waterproof connections will require this compound in the plug to prevent corrosion and for easy separation (of the plug).</p> <p>All lights that have their sockets in a weather exposed area will have corrosion preventative compound added to the socket terminal area.</p> <p>All electrical terminals in exposed areas will have silicon applied completely over the metal portion of the terminal.</p> <p>All lights and reflectors, required to comply with Federal Motor Vehicle Safety Standard #108, will be furnished. Rear identification lights will be recessed mounted for protection. Lights and wiring mounted in the rear bulkheads will be protected from damage by installing a false bulkhead inside the rear compartments.</p> <p>An operational test will be conducted to ensure that any equipment that is permanently attached to the electrical system is properly connected and in working order.</p> <p>The results of the tests will be recorded and provided to the purchaser at time of delivery.</p>
0079166	Batteries, (4) Exide Grp 31, 950 CCA ea, Threaded Stud	<p>BATTERY SYSTEM</p> <p>There will be four (4) 12 volt Exide®, Model 31S950X5W, batteries that include the following features will be provided:</p> <ul style="list-style-type: none"> 950 CCA, cold cranking amps 190 amp reserve capacity High cycle Group 31 Rating of 3800 CCA at 0 degrees Fahrenheit 760 minutes of reserve capacity Threaded stainless steel studs <p>Each battery case will be a black polypropylene material with a vertically ribbed container for increased vibration resistance. The cover will be manifold vented with a central venting location to allow a 45 degree tilt capacity.</p> <p>The inside of each battery will consist of a "maintenance free" grid construction with poly wrapped separators and a flooded epoxy bottom anchoring for maximum vibration resistance.</p>
0008621	Battery System, Single Start, All Custom Chassis	<p>BATTERY SYSTEM</p> <p>There will be a single starting system with an ignition switch and starter button provided and located on the cab instrument panel.</p> <p>MASTER BATTERY SWITCH</p> <p>There will be a master battery switch provided within the cab within easy reach of the driver to activate the battery system.</p> <p>An indicator light will be provided on the instrument panel to notify the driver of the status of the battery system.</p>
0123174	Battery Compartment, Imp/Vel	<p>BATTERY COMPARTMENTS</p> <p>The batteries will be stored in well-ventilated compartments that are located under the cab and bolted directly to the chassis frame. The battery compartments will be constructed of 3/16" steel plate and be designed to accommodate a maximum of three (3) group 31 batteries in each compartment. The compartments will include formed fit heavy-duty roto-molded polyethylene battery tray inserts with drains on each side of the frame rails. The batteries will be mounted inside of the roto-molded trays.</p> <p>JUMPER STUDS</p> <p>One (1) set of battery jumper studs with plastic color-coded covers will be installed on the battery box on the driver's side. This will allow enough room for easy jumper cable access.</p>
0812383	Charger, Sngl Sys, Kussmaul, Chief 091-266-12-40	<p>BATTERY CHARGER</p> <p>There will be a Kussmaul™, Chief Series Smart Charger 4012, product code 091-266-12-40, 40 amp battery charger with build-in touch screen display provided.</p> <p>The battery charger will be wired to the AC shoreline inlet through a junction box located near the battery charger.</p>
0779452	Location, Charger, Cab EMS Compt, Back Wall	<p>The battery charger will be located on the back wall of the EMS compartment, located left side rear facing compartment on wall behind driver seat..</p>

0811943	Panel, Remote Control, Kussmaul, Chief 091-266-RCP	REMOTE CONTROL PANEL - BATTERY CHARGER There will be a Kussmaul™, Chief Series Smart Charger remote control panel, product code 091-266-RCP included.
0531403	Location, Bat Chrg Ind, Driver's Seat with Bracket	The battery charger indicator will be located near the driver's seat riser with special bracketry.
0016857	Shoreline, 20A 120V, Kussmaul Auto Eject, 091-55-20-120, Super	AUTO EJECT FOR SHORELINE There will be one (1) Kussmaul™, Model 091-55-20-120, 20 amp 120 volt AC shoreline inlet(s) provided to operate the dedicated 120 volt AC circuits on the apparatus. The shoreline inlet(s) will include red weatherproof flip up cover(s). There will be a release solenoid wired to the vehicle's starter to eject the AC connector when the engine is starting. The shoreline(s) will be connected to the battery charger. There will be a mating connector body supplied with the loose equipment. There will be a label installed near the inlet(s) that state the following: Line Voltage Current Rating (amps) Phase Frequency
0026800	Shoreline Location	The shoreline receptacle will be located on the driver side exterior of cab, behind crew cab door.
0121711	Alternator, 320 amp, Leece-Neville 4962PA, Sgl Sys	ALTERNATOR A Leece-Neville, Model 4962PA, alternator will be provided. It will have a rated output current of 320 amps, as measured by SAE method J56. The alternator will feature an integral, self diagnostic regulator and rectifier. The alternator will be connected to the power and ground distribution system with heavy-duty cables sized to carry the full rated alternator output.
0092582	Load Manager/Sequencer, MUX	ELECTRONIC LOAD MANAGER An electronic load management (ELM) system will be provided that monitors the vehicles 12-volt electrical system, automatically reducing the electrical load in the event of a low voltage condition, and automatically restoring the shed electrical loads when a low voltage condition expires. This ensures the integrity of the electrical system. For improved reliability and ease of use, the load manager system will be an integral part of the vehicle's solid state control system requiring no additional components to perform load management tasks. Load management systems which require additional components will not be allowed. The system will include the following features: System voltage monitoring. A shed load will remain inactive for a minimum of five minutes to prevent the load from cycling on and off. Sixteen available electronic load shedding levels. Priority levels can be set for individual outputs. High Idle to activate before any electric loads are shed and deactivate with the service brake. If enabled: "Load Man Hi-Idle On" will display on the information center. Hi-Idle will not activate until 30 seconds after engine start up. Individual switch "on" indicator to flash when the particular load has been shed. The information center indicates system voltage. The information center, where applicable, includes a "Load Manager" screen indicating the following: Load managed items list, with priority levels and item condition. Individual load managed item condition: ON = not shed SHED = shed SEQUENCER A sequencer will be provided that automatically activates and deactivates vehicle loads in a preset sequence thereby protecting the alternator from power surges. This sequencer operation will allow a gradual increase or decrease in alternator output, rather than loading or dumping the entire 12 volt load to prolong the life of the alternator. For improved reliability and ease of use, the load sequencing system will be an integral part of the vehicle's solid state control system requiring no additional components to perform load sequencing tasks. Load sequencing systems which require additional components will not be allowed. Emergency light sequencing will operate in conjunction with the emergency master light switch. When the emergency master switch is activated, the emergency lights will be activated one by one at half-second intervals. Sequenced emergency light switch indicators will flash while waiting for activation. When the emergency master switch is deactivated, the sequencer will deactivate the warning light loads in the reverse order. Sequencing of the following items will also occur, in conjunction with the ignition switch, at half-second intervals: Cab Heater and Air Conditioning Crew Cab Heater (if applicable) Crew Cab Air Conditioning (if applicable) Exhaust Fans (if applicable) Third Evaporator (if applicable)

0783153	Headlights, Rect LED, JW Spkr Evo 2, AXT/DCF/Enf/Imp/Sab/Vel	HEADLIGHTS There will be four (4) JW Speaker®, Model 8800, 4" x 6" rectangular LED lights mounted in the front quad style, chrome housing on each side of the cab grille: the outside light on each side will contain a part number 055***1 low beam module the inside light on each side will contain a part number 055***1 high beam module the headlights to include chrome bezels The low beam lights will be activated when the headlight switch is on. The high beam and low beam lights will be activated when the headlight switch and the high beam switch is activated.
0648425	Light, Directional, WIn 600 Cmb, Cab Crn, Imp/Vel/AXT/Qtm/DCF	DIRECTIONAL LIGHTS There will be two (2) Whelen 600® series, LED combination directional/marker lights provided. The lights will be located on the outside cab corners, next to the headlights. The color of the lenses will be the same color as the LED's.
0620054	Light, Directional/Marker, Intermediate, Weldon 9186-8580-29 LED 2lts	INTERMEDIATE LIGHT There will be two (2) Weldon, Model 9186-8580-29, amber LED turn signal marker lights furnished, one (1) each side, in the rear fender panel. The light will double as a turn signal and marker light.
0648074	Lights, Clearance/Marker/ID, Front, P25 LED 7 Lts	CAB CLEARANCE/MARKER/ID LIGHTS There will be seven (7) amber LED lights provided to indicate the presence and overall width of the vehicle in the following locations: Three (3) amber LED identification lights will be installed in the center of the cab above the windshield. Two (2) amber LED clearance lights will be installed, one (1) on each outboard side of the cab above the windshield. Two (2) amber LED marker lights will be installed, one (1) on each side above the cab doors.
0563675	Lights, Clearance/Marker/ID, Rear, Truck-Lite 33050R LED 7Lts	REAR CLEARANCE/MARKER/ID LIGHTING There will be three (3) Truck-Lite®, Model 33050R, LED lights used as identification lights recessed and located at the rear of the apparatus per the following: As close as practical to the vertical centerline Centers spaced not less than 6.00" or more than 12.00" apart Red in color All at the same height There will be two (2) Truck-Lite, Model 33050R, LED lights recessed at the rear of the apparatus used as clearance lights located at the rear of the apparatus per the following: To indicate the overall width of the vehicle One (1) each side of the vertical centerline As near the top as practical Red in color To be visible from the rear All at the same height There will be two (2) Truck-Lite, Model 33050R, LED lights recessed on the side of the apparatus as marker lights as close to the rear as practical per the following: To indicate the overall length of the vehicle One (1) each side of the vertical centerline As near the top as practical Red in color To be visible from the side All at the same height There will be two (2) red reflectors located on the rear of the truck facing to the rear. One (1) each side, as far to the outside as practical, at a minimum of 15.00", but no more than 60.00", above the ground. There will be two (2) red reflectors located on the side of the truck facing to the side. One (1) each side, as far to the rear as practical, at a minimum of 15.00", but no more than 60.00", above the ground. Per FMVSS 108 and CMVSS 108 requirements.
0804514	Lights, Tail, WIn M62BTT* Red Stop/Tail & M62T* Amber Dir Arw For Hsg	REAR FMVSS LIGHTING The rear stop/tail and directional lighting included in the rear tail light housing will include the following: Two (2) Whelen®, Model M62BTT, 4.30" high x 6.70" wide x 1.40" deep brake/tail lights with red LEDs Two (2) Whelen, Model M62T, 4.30" high x 6.70" wide x 1.40" deep directional lights with amber LEDs. The directional lights will be set to Steady On (Arrow) flash pattern. The lens color(s) to be clear.
0806466	Lights, Backup, WIn M62BU, LED, For Tail Lt Housing	There will be two (2) Whelen Model M62BU, LED backup lights provided in the tail light housing.

0889577	Bracket, License Plate & Light, P25 LED, Stainless Brkt	LICENSE PLATE BRACKET One (1) license plate bracket constructed of stainless steel will be provided at the rear of the apparatus. One (1) white LED light with chrome housing will be provided to illuminate the license plate. A stainless steel light shield will be provided over the light that will direct illumination downward, preventing white light to the rear.
0556842	Bezels, Wln, (2) M6 Chrome Pierce, For mtg (4) Wln M6 lights	LIGHTING BEZEL There will be two (2) Whelen, Model M6FCV4P, four (4) place chromed ABS housings with Pierce logos provided for the rear M6 series stop/tail, directional, back up, scene lights or warning lights.
0589905	Alarm, Back-up Warning, PRECO 1040	BACK-UP ALARM A PRECO, Model 1040, solid-state electronic audible back-up alarm that actuates when the truck is shifted into reverse will be provided. The device will sound at 60 pulses per minute and automatically adjust its volume to maintain a minimum ten (10) dBA above surrounding environmental noise levels.
0626588	Lights, Perimeter Cab, TecNiq T10-LC00-1 15" LED 4Dr	CAB PERIMETER SCENE LIGHTS There will be four (4) TecNiq, Model T10-LC00-1, 15.00" lights with white LEDs and 45 degree stainless steel brackets provided per the following: one (1) under the driver's side cab access step one (1) under the passenger's side cab access step one (1) under the passenger's side crew cab access step one (1) under the driver's side crew cab access step The lights will be activated when the battery switch is on, when the respective door is open and by the same control selected for the body perimeter lights.
0617901	Lights, Perimeter Pump House, TecNiq T10-LC00-1 15" LED 2lts	PUMP HOUSE PERIMETER LIGHTS There will be two (2) TecNiq, Model T10-LC00-1, 15.00" white 12 volt DC LED weatherproof strip lights provided under the pump panel running boards, one (1) each side. The lights will be controlled by the same means as the body perimeter lights.
0626579	Lights, Perimeter Body, TecNiq T10-LC00-1 15" LED 2lts, Rear Step	BODY PERIMETER SCENE LIGHTS There will be two (2) TecNiq, Model T10-LC00-1, 15.00" 12 volt DC LED strip lights provided at the rear step area of the body, one (1) each side shining to the rear. The perimeter scene lights will be activated when a switch within reach of the driver is activated and the parking brake is applied.
0896454	Enhanced Software for Perimeter Lts	ENHANCED SOFTWARE FOR PERIMETER LIGHTS All perimeter lights will be deactivated when the parking brake is released unless alternate control is selected. The cab and crew cab perimeter lights will remain on for ten (10) seconds for improved visibility after the doors closed.
0556360	Lights, Step, P25 LED 4lts, Pump Pnl Sw	STEP LIGHTS Four (4) white LED step lights will be provided. One (1) step light will be provided on each side, on the front compartment face and two (2) step lights at the rear to illuminate the tailboard. In order to ensure exceptional illumination, each light will provide a minimum of 25 foot-candles (fc) covering an entire 15.00" x 15.00" square placed 10.00" below the light and a minimum of 1.5 fc covering an entire 30.00" x 30.00" square at the same 10.00" distance below the light. These step lights will be actuated with the pump panel light switch. All other steps on the apparatus will be illuminated per the current edition of NFPA 1901.
0783158	Light, Visor, HiViz, FT-B-72-*-, Cnt Feature	12 VOLT LIGHTING There will be a HiViz Model FT-B-72-*-, 2.56" high x 72.69" long x 3.31" deep 21,067 effective lumens 12 volt DC light with white LEDs configured with a combination of flood and spot optics provided on brackets in front of the cab roof. The painted parts of the light housing and brackets to be black. The light will be activated by a switch at the driver's side switch panel and by a switch at the passenger's side switch panel. The light may be load managed when the parking brake is applied.
0774308	Lights, Wln, P*H2* Pioneer, 12 VDC, 2nd	12 VOLT DC SCENE LIGHTS There will be one (1) Whelen® Model P*H2*, 17,750 lumens 12 volt DC powered lights with white LEDs and a combination of flood and spot optics installed on the apparatus located, passenger side cab above the EMS compartment. The light(s) to be installed in a 15 degree vertical recessed bracket. The painted parts of this light assembly to be black. The lights will be activated by a switch at the driver's side switch panel and by a switch at the passenger's side switch panel. The light(s) may be load managed when the parking brake is applied.

0774309	Lights, WIn, P*H2* Pioneer, 12 VDC, 1st	12 VOLT DC SCENE LIGHTS There will be one (1) Whelen® Model P*H2*, 17,750 lumens 12 volt DC powered lights with white LEDs and a combination of flood and spot optics installed on the apparatus located, driver side cab above EMS compartment. The light(s) to be installed in a 15 degree vertical recessed bracket. The painted parts of this light assembly to be black. The lights will be activated by a switch at the driver's side switch panel and by a switch at the passenger's side switch panel. The light(s) may be load managed when the parking brake is applied.
0774333	Lights, WIn, P*H2* Pioneer, 12 VDC, 2nd	12 VOLT LIGHTING There will be one (1) Whelen® Model P*H2*, 17,750 lumens 12 volt DC LED light(s) with a combination of flood and spot optics installed on the apparatus, located P/S hatch compartment per the AD. The painted parts of this light assembly to be black. The light(s) to be installed in a 15 degree vertical recessed bracket. The lights will be controlled by a switch at the driver's side switch panel, by a switch at the passenger's side switch panel and by a switch at the right side pump panel. The light(s) may be load managed when the parking brake is applied.
0774579	Lights, WIn, P*H2* Pioneer, 12 VDC, 1st	12 VOLT LIGHTING There will be one (1) Whelen® Model P*H2*, 17,750 lumens 12 volt DC LED light(s) with a combination of flood and spot optics installed on the apparatus, located D/S hatch compartment per the AD. The painted parts of this light assembly to be black. The light(s) to be installed in a 15 degree vertical recessed bracket. The lights will be controlled by a switch at the driver's side switch panel, by a switch at the left side pump panel and by a switch at the passenger's side switch panel. The light(s) may be load managed when the parking brake is applied.
0766252	Lights, WIn, MP** Pioneer, 12 VDC, 1st	12 VOLT LIGHTING There will be two (2) Whelen® Model MP** 12 volt DC light(s) with white LEDs installed on the apparatus body located, upper rear bulkhead, one per side. The painted parts of this light assembly to be black. The light(s) to be installed in a 15 degree vertical recessed bracket. The lights will be controlled by a switch at the driver's side switch panel, by a switch at the passenger's side switch panel and by a switch in a recessed cup located at the driver's side rear bulkhead. The light(s) may be load managed when the parking brake is applied.
0532358	Not Required, Deck Lights, Other Hose Bed & Rear Lighting	
0768474	Lights, Hose Bed, Below Alum Cvr, Amdor AY-LB-12HW040, 40" LED 4lts	LIGHTS BELOW HOSE BED COVER There will be four (4) Amdor Model AY-LB-12HW040, 700 lumens, 40.00" white LED lights provided to illuminate the hose bed area. Two (2) LED light strips will be installed on the driver's side hose bed cover 30.00" from the front and rear of the hose bed, as close to the hinge as practical. Two (2) LED light strips will be installed on the passenger's side hose bed cover 30.00" from the front and rear of the hose bed, as close to the hinge as practical. The lights will be activated when the battery switch is on, and when the hosebed cover is raised.
0645677	Lights, Not Required, Rear Work, Alt. 12 Volt Lights At Rear Body	
0892704	Lights, Walk Surf, 8-P25 LED, Hose Bed Cover, Overall Height Restrictions	WALKING SURFACE LIGHT There will be eight (8) P25 12 volt DC LED lights with chrome housing provided on the hose bed cover to illuminate the walking surface. The lights will be located near the hose bed cover hinges evenly spaced four (4) on each side. The lights will be activated when the body step lights are on.
0060115	Pumper, Medium, Aluminum, 2nd Gen	
0554271	Body Skirt Height, 20"	

0028244	Tank, Water, 500 Gallon, Poly, Med	<p>WATER TANK</p> <p>Booster tank will have a capacity of 500 gallons and be constructed of polypropylene plastic by United Plastic Fabricating, Incorporated.</p> <p>Tank joints and seams will be nitrogen welded inside and out.</p> <p>Tank will be baffled in accordance with NFPA Bulletin 1901 requirements.</p> <p>Baffles will have vent openings at both the top and bottom to permit movement of air and water between compartments.</p> <p>Longitudinal partitions will be constructed of .38" polypropylene plastic and will extend from the bottom of the tank through the top cover to allow for positive welding.</p> <p>Transverse partitions will extend from 4.00" off the bottom of the tank to the underside of the top cover.</p> <p>All partitions will interlock and will be welded to the tank bottom and sides.</p> <p>Tank top will be constructed of .50" polypropylene. It will be recessed .38" and will be welded to the tank sides and the longitudinal partitions.</p> <p>Tank top will be sufficiently supported to keep it rigid during fast filling conditions.</p> <p>Construction will include 2.00" polypropylene dowels spaced no more than 30.00" apart and welded to the transverse partitions. Two (2) of the dowels will be drilled and tapped (.50" diameter, 13.00" deep) to accommodate lifting eyes.</p> <p>A sump that will be sized dependent on the tank to pump plumbing will be provided at the bottom of the water tank.</p> <p>Sump will include a drain plug and the tank outlet.</p> <p>Tank will be installed in a fabricated cradle assembly constructed of structural steel.</p> <p>Sufficient crossmembers will be provided to properly support bottom of tank. Crossmembers will be constructed of steel bar channel or rectangular tubing.</p> <p>Tank will "float" in cradle to avoid torsional stress caused by chassis frame flexing. Rubber cushions, .50" thick x 3.00" wide, will be placed on all horizontal surfaces that the tank rests on.</p> <p>Stops or other provision will be provided to prevent an empty tank from bouncing excessively while moving vehicle.</p> <p>Mounting system will be approved by the tank manufacturer.</p>
0003405	Overflow, 4.00" Water Tank, Poly	<p>Fill tower will be constructed of .50" polypropylene and will be a minimum of 8.00" wide x 14.00" long.</p> <p>Fill tower will be furnished with a .25" thick polypropylene screen and a hinged cover.</p> <p>An overflow pipe, constructed of 4.00" schedule 40 polypropylene, will be installed approximately halfway down the fill tower and extend through the water tank and exit to the rear of the rear axle.</p>
0028104	Foam Cell Required	
0633066	Sleeve, Through Tank	<p>SLEEVE, PLUMBING, THROUGH TANK</p> <p>One (1) sleeve will be provided in the water tank for a 3.00" pipe to the rear.</p>
0553729	Not Required, Restraint, Water Tank, Heavy Duty	
0003429	Not Required, Direct Tank Fill	
0003424	Not Required, Dump Valve	
0048710	Not Required, Jet Assist	
0030007	Not Required, Dump Valve Chute	
0514778	Not Required, Switch, Tank Dump Master	
0126633	Hose Bed, Aluminum, Pumper	<p>HOSE BED</p> <p>The hose bed will be fabricated of .125"-5052 aluminum with a nominal 38,000 psi tensile strength.</p> <p>Upper and rear edges of side panels will have a double break for rigidity.</p> <p>The upper inside area of the beavertails will be covered with brushed stainless steel to prevent damage to painted surface when hose is removed.</p> <p>Flooring of the hose bed will be removable aluminum grating with the top surface corrugated to aid in hose aeration. The grating slats will be a minimum of 0.50" x 4.50" with spacing between slats for hose ventilation.</p>
0723549	Painted Hose Bed	The hose bed interior walls will be painted to match the lower body color.
0003481	Hose Bed Capacity, Special	Hose bed will accommodate From left to right- #1-200' of 2.50" DJ Hose, #2- 200' of 2.50" DJ Hose, #3- 600' of 5.00" LDH, #4- 600' of 3.00 DJ Hose, #5- keep empty for storage.

0003488	Divider, Hose Bed, Unpainted	<p>HOSE BED DIVIDER</p> <p>Three (3) hosebed dividers will be furnished for separating hose. Each divider will be constructed of a .125" brushed aluminum sheet fitted and fastened into a slotted, 1.50" diameter radiused extrusion along the top, bottom, and rear edge. Divider will be fully adjustable by sliding in tracks, located at the front and rear of the hose bed. Divider will be held in place by tightening bolts, at each end. Acorn nuts will be installed on all bolts in the hose bed which have exposed threads.</p>
0010133	Cross-Divider, Hose Bed	A cross-divider will be provided just behind the fill tower. The divider will be bolted to the side sheet.
0581892	Divider, Hose Bed, .25" Sheet, Unpainted, Permanent	<p>There will be one (1) additional hose bed dividers furnished. Each divider will be constructed of a .25" brushed aluminum sheet. Partition will be permanently installed and located just above the inner edge of the ladder storage box, between bays #4 and #5. Acorn nuts will be installed on all bolts in the hose bed which have exposed threads. Flat surfaces will be sanded for uniform appearance or constructed of brushed aluminum.</p>
0729492	Cover, Hose Bed, Alum Treadplate, Bolted T-Bar, Electric Actuated	<p>HOSE BED COVER ELECTRIC ACTUATOR</p> <p>A two (2) section hose bed cover, constructed of .125" bright aluminum treadplate will be furnished. The cover will be hinged with full length stainless steel piano hinge. The sides will be slanted down with the center of the cover supported by a modular stationary bridgework support. The covers will not over lap. The cover will be reinforced so that it can support the weight of a man walking on the cover. A pneumatic gas spring assist will be installed at the front of the covers to help support and stabilize the cover throughout its range of motion. If access to water tank fill tower is blocked by the hose bed cover, then a hinged door will be provided in it so that tank may be filled without raising cover doors. Chrome grab handles and two (2) (one (1) each side) electric linear actuator with brake cylinders will be provided to assist in opening and closing the cover. A rubber-covered momentary toggle switch will be provided for each actuator that controls the opening and closing of the covers. Each switch will be located at the rear body of the body at the left side. Additional locks on top of the cover are not required to secure the cover in the nested position. A cross divider will be provided directly behind the actuators, at the front of the hose bed, to support the actuators and provide a clean appearance. A handrail will be provided at the rear, in the center of the support, to assist in climbing up the back of the truck. The hose bed cover will be connected to the Do Not Move Truck indicator. The light will be activated if the cover is not in the stowed position and the parking brake is released.</p>
0589778	Flap, Rear of Alum Hose Bed Cover, Vinyl, Paddle Seat Belt Buckles, 6" Straps	<p>A black vinyl flap will be installed on the rear of the bright aluminum treadplate hose bed cover. A chain weight and paddle seat belt buckles will be provided along bottom edge of the cover. The web/seat belt straps will be 6.00" in length so that they are approximately 3.00" in length when doubled over. The top edge of the cover will be secured to the hose bed structure with quarter-turn fasteners. Note: The buckles will not be mounted to the hosebed divider mount.</p>
0695401	Running Boards, 14.75" Deep, Rear 45 Degree Corner	<p>RUNNING BOARDS</p> <p>Running boards will be fabricated of .125" bright aluminum treadplate. Each running board will be supported by a welded 2.00" square tubing and channel assembly, which will be bolted to the pump compartment substructure. Running boards will be 14.75" deep and spaced .50" away from the pump panel. The rear outside corner of the running board will be finished with a 45 degree corner where it lines up with the body. A splash guard will be provided above the running board treadplate.</p>
0689497	Tailboard, T-Shaped, 24" & 8" Deep, Angled Corners	<p>TAILBOARD</p> <p>The tailboard will also be constructed of .125" bright aluminum treadplate and spaced .50" from the body, as well as supported by a structural steel assembly. The tailboard area will be 24.00" deep in the center area and 8.00" deep to the rear of the side compartments. The tailboard will be T-shaped. The outboard sides of the tailboard will be angled at 45 degrees beginning at the point where the body meets the tailboard at the outboard edge angling rearward to the rear edge of the tailboard. The exterior side will be flanged down and in for increased rigidity of tailboard structure.</p>
0690037	Wall, Rear, Smooth Aluminum/Body Material	<p>REAR WALL, SMOOTH ALUMINUM/BODY MATERIAL</p> <p>The rear facing surfaces of the center rear wall will be smooth aluminum. The bulkheads, the surface to the rear of the side body compartments, will be smooth and the same material as the body. Any inboard facing surfaces below the height of the hosebed will be aluminum diamondplate.</p>

0889214	Tow Eyes, w/Tow Bar, 2G Pumper	<p>REAR TOW EYES</p> <p>Two (2) tow eyes, which are an integral part of the body mounting substructure, will be installed below the rear of the truck.</p> <p>The tow eyes will be of adequate strength to allow the truck to be pulled from the eyes.</p> <p>REAR TOW BAR</p> <p>One (1) tow bar will be installed under the tailboard, 3.00" forward from the rear of the tailboard. With air ride suspension and a 65 gallon fuel tank, the tow bar will be located .50" further rearward than normal when there is this combination of options.</p> <p>The tow bar assembly will be designed and positioned to allow up to a 30-degree upward angled pull of 17,000 lb, or a 20,000 lb straight horizontal pull in line with the centerline of the vehicle. The tow bar design will have been tested and evaluated using finite element analysis techniques.</p>
0695614	Tray, Hose, Running Board, Free Floating, Special Capacity, Tapered	<p>HOSE TRAY</p> <p>Two (2) hose trays will be made free floating one (1) in each side running board.</p> <p>The tray(s) will be flanged and drop in from the top. The ends will be tapered at the front and rear towards the center. No fasteners will be used to secure the tray(s).</p> <p>Capacity of the tray will be 30' of 5.00" LDH.</p> <p>Rubber matting will be installed on the floor of the tray to provide proper ventilation. Drain holes will be provided.</p>

COMPARTMENTATION

Body and compartments will be fabricated of 0.125", 5052-H32 aluminum.

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

Circular fender liners will be provided for prevention of rust pockets and ease of maintenance.

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

The side compartment door opening will be framed by flanging the edges in 1.75" and bending out again 0.75" to form an angle.

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

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

Side compartment covers will be separate from the compartment tops.

Front facing compartment walls will be covered with bright aluminum treadplate.

All screws and bolts which protrude into a compartment will have acorn nuts on the ends to prevent injury.

UNDERBODY SUPPORT SYSTEM

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

The backbone of the support system will be the chassis frame rails which is the strongest component of the chassis and is designed for sustaining maximum loads.

Forward to the rear axle, the support system will include "L"-shaped support members bolted to the chassis frame rails. These welded support members will include vertical formed channels, horizontal structural channels, and support gussets. These parts extend from the chassis frame outward underneath the body.

Rearward to the rear axle, the body support system will include two rearward facing "L"-shaped support members bolted to the chassis frame rails. These support members will be connected to the two body supporting crossmembers forming a boxed foundation for the rear body support system.

Steel upper platform decks will be mounted on the top of these support members to create a floating substructure which will result in a 500 lb equipment support rating per lower compartment.

All structural components of this system will be made from high strength 50K steel plate material or structural steel componentry. The steel frames as well as the steel vertical angles will be treated with an epoxy E-coat to provide resistance to corrosion and chemicals as standard.

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

Isolators will have a broad load range, proven viability in vehicular applications, be of a fail-safe design and allow for all necessary movement in three (3) transitional and rotational modes.

The neoprene isolators will be installed in a pattern which assimilates a three (3)-point mounting pattern to reduce the natural flex of the chassis being transmitted to the body.

A design with body compartments hanging on the chassis in an unsupported fashion will not be acceptable.

AGGRESSIVE WALKING SURFACE

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

LOUVERS

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

TESTING OF BODY DESIGN

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

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

The criteria used during the testing procedure will include:

Raising opposite corners of the vehicle tires 9.00" to simulate the twisting a truck may experience when driving over a curb.

Making a 90 degree turn, while driving at 20 mph to simulate aggressive driving conditions.

Driving the vehicle at 35 mph on a washboard road.

Driving the vehicle at 55 mph on a smooth road.

Accelerating the vehicle fully, until reaching the approximate speed of 45 mph on rough pavement.

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

0023650	LS 152" Rollup, Full Height Front & Rear, FDLER	LEFT SIDE COMPARTMENTATION <p>The left side compartmentation will consist of three rollup door compartments. A full height, rollup door compartment ahead of the rear wheels will be provided. The interior dimensions of this compartment will be 34.50" wide x 66.63" high x 25.88" deep in the lower 25.00" of the compartment and 12.00" deep in the remaining upper portion. The clear door opening will be a minimum of 28.75" wide x 56.88" high. A rollup door compartment over the rear wheels will be provided. The interior dimensions of this compartment will be 66.50" wide x 32.88" high x 12.00" deep. The clear door opening will be a minimum of 58.25" wide x 23.13" high. A full height, rollup door compartment behind the rear wheels will be provided. The interior dimensions of this compartment will be 47.75" wide x 67.63" high x 25.88" deep in the lower 26.00" of height and 12.00" deep in the remaining upper section of the compartment. The clear door opening will be a minimum of 44.75" wide x 57.88" high. The interior height of the compartments will be measured from the compartment floor to the ceiling. The spool of the rollup door at the top of the compartment takes up some usable space. The depth of the compartments will be measured from the back wall to the inside of the door frame. Closing of the door will not require releasing, unlocking, or unlatching any mechanism and will easily be accomplished with one hand.</p>
0063658	RS 152" Rollup, Full Height Front & Rear, FDLER	RIGHT SIDE COMPARTMENTATION <p>The right side compartmentation will consist of three rollup door compartments. A full height, rollup door compartment ahead of the rear wheels will be provided. The interior dimensions of this compartment will be 34.50" wide x 66.63" high x 25.88" deep in the lower 25.00" of the compartment and 12.00" deep in the remaining upper portion. The clear door opening will be a minimum of 28.75" wide x 56.88" high. A rollup door compartment over the rear wheels will be provided. The interior dimensions of this compartment will be 66.50" wide x 32.88" high x 12.00" deep. The clear door opening will be a minimum of 58.25" wide x 23.13" high. A full height, rollup door compartment behind the rear wheels will be provided. The interior dimensions of this compartment will be 47.75" wide x 67.63" high x 25.88" deep in the lower 26.00" of height and 12.00" deep in the remaining upper section of the compartment. The clear door opening will be a minimum of 44.75" wide x 57.88" high. The interior height of the compartments will be measured from the compartment floor to the ceiling. The spool of the rollup door at the top of the compartment takes up some usable space. The depth of the compartments will be measured from the back wall to the inside of the door frame. Closing of the door will not require releasing, unlocking, or unlatching any mechanism and will easily be accomplished with one hand.</p>
0594005	Doors, Rollup, Amdor, Side Compartments	SIDE COMPARTMENT ROLLUP DOOR(S) <p>There will be six (6) compartment doors installed on the side compartments, double faced, aluminum construction, painted one (1) color to match the lower portion of the body and manufactured by AMDOR™ brand rollup doors. Door(s) will be constructed using 1.00" extruded double wall aluminum slats which will feature a flat smooth interior surface to provide maximum protection against equipment hang-up. The slats will be connected with a structural driven ball and socket hinge designed to provide maximum curtain diaphragm strength. Mounting and adjusting the curtain will be done with a clip system that connects the curtain to the balancer drum allowing for easy tension adjustment without tools. The slats will be mounted in reusable slat shoes with positive snap-lock securement. Each slat will incorporate weather tight recessed dual durometer seals. One (1) fin will be designed to locate the seal within the extrusion. The second will serve as a wiping seal which will also allow for compression to prevent water ingress. The doors will be mounted in a one (1)-piece aluminum side frame with recessed side seals to minimize seal damage during equipment deployment. All seals including side frames, top gutters and bottom panel are to be manufactured utilizing non-marring materials. Bottom panel flange of rollup door will be equipped with two (2) cut-outs to allow for easier access with gloved hands. A polished stainless steel lift bar with locking key latches to be provided for each roll-up door. The keys to be Model 751 to match all compartment and cab doors. The lift bar will be located at the bottom of door with striker latches installed at the base of the side frames. Side frame mounted door strikers will include support beneath the stainless steel lift bar to prevent door curtain bounce, improve bottom seal life expectancy and to avoid false door ajar signals. All injection molded rollup door wear components will be constructed of Type 6 nylon. Each rollup door will have a 3.00 inch diameter balancer/tensioner drum to assist in lifting the door. The header for the rollup door assembly will not exceed 4.00". A heavy-duty magnetic switch will be used for control of open compartment door warning lights.</p>
0083700	Compt, Rear, Rollup, 37.75" FF, 25.88" D	REAR COMPARTMENTATION <p>A roll-up door compartment above the rear tailboard will be provided. The interior dimensions of this compartment will be 40.00" wide x 40.63" high x 25.88" deep. The spool of the rollup door at the top of the compartment takes up some usable space. The depth of the compartment will be calculated with the compartment door closed. A louvered, removable access panel will be furnished on the back wall of the compartment. The rear compartment will be open into the rear side compartments. The clear door opening of this compartment will be a minimum of 33.25" wide x 30.88" high. Closing of the door will not require releasing, unlocking, or unlatching any mechanism and will easily be accomplished with one hand.</p>

0594003	Door, Amdor, Rollup, Rear Compartment	<p>ROLLUP REAR COMPARTMENT DOOR</p> <p>The rear compartment will have a rollup door.</p> <p>The door will be double faced, aluminum construction, satin aluminum and manufactured by AMDOR™ brand rollup doors.</p> <p>The door will be constructed using 1.00" extruded double wall aluminum slats which will feature a flat smooth interior surface to provide maximum protection against equipment hang-up. The slats will be connected with a structural driven ball and socket hinge designed to provide maximum curtain diaphragm strength. Mounting and adjusting the curtain will be done with a clip system that connects the curtain to the balancer drum allowing for easy tension adjustment without tools. The slats will be mounted in reusable slat shoes with positive snap-lock securement.</p> <p>Each slat will incorporate weather tight recessed dual durometer seals. One (1) fin will be designed to locate the seal within the extrusion. The second will serve as a wiping seal which will also allow for compression to prevent water ingress.</p> <p>The door will be mounted in a one (1)-piece aluminum side frame with recessed side seals to minimize seal damage during equipment deployment. All seals including side frames, top gutters and bottom panel are to be manufactured utilizing non-marring materials.</p> <p>Bottom panel flange of rollup door will be equipped with two (2) cut-outs to allow for easier access with gloved hands.</p> <p>A polished stainless steel lift bar with locking key latches to be provided for each roll-up door. The keys to be Model 751 to match all compartment and cab doors. The lift bar will be located at the bottom of door with striker latches installed at the base of the side frames. Side frame mounted door strikers will include support beneath the stainless steel lift bar to prevent door curtain bounce, improve bottom seal life expectancy and to avoid false door ajar signals.</p> <p>All injection molded rollup door wear components will be constructed of Type 6 Nylon.</p> <p>The door will have a 3.00 inch diameter balancer/tensioner drum to assist in lifting the door.</p> <p>The header for the rollup door assembly will not exceed 4.00".</p> <p>A heavy-duty magnetic switch will be used for control of open compartment door warning lights.</p>
0554995	No Body Modification Required	
0625184	Guard, Drip Pan, S/S, Rollup Door, Pumper	<p>DOOR GUARD</p> <p>There will be seven (7) compartment doors that will include a guard/drip pan designed to protect the rollup door from damage when in the retracted position and contain any water spray. The guard will be fabricated from stainless steel and installed left side rearward compartment, left side over the wheel compartment, left side forward compartment, right side rearward compartment, right side over the wheel compartment, right side forward compartment and rear compartment.</p>
0616670	Lights, Compt, Pierce LED, Dual Light Strips, Each Side of Door, Pumper/Tanker	<p>COMPARTMENT LIGHTING</p> <p>There will be seven (7) compartment(s) with two (2) white 12 volt DC LED compartment light strips. The dual light strips will be centered vertically along each side of the door framing. There will be two (2) light strips per compartment. The dual light strips will be in all body compartment (s).</p> <p>Any remaining compartments without light strips will have a 6.00" diameter Truck-Lite, Model: 79384 light. Each light will have a number 1076 one filament, two wire bulb.</p> <p>Opening the compartment door will automatically turn the compartment lighting on.</p>
0739915	Hatch, (2) Liftup, Pumper	<p>HATCH COMPARTMENT</p> <p>Two (2) hatch compartments will be provided above the left and right side compartments.</p> <p>Each hatch compartment will extend the full length of the side body compartmentation x 13.75" wide. The height of each hatch compartment will match the side sheet height or be below the side sheet by a minimum of 3.00" to a maximum hatch height of 22.00".</p> <p>Sides of the compartment will be constructed of the same material as the body and painted job color. A 2.00" tall formed aluminum painted to match the lower body color will be provided to cover the seam between the top of the body panel and the bottom of the hatch compartment. The vertical outboard seam at the center of the compartment will be smooth weld finished and painted. The top of the compartment will be constructed of bright aluminum treadplate.</p> <p>Two (2) lift-up, bright aluminum treadplate doors will be provided on the top of the compartment. Doors will have lipped edges with a rubber seal for weather resistance. Each door will have a lever handle with a slam style latch. Doors will be hinged on the outboard side and will utilize a gas strut (or rubber covered chain on narrow width doors)</p> <p>Compartment will drain to an area below the hose bed. Black Turtle Tile matting shall be provided to help prevent stored equipment in pooled water.</p>
0730092	Not Required	
0805983	Lights, Hatch Compt, 42", LED, Light Strips, 2-Sides 4 Dr, Opposite Hinge Side	<p>COMPARTMENT LIGHTING</p> <p>There will be a 42.00" 12 volt DC strip light with white LEDs mounted on the interior, opposite of the hinged side of each door. The lights will be mounted with mechanical fasteners.</p> <p>The lights will be installed as high as practical so as to not interfere with the compartment opening, and to provide protection from stowing equipment.</p> <p>The lights will be activated when the battery switch is on and the door is opened.</p>

0760868	Lights, Cargo/Dunnage, Dual LED Light Strips, Each Side	CARGO/DUNNAGE AREA LIGHTING There will be two (2), 12 volt DC strips lights with white LEDs and stainless steel protective cover, provided to illuminate the cargo area. One (1) light strip will be installed the entire length of the left side of the cargo area. One (1) light strip will be installed the entire length of the right side of the cargo area. The light(s) will be activated by the same control(s) as the light shield lights.
0687146	Shelf Tracks, Painted	MOUNTING TRACKS There will be six (6) sets of tracks for mounting shelf(s) in LS1, LS2, LS3, RS1, RS3 and B1. These tracks will be installed vertically to support the adjustable shelf(s). The tracks will be painted to match the compartment interior.
0600350	Shelves, Adj, 500 lb Capacity, Full Width/Depth, Predefined Locations	ADJUSTABLE SHELVES There will be 15 shelves with a capacity of 500 lb provided. The shelf construction will consist of .188" aluminum painted spatter gray with 2.00" sides. Each shelf will be infinitely adjustable by means of a threaded fastener, which slides in a track. The shelves will be held in place by .12" thick stamped plated brackets and bolts. The location(s) will be in LS1 at the depth transition point to the left of the partition, in RS1 at the transition point, in RS3 at the transition point, in RS1 in the lower third, in RS3 in the lower third, in RS1 in the upper third, in RS1 in the upper third, in LS2 centered between the floor and ceiling, in LS2 in the lower third, in LS3 in the upper third, in LS2 in the upper third, in LS1 in the upper third to the left of the partition, in LS1 in the upper third to the left of the partition, in LS3 at the depth transition point and in B1 in the upper third.
0647091	Tray, Floor Mounted, Slide-Out, 500lb, 2.00" Sides	SLIDE-OUT FLOOR MOUNTED TRAY There will be one (1) floor mounted slide-out tray(s) provided. Each tray will have 2.00" high sides and a minimum capacity rating of 500 lb in the extended position. Each tray will be constructed of aluminum painted spatter gray There will be two undermount-roller bearing type slides rated at 250lb each provided. The pair of slides will have a safety factor rating of 2. To ensure years of dependable service, the slides will be coated with a finish that is tested to withstand a minimum of 1,000 hours of salt spray per ASTM B117. To ensure years of easy operation, the slides will require no more than a 50lb force for push-in or pull-out movement when fully loaded after having been subjected to a 40 hour vibration (shaker) test under full load. The vibration drive file will have been generated from accelerometer data collected from a heavy truck chassis driven over rough gravel roads in an unloaded condition. Proof of compliance will be provided upon request. Automatic locks will be provided for both the "in" and "out" positions. The trip mechanism for the locks will be located at the front of the tray for ease of use with a gloved hand. The location(s) will be LS1 to the left of the partition.
0725642	Cabinet, Drawer Assembly, CTECH, Three Drawers, Up To 36" Wide	DRAWER ASSEMBLY A slide-out drawer assembly will be installed LS3. The clear dimensions of the first drawer starting at the top will be 3.00" with a face plate that is 4.00" high x 21.00" deep. The clear dimensions of the second drawer will be 7.75" with a face plate that is 8.00" high x 21.00" deep. The clear dimensions of the third drawer will be 7.75" with a face plate that is 8.00" high x 21.00" deep. Each drawer will be the same width and not exceed 36.00". The drawers will have a capacity of 250 pounds. The drawers will be mounted in a cabinet housing constructed of light gray powder coated aluminum with anodized aluminum frames. The housing will be 24.00" deep, and completely enclose the drawer. A full-length aluminum extruded rail will be provided at the top edge of each drawer. This rail will act as the latching mechanism as well as the handle for each drawer. There will be a total of one (1) provided.
0540317	Toolboard, Swing-out, Alum, .188", Peg Board	SWING OUT TOOLBOARD A swing out aluminum toolboard will be provided. It will be a minimum of .188" thick with .281" diameter holes in a pegboard pattern with 1.00" centers between holes. A 1.00" x 1.00" aluminum tube frame will be welded to the edge of the pegboard. The board will be mounted on a pivoting device at the front of the compartment on the top and bottom to allow easy movement in and out of the compartment. The maximum tool load will be 400 pounds. The board will have positive lock in the stowed and extended position. The board will have a D-ring handle to secure it in the stowed position. The board will be mounted on adjustable tracks from front to back within the compartment. There will be One (1) toolboard(s) provided. The toolboard(s) will be spatter gray painted and installed RS2 full height and width.
0726441	Partition, Trans Rear Comp	PARTITION, TRANSVERSE REAR COMPARTMENT One (1) partition will be bolted in place to separate the right side rear compartment from the rear tailboard compartment. The partition will be body material painted spatter gray.

0726457	Partition, Vertical Compt, Predefined Locations	VERTICAL COMPARTMENT PARTITION One (1) partition will be provided. The partition construction will consist of body material painted spatter gray. Each partition will be the full vertical height of the compartment. The location(s) will be in LS1, 32.00" from the forward door frame.
0540449	Trim, Body Seams, Painted	PAINTED BODY TRIM PIECE Painted trim will be provided on the compartment horizontal body seam on two (2) compartments. The locations will be each hatch compartment. The trim will be made of formed aluminum and painted to match the body material as practical. The trim piece will be bonded to the painted surface with a high viscosity adhesive.
0755527	Pegboard, Back Wall Mounted, 3/16" Alum, Standard Depth Upper	PEGBOARD There will be 3/16" thick aluminum pegboard spatter gray painted will be installed on the back wall of four (4) compartments. It will be mounted using two (2) horizontal tracks. Retainers will be used to mount the pegboard to the tracks. The pegboard(s) installed will be on the upper standard depth section of the compartment. The holes will be .203" diameter, punched 1.00" on center. Pegboard will be provided in the following compartments: LS2, LS3, RS2 and RS3.
0004016	Rub Rail, Aluminum Extruded, Side of Body	RUB RAIL Bottom edge of the side compartments will be trimmed with a bright aluminum extruded rub rail. Trim will be 2.12" high with 1.38" flanges turned outward for rigidity. The rub rails will not be an integral part of the body construction, which allows replacement in the event of damage.
0784811	Fender Crowns, Rear, Stainless, w/Removable Liner	BODY FENDER CROWNS Polished stainless steel fender crowns will be provided around the rear wheel openings with a dielectric barrier will be provided between the fender crown and the fender sheet metal to prevent corrosion. The fender crowns will be held in place with stainless steel screws that thread directly into a composite nut and not directly into the parent body sheet metal to eliminate dissimilar metals contact and greatly reduce the chance for corrosion. Rubber welting will be provided between the body and crown. BODY FENDER LINER A painted to match the lower body color fender liner will be provided. The liners will be removable to aid in the maintenance of rear suspension components.
0519849	Not Required, Hose, Hard Suction	HARD SUCTION HOSE Hard suction hose will not be required.
0626229	Handrails, Side Pump Panels, Per Print	HANDRAILS The handrails will be 1.25" diameter knurled aluminum to provide a positive gripping surface. Chrome plated end stanchions will support the handrail. Plastic gaskets will be used between end stanchions and any painted surfaces. Drain holes will be provided in the bottom of all vertically mounted handrails. Handrails will be provided to meet NFPA 1901 section 15.8 requirements. The handrails will be installed as noted on the sales drawing.
0004126	Handrails, Beavertail, Standard	HANDRAILS One (1) vertical handrail will be located on each rear beavertail.
0011212	Handrail, Not Required, Rear Hose Bed, Pumper	
0747218	SP Compt, Tri, Fender Panel, Spcl Partitions	FENDER STORAGE (Triangular) A total of one (1) air bottle compartment triangular shaped compartment(s) will be provided. The compartment will utilize the space in the fender panel on the right side rearward of the rear wheels. The compartment will be approximately a 15.00" triangle with an approximate 26.00" depth. There will be two (2) partitions, one (1) vertical and one (1) horizontal, provided within the compartment. The vertical partition will be located centered within the opening. The horizontal partition will be located upper portion shall house two (2) "D" size cylinders, lower portion shall house two (2) SCBA cylinders. Inside the compartment, black Dura-Surf friction reducing material will be provided. A painted stainless steel, triangular shaped, door with a Southco raised trigger C2 chrome lever latch will be provided. A dielectric barrier will be provided between the door hinge, hinge fasteners, and body sheet metal.

0657522	Compt, Air Bottle, Triple, Fender Panel	AIR BOTTLE STORAGE (Triple) A quantity of two (2) air bottle compartments designed to hold (3) air bottles up to 7.25" in diameter x 26.00" deep will be provided on the left side forward of the rear wheels and on the right side forward of the rear wheels. A painted stainless steel door with a Southco raised trigger C2 chrome lever latch will be provided to contain the air bottle. A dielectric barrier will be provided between the door hinge, hinge fasteners and the body sheet metal. Inside the compartment, black rubber matting will be provided. AIR BOTTLE COMPARTMENT STRAP A strap will be provided in the air bottle compartment(s) to help contain the air bottles when the vehicle is parked on an incline. The strap will wrap around the neck and attach to the wall of the compartment.
0004225	Ladder, 24' Duo-Safety 900A 2-Section	EXTENSION LADDER There will be a 24' two-section aluminum Duo-Safety Series 900-A extension ladder provided.
0004230	Ladder, 14' Duo-Safety 775A Roof	ROOF LADDER There will be a 14' aluminum Duo-Safety Series 775-A roof ladder provided.
0049958	Ladders Btwn Tank & S.Sht, RS, Ext'd Rr, Encl'd Complete, RPH	LADDER STORAGE The ladders will be stored between the water tank and the right side compartments. The ladders will extend into the pump compartment just to the rear of the water pump discharges. The ladder storage area will be enclosed as practical by means of sheet metal to protect the ladders from road dirt. The ladders that extend into the pump house will also be enclosed. A black rubber boot will be provided to enclose the ladders in the gap between the pump house and the body. Each ladder will be stored vertically in a separate stainless steel storage trough. Each stainless steel trough will be lined with Dura-Surf nylon slides. An aluminum enclosure will be provided at the rear of the body to properly contain the ladders. This enclosure will extend to the rear of the side body compartments. The enclosure will also include a vertically hinged aluminum treadplate door with a D-handle latch to access the ladders. The door will be hinged on the left side. On the rear wall, there will be a bright aluminum treadplate scuffplate around the door for the ladder enclosure.
0733387	Ladder, 10' Duo-Safety Folding 585A	FOLDING LADDER One (1) 10.00' aluminum, Series 585-A, Duo-Safety folding ladder will be installed.
0733796	Trough, Folding Ladder, Ladder Storage Btwn Tank & S.Sht	FOLDING LADDER STORAGE There will be storage designated right side for folding ladders stored between the side sheet in a stainless steel trough in the ladder storage compartment.
0725371	Compt w/Door, Backboard, Over Pump	BACKBOARD STORAGE A transverse area over the pump and rearward of the cargo area will hold one (1) storage trough. A blister will be supplied at each side to enclose the backboards due to their length. The backboards will be accessible from either side of the vehicle through the aluminum treadplate door(s) with a lift and turn latch. The door(s) will be hinged along the forward edge. The size of the backboard(s) to be stored will be 73.00" long x 18.00" wide x 2.00" high.
0789530	Pike Pole, 10' DUO Safety, Fiberglass	10' PIKE POLE One (1) pike pole 10' long Duo Safety with a fiberglass handle, will be provided.
0733370	Pike Pole, 6' DUO Safety, Fiberglass	PIKE POLE, 6' One (1) pike pole, 6' long Duo Safety with a fiberglass handle, will be provided.
0058193	Tubes, Alum, Pike Pole Storage, Spcl Notch, NY PP Head	PIKE POLE STORAGE Aluminum tubing will be used for the storage of one (1) pike pole and will be located ladder storage. If the head of a pike pole can come in contact with a painted surface, a stainless steel scuffplate will be provided. The pike pole tube will be notched to allow a New York style pike pole to fit into the tube.
0004361	Tubes, Alum, Pike Pole Storage	PIKE POLE STORAGE Aluminum tubing will be used for the storage of one (1) pike pole and will be located in ladder storage compartment. If the head of a pike pole can come in contact with a painted surface, a stainless steel scuffplate will be provided.

0785102	Steps, Folding, Front of Body, Cargo Bed Access, w/LED, Trident	<p>FOLDING STEPS FRONT OF BODY</p> <p>Folding steps will be provided full height on the right side and one (1) step on the left side body compartments to provide access to the cargo bed. Steps will be spaced evenly on the sales drawing. Actual quantity may vary due to pump panel interferences but will meet the NFPA required maximum stepping height.</p> <p>The Trident steps will be bright finished, non-skid with a black tread coating on the stepping surface.</p> <p>The step will incorporate an LED light to illuminate the stepping surface.</p> <p>The steps can be used as a hand hold with two openings wide enough for a gloved hand.</p>
0592994	Steps, Folding, Rear of Body, w/LED, Trident	<p>REAR FOLDING STEPS</p> <p>Bright finished, non-skid folding steps with a black tread coating on the stepping surface will be provided at the rear. Each step will incorporate an LED light to illuminate the stepping surface.</p> <p>The steps can be used as a hand hold with two openings wide enough for a gloved hand.</p>
0084388	Step, Full Width, Rear Of Body, 8"	<p>ADDITIONAL STEP</p> <p>An 8.00" deep, full width bright aluminum treadplate step will be provided at the rear of the body.</p>
0723277	Pump House, Side Control, 45", With Speedlay Module	<p>PUMP COMPARTMENT</p> <p>The pump compartment will be 45.00" wide.</p> <p>The pump compartment will be an independent structure from the rear body and compartments so that each may flex independently of the other. Allowing the compartment, pump, plumbing and gauge panels to be removable from the chassis in a single assembly.</p> <p>It will be a fabricated assembly of steel tubing, angles and channels which supports both the fire pump and the side running boards.</p> <p>The pump compartment will be constructed of the same material as the rear body and compartments.</p> <p>The pump compartment will be mounted to a steel substructure used to mount the pump which is mounted to the chassis frame rails with rubber biscuits.</p> <p>PUMP MOUNTING</p> <p>The pump will be mounted to a steel substructure which will be mounted to the chassis frame rail using rubber isolators in a four point pattern. The mounting will allow chassis frame rails to flex independently without damage to the fire pump.</p> <p>The side running board substructure will be fabricated from steel and mounted to the pump mount substructure.</p> <p>CONTROL ZONE PUMP CONTROLS</p> <p>All pump controls and gauges will be located at the left side of the apparatus and properly marked.</p> <p>Controls will be a Control Zone layout that is ergonomically organized for user-friendly operation.</p> <p>Polished stainless steel trim collars will be installed around all inlets and outlets.</p>
0723562	Raised Pump House Structure, Side Control, With Speedlay Module	
0004425	Pump, Waterous, CSU, 1500 GPM, Single Stage	<p>PUMP</p> <p>Pump will be a Waterous CSU, 1500 gpm single (1) stage midship mounted centrifugal type.</p> <p>Pump will be the class "A" type.</p> <p>Pump will deliver the percentage of rated discharge at pressures indicated below:</p> <ul style="list-style-type: none"> - 100% of rated capacity at 150 psi net pump pressure. - 70% of rated capacity at 200 psi net pump pressure. - 50% of rated capacity at 250 psi net pump pressure. <p>Pump body will be close-grained gray iron, bronze fitted, and horizontally split in two (2) sections for easy removal of the entire impeller shaft assembly (including wear rings).</p> <p>Pump will be designed for complete servicing from the bottom of the truck, without disturbing the pump setting or apparatus piping.</p> <p>Pump case halves will be bolted together on a single horizontal face to minimize chance of leakage and facilitate ease of reassembly. No end flanges will be used.</p> <p>Discharge manifold of the pump will be cast as an integral part of the pump body assembly and will provide a minimum of three (3) 3.50" openings for flexibility in providing various discharge outlets for maximum efficiency.</p> <p>The three (3) 3.50" openings will be located as follows: one (1) outlet to the right of the pump, one (1) outlet to the left of the pump, and one (1) outlet directly on top of the discharge manifold.</p> <p>Impeller shaft will be stainless steel, accurately ground to size. It will be supported at each end by sealed, anti-friction ball bearings for rigid precise support. Impeller will have flame plated hubs assuring maximum pump life and efficiency despite any presence of abrasive matter in the water supply.</p> <p>Bearings will be protected from water and sediment by suitable stuffing boxes, flinger rings, and oil seals. No special or sleeve type bearings will be used.</p>
0004481	Seal, Grafoil, Waterous	<p>PUMP PACKING</p> <p>Stuffing boxes will be of the conventional two (2) piece, split-gland type, to permit adjustment or replacement of Grafoil packing without disturbing the pump. Water will be fed into stuffing box lantern rings for proper lubrication and cooling when the pump is operating.</p> <p>Lantern rings will be located at the inner ends of the stuffing boxes, to avoid having to remove them when replacing pump packing.</p> <p>Wear rings will be bronze and easily replaceable to restore original pump efficiency and eliminate the need to replace the entire pump casing due to wear.</p>

0559769	Trans, Pump, Waterous C20 Series	PUMP TRANSMISSION The pump transmission will be made of a three (3) piece, aluminum, horizontally split casing. Power transfer to pump will be through a high strength Morse HY-VO silent drive chain. By the use of a chain rather than gears, 50% of the sprocket will be accepting or transmitting torque, compared to two (2) or three (3) teeth doing all the work. Drive shafts will be 2.35" diameter hardened and ground alloy steel and supported by ball bearings. The case will be designed to eliminate the need for water cooling.
0635600	Pumping Mode, Stationary Only	PUMPING MODE An interlock system will be provided to ensure that the pump drive system components are properly engaged so that the apparatus can be safely operated. The interlock system will be designed to allow stationary pumping only.
0605126	Pump Shift, Air Mnl Override, Split Shaft, Interlocked, Waterous	AIR PUMP SHIFT Pump shift engagement will be made by a two (2) position sliding collar, actuated pneumatically (by air pressure), with a three (3) position air control switch located in the cab. A manual back-up shift control will also be located on the left side pump panel. Two (2) indicator lights will be provided adjacent to the pump shift inside the cab. One (1) green light will indicate the pump shift has been completed and be labeled "pump engaged". The second green light will indicate when the pump has been engaged, and that the chassis transmission is in pump gear. This indicator light will be labeled "OK to pump". The pump shift will be interlocked to prevent the pump from being shifted out of gear when the chassis transmission is in gear to meet NFPA requirements. The pump shift control in the cab will be illuminated to meet NFPA requirements.
0003148	Transmission Lock-up, EVS	TRANSMISSION LOCK-UP The direct gear transmission lock-up for the fire pump operation will engage automatically when the pump shift control in the cab is activated.
0004547	Auxiliary Cooling System	AUXILIARY COOLING SYSTEM A supplementary heat exchange cooling system will be provided to allow the use of water from the discharge side of the pump for cooling the engine water. The heat exchanger will be a separate unit. It will be installed in the pump or engine compartment with the control located on the pump operator's control panel. The exchanger will be plumbed to the master drain valve.
0014486	Not Required, Transfer Valve, Single Stage Pump	
0746501	Valve, Relief Intake, Elkhart	INTAKE RELIEF VALVE - PUMP There will be One (1) Elkhart Style 40 relief valve(s) installed on the suction side of the pump preset at 150 psig. The relief valve(s) will have a working range of 75 psi to 250 psi. The outlet will terminate below the frame rails with a 2.50" National Standard hose thread adapter and will have a "do not cap" warning tag. The relief valve pressure control will be located behind behind the right side pump panel with a stainless steel access door .
0527222	Controller, Pressure, FRC, INCONTROL, TGA300, Control Buttons	PRESSURE CONTROLLER A Fire Research, INCONTROL Model TGA300 pressure governor will be provided. A pressure transducer will be installed in the water discharge and intake manifold on the pump. The display panel will be located at the pump operator's panel.
0072153	Primer, Trident, Air Prime, Air Operated	PRIMING PUMP The priming pump will be a Trident Emergency Products compressed air powered, high efficiency, multistage venturi based AirPrime System, conforming to standards outlined in the current edition of NFPA 1901. All wetted metallic parts of the priming system are to be of brass and stainless steel construction. One (1) priming control will open the priming valve and start the pump primer.
0044552	Line, 0.50" Recirculating w/Check Valve	RECIRCULATING LINE WITH CHECK VALVE A 0.50" diameter recirculating line, from the pump to the water tank, will be furnished with a control installed at the pump operator's control panel. A check valve will be provided in this line to prevent the back flow of water from the tank to the pump if the valve is left in the open position.
0780364	Manuals, Pump, (2) Total, Electronic Copies	PUMP MANUALS There will be a total of two (2) pump manuals provided by the pump manufacturer and furnished with the apparatus. The manuals will be provided by the pump manufacturer in the form of two (2) electronic copies. Each manual will cover pump operation, maintenance, and parts.

0602512	Plumbing, Stainless Steel and Hose, Single Stage Pump, Control Zone	PLUMBING, STAINLESS STEEL AND HOSE All inlet and outlet lines will be plumbed with either stainless steel pipe, flexible polypropylene tubing or synthetic rubber hose reinforced with hi-tensile polyester braid. All hose's will be equipped with brass or stainless steel couplings. All stainless steel hard plumbing will be a minimum of a schedule 10 wall thickness. Where vibration or chassis flexing may damage or loosen piping or where a coupling is required for servicing, the piping will be equipped with victaulic or rubber couplings. Plumbing manifold bodies will be ductile cast iron or stainless steel. All piping lines are to be drained through a master drain valve or will be equipped with individual drain valves. All drain lines will be extended with a hose to drain below the chassis frame. All water carrying gauge lines will be of flexible polypropylene tubing. All piping, hose and fittings will have a minimum of a 500 PSI hydrodynamic pressure rating.
0795135	Plumbing, Stainless Steel, w/Foam System	FOAM SYSTEM PLUMBING All piping that is in contact with the foam concentrate or foam/water solution will be stainless steel. The fittings will be stainless steel or brass. Cast iron pump manifolds will be allowed.
0004645	Inlets, 6.00" - 1250 GPM or Larger Pump	MAIN PUMP INLETS A 6.00" pump manifold inlet will be provided on each side of the vehicle. The suction inlets will include removable die cast zinc screens that are designed to provide cathodic protection for the pump, thus reducing corrosion in the pump.
0550696	Valve, Waterous Monarch w/Relief, LS Side Inlet, 6", Waterous Handwheel Control	INLET BUTTERFLY VALVE One (1) Waterous Monarch inline butterfly valve will be provided on the left side main pump inlet. The 6.00" inlet valve will be partially recessed behind the pump panel with a "key hole" shaped stainless steel trim ring around the opening. A built-in, adjustable pressure relief valve and a bleeder valve will be provided on the inlet side of the valve. A chrome plated handwheel control will be provided on the side pump panel adjacent to the inlet valve. A valve position indicator will be provided, next to the valve control.
0550697	Valve, Waterous Monarch w/Relief, RS Side Inlet, 6", Waterous Handwheel Control	INLET BUTTERFLY VALVE One (1) Waterous Monarch inline butterfly valve will be provided on the right side main pump inlet. The 6.00" inlet valve will be partially recessed behind the pump panel with a "key hole" shaped stainless steel trim ring around the opening. A built-in, adjustable pressure relief valve and a bleeder valve will be provided on the inlet side of the valve. A chrome plated handwheel control will be provided on the side pump panel adjacent to the inlet valve. A valve position indicator will be provided, next to the valve control.
0004646	Cap, Main Pump Inlet, Long Handle, NST, VLH	MAIN PUMP INLET CAP The main pump inlets will have National Standard Threads with a long handle chrome cap. The cap will be the Pierce VLH, which incorporates an exclusive thread design to automatically relieve stored pressure in the line when disconnected.
0084610	Valves, Akron 8000 series- All	VALVES All ball valves will be Akron® Brass. The Akron valves will be the 8000 series heavy-duty style with a stainless steel ball and a simple two-seat design. No lubrication or regular maintenance is required on the valve. Valves will have a ten (10) year warranty.
0016158	Valve, Inlet(s) Recessed, Side Cntrl, "Control Zone"	The location of the valve for the two (2) inlets will be recessed behind the pump panel.
0004700	Control, Inlet, at Valve	INLET CONTROL The side auxiliary inlet(s) will incorporate a quarter-turn ball valve with the control located at the inlet valve. The valve operating mechanism will indicate the position of the valve.
0004660	Inlet (1), Left Side, 2.50"	LEFT SIDE INLET There will be one (1) auxiliary inlet with a 2.50" valve at the left side pump panel, terminating with a 2.50" (F) National Standard hose thread adapter. The auxiliary inlet will be provided with a strainer, chrome swivel and plug.
0004680	Inlet, Right Side, 2.50"	RIGHT SIDE INLET There will be one (1) auxiliary inlet with a 2.50" valve at the right side pump panel, terminating with a 2.50" (F) National Standard hose thread adapter. The auxiliary inlet will be provided with a strainer, chrome swivel and plug.

0092569	No Rear Inlet (Large Dia) Requested	
0064116	No Rear Inlet Actuation Required	
0092696	Not Required, Cap, Rear Inlet	
0009648	No Rear Intake Relief Valve Required on Rear Inlet	
0092568	No Rear Auxiliary Inlet Requested	
0723049	Valve, .75" Bleeder, Aux. Side Inlet, "T" Swing Handle	INLET BLEEDER VALVE A 0.75" bleeder valve will be provided for each side gated inlet. The valves will be located behind the panel with a "T" swing style handle control extended to the outside of the panel. The handles will be chrome plated and provide a visual indication of valve position. The swing handle will provide an ergonomic position for operating the valve without twisting the wrist and provides excellent leverage. The water discharged by the bleeders will be routed below the chassis frame rails.
0029043	Tank to Pump, (1) 3.00" Valve, 3.00" Plumbing	TANK TO PUMP The booster tank will be connected to the intake side of the pump with stainless steel piping and a quarter turn 3.00" full flow line valve with the control remotely located at the operator's panel. Tank to pump line will run straight (no elbows) from the pump into the front face of the water tank and angle down into the tank sump. A rubber coupling will be included in this line to prevent damage from vibration or chassis flexing. A check valve will be provided in the tank to pump supply line to prevent the possibility of "back filling" the water tank.
0004905	Outlet, Tank Fill, 1.50"	TANK REFILL A 1.50" combination tank refill and pump re-circulation line will be provided, using a quarter-turn full flow ball valve controlled from the pump operator's panel.
0062133	Control, Outlets, Manual, Pierce HW if applicable	DISCHARGE OUTLET CONTROLS The discharge outlets will incorporate a quarter-turn ball valve with the control located at the pump operator's panel. The valve operating mechanism will indicate the position of the valve. If a handwheel control valve is used, the control will be a minimum of a 3.9" diameter stainless steel handwheel with a dial position indicator built in to the center of the handwheel. Any 3.00 inch or larger discharge valve will be a slow-operating valve in accordance with NFPA 16.7.5.3.
0766936	Outlet Control, Elec, Akr 9335, Vlv Cntrl and Digital Press Display	DISCHARGE OUTLET CONTROLS w/ PRESSURE IN DISPLAY There will be One (1) discharge outlet controlled by Akron 9335 electric valve controller(s) provided on the pump operator's panel. The outlet(s) will be located deluge. The electric control (s) must be of a true position feedback design, requiring no clutches in the motor or current limiting. The unit(s) must be completely sealed with momentary open, close as well and an optional one touch full open feature to operate the valve actuator. The controller(s) will provide position indication on a full color, backlit LCD display. They will have manual adjustment of the brightness as well as an auto dimming option. In addition to the valve controls, the electric valve controller(s) will include a pressure display.
0004940	Outlet, Left Side, 2.50"	LEFT SIDE DISCHARGE OUTLETS There will be One (1) discharge outlet with a 2.50" valve on the left side of the apparatus, terminating with a 2.50" (M) National Standard hose thread adapter.
0005091	Elbow, Left Side Outlets, 45 Degree, 2.50" FNST x 2.50" MNST, VLH	LEFT SIDE OUTLET ELBOWS The 2.50" discharge outlets located on the left side pump panel will be furnished with a 2.50" (F) National Standard hose thread x 2.50" (M) National Standard hose thread, chrome plated, 45 degree elbow. The elbow will be Pierce VLH, which incorporates an exclusive thread design to automatically relieve stored pressure in the line when disconnected.
0092570	Not Required, Outlets, Left Side Additional	
0035094	Not Required, Elbow, Left Side Outlets, Additional	

0004945	Outlet, Right Side, 2.50"	RIGHT SIDE DISCHARGE OUTLETS There will be Two (2) discharge outlets with a 2.50" valve on the right side of the apparatus, terminating with a 2.50" (M) National Standard hose thread adapter.
0025091	Elbow, Right Side Outlets, 45 Degree, 2.50" FNST x 2.50" MNST, VLH	RIGHT SIDE OUTLET ELBOWS The 2.50" discharge outlets located on the right side pump panel will be furnished with a 2.50" (F) National Standard hose thread x 2.50" (M) National Standard hose thread, chrome plated, 45 degree elbow. The elbow will be Pierce VLH, which incorporates an exclusive thread design to automatically relieve stored pressure in the line when disconnected.
0092571	Not Required, Outlets, Right Side Additional	
0089584	Not Required, Elbow, Right Side Outlets, Additional	
0766070	Outlet, 4" w/4" Valve, Right Side, Akron 9333 Elec Controller	LARGE DIAMETER DISCHARGE OUTLET There will be a 4.00" discharge outlet with a 4.00" electric valve installed on the right side of the apparatus, terminating with 4.00" MNST threads. There will be an Akron 9333 electric valve controller provided on the pump operators panel. The electric control must be of a true position feedback design, requiring no clutches in the motor or current limiting. The unit must be completely sealed with momentary open, close as well and an optional one touch full open feature to operate the valve actuator. The controller will provide position indication on a full color, backlit LCD display. It will have manual adjustment of the brightness as well as an auto dimming option. PRESSURE GAUGE(S) Analog pressure gauge(s) will be located near the electric valve controller(s). The gauges will match the rest of the analog gauges provided on the pump operator's panel.
0005097	Elbow, Large Dia Outlet, 30 Deg, 4.00" FNST x 5.00" Storz	LARGE DIAMETER OUTLET ELBOWS The 4.00" outlet(s) will be furnished with one (1) 4.00" (F) National Standard hose thread x 5.00" Storz elbow adapter with Storz cap.
0649939	Outlet, Front, 1.50" w/2" Plumbing	FRONT DISCHARGE OUTLET There will be one (1) 1.50" discharge outlet piped to the front of the apparatus and located LS as far inboard towards the tray as possible. Plumbing will consist of 2.00" piping and flexible hose with a 2.00" ball valve with control at the pump operator's panel. A fabricated weldment made of stainless steel pipe will be used in the plumbing where appropriate. The piping will terminate with a 1.50" NST with 90 degree stainless steel swivel. There will be T swing handle drains provided at all low points of the piping.
0004995	Outlet, Rear, 2.50"	REAR DISCHARGE OUTLET There will be One (1) discharge outlet piped to the rear of the hose bed, left side, installed so proper clearance is provided for spanner wrenches or adapters. Plumbing will consist of 2.50" piping along with a 2.50" full flow ball valve with the control from the pump operator's panel.
0045091	Elbow, Rear Outlets, 45 Degree, 2.50" FNST x 2.50" MNST, VLH	REAR OUTLET ELBOWS The 2.50" discharge outlets located at the rear of the apparatus will be furnished with a 2.50" (F) National Standard hose thread x 2.50" (M) National Standard hose thread, chrome plated, 45 degree elbow. The elbow will be Pierce VLH, which incorporates an exclusive thread design to automatically relieve stored pressure in the line when disconnected.
0092574	Not Required, Outlet, Rear, Additional	
0085695	Not Required, Elbow, Rear Outlets, Large, Additional	
0004990	Outlet, Front HB, 2.50" w/2.50" Plumbing	FRONT OF HOSE BED DISCHARGE OUTLET There will be One (1) discharge outlet discharge(s) piped to the front of the hose bed and located LS outer hose bed #1. Plumbing will consist of 2.50" piping with a 2.50" full-flow ball valve controlled at the pump operator's panel. The discharge(s) will terminate with a 2.50" (M) National Standard hose thread adapter.

0752096	Caps/Plugs for 1.00" to 3.00" Discharges/Inlets, Vinyl Covered Cable	DISCHARGE CAPS/ INLET PLUGS Chrome plated, rocker lug, caps with vinyl covered cables will be furnished for all discharge outlets 1.00" thru 3.00" in size, besides the pre-connected hose outlets. Chrome plated, rocker lug, plugs with vinyl covered cables will be furnished for all auxiliary inlets 1.00" thru 3.00" in size. The caps and plugs will incorporate a thread design to automatically relieve stored pressure in the line when disconnected.
0723042	Valve, 0.75" Bleeder, Discharges, "T" Swing Handle	OUTLET BLEEDER VALVE A 0.75" bleeder valve will be provided for each outlet 1.50" or larger. Automatic drain valves are acceptable with some outlets if deemed appropriate with the application. The valves will be located behind the panel with a T swing style handle control extended to the outside of the side pump panel. The handles will be chrome plated and provide a visual indication of valve position. The T swing handle will provide an ergonomic position for operating the valve without twisting the wrist and provides excellent leverage. Bleeders will be located at the bottom of the pump panel. They will be properly labeled identifying the discharge they are plumbed in to. The water discharged by the bleeders will be routed below the chassis frame rails.
0075259	Outlet, 3.00" Deluge w/TFT RC3 Elect Extend-a-Gun 18" riser	DELUGE RISER A 3.00" deluge riser will be installed above the pump in such a manner that a monitor can be mounted and used effectively. Piping will be rigidly braced and installed securely so no movement develops when the line is charged. The riser will be gated and controlled at the pump operator's panel. Any 3.00 inch or larger discharge valve will be a slow-operating valve in accordance with NFPA 16.7.5.3. TELESCOPIC PIPING The deluge riser piping will include a 18.00" Task Force Model XGA38 electric Extend-A-Gun extension. This extension will be telescopic to allow the deluge gun to be raised 18.00" increasing the range of operation. A position sensor will be provided on the telescopic piping that will activate the "do not move vehicle" light inside the cab when the monitor is in the raised position.
0095958	Deluge Outlet, Special Height/Location	DELUGE OUTLET SPECIAL INSTRUCTIONS The deluge gun outlet will be located top of the monitor no higher than the top of the closed hose bed cover.
0543593	Monitor, TFT Hurricane XFIH-E, Electric, Panel and Tether Control	MONITOR A Task Force Hurricane, model XFIH-E remote controlled monitor will be properly installed on the deluge riser. This monitor will include the Task Force Tips Primary Monitor Operator Station, mounted at the pump operator's panel. An additional remote tether control will be mounted LS3, per the provided photo. The monitor will have manual override handwheels in the event of an electrical system malfunction. The monitor will be painted to match the body.
0054847	Nozzle, TFT Master Stream M-ER, 1250 GPM, Electric	NOZZLE A Task Force Tips Master Stream Series M-ER nozzle will be provided. The nozzle will have a range of 250 to 1250 GPM, and electric pattern control.
0075261	Deluge Mount, TFT Hurricane For RC3 Extend-A-Gun Only	The deluge riser Extend-a-Gun will have a provisions for direct mounting a Task Force Hurricane monitor.
0723972	11.00" Speedlay Module	SPEEDLAY MODULE The speedlay module will be standard width to match the pumphouse. The speedlays module will be 11.00" wide and mounted to the front of the pumphouse. The speedlays will be capable of carrying up to a maximum of 200' of double stacked 1.75" hose. The outside vertical surfaces on the left and right side of the speedlay module will have a polished stainless steel scuffplate.
0723445	Hose Restr, Spdly, 1"Nylon Web, Bottom Anchored	SPEEDLAY HOSE RESTRAINT A 1.00" black nylon webbing design restraint will be provided across the ends of speedlay(s) to secure the hose during travel. The webbing assembly is to be attached at the bottom of the speedlay(s) with footman loops as a permanent attachment and is attached at the top with spring clip and hook fastener(s).

0723971	Speedlays, (1) 1.5", W/Poly Trays, Std. Cap.	<p>SPEEDLAY(S), LOWER</p> <p>There will be one (1) lower speedlay provided.</p> <p>1.50" Speedlay</p> <p>There will be one (1) 1.50" speedlay plumbed with 2.00" welded or formed schedule 10 304L stainless steel pipe.</p> <p>There will be a 1.50" National Standard hose thread 90-degree swivel provided in each hose bed, so that the hose may be removed from either side of apparatus. The swivel will be positioned at the top of speedlay hose bed as far outboard as possible for ease of changing hose.</p> <p>Each speedlay will be gated with a 2.00" quarter turn ball valve with the controls located at the pump operator's panel.</p> <p>Each hose bed will be capable of carrying 200' of 1.75" double jacket hose, double stacked.</p> <p>Speedlay Hose Trays</p> <p>A removable tray will be provided for each crosslay hose bed. The crosslay tray will be constructed of black poly to provide a lightweight sturdy tray. Two (2) hand holes will be in the floor and additional hand holes will be provided in the sides for easy removal and installation from the compartment. The floor of the trays will be perforated to allow for drainage and hose drying. Trays will be held in place by a mechanical spring-loaded stainless-steel latch that automatically deploys upon loading the trays to hold the trays in place during transit.</p>
0723970	Speedlays, (1) 1.5", W/Poly Trays, Std. Cap.	<p>SPEEDLAY(S), UPPER</p> <p>There will be one (1) upper speedlay provided.</p> <p>1.50" Speedlay</p> <p>There will be one (1) 1.50" speedlay plumbed with 2.00" welded or formed schedule 10 304L stainless steel pipe.</p> <p>There will be a 1.50" National Standard hose thread 90-degree swivel provided in each hose bed, so that the hose may be removed from either side of apparatus. The swivel will be positioned at the top of speedlay hose bed as far outboard as possible for ease of changing hose.</p> <p>Each speedlay will be gated with a 2.00" quarter turn ball valve with the controls located at the pump operator's panel.</p> <p>Each hose bed will be capable of carrying 200' of 1.75" double jacket hose, double stacked.</p> <p>Speedlay Hose Trays</p> <p>A removable tray will be provided for each crosslay hose bed. The crosslay tray will be constructed of black poly to provide a lightweight sturdy tray. Two (2) hand holes will be in the floor and additional hand holes will be provided in the sides for easy removal and installation from the compartment. The floor of the trays will be perforated to allow for drainage and hose drying. Trays will be held in place by a mechanical spring-loaded stainless-steel latch that automatically deploys upon loading the trays to hold the trays in place during transit.</p>
0889853	SP Crosslays Sngl Sheet Unpainted, (2+) 1.50", Std. Cap	<p>CROSSLAY HOSE BEDS</p> <p>Two (2) crosslays with 1.50" outlets will be provided. Each bed to be capable of carrying 200' of 1.75" double jacketed hose and will be plumbed with 2.00" i.d. pipe and gated with a 2.00" quarter turn ball valve.</p> <p>Outlets to be equipped with a 1.50" National Standard hose thread 90 degree swivel located in the hose bed so that hose may be removed from either side of apparatus.</p> <p>The crosslay controls will be at the pump operator's panel.</p> <p>The center crosslay dividers will be fabricated of .25" aluminum and will provide adjustment from side to side. The divider will be unpainted with a DA finish. The remainder of the crosslay bed will be painted job color.</p> <p>Scuffplates will be provided on both sides, at the sides and bottom of each opening to protect the paint.</p>
0029196	Not Required, 2.50" Crosslay	
0590942	Hose Restraint, Crosslay/Deadlay, 1" Heavy Nylon Web, Strap Fasteners, Each Side	<p>CROSSLAY/DEADLAY HOSE RESTRAINT</p> <p>A black 1.00" nylon webbing design with 2.00" box pattern will be provided across each end of two (2) crosslay/deadlay(s) to secure the hose during travel. The webbing will be permanently attached at the top of the crosslay/deadlay opening(s). 1.00" web straps will loop through footman loops located at the opposite end of the permanently attached webbing. The straps will attach with a pair of spring clip and hook fasteners.</p>
0723728	Not Required, Selected in New Speedlay Categories	
0723727	Not Required, Selected in New Speedlay Restraint Category	
0615255	Cover, Crosslay, 3/16" Alum Treadplate, Front Hinge	<p>CROSSLAY COVER</p> <p>A hinged .19" aluminum treadplate cover will be installed over the crosslay hose beds. It will include a latch at each end of the cover to hold it securely in place, a chrome grab handle at each end for opening and closing the cover and a foam rubber gasket where the cover comes into contact to a painted surface.</p> <p>The cover will be provided with rubber latch hold open device.</p> <p>The hinge will be to the front of the hose beds.</p>

0661221	Tray(s), Poly, Special Size, IPOS	CROSSLAY TRAY The two (2) poly tray(s) provided for the crosslays/speedlays will be of 7.5"ID (OR more if possible) for each tray, and located upper and lower speedlay poly trays.
0624939	Foam Sys, Husky 3, Single Agent, Multi Select Feature	HUSKY 3 FOAM PROPORTIONER A Pierce Husky® 3 foam proportioning system will be provided. The Husky 3 is an on demand, automatic proportioning, single point, direct injection system suitable for all types of Class A and B foam concentrates, including the high viscosity (6000 cps), alcohol resistant Class B foams. Operation will be based on direct measurement of water flow, and remain consistent within the specified flows and pressures. The system will automatically proportion foam solution at rates from .1 percent to 3 percent regardless of variations in water pressure and flow, up to the maximum rated capacity of the foam concentrate pump. The design of the system will allow operation from draft, hydrant, or relay operation. System Capacity The system will have the ability to deliver the following minimum foam solution flow rates at accuracies that meet or exceed NFPA requirements at a pump rating of 150 psi. 100 gpm @ 3 percent 300 gpm @ 1 percent 600 gpm @ 0.5 percent Class A foam setting in .1 percent increments from .1 percent to 1 percent. Typical settings of 1 percent, .5 percent and .3 percent (maximum capacity will be limited to the plumbing and water pump capacity). Control System The system will be equipped with a digital electronic control display located on the pump operators panel. Push button controls will be integrated into the panel to turn the system on/off, control the foam percentage, and to set the operation modes. The percent of injection will have a preset. This preset can be changed at the fire department as desired. The percent of injection will be able to be easily changed at the scene to adjust to changing demands. Three (3) .50 tall LEDs will display the foam percentage in numeric characters. Three (3) indicator LEDs will also be included, one (1) green, one (1) red, and one (1) yellow. The LEDs will indicate various system operation or error states. The indications will be: Solid Green - System On Solid Red - Valve Position Error Solid Yellow - Priming System Flashing Green - Injecting Foam Flashing Red - Low Tank Level Flashing Yellow - Refilling Tank The control display will house a microprocessor, which receives input from the systems water flow meter while also monitoring the position of the foam concentrate pump. The microprocessor will compare the values of the water flow versus the position/rate of the foam pump, to ensure the proportion rate is accurate. One (1) check valve will be installed in the plumbing to prevent foam from contaminating the water pump. Hydraulic Drive System The foam concentrate pump will be powered by an electric over hydraulic drive system. The hydraulic system and motor will be integrated into one (1) unit. Foam Concentrate Pump The foam concentrate pump will be of positive displacement, self-priming; linear actuated design, driven by the hydraulic system. The pump will be constructed of brass body; chrome plated stainless steel shaft, with a stainless steel piston. In order to increase longevity of the pump, no aluminum will be present in its construction. A relief system will be provided which is designed to protect the drive system components and prevent over pressuring the foam concentrate pump The foam concentrate pump will have minimum capacity for 3 gpm with all types of foam concentrates with a viscosity at or below 6000 cps including protein, fluoroprotein, AFFF, FFFP, or AR-AFFF. The system will deliver only the amount of foam concentrate flow required, without recirculating foam back to the storage tank. Recirculating foam concentrate back to the storage tank can cause agitation and premature foaming of the concentrate, which can result in system failure. The foam concentrate pump will be self-priming and have the ability to draw foam concentrate from external supplies such as drums or pails. External Foam Concentrate Connection An external foam pick-up will be provided to enable use of a foam agent that is not stored on the vehicle. The external foam pick-up will be designed to allow continued operation after the on-board foam tank is empty, or the use of foam different than the foam in the foam tank. Panel Mounted External Pick-Up Connection / Valve A bronze three (3)-way valve will be provided. The unit will be mounted to the pump panel. The valve unit will function as the foam system tank to pump valve and external suction valve. The external foam pick-up will be one (1) 0.75" male connection GHT (garden hose thread) with a cap. Pick-Up Hose A 0.75" flexible hose with an end for insertion into foam containers will be provided. The hose will be supplied with a 0.75" female swivel GHT (garden hose thread) swivel connector. The hose will be shipped loose. Discharges The foam system will be plumbed to the left side of front bumper, front of hose bed left side, left rear outlet, front crosslay and rear crosslay. System Electrical Load The maximum current draw of the electric motor and system will be no more than 55 amperes at 12 VDC.
0012126	Not Required, CAF Compressor	

0592527	Refill, Foam Tank, Integral, Husky 3	SINGLE FOAM TANK REFILL The foam system's proportioning pump will be used to fill the foam tank. This will allow use of the auxiliary foam pick-up to pump the foam from pails or a drum on the ground into the foam tank. A foam shut-off switch will be installed in the fill dome of the tank to shut the system down when the tank is full. The fill operation will be controlled by a mode in the foam system controller. While the proportioner pump is filling the tank, the controller will display a flashing yellow LED to indicate that the tank is filling. When the tank is full, as determined by the float switch in the tank dome, the pump will stop and the controller will shut the yellow LED off. If it attempted to use tank fill and the refill valve and suction valve are in the wrong position(s), then a red LED will illuminate to indicate the improper valve position(s). When the valves are positioned properly, then filling will commence.
0031896	Demonstration, Foam System, Dealer Provided	
0005446	Foam Cell, 20 Gallon, Not Reduce Water	FOAM TANK The foam tank will be an integral portion of the polypropylene water tank. The cell will have a capacity of 20 gallons of foam with the intended use of Class A foam. The foam cell will not reduce the capacity of the water tank. The foam cell will have a screen in the fill dome and a breather in the lid.
0891420	Drain, 1.00", Foam Tank #1, Husky 3 Foam System, "T" Swing Handle	FOAM TANK DRAIN The foam tank drain will be a 0.75" "T" swing handle drain valve with 1.00" fittings located inside the pump/plumbing compartment.
0091079	Not Required, Foam Tank #2	
0091112	Not Required, Foam Tank #2 Drain	
0746444	Approval Dwg, Color And Label Tags Only	COLOR CODED TAGS A detailed drawing/chart of the colors used on all of the inlet(s) and outlet(s) will be provided for the customer to review. The customer will be allowed to make changes and/or mark-ups to this approval drawing/chart. The fire apparatus manufacturer will make revisions (If needed) to the drawing per the customer changes and/or mark-ups as long as the changes are physically possible within a specific product line. The finalized and signed customer approved drawing/chart of the colors will become part of the contract documents. SPECIAL TEXT/VERBIAGE TAGS A detailed drawing/chart of the text/verbiage used on all of the inlet(s) and outlet(s) will be provided for the customer to review. The customer will be allowed to make changes and/or mark-ups to this approval drawing/chart. The fire apparatus manufacturer will make revisions (If needed) to the drawing per the customer changes and/or mark-ups as long as the changes are physically possible within a specific product line. The finalized and signed customer approved drawing/chart of the text/verbiage will become part of the contract documents.
0032479	Pump Panel Configuration, Control Zone	PUMP PANEL CONFIGURATION The pump panel configuration will be arranged and installed in an organized manner that will provide user-friendly operation.
0635355	Material, Pump Panels, Side Control Painted FormCoat Black	PUMP AND GAUGE PANEL The pump and gauge panels will be constructed of aluminum with a painted FormCoat black finish. A polished aluminum trim molding will be provided around each panel.

0722365	Panel, Pump Access, Front, Top and Both Sides, With Speedlay Module	<p>LEFT SIDE PANEL</p> <p>The left side pump panel will be split into (4) pieces. An upper, mid-section, lower and drain bank panels.</p> <p>The upper pump panel will have vertically hinged access above the valve controls. The hinge will be located towards the front of the pump panel. The upper panel will be made as large as possible.</p> <p>The left side mid-section (valve control area) pump panel will be secured using screws and rivet nut type of fasteners.</p> <p>The left side lower (main intake area) pump panel will be secured using screws and rivet nut type of fasteners.</p> <p>The drain bank portion of the left panel will be secured using screws and rivet nut type of fasteners.</p> <p>RIGHT SIDE PANEL</p> <p>The right side pump panel will be split into (4) pieces. An upper, mid-section, lower and drain bank panels.</p> <p>The right side upper, mid section and lower (main intake area) section will be removable.</p> <p>The drain bank portion of the right panel will be secured using screws and rivet nut type of fasteners.</p> <p>FRONT OF PUMPHOUSE ACCESS</p> <p>On the front of the pump house structure, provisions will be provided for access to the pump and plumbing. An opening of 36.00" wide by 30.00" high will be provided.</p> <p>An aluminum treadplate kneeling pad, 20.00" long by 9.25" wide will be provided at the front of the pumphouse.</p> <p>No permanently mounted panels will be secured/installed on the front of the pump house area.</p> <p>TOP OF PUMPHOUSE ACCESS</p> <p>On the top of the pump house structure/cargo floor area, provisions will be provided for access to the pump and plumbing. The pumphouse cargo floor will be split into Three (3) sections and fastened with removable S/S hardware and rivet nut type of fasteners.</p> <p>PANEL LATCHES</p> <p>The upper left side hinged, right side upper, right side mid section and right side lower section of panels will be fastened with chrome flush lift and turn latch .</p>
0583824	Light, Pump Compt, Wln 3SC0CDCR LED White	<p>PUMP COMPARTMENT LIGHT</p> <p>There will be one (1) Whelen®, Model 3SC0CDCR, 3.00" white 12 volt DC LED light(s) with Whelen, Model 3FLANGEC, flange(s) installed in the pump compartment.</p> <p>There will be a switch accessible through a door on the pump panel included with this installation.</p>
0586382	Gauges, Engine, Included With Pressure Controller	<p>Engine monitoring graduated LED indicators will be incorporated with the pressure controller.</p> <p>Also provided at the pump panel will be the following:</p> <ul style="list-style-type: none"> - Master Pump Drain Control
0005601	Throttle, Engine, Incl'd w/Press Controller	
0739224	Indicator Light @ Pump Panel, Throttle Ready, Incl w/Pressure Gov/Throttle,Green	<p>THROTTLE READY GREEN INDICATOR LIGHT</p> <p>There will be a green indicator light integrated with the pressure governor and/or engine throttle installed on the pump operators panel that is activated when the pump is in throttle ready mode.</p>
0549333	Indicators, Engine, Included with Pressure Controller	
0745568	Indicator Light, Pump Panel, Ok To Pump, Green	<p>OK TO PUMP INDICATOR LIGHT</p> <p>There will be a green indicator light installed on the pump operators panel that is activated when the pump is in Ok To Pump mode.</p>
0005780	Control, Air Horn At Pmp Pnl, Button	<p>AIR HORN BUTTON</p> <p>An air horn control button will be provided at the pump operator's control panel. This button will be properly labeled and put within easy reach of the operator.</p>
0081262	Drains, RS, Keep Area Under Main Inlet Clear	<p>RIGHT SIDE DRAINS</p> <p>The drains on the right side pump panel will be located to keep the area under the main pump inlet clear for customer installed piston intake valve.</p>
0066121	Drains, LS, Keep Area Under Main Inlet Clear	<p>DRAINS, LEFT SIDE</p> <p>The drains on the left side pump panel will be located to keep the area under the main pump inlet clear for customer installed piston intake valve.</p>
0025637	Pump Panel Trim Rings, Oversized for Valve Removal	<p>OUTLET TRIM RINGS</p> <p>The side discharges and auxiliary inlet valves will be recessed behind the panel and have larger holes provided in the pump panel to facilitate removal of the valves without removing the complete pump panel. Stainless steel trim plates will be provided to trim the holes.</p>

0511078	Gauges, 4.00" Master, Class 1, 30"-0-600psi	<p>VACUUM AND PRESSURE GAUGES</p> <p>The pump vacuum and pressure gauges will be liquid filled and manufactured by Class 1 Incorporated ©.</p> <p>The gauges will be a minimum of 4.00" in diameter and will have white faces with black lettering, with a pressure range of 30.00"-0-600#.</p> <p>Gauge construction will include a Zytel nylon case with adhesive mounting gasket and threaded retaining nut.</p> <p>The pump pressure and vacuum gauges will be installed adjacent to each other at the pump operator's control panel.</p> <p>Test port connections will be provided at the pump operator's panel. One will be connected to the intake side of the pump, and the other to the discharge manifold of the pump. They will have 0.25 in. standard pipe thread connections and non-corrosive polished stainless steel or brass plugs. They will be marked with a label.</p> <p>This gauge will include a 10 year warranty against leakage, pointer defect, and defective bourdon tube.</p>
0511100	Gauge, 2.00" Pressure, Class 1, 30"-0-400psi	<p>PRESSURE GAUGES</p> <p>The individual "line" pressure gauges for the discharges will be Class 1© interlube filled.</p> <p>They will be a minimum of 2.00" in diameter and have white faces with black lettering.</p> <p>Gauge construction will include a Zytel nylon case with adhesive mounting gasket and threaded retaining nut.</p> <p>Gauges will have a pressure range of 30"-0-400#.</p> <p>The individual pressure gauge will be installed as close to the outlet control as practical.</p> <p>This gauge will include a 10 year warranty against leakage, pointer defect, and defective bourdon tube.</p>
0604123	Gauge, Water Level, FRC, WLA 300-A00, TankVision Pro, w/Remote Light Driver	<p>WATER LEVEL GAUGE</p> <p>A Fire Research TankVision Pro model WLA300-A00 water tank indicator gauge will be installed on the pump operators panel. The gauge kit will include an electronic indicator module, a pressure sensor, and a 10' sensor cable. The gauge will show the volume of water in the tank on nine (9) easy to see super bright RGB LEDs. A wide view lens over the LEDs will provide for a viewing angle of 180 degrees. The gauge case will be waterproof, manufactured of Polycarbonate/Nylon material, and have a distinctive blue label.</p> <p>The program features will be accessed from the front of the indicator module. The program will support self-diagnostics capabilities, self-calibration, six (6) programmable colored light patterns to display tank volume, adjustable brightness control levels and a data link to connect remote indicators. Low water warnings will include flashing LEDs at 1/4 tank and down chasing LEDs when the tank is almost empty.</p> <p>The gauge will receive an input signal from an electronic pressure sensor. The sensor will be mounted from the outside of the water tank near the bottom. No probe will be placed on the interior of the tank. Wiring will be weather resistant and have automotive type plug-in connectors.</p> <p>REMOTE LIGHT DRIVER</p> <p>A Fire Research TankVision model WLA290-A00 remote light driver will be installed. The driver will provide four (4) separate outputs to control additional water level lights around the apparatus. The lights will show 1/4, 1/2, 3/4, and full tank. When power is applied the driver will run a test and cycle each remote light on and off. When the tank is less than 1/4 full the 1/4 tank light will blink.</p>
0604028	Water Level Gauge, FRC, MaxVision WLA280-A00 Programmable Remote Display	<p>ADDITIONAL WATER LEVEL GAUGE</p> <p>There will be two (2) additional Fire Research MaxVision model WLA280-A00 water tank remote indicators provided and installed each side of the crew cab as high as possible, just below the upper side warning light. The indicators will show the volume of water in the tank on Ninety six (96) easy to see super bright Tri-color LEDs. The indicator case will be waterproof, manufactured of Polycarbonate material with an integrated lens.</p> <p>The remote indicator will indicate the level as a single color in Red for 25% or less, Amber color for up to 50% volume, Blue color for up to 75% volume and Green color for up to 100% volume. When the level reaches 25%, the red LEDs will begin flashing. When the level is empty, the red LEDs will scroll in a down-chasing motion and then flash three times.</p> <p>The flash rate will be determined by the main water tank sensor.</p> <p>It will have the program capability to adjust the brightness level for day time and night time viewing. The LEDs can also be programmed for different colors.</p> <p>This module will be activated when the pump is in gear.</p>
0604354	Gauge, Foam Level, FRC, Tank Vision Pro, WLA 360-A00, Class "A"	<p>CLASS "A" FOAM LEVEL GAUGE</p> <p>A Fire Research TankVision Pro model WLA360-A00 cell/tank level indicator kit will be installed on the pump operators panel. The kit will include an electronic indicator module, a pressure sensor, a 10' sensor cable and a tank vent. The indicator will show the volume of Class "A" foam concentrate in the cell/tank on nine (9) easy to see super bright RGB LEDs. A wide view lens over the LEDs will provide for a viewing angle of 180 degrees. The indicator case will be waterproof, manufactured of Polycarbonate/Nylon material and have a distinctive green label.</p> <p>The program features will be accessed from the front of the indicator module. The program will support self-diagnostics capabilities, self-calibration, six (6) programmable colored light patterns to display cell/tank volume, adjustable brightness control levels and a data link to connect remote indicators. Low foam level warnings will include flashing LEDs at 1/4 cell/tank and down chasing LEDs when the cell/tank is almost empty.</p> <p>The indicator will receive an input signal from an electronic pressure sensor. The sensor will be mounted from the outside of the foam cell/tank near the bottom. No probe will be placed on the interior of the cell/tank. Wiring will be weather resistant and have automotive type plug-in connectors.</p>

0593161	Light Shield, S/S LED	LIGHT SHIELD There will be a polished, 16 gauge stainless steel light shield installed over the pump operator's panel. There will be 12 volt DC white LED lights installed under the stainless steel light shield to illuminate the controls, switches, essential instructions, gauges, and instruments necessary for the operation of the apparatus. These lights will be activated by the pump panel light switch. Additional lights will be included every 18.00" depending on the size of the pump house. One (1) pump panel light will come on when the pump is in ok to pump mode. There will be a light activated above the pump panel light switch when the parking brake is set. This is to afford the operator some illumination when first approaching the control panel.
0682488	Light Shield, S/S, PS LED	ADDITIONAL LIGHT SHIELD An additional polished, 16 gauge stainless steel light shield will be provided above passenger's side pump panel. There will be 12 volt DC white LED lights installed under the light shield to illuminate the controls, switches, essential instructions, gauges, and instruments necessary for the operation of the apparatus. These lights will be activated by the pump panel light switch. Additional lights will be included every 18.00" depending on the size of the pump house.
0606694	Air Horns, (2) Hadley, 6" Round, eTone, In Bumper	AIR HORN SYSTEM Two (2) Hadley®, eTone, chrome air horns will be recessed in the front bumper. The air horn system will be piped to the air brake system wet tank utilizing 0.38" tubing. A pressure protection valve will be installed to prevent the loss of air in the brake system.
0606834	Location, Air Horns, Bumper, Each Side, Outside Frame, Inboard (Pos #2 & #6)	Air Horn Location The air horns will be located on each side of the bumper, just outside of the frame rails.
0757092	Control, Air Horn, Multi Select	Air Horn Control The air horn(s) will be activated by the following:
0757080	Control, Air Horn, Ft Sw, RS	Right side foot switch
0757081	Control, Air Horn, Ft Sw, LS	Left side foot switch
0602752	Siren, Wln 295HFS2 Remote, Single Amp, Other Speaker, Non-NFPA 2016	ELECTRONIC SIREN A Whelen 295HFS2, electronic remote siren with noise canceling microphone will be provided. This siren to be active when the battery switch is on and that emergency master switch is on. NFPA 1901, 2016 edition, Section 13.9.1.1 requires the siren manufacturer to certify the siren as meeting the requirements of SAE J1849, <i>Emergency Vehicle Sirens</i> . Per the fire department specification, the siren and siren speaker come from separate manufacturers and a certification is therefore not valid. The apparatus will be non compliant to NFPA 1901 standards at time of contract execution.
0510206	Location, Elect Siren, Recessed Overhead In Console	Electronic siren head will be recessed in the overhead console above the engine tunnel on the driver side.
0748306	Control, Elec Siren, Multi Select	ELECTRONIC SIREN CONTROL The electronic siren will be activated by the following:
0748293	Control, Elec Siren, Ft Sw, RS	The right side foot switch.
0748294	Control, Elec Siren, Ft Sw, LS	The left side foot switch.
0601330	Speaker, (1) Federal, ES100C w/ESFMT-EF Recess Mnt & S/S Grille	SPEAKER There will be one (1) Federal Signal DynaMax®, Model ES100, 100 watt speaker provided. The speaker will use a Federal Signal, Model ESFMT-EF, recess mount with stainless steel grille. The speaker will be connected to the siren amplifier.
0601555	Location, Speaker, Frt Bumper, Recessed, Left Side, Outside Frame, Outbrd (Pos 7)	The speaker will be recessed in the left side of the front bumper, towards the outside.

0895310	Siren, Federal Q2B	<p>AUXILIARY MECHANICAL SIREN</p> <p>There will be a Federal Signal Model Q2B mechanical siren furnished and installed in the front of the apparatus.</p> <p>The Q2B will be chrome finish.</p> <p>The siren will have a 2-gauge cable connected to a power solenoid that is connected by a 2-gauge cable ran battery direct to the primary chassis batteries and will be labeled Q2B+ at the battery. The power solenoid will only be enabled when the emergency master switch is on.</p> <p>The siren will have a 2-gauge ground wire connected to the chassis battery stud. The cable will be labeled Q2B- at the battery.</p>
0006097	Location of Siren, Recessed in Bumper	The mechanical siren will be recessed in the front bumper on the right side. The siren will be properly supported using the bumper framework.
0748305	Control, Mech Siren, Multi Select	<p>MECHANICAL SIREN CONTROL</p> <p>The mechanical siren will be activated by the following:</p>
0748281	Control Mech Siren, Ft Sw RS	Right side foot switch.
0748282	Control Mech Siren, Ft Sw LS	Left side foot switch.
0740392	Sw, Siren Brake, Momentary Red, RS Overhead Sw Pnl	A momentary red switch will be included in the right side overhead switch panel to activate the siren brake.
0740834	Sw, Siren Brake, Momentary Red, LS Overhead Sw Pnl	A momentary red switch will be included in the left side overhead switch panel to activate the siren brake.
0002623	Cut-Out, Mech Siren, Interlock to Prk Brk	<p>MECHANICAL SIREN INTERLOCK</p> <p>The mechanical siren will be interlocked to shutoff whenever parking brake is applied. The interlock will disconnect the power only.</p>
0746353	Not Required, Warning Lights Intensity	
0786656	SP Lightbar, WIn, Freedom IV-Q, 81", RRRRsrrRRWWRRRsrrRRRR	<p>FRONT ZONE UPPER WARNING LIGHTS</p> <p>There will be one (1) 81.00" Whelen® Freedom™ IV LED lightbar mounted on the cab roof. The lightbar will include the following:</p> <ul style="list-style-type: none"> One (1) red flashing LED module in the driver's side end position. One (1) red flashing LED module in the driver's side front corner position. One (1) red flashing LED module in the driver's side first front position. One (1) red flashing LED module in the driver's side second front position. One (1) steady red burning LED module in the driver's side third front position. One (1) red flashing LED module in the driver's side fourth front position. One (1) red flashing LED module in the driver's side fifth front position. One (1) red flashing LED module in the driver's side sixth front position. One (1) white flashing LED module in the driver's side seventh front position. One (1) white flashing LED module in the driver's side seventh front position. One (1) red flashing LED module in the passenger's side sixth front position. One (1) red flashing LED module in the passenger's side fifth front position. One (1) red flashing LED module in the passenger's side fourth front position. One (1) steady red burning LED module in the passenger's side third front position. One (1) red flashing LED module in the passenger's side second front position. One (1) red flashing LED module in the passenger's side first front position. One (1) red flashing LED module in the passenger's side front corner position. One (1) red flashing LED module in the passenger's side end position. <p>There will be clear lenses included on the lightbar.</p> <p>There will be a switch installed in the cab on the switch panel to control this lightbar.</p> <p>The white flashing LED modules will be disabled when the parking brake is applied.</p> <p>The red flashing LED modules in the front positions may be load managed when the parking brake is applied.</p>

0898734	Light, Front Zone, Wln M6** M6** M6** M6** Q Bzl	CAB FACE WARNING LIGHTS There will be four (4) Whelen®, Model M6**, 4.31" high x 6.75" wide x 1.37" deep flashing LED warning lights installed on the cab face, above the headlights in a housing that matches the headlights per the following: The left side outside warning light to include red LEDs. The left side inside warning light to include red LEDs. The right side inside warning light to include red LEDs. The right side outside warning light to include red LEDs. The warning light lens color(s) to be clear. The housing to be polished and the trim shall be chrome. The lights will be controlled per the following: A switch in the cab, on the switch panel will control the lights. White LEDs will be deactivated when the parking brake is applied. Amber LEDs will be deactivated when the parking brake is released. Amber, blue, green or red LEDs in the inside positions may be load managed when the parking brake is applied.
0558676	Daytime Running Lights, Headlights, Qtm, Vel/Imp, Enf/AXT-MUX, DCF (Low Beam)	DAYTIME RUNNING LIGHTS (HEADLIGHTS) The low-beam headlights used as daytime running lights will be activated with the following measures: Ignition switch is turned on Parking brake is released These lights will be deactivated with any one of the following measures: Headlight switch is turned on High-beam flash is turned on Parking brake is set
0653937	Flasher, Headlight Alternating	HEADLIGHT FLASHER The high beam headlights will flash alternately between the left and right side. There will be a switch installed in the cab on the switch panel to control the high beam flash. This switch will be live when the battery switch and the emergency master switches are on. The flashing will automatically cancel when the hi-beam headlight switch is activated or when the parking brake is set.
0540679	Lights, Side Zone Lower, Wln M6*C LED, Clear Lens 2pr	SIDE ZONE LOWER LIGHTING There will be four (4) Whelen®, Model M6*C, flashing LED warning lights with chrome trim installed per the following: Two (2) lights, one (1) each side on the bumper extension. The side front lights to be red. Two (2) lights, one (1) each side above rear wheels. The side rear lights to be red. The lights will include a clear lenses. There will be a switch in the cab on the switch panel to control the lights.
0743910	Lights, Side, Wln M6** LED, Trm Fet 1st	SIDE WARNING LIGHTS There will be two (2) Whelen®, Model M6**, 4.31" high x 6.75" wide x 1.37" deep flashing LED warning light(s) with chrome trim provided, each side of the crew cab, behind the doors, as high as possible. The light(s) to include red flashing LEDs. The warning light lens color(s) to be clear. There will be a switch in the cab on the switch panel to control the lights. White LEDs will be deactivated when the parking brake is applied. Amber, blue, green and red LEDs may be load managed when the parking brake is applied.
0564655	Lights, Rear Zn Lwr, Wln M6*C LED, Clear Lens, For Tail Lt Housing	REAR ZONE LOWER LIGHTING There will be two (2) Whelen®, Model M6*C, LED flashing warning lights located at the rear of the apparatus. The driver's side rear light to be red The passenger's side rear light to be red Both lights will include a lens that is clear. There will be a switch located in the cab on the switch panel to control the lights.
0541155	Lights, Rear/Side Up Zone, Wln M9*C LED, Clear Lens 4lts	WARNING LIGHTS (Rear and Side upper zones) Four (4) Whelen, model M9*C LED flashing warning lights will be provided at the rear of the apparatus. The side rear upper light(s) on the driver's side to be red. The rear upper light(s) on the driver's side to be red. The rear upper light(s) on the passenger's side to be red. The side rear upper light(s) on the passenger's side to be red. These lights will include a lens that is clear. There will be a switch located in the cab on the switch panel to control the lights.
0006551	Not Required, Lights, Rear Upper Zone Blocking	
0026813	No Hose Bed Warn Light Brackets Req'd, Lights Mtd on Hatch Compts, Pumper	

0791528	Light, Traffic Directing, Wln TAL65, 36.00" Long, TACTL5	TRAFFIC DIRECTING LIGHT There will be one (1) Whelen®, Model TAL65, 36.00" long x 2.87" high x 2.25" deep, amber LED traffic directing light installed at the rear of the apparatus. The Whelen, Model TACTL5, control head will be included with this installation. The controller will be energized when the battery switch is on. The auxiliary flash to be activated when the emergency master switch is on.
0529858	Location, Traf Dir Lt, Recessed Within Trdplt Step	This traffic directing light will be recessed within a treadplate step at the rear of the apparatus.
0530282	Location, Traf Dir Lt Controller, Overhead Switch Panel DS Right End	The traffic directing light control head will be located in the driver side overhead switch panel in the right panel position.
0519934	Not Required, Brand, Hydraulic Tool System	
0649753	Not Required, PTO Driven Hydraulic Tool System	
0602516	NFPA Required Loose Equipment, Pumper, NFPA 2016, Provided by Fire Department	NFPA REQUIRED LOOSE EQUIPMENT PROVIDED BY FIRE DEPARTMENT The following loose equipment as outlined in NFPA 1901, 2016 edition, section 5.9.3 and 5.9.4 will be provided by the fire department. 800 ft (60 m) of 2.50" (65 mm) or larger fire hose. 400 ft (120 m) of 1.50" (38 mm), 1.75" (45 mm), or 2.00" (52 mm) fire hose. One (1) handline nozzle, 200 gpm (750 L/min) minimum. Two (2) handline nozzles, 95 gpm (360 L/min) minimum. One (1) smoothbore of combination nozzle with 2.50" shutoff that flows a minimum of 250 gpm. One (1) SCBA complying with NFPA 1981 for each assigned seating position, but not fewer than four (4), mounted in brackets fastened to the apparatus or stored in containers supplied by the SCBA manufacturer. One (1) spare SCBA cylinder for each SCBA carried, each mounted in a bracket fastened to the apparatus or stored in a specially designed storage space(s). One (1) first aid kit. Four (4) combination spanner wrenches. Two (2) hydrant wrenches. One (1) double female 2.50" (65 mm) adapter with National Hose threads. One (1) double male 2.50" (65 mm) adapter with National Hose threads. One (1) rubber mallet, for use on suction hose connections. Two (2) salvage covers each a minimum size of 12 ft x 14 ft (3.7 m x 4.3 m). One (1) traffic vest for each seating position, each vest to comply with ANSI/ISEA 207, <i>Standard for High Visibility Public Safety Vests</i> , and have a five-point breakaway feature that includes two (2) at the shoulders, two (2) at the sides, and one (1) at the front. Five (5) fluorescent orange traffic cones not less than 28.00" (711 mm) in height, each equipped with a 6.00" (152 mm) retro-reflective white band no more than 4.00" (152 mm) from the top of the cone, and an additional 4.00" (102 mm) retro-reflective white band 2.00" (51 mm) below the 6.00" (152 mm) band. Five (5) illuminated warning devices such as highway flares, unless the five (5) fluorescent orange traffic cones have illuminating capabilities. One (1) automatic external defibrillator (AED). Four (4) ladder belts meeting the requirements of NFPA 1983, <i>Standard on Fire Service Life Safety Rope and System Components</i> (if equipped with an aerial device). If the supply hose carried does not use sexless couplings, an additional double female adapter and double male adapter, sized to fit the supply hose carried, will be carried mounted in brackets fastened to the apparatus. If none of the pump intakes are valved, a hose appliance that is equipped with one or more gated intakes with female swivel connection(s) compatible with the supply hose used on one side and a swivel connection with pump intake threads on the other side will be carried. Any intake connection larger than 3.00" (75 mm) will include a pressure relief device that meets the requirements of 16.6.6. If the apparatus does not have a 2.50" National Hose (NH) intake, an adapter from 2.50" NH female to a pump intake will be carried, mounted in a bracket fastened to the apparatus if not already mounted directly to the intake. If the supply hose carried has other than 2.50" National Hose (NH) threads, adapters will be carried to allow feeding the supply hose from a 2.50" NH thread male discharge and to allow the hose to connect to a 2.50" NH female intake, mounted in brackets fastened to the apparatus if not already mounted directly to the discharge or intake.
0519913	Not Required, Soft Suction Hose	SOFT SUCTION HOSE There will be no soft suction hose provided.
0027023	No Strainer Required	

0602538	Extinguisher, Dry Chemical, Pumper NFPA 2016 Class, Provided by Fire Department	DRY CHEMICAL EXTINGUISHER PROVIDED BY FIRE DEPARTMENT NFPA 1901, 2016 edition, section 5.9.4 requires one (1) approved dry chemical portable fire extinguisher with a minimum 80-B:C rating mounted in a bracket fastened to the apparatus. The extinguisher is not on the apparatus as manufactured. The fire department will provide and mount the extinguisher.
0602360	Extinguisher, 2.5 Gal. Pressurized Water, Pumper NFPA 2016, Provided by Fire Dept	WATER EXTINGUISHER PROVIDED BY FIRE DEPARTMENT NFPA 1901, 2016 edition, section 5.9.4 requires one (1) 2.5 gallon or larger water extinguisher mounted in a bracket fastened to the apparatus. The extinguisher is not on the apparatus as manufactured. The fire department will provide and mount the extinguisher.
0602679	Axe, Flathead, Pumper NFPA 2016 Classification, Provided by Fire Department	FLATHEAD AXE PROVIDED BY FIRE DEPARTMENT NFPA 1901, 2016 edition, Section 5.9.4 requires one (1) flathead axe mounted in a bracket fastened to the apparatus. The axe is not on the apparatus as manufactured. The fire department will provide and mount the axe.
0602667	Axe, Pickhead, Pumper NFPA 2016 Classification, Provided by Fire Department	PICKHEAD AXE PROVIDED BY FIRE DEPARTMENT NFPA 1901, 2016 edition, Section 5.9.4 requires one (1) pickhead axe mounted in a bracket fastened to the apparatus. The axe is not on the apparatus as manufactured. The fire department will provide and mount the axe.

0741569

Paint Process / Environmental
Requirements, Appleton**PAINT PROCESS**

The exterior custom cab and body painting procedure will consist of a seven (7) step finishing process as follows:

Manual Surface Preparation - All exposed metal surfaces on the custom cab and body will be thoroughly cleaned and prepared for painting. Imperfections on the exterior surfaces will be removed and sanded to a smooth finish. Exterior seams will be sealed before painting. Exterior surfaces that will not be painted include; chrome plating, polished stainless steel, anodized aluminum and bright aluminum treadplate.

Chemical Cleaning and Pretreatment - All surfaces will be chemically cleaned to remove dirt, oil, grease, and metal oxides to ensure the subsequent coatings bond well. The aluminum surfaces will be properly cleaned and treated using a high pressure, high temperature 4 step Acid Etch process. The steel and stainless surfaces will be properly cleaned and treated using a high temperature 3 step process specifically designed for steel or stainless. The chemical treatment converts the metal surface to a passive condition to help prevent corrosion.

Surfacer Primer - The Surfacer Primer will be applied to a chemically treated metal surface to provide a strong corrosion protective basecoat. A minimum thickness of 2 mils of Surfacer Primer is applied to surfaces that require a Critical aesthetic finish. The Surfacer Primer is a two-component high solids urethane that has excellent sanding properties and an extra smooth finish when sanded.

Finish Sanding - The Surfacer Primer will be sanded with a fine grit abrasive to achieve an ultra-smooth finish. This sanding process is critical to produce the smooth mirror like finish in the topcoat.

Sealer Primer - The Sealer Primer is applied prior to the Basecoat in all areas that have not been previously primed with the Surfacer Primer. The Sealer Primer is a two-component high solids urethane that goes on smooth and provides excellent gloss hold out when topcoated.

Basecoat Paint - Two coats of a high performance, two component high solids polyurethane basecoat will be applied. The Basecoat will be applied to a thickness that will achieve the proper color match. The Basecoat will be used in conjunction with a urethane clear coat to provide protection from the environment.

Clear Coat - Two (2) coats of Clear Coat will be applied over the Basecoat color. The Clear Coat is a two-component high solids urethane that provides superior gloss and durability to the exterior surfaces. Lap style and roll-up doors will be Clear Coated to match the body. Paint warranty for the roll-up doors will be provided by the roll-up door manufacturer.

After the cab and body are painted, the color will be verified to make sure that it matches the color standard. Electronic color measuring equipment will be used to compare the color sample to the color standard entered into the computer. Color specifications will be used to determine the color match. A Delta E reading will be used to determine a good color match within each family color.

All removable items such as brackets, compartment doors, door hinges, and trim will be removed and painted separately if required, to ensure paint behind all mounted items. Body assemblies that cannot be finish painted after assembly will be finish painted before assembly.

The paint finish quality levels for critical areas of the apparatus (cab front and sides, body sides and doors, and boom lettering panels) are to meet or exceed Cadillac/General Motors

GMW15777 global paint requirements. Orange peel levels are to meet or exceed the #6

A.C.T. standard in critical areas. The manufacture's written paint standards will be available upon request.

Environmental Impact

Contractor will meet or exceed all current state regulations concerning paint operations. Pollution control will include measures to protect the atmosphere, water and soil. Controls will include the following conditions:

Topcoats and primers will be chrome and lead free.

Metal treatment chemicals will be chrome free. The wastewater generated in the metal treatment process will be treated on-site to remove any other heavy metals.

Particulate emission collection from sanding operations will have a 99.99 percent efficiency factor.

Particulate emissions from painting operations will be collected by a dry filter or water wash process. If the dry filter is used, it will have an efficiency rating of 98 percent. Water wash systems will be 99.97 percent efficient

Water from water wash booths will be reused. Solids will be removed on a continual basis to keep the water clean.

Paint wastes are disposed of in an environmentally safe manner.

Empty metal paint containers will be recycled to recover the metal.

Solvents used in clean-up operations will be recycled on-site or sent off-site for distillation and returned for reuse.

Additionally, the finished apparatus will not be manufactured with or contain products that have ozone depleting substances. Contractor will, upon demand, present evidence that the manufacturing facility meets the above conditions and that it is in compliance with his state EPA rules and regulations.

0709846

Paint, Two-Tone Color,
Velocity/Impel**CAB TWO-TONE PAINT**

The cab will be painted two-tone, with the upper section painted #580 tuxedo black metallic and the lower section painted red #263. There will be a standard two-tone cab paint break provided. There will be a high cab shield provided.

0709845

Paint, Single Color, Body

BODY PAINT

The body will be painted to match the lower section of the cab.

0646897		Paint Chassis Frame Assy, E-Coat, Standard	PAINT CHASSIS FRAME ASSEMBLY The chassis frame assembly will be finished with a single system black top coat before the installation of the cab and body, and before installation of the engine and transmission assembly, air brake lines, electrical wire harnesses, etc. Components treated with epoxy E-coat protection prior to paint: Two (2) C-channel frame rails Components that are included with the chassis frame assembly that will be painted not e-coated are: Cross members Axles Suspensions Steering gear Battery boxes Bumper extension weldment Frame extensions Body mounting angles Rear Body support substructure (front and rear) Pump house substructure Air tanks Steel fuel tank Castings Individual piece parts used in chassis and body assembly The E-coat process will meet the technical properties shown.
0693797		No Paint Required, Aluminum Front Wheels	
0693792		No Paint Required, Aluminum Rear Wheels	
0733739		Paint, Axle Hubs	AXLE HUB PAINT All axle hubs will be painted black #101.
0755476	SP	Paint, Drip Rail, Above Aux Cab Compt, Match Exterior Cab Color	PAINTED RAIN DRIP The exterior access rain drip will be painted to match the cab paint color.
0638530	SP	Paint, Drip Rail, Above Exterior Access EMS, Match Exterior Cab Color	PAINTED RAIN DRIP The exterior access rain drip will be painted to match the cab paint color.
0620095		Paint, Drip Rail, Cab	PAINTED RAIN DRIP The cab roof rain drip will be painted to match the cab roof paint color.
0007230		Compartment, Painted, Spatter Gray	COMPARTMENT INTERIOR PAINT The interior of all compartments will be painted with a gray spatter finish for ease of cleaning and to make it easier to touch up scratches and nicks.
0544129		Reflective Band, 1"-6"-1"	REFLECTIVE STRIPES Three (3) reflective stripes will be provided across the front of the vehicle and along the sides of the body. The reflective band will consist of a 1.00" black stripe at the top with a 1.00" gap then a 6.00" black stripe with a 1.00" gap and a 1.00" black stripe on the bottom.
0510041		Reflective across Cab Face, Imp/Vel	The reflective band provided on the cab face will be below the headlights on the fiberglass.
0536954		Stripe, Chevron, Rear, Diamond Grade, Pumper	REAR CHEVRON STRIPING There will be alternating chevron striping located on the rear-facing vertical surface of the apparatus. The rear surface, excluding the rear compartment door, will be covered. The colors will be red and fluorescent yellow green diamond grade. Each stripe will be 6.00" in width. This will meet the requirements of the current edition of NFPA 1901, which states that 50% of the rear surface will be covered with chevron striping.
0760572	SP	Folded Ribbon in Reflective Stripe, Pair, w/o Air Brushing	FOLDED RIBBON IN REFLECTIVE STRIPE There will be one (1) pair(s) of a folded type ribbon(s), without air brushing, added to the reflective stripe located Located on the D3 & P3 roll-up doors..
0670035		Stripe, Diamond Grade Chevron, Toolboard	TOOLBOARD DIAMOND GRADE CHEVRON STRIPING A series of alternating red diamond grade and fluorescent yellow green diamond grade reflective stripes will be applied to the one (1) toolboard(s) located RS2.

0545179	Stripe, Diamond Grade, Chevron, Front Bumper	CHEVRON STRIPING ON THE FRONT BUMPER There will be alternating chevron striping located on the front bumper. The colors will be fluorescent yellow green and red diamond grade. The size of the striping will be 6.00".
0552453	Stripe, Reflective, Chevron, Cab and Crew Cab Doors Interior, Diamond Grade	INVERTED "V" CHEVRON STRIPING ON CAB AND CREW CAB DOORS There will be alternating chevron striping located on the inside of each cab and crew cab door. The striping will consist of the following colors: The first color will be red diamond grade The second color will be fluorescent yellow green diamond grade The size of the striping will be 4.00".
0680371	Stripe, Gold Leaf, Two-Tone Paint Break with Shield, IPO Chrome Molding	CAB STRIPE There will be a genuine gold leaf stripe provided on both sides of the cab in place of the chrome molding and on the cab face with shield.
0027372	Lettering Specifications, (GOLD STAR Process)	LETTERING The lettering will be totally encapsulated between two (2) layers of clear vinyl.
0686440	Lettering, Gold Leaf, 3.00", (1-20)	LETTERING One (1) to twenty (20) genuine gold leaf lettering, 3.00" high, with outline and shade will be provided.
0685562	Lettering, Printed Effect Gold Leaf, 5.00", Each	LETTERING There will be printed effect gold leaf lettering, 5.00" high, with outline and shade provided. There will be 12 letters provided.
0685978	Lettering, Reflective, 18.00", Each	LETTERING There will be reflective lettering, 18.00" high, with no outline or shade provided. There will be six (6) letters provided.
0686013	Lettering, Reflective, 6.00", Each	LETTERING There will be reflective lettering, 6.00" high, with outline and shade provided. There will be four (4) letters provided.
0686033	Lettering, Reflective, 4.00", Each	LETTERING There will be reflective lettering, 4.00" high, with outline and shade provided. There will be nine (9) letters provided.
0686084	Lettering, Reflective, 3.00", Each	LETTERING There will be reflective lettering, 3.00" high, with outline provided. There will be three (3) letters provided.
0686236	Lettering, Gold Leaf, 5.00", Each	LETTERING There will be genuine gold leaf lettering, 5.00" high, with outline and shade provided. There will be six (6) letters provided.
0686256	Lettering, Gold Leaf, 4.00", Each	LETTERING There will be genuine gold leaf lettering, 4.00" high, with outline and shade provided. There will be nine (9) letters provided.
0655896	Sign Kit, Painted, Holder and Insert, Each	SIGN KIT FOR LETTERING/NUMERALS four (4) painted stainless steel plate(s) and holder(s) will be provided for department lettering. They will be mounted Located on the crew cab doors, front bumper & rear. and 10"H X 12"W Placard painted #263 Red. in size.
0017273	Emblem, Maltese Cross, Gold Leaf, 12"-14", Pair	MALTESE CROSS INSTALLATION There will be one (1) pair of Maltese crosses, comprised of genuine gold leaf material, provided and installed each front cab door per the LSP.
0769753	Emblem, American Flag Painted on Cab Grille, All Custom Chassis	CAB GRILLE DESIGN An American flag design will be painted on the cab grille.

0771692	Manual, Fire Apparatus Parts, (1) USB Flash Drive, Multi Unit Order, Custom	<p>FIRE APPARATUS PARTS MANUAL</p> <p>There will be one (1) custom parts manual in USB flash drive format for the complete fire apparatus provided.</p> <p>The manual will contain the following:</p> <ul style="list-style-type: none"> Job number Part numbers with full descriptions Table of contents Parts section sorted in functional groups reflecting a major system, component, or assembly Parts section sorted in alphabetical order Instructions on how to locate parts <p>Each manual will be specifically written for the chassis and body model being purchased. It will not be a generic manual for a multitude of different chassis and bodies.</p> <p>This is a multiple unit order. The customer will receive one (1) manual on USB flash drive total for the two (2) truck order.</p> <p>Service Parts Internet Site</p> <p>The service parts information included in these manuals are also available on the Pierce website. The website offers additional functions and features not contained in this manual, such as digital photographs and line drawings of select items. The website also features electronic search tools to assist in locating parts quickly.</p>
0771956	Manual, Chassis Service, (1) USB Flash Drive, Multi Unit Order, Custom	<p>CHASSIS SERVICE MANUALS</p> <p>There will be one (1) chassis service manual on USB flash drive containing parts and service information on major components provided with the completed unit.</p> <p>The manual will contain the following sections:</p> <ul style="list-style-type: none"> Job number Table of contents Troubleshooting Front Axle/Suspension Brakes Engine Tires Wheels Cab Electrical, DC Air Systems Plumbing Appendix <p>The manual will be specifically written for the chassis model being purchased. It will not be a generic manual for a multitude of different chassis and bodies.</p> <p>This is a multiple unit order. The customer will receive one (1) manual on USB flash drive total for the two (2) truck order.</p>
0773381	Manual, Chassis Operation, (1) USB Flash Drive, Custom	<p>CHASSIS OPERATION MANUAL</p> <p>The chassis operation manual will be provided on one (1) USB flash drive.</p>
0030008	Warranty, Basic, 1 Year, Apparatus, WA0008	<p>ONE (1) YEAR MATERIAL AND WORKMANSHIP</p> <p>A Pierce basic apparatus limited warranty certificate, WA0008, is included with this proposal.</p>
0611136	Warranty, Chassis, 3 Year, Velocity/Impel, WA0284	<p>THREE (3) YEAR MATERIAL AND WORKMANSHIP</p> <p>The Pierce custom chassis limited warranty certificate, WA0284, is included with this proposal.</p>
0735523	Warranty, Engine, Paccar MX13, 5 Year	<p>ENGINE WARRANTY</p> <p>A Paccar five (5) year limited engine warranty will be provided. A limited warranty certificate, XX, is included with this proposal.</p>
0684952	Warranty, Steering Gear, TRW Ross TAS, 1 Year WA0202	<p>STEERING GEAR WARRANTY</p> <p>A TRW one (1) year limited steering gear warranty will be provided. A copy of the warranty certificate will be submitted with the bid package.</p>
0595767	Warranty, Frame, 50 Year, Velocity/Impel, WA0038	<p>FIFTY (50) YEAR STRUCTURAL INTEGRITY</p> <p>The Pierce custom chassis frame and crossmembers limited warranty certificate, WA0038, is included with this proposal.</p>
0610471	Warranty, Axle, Eaton/Dana, 5 Year/100,000 Mile, Parts and Labor	<p>FRONT AXLE WARRANTY</p> <p>A Eaton five (5)-year/100,000 mile parts and labor warranty will be provided.</p>
0610485	Warranty, Axle, Eaton/Dana, 5 Year/100,000 Mile, Parts and Labor	<p>REAR AXLE WARRANTY</p> <p>A Eaton five (5)-year/100,000 mile parts and labor warranty will be provided.</p>

0652758	Warranty, ABS Brake System, 3 Year, Meritor Wabco, WA0232	ABS BRAKE SYSTEM THREE (3) YEAR MATERIAL AND WORKMANSHIP WARRANTY A Meritor Wabco™ ABS brake system limited warranty certificate, WA0232, is included with this proposal.
0019914	Warranty, Structure, 10 Year, Custom Cab, WA0012	TEN (10) YEAR STRUCTURAL INTEGRITY The Pierce custom cab limited warranty certificate, WA0012, is included with this proposal.
0744240	Warranty, Paint, 10 Year, Cab, Pro-Rate, WA0055	TEN (10) YEAR PRO-RATED PAINT AND CORROSION A Pierce cab limited pro-rated paint warranty certificate, WA0055, is included with this proposal.
0524627	Warranty, Electronics, 5 Year, MUX, WA0014	FIVE (5) YEAR MATERIAL AND WORKMANSHIP The Pierce Command Zone electronics limited warranty certificate, WA0014, is included with this proposal.
0695416	Warranty, Pierce Camera System, WA0188	CAMERA SYSTEM WARRANTY A Pierce fifty four (54) month warranty will be provided for the camera system.
0647720	Warranty, Pierce LED Strip Lights, WA0203	COMPARTMENT LIGHT WARRANTY The Pierce 12 volt DC LED strip lights limited warranty certificate, WA0203, is included with this proposal.
0046369	Warranty, 5-year EVS Transmission, Standard Custom, WA0187	TRANSMISSION WARRANTY The transmission will have a five (5) year/unlimited mileage warranty covering 100 percent parts and labor. The warranty will be provided by Allison Transmission. Note: The transmission cooler is not covered under any extended warranty you may be getting on your Allison Transmission. Please review your Allison Transmission warranty for coverage limitations.
0685945	Warranty, Transmission Cooler, WA0216	TRANSMISSION COOLER WARRANTY The transmission cooler will carry a five (5) year parts and labor warranty (exclusive to the transmission cooler). In addition, a collateral damage warranty will also be in effect for the first three (3) years of the warranty coverage and will not exceed \$10,000 per occurrence. A copy of the warranty certificate will be submitted with the bid package.
0688798	Warranty, Water Tank, Lifetime, UPF, Poly Tank, WA0195	WATER TANK WARRANTY A UPF poly water tank limited warranty certificate, WA0195, is included with this proposal.
0596025	Warranty, Structure, 10 Year, Body, WA0009	TEN (10) YEAR STRUCTURAL INTEGRITY The Pierce apparatus body limited warranty certificate, WA0009, is included with this proposal.
0693126	Warranty, AMDOR, Roll-up Door, 10 Year/5 Year Painted, WA0185	ROLL UP DOOR MATERIAL AND WORKMANSHIP WARRANTY An AMDOR roll-up door limited warranty will be provided. The roll-up door will be warranted against manufacturing defects for a period of ten (10) years . A five (5) year limited warranty will be provided on painted roll up doors. The limited warranty certificate, WA0185, is included with this proposal.
0734463	Warranty, Pump, Waterous, 7 Year Parts, WA0382	PUMP WARRANTY The Waterous pump will be provided with a Seven (7) year material and workmanship limited warranty . A copy of the warranty certificate will be submitted with the bid package (no exception).
0648675	Warranty, 10 Year S/S Pumping, WA0035	TEN (10) YEAR PUMP PLUMBING WARRANTY The Pierce apparatus plumbing limited warranty certificate, WA0035, is included with this proposal.
0657990	Warranty, Foam System, Husky 3, WA0231	FOAM SYSTEM WARRANTY The Husky 3 foam system limited warranty certificate, WA0231, is included with this proposal.
0595820	Warranty, Paint, 10 Year, Body, Pro-Rate, WA0057	TEN (10) YEAR PRO-RATED PAINT AND CORROSION A Pierce body limited pro-rated paint warranty certificate, WA0057, is included with this proposal.

0595421	Warranty, Goldstar, 3 Year, Apparatus, WA0018	THREE (3) YEAR MATERIAL AND WORKMANSHIP The Pierce Goldstar gold leaf lamination limited warranty limited warranty certificate, WA0018, is included with this proposal.
0683627	Certification, Vehicle Stability, CD0156	VEHICLE STABILITY CERTIFICATION The fire apparatus manufacturer will provide a certification stating the apparatus complies with NFPA 1901, current edition, section 4.13, Vehicle Stability. The certification will be provided at the time of bid.
0807827	Certification, Engine Installation, VEL, Paccar MX13, 2024	ENGINE INSTALLATION CERTIFICATION The fire apparatus manufacturer will provide a certification, along with a letter from the engine manufacturer stating they approve of the engine installation in the bidder's chassis. The certification will be provided at the time of delivery.
0686786	Certification, Power Steering, CD0098	POWER STEERING CERTIFICATION The fire apparatus manufacturer will provide a certification stating the power steering system as installed meets the requirements of the component supplier. The certification will be provided at the time of bid.
0892701	Certification, Cab Integrity, Impel/Velocity FR, CD0190	CAB INTEGRITY CERTIFICATION The fire apparatus manufacturer will provide a cab crash test certification with this proposal. The certification will state that a specimen representing the substantial structural configuration of the cab has been tested and certified by an independent third party test facility. Testing events will be documented with photographs, real-time and high-speed video, vehicle accelerometers, cart accelerometers, and a laser speed trap. The fire apparatus manufacturer will provide a state licensed professional engineer to witness and certify all testing events. Testing will meet or exceed the requirements below: SAE J2422 Cab Roof Strength Evaluation - Quasi-Static Loading Heavy Trucks. European Occupant Protection Standard ECE Regulation No.29. SAE J2420 COE Frontal Strength Evaluation - Dynamic Loading Heavy Trucks. Side Impact The cab will be subjected to dynamic preload where a 14,320-lbs moving barrier is slammed into the side of the cab at 5.50 mph, striking with an impact of 13,000 ft-lbs of force. This test is part of the SAE J2422 test procedure and more closely represents the forces a cab will see in a rollover incident. Roof Crush The same cab will be subjected to a roof crush force of 22,050 lbs. This value meets the ECE 29 criteria, and is equivalent to the front axle rating up to a maximum of ten (10) metric tons. Additional Roof Crush The same cab will be subjected to a roof crush force of 100,000 lbs. (Four and a half times the load criteria of ECE 29) Frontal Impact The same cab will withstand a frontal impact of 32,600 ft-lb of force using a moving barrier in accordance with SAE J2420. Additional Frontal Impact The same cab will withstand a frontal impact of 65,200 ft-lb of force using a moving barrier. (Twice the force required by SAE J2420) The same cab will withstand all tests without any measurable intrusion into the survival space of the occupant area. There will be no exception to any portion of the cab integrity certification. Nonconformance will lead to immediate rejection of bid.
0548950	Certification, Cab Door Durability, Velocity/Impel, CD0001	CAB DOOR DURABILITY CERTIFICATION Robust cab doors help protect occupants. Cab doors will survive a 200,000 cycle door slam test where the slamming force exceeds 20 G's of deceleration. The bidder will certify that the sample doors similar to those provided on the apparatus have been tested and have met these criteria without structural damage, latch malfunction, or significant component wear.
0548967	Certification, Windshield Wiper Durability, Impel/Velocity, CD0005	WINDSHIELD WIPER DURABILITY CERTIFICATION Visibility during inclement weather is essential to safe apparatus performance. Windshield wipers will survive a 3 million cycle durability test in accordance with section 6.2 of SAE J198 <i>Windshield Wiper Systems - Trucks, Buses and Multipurpose Vehicles</i> . The bidder will certify that the wiper system design has been tested and that the wiper system has met these criteria.
0667411	Certification, Electric Window Durability, Velocity/Impel FR, CD0004	ELECTRIC WINDOW DURABILITY CERTIFICATION Cab window roll-up systems can cause maintenance problems if not designed for long service life. The window regulator design will complete 30,000 complete up-down cycles and still function normally when finished. The bidder will certify that sample doors and windows similar to those provided on the apparatus have been tested and have met these criteria without malfunction or significant component wear.

0549273	Certification, Seat Belt Anchors and Mounting, Imp/Vel/Vel SLT, CD0018	<p>SEAT BELT ANCHOR STRENGTH Seat belt attachment strength is regulated by Federal Motor Vehicle Safety Standards and should be validated through testing. Each seat belt anchor design will withstand 3000 lb of pull on both the lap and shoulder belt in accordance with FMVSS 571.210 Seat Belt Assembly Anchorages. The bidder will certify that each anchor design was pull tested to the required force and met the appropriate criteria.</p> <p>SEAT MOUNTING STRENGTH Seat attachment strength is regulated by Federal Motor Vehicle Safety Standards and should be validated through testing. Each seat mounting design will be tested to withstand 20 G's of force in accordance with FMVSS 571.207 Seating Systems. The bidder will certify that each seat mount and cab structure design was pull tested to the required force and met the appropriate criteria.</p>
0735950	Certification, Cab HVAC System Perf, Vel/Imp FR, CD0166/CD0168/CD0176/CD0177	<p>PERFORMANCE CERTIFICATIONS</p> <p>Cab Air Conditioning Good cab air conditioning temperature and air flow performance keeps occupants comfortable, reduces humidity, and provides a climate for recuperation while at the scene. The cab air conditioning system will cool the cab from a heat-soaked condition at 100 degrees Fahrenheit to an average of 78 degrees Fahrenheit in 30 minutes. The bidder will certify that a substantially similar cab has been tested and has met these criteria.</p> <p>Cab Defroster Visibility during inclement weather is essential to safe apparatus performance. The defroster system will clear the required windshield zones in accordance with SAE J381 Windshield Defrosting Systems Test Procedure And Performance Requirements - Trucks, Buses, And Multipurpose Vehicles. <i>The bidder will certify that the defrost system design has been tested in a cold chamber and passes the SAE J381 criteria.</i></p> <p>Cab Auxiliary Heater <i>Good cab heat performance and regulation provides a more effective working environment for personnel, whether in-transit, or at a scene. An auxiliary cab heater will warm the cab 77 degrees Fahrenheit from a cold-soak, within 30 minutes when tested using the coolant supply methods found in SAE J381. The bidder will certify, at time of delivery, that a substantially similar cab has been tested and has met these criteria.</i></p>
0545073	Amp Draw Report, NFPA Current Edition	<p>AMP DRAW REPORT The bidder will provide, at the time of bid and delivery, an itemized print out of the expected amp draw of the entire vehicle's electrical system. The manufacturer of the apparatus will provide the following: Documentation of the electrical system performance tests. A written load analysis, which will include the following: The nameplate rating of the alternator. The alternator rating under the conditions specified per: Applicable NFPA 1901 or 1906 (Current Edition). The minimum continuous load of each component that is specified per: Applicable NFPA 1901 or 1906 (Current Edition). Additional loads that, when added to the minimum continuous load, determine the total connected load. Each individual intermittent load. All of the above listed items will be provided by the bidder per the applicable NFPA 1901 or 1906 (Current Edition).</p>
0002758	Amp Draw, NFPA/ULC Radio Allowance	
0799248	Appleton/Florida BTO	
0000018	PUMPER, 2ND GEN	
0000012	PIERCE CHASSIS	
0735525	PACCAR MX13 ENGINE	
0046396	EVS 4000 Series TRANSMISSION	
0020011	WATEROUS PUMP	
0020009	POLY TANK	
0028048	FOAM SYSTEM	

0020006	SIDE CONTROL
0020007	AKRON VALVES
0020015	ABS SYSTEM
0658751	PUMPER BASE



Electrical Analysis

5/9/2023

Bid #: 945 **Job #:**

Desc: Four (4) 1500 GPM Velocity Pumpers (duplicate to 35817) REVA **Sales Rep:** Klockzien, Dave

Customer: Sunnyvale Department of Public Safety **Organization:** Golden State Fire Apparatus, Inc

Option: Pierce Command Zone, Advanced Electronics & Control System, Vel WiFi CZT **Type:** Multiplexed

Option	Description	Type*	Minimum Load	Intermittent Load	Total Connected
0001244	High Idle w/Electronic Engine, Custom		0.00	1.20	0.00
0005780	Control, Air Horn At Pmp Pnl, Button		0.00	0.16	0.00
0010670	ABS Wabco Brake System, Single rear axle		0.00	6.00	0.00
0072153	Primer, Trident, Air Prime, Air Operated		0.00	0.01	0.00
0079166	Batteries, (4) Exide Grp 31, 950 CCA ea, Threaded Stud		0.00	3.00	0.00
0122466	Cab Lift, Elec/Hyd, w/Manual Override, Imp/Vel		0.00	180.00	0.00
0547478	Wiring, Spare, 7.5A 12V DC 1st		0.00	0.00	7.50
0548001	Wiring, Spare, 10 A 12V DC 2nd		0.00	0.00	10.00
0549333	Indicators, Engine, Included with Pressure Controller		0.00	0.35	0.00
0555472	Wiring, Spare, 10 A 12V DC 3rd		0.00	0.00	10.00
0583824	Light, Pump Compt, WIn 3SC0CDCR LED White		0.00	0.36	0.00
0583938	Lights, Engine Compt, Custom, Auto Sw, WIn 3SC0CDCR, 3"		0.00	0.60	0.00
0585914	Wiring, Spare, 20 A 12V DC, 6 Circuit Fuse Block, Blue Sea 5025		0.00	0.00	60.00
0589905	Alarm, Back-up Warning, PRECO 1040		0.00	0.50	0.00
0602637	Portable Hand Light, Provided by Fire Dept, Pumper NFPA 2016		0.00	0.50	0.00
0602785	Light, Do Not Move Apparatus, WIn VTX609B, With Buzzer, Non-		0.00	2.80	0.00
0604028	Water Level Gauge, FRC, MaxVision WLA280-A00 Programmable		0.00	0.00	0.00
0604354	Gauge, Foam Level, FRC, Tank Vision Pro, WLA 360-A00, Class		0.00	0.00	1.23
0614669	Light, Map, Overhead, Round, Add, Sunnex SL9-200B25L LED		0.00	0.74	0.00
0624939	Foam Sys, Husky 3, Single Agent, Multi Select Feature		0.00	55.00	0.00
0646930	Lights, (2), Illuminate Cab Floor, WIn Red OS Series, LED, Under		0.00	0.00	2.10
0653350	Guards, Vehicle Camera(s), Painted Smooth Aluminum		0.00	0.00	0.00
0653519	Camera, Pierce, LS Mux, RS, LS, R, Cameras		0.00	1.20	0.00
0653937	Flasher, Headlight Alternating		0.00	0.08	0.00
0667902	Controls, Electric Windows, All Cab Doors, Impel/Velocitey FR		0.00	26.00	0.00
0721071	Compt, Storage, 10.71 W x 30 H x 14 D, (1) Ea Side C/C, Sgl		0.00	0.00	0.00
0735687	Engine Brake, Fully Integrated, Paccar MX13 Engine		0.00	0.42	0.00
0743910	Lights, Side, WIn M6** LED, Trm Fet 1st		0.00	2.70	1.80
0766252	Lights, WIn, MP** Pioneer, 12 VDC, 1st		0.00	0.00	7.00
0803875	Radio, AM/FM/WB, Jensen, Frt,Rear Aux In/Frt,Rear		0.00	0.00	2.00
0806466	Lights, Backup, WIn M62BU, LED, For Tail Lt Housing		0.00	3.20	0.00
0895310	Siren, Federal Q2B		0.00	100.00	0.00
0547505	Wiring, Spare, 10 A 12V DC 1st	Load Managed	0.00	0.00	10.00
0548004	Wiring, Spare, 15 A 12V DC 1st	Load Managed	0.00	0.00	90.00
0636439	Wiring, Spare, 37.5 A 12V DC, Cust Install Radio, 30A Bat Dir,	Load Managed	0.00	0.00	75.00
0657222	Wiring, Spare, 20 A 12V DC, 12 Circuit Fuse Block, Blue Sea	Load Managed	0.00	0.00	40.00
0774308	Lights, WIn, P*H2* Pioneer, 12 VDC, 2nd	Load Managed	0.00	0.00	13.00
0774309	Lights, WIn, P*H2* Pioneer, 12 VDC, 1st	Load Managed	0.00	0.00	13.00
0774333	Lights, WIn, P*H2* Pioneer, 12 VDC, 2nd	Load Managed	0.00	0.00	13.00
0774579	Lights, WIn, P*H2* Pioneer, 12 VDC, 1st	Load Managed	0.00	0.00	13.00
0783158	Light, Visor, HiViz, FT-B-72-*-* , Cnt Feature	Load Managed	0.00	0.00	23.84
0894651	HVAC, Velocity FR, w/PACCAR, CARE	Load Managed	0.00	0.00	136.00
0002758	Amp Draw, NFPA/ULC Radio Allowance	NFPA	5.00	0.00	0.00
0023650	LS 152" Rollup, Full Height Front & Rear, FDLER	NFPA	4.50	0.00	4.50
0063658	RS 152" Rollup, Full Height Front & Rear, FDLER	NFPA	4.50	0.00	4.50
0083700	Compt, Rear, Rollup, 37.75" FF, 25.88" D	NFPA	0.90	0.00	0.90
0092582	Load Manager/Sequencer, MUX	NFPA	0.56	0.56	0.00

* UDMC = User Defined Mission Critical, LM = User Defined Load Managed, S = Electrical Amperage Supply



Electrical Analysis

5/9/2023

Bid #: 945**Job #:****Desc:** Four (4) 1500 GPM Velocity Pumpers (duplicate to 35817) REVA**Sales Rep:** Klockzien, Dave**Customer:** Sunnyvale Department of Public Safety**Organization:** Golden State Fire Apparatus, Inc**Option:** Pierce Command Zone, Advanced Electronics & Control System, Vel WiFi CZT**Type:** Multiplexed

Option	Description	Type*	Minimum Load	Intermittent Load	Total Connected
0527222	Controller, Pressure, FRC, INCONTROL, TGA300, Control	NFPA	1.80	0.00	0.00
0540679	Lights, Side Zone Lower, Wln M6*C LED, Clear Lens 2pr	NFPA	3.60	5.40	0.00
0541155	Lights, Rear/Side Up Zone, Wln M9*C LED, Clear Lens 4lts	NFPA	4.80	7.20	0.00
0555915	Wiper Control, 2-Speed with Intermittent, MUX, Impel/Velocit	NFPA	2.10	8.40	0.00
0556360	Lights, Step, P25 LED 4lts, Pump Pnl Sw	NFPA	1.00	0.00	0.00
0563675	Lights, Clearance/Marker/ID, Rear, Truck-Lite 33050R LED 7Lts	NFPA	0.35	0.00	0.00
0564655	Lights, Rear Zn Lwr, Wln M6*C LED, Clear Lens, For Tail Lt	NFPA	1.80	2.70	0.00
0568012	Air Dryer, Wabco System Saver 1200, Heater, 2010	NFPA	7.81	0.00	0.00
0568369	Cab Instruments, Ivory Gauges, Chrome Bezels, Impel/Velocit	NFPA	1.26	0.00	0.00
0586382	Gauges, Engine, Included With Pressure Controller	NFPA	0.30	0.00	0.00
0593161	Light Shield, S/S LED	NFPA	3.00	0.00	0.00
0602752	Siren, Wln 295HFS2 Remote, Single Amp, Other Speaker, Non-	NFPA	1.40	12.60	0.00
0604123	Gauge, Water Level, FRC, WLA 300-A00, TankVision Pro,	NFPA	1.23	0.00	0.00
0605126	Pump Shift, Air Mnl Override, Split Shaft, Interlocked, Waterous	NFPA	1.00	0.00	0.00
0615386	Vehicle Information Center, 7" Color Display, Touchscreen, MUX	NFPA	1.20	0.00	0.00
0617901	Lights, Perimeter Pump House, TecNiq T10-LC00-1 15" LED 2lts	NFPA	0.80	0.00	0.00
0620054	Light, Directional/Marker, Intermediate, Weldon 9186-8580-29	NFPA	0.10	0.90	0.00
0626579	Lights, Perimeter Body, TecNiq T10-LC00-1 15" LED 2lts, Rear	NFPA	0.80	0.00	0.00
0626588	Lights, Perimeter Cab, TecNiq T10-LC00-1 15" LED 4Dr	NFPA	1.60	0.00	0.00
0644702	Compt, Storage, (2) Rear Facing, Overhead, 22 W x 10 H x 20 D,	NFPA	0.10	0.10	0.00
0647647	Lights, Dome, FRP Dual LED 4 Lts	NFPA	0.80	0.80	0.00
0648074	Lights, Clearance/Marker/ID, Front, P25 LED 7 Lts	NFPA	0.49	0.00	0.00
0648425	Light, Directional, Wln 600 Cmb, Cab Crn, Imp/Vel/AXT/Qtm/DCF	NFPA	0.70	0.70	0.00
0668315	Cab, Velocity FR, 7010 Raised Roof	NFPA	6.80	10.20	0.00
0682488	Light Shield, S/S, PS LED	NFPA	3.00	0.00	0.00
0739224	Indicator Light @ Pump Panel, Throttle Ready, Incl w/Pressure	NFPA	0.10	0.00	0.00
0739915	Hatch, (2) Liftup, Pumper	NFPA	1.80	0.00	1.80
0745568	Indicator Light, Pump Panel, Ok To Pump, Green	NFPA	0.10	0.00	0.00
0760868	Lights, Cargo/Dunnage, Dual LED Light Strips, Each Side	NFPA	0.30	0.00	0.00
0768474	Lights, Hose Bed, Below Alum Cvr, Amdor AY-LB-12HW040, 40"	NFPA	2.40	0.00	0.00
0783153	Headlights, Rect LED, JW Spkr Evo 2, AXT/DCF/Enf/Imp/Sab/Vel	NFPA	4.20	4.20	0.00
0783717	Cabinet, Forward Facing, Center, 42 W x 48 H x 24 D, Roll,	NFPA	0.48	0.48	0.00
0786656	Lightbar, Wln, Freedom IV-Q, 81", RRRRsrRRRWRRRRsrRRRR	NFPA	8.96	2.48	12.40
0791528	Light, Traffic Directing, Wln TAL65, 36.00" Long, TACTL5	NFPA	0.60	1.20	0.00
0804514	Lights, Tail, Wln M62BTT* Red Stop/Tail & M62T* Amber Dir Arw	NFPA	0.83	2.49	0.00
0805983	Lights, Hatch Compt, 42", LED, Light Strips, 2-Sides 4 Dr,	NFPA	0.84	0.84	0.00
0811017	Engine, Paccar MX13, 510HP, 1850 lb-ft W/OBD, EPA 2024,	NFPA	6.00	0.00	0.00
0811505	Cabinet, Rear Facing, LS, 30.5 W x 38 H x 24 D, Roll Ext Acc	NFPA	0.38	0.38	0.00
0811507	Cabinet, Rear Facing, RS, 26.5 W x 38 H x 21.5 D, Roll Ext Acc	NFPA	0.38	0.38	0.00
0813303	DEF Tank, 6.0 Gallon, LS Fill, Rr of Axle,Common Triangular	NFPA	0.60	11.40	0.00
0887546	Trans, Allison 6th Gen, 4000 EVS P, w/Prognostics,	NFPA	2.00	2.00	0.00
0889577	Bracket, License Plate & Light, P25 LED, Stainless Brkt	NFPA	0.07	0.00	0.00
0892637	Lights, Cab & Crw Cab Acs Stps, P25, LED w/Bezel, 1Lt Per Step	NFPA	1.00	0.00	0.00
0892704	Lights, Walk Surf, 8-P25 LED, Hose Bed Cover, Overall Height	NFPA	0.07	0.00	0.00
0898734	Light, Front Zone, Wln M6** M6** M6** M6** Q Bzl	NFPA	1.80	5.40	1.80
0121711	Alternator, 320 amp, Leece-Neville 4962PA, Sgl Sys	S	0.00	0.00	0.00
Load Totals:			96.21	465.63	554.37

* UDMC = User Defined Mission Critical, LM = User Defined Load Managed, S = Electrical Amperage Supply



Electrical Analysis

5/9/2023

Bid #: 945 **Job #:**

Desc: Four (4) 1500 GPM Velocity Pumpers (duplicate to 35817) REVA **Sales Rep:** Klockzien, Dave

Customer: Sunnyvale Department of Public Safety **Organization:** Golden State Fire Apparatus, Inc

Option: Pierce Command Zone, Advanced Electronics & Control System, Vel WiFi CZT **Type:** Multiplexed

Note: Minimum Continuous Load is in "Blocking Right of Way" mode. (Reference current edition of NFPA 1901)

Note: Intermittent Load items are not factored in on any alternator load comparisons. These items are included on the report for reference only and should be looked at as amp draw exclusion items. (Reference current edition of NFPA 1901)

Note: Total Connected Load "Demand" represents Total Connected Load minus any Load Managed items

Alternator Output at Idle: 197.00

Minimum Continuous Load	
Supply:	197.00
Demand:	96.21
Variance:	100.79

Alternator Output at Governed Speed: 291.00

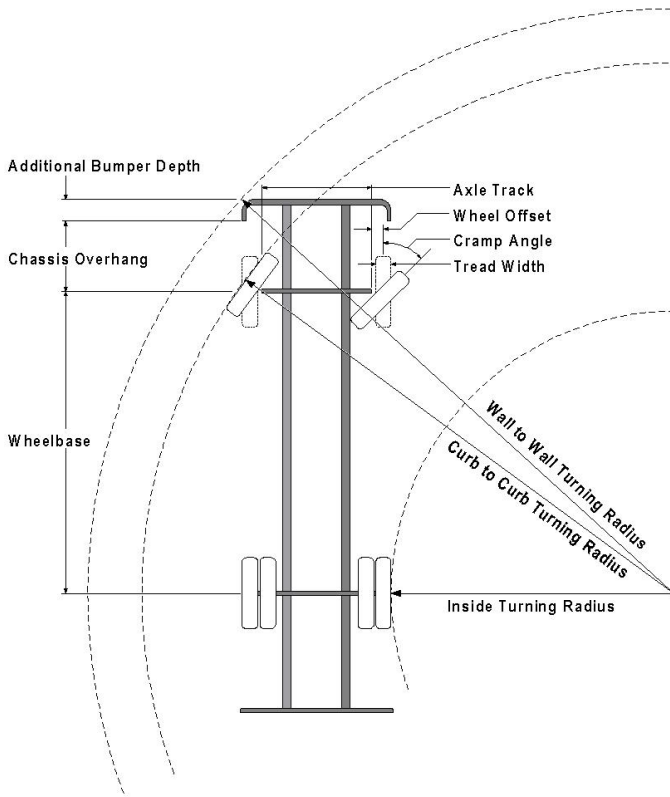
Total Connected Load	
Supply:	291.00
Demand:	223.74
Variance:	67.26

* UDMC = User Defined Mission Critical, LM = User Defined Load Managed, S = Electrical Amperage Supply

05/09/2023



Turning Performance Analysis

Bid Number: 945**Department:** Sunnyvale Department of Public Safety**Chassis:** Velocity Chassis (Big Block), 2010**Body:** Pumper, Medium, Aluminum, 2nd Gen**Parameters:**

*Inside Cramp Angle:	45°
Axle Track:	81.92 in.
Wheel Offset:	4.68 in.
Tread Width:	16.3 in.
Chassis Overhang:	78 in.
Additional Bumper Depth:	0.00 in.
Front Overhang:	78 in.
Wheelbase:	195.5 in.

Calculated Turning Radii:

Inside Turn:	15 ft. 3 in.
Curb to curb:	29 ft. 4 in.
Wall to wall:	33 ft. 3 in.

Category	Option	Description
Axle, Front, Custom	0648752	Axle, Front, Dana, D2200, 22,800 lb
Bumpers	0530385	Bumper, 16" Extended, Steel Painted, Imp/Vel
Wheels, Front	0019611	Wheels, Front, Alcoa, 22.50" x 12.25", Aluminum, Hub Pilot
Tires, Front	0899438	Tires, Front, Goodyear, Armor MAX MSA, 425/65R22.50, 20 ply

Notes:

*Actual Inside cramp angle may be less than shown.

Curb to Curb turning radius calculated for 9.00 inch curb.

Definitions:

Inside CrampAngle	Maximum turning angle of the front inside fire.
Axle Track	King-pin to King-pin distance of front axle.
Wheel Offset	Offset from the center line of the wheel to the King-pin.
Tread Width	Width of the tire tread.
Chassis Overhang	Distance of the center line of the front axle to the front edge of the cab. This does not include the bumper depth.
Additional Bumper Wheel	Depth that the bumper assembly adds to the front overhang.
Wheelbase	Distance between the center lines of the vehicles front and rear axles.
Inside Turning Radius	Radius of the smallest circle around which the vehicle can turn.
Curb to Curb Turning Radius	Radius of the smallest circle around which the vehicle's tires can turn. This measures assumes a curb height of 9 inches.
Wall to Wall Turning Radius	Radius of the smallest circle around which the vehicle's tires can turn. This measures takes into account any front overhang due to chassis , bumper extensions and or aerial devices.

4 PRODUCT WARRANTIES

Exhibit "C"



Fire and Rescue Apparatus

One (1) Year Material and Workmanship

Basic Apparatus

Limited Warranty

1. LIMITED WARRANTY

Subject to the limitations and exclusions set forth below, Pierce Manufacturing provides the following warranty to the Buyer:

Coverage:	Portions of the apparatus manufactured by Pierce shall be free from defects in material and workmanship
Warranty Begins:	The date the apparatus is placed in service, or 60 days from the original buyer invoice date, whichever comes first.
Warranty Period Ends After:	Twelve (12) months.
Conditions and Exclusions: See Also Paragraphs 2 thru 4	No specific exclusions apply

This limited warranty shall apply only if the product is properly maintained in accordance with Pierce's maintenance instructions and manuals and is used in service which is normal to the particular model. Normal service means service which does not subject the product to stresses or impacts greater than normally result from careful use. If the Buyer discovers a defect or nonconformity, it must notify Pierce in writing within thirty (30) days after the date of discovery, but in any event prior to the expiration of the warranty period. THIS LIMITED WARRANTY MAY NOT BE ASSIGNED OR OTHERWISE TRANSFERRED BY THE BUYER TO ANY SUBSEQUENT USER OR PURCHASER OR TO ANY OTHER PERSON OR ENTITY.

Notwithstanding anything to the contrary herein, Pierce makes no warranty whatsoever as to:

(a) any integral parts, components, attachments or trade accessories of or to the product that are not manufactured by Pierce, including but not limited to engines, transmissions, drivelines, axles, water pumps and generators; with respect to all such parts, components, attachments and accessories, Pierce shall assign to Buyer the applicable warranties, if any, made by the respective manufacturers thereof;

(b) any vehicle, chassis, or component, part, attachment or accessory damaged by misuse, neglect, fire, exposure to severe environmental or chemical conditions, acidic environment, improper maintenance, accident, crash, or force majeure such as natural disaster, lightning, earthquake, windstorm, hail, flood, war or riot;

(c) any vehicle, chassis or component, part, attachment or accessory that has been repaired, altered or assembled in any way by any person or entity other than Pierce which, in the sole judgment of Pierce, adversely affects the performance, stability or purpose for which it was manufactured; or

(d) products or parts which may in the ordinary course wear out and have to be replaced during the warranty period, including, but not limited to, tires, fluids, gaskets and light bulbs. Pierce assumes no responsibility for the assembly of its parts or subassemblies into finishing products or vehicles unless the assembly is performed by Pierce.

The original purchaser may void this warranty in part or in its entirety if the product is repaired or replaced (a) without prior written approval of the Pierce Customer Service Department; or (b) at a facility which has not been approved by Pierce as to technical capability. Any repairs, modifications, alterations or aftermarket parts added after manufacture without the authorization of Pierce may void this warranty.

2. DISCLAIMERS OF WARRANTIES

THE WARRANTY SET FORTH IN PARAGRAPH 1 IS THE SOLE AND EXCLUSIVE WARRANTY GIVEN BY PIERCE. PIERCE HEREBY DISCLAIMS AND EXCLUDES ALL OTHER WARRANTIES, WHETHER EXPRESS, IMPLIED OR STATUTORY, INCLUDING WITHOUT LIMITATION ANY WARRANTY OF MERCHANTABILITY, ANY WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, AND ANY WARRANTIES ARISING FROM COURSE OF DEALING OR USAGE OF TRADE.

3. BUYER'S EXCLUSIVE REMEDY

If the product fails to conform to the warranty set forth in paragraph 1 during the warranty period, and such nonconformity is not due to misuse, neglect, accident or improper maintenance, Buyer must notify Pierce within the time period specified in paragraph 1, and shall make the product available for inspection by Pierce or its designated agent. At the request of Pierce, any allegedly defective product shall be returned to Pierce by Buyer for examination and/or repair. Buyer shall be responsible for the cost of such transportation, and for risk of loss of or damage to the product during transportation. Within a reasonable time, Pierce shall repair or replace (at Pierce's option and expense) any nonconforming or defective parts. Repair or replacement shall be made only by a facility approved in advance in writing by Pierce. THIS REMEDY SHALL BE THE EXCLUSIVE AND SOLE REMEDY FOR ANY BREACH OF WARRANTY.

4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES

Notwithstanding anything to the contrary herein or in any agreement between Pierce and Buyer, IN NO EVENT SHALL PIERCE BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, SPECIAL, INDIRECT, OR PUNITIVE DAMAGES WHATSOEVER, WHETHER ARISING OUT OF BREACH OF CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE AND STRICT LIABILITY) OR OTHER THEORY OF LAW OR EQUITY, WITH RESPECT TO VEHICLES OR OTHER PRODUCTS SOLD BY PIERCE, OR THEIR OPERATION OR FAILURE TO OPERATE, OR ANY DEFECTS THEREIN, OR ANY UNDERTAKINGS, ACTS OR OMISSIONS RELATED THERETO, REGARDLESS OF WHETHER PIERCE HAS BEEN INFORMED OF THE POSSIBILITY OF ANY SUCH DAMAGES. Without limiting the generality of the foregoing, Pierce specifically disclaims any liability for property or personal injury damages, penalties, damages for lost profits or revenues, loss of vehicles or products or any associated equipment, cost of substitute vehicles or products, down-time, delay damages, any other types of economic loss, or for any claims by any third party for any such damages.

Note: Any Surety Bond, if a part of the sale of the vehicle as to which this limited warranty is provided, applies only to this Pierce Basic One Year Limited Warranty for such vehicle, and not to other warranties made by Pierce in a separate document (if any) or to the warranties (if any) made by any manufacturer (other than Pierce) of any part, component, attachment or accessory that is incorporated into or attached to the vehicle.



Fire and Rescue Apparatus

Three (3) Year Material and Workmanship Velocity and Impel Custom Chassis

Limited Warranty

1. LIMITED WARRANTY

Subject to the limitations and exclusions set forth below, Pierce Manufacturing provides the following warranty to the Buyer:

Coverage:	Portions of the apparatus manufactured by Pierce shall be free from defects in material and workmanship
Warranty Begins:	The date the apparatus is placed in service, or 60 days from the original buyer invoice date, whichever comes first.
Warranty Period Ends After:	Three (3) Years, or 30,000 Miles, or 5000 Engine Hours
Conditions and Exclusions: See Also Paragraphs 2 thru 4	This limited warranty applies, where applicable, to Goldstar lamination, defroster heater coil and motor blower assembly (excluding the FET PWM module), heater, air conditioning condenser coil and fan/motor assembly, air conditioning evaporator coil and motor blower assembly (excluding the drain pan pump and thermostat), under seat heaters coil and motor blower assembly (excluding the FET PWM module), HVAC electronic switches, HVAC hoses and hard lines, heater water valve, Pierce PS6 seat frames and hardware, Pierce One-Eleven mirrors, Pierce hands-free scba holder, cracking or color loss of roto-molded components, Meritor rear axle, Wabco ABS system, cab door handles, Standen spring suspension components, and the gauge instrument cluster.

This limited warranty shall apply only if the product is properly maintained in accordance with Pierce's maintenance instructions and manuals and is used in service which is normal to the particular model. Normal service means service which does not subject the product to stresses or impacts greater than normally result from careful use. If the Buyer discovers a defect or nonconformity, it must notify Pierce in writing within thirty (30) days after the date of discovery, but in any event prior to the expiration of the warranty period. THIS LIMITED WARRANTY MAY NOT BE ASSIGNED OR OTHERWISE TRANSFERRED BY THE BUYER TO ANY SUBSEQUENT USER OR PURCHASER OR TO ANY OTHER PERSON OR ENTITY.

Notwithstanding anything to the contrary herein, Pierce makes no warranty whatsoever as to:

(a) any integral parts, components, attachments or trade accessories of or to the product that are not manufactured by Pierce, including but not limited to engines, transmissions, drivelines, axles, water pumps and generators; with respect to all such parts, components, attachments and accessories, Pierce shall assign to Buyer the applicable warranties, if any, made by the respective manufacturers thereof;

(b) any vehicle, chassis, or component, part, attachment or accessory damaged by misuse, neglect, fire, exposure to severe environmental or chemical conditions, acidic environment, improper maintenance, accident, crash, or force majeure such as natural disaster, lightning, earthquake, windstorm, hail, flood, war or riot;

(c) any vehicle, chassis or component, part, attachment or accessory that has been repaired, altered or assembled in any way by any person or entity other than Pierce which, in the sole judgment of Pierce, adversely affects the performance, stability or purpose for which it was manufactured; or

(d) products or parts which may in the ordinary course wear out and have to be replaced during the warranty period, including, but not limited to, tires, fluids, gaskets and light bulbs. Pierce assumes no responsibility for the assembly of its parts or subassemblies into finishing products or vehicles unless the assembly is performed by Pierce.

The original purchaser may void this warranty in part or in its entirety if the product is repaired or replaced (a) without prior written approval of the Pierce Customer Service Department; or (b) at a facility which has not been approved by Pierce as to technical capability. Any repairs, modifications, alterations or aftermarket parts added after manufacture without the authorization of Pierce may void this warranty.

2. DISCLAIMERS OF WARRANTIES

THE WARRANTY SET FORTH IN PARAGRAPH 1 IS THE SOLE AND EXCLUSIVE WARRANTY GIVEN BY PIERCE. PIERCE HEREBY DISCLAIMS AND EXCLUDES ALL OTHER WARRANTIES, WHETHER EXPRESS, IMPLIED OR STATUTORY, INCLUDING WITHOUT LIMITATION ANY WARRANTY OF MERCHANTABILITY, ANY WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, AND ANY WARRANTIES ARISING FROM COURSE OF DEALING OR USAGE OF TRADE.

3. BUYER'S EXCLUSIVE REMEDY

If the product fails to conform to the warranty set forth in paragraph 1 during the warranty period, and such nonconformity is not due to misuse, neglect, accident or improper maintenance, Buyer must notify Pierce within the time period specified in paragraph 1, and shall make the product available for inspection by Pierce or its designated agent. At the request of Pierce, any allegedly defective product shall be returned to Pierce by Buyer for examination and/or repair. Buyer shall be responsible for the cost of such transportation, and for risk of loss of or damage to the product during transportation. Within a reasonable time, Pierce shall repair or replace (at Pierce's option and expense) any nonconforming or defective parts. Repair or replacement shall be made only by a facility approved in advance in writing by Pierce. THIS REMEDY SHALL BE THE EXCLUSIVE AND SOLE REMEDY FOR ANY BREACH OF WARRANTY.

4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES

Notwithstanding anything to the contrary herein or in any agreement between Pierce and Buyer, IN NO EVENT SHALL PIERCE BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, SPECIAL, INDIRECT, OR PUNITIVE DAMAGES WHATSOEVER, WHETHER ARISING OUT OF BREACH OF CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE AND STRICT LIABILITY) OR OTHER THEORY OF LAW OR EQUITY, WITH RESPECT TO VEHICLES OR OTHER PRODUCTS SOLD BY PIERCE, OR THEIR OPERATION OR FAILURE TO OPERATE, OR ANY DEFECTS THEREIN, OR ANY UNDERTAKINGS, ACTS OR OMISSIONS RELATED THERETO, REGARDLESS OF WHETHER PIERCE HAS BEEN INFORMED OF THE POSSIBILITY OF ANY SUCH DAMAGES. Without limiting the generality of the foregoing, Pierce specifically disclaims any liability for property or personal injury damages, penalties, damages for lost profits or revenues, loss of vehicles or products or any associated equipment, cost of substitute vehicles or products, down-time, delay damages, any other types of economic loss, or for any claims by any third party for any such damages.

Note: Any Surety Bond, if a part of the sale of the vehicle as to which this limited warranty is provided, applies only to this Pierce Basic One Year Limited Warranty for such vehicle, and not to other warranties made by Pierce in a separate document (if any) or to the warranties (if any) made by any manufacturer (other than Pierce) of any part, component, attachment or accessory that is incorporated into or attached to the vehicle.



Fire and Rescue Apparatus

SUPPLIER

Limited Warranty

1. LIMITED WARRANTY

Subject to the limitations and exclusions set forth below, Pierce Manufacturing provides the following warranty to the purchaser who first puts the product in service ("Buyer"):

Coverage:	Covers any failures of the engine which result, under normal use and service, from a defect in material or factory workmanship.
Warranty Begins:	The date of the original buyer invoice.
Warranty Period Ends After:	Five (5) years or 100,000 miles, whichever occurs first
Conditions and Exclusions: See Also Paragraphs 2 thru 4	See warranty for exclusions.

This limited warranty shall apply only if the product is properly maintained in accordance with Pierce's maintenance instructions and manuals and is used in service which is normal to the particular model. Normal service means service which does not subject the product to stresses or impacts greater than normally result from careful use. If the Buyer discovers a defect or nonconformity, it must notify Pierce in writing within thirty (30) days after the date of discovery, but in any event prior to the expiration of the warranty period. THIS LIMITED WARRANTY MAY NOT BE ASSIGNED OR OTHERWISE TRANSFERRED BY THE BUYER TO ANY SUBSEQUENT USER OR PURCHASER OR TO ANY OTHER PERSON OR ENTITY.

Notwithstanding anything to the contrary herein, Pierce makes no warranty whatsoever as to:

(a) any integral parts, components, attachments or trade accessories of or to the product that are not manufactured by Pierce, including but not limited to engines, transmissions, drivelines, axles, water pumps and generators; with respect to all such parts, components, attachments and accessories, Pierce shall assign to Buyer the applicable warranties, if any, made by the respective manufacturers thereof;

(b) any vehicle, chassis, or component, part, attachment or accessory damaged by misuse, neglect, fire, exposure to severe environmental or chemical conditions, acidic environment, improper maintenance, accident, crash, or force majeure such as natural disaster, lightning, earthquake, windstorm, hail, flood, war or riot;

(c) any vehicle, chassis or component, part, attachment or accessory that has been repaired, altered or assembled in any way by any person or entity other than Pierce which, in the sole judgment of Pierce, adversely affects the performance, stability or purpose for which it was manufactured; or

(d) products or parts which may in the ordinary course wear out and have to be replaced during the warranty period, including, but not limited to, tires, fluids, gaskets and light bulbs. Pierce assumes no responsibility for the assembly of its parts or subassemblies into finishing products or vehicles unless the assembly is performed by Pierce.

The original purchaser may void this warranty in part or in its entirety if the product is repaired or replaced (a) without prior written approval of the Pierce Customer Service Department; or (b) at a facility which has not been approved by Pierce as to technical capability. Any repairs, modifications, alterations or aftermarket parts added after manufacture without the authorization of Pierce may void this warranty.

2. DISCLAIMERS OF WARRANTIES

THE WARRANTY SET FORTH IN PARAGRAPH 1 IS THE SOLE AND EXCLUSIVE WARRANTY GIVEN BY PIERCE. PIERCE HEREBY DISCLAIMS AND EXCLUDES ALL OTHER WARRANTIES, WHETHER EXPRESS, IMPLIED OR STATUTORY, INCLUDING WITHOUT LIMITATION ANY WARRANTY OF MERCHANTABILITY, ANY WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, AND ANY WARRANTIES ARISING FROM COURSE OF DEALING OR USAGE OF TRADE.

3. BUYER'S EXCLUSIVE REMEDY

If the product fails to conform to the warranty set forth in paragraph 1 during the warranty period, and such nonconformity is not due to misuse, neglect, accident or improper maintenance, Buyer must notify Pierce within the time period specified in paragraph 1, and shall make the product available for inspection by Pierce or its designated agent. At the request of Pierce, any allegedly defective product shall be returned to Pierce by Buyer for examination and/or repair. Buyer shall be responsible for the cost of such transportation, and for risk of loss of or damage to the product during transportation. Within a reasonable time, Pierce shall repair or replace (at Pierce's option and expense) any nonconforming or defective parts. Repair or replacement shall be made only by a facility approved in advance in writing by Pierce. THIS REMEDY SHALL BE THE EXCLUSIVE AND SOLE REMEDY FOR ANY BREACH OF WARRANTY.

4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES

Notwithstanding anything to the contrary herein or in any agreement between Pierce and Buyer, IN NO EVENT SHALL PIERCE BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, SPECIAL, INDIRECT, OR PUNITIVE DAMAGES WHATSOEVER, WHETHER ARISING OUT OF BREACH OF CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE AND STRICT LIABILITY) OR OTHER THEORY OF LAW OR EQUITY, WITH RESPECT TO VEHICLES OR OTHER PRODUCTS SOLD BY PIERCE, OR THEIR OPERATION OR FAILURE TO OPERATE, OR ANY DEFECTS THEREIN, OR ANY UNDERTAKINGS, ACTS OR OMISSIONS RELATED THERETO, REGARDLESS OF WHETHER PIERCE HAS BEEN INFORMED OF THE POSSIBILITY OF ANY SUCH DAMAGES. Without limiting the generality of the foregoing, Pierce specifically disclaims any liability for property or personal injury damages, penalties, damages for lost profits or revenues, loss of vehicles or products or any associated equipment, cost of substitute vehicles or products, down-time, delay damages, any other types of economic loss, or for any claims by any third party for any such damages.

Note: Any Surety Bond, if a part of the sale of the vehicle as to which this limited warranty is provided, applies only to this Pierce Basic One Year Limited Warranty for such vehicle, and not to other warranties made by Pierce in a separate document (if any) or to the warranties (if any) made by any manufacturer (other than Pierce) of any part, component, attachment or accessory that is incorporated into or attached to the vehicle.

PACCAR ENGINE LIMITED WARRANTY

PACCAR MX Warranty

United States

THIS LIMITED WARRANTY ("LIMITED WARRANTY") LISTS THE RESPECTIVE RIGHTS AND RESPONSIBILITIES OF PIERCE MANUFACTURING INC.'S END USER CUSTOMER THAT FIRST PUTS THE PACCAR ENGINE INTO SERVICE ("YOU" or "FIRST PURCHASER"), PACCAR INC ("PACCAR"), AND THE SERVICING PACCAR ENGINE DISTRIBUTORS ("AUTHORIZED DISTRIBUTORS"). PLEASE READ THIS LIMITED WARRANTY CAREFULLY.

PACCAR warrants directly to You that the PACCAR MX engine and related kitted parts (collectively, the "Engine") will be free from defects in materials and factory workmanship ("Warrantable Failures") appearing under normal commercial use and service during the time, mileage or hour limitations set forth in the attached Warranty Schedule. **This Engine warranty extends only to You, and not any subsequent owner or user of the Engine.** The Emissions warranty is made to all owners of the Engine in the chain of distribution until the end of the Emissions warranty coverage period. Warranty coverage relating to the Emissions components is outlined in the Emissions Warranty section of the PACCAR MX Operator's Manual, the terms and conditions of which are incorporated herein by reference.

YOUR SOLE AND EXCLUSIVE REMEDY AGAINST PACCAR AND ITS SUBSIDIARIES AND AFFILIATES ARISING FROM YOUR PURCHASE AND USE OF THIS ENGINE IS LIMITED TO THE REPAIR OR REPLACEMENT OF WARRANTABLE FAILURES AT AUTHORIZED DISTRIBUTORS IN THE UNITED STATES AND CANADA AND IS SUBJECT TO PACCAR'S TIME, MILEAGE, AND HOUR LIMITATIONS LISTED IN THE ATTACHED WARRANTY SCHEDULES. The maximum time, mileage and hour limitations in the Warranty Schedules begin running on the Date of Delivery to the First Purchaser. **The accrued time, mileage, or hours is calculated when this Engine is brought into an Authorized Distributor for correction of Warrantable Failures.**

WARRANTY DISCLAIMER AND LIMITATIONS OF LIABILITY (ENGINE AND EMISSIONS)

This Limited Warranty is the sole warranty made by PACCAR and its Authorized Distributors to You relating to the Engine. Except for the above limited express warranty, PACCAR and its Authorized Distributors make no other warranties to You, express or implied. PACCAR AND ITS AUTHORIZED DISTRIBUTORS EXPRESSLY DISCLAIM ANY WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

IT IS AGREED THAT PACCAR AND ITS AUTHORIZED DISTRIBUTORS SHALL NOT BE LIABLE TO YOU FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES INCLUDING, BUT NOT LIMITED TO: LOSS OF INCOME OR LOST PROFITS; ENGINE OR VEHICLE DOWNTIME; THIRD PARTY DAMAGE, INCLUDING DAMAGE OR LOSS TO OTHER ENGINES, VEHICLES OR PROPERTY, ATTACHMENTS, TRAILERS AND CARGO; LOSS OR DAMAGE TO PERSONAL CONTENTS; COMMUNICATION EXPENSES; LODGING AND/OR MEAL EXPENSES; FINES; APPLICABLE TAXES OR BUSINESS COSTS OR LOSSES; ATTORNEYS' FEES; AND ANY LIABILITY YOU MAY HAVE IN RESPECT TO ANY OTHER PERSON OR ENTITY.

This warranty does not apply to parts or accessories supplied by the vehicle manufacturer or third parties.

Failures of belts and hoses supplied by PACCAR are covered during the first year from the Date of Delivery of the Engine to the First Purchaser. PACCAR does not warrant antifreeze, lubricants, filters, filter elements, or any other part that is a maintenance or repair item. However, in its sole discretion, PACCAR may pay for lubricating oil, antifreeze, filter elements, belts, hoses, and other maintenance or repair items if the need for replacing such items is due to a Warrantable Failure of the Engine.

You are responsible for the safe operation and maintenance of the Engine and Emissions equipment as specified in the applicable Operator's Manuals. You are responsible for providing proof that all recommended inspections and maintenance have been performed. Before the expiration of the applicable warranty, You must notify an Authorized Distributor of any Warrantable Failures and make the Engine available for Engine repair by such Authorized Distributor. You are responsible for delivery of the Engine to the Authorized Distributor. Locations in the United States and Canada of Authorized Distributors may be found at WWW.PACCARPOWERTRAIN.COM.

PACCAR IS NOT RESPONSIBLE FOR WEAR AND TEAR OR WEAROUT OF COVERED PARTS, storage deterioration, and changes in adjustment resulting from your use of the Engine. Damage due to accident, misuse, abuse, neglect, negligence, improper or insufficient maintenance, or unauthorized modification is not warranted. This may include, but is not limited to: operation without adequate coolants, lubricants, or other fluids; over-fueling; over-speeding; lack of maintenance of the lubricating, cooling or air intake systems; improper storage, starting, warm-up, run-in or shutdown practices; and unauthorized modifications to the Engine. **PACCAR is not responsible for damage or loss resulting from Engine horsepower/torque upgrades.**

Parts used to repair a Warrantable Failure may be new parts, approved remanufactured parts, or repaired parts. PACCAR is not responsible for failures resulting from the use of parts not approved by PACCAR. A new or approved remanufactured part used to repair a Warrantable Failure assumes the identity of the part it has replaced and is entitled to the remaining warranty coverage, if any.

PACCAR IS NOT RESPONSIBLE FOR DAMAGE OR LOSSES CAUSED BY INCORRECT OIL, FUEL, DIESEL EXHAUST FLUID, COOLANT, OR ADDITIVES; WATER, DIRT OR OTHER CONTAMINANTS IN THE FUEL, OIL OR DIESEL EXHAUST FLUID; OPERATION WITHOUT ADEQUATE COOLANTS OR LUBRICANTS; OVER-FUELING; OVER-SPEEDING; IMPROPER STORAGE, STARTING, WARM-UP, RUN-IN OR SHUT-DOWN PRACTICES; OR UNAUTHORIZED MODIFICATIONS OF THE ENGINE. Failure of replacement parts used in repairs due to the above non-warrantable conditions is not warrantable.

If your vehicle is disabled by a Warrantable Failure to the Engine during the base warranty period, PACCAR is not responsible for towing expenses to transport the vehicle to the nearest Authorized Distributor. In lieu of the towing expense and at the sole discretion of PACCAR,

PACCAR will pay the reasonable costs of an authorized mechanic to travel to and from the location of the disabled Vehicle in order to perform the Engine repair.

PACCAR will pay for reasonable labor costs for Engine removal and reinstallation when necessary to repair a Warrantable Failure.

Warrantable Failures resulting in excessive oil consumption will be handled within the basic Engine coverage as stated in the attached Engine Schedule. Before a claim for excessive oil consumption, low power, or excessive fuel consumption will be considered for payment, You must submit adequate documentation to show that consumption exceeds PACCAR published standards

PACCAR reserves the right to inspect and download data from the Engine Electronic Control Module for purpose of failure analysis unless prohibited by applicable law.

TIME LIMIT ON COMMENCING LEGAL ACTION / OTHER TERMS

IT IS AGREED THAT YOU HAVE 12 MONTHS FROM THE ACCRUAL OF THE CAUSE OF ACTION TO COMMENCE ANY LEGAL ACTION ARISING FROM THE PURCHASE OR USE OF THE ENGINE, OR BE BARRED FOREVER.

To the extent any provision of this limited warranty is found to contravene the law of any jurisdiction, the remainder of the warranty shall not be affected thereby.

PACCAR ENGINE LIMITED WARRANTY SCHEDULE

PACCAR MX Warranty

United States

THIS ENGINE WARRANTY SCHEDULE APPLIES ONLY TO ORIGINAL FACTORY EQUIPMENT AND IS SUBJECT TO THE TERMS AND LIMITATIONS IN THE ATTACHED LIMITED WARRANTY. This Engine Warranty Schedule does not apply to the vehicle which is warranted separately. Pursuant to the terms of the attached Limited Warranty, PACCAR Inc ("PACCAR") will pay warranty claims for Warrantable Failures within the following maximum limits in time, mileage, or hours, **whichever shall occur first**. The Warrantable Failure must be brought to the attention of an Authorized Distributor within 30 days of discovery.

PACCAR MX Engine

Basic Engine -Twenty-four (24) months or 250,000 miles (or 400,000 km) or 6,250 hours - (all applications except fire apparatus)

Fire Apparatus Truck Applications Basic Engine - Sixty (60) months or 100,000 miles (or 160,000 km) or 6,250 hours

Major Engine Components - Sixty (60) months or 500,000 miles or 12,500 hours

Cylinder Block Casting	Crankshaft	Lube Pump Gear	Flywheel Housing
Main Bearing Bolts	Camshaft	Crankshaft Gear	Water Pump Housing
Cylinder Head Casting	Cam Follower Assemblies	Camshaft Gear	Thermostat Housing
Cylinder Head Capscrews	Connecting Rod Assemblies	Camshaft Idler Gear	

TRW COMMERCIAL STEERING SYSTEMS
800 HEATH STREET
LAFAYETTE, INDIANA 47904



PRODUCT WARRANTY

- I. WARRANTY:** The Commercial Steering Systems group of TRW, Inc., hereinafter referred to as "CSS", warrants that each new product supplied by CSS to its customer, when properly installed, used and maintained, shall be free from defect in material and workmanship for the period specified below:
- (A) CSS Product installed in **New On-highway Motor Vehicle:**
- Within twelve (12) months after date of delivery of such vehicle to the original retail purchaser, or before such vehicle has been driven one hundred thousand (100,000) miles, whichever event shall first occur.
- (B) CSS Product installed in **New Agricultural, Turf, Industrial, or Construction Vehicles and Related Equipment**
- Within twelve (12) months after date of delivery of such vehicle/equipment to the original retail purchaser or before such vehicle/equipment has been operated for two thousand (2000) hours or fifty thousand (50,000) miles, whichever occurs first.
- (C) CSS Product installed in **New End Product, Not Specifically Mentioned in Classifications (A) or (B) Above and All Other Off-Highway/Severe Applications:**
- Within six (6) months after date of delivery of the original equipment manufacturer's end product to the original retail purchaser.
- II. REMEDY:** Customer's sole remedy under the foregoing warranty is limited to correction by means of repair, replacement or issuance of credit, at the option of CSS, of any product which is:
- (A) Returned to CSS within the specified warranty time period, with prior notice to, and the written consent of, CSS, with transportation and handling charges prepaid, together with a statement describing the alleged defect, the part number, model number and application, and mileage or hours of use of such product; and
- (B) Upon examination, determined by CSS not to conform to the warranty.
- III.** Any product which is repaired or replaced under this warranty will be returned to customer prepaid. Disposition of any product determined not to be covered by this warranty will be at the customer's expense.
- IV.** CSS will not be liable for any repairs, replacements, or adjustments to any product or any cost of labor performed by or at the request of customer without the express prior written consent of CSS.
- V. EXCEPTIONS:** The provision of this warranty shall not apply to any CSS product which is used for a purpose for which it is not designed, or which shall have been repaired or altered in any way, or which has been subject to misuse, negligence or accident, neglect of normal maintenance services, so as, in the judgement of CSS to adversely affect its performance and reliability. In no case will the CSS warranty exceed the standard published warranty of its customer in terms of time and/or distance. In all events, the CSS warranty will expire thirty (30) months after the date of manufacture as stamped on the Product. In the case of hydraulic equipment, operation with unapproved fluid or temperatures voids this warranty.
- VI. EXCLUSION OF ALL OTHER REMEDIES AND LIMITATION OF LIABILITY:** Customer's sole and exclusive remedy under the foregoing warranty shall be for the repair, replacement or issuance of credit with respect to a defective product, as set forth and described above. Other provisions hereof notwithstanding, CSS shall not be liable to Customer, or any successor in interest, beneficiary or assignee of Customer, based upon any claim against CSS, whether in contract, warranty, negligence, strict liability, indemnity or otherwise, for any special, consequential, incidental or other damages relating in any way to the design, manufacture, sale, installation or other use of any product purchased from CSS.
- VII. EXCLUSION OF ALL OTHER WARRANTIES: THE FOREGOING WARRANTY IS THE EXCLUSIVE WARRANTY BY CSS AND IS IN LIEU OF AND EXCLUDES ALL OTHER WARRANTIES AND REPRESENTATIONS, WHETHER ORAL, WRITTEN, EXPRESSED, IMPLIED OR STATUTORY, INCLUDING BUT NOT LIMITED TO ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.**

TRW COMMERCIAL STEERING SYSTEMS

Revised November 2001



Fire and Rescue Apparatus

Lifetime Fifty (50) Year Structural Integrity

Chassis Frame & Crossmembers

Limited Warranty

1. LIMITED WARRANTY

Subject to the limitations and exclusions set forth below, Pierce Manufacturing provides the following warranty to the Buyer:

Coverage:	Custom chassis frame rail and cross members manufactured by Pierce shall be free from defects in material and workmanship
Warranty Begins:	The date of the original purchase invoice (issued when the product ships from the factory).
Warranty Period Ends After:	Fifty (50) Years (Expected Life of Apparatus)
Conditions and Exclusions:	This warranty does not apply to damage caused by corrosion.
See Also Paragraphs 2 thru 4	

This limited warranty shall apply only if the product is properly maintained in accordance with Pierce's maintenance instructions and manuals and is used in service which is normal to the particular model. Normal service means service which does not subject the product to stresses or impacts greater than normally result from careful use. If the Buyer discovers a defect or nonconformity, it must notify Pierce in writing within thirty (30) days after the date of discovery, but in any event prior to the expiration of the warranty period. THIS LIMITED WARRANTY MAY NOT BE ASSIGNED OR OTHERWISE TRANSFERRED BY THE BUYER TO ANY SUBSEQUENT USER OR PURCHASER OR TO ANY OTHER PERSON OR ENTITY.

Notwithstanding anything to the contrary herein, Pierce makes no warranty whatsoever as to:

(a) any integral parts, components, attachments or trade accessories of or to the product that are not manufactured by Pierce, including but not limited to engines, transmissions, drivelines, axles, water pumps and generators; with respect to all such parts, components, attachments and accessories, Pierce shall assign to Buyer the applicable warranties, if any, made by the respective manufacturers thereof;

(b) any vehicle, chassis, or component, part, attachment or accessory damaged by misuse, neglect, fire, exposure to severe environmental or chemical conditions, acidic environment, improper maintenance, accident, crash, or force majeure such as natural disaster, lightning, earthquake, windstorm, hail, flood, war or riot;

(c) any vehicle, chassis or component, part, attachment or accessory that has been repaired, altered or assembled in any way by any person or entity other than Pierce which, in the sole judgment of Pierce, adversely affects the performance, stability or purpose for which it was manufactured; or

(d) products or parts which may in the ordinary course wear out and have to be replaced during the warranty period, including, but not limited to, tires, fluids, gaskets and light bulbs. Pierce assumes no responsibility for the assembly of its parts or subassemblies into finishing products or vehicles unless the assembly is performed by Pierce.

The original purchaser may void this warranty in part or in its entirety if the product is repaired or replaced (a) without prior written approval of the Pierce Customer Service Department; or (b) at a facility which has not been approved by Pierce as to technical capability. Any repairs, modifications, alterations or aftermarket parts added after manufacture without the authorization of Pierce may void this warranty.

2. DISCLAIMERS OF WARRANTIES

THE WARRANTY SET FORTH IN PARAGRAPH 1 IS THE SOLE AND EXCLUSIVE WARRANTY GIVEN BY PIERCE. PIERCE HEREBY DISCLAIMS AND EXCLUDES ALL OTHER WARRANTIES, WHETHER EXPRESS, IMPLIED OR STATUTORY, INCLUDING WITHOUT LIMITATION ANY WARRANTY OF MERCHANTABILITY, ANY WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, AND ANY WARRANTIES ARISING FROM COURSE OF DEALING OR USAGE OF TRADE.

3. BUYER'S EXCLUSIVE REMEDY

If the product fails to conform to the warranty set forth in paragraph 1 during the warranty period, and such nonconformity is not due to misuse, neglect, accident or improper maintenance, Buyer must notify Pierce within the time period specified in paragraph 1, and shall make the product available for inspection by Pierce or its designated agent. At the request of Pierce, any allegedly defective product shall be returned to Pierce by Buyer for examination and/or repair. Buyer shall be responsible for the cost of such transportation, and for risk of loss of or damage to the product during transportation. Within a reasonable time, Pierce shall repair or replace (at Pierce's option and expense) any nonconforming or defective parts. Repair or replacement shall be made only by a facility approved in advance in writing by Pierce. THIS REMEDY SHALL BE THE EXCLUSIVE AND SOLE REMEDY FOR ANY BREACH OF WARRANTY.

4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES

Notwithstanding anything to the contrary herein or in any agreement between Pierce and Buyer, IN NO EVENT SHALL PIERCE BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, SPECIAL, INDIRECT, OR PUNITIVE DAMAGES WHATSOEVER, WHETHER ARISING OUT OF BREACH OF CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE AND STRICT LIABILITY) OR OTHER THEORY OF LAW OR EQUITY, WITH RESPECT TO VEHICLES OR OTHER PRODUCTS SOLD BY PIERCE, OR THEIR OPERATION OR FAILURE TO OPERATE, OR ANY DEFECTS THEREIN, OR ANY UNDERTAKINGS, ACTS OR OMISSIONS RELATED THERETO, REGARDLESS OF WHETHER PIERCE HAS BEEN INFORMED OF THE POSSIBILITY OF ANY SUCH DAMAGES. Without limiting the generality of the foregoing, Pierce specifically disclaims any liability for property or personal injury damages, penalties, damages for lost profits or revenues, loss of vehicles or products or any associated equipment, cost of substitute vehicles or products, down-time, delay damages, any other types of economic loss, or for any claims by any third party for any such damages.

Note: Any Surety Bond, if a part of the sale of the vehicle as to which this limited warranty is provided, applies only to this Pierce Basic One Year Limited Warranty for such vehicle, and not to other warranties made by Pierce in a separate document (if any) or to the warranties (if any) made by any manufacturer (other than Pierce) of any part, component, attachment or accessory that is incorporated into or attached to the vehicle.



Dana Holding Corporation
Commercial Vehicle Products Group
Graco Lake Corporate Center
1 Village Center Drive
Van Buren Township, Michigan 48111
www.dana.com

FOR IMMEDIATE RELEASE

5 YEAR WARRANTY FOR YOUR FIRE/RESCUE VEHICLE

Dana Holding Corporation's Commercial Vehicle Systems Group is pleased to announce a change in our standard warranty for fire/rescue vehicles. Starting in 2011, all steer and drive axle applications for fire or rescue vehicles will carry a minimum 5 year / 100,000 mile warranty. Additional 1 and 2 year extended warranty packages are available. (Applicable fees apply) That's a total of 7 years of warranty coverage. Our experience in extended warranty coverage's dates back to the mid 80's. Since then, we have pioneered many new programs designed to deliver warranties, which meet the demands of an ever-changing industry. From our first versions of the on/off-highway coverage's, to our more recent vocational warranties, customization and customer satisfaction, have always been our goals.

For further information and requirements, please go to www.roadranger.com.

24K STEER BEAM NOW AVAILABLE

Dana Holding Corporation is continually working with chassis manufactures to determine needs and how best to offer a solution. The amount of equipment has increased over the years and not all firehouses can accommodate a tandem axle vehicle. We have listened to your requests for a slightly higher front GAWR for single axle vehicles. Dana can now offer a front steer beam with a 5 1/4" drop at 24K GAWR. This will allow chassis manufactures to meet the limited length requirements while still carrying the same amount of equipment.

Please contact your Dana representative for further information

For additional information please contact:

Alan Manzoni
Account Manager – Specialty Markets
Dana Holding Corporation
One Village Center Dr.
Van Buren Twp., MI 48111-5711
Phone: (734) 629-1141
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The Roadranger System



Roadranger
MORE TIME ON THE ROAD



Dana Holding Corporation
Commercial Vehicle Products Group
Grace Lake Corporate Center
1 Village Center Drive
Van Buren Township, Michigan 48111
www.dana.com

New for 2011!

Dana Holding Corporation is pleased to announce a change in our standard warranty for fire/rescue vehicles. All steer and drive axles will now come with a 5 year / 100,000 mile warranty. For further information, please go to www.roadranger.com.

Dana Holding Corporation is working with chassis manufactures to supply a 24K front steer beam with a 5 ¼' drop. We have listened to your requests for a slightly higher GAWR for single axle aerials. Not all fire stations can accommodate a long wheel base application. This allows manufactures to meet the limited length requirements for smaller fire houses. Please submit your requests through our website. Please indicate on the application your need for 24K GAWR.

Finally, our drive axles will accommodate simultaneous auxiliary braking. Dana axles are built tough and were design with Telma retarders in mind. Submit your application for single or tandem designation.

Dana Holding Corporation will work with you to provide the best drive train solution with the best warranty in the fire/rescue industry. For additional information please contact:

Alan Manzoni
Account Manager - Specialty Markets
Dana Holding Corporation
One Village Center Dr.
Van Buren Twp., MI 48111-5711

Phone: (734)629-1141

Cell: (269)312-3220

Alan.manzoni@dana.com



Fire and Rescue Apparatus

Three (3) Year Material and Workmanship Meritor Wabco ABS Brake System Limited Warranty

1. LIMITED WARRANTY

Subject to the limitations and exclusions set forth below, Pierce Manufacturing provides the following warranty to the Buyer:

Coverage:	The Meritor Wabco ABS brake system shall be covered by Meritor Wabco as indicated in the attached Meritor Wabco warranty coverage description
Warranty Begins:	The date of the original purchase invoice (issued when the product ships from the factory).
Warranty Period Ends After:	Three (3) Year
Conditions and Exclusions: See Also Paragraphs 2 thru 4	The exclusions listed in the attached Meritor Wabco warranty description shall apply.

This limited warranty shall apply only if the product is properly maintained in accordance with Pierce's maintenance instructions and manuals and is used in service which is normal to the particular model. Normal service means service which does not subject the product to stresses or impacts greater than normally result from careful use. If the Buyer discovers a defect or nonconformity, it must notify Pierce in writing within thirty (30) days after the date of discovery, but in any event prior to the expiration of the warranty period. THIS LIMITED WARRANTY MAY NOT BE ASSIGNED OR OTHERWISE TRANSFERRED BY THE BUYER TO ANY SUBSEQUENT USER OR PURCHASER OR TO ANY OTHER PERSON OR ENTITY.

Notwithstanding anything to the contrary herein, Pierce makes no warranty whatsoever as to:

(a) any integral parts, components, attachments or trade accessories of or to the product that are not manufactured by Pierce, including but not limited to engines, transmissions, drivelines, axles, water pumps and generators; with respect to all such parts, components, attachments and accessories, Pierce shall assign to Buyer the applicable warranties, if any, made by the respective manufacturers thereof;

(b) any vehicle, chassis, or component, part, attachment or accessory damaged by misuse, neglect, fire, exposure to severe environmental or chemical conditions, acidic environment, improper maintenance, accident, crash, or force majeure such as natural disaster, lightning, earthquake, windstorm, hail, flood, war or riot;

(c) any vehicle, chassis or component, part, attachment or accessory that has been repaired, altered or assembled in any way by any person or entity other than Pierce which, in the sole judgment of Pierce, adversely affects the performance, stability or purpose for which it was manufactured; or

(d) products or parts which may in the ordinary course wear out and have to be replaced during the warranty period, including, but not limited to, tires, fluids, gaskets and light bulbs. Pierce assumes no responsibility for the assembly of its parts or subassemblies into finishing products or vehicles unless the assembly is performed by Pierce.

The original purchaser may void this warranty in part or in its entirety if the product is repaired or replaced (a) without prior written approval of the Pierce Customer Service Department; or (b) at a facility which has not been approved by Pierce as to technical capability. Any repairs, modifications, alterations or aftermarket parts added after manufacture without the authorization of Pierce may void this warranty.

2. DISCLAIMERS OF WARRANTIES

THE WARRANTY SET FORTH IN PARAGRAPH 1 IS THE SOLE AND EXCLUSIVE WARRANTY GIVEN BY PIERCE. PIERCE HEREBY DISCLAIMS AND EXCLUDES ALL OTHER WARRANTIES, WHETHER EXPRESS, IMPLIED OR STATUTORY, INCLUDING WITHOUT LIMITATION ANY WARRANTY OF MERCHANTABILITY, ANY WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, AND ANY WARRANTIES ARISING FROM COURSE OF DEALING OR USAGE OF TRADE.

3. BUYER'S EXCLUSIVE REMEDY

If the product fails to conform to the warranty set forth in paragraph 1 during the warranty period, and such nonconformity is not due to misuse, neglect, accident or improper maintenance, Buyer must notify Pierce within the time period specified in paragraph 1, and shall make the product available for inspection by Pierce or its designated agent. At the request of Pierce, any allegedly defective product shall be returned to Pierce by Buyer for examination and/or repair. Buyer shall be responsible for the cost of such transportation, and for risk of loss of or damage to the product during transportation. Within a reasonable time, Pierce shall repair or replace (at Pierce's option and expense) any nonconforming or defective parts. Repair or replacement shall be made only by a facility approved in advance in writing by Pierce. THIS REMEDY SHALL BE THE EXCLUSIVE AND SOLE REMEDY FOR ANY BREACH OF WARRANTY.

4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES

Notwithstanding anything to the contrary herein or in any agreement between Pierce and Buyer, IN NO EVENT SHALL PIERCE BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, SPECIAL, INDIRECT, OR PUNITIVE DAMAGES WHATSOEVER, WHETHER ARISING OUT OF BREACH OF CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE AND STRICT LIABILITY) OR OTHER THEORY OF LAW OR EQUITY, WITH RESPECT TO VEHICLES OR OTHER PRODUCTS SOLD BY PIERCE, OR THEIR OPERATION OR FAILURE TO OPERATE, OR ANY DEFECTS THEREIN, OR ANY UNDERTAKINGS, ACTS OR OMISSIONS RELATED THERETO, REGARDLESS OF WHETHER PIERCE HAS BEEN INFORMED OF THE POSSIBILITY OF ANY SUCH DAMAGES. Without limiting the generality of the foregoing, Pierce specifically disclaims any liability for property or personal injury damages, penalties, damages for lost profits or revenues, loss of vehicles or products or any associated equipment, cost of substitute vehicles or products, down-time, delay damages, any other types of economic loss, or for any claims by any third party for any such damages.

Note: Any Surety Bond, if a part of the sale of the vehicle as to which this limited warranty is provided, applies only to this Pierce Basic One Year Limited Warranty for such vehicle, and not to other warranties made by Pierce in a separate document (if any) or to the warranties (if any) made by any manufacturer (other than Pierce) of any part, component, attachment or accessory that is incorporated into or attached to the vehicle.

WARRANTY

MODEL YEAR 2021 VEHICLES



Warranty coverage is essential to protecting your investment. But understanding the full details of your coverage can be challenging. This straightforward approach allows you, our valued customer, to better understand how your specific vehicle applications will be covered in your region. Our component warranty coverage is provided according to vocation/usage categories listed below.

- Linehaul covers high mileage operation (over 60,000 miles/year) on well-maintained major highways of concrete or asphalt construction.
- General Service covers moderate mileage operations (less than 60,000 miles/year) on well-maintained public roads (less than 10 percent off-road) typically with less than three (3) stops per mile.
- Heavy Service (Vocational) covers vehicles with more than 10 percent off-road OR moderate to frequent starts/stops typically with more than three (3) stops per mile.
- Off-Highway Service covers lower mileage operations. Vehicles are not typically licensed for highway use.

How to Read Warranty Coverage (Example)

Number of Years	Mileage (in thousands) Unl=Unlimited	P=Parts Only P&L=Parts & Labor
3	300	P

- The standard aftermarket warranty for WABCO products - including WABCO Original parts, WABCO Reman Solutions, ProVia quality aftermarket parts and WABCO retrofit solutions - is one year, parts only from in-service date when purchased from ZF distributor networks or its affiliates and/or subsidiaries.

WABCO

WARRANTY - MODEL YEAR 2021 VEHICLES

LINEHAUL/GENERAL SERVICE WARRANTY INFORMATION

LINEHAUL/GENERAL SERVICE VEHICLES

- Aerial Ladder Truck
- Aerial Platform
- Ambulance
- Auto Hauler
- Beverage Truck
- Bulk Hauler
- Chip Hauler (Truck)
- Cross Country Coach
- Doubles
- Flatbed
- Front Engine Commercial Chassis
- Front Engine Integral Coach
- General Freight
- Grain Hauler
- Intercity Coach
- Intermodal Chassis
- Livestock Hauler
- Meat Packer
- Moving Van
- Municipal Truck
- Pipe Hauler
- Platform Auto Hauler
- Pumper
- Rear Engine Integral Coach
- Recreational Vehicles
- Refrigerated Freight
- School Bus
- Stake Truck
- Tanker
- Tanker Truck
- Triples
- Tour Bus
- Wrecker

LINEHAUL TYPICALLY IS

- High mileage operation (over 60,000 miles/year)
- Well maintained major highways of concrete or asphalt construction

GENERAL SERVICE TYPICALLY IS

- Moderate mileage operations (less than 60,000 miles/year)
- Well maintained public roads (less than 10% off-road)
- Less than three (3) stops per mile

WABCO Components ¹	
Air Management	
Air Brake Valves	1/100/P&L
Trailer Lift Axle Control Valve	
Trailer Control Line Filter ³	
Air Compressors (ALL) ²	2/200/P&L
Air Dryers (ALL)	3/300/P&L
Aerodynamics	
OptiFlow® TrailerSkirt	2/UnU/P
OptiFlow® Trailer Tail and AutoTail	2/UnI/P
Braking Systems	
ABS (Anti-Lock Braking System) Air	3/300/P&L
ABS (Anti-Lock Braking System) Hydraulic	
Electronic Braking System (EBS)	
Electronic Stability Control (ESC)	
Roll Stability Control (RSS)	
Trailer Roll Stability Support (RSS)	
Trailer ABS (Anti-Lock Braking System) ³	
Driveline Suspension Control	
Clutch Controls	2/200/P&L
Leveling Valves	1/100/P&L
OptiRide® Automated Manual Transmission (AMT)	
OptiRide® Electronically Controlled Air Suspension (ECAS)	3/300/P&L

WABCO Components ¹ (cont.)	
Safety	
OnGuardACTIVE®	3/300/P&L
OnLane®	
OnLaneALERT®	
OnSide®	
Trailer SafeStart™	
Trailer TailGUARD™	
Telematics	
TrailerCAST™ Telematics Device	3/300/P&L
Wheel End Solutions	
EasyFit™ Slack Adjuster	6/600/P
MAXXUS™ Truck Air Disc Brake	5/500/P&L
IVTM - Wheel Module	6/P
IVTM - All Other Products	2/P
Pan 17 and 19 Air Disc Brake	2/Unl/P and 1/Unl/L
Pan 22 Air Disc Brake	5/500/P and 1/L
TRISTOP™ D Actuator w/ IBV or IRB	6/600/P
TRISTOP™ D Actuator	3/300/P
UNISTOP™ Actuator	2/200/P
Trailer MAXX22T™ Air Disc Brake	5/500/P and 1/L

¹ ZF and WABCO branded components. ² WABCO compressors installed on Cummins, Mercedes, and DDC engines are not warranted or serviced by ZF. Please contact your respective dealer/distributor of those engines for warranty and servicing. ³ An extended warranty of 4/400/P will apply when a WABCO Trailer Control Line Filter is used in combination with a WABCO Trailer ABS valve.

HEAVY SERVICE (VOCATIONAL) WARRANTY INFORMATION

HEAVY SERVICE VEHICLES

- Airport Rescue Fire (ARF)
- Airport Shuttle
- Asphalt Truck
- Block Truck
- Bottom Dump Trailer
- Combination
- Cementing Vehicle
- City Bus
- Commercial Pick-Up
- Concrete Pumper
- Construction Material Hauler
- Crash Fire Rescue (CFR)
- Mixer
- Demolition
- Drill Rig
- Dump
- Emergency Service
- Equipment Hauling
- Flatbed Trailer Hauler
- Flatbed Truck
- Fracturing Truck
- Front Loader
- Geophysical Exploration
- Hopper Trailer Combinations
- Landscaping Truck
- Liquid Waste Hauler
- Log Hauling
- Lowboy
- Michigan Special Gravel Trains
- Michigan Special Log Hauler
- Michigan Special Steel Hauler
- Michigan Special Waste Vehicle
- Municipal Dump
- Newspaper Delivery
- Package Delivery
- Pick-up and Delivery
- Rapid Intervention Vehicle (RIV)
- Rear Loader
- Recycling Truck
- Residential Pick-Up/Waste
- Rigging Truck
- Roll-Off
- Scrap Truck
- Semi-End Dump
- Sewer/Septic Vacuum
- Shuttle Bus
- Side Loader
- Snowplow/Snowblower
- Steel Hauling
- Tanker
- Tank Truck
- Tractors with Pole Trailers
- Tractor/Trailer with Jeeps
- Transfer Dump
- Transfer Vehicle
- Transit Bus
- Trolley
- Utility Truck
- Winch Truck

HEAVY SERVICE TYPICALLY IS

- On/Off road vocations (10% or more off-road) OR
- Moderate to frequent starts/stops typically more than three (3) stops per mile



WABCO Components ¹	
Air Management	
Air Brake Valves	1/100/P&L
Air Compressors (ALL) ²	
Air Dryers (ALL)	
Trailer Control Line Filter ³	
Braking Systems	
ABS (Anti-Lock Braking System) Air	3/300/P&L
ABS (Anti-Lock Braking System) Hydraulic	2/200/P&L
Electronic Braking System (EBS)	3/300/P&L
Electronic Stability Control (ESC)	
Trailer ABS Valve ³	
Roll Stability Control (RSS)	
Trailer Roll Stability Support (RSS)	
Driveline Suspension Control	
OptiRide® Electronically Controlled Air Suspension (ECAS)	2/200/P&L
Leveling Valves	1/100/P&L
Clutch Controls	2/200/P&L
Safety	
OnGuardACTIVE®	3/300/P&L
OnLane®	
OnLaneALERT®	
OnSide®	
Trailer SafeStart™	
Trailer TailGUARD™	
Telematics	
TrailerCAST™ Telematics Device	3/300/P&L
Wheel End Solutions	
EasyFit™ Slack Adjuster	2/200/P
MAXXUS™ Air Disc Brake	1/Unl/P&L
IVTM - Wheel Module	6/P
IVTM - All Other Products	2/P
Pan 22, 19 and 17 Air Disc Brake	1/Unl/P&L
Trailer MAXX22T™	1/Unl/P&L
TRISTOP™ D Actuator w/ IBV	3/Unl/P
TRISTOP™ D Actuator	2/200/P
UNISTOP™ Actuator	1/100/P

¹ ZF and WABCO branded components. ² WABCO compressors installed on Cummins, Mercedes, and DDC engines are not warranted or serviced by ZF. Please contact your respective dealer/distributor of those engines for warranty and servicing. ³ An extended warranty of 4/400/P will apply when a WABCO Trailer Control Line Filter is used in combination with a WABCO Trailer ABS valve.

WARRANTY - MODEL YEAR 2021 VEHICLES

INDUSTRIAL/OFF-HIGHWAY SERVICE WARRANTY INFORMATION

INDUSTRIAL AND OFF-HIGHWAY SERVICE TYPICALLY IS

- Low mileage operation³
- Vehicles are not typically licensed for highway use

Market	Common Application Types
Agriculture	Fertilizer Spreader, Tractor, Heavy Duty Ag Trailers, Harvester, Sprayer, Skid Loader, Silage Bagger, Slurry Wagons, Grain Cart
Airport Support	Pushback Tractor, Towing Tugs, Aircraft Tow Tractor, Refueling Trucks, Food Service Trucks, Baggage Tractors, De-Icing Equipment, Runway Clearing Equipment
Construction	All-Terrain Crane, Rough Terrain Crane, Excavator, Compactor, Wheel Loader, Road Roller, Motor Grader, Articulated Dump Truck, Rubber Tire Road Roller, Backhoe Loaders, Haul Trucks, Scraper Rough Terrain Forklifts, Trenchers, Drills
Forestry	Logging Forwarder, Kidder, Loaders, Yard Forklifts, Harvesters Fellers
Material Handling	Port Tractor, Rail Yard Spotter, Stevedoring Tractor, Trailer Spotter, Yard Jockey, Scissor Lift, Straddle Carrier, Manlift, Forklift, Boom Lift Telehandlers, Aerial Work Platforms
Mining	Specialized Mining, Excavator, Haul Truck, Underground Loader, Service Trucks, Wheel Loaders, Scrapers, Load Haul Dumps, Personnel Transports, Bolters, Scalpers
Municipal	Street Sweeper, Utility Tractor, Utility Trucks, Tree Trimmers, Dump Trucks, Tow Trucks, Flat Bed Trucks, Winch Applications
Oil & Gas	Fracturing Trailer, Injector Heads, Top Drives, Jack/Lift Boats, Wireline Trucks, Load-On / Load-Off
Rail	Railcar Mover, Track Layers, Grinders, Platform Crane, Locomotive Railcars, Ballast Equipment, Winch Applications



WABCO Components ¹	
Air Management	
Air Brake Valves	2/Unl/P
Air Compressors (ALL)2	
Air Dryers (ALL)	
Brake Actuation	
Air/Hydraulic Actuators	2/Unl/P
Master Cylinders	
Remote Actuators	
Slave and Wheel Cylinders	
Two Fluid Actuators	
Brake Locks	
Brake Locks (ALL)	2/Unl/P
Electric Brake Locks	
Lever Locks	
Braking Systems	
ABS (Anti-Lock Braking System) Air	1/100/P&L
ABS (Anti-Lock Braking System) Hydraulic	
Driveline Suspension Control	
Clutch Controls	1/100/P&L
Leveling Valves	
Electrohydraulics & Controls	
Electronic Pedals	2/Unl/P
Electrohydraulic Brake Valves (EBV)	
Pressure Switches	
Hydraulic Braking Solutions	
Accumulator Charging Valves	2/Unl/P
Hydraulic Throttle Controls and Switches	
Modulating Brake Valves	
Wheel End Solutions	
EasyFit™ Slack Adjuster	2/200/P
Caliper Disc Brakes	2/Unl/P
MAXXUSTM Air Disc Brake	1/Unl/P&L
Multiple Disc Brakes	2/Unl/P
IVTM - Wheel Module	6/P
IVTM - All Other Products	2/P
Pan 22, 19 and 17 Air Disc Brake	1/Unl/P&L
TRISTOPTM D Actuator w/ IBV	3/Unl/P
TRISTOPTM D Actuator	2/200/P
UNISTOPTM Actuator	1/100/P

¹ ZF and WABCO branded components. ² WABCO compressors installed on Cummins, Mercedes, and DDC engines are not warranted or serviced by ZF. Please contact your respective dealer/distributor of those engines for warranty and servicing. ³ Equivalent hours of service limit: 2,000 hours for all components.

TERMS AND CONDITIONS

COVERAGE EXCLUSIONS

PRODUCT DESCRIPTION

ALL PRODUCTS

This Warranty shall not apply to the following, but not limited to: (1) damage to the product or its component parts caused by incorrect use, installation, maintenance or repair, including without limitation (a) improper fit of mating components or brackets, damaged threads, cut, broken, chafed, pinched or otherwise damaged wiring (sensors, harnesses and connectors), (b) sensors damaged during removal when seized in block, or associated with sensor adjustments/ alignments, and (c) damage resulting from the use or installation of non-genuine WABCO components or materials; (2) damage to the product, its component parts, or diminished product or component part performance due to incorrect operation, deviation from approved conditions or misapplication; (3) any unauthorized disassembly of the product or its component parts including without limitation (a) obliterated, defaced or missing WABCO or WABCO name plate, serial numbers or label identifying the device as a ZF product or WABCO component, (b) changes to sealed adjusting screws, and (c) opening or attempted repair of non-serviceable components; (4) malfunction of the component due to internal contamination of the vehicle system including without limitation (a) water and other contamination damage that is due to the use of a non-genuine air dryer cartridge or (b) valve failures due to contamination in air system, (5) complaints associated with noise, (6) damage resulting from corrosion (including oxidation of electrical devices and connections).

AIR DRYERS

Mounting brackets (see vehicle OEM). Desiccant cartridge housing only.

AIR SYSTEM COMPONENTS

Normal wear items; Gladhand seals, dash valve knobs, valve actuation handles, treadles, pedals.

ABS, ELECTRONIC STABILITY CONTROL (ESC), ROLL STABILITY CONTROL (RSC), OPTIRIDE®, ONGUARD® AND ONLANE®, COLLECTIVELY “ELECTRONICS”

Failure of electronic components due to overvoltage condition, improper grounding, electrostatic discharge (ESD), improper shielding, electromagnetic interference (EMI), or other wiring or installation issues. Malfunctions and failure codes caused by other electronic subsystem failures (data bus, engine, transmission, dashboard, etc.)

HYDRAULIC COMPONENTS

For certain components, brake fluid DOT3 or DOT4 is used as the operating medium. Use of any other fluid will void all warranties associated with that component. For hydraulic braking applications the brake fluid is considered a maintenance item. Maintenance intervals are listed in TB-1367.

COVERAGE LIMITATIONS

PRODUCT DESCRIPTION

ALL PRODUCTS

Any claim beyond 60 days from date of repair will not be accepted or honored under this warranty program.

Products purchased on an incomplete vehicle (glider) are limited to one year, 1/Unl/P.

For vehicles that operate full- or part-time outside of the United States and Canada, a 1-Year/Unlimited Miles parts only (1/Unl/P) will apply.

TOOLBOX PLUS™ DIAGNOSTIC SOFTWARE

Proper diagnostics of WABCO Electronics may require the latest version of TOOLBOX PLUS™. Additional labor due to use of an outdated version of TOOLBOX™ software and/or the time to purchase or install the latest version of TOOLBOX PLUS™ are not covered under product warranty.

WARRANTY - MODEL YEAR 2021 VEHICLES

TERMS AND CONDITIONS

(1) What is Covered by this Commercial Warranty?

ZF CV Systems North America LLC and its North American subsidiaries and affiliates (ZF) warrant to the owner ("Owner") that the components listed in this publication, which have been installed by an Original Equipment Manufacturer ("OEM") as original equipment will be free from defects in material and workmanship. This warranty coverage begins from the original in-service date to the limits provided and runs concurrently with any warranties provided by OEMs and/or any distribution agreements and/or any service contracts that cover the components listed in this publication, if any. If the components listed in this publication are covered by an OEM warranty and/or service contract, then the OEM's warranty and/or service contract shall supersede ZF's warranty and Owner shall comply with all OEM's warranty and/or service contract requirements for claims under such OEM's warranty and/or service contract until those agreements expire. Once those agreements expire and provided the ZF warranty has not expired under the terms stated above, the ZF warranty will be in effect until its expiration date.

Warranty coverage ends at the expiration of the applicable time period from the date of vehicle purchase by the first Owner, or, the applicable mileage limitation, whichever occurs first. Duration of coverage varies by component and vocation as detailed previously in this publication. Some components are warranted for parts only and the Owner must pay any labor costs associated with the repair or replacement of the component. Other components are warranted for both parts and reasonable labor to repair or replace the subject component. Additional diagnostic time due to use of an outdated version of TOOLBOX™, time to purchase or install latest version of TOOLBOX™ are the responsibility of the authorized ZF distributor networks and are not covered under product warranty. Components installed as replacements under this warranty are warranted only for the remainder of the original period of time or mileage under the original warranty.

- (2) Designation of Vocational Use Required. To obtain warranty coverage, each Owner must notify ZF through the OEM new truck and/or trailer dealer of the intended vocational use of the vehicle into which the WABCO components have been incorporated prior to the vehicle in-service date. This notification may be accomplished by registering the vehicle through your OEM new truck and/or trailer dealer or with ZF directly. Failure to notify ZF of (I) the intended vocational use of the vehicle or (II) a change in vocational use from that which was originally designated, will result in the application of a one year, unlimited mileage, parts only warranty (1/Unl/P) from the initial in-service date. A second Owner and each subsequent Owner must also notify ZF as to the intended vocational use of the vehicle. This notification can be sent directly to ZF or through

the OEM new truck and/or trailer dealer. The duration and mileage coverage of this warranty cannot exceed the coverage extended to the first Owner after his or her initial designation of vocational use. Coverage under ZF's warranty requires that the application of products be properly approved pursuant to OEM and ZF, approvals.

- (3) What is the Cost of this Warranty? There is no charge to the Owner for this warranty.
- (4) What is not Covered by this Warranty? In addition to the items listed on "Coverage Exclusions," this warranty does not cover normal wear and tear, or service items; nor does it cover a component that fails, malfunctions or is damaged as a result of (a) improper handling, storage, installation, adjustment, repair or modification including the use of unauthorized attachments or changes or modification in the vehicle's configuration, usage, or vocation from that which was originally approved by ZF, (b) accident, fire or other casualty, natural disaster, road debris, negligence, misuse, abuse, or improper use (including loading beyond the specified maximum vehicle weight or altering engine power settings to exceed the brake system capacity), or (c) improper or insufficient maintenance (including deviation from maintenance intervals, approved lubricants, or lube levels). This warranty does not cover any component or part that is not sold by ZF.
- (5) To obtain service. If the owner discovers within the applicable coverage period a defect in material or workmanship, the Owner must promptly give notice to either ZF or the dealer from which the vehicle was purchased. To obtain service, the vehicle must be taken to any participating OEM dealer or ZF distributor networks' servicer. The dealer or ZF authorized servicer will inspect the vehicle and contact ZF for an evaluation of the claim. When authorized by ZF, the dealer or ZF authorized servicer will repair or replace during the term of this warranty any defective WABCO component covered by this warranty.
- (6) Disclaimer of Warranty and Limitation of remedies. TO THE MAXIMUM EXTENT PERMITTED BY LAW, THE LIMITED WARRANTY SET FORTH HEREIN IS EXCLUSIVE AND IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, ARISING BY OPERATION OF LAW OR OTHERWISE, INCLUDING, WITHOUT LIMITATION, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE AND/OR WARRANTY FOR HIDDEN OR LATENT DEFECTS, AND IN NO EVENT WILL ZF OR ANY OF ITS AFFILIATES BE LIABLE FOR DIRECT, INDIRECT, INCIDENTAL, PROGRESSIVE, SPECIAL, OR CONSEQUENTIAL DAMAGES OF ANY KIND.

- (7) Legal action. Any legal action or claim arising from or related to this Warranty, in contract or otherwise, must be commenced within one year from the accrual of that cause of action, or be barred forever. Any dispute arising in connection with this agreement shall be governed by and construed according to the laws of the State of Michigan and be brought, heard and determined exclusively in either the Circuit Court for the County of Oakland, State of Michigan or the United States District Court for the Eastern District of Michigan. The parties stipulate that the referenced venues are convenient.
- (8) Remedy. The exclusive remedy under this warranty shall be the repair or replacement of the defective component at ZF's option. ZF reserves the right to require that all applicable covered components are available and/or returned to ZF for review and evaluation. THE MAXIMUM LIABILITY, IF ANY, OF ZF FOR ALL DAMAGES, INCLUDING WITHOUT LIMITATION CONTRACT DAMAGES, BREACH OF WARRANTY, NEGLIGENCE, STRICT LIABILITY, OR OTHER TORT, IS LIMITED TO AN AMOUNT NOT TO EXCEED THE PURCHASE PRICE OF THE PRODUCT and where indicated in the product and application warranty information above, the inclusion of labor is limited to the standard repair time. THE PARTIES ACKNOWLEDGE AND AGREE THAT THE LIMITATION OF DAMAGES PROVISION SET FORTH IN THIS PARAGRAPH SURVIVES BETWEEN THE ORIGINAL END USER AND ZF EVEN IF THE EXCLUSIVE REMEDY SET FORTH ABOVE IS DEEMED TO FAIL OF ITS ESSENTIAL PURPOSE. ZF may change the design or make improvements to its Products without incurring any warranty obligation for previously manufactured Product .
- (9) Entire Agreement. This is the entire agreement between ZF and the Owner about warranty and no, ZF employee, or dealer is authorized to make any additional warranty on behalf of ZF unless in writing and signed by an authorized representative of ZF.





**For further product details contact your distributor or the
WABCO Customer Care Center at 855-228-3203.**

About ZF Friedrichshafen AG

ZF is a global technology company and supplies systems for passenger cars, commercial vehicles and industrial technology, enabling the next generation of mobility. ZF allows vehicles to see, think and act. In the four technology domains Vehicle Motion Control, Integrated Safety, Automated Driving, and Electric Mobility, ZF offers comprehensive solutions for established vehicle manufacturers and newly emerging transport and mobility service providers. ZF electrifies different kinds of vehicles. With its products, the company contributes to reducing emissions and protecting the climate.

ZF, which acquired WABCO Holdings Inc. on May 29, 2020, now has 160,000 employees worldwide with approximately 260 locations in 41 countries. In 2019, the two then-independent companies achieved sales of €36.5 billion (ZF) and \$3.4 billion (WABCO). For more information, visit: www.wabco-na.com



Fire and Rescue Apparatus

Ten (10) Year Structural Integrity

Custom Cab

Limited Warranty

1. LIMITED WARRANTY

Subject to the limitations and exclusions set forth below, Pierce Manufacturing provides the following warranty to the Buyer:

Coverage:	The Pierce Custom Cab shall be free from structural failures caused by defects in material and workmanship
Warranty Begins:	The date of the original purchase invoice (issued when the product ships from the factory).
Warranty Period Ends After:	Ten (10) Years - or - 100,000 Miles
Conditions and Exclusions: See Also Paragraphs 2 thru 4	This warranty applies only to the cab tubular support and mounting structures and other structural components of the cab of the vehicle model, as identified in the Pierce specifications for the Fire and Rescue Apparatus. This warranty does not apply to damage caused by corrosion.

This limited warranty shall apply only if the product is properly maintained in accordance with Pierce's maintenance instructions and manuals and is used in service which is normal to the particular model. Normal service means service which does not subject the product to stresses or impacts greater than normally result from careful use. If the Buyer discovers a defect or nonconformity, it must notify Pierce in writing within thirty (30) days after the date of discovery, but in any event prior to the expiration of the warranty period. THIS LIMITED WARRANTY MAY NOT BE ASSIGNED OR OTHERWISE TRANSFERRED BY THE BUYER TO ANY SUBSEQUENT USER OR PURCHASER OR TO ANY OTHER PERSON OR ENTITY.

Notwithstanding anything to the contrary herein, Pierce makes no warranty whatsoever as to:

(a) any integral parts, components, attachments or trade accessories of or to the product that are not manufactured by Pierce, including but not limited to engines, transmissions, drivelines, axles, water pumps and generators; with respect to all such parts, components, attachments and accessories, Pierce shall assign to Buyer the applicable warranties, if any, made by the respective manufacturers thereof;

(b) any vehicle, chassis, or component, part, attachment or accessory damaged by misuse, neglect, fire, exposure to severe environmental or chemical conditions, acidic environment, improper maintenance, accident, crash, or force majeure such as natural disaster, lightning, earthquake, windstorm, hail, flood, war or riot;

(c) any vehicle, chassis or component, part, attachment or accessory that has been repaired, altered or assembled in any way by any person or entity other than Pierce which, in the sole judgment of Pierce, adversely affects the performance, stability or purpose for which it was manufactured; or

(d) products or parts which may in the ordinary course wear out and have to be replaced during the warranty period, including, but not limited to, tires, fluids, gaskets and light bulbs. Pierce assumes no responsibility for the assembly of its parts or subassemblies into finishing products or vehicles unless the assembly is performed by Pierce.

The original purchaser may void this warranty in part or in its entirety if the product is repaired or replaced (a) without prior written approval of the Pierce Customer Service Department; or (b) at a facility which has not been approved by Pierce as to technical capability. Any repairs, modifications, alterations or aftermarket parts added after manufacture without the authorization of Pierce may void this warranty.

2. DISCLAIMERS OF WARRANTIES

THE WARRANTY SET FORTH IN PARAGRAPH 1 IS THE SOLE AND EXCLUSIVE WARRANTY GIVEN BY PIERCE. PIERCE HEREBY DISCLAIMS AND EXCLUDES ALL OTHER WARRANTIES, WHETHER EXPRESS, IMPLIED OR STATUTORY, INCLUDING WITHOUT LIMITATION ANY WARRANTY OF MERCHANTABILITY, ANY WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, AND ANY WARRANTIES ARISING FROM COURSE OF DEALING OR USAGE OF TRADE.

3. BUYER'S EXCLUSIVE REMEDY

If the product fails to conform to the warranty set forth in paragraph 1 during the warranty period, and such nonconformity is not due to misuse, neglect, accident or improper maintenance, Buyer must notify Pierce within the time period specified in paragraph 1, and shall make the product available for inspection by Pierce or its designated agent. At the request of Pierce, any allegedly defective product shall be returned to Pierce by Buyer for examination and/or repair. Buyer shall be responsible for the cost of such transportation, and for risk of loss of or damage to the product during transportation. Within a reasonable time, Pierce shall repair or replace (at Pierce's option and expense) any nonconforming or defective parts. Repair or replacement shall be made only by a facility approved in advance in writing by Pierce. THIS REMEDY SHALL BE THE EXCLUSIVE AND SOLE REMEDY FOR ANY BREACH OF WARRANTY.

4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES

Notwithstanding anything to the contrary herein or in any agreement between Pierce and Buyer, IN NO EVENT SHALL PIERCE BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, SPECIAL, INDIRECT, OR PUNITIVE DAMAGES WHATSOEVER, WHETHER ARISING OUT OF BREACH OF CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE AND STRICT LIABILITY) OR OTHER THEORY OF LAW OR EQUITY, WITH RESPECT TO VEHICLES OR OTHER PRODUCTS SOLD BY PIERCE, OR THEIR OPERATION OR FAILURE TO OPERATE, OR ANY DEFECTS THEREIN, OR ANY UNDERTAKINGS, ACTS OR OMISSIONS RELATED THERETO, REGARDLESS OF WHETHER PIERCE HAS BEEN INFORMED OF THE POSSIBILITY OF ANY SUCH DAMAGES. Without limiting the generality of the foregoing, Pierce specifically disclaims any liability for property or personal injury damages, penalties, damages for lost profits or revenues, loss of vehicles or products or any associated equipment, cost of substitute vehicles or products, down-time, delay damages, any other types of economic loss, or for any claims by any third party for any such damages.

Note: Any Surety Bond, if a part of the sale of the vehicle as to which this limited warranty is provided, applies only to this Pierce Basic One Year Limited Warranty for such vehicle, and not to other warranties made by Pierce in a separate document (if any) or to the warranties (if any) made by any manufacturer (other than Pierce) of any part, component, attachment or accessory that is incorporated into or attached to the vehicle.



Fire and Rescue Apparatus

Ten (10) Year Pro-Rated Paint and Corrosion

Cab

Limited Warranty

1. LIMITED WARRANTY

Subject to the limitations and exclusions set forth below, Pierce Manufacturing provides the following warranty to the Buyer:

Coverage:	Exterior surfaces of the cab painted by Pierce shall be free from blistering, peeling, corrosion or any other adhesion defect caused by defective manufacturing methods or paint material selection.
Warranty Begins:	The date of the original purchase invoice (issued when the product ships from the factory).
Warranty Period Ends After:	Ten (10) Years
Conditions and Exclusions:	<p>This limited warranty is applicable to the vehicle in the following percentage costs of warranty repair, if any:</p> <p>Topcoat Durability & Appearance: Gloss, Color Retention & Cracking 0-72 months 100% 73-96 months 50% 97-120 months 25%</p> <p>Integrity of Coating System: Adhesion, Blistering/Bubbling 0-36 months 100% 37-84 months 50% 85-120 months 25%</p> <p>Corrosion: Dissimilar Metal and Crevice 0-36 months 100% 37-48 months 50% 49-72 months 25% 73-120 months 10%</p> <p>Corrosion Perforation 0-120 months 100%</p> <p>This limited warranty applies only to exterior paint. Paint on the vehicle's interior is warranted only under the Pierce Basic One Year Limited Warranty.</p> <p>Items not covered by this warranty include: (a) Damage from lack of maintenance and cleaning (proper cleaning and maintenance procedures are detailed in the Pierce operation and maintenance manual). (b) UV paint fade. (c) Any cab not manufactured by Pierce.</p>

This limited warranty shall apply only if the product is properly maintained in accordance with Pierce's maintenance instructions and manuals and is used in service which is normal to the particular model. Normal service means service which does not subject the product to stresses or impacts greater than normally result from careful use. If the Buyer discovers a defect or nonconformity, it must notify Pierce in writing within thirty (30) days after the date of discovery, but in any event prior to the expiration of the warranty period. THIS LIMITED WARRANTY MAY NOT BE ASSIGNED OR OTHERWISE TRANSFERRED BY THE BUYER TO ANY SUBSEQUENT USER OR PURCHASER OR TO ANY OTHER PERSON OR ENTITY.

Notwithstanding anything to the contrary herein, Pierce makes no warranty whatsoever as to:

(a) any integral parts, components, attachments or trade accessories of or to the product that are not manufactured by Pierce, including but not limited to engines, transmissions, drivelines, axles, water pumps and generators; with respect to all such parts, components, attachments and accessories, Pierce shall assign to Buyer the applicable warranties, if any, made by the respective manufacturers thereof;

(b) any vehicle, chassis, or component, part, attachment or accessory damaged by misuse, neglect, fire, exposure to severe environmental or chemical conditions, acidic environment, improper maintenance, accident, crash, or force majeure such as natural disaster, lightning, earthquake, windstorm, hail, flood, war or riot;

(c) any vehicle, chassis or component, part, attachment or accessory that has been repaired, altered or assembled in any way by any person or entity other than Pierce which, in the sole judgment of Pierce, adversely affects the performance, stability or purpose for which it was manufactured; or

(d) products or parts which may in the ordinary course wear out and have to be replaced during the warranty period, including, but not limited to, tires, fluids, gaskets and light bulbs. Pierce assumes no responsibility for the assembly of its parts or subassemblies into finishing products or vehicles unless the assembly is performed by Pierce.

The original purchaser may void this warranty in part or in its entirety if the product is repaired or replaced (a) without prior written approval of the Pierce Customer Service Department; or (b) at a facility which has not been approved by Pierce as to technical capability. Any repairs, modifications, alterations or aftermarket parts added after manufacture without the authorization of Pierce may void this warranty.

2. DISCLAIMERS OF WARRANTIES

THE WARRANTY SET FORTH IN PARAGRAPH 1 IS THE SOLE AND EXCLUSIVE WARRANTY GIVEN BY PIERCE. PIERCE HEREBY DISCLAIMS AND EXCLUDES ALL OTHER WARRANTIES, WHETHER EXPRESS, IMPLIED OR STATUTORY, INCLUDING WITHOUT LIMITATION ANY WARRANTY OF MERCHANTABILITY, ANY WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, AND ANY WARRANTIES ARISING FROM COURSE OF DEALING OR USAGE OF TRADE.

3. BUYER'S EXCLUSIVE REMEDY

If the product fails to conform to the warranty set forth in paragraph 1 during the warranty period, and such nonconformity is not due to misuse, neglect, accident or improper maintenance, Buyer must notify Pierce within the time period specified in paragraph 1, and shall make the product available for inspection by Pierce or its designated agent. At the request of Pierce, any allegedly defective product shall be returned to Pierce by Buyer for examination and/or repair. Buyer shall be responsible for the cost of such transportation, and for risk of loss of or damage to the product during transportation. Within a reasonable time, Pierce shall repair or replace (at Pierce's option and expense) any nonconforming or defective parts. Repair or replacement shall be made only by a facility approved in advance in writing by Pierce. THIS REMEDY SHALL BE THE EXCLUSIVE AND SOLE REMEDY FOR ANY BREACH OF WARRANTY.

4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES

Notwithstanding anything to the contrary herein or in any agreement between Pierce and Buyer, IN NO EVENT SHALL PIERCE BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, SPECIAL, INDIRECT, OR PUNITIVE DAMAGES WHATSOEVER, WHETHER ARISING OUT OF BREACH OF CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE AND STRICT LIABILITY) OR OTHER THEORY OF LAW OR EQUITY, WITH RESPECT TO VEHICLES OR OTHER PRODUCTS SOLD BY PIERCE, OR THEIR OPERATION OR FAILURE TO OPERATE, OR ANY DEFECTS THEREIN, OR ANY UNDERTAKINGS, ACTS OR OMISSIONS RELATED THERETO, REGARDLESS OF WHETHER PIERCE HAS BEEN INFORMED OF THE POSSIBILITY OF ANY SUCH DAMAGES. Without limiting the generality of the foregoing, Pierce specifically disclaims any liability for property or personal injury damages, penalties, damages for lost profits or revenues, loss of vehicles or products or any associated equipment, cost of substitute vehicles or products, down-time, delay damages, any other types of economic loss, or for any claims by any third party for any such damages.

Note: Any Surety Bond, if a part of the sale of the vehicle as to which this limited warranty is provided, applies only to this Pierce Basic One Year Limited Warranty for such vehicle, and not to other warranties made by Pierce in a separate document (if any) or to the warranties (if any) made by any manufacturer (other than Pierce) of any part, component, attachment or accessory that is incorporated into or attached to the vehicle.



Fire and Rescue Apparatus

Five (5) Year Material and Workmanship

Command Zone Electronics

Limited Warranty

1. LIMITED WARRANTY

Subject to the limitations and exclusions set forth below, Pierce Manufacturing provides the following warranty to the Buyer:

Coverage:	Command Zone control modules shall be free from failures caused by defects in material and workmanship
Warranty Begins:	The date of the original purchase invoice (issued when the product ships from the factory).
Warranty Period Ends After:	Five (5) Years
Conditions and Exclusions: See Also Paragraphs 2 thru 4	This limited warranty applies to all of the control modules for the Command Zone system, including the full color graphic displays. Related wire harnesses, cables and connectors are not covered under this limited warranty and are instead covered under the Pierce One Year Basic Apparatus Limited Warranty.

This limited warranty shall apply only if the product is properly maintained in accordance with Pierce's maintenance instructions and manuals and is used in service which is normal to the particular model. Normal service means service which does not subject the product to stresses or impacts greater than normally result from careful use. If the Buyer discovers a defect or nonconformity, it must notify Pierce in writing within thirty (30) days after the date of discovery, but in any event prior to the expiration of the warranty period. THIS LIMITED WARRANTY MAY NOT BE ASSIGNED OR OTHERWISE TRANSFERRED BY THE BUYER TO ANY SUBSEQUENT USER OR PURCHASER OR TO ANY OTHER PERSON OR ENTITY.

Notwithstanding anything to the contrary herein, Pierce makes no warranty whatsoever as to:

(a) any integral parts, components, attachments or trade accessories of or to the product that are not manufactured by Pierce, including but not limited to engines, transmissions, drivelines, axles, water pumps and generators; with respect to all such parts, components, attachments and accessories, Pierce shall assign to Buyer the applicable warranties, if any, made by the respective manufacturers thereof;

(b) any vehicle, chassis, or component, part, attachment or accessory damaged by misuse, neglect, fire, exposure to severe environmental or chemical conditions, acidic environment, improper maintenance, accident, crash, or force majeure such as natural disaster, lightning, earthquake, windstorm, hail, flood, war or riot;

(c) any vehicle, chassis or component, part, attachment or accessory that has been repaired, altered or assembled in any way by any person or entity other than Pierce which, in the sole judgment of Pierce, adversely affects the performance, stability or purpose for which it was manufactured; or

(d) products or parts which may in the ordinary course wear out and have to be replaced during the warranty period, including, but not limited to, tires, fluids, gaskets and light bulbs. Pierce assumes no responsibility for the assembly of its parts or subassemblies into finishing products or vehicles unless the assembly is performed by Pierce.

The original purchaser may void this warranty in part or in its entirety if the product is repaired or replaced (a) without prior written approval of the Pierce Customer Service Department; or (b) at a facility which has not been approved by Pierce as to technical capability. Any repairs, modifications, alterations or aftermarket parts added after manufacture without the authorization of Pierce may void this warranty.

2. DISCLAIMERS OF WARRANTIES

THE WARRANTY SET FORTH IN PARAGRAPH 1 IS THE SOLE AND EXCLUSIVE WARRANTY GIVEN BY PIERCE. PIERCE HEREBY DISCLAIMS AND EXCLUDES ALL OTHER WARRANTIES, WHETHER EXPRESS, IMPLIED OR STATUTORY, INCLUDING WITHOUT LIMITATION ANY WARRANTY OF MERCHANTABILITY, ANY WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, AND ANY WARRANTIES ARISING FROM COURSE OF DEALING OR USAGE OF TRADE.

3. BUYER'S EXCLUSIVE REMEDY

If the product fails to conform to the warranty set forth in paragraph 1 during the warranty period, and such nonconformity is not due to misuse, neglect, accident or improper maintenance, Buyer must notify Pierce within the time period specified in paragraph 1, and shall make the product available for inspection by Pierce or its designated agent. At the request of Pierce, any allegedly defective product shall be returned to Pierce by Buyer for examination and/or repair. Buyer shall be responsible for the cost of such transportation, and for risk of loss of or damage to the product during transportation. Within a reasonable time, Pierce shall repair or replace (at Pierce's option and expense) any nonconforming or defective parts. Repair or replacement shall be made only by a facility approved in advance in writing by Pierce. THIS REMEDY SHALL BE THE EXCLUSIVE AND SOLE REMEDY FOR ANY BREACH OF WARRANTY.

4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES

Notwithstanding anything to the contrary herein or in any agreement between Pierce and Buyer, IN NO EVENT SHALL PIERCE BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, SPECIAL, INDIRECT, OR PUNITIVE DAMAGES WHATSOEVER, WHETHER ARISING OUT OF BREACH OF CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE AND STRICT LIABILITY) OR OTHER THEORY OF LAW OR EQUITY, WITH RESPECT TO VEHICLES OR OTHER PRODUCTS SOLD BY PIERCE, OR THEIR OPERATION OR FAILURE TO OPERATE, OR ANY DEFECTS THEREIN, OR ANY UNDERTAKINGS, ACTS OR OMISSIONS RELATED THERETO, REGARDLESS OF WHETHER PIERCE HAS BEEN INFORMED OF THE POSSIBILITY OF ANY SUCH DAMAGES. Without limiting the generality of the foregoing, Pierce specifically disclaims any liability for property or personal injury damages, penalties, damages for lost profits or revenues, loss of vehicles or products or any associated equipment, cost of substitute vehicles or products, down-time, delay damages, any other types of economic loss, or for any claims by any third party for any such damages.

Note: Any Surety Bond, if a part of the sale of the vehicle as to which this limited warranty is provided, applies only to this Pierce Basic One Year Limited Warranty for such vehicle, and not to other warranties made by Pierce in a separate document (if any) or to the warranties (if any) made by any manufacturer (other than Pierce) of any part, component, attachment or accessory that is incorporated into or attached to the vehicle.



Fire and Rescue Apparatus

54 Months Material and Workmanship

Camera System

Limited Warranty

1. LIMITED WARRANTY

Subject to the limitations and exclusions set forth below, Pierce Manufacturing provides the following warranty to the Buyer:

Coverage:	This limited warranty covers repairs to correct any defect related to materials or workmanship of the Sharpvision camera system installed on the apparatus occurring during the warranty period.
Warranty Begins:	The date of delivery.
Warranty Period Ends After:	Fifty - Four (54) months
Conditions and Exclusions: See Also Paragraphs 2 thru 4	This limited warranty does not apply to related wire harnesses, cables, and connectors, which are covered by the Pierce one (1) year basic apparatus limited warranty.

This limited warranty shall apply only if the product is properly maintained in accordance with Pierce's maintenance instructions and manuals and is used in service which is normal to the particular model. Normal service means service which does not subject the product to stresses or impacts greater than normally result from careful use. If the Buyer discovers a defect or nonconformity, it must notify Pierce in writing within thirty (30) days after the date of discovery, but in any event prior to the expiration of the warranty period. THIS LIMITED WARRANTY MAY NOT BE ASSIGNED OR OTHERWISE TRANSFERRED BY THE BUYER TO ANY SUBSEQUENT USER OR PURCHASER OR TO ANY OTHER PERSON OR ENTITY.

Notwithstanding anything to the contrary herein, Pierce makes no warranty whatsoever as to:

(a) any integral parts, components, attachments or trade accessories of or to the product that are not manufactured by Pierce, including but not limited to engines, transmissions, drivelines, axles, water pumps and generators; with respect to all such parts, components, attachments and accessories, Pierce shall assign to Buyer the applicable warranties, if any, made by the respective manufacturers thereof;

(b) any vehicle, chassis, or component, part, attachment or accessory damaged by misuse, neglect, fire, exposure to severe environmental or chemical conditions, acidic environment, improper maintenance, accident, crash, or force majeure such as natural disaster, lightning, earthquake, windstorm, hail, flood, war or riot;

(c) any vehicle, chassis or component, part, attachment or accessory that has been repaired, altered or assembled in any way by any person or entity other than Pierce which, in the sole judgment of Pierce, adversely affects the performance, stability or purpose for which it was manufactured; or

(d) products or parts which may in the ordinary course wear out and have to be replaced during the warranty period, including, but not limited to, tires, fluids, gaskets and light bulbs. Pierce assumes no responsibility for the assembly of its parts or subassemblies into finishing products or vehicles unless the assembly is performed by Pierce.

The original purchaser may void this warranty in part or in its entirety if the product is repaired or replaced (a) without prior written approval of the Pierce Customer Service Department; or (b) at a facility which has not been approved by Pierce as to technical capability. Any repairs, modifications, alterations or aftermarket parts added after manufacture without the authorization of Pierce may void this warranty.

2. DISCLAIMERS OF WARRANTIES

THE WARRANTY SET FORTH IN PARAGRAPH 1 IS THE SOLE AND EXCLUSIVE WARRANTY GIVEN BY PIERCE. PIERCE HEREBY DISCLAIMS AND EXCLUDES ALL OTHER WARRANTIES, WHETHER EXPRESS, IMPLIED OR STATUTORY, INCLUDING WITHOUT LIMITATION ANY WARRANTY OF MERCHANTABILITY, ANY WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, AND ANY WARRANTIES ARISING FROM COURSE OF DEALING OR USAGE OF TRADE.

3. BUYER'S EXCLUSIVE REMEDY

If the product fails to conform to the warranty set forth in paragraph 1 during the warranty period, and such nonconformity is not due to misuse, neglect, accident or improper maintenance, Buyer must notify Pierce within the time period specified in paragraph 1, and shall make the product available for inspection by Pierce or its designated agent. At the request of Pierce, any allegedly defective product shall be returned to Pierce by Buyer for examination and/or repair. Buyer shall be responsible for the cost of such transportation, and for risk of loss of or damage to the product during transportation. Within a reasonable time, Pierce shall repair or replace (at Pierce's option and expense) any nonconforming or defective parts. Repair or replacement shall be made only by a facility approved in advance in writing by Pierce. THIS REMEDY SHALL BE THE EXCLUSIVE AND SOLE REMEDY FOR ANY BREACH OF WARRANTY.

4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES

Notwithstanding anything to the contrary herein or in any agreement between Pierce and Buyer, IN NO EVENT SHALL PIERCE BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, SPECIAL, INDIRECT, OR PUNITIVE DAMAGES WHATSOEVER, WHETHER ARISING OUT OF BREACH OF CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE AND STRICT LIABILITY) OR OTHER THEORY OF LAW OR EQUITY, WITH RESPECT TO VEHICLES OR OTHER PRODUCTS SOLD BY PIERCE, OR THEIR OPERATION OR FAILURE TO OPERATE, OR ANY DEFECTS THEREIN, OR ANY UNDERTAKINGS, ACTS OR OMISSIONS RELATED THERETO, REGARDLESS OF WHETHER PIERCE HAS BEEN INFORMED OF THE POSSIBILITY OF ANY SUCH DAMAGES. Without limiting the generality of the foregoing, Pierce specifically disclaims any liability for property or personal injury damages, penalties, damages for lost profits or revenues, loss of vehicles or products or any associated equipment, cost of substitute vehicles or products, down-time, delay damages, any other types of economic loss, or for any claims by any third party for any such damages.

Note: Any Surety Bond, if a part of the sale of the vehicle as to which this limited warranty is provided, applies only to this Pierce Basic One Year Limited Warranty for such vehicle, and not to other warranties made by Pierce in a separate document (if any) or to the warranties (if any) made by any manufacturer (other than Pierce) of any part, component, attachment or accessory that is incorporated into or attached to the vehicle.



Fire and Rescue Apparatus

Ten (10) Year Material and Workmanship

Pierce 12V LED Strip Light

Limited Warranty

1. LIMITED WARRANTY

Subject to the limitations and exclusions set forth below, Pierce Manufacturing provides the following warranty to the Buyer:

Coverage:	This limited warranty covers repairs to correct any defect related to materials or workmanship of the Pierce 12V LED strip lights installed on the apparatus occurring during the warranty period.
Warranty Begins:	The date of the original purchase invoice (issued when the product ships from the factory).
Warranty Period Ends After:	Ten (10) Year
Conditions and Exclusions: See Also Paragraphs 2 thru 4	This limited warranty does not apply to related wire harnesses, cables, and connectors, which are covered by the Pierce one (1) year basic apparatus limited warranty.

This limited warranty shall apply only if the product is properly maintained in accordance with Pierce's maintenance instructions and manuals and is used in service which is normal to the particular model. Normal service means service which does not subject the product to stresses or impacts greater than normally result from careful use. If the Buyer discovers a defect or nonconformity, it must notify Pierce in writing within thirty (30) days after the date of discovery, but in any event prior to the expiration of the warranty period. THIS LIMITED WARRANTY MAY NOT BE ASSIGNED OR OTHERWISE TRANSFERRED BY THE BUYER TO ANY SUBSEQUENT USER OR PURCHASER OR TO ANY OTHER PERSON OR ENTITY.

Notwithstanding anything to the contrary herein, Pierce makes no warranty whatsoever as to:

(a) any integral parts, components, attachments or trade accessories of or to the product that are not manufactured by Pierce, including but not limited to engines, transmissions, drivelines, axles, water pumps and generators; with respect to all such parts, components, attachments and accessories, Pierce shall assign to Buyer the applicable warranties, if any, made by the respective manufacturers thereof;

(b) any vehicle, chassis, or component, part, attachment or accessory damaged by misuse, neglect, fire, exposure to severe environmental or chemical conditions, acidic environment, improper maintenance, accident, crash, or force majeure such as natural disaster, lightning, earthquake, windstorm, hail, flood, war or riot;

(c) any vehicle, chassis or component, part, attachment or accessory that has been repaired, altered or assembled in any way by any person or entity other than Pierce which, in the sole judgment of Pierce, adversely affects the performance, stability or purpose for which it was manufactured; or

(d) products or parts which may in the ordinary course wear out and have to be replaced during the warranty period, including, but not limited to, tires, fluids, gaskets and light bulbs. Pierce assumes no responsibility for the assembly of its parts or subassemblies into finishing products or vehicles unless the assembly is performed by Pierce.

The original purchaser may void this warranty in part or in its entirety if the product is repaired or replaced (a) without prior written approval of the Pierce Customer Service Department; or (b) at a facility which has not been approved by Pierce as to technical capability. Any repairs, modifications, alterations or aftermarket parts added after manufacture without the authorization of Pierce may void this warranty.

2. DISCLAIMERS OF WARRANTIES

THE WARRANTY SET FORTH IN PARAGRAPH 1 IS THE SOLE AND EXCLUSIVE WARRANTY GIVEN BY PIERCE. PIERCE HEREBY DISCLAIMS AND EXCLUDES ALL OTHER WARRANTIES, WHETHER EXPRESS, IMPLIED OR STATUTORY, INCLUDING WITHOUT LIMITATION ANY WARRANTY OF MERCHANTABILITY, ANY WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, AND ANY WARRANTIES ARISING FROM COURSE OF DEALING OR USAGE OF TRADE.

3. BUYER'S EXCLUSIVE REMEDY.

If the product fails to conform to the warranty set forth in paragraph 1 during the warranty period, and such nonconformity is not due to misuse, neglect, accident or improper maintenance, Buyer must notify Pierce within the time period specified in paragraph 1, and shall make the product available for inspection by Pierce or its designated agent. At the request of Pierce, any allegedly defective product shall be returned to Pierce by Buyer for examination and/or repair. Buyer shall be responsible for the cost of such transportation, and for risk of loss of or damage to the product during transportation. Within a reasonable time, Pierce shall repair or replace (at Pierce's option and expense) any nonconforming or defective parts. Repair or replacement shall be made only by a facility approved in advance in writing by Pierce. THIS REMEDY SHALL BE THE EXCLUSIVE AND SOLE REMEDY FOR ANY BREACH OF WARRANTY.

4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES.

Notwithstanding anything to the contrary herein or in any agreement between Pierce and Buyer, IN NO EVENT SHALL PIERCE BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, SPECIAL, INDIRECT, OR PUNITIVE DAMAGES WHATSOEVER, WHETHER ARISING OUT OF BREACH OF CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE AND STRICT LIABILITY) OR OTHER THEORY OF LAW OR EQUITY, WITH RESPECT TO VEHICLES OR OTHER PRODUCTS SOLD BY PIERCE, OR THEIR OPERATION OR FAILURE TO OPERATE, OR ANY DEFECTS THEREIN, OR ANY UNDERTAKINGS, ACTS OR OMISSIONS RELATED THERETO, REGARDLESS OF WHETHER PIERCE HAS BEEN INFORMED OF THE POSSIBILITY OF ANY SUCH DAMAGES. Without limiting the generality of the foregoing, Pierce specifically disclaims any liability for property or personal injury damages, penalties, damages for lost profits or revenues, loss of vehicles or products or any associated equipment, cost of substitute vehicles or products, down-time, delay damages, any other types of economic loss, or for any claims by any third party for any such damages.

Note: Any Surety Bond, if a part of the sale of the vehicle as to which this limited warranty is provided, applies only to this Pierce Basic One Year Limited Warranty for such vehicle, and not to other warranties made by Pierce in a separate document (if any) or to the warranties (if any) made by any manufacturer (other than Pierce) of any part, component, attachment or accessory that is incorporated into or attached to the vehicle.

NEW PRODUCT WARRANTY

PARTICIPATING OEM SALES
DISTRIBUTOR SALESLIMITED WARRANTY ON NEW ALLISON AUTOMATIC TRANSMISSIONS
USED IN EMERGENCY VEHICLE APPLICATIONS

Allison Transmission will provide for repairs or replacement, at its option, during the warranty period of each new Allison transmission listed below that is installed in an Emergency Vehicle in accordance with the following terms, conditions, and limitations.

WHAT IS COVERED

- **WARRANTY APPLIES** — This warranty is for new Allison transmission models listed below installed in an Emergency Vehicle and is provided to the original and any subsequent owner(s) of the vehicle during the warranty period.
- **REPAIRS COVERED** — The warranty covers repairs or replacement, at Allison Transmission's option, to correct any transmission malfunction resulting from defects in material or workmanship occurring during the warranty period. Needed repairs or replacements will be performed using the method Allison Transmission determines most appropriate under the circumstances.
- **TOWING** — Towing is covered to the nearest Allison Transmission Distributor or authorized Dealer only when necessary to prevent further damage to your transmission.
- **PAYMENT TERMS** — Warranty repairs, including parts and labor, will be covered per the schedule shown in the chart contained in section "APPLICABLE MODELS, WARRANTY LIMITATIONS, AND ADJUSTMENT SCHEDULE."
- **OBTAINING REPAIRS** — To obtain warranty repairs, take the vehicle to any Allison Transmission Distributor or authorized Dealer within a reasonable amount of time and request the needed repairs. A reasonable amount of time must be allowed for the Distributor or Dealer to perform necessary repairs.
- **TRANSMISSION REMOVAL AND REINSTALLATION** — Labor costs for the removal and re-installation of the transmission, when necessary to make a warranty repair, are covered by this warranty.
- **WARRANTY PERIOD** — The warranty period for all coverages shall begin on the date the transmission is delivered to the first retail purchaser, with the following exception:

Demonstration Service - A transmission in a new truck or bus may be demonstrated to a total of 5000 miles (8000 kilometers). If the vehicle is within this limit when sold to a retail purchaser, the warranty start date is the date of purchase. Normal warranty services are applicable to the demonstrating Dealer. Should the truck or bus be sold to a retail purchaser after these limits are reached, the warranty period will begin on the date the vehicle was first placed in demonstration service and the purchaser will be entitled to the remaining warranty.

APPLICABLE MODELS, WARRANTY LIMITATIONS, AND ADJUSTMENT SCHEDULE

APPLICABLE MODELS	WARRANTY LIMITATIONS (Whichever occurs first)		ADJUSTMENT CHARGE TO BE PAID BY THE CUSTOMER	
	Months	Transmission Miles Or Kilometers	Parts	Labor
MT, MD 3000, 3200, 3500, 3700	0-24	No Limit	No Charge	No Charge
HT with Hydraulic Controls	0-24	No Limit	No Charge	No Charge
AT, 1000 Series™, 2000 Series™, 2400 Series™	0-36	No Limit	No Charge	No Charge
HT with Electronic Controls	0-60	No Limit	No Charge	No Charge
HD 1000 EVS, 2100 EVS, 2200 EVS 2350 EVS, 2500 EVS, 2550 EVS, 3000 EVS, 3500 EVS, 4000, 4000 EVS, 4500, 4500 EVS, 4700, 4700 EVS, 4800, 4800 EVS	0-60	No Limit	No Charge	No Charge

WHAT IS NOT COVERED

- **DAMAGE DUE TO ACCIDENT, MISUSE, or ALTERATION** — Defects and damage caused as the result of any of the following are not covered:
 - Flood, collision, fire, theft, freezing, vandalism, riot, explosion, or objects striking the vehicle;
 - Misuse of the vehicle;
 - Installation into unapproved applications and installations;
 - Alterations or modification of the transmission or the vehicle, and
 - Damage resulting from improper storage (refer to long-term storage procedure outlined in the applicable Allison Service Manual)
 - Anything other than defects in Allison Transmission material or workmanship

NOTE: This warranty is void on transmissions used in vehicles currently or previously titled as salvaged, scrapped, junked, or totaled.

- **CHASSIS, BODY, and COMPONENTS** — The chassis and body company (assemblers) and other component and equipment manufacturers are solely responsible for warranties on the chassis, body, component(s), and equipment they provide. Any transmission repair caused by an alteration(s) made to the Allison transmission or the vehicle which allows the transmission to be installed or operated outside of the limits defined in the appropriate Allison Installation Guideline is solely the responsibility of the entity making the alteration(s).
- **DAMAGE CAUSED by LACK of MAINTENANCE or by the USE of TRANSMISSION FLUIDS NOT RECOMMENDED in the OPERATOR'S MANUAL** — Defects and damage caused by any of the following are not covered:
 - Failure to follow the recommendations of the maintenance schedule intervals applicable to the transmission;
 - Failure to use transmission fluids or maintain transmission fluid levels recommended in the Operator's Manual.
- **MAINTENANCE** — Normal maintenance (such as replacement of filters, screens, and transmission fluid) is not covered and is the owner's responsibility.
- **REPAIRS by UNAUTHORIZED DEALERS** — Defects and damage caused by a service outlet that is not an authorized Allison Transmission Distributor or Dealer are not covered.
- **USE of OTHER THAN GENUINE ALLISON TRANSMISSION PARTS** — Defects and damage caused by the use of parts that are not genuine Allison Transmission parts are not covered.
- **EXTRA EXPENSES** — Economic loss and extra expenses are not covered. Examples include but are not limited to: loss of vehicle use; inconvenience; storage; payment for loss of time or pay; vehicle rental expense; lodging; meals; or other travel costs.
- **"DENIED PARTY" OWNERSHIP** — Warranty repair parts and labor costs are not reimbursed to any participating or non-participating OEMs, dealers or distributors who perform warranty work for, or on behalf of, end users identified by the United States as being a "denied party" or who are citizens of sanctioned or embargoed countries as defined by the U.S. Department of Treasury Office of Foreign Assets Control. Furthermore, warranty reimbursements are not guaranteed if the reimbursement would be contrary to any United States export control laws or regulations as defined by the U.S. Department of Commerce, the U.S. Department of State, or the U.S. Department of Treasury.

OTHER TERMS APPLICABLE TO CONSUMERS AS DEFINED by the MAGNUSON-MOSS WARRANTY ACT

This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

Allison Transmission does not authorize any person to create for it any other obligation or liability in connection with these transmissions.

ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE APPLICABLE TO THESE TRANSMISSIONS IS LIMITED IN DURATION TO THE DURATION OF THIS WRITTEN WARRANTY. PERFORMANCE OF REPAIRS AND NEEDED ADJUSTMENTS IS THE EXCLUSIVE REMEDY UNDER THIS WRITTEN WARRANTY OR ANY IMPLIED WARRANTY. ALLISON TRANSMISSION SHALL NOT BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES (SUCH AS, BUT NOT LIMITED TO, LOST WAGES OR VEHICLE RENTAL EXPENSES) RESULTING FROM BREACH OF THIS WRITTEN WARRANTY OR ANY IMPLIED WARRANTY.**

** Some states do not allow limitations on how long an implied warranty will last or the exclusion or limitation of incidental or consequential damages, so the above limitations or exclusions may not apply to you.

OTHER TERMS APPLICABLE TO OTHER END-USERS

THIS WARRANTY IS THE ONLY WARRANTY APPLICABLE TO THE ALLISON TRANSMISSION MODELS LISTED ABOVE AND IS EXPRESSLY IN LIEU OF ANY OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. ALLISON TRANSMISSION DOES NOT AUTHORIZE ANY PERSON TO CREATE FOR IT ANY OTHER OBLIGATION OR LIABILITY IN CONNECTION WITH SUCH TRANSMISSIONS. ALLISON TRANSMISSION SHALL NOT BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM BREACH OF THIS WARRANTY OR ANY IMPLIED WARRANTY.

QUESTIONS

If you have any questions regarding this warranty or the performance of warranty obligations, you may contact any Allison Transmission Distributor or Dealer or write to:

Allison Transmission, Inc.
P.O. Box 894
Indianapolis, IN 46206-0894
Attention: Warranty Administration PF-9



Fire and Rescue Apparatus

Five (5) Year Material and Workmanship - Transmission Oil Cooler Three (3) Year Collateral Damage Coverage

Limited Warranty

1. LIMITED WARRANTY

Subject to the limitations and exclusions set forth below, Pierce Manufacturing provides the following warranty to the Buyer:

Coverage:	The transmission cooler shall be free from component or structural failures caused by defects in material and/or workmanship. Collateral damage up to \$10,000 per occurrence is available for the first three (3) years.
Warranty Begins:	The date of delivery to the first retail purchaser.
Warranty Period Ends After:	Five (5) Years on Oil Cooler and three (3) years on collateral damage coverage
Conditions and Exclusions: See Also Paragraphs 2 thru 4	<p>This warranty does not cover repair due to accidents, misuse, and excessive vibration, flying debris, storage damage (freezing), negligence or modification. This warranty is void if any modification or repairs are performed without authorization. This also voids any future warranty.</p> <p>This warranty does not cover cost of maintenance or repairs due to lack of required maintenance services as recommended. Performance of the required maintenance and use of proper fluids are the responsibility of the owner.</p> <p>Towing is covered to the nearest distributor or authorized dealer only when necessary to prevent further damage to your transmission.</p> <p>Labor costs for the removal and reinstallation of goods may be covered when necessary to make repairs. Please contact your OEM for authorization.</p> <p>Replacement of cooler during the warranty period is limited to 100% of reasonable labor costs up to a maximum of \$700 to remove, replace, or repair the oil cooler.</p>

This limited warranty shall apply only if the product is properly maintained in accordance with Pierce's maintenance instructions and manuals and is used in service which is normal to the particular model. Normal service means service which does not subject the product to stresses or impacts greater than normally result from careful use. If the Buyer discovers a defect or nonconformity, it must notify Pierce in writing within thirty (30) days after the date of discovery, but in any event prior to the expiration of the warranty period. THIS LIMITED WARRANTY MAY NOT BE ASSIGNED OR OTHERWISE TRANSFERRED BY THE BUYER TO ANY SUBSEQUENT USER OR PURCHASER OR TO ANY OTHER PERSON OR ENTITY.

Notwithstanding anything to the contrary herein, Pierce makes no warranty whatsoever as to:

(a) any integral parts, components, attachments or trade accessories of or to the product that are not manufactured by Pierce, including but not limited to engines, transmissions, drivelines, axles, water pumps and generators; with respect to all such parts, components, attachments and accessories, Pierce shall assign to Buyer the applicable warranties, if any, made by the respective manufacturers thereof;

(b) any vehicle, chassis, or component, part, attachment or accessory damaged by misuse, neglect, fire, exposure to severe environmental or chemical conditions, acidic environment, improper maintenance, accident, crash, or force majeure such as natural disaster, lightning, earthquake, windstorm, hail, flood, war or riot;

(c) any vehicle, chassis or component, part, attachment or accessory that has been repaired, altered or assembled in any way by any person or entity other than Pierce which, in the sole judgment of Pierce, adversely affects the performance, stability or purpose for which it was manufactured; or

(d) products or parts which may in the ordinary course wear out and have to be replaced during the warranty period, including, but not limited to, tires, fluids, gaskets and light bulbs. Pierce assumes no responsibility for the assembly of its parts or subassemblies into finishing products or vehicles unless the assembly is performed by Pierce.

The original purchaser may void this warranty in part or in its entirety if the product is repaired or replaced (a) without prior written approval of the Pierce Customer Service Department; or (b) at a facility which has not been approved by Pierce as to technical capability. Any repairs, modifications, alterations or aftermarket parts added after manufacture without the authorization of Pierce may void this warranty.

2. DISCLAIMERS OF WARRANTIES

THE WARRANTY SET FORTH IN PARAGRAPH 1 IS THE SOLE AND EXCLUSIVE WARRANTY GIVEN BY PIERCE. PIERCE HEREBY DISCLAIMS AND EXCLUDES ALL OTHER WARRANTIES, WHETHER EXPRESS, IMPLIED OR STATUTORY, INCLUDING WITHOUT LIMITATION ANY WARRANTY OF MERCHANTABILITY, ANY WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, AND ANY WARRANTIES ARISING FROM COURSE OF DEALING OR USAGE OF TRADE.

3. BUYER'S EXCLUSIVE REMEDY

If the product fails to conform to the warranty set forth in paragraph 1 during the warranty period, and such nonconformity is not due to misuse, neglect, accident or improper maintenance, Buyer must notify Pierce within the time period specified in paragraph 1, and shall make the product available for inspection by Pierce or its designated agent. At the request of Pierce, any allegedly defective product shall be returned to Pierce by Buyer for examination and/or repair. Buyer shall be responsible for the cost of such transportation, and for risk of loss of or damage to the product during transportation. Within a reasonable time, Pierce shall repair or replace (at Pierce's option and expense) any nonconforming or defective parts. Repair or replacement shall be made only by a facility approved in advance in writing by Pierce. THIS REMEDY SHALL BE THE EXCLUSIVE AND SOLE REMEDY FOR ANY BREACH OF WARRANTY.

4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES

Notwithstanding anything to the contrary herein or in any agreement between Pierce and Buyer, IN NO EVENT SHALL PIERCE BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, SPECIAL, INDIRECT, OR PUNITIVE DAMAGES WHATSOEVER, WHETHER ARISING OUT OF BREACH OF CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE AND STRICT LIABILITY) OR OTHER THEORY OF LAW OR EQUITY, WITH RESPECT TO VEHICLES OR OTHER PRODUCTS SOLD BY PIERCE, OR THEIR OPERATION OR FAILURE TO OPERATE, OR ANY DEFECTS THEREIN, OR ANY UNDERTAKINGS, ACTS OR OMISSIONS RELATED THERETO, REGARDLESS OF WHETHER PIERCE HAS BEEN INFORMED OF THE POSSIBILITY OF ANY SUCH DAMAGES. Without limiting the generality of the foregoing, Pierce specifically disclaims any liability for property or personal injury damages, penalties, damages for lost profits or revenues, loss of vehicles or products or any associated equipment, cost of substitute vehicles or products, down-time, delay damages, any other types of economic loss, or for any claims by any third party for any such damages.

Note: Any Surety Bond, if a part of the sale of the vehicle as to which this limited warranty is provided, applies only to this Pierce Basic One Year Limited Warranty for such vehicle, and not to other warranties made by Pierce in a separate document (if any) or to the warranties (if any) made by any manufacturer (other than Pierce) of any part, component, attachment or accessory that is incorporated into or attached to the vehicle.

Effective 1 August, 2009



LIFETIME SERVICE WARRANTY

United Plastic Fabricating, Inc. (hereinafter called "UPF") warrants each POLY-TANK®, Booster/Foam Tank POLYSIDE® Wetside Tank, Integrator Tank/Body, ELLIPSE™ Elliptical Tank, Ellip-T-Tank Tank and DEFENDER™ Skid Tank to be free from defects in material and workmanship for the service life of the original vehicle (vehicle must be actively used in an emergency response for fire suppression). All UPF Tanks must be installed and operated in accordance with the UPF Installation and Operating Guidelines. Failure to do so can void the warranty.

Every UPF Tank is inspected and tested before leaving our facility. Should your UPF Tank require service, please notify UPF via email, fax, in writing or by calling UPF at 1-978-975-4520. Please provide the serial number, a description of the service request, the location along with the phone number and name of the contact person. Our goal is to have scheduled work completed within a reasonable time period.

Under a valid warranty claim, UPF will cover the cost to repair the UPF Tank including the customary and reasonable costs to make the tank accessible such as the removal and reinstallation of the tank if authorized in advance (pre-approved) by UPF. The warranty will not cover tanks that have been improperly installed, operated, misused, abused, or modified from its intended or designed use. Serial number must not have been altered, defaced or removed. Tanks that are not stored or installed properly which results in the tank suffering UV damage will not be covered by this agreement.

Should UPF determine that the service claim is valid under this warranty for a tank located outside of the United States and Canada, UPF will assume the costs for labor and material for the warranty repair as described above plus all travel costs to the U.S. port of embarkation. Costs for airline travel outside of the U.S. and Canada will not be the responsibility of UPF.

In the event the tank shall become stationed in an area of the world that is considered to be a war zone or where unsafe conditions exist for the safe passage of United States Nationals, as reported by the United States Department of State, (<http://www.state.gov>), and a request to perform service or warranty repairs, UPF reserves the right to refuse to honor such requests. It is the purchaser's responsibility to relocate the tank to an area where such repairs can be performed without undue risk to UPF employees or their designee. UPF will make every reasonable effort to support our products through alternative means.

For Ellipse™ elliptical tanks, a separate five year warranty provided by the subcontractor is applied to the sub-frames, chute linings (rubber isolation strips) and metal components. The stainless steel wrap provided by UPF shall be warranted by the subcontractor performing the wrap installation in accordance with their warranty in place at the time of the installation. UPF will not be liable for any warranty costs associated with the wrap, sub-frames, chute linings (rubber isolation strips) and metal components but will assist with all claims on behalf of its customer.

For PolySide® wetsided tanks and Integrator™ Tank/Body units, all polypropylene components related to the tank shall carry the standard UPF lifetime

Continued on back



service warranty. Other polypropylene components, including but not limited to compartments, wheel wells, fenders and other body related components shall be warranted by UPF for a period of ten years. The warranty for the PolySide® and Integrator™ units excludes paint or hardware, which shall be covered by the manufacturer of the paint/hardware.

All UPF tanks 50 gallons or less utilized for non-fire applications and installed on specialty vehicles such as ATVs, trailers, boats, etc. are covered under a separate warranty policy available from UPF. Further, UPF Protector™ foam and water trailers are warranted under a separate warranty policy available from UPF.

This UPF warranty is transferable within the United States only with prior written approval by UPF (except an original apparatus manufacturer may assign this warranty to the first titled owner/lessee of the apparatus).

UPF will NOT reimburse any unnecessary work and/or work that has not been pre-approved. Any and all third party charges must be pre-authorized and approved in writing by UPF prior to commencing the work. Any unauthorized third party repairs, alterations, actions or modifications will not be covered and can void the warranty. UPF will be the sole determining authority as to whether a service claim will be valid and covered under this warranty.

In no event will UPF be liable for an amount in excess of the purchase price of the booster/foam tank at the time of manufacture or for any loss or damage, whether direct, indirect, incidental, consequential, or otherwise arising out of failure of its product. Loss of contents (water, foam, etc.) shall not be the responsibility of UPF. Further, UPF is not responsible for costs associated with service repairs to chassis, sub-frames, bodies, valves, dumps, hoses, pressure vacuum vents, and other components (i.e. liquid level transducers, etc.). Further, UPF will not cover the cost for travel of the vehicle to and from a repair facility.

This warranty contains the entire warranty. It is the sole warranty and price agreements or representation, whether oral or written, are either merged herein or expressly cancelled. UPF neither assumes, nor authorizes any person supposing to act on its behalf to change, nor assume for it, any warranty or liability concerning its product.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state. Some states do not allow exclusion or limitation or incidental or consequential damage, so the above limitation or exclusion may not apply to you. Since some states do not allow limitations on the length of an implied warranty, the above limitation may not apply to you.

THERE ARE NO WARRANTIES, EXPRESSED OR IMPLIED, WHICH EXTEND BEYOND THE DESCRIPTION OF THE FACE HEREOF. THERE IS NO EXPRESS OR IMPLIED WARRANTY OF MERCHANTABILITY OR A WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE. ADDITIONALLY, THIS WARRANTY IS IN LIEU OF ALL OTHER OBLIGATION OR LIABILITIES ON THE PART OF UPF.

PIERCE MANUFACTURING INC.



BULLETIN



TO: All Dealer Service Representatives

From: Kevin Hanegraaf

DATE: January 4, 2010

RE: UPF Tank Warranty Policy – Truck in Accident

Service Topic #292

To keep the UPF tank warranty valid on trucks that have been involved in a vehicular accident, it is UPF's policy that the customer must remove the tank from the truck and send it back to one of UPF's facilities for inspection. In the event that this does not take place, the warranty will be considered null and void.

The customer must remove and send the tank back to UPF for inspection in order to maintain the original warranty coverage, at which time it will be:

- *Filled with water*
- *Visually inspected*
- *Ultraviolet spark tested on articulating test stand in the dark*
- *Recommendation for repairs if necessary provided by UPF*
- *Fully evaluated and repaired by UPF*

If your customer chooses to leave the tank on the truck and wants a technician to inspect and/or repair the tank in the field, then **the warranty is no longer in effect.** This direction is upheld by UPF because the technician cannot inspect the entire tank when it is still installed on the truck.

Note: This memo is intended to relay the information Pierce has received on UPF's tank warranty for trucks that are in a vehicular accident. In the event of an actual claim, we direct you to consult with UPF's service Manager Maura Watts (800-638-8265 x253)



Fire and Rescue Apparatus

Ten (10) Year Structural Integrity Apparatus Body

Limited Warranty

1. LIMITED WARRANTY

Subject to the limitations and exclusions set forth below, Pierce Manufacturing provides the following warranty to the Buyer:

Coverage:	The apparatus body shall be free from structural failures caused by defects in material and workmanship
Warranty Begins:	The date of the original purchase invoice (issued when the product ships from the factory).
Warranty Period Ends After:	Ten (10) Years - or - 100,000 Miles
Conditions and Exclusions: See Also Paragraphs 2 thru 4	This warranty applies only to the body tubular support and mounting structures and other structural components of the body of the vehicle model, as identified in the Pierce specifications for the Fire and Rescue Apparatus. This warranty does not apply to damage caused by corrosion.

This limited warranty shall apply only if the product is properly maintained in accordance with Pierce's maintenance instructions and manuals and is used in service which is normal to the particular model. Normal service means service which does not subject the product to stresses or impacts greater than normally result from careful use. If the Buyer discovers a defect or nonconformity, it must notify Pierce in writing within thirty (30) days after the date of discovery, but in any event prior to the expiration of the warranty period. THIS LIMITED WARRANTY MAY NOT BE ASSIGNED OR OTHERWISE TRANSFERRED BY THE BUYER TO ANY SUBSEQUENT USER OR PURCHASER OR TO ANY OTHER PERSON OR ENTITY.

Notwithstanding anything to the contrary herein, Pierce makes no warranty whatsoever as to:

(a) any integral parts, components, attachments or trade accessories of or to the product that are not manufactured by Pierce, including but not limited to engines, transmissions, drivelines, axles, water pumps and generators; with respect to all such parts, components, attachments and accessories, Pierce shall assign to Buyer the applicable warranties, if any, made by the respective manufacturers thereof;

(b) any vehicle, chassis, or component, part, attachment or accessory damaged by misuse, neglect, fire, exposure to severe environmental or chemical conditions, acidic environment, improper maintenance, accident, crash, or force majeure such as natural disaster, lightning, earthquake, windstorm, hail, flood, war or riot;

(c) any vehicle, chassis or component, part, attachment or accessory that has been repaired, altered or assembled in any way by any person or entity other than Pierce which, in the sole judgment of Pierce, adversely affects the performance, stability or purpose for which it was manufactured; or

(d) products or parts which may in the ordinary course wear out and have to be replaced during the warranty period, including, but not limited to, tires, fluids, gaskets and light bulbs. Pierce assumes no responsibility for the assembly of its parts or subassemblies into finishing products or vehicles unless the assembly is performed by Pierce.

The original purchaser may void this warranty in part or in its entirety if the product is repaired or replaced (a) without prior written approval of the Pierce Customer Service Department; or (b) at a facility which has not been approved by Pierce as to technical capability. Any repairs, modifications, alterations or aftermarket parts added after manufacture without the authorization of Pierce may void this warranty.

2. DISCLAIMERS OF WARRANTIES

THE WARRANTY SET FORTH IN PARAGRAPH 1 IS THE SOLE AND EXCLUSIVE WARRANTY GIVEN BY PIERCE. PIERCE HEREBY DISCLAIMS AND EXCLUDES ALL OTHER WARRANTIES, WHETHER EXPRESS, IMPLIED OR STATUTORY, INCLUDING WITHOUT LIMITATION ANY WARRANTY OF MERCHANTABILITY, ANY WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, AND ANY WARRANTIES ARISING FROM COURSE OF DEALING OR USAGE OF TRADE.

3. BUYER'S EXCLUSIVE REMEDY

If the product fails to conform to the warranty set forth in paragraph 1 during the warranty period, and such nonconformity is not due to misuse, neglect, accident or improper maintenance, Buyer must notify Pierce within the time period specified in paragraph 1, and shall make the product available for inspection by Pierce or its designated agent. At the request of Pierce, any allegedly defective product shall be returned to Pierce by Buyer for examination and/or repair. Buyer shall be responsible for the cost of such transportation, and for risk of loss of or damage to the product during transportation. Within a reasonable time, Pierce shall repair or replace (at Pierce's option and expense) any nonconforming or defective parts. Repair or replacement shall be made only by a facility approved in advance in writing by Pierce. THIS REMEDY SHALL BE THE EXCLUSIVE AND SOLE REMEDY FOR ANY BREACH OF WARRANTY.

4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES

Notwithstanding anything to the contrary herein or in any agreement between Pierce and Buyer, IN NO EVENT SHALL PIERCE BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, SPECIAL, INDIRECT, OR PUNITIVE DAMAGES WHATSOEVER, WHETHER ARISING OUT OF BREACH OF CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE AND STRICT LIABILITY) OR OTHER THEORY OF LAW OR EQUITY, WITH RESPECT TO VEHICLES OR OTHER PRODUCTS SOLD BY PIERCE, OR THEIR OPERATION OR FAILURE TO OPERATE, OR ANY DEFECTS THEREIN, OR ANY UNDERTAKINGS, ACTS OR OMISSIONS RELATED THERETO, REGARDLESS OF WHETHER PIERCE HAS BEEN INFORMED OF THE POSSIBILITY OF ANY SUCH DAMAGES. Without limiting the generality of the foregoing, Pierce specifically disclaims any liability for property or personal injury damages, penalties, damages for lost profits or revenues, loss of vehicles or products or any associated equipment, cost of substitute vehicles or products, down-time, delay damages, any other types of economic loss, or for any claims by any third party for any such damages.

Note: Any Surety Bond, if a part of the sale of the vehicle as to which this limited warranty is provided, applies only to this Pierce Basic One Year Limited Warranty for such vehicle, and not to other warranties made by Pierce in a separate document (if any) or to the warranties (if any) made by any manufacturer (other than Pierce) of any part, component, attachment or accessory that is incorporated into or attached to the vehicle.

Effective March 15, 2010



AMDOR Inc. TERMS OF BUSINESS AND GENERAL INFORMATION

Warranty:

All AMDOR Inc. roll-up door products are warranted for a period of 10 years from the date of delivery (with the exception of wet paint adhesion - please see below). AMDOR Inc. liability covers the replacement or repair of any component that fails due to defects in material and / or workmanship during the coverage period. We accept no liability for claims made for damages to any part (or parts) of a vehicle and / or machine (of any type) or injury claims by a person or persons assumed or alleged to have been brought about by the use or misuse of any product supplied by AMDOR Inc. Warranty coverage does not extend to door attachments including (but not limited to) decals, emblems, stripes and adhesives.

In order to initiate the claims process please contact your authorized representative of AMDOR Inc. Warranty claims must be accompanied by a written description providing full and reasonable details as to the nature of the defect. Upon receipt of your claim arrangements will be made to inspect the defective product (if necessary). Justified warranty claims will be repaired, exchanged, or credited to the customer's account at AMDOR Inc.'s discretion. All warranty claims must be approved in writing by the Customer Service Manager for AMDOR Inc. There are no exceptions to this clause.

Limited warranty coverage includes the labor associated with the disassembly and assembly of products deemed to be defective by AMDOR Inc. Labor allowances are based on a set time schedule as determined by AMDOR Inc. The maximum allowable hourly labor rate is \$ 50. All warranty labor claims must be approved in writing by an authorized representative of AMDOR Inc. prior to commencement of work. Allowances for removal and installation:

Curtain replacement:	3/4 hour
Balancer replacement:	1 hour
Door ajar switch	3/4 hour
Bottom Panel Assembly:	1/2 hour
Slat replacement:	3/4 hour
Door removal and replacement	1 1/2 hours

Items authorized for return must be accompanied by a Return Goods Authorization (RGA) number. We will accept collect shipments of items deemed to be defective provided that they are returned via the most economical carrier. Should items be

returned by means other than the most economical carrier the difference will be charged back to the sender.

AMDOR Inc. reserves the right to reject any claim when a product has been opened, interfered with or modified. Claims may also be rejected when damage to the product (or any sub-assembly) has been brought about by accident, misuse, abuse, vandalism, incorrect installation, temperature extremes, chemical exposure or any factor other than regular operating conditions.

Limited Wet Paint Match Adhesion Warranty

AMDOR Inc. warrants wet paint finishes applied by AMDOR utilizing our approved factory paint specification. All wet paint match colors must be approved in writing by an authorized OEM representative. AMDOR Inc. will provide a color spray out for this purpose. The time required for shipping and consideration of initial color spray outs will be considered over and above stated lead times. Warranty coverage will extend for a period of not less than 5 years from the date of delivery as determined by AMDOR Inc.'s Packing Slip. AMDOR reserves the right to determine whether individual units will be replaced and / or repaired by an AMDOR approved vendor. An allowance will be made for labor associated with the disassembly and assembly of individual units at the prescribed hourly rate of \$ 50 per hour. Compensation for labor will not exceed the maximum time allowance permitted for door removal and replacement. Written approval including specified allowance for time must be obtained from AMDOR prior to initiating work. Warranty coverage will extend to the following visible paint system defects:

- 1./ Loss of mechanical adhesion as evidenced by peeling, cracking or blistering which exposes the substrate material.
- 2./ Corrosion of the substrate due to paint system failure.
- 3./ Fading which results in a substantial departure from the primary AMDOR approved body color.

Wet paint adhesion limited warranty coverage will be excluded when damages to the system are determined by AMDOR Inc. to be a result of the following:

- 1./ Damage caused through the use of attachments including (but not limited to) decals, labels, adhesives, non factory approved coatings.
- 2./ Loss of gloss, discoloration or damage due to improper maintenance (including but not limited to) mechanical wash systems, pressure washers, steam cleaners, non approved wash or polishing agents.
- 3./ Abuse, acts of nature, excessive heat / cold, chemical exposure, vandalism and / or accidents.
- 4./ Scratches, chips, abrasions, or dents from any source.

This document supercedes all previous written and / or verbal warranties provided by AMDOR Inc. and / or it's affiliates.

Waterous Seven-Year Limited Warranty

WATEROUS warrants, to the original Buyer only, that products manufactured by WATEROUS will be free from defects in material and workmanship under normal use and service for a period of seven (7) years from the date the product is first placed in service, or seven and one-half (7-1/2) years from the date of shipment by WATEROUS, whichever period shall be the first to expire; provided the Buyer notifies WATEROUS, in writing, of the defect in said product within the warranty period, and said product is found by WATEROUS to be nonconforming with the aforesaid warranty. When required in writing by WATEROUS, defective products must be promptly returned by Buyer to WATEROUS at WATEROUS' plant at South St. Paul, Minnesota, or at such other place as may be specified by WATEROUS, with transportation and other charges prepaid. A Returned Material Authorization (RMA) is required for all products and parts and may be requested by phone, fax, email, or mail. The aforesaid warranty excludes any responsibility or liability of WATEROUS for:

- (a) damages or defects due to accident, abuse, misuse, abnormal operating conditions, negligence, accidental causes, use in non-firefighting applications, or improper maintenance, or attributable to written specifications or instructions furnished by Buyer;
- (b) defects in products manufactured by others and furnished by WATEROUS hereunder, it being understood and agreed by the parties that the only warranty provided for such products shall be the warranty provided by the manufacturer thereof which, if assignable, WATEROUS will assign to Buyer, if requested by Buyer;
- (c) any product or part, altered, modified, serviced or repaired other than by WATEROUS, without its prior written consent;
- (d) the cost of dismantling, removing, transporting, storing, or insuring the defective product or part and the cost of reinstallation; and
- (e) normal wear items (packing, strainers, filters, light bulbs, anodes, intake screens, mechanical seals, etc.).

ALL OTHER WARRANTIES ARE EXCLUDED, WHETHER EXPRESS OR IMPLIED BY OPERATION OF LAW OR OTHERWISE, INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. IN NO EVENT, WHETHER AS A RESULT OF BREACH OF CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE), STRICT LIABILITY, OR ANY OTHER CAUSE OF ACTION, SHALL WATEROUS BE LIABLE FOR ANY PUNITIVE, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES, OR FOR PERSONAL INJURY OR PROPERTY DAMAGES.

The exclusive remedy of Buyer and the sole liability of WATEROUS, whether based on contract, warranty, tort or any other basis of recovery whatsoever, is expressly limited at the election of WATEROUS to:

- (a) the replacement at the agreed point of delivery of any product or part, which upon inspection by WATEROUS or its duly authorized representative, is found not to conform to the limited warranty set forth above, or
- (b) the repair of such product or part, or
- (c) the refund or crediting to Buyer of the net sales price of the defective product or part.

BUYER'S REMEDIES CONTAINED HEREIN ARE EXCLUSIVE OF ANY OTHER REMEDY OTHERWISE AVAILABLE TO BUYER.

Waterous Company
125 Hardman Avenue South
South St. Paul, MN 55075 USA
www.waterousco.com

WATEROUS



Fire and Rescue Apparatus

Ten (10) Year Material and Workmanship Stainless Steel Piping Limited Warranty

1. LIMITED WARRANTY

Subject to the limitations and exclusions set forth below, Pierce Manufacturing provides the following warranty to the Buyer:

Coverage:	Stainless steel piping shall be free from structural failures caused by defects in material and workmanship, or perforation caused by corrosion.
Warranty Begins:	The date of the original purchase invoice (issued when the product ships from the factory).
Warranty Period Ends After:	Ten (10) Years - or - 100,000 Miles
Conditions and Exclusions: See Also Paragraphs 2 thru 4	<p>Pierce's obligation under this warranty is limited to repairing or replacing without charge, as Pierce may elect, the stainless steel piping or components which Pierce determines to have failed due to defective material and workmanship, or perforation caused by corrosion.</p> <p>This warranty does not cover the use of fluoroprotein (FP) type foam. The sodium chloride within FP foam can cause long-term damage to system components if not thoroughly flushed immediately after use.</p>

This limited warranty shall apply only if the product is properly maintained in accordance with Pierce's maintenance instructions and manuals and is used in service which is normal to the particular model. Normal service means service which does not subject the product to stresses or impacts greater than normally result from careful use. If the Buyer discovers a defect or nonconformity, it must notify Pierce in writing within thirty (30) days after the date of discovery, but in any event prior to the expiration of the warranty period. THIS LIMITED WARRANTY MAY NOT BE ASSIGNED OR OTHERWISE TRANSFERRED BY THE BUYER TO ANY SUBSEQUENT USER OR PURCHASER OR TO ANY OTHER PERSON OR ENTITY.

Notwithstanding anything to the contrary herein, Pierce makes no warranty whatsoever as to:

(a) any integral parts, components, attachments or trade accessories of or to the product that are not manufactured by Pierce, including but not limited to engines, transmissions, drivelines, axles, water pumps and generators; with respect to all such parts, components, attachments and accessories, Pierce shall assign to Buyer the applicable warranties, if any, made by the respective manufacturers thereof;

(b) any vehicle, chassis, or component, part, attachment or accessory damaged by misuse, neglect, fire, exposure to severe environmental or chemical conditions, acidic environment, improper maintenance, accident, crash, or force majeure such as natural disaster, lightning, earthquake, windstorm, hail, flood, war or riot;

(c) any vehicle, chassis or component, part, attachment or accessory that has been repaired, altered or assembled in any way by any person or entity other than Pierce which, in the sole judgment of Pierce, adversely affects the performance, stability or purpose for which it was manufactured; or

(d) products or parts which may in the ordinary course wear out and have to be replaced during the warranty period, including, but not limited to, tires, fluids, gaskets and light bulbs. Pierce assumes no responsibility for the assembly of its parts or subassemblies into finishing products or vehicles unless the assembly is performed by Pierce.

The original purchaser may void this warranty in part or in its entirety if the product is repaired or replaced (a) without prior written approval of the Pierce Customer Service Department; or (b) at a facility which has not been approved by Pierce as to technical capability. Any repairs, modifications, alterations or aftermarket parts added after manufacture without the authorization of Pierce may void this warranty.

2. DISCLAIMERS OF WARRANTIES

THE WARRANTY SET FORTH IN PARAGRAPH 1 IS THE SOLE AND EXCLUSIVE WARRANTY GIVEN BY PIERCE. PIERCE HEREBY DISCLAIMS AND EXCLUDES ALL OTHER WARRANTIES, WHETHER EXPRESS, IMPLIED OR STATUTORY, INCLUDING WITHOUT LIMITATION ANY WARRANTY OF MERCHANTABILITY, ANY WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, AND ANY WARRANTIES ARISING FROM COURSE OF DEALING OR USAGE OF TRADE.

3. BUYER'S EXCLUSIVE REMEDY

If the product fails to conform to the warranty set forth in paragraph 1 during the warranty period, and such nonconformity is not due to misuse, neglect, accident or improper maintenance, Buyer must notify Pierce within the time period specified in paragraph 1, and shall make the product available for inspection by Pierce or its designated agent. At the request of Pierce, any allegedly defective product shall be returned to Pierce by Buyer for examination and/or repair. Buyer shall be responsible for the cost of such transportation, and for risk of loss of or damage to the product during transportation. Within a reasonable time, Pierce shall repair or replace (at Pierce's option and expense) any nonconforming or defective parts. Repair or replacement shall be made only by a facility approved in advance in writing by Pierce. THIS REMEDY SHALL BE THE EXCLUSIVE AND SOLE REMEDY FOR ANY BREACH OF WARRANTY.

4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES

Notwithstanding anything to the contrary herein or in any agreement between Pierce and Buyer, IN NO EVENT SHALL PIERCE BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, SPECIAL, INDIRECT, OR PUNITIVE DAMAGES WHATSOEVER, WHETHER ARISING OUT OF BREACH OF CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE AND STRICT LIABILITY) OR OTHER THEORY OF LAW OR EQUITY, WITH RESPECT TO VEHICLES OR OTHER PRODUCTS SOLD BY PIERCE, OR THEIR OPERATION OR FAILURE TO OPERATE, OR ANY DEFECTS THEREIN, OR ANY UNDERTAKINGS, ACTS OR OMISSIONS RELATED THERETO, REGARDLESS OF WHETHER PIERCE HAS BEEN INFORMED OF THE POSSIBILITY OF ANY SUCH DAMAGES. Without limiting the generality of the foregoing, Pierce specifically disclaims any liability for property or personal injury damages, penalties, damages for lost profits or revenues, loss of vehicles or products or any associated equipment, cost of substitute vehicles or products, down-time, delay damages, any other types of economic loss, or for any claims by any third party for any such damages.

Note: Any Surety Bond, if a part of the sale of the vehicle as to which this limited warranty is provided, applies only to this Pierce Basic One Year Limited Warranty for such vehicle, and not to other warranties made by Pierce in a separate document (if any) or to the warranties (if any) made by any manufacturer (other than Pierce) of any part, component, attachment or accessory that is incorporated into or attached to the vehicle.



Fire and Rescue Apparatus

One (1) Year Material and Workmanship Foam System & Five (5) Year Material and Workmanship Control Head

Limited Warranty

1. LIMITED WARRANTY

Subject to the limitations and exclusions set forth below, Pierce Manufacturing provides the following warranty to the Buyer:

Coverage:	Limited warranty 1 year parts and labor for the foam system and 5 years parts and labor for the control head.
Warranty Begins:	The date of the original purchase invoice (issued when the product ships from the factory).
Warranty Period Ends After:	One (1) Year & Five (5) Year
Conditions and Exclusions: See Also Paragraphs 2 thru 4	<p>This warranty does not cover repair due to accidents, misuse, and excessive vibration, flying debris, storage damage (freezing), negligence or modification. This warranty is void if any modification or repairs are performed without authorization. This also voids any future warranty.</p> <p>This warranty does not cover cost of maintenance or repairs due to lack of required maintenance services as recommended. Performance of the required maintenance and use of proper fluids are the responsibility of the owner.</p>

This limited warranty shall apply only if the product is properly maintained in accordance with Pierce's maintenance instructions and manuals and is used in service which is normal to the particular model. Normal service means service which does not subject the product to stresses or impacts greater than normally result from careful use. If the Buyer discovers a defect or nonconformity, it must notify Pierce in writing within thirty (30) days after the date of discovery, but in any event prior to the expiration of the warranty period. THIS LIMITED WARRANTY MAY NOT BE ASSIGNED OR OTHERWISE TRANSFERRED BY THE BUYER TO ANY SUBSEQUENT USER OR PURCHASER OR TO ANY OTHER PERSON OR ENTITY.

Notwithstanding anything to the contrary herein, Pierce makes no warranty whatsoever as to:

(a) any integral parts, components, attachments or trade accessories of or to the product that are not manufactured by Pierce, including but not limited to engines, transmissions, drivelines, axles, water pumps and generators; with respect to all such parts, components, attachments and accessories, Pierce shall assign to Buyer the applicable warranties, if any, made by the respective manufacturers thereof;

(b) any vehicle, chassis, or component, part, attachment or accessory damaged by misuse, neglect, fire, exposure to severe environmental or chemical conditions, acidic environment, improper maintenance, accident, crash, or force majeure such as natural disaster, lightning, earthquake, windstorm, hail, flood, war or riot;

(c) any vehicle, chassis or component, part, attachment or accessory that has been repaired, altered or assembled in any way by any person or entity other than Pierce which, in the sole judgment of Pierce, adversely affects the performance, stability or purpose for which it was manufactured; or

(d) products or parts which may in the ordinary course wear out and have to be replaced during the warranty period, including, but not limited to, tires, fluids, gaskets and light bulbs. Pierce assumes no responsibility for the assembly of its parts or subassemblies into finishing products or vehicles unless the assembly is performed by Pierce.

The original purchaser may void this warranty in part or in its entirety if the product is repaired or replaced (a) without prior written approval of the Pierce Customer Service Department; or (b) at a facility which has not been approved by Pierce as to technical capability. Any repairs, modifications, alterations or aftermarket parts added after manufacture without the authorization of Pierce may void this warranty.

2. DISCLAIMERS OF WARRANTIES

THE WARRANTY SET FORTH IN PARAGRAPH 1 IS THE SOLE AND EXCLUSIVE WARRANTY GIVEN BY PIERCE. PIERCE HEREBY DISCLAIMS AND EXCLUDES ALL OTHER WARRANTIES, WHETHER EXPRESS, IMPLIED OR STATUTORY, INCLUDING WITHOUT LIMITATION ANY WARRANTY OF MERCHANTABILITY, ANY WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, AND ANY WARRANTIES ARISING FROM COURSE OF DEALING OR USAGE OF TRADE.

3. BUYER'S EXCLUSIVE REMEDY

If the product fails to conform to the warranty set forth in paragraph 1 during the warranty period, and such nonconformity is not due to misuse, neglect, accident or improper maintenance, Buyer must notify Pierce within the time period specified in paragraph 1, and shall make the product available for inspection by Pierce or its designated agent. At the request of Pierce, any allegedly defective product shall be returned to Pierce by Buyer for examination and/or repair. Buyer shall be responsible for the cost of such transportation, and for risk of loss of or damage to the product during transportation. Within a reasonable time, Pierce shall repair or replace (at Pierce's option and expense) any nonconforming or defective parts. Repair or replacement shall be made only by a facility approved in advance in writing by Pierce. THIS REMEDY SHALL BE THE EXCLUSIVE AND SOLE REMEDY FOR ANY BREACH OF WARRANTY.

4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES

Notwithstanding anything to the contrary herein or in any agreement between Pierce and Buyer, IN NO EVENT SHALL PIERCE BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, SPECIAL, INDIRECT, OR PUNITIVE DAMAGES WHATSOEVER, WHETHER ARISING OUT OF BREACH OF CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE AND STRICT LIABILITY) OR OTHER THEORY OF LAW OR EQUITY, WITH RESPECT TO VEHICLES OR OTHER PRODUCTS SOLD BY PIERCE, OR THEIR OPERATION OR FAILURE TO OPERATE, OR ANY DEFECTS THEREIN, OR ANY UNDERTAKINGS, ACTS OR OMISSIONS RELATED THERETO, REGARDLESS OF WHETHER PIERCE HAS BEEN INFORMED OF THE POSSIBILITY OF ANY SUCH DAMAGES. Without limiting the generality of the foregoing, Pierce specifically disclaims any liability for property or personal injury damages, penalties, damages for lost profits or revenues, loss of vehicles or products or any associated equipment, cost of substitute vehicles or products, down-time, delay damages, any other types of economic loss, or for any claims by any third party for any such damages.

Note: Any Surety Bond, if a part of the sale of the vehicle as to which this limited warranty is provided, applies only to this Pierce Basic One Year Limited Warranty for such vehicle, and not to other warranties made by Pierce in a separate document (if any) or to the warranties (if any) made by any manufacturer (other than Pierce) of any part, component, attachment or accessory that is incorporated into or attached to the vehicle.



Fire and Rescue Apparatus

Ten (10) Year Pro-Rated Paint and Corrosion

Custom Body

Limited Warranty

1. LIMITED WARRANTY

Subject to the limitations and exclusions set forth below, Pierce Manufacturing provides the following warranty to the Buyer:

Coverage:	Exterior surfaces of the body shall be free from blistering, peeling, corrosion or any other adhesion defect caused by defective manufacturing methods or paint material selection.
Warranty Begins:	The date of the original purchase invoice (issued when the product ships from the factory).
Warranty Period Ends After:	Ten (10) Years
Conditions and Exclusions:	<p>This limited warranty is applicable to the vehicle in the following percentage costs of warranty repair, if any:</p> <p>Topcoat Durability & Appearance: Gloss, Color Retention & Cracking 0-72 months 100% 73-96 months 50% 97-120 months 25%</p> <p>Integrity of Coating System: Adhesion, Blistering/Bubbling 0-36 months 100% 37-84 months 50% 85-120 months 25%</p> <p>Corrosion: Dissimilar Metal and Crevice 0-36 months 100% 37-48 months 50% 49-72 months 25% 73-120 months 10%</p> <p>Corrosion Perforation 0-120 months 100%</p> <p>This limited warranty applies only to exterior paint. Paint on the vehicle's interior is warranted only under the Pierce Basic One Year Limited Warranty.</p> <p>Items not covered by this warranty include: (a) Damage from lack of maintenance and cleaning (proper cleaning and maintenance procedures are detailed in the Pierce operation and maintenance manual). (b) UV paint fade. (c) Any cab not manufactured by Pierce.</p>

This limited warranty shall apply only if the product is properly maintained in accordance with Pierce's maintenance instructions and manuals and is used in service which is normal to the particular model. Normal service means service which does not subject the product to stresses or impacts greater than normally result from careful use. If the Buyer discovers a defect or nonconformity, it must notify Pierce in writing within thirty (30) days after the date of discovery, but in any event prior to the expiration of the warranty period. THIS LIMITED WARRANTY MAY NOT BE ASSIGNED OR OTHERWISE TRANSFERRED BY THE BUYER TO ANY SUBSEQUENT USER OR PURCHASER OR TO ANY OTHER PERSON OR ENTITY.

Notwithstanding anything to the contrary herein, Pierce makes no warranty whatsoever as to:

(a) any integral parts, components, attachments or trade accessories of or to the product that are not manufactured by Pierce, including but not limited to engines, transmissions, drivelines, axles, water pumps and generators; with respect to all such parts, components, attachments and accessories, Pierce shall assign to Buyer the applicable warranties, if any, made by the respective manufacturers thereof;

(b) any vehicle, chassis, or component, part, attachment or accessory damaged by misuse, neglect, fire, exposure to severe environmental or chemical conditions, acidic environment, improper maintenance, accident, crash, or force majeure such as natural disaster, lightning, earthquake, windstorm, hail, flood, war or riot;

(c) any vehicle, chassis or component, part, attachment or accessory that has been repaired, altered or assembled in any way by any person or entity other than Pierce which, in the sole judgment of Pierce, adversely affects the performance, stability or purpose for which it was manufactured; or

(d) products or parts which may in the ordinary course wear out and have to be replaced during the warranty period, including, but not limited to, tires, fluids, gaskets and light bulbs. Pierce assumes no responsibility for the assembly of its parts or subassemblies into finishing products or vehicles unless the assembly is performed by Pierce.

The original purchaser may void this warranty in part or in its entirety if the product is repaired or replaced (a) without prior written approval of the Pierce Customer Service Department; or (b) at a facility which has not been approved by Pierce as to technical capability. Any repairs, modifications, alterations or aftermarket parts added after manufacture without the authorization of Pierce may void this warranty.

2. DISCLAIMERS OF WARRANTIES

THE WARRANTY SET FORTH IN PARAGRAPH 1 IS THE SOLE AND EXCLUSIVE WARRANTY GIVEN BY PIERCE. PIERCE HEREBY DISCLAIMS AND EXCLUDES ALL OTHER WARRANTIES, WHETHER EXPRESS, IMPLIED OR STATUTORY, INCLUDING WITHOUT LIMITATION ANY WARRANTY OF MERCHANTABILITY, ANY WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, AND ANY WARRANTIES ARISING FROM COURSE OF DEALING OR USAGE OF TRADE.

3. BUYER'S EXCLUSIVE REMEDY

If the product fails to conform to the warranty set forth in paragraph 1 during the warranty period, and such nonconformity is not due to misuse, neglect, accident or improper maintenance, Buyer must notify Pierce within the time period specified in paragraph 1, and shall make the product available for inspection by Pierce or its designated agent. At the request of Pierce, any allegedly defective product shall be returned to Pierce by Buyer for examination and/or repair. Buyer shall be responsible for the cost of such transportation, and for risk of loss of or damage to the product during transportation. Within a reasonable time, Pierce shall repair or replace (at Pierce's option and expense) any nonconforming or defective parts. Repair or replacement shall be made only by a facility approved in advance in writing by Pierce. THIS REMEDY SHALL BE THE EXCLUSIVE AND SOLE REMEDY FOR ANY BREACH OF WARRANTY.

4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES

Notwithstanding anything to the contrary herein or in any agreement between Pierce and Buyer, IN NO EVENT SHALL PIERCE BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, SPECIAL, INDIRECT, OR PUNITIVE DAMAGES WHATSOEVER, WHETHER ARISING OUT OF BREACH OF CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE AND STRICT LIABILITY) OR OTHER THEORY OF LAW OR EQUITY, WITH RESPECT TO VEHICLES OR OTHER PRODUCTS SOLD BY PIERCE, OR THEIR OPERATION OR FAILURE TO OPERATE, OR ANY DEFECTS THEREIN, OR ANY UNDERTAKINGS, ACTS OR OMISSIONS RELATED THERETO, REGARDLESS OF WHETHER PIERCE HAS BEEN INFORMED OF THE POSSIBILITY OF ANY SUCH DAMAGES. Without limiting the generality of the foregoing, Pierce specifically disclaims any liability for property or personal injury damages, penalties, damages for lost profits or revenues, loss of vehicles or products or any associated equipment, cost of substitute vehicles or products, down-time, delay damages, any other types of economic loss, or for any claims by any third party for any such damages.

Note: Any Surety Bond, if a part of the sale of the vehicle as to which this limited warranty is provided, applies only to this Pierce Basic One Year Limited Warranty for such vehicle, and not to other warranties made by Pierce in a separate document (if any) or to the warranties (if any) made by any manufacturer (other than Pierce) of any part, component, attachment or accessory that is incorporated into or attached to the vehicle.



Fire and Rescue Apparatus

Three (3) Year Material and Workmanship

Goldstar® Gold Leaf Lamination

Limited Warranty

1. LIMITED WARRANTY

Subject to the limitations and exclusions set forth below, Pierce Manufacturing provides the following warranty to the Buyer:

Coverage:	Each Goldstar® gold leaf lamination shall be free from defects in material and workmanship.
Warranty Begins:	The date of the original purchase invoice (issued when the product ships from the factory).
Warranty Period Ends After:	Three (3) Years
Conditions and Exclusions: See Also Paragraphs 2 thru 4	This warranty does not cover damage from lack of maintenance and cleaning (proper cleaning and maintenance procedures are detailed in the Pierce operation and maintenance manual).

This limited warranty shall apply only if the product is properly maintained in accordance with Pierce's maintenance instructions and manuals and is used in service which is normal to the particular model. Normal service means service which does not subject the product to stresses or impacts greater than normally result from careful use. If the Buyer discovers a defect or nonconformity, it must notify Pierce in writing within thirty (30) days after the date of discovery, but in any event prior to the expiration of the warranty period. THIS LIMITED WARRANTY MAY NOT BE ASSIGNED OR OTHERWISE TRANSFERRED BY THE BUYER TO ANY SUBSEQUENT USER OR PURCHASER OR TO ANY OTHER PERSON OR ENTITY.

Notwithstanding anything to the contrary herein, Pierce makes no warranty whatsoever as to:

(a) any integral parts, components, attachments or trade accessories of or to the product that are not manufactured by Pierce, including but not limited to engines, transmissions, drivelines, axles, water pumps and generators; with respect to all such parts, components, attachments and accessories, Pierce shall assign to Buyer the applicable warranties, if any, made by the respective manufacturers thereof;

(b) any vehicle, chassis, or component, part, attachment or accessory damaged by misuse, neglect, fire, exposure to severe environmental or chemical conditions, acidic environment, improper maintenance, accident, crash, or force majeure such as natural disaster, lightning, earthquake, windstorm, hail, flood, war or riot;

(c) any vehicle, chassis or component, part, attachment or accessory that has been repaired, altered or assembled in any way by any person or entity other than Pierce which, in the sole judgment of Pierce, adversely affects the performance, stability or purpose for which it was manufactured; or

(d) products or parts which may in the ordinary course wear out and have to be replaced during the warranty period, including, but not limited to, tires, fluids, gaskets and light bulbs. Pierce assumes no responsibility for the assembly of its parts or subassemblies into finishing products or vehicles unless the assembly is performed by Pierce.

The original purchaser may void this warranty in part or in its entirety if the product is repaired or replaced (a) without prior written approval of the Pierce Customer Service Department; or (b) at a facility which has not been approved by Pierce as to technical capability. Any repairs, modifications, alterations or aftermarket parts added after manufacture without the authorization of Pierce may void this warranty.

2. DISCLAIMERS OF WARRANTIES

THE WARRANTY SET FORTH IN PARAGRAPH 1 IS THE SOLE AND EXCLUSIVE WARRANTY GIVEN BY PIERCE. PIERCE HEREBY DISCLAIMS AND EXCLUDES ALL OTHER WARRANTIES, WHETHER EXPRESS, IMPLIED OR STATUTORY, INCLUDING WITHOUT LIMITATION ANY WARRANTY OF MERCHANTABILITY, ANY WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, AND ANY WARRANTIES ARISING FROM COURSE OF DEALING OR USAGE OF TRADE.

3. BUYER'S EXCLUSIVE REMEDY

If the product fails to conform to the warranty set forth in paragraph 1 during the warranty period, and such nonconformity is not due to misuse, neglect, accident or improper maintenance, Buyer must notify Pierce within the time period specified in paragraph 1, and shall make the product available for inspection by Pierce or its designated agent. At the request of Pierce, any allegedly defective product shall be returned to Pierce by Buyer for examination and/or repair. Buyer shall be responsible for the cost of such transportation, and for risk of loss of or damage to the product during transportation. Within a reasonable time, Pierce shall repair or replace (at Pierce's option and expense) any nonconforming or defective parts. Repair or replacement shall be made only by a facility approved in advance in writing by Pierce. THIS REMEDY SHALL BE THE EXCLUSIVE AND SOLE REMEDY FOR ANY BREACH OF WARRANTY.

4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES

Notwithstanding anything to the contrary herein or in any agreement between Pierce and Buyer, IN NO EVENT SHALL PIERCE BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, SPECIAL, INDIRECT, OR PUNITIVE DAMAGES WHATSOEVER, WHETHER ARISING OUT OF BREACH OF CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE AND STRICT LIABILITY) OR OTHER THEORY OF LAW OR EQUITY, WITH RESPECT TO VEHICLES OR OTHER PRODUCTS SOLD BY PIERCE, OR THEIR OPERATION OR FAILURE TO OPERATE, OR ANY DEFECTS THEREIN, OR ANY UNDERTAKINGS, ACTS OR OMISSIONS RELATED THERETO, REGARDLESS OF WHETHER PIERCE HAS BEEN INFORMED OF THE POSSIBILITY OF ANY SUCH DAMAGES. Without limiting the generality of the foregoing, Pierce specifically disclaims any liability for property or personal injury damages, penalties, damages for lost profits or revenues, loss of vehicles or products or any associated equipment, cost of substitute vehicles or products, down-time, delay damages, any other types of economic loss, or for any claims by any third party for any such damages.

Note: Any Surety Bond, if a part of the sale of the vehicle as to which this limited warranty is provided, applies only to this Pierce Basic One Year Limited Warranty for such vehicle, and not to other warranties made by Pierce in a separate document (if any) or to the warranties (if any) made by any manufacturer (other than Pierce) of any part, component, attachment or accessory that is incorporated into or attached to the vehicle.

5 DEALER SUPPLIED PRODUCTS AND /OR SERVICES

Exhibit "D"

DEALER SUPPLIED PRODUCTS and/or SERVICES

The following items and/or services will be provided by Golden State Fire Apparatus Inc. (GSFA) prior to final delivery:

LICENSED MANUFACTURER

The State of California Vehicle Code, section 11701 requires “every manufacturer of a vehicle subject to registration shall make application to the Department of Motor Vehicles (DMV) for a license containing a general distinguishing number”. The manufacturer has a current license at time of proposal and shall provide a copy upon request. Temporary licenses are not acceptable.

LICENSED DEALERSHIP

The State of California Vehicle Code, section 11701 requires a “dealer in vehicles of a type subject to registration, shall make application to the Department of Motor Vehicles (DMV) for a license containing a general distinguishing number”. Golden State Fire Apparatus, Inc. has a current license at time of bid as outlined above and is available upon request. Temporary licenses are not acceptable.

LICENSED SALES REPRESENTATIVE

The State of California Vehicle Code, section 11800 requires that it shall be “unlawful for any person to function as a vehicle salesperson without having first procured a license issued by the Department of Motor Vehicles (DMV)”. The representative has a current vehicle salespersons license at time of proposal and shall provide a copy upon request. Temporary licenses are not acceptable.

VEHICLE REGISTRATION

The State of California Vehicle Code section 11739 requires that the “dealer of a new motor vehicle sale is responsible for applying for the title, securing vehicle registration, and obtaining license plates for the Customer” through the Department of Motor Vehicles (DMV). Golden State Fire Apparatus, Inc. is a factory-authorized dealer of the vehicle being sold and is authorized to register with the State of California as a new vehicle manufacturer.

GSFA will make all necessary applications and complete all transfer papers, including applying for California Exempt “E” license plates.

WEEKLY PROGRESS PHOTOGRAPHS

GSFA will provide weekly photographs of the apparatus or the major components as they are being constructed. The photographs will commence at the start of the manufacturing process and will continue through production by the manufacturer. The reports will show the progress of the apparatus through the course of each week. Special attention will be given to show the unique features and aspects of the apparatus as construction progresses.

LOOSE EQUIPMENT / LABOR

Item	Description	QTY
1	COVER,CHROME LUG NUT,FLG-OBS HUB PILOT,RW5810 (Pierce option 801909)	40
2	BABY MOON FRT,S/S W/HOLE 5.25" DIA (Pierce option 3245)	2
3	0720-HIGH HAT,REAR,SS LESS 31K,AL-AL RIMS w/ wrench (Pierce option 1960)	1
4	DIFFUSER,EXHAUST 4 INCH INLET,6 INCH OUTLET (Pierce option 521651)	1

5	Labor for Diffuser	3
6	Travel Stops Fornt Discharge (Pierce option 645453)	1
7	Labor travel stops	2
8	Labor wheel accessories install	2
9	DIVIDER,BMP BOX,10.75D,F-B 11.5 TRAY,CVR (Pierce Option 607514)	1
10	Matting Turtle Tile Aux Compart (Pierce option 798178)	16
11	Computer tray, S/S NO straps, slides (Pierce optoin 658325)	1
12	Matting Turtle Tile EMS compartment Black (Option 617401)	4
13	Matting Vin-A-Grip EMS/Cab Shelving (Pierce option 675651)	1
14	Install customer supplied Intercom - Setcom (Option 754302)	24
15	Install CTF two way remote head radios. Trans in RS overhead, rest overhead	40
16	Hose Restriant Running Board trays (2) 2" wide strap w/ metal seat belts and (4) footman loops per tray. (Option 590934)	2
17	S/S scuffplate Accessory Door (Option 650618) (See picture at right) each aux cab compartment, install near the opening where the D ring latch can hit the paint	2
18	Matting Turtle Tile w/ Ramp (Option 659383)	1
19	Turtle Tile Shelving (Option 28026)	1
20	Turtle Tile Hatch Compartment Floor	1
21	Chrome Grab on back of cab each side. exterior rear wall of the cab, one each side. Exact location shown on the attached picture	2
22	12" Handrail (Option 519354) center on each pumphouse structure, centered between the light shield and top of the pump house structure, per the provided pictures.	2
23	Anodes for Warterous CSU 1500 PUMP inlets (Option 34720)	1
25	Freight	1
26	Install modem behind officer seat(Power and antennas provided)	3
27	Install Knox box officer dash left of MDC (power provided)	2
28	Install MDC officer dash on tray. (MDC and docking staiton provided by customer. Power and antennas provided)	6
30	Install EMTAC in RS Overhead cabinet. Power and antennas provided	5
31	Install (4) portable radio chargers (fuse box provided over engine tunneleach side.)	4
32	Install (4) box flashlights (fuse box provided over engine tunneleach side.)	4
33	Partition, Adjustable, Aluminum in Hose Tray, Front to Back, (option 607514)	1
34	Labor Matting install	8
35	Labor Hose Restriant install	2
36	Labor Scuffplate install	1
37	Labor Chrome Handle Install	3
38	Labor Handaril Install	3

39	Magnetic Mic Clips	3
40	Install (3) Magnetic Mic Clips	3
41	Install (4) Vulcan Flashlights	3
42	CAT6 cable from CAD (GETAC forward officer seat) to modem rear of officer seat. (Apporx 15')	1
43	Labor to route CAT6 cable from behind officer seat to Forward officer and connect	2
44	Vulcan 44001 Yellow 12 V charger base with shoulder strap	4

DELIVERY TO AUTHORIZED SERVICE FACILITY

GSFA will, at their expense, deliver the apparatus (including any applicable equipment, spare parts, and supplies) to their Northern California facility in Sacramento for a dealer preparation inspection.

To ensure proper break in of all components while still under warranty, the apparatus shall be delivered under its own power - rail or truck freight shall not be acceptable.

PRE-DELIVERY SERVICE

After transportation from the factory and prior to delivery, the apparatus will receive a pre-delivery service to confirm proper operation and correction of any issues found as a result of said inspection. The Golden State Fire Apparatus, Inc. pre-delivery service consists of the following:

- Engine Compartment and Undercarriage – Check for any broken mounting brackets and inspect for correct capacities of the following (if applicable): engine oil, coolant, power steering fluid, washer reservoir fluid, transmission fluid, rear end fluid, pump transmission oil, and primer oil.
- Interior – Operate all doors, windows, and locks for proper adjustment. Check upholstery.
- Exterior – Repair reasonable paint scratches or chips. Tighten any loose hardware and inspect tires and wheels for proper pressure and lug torquing.
- Road Test – With the water tank (if applicable) full, the apparatus will be driven approximately twenty miles which allows the drive train components to get up to operating temperature. Road test will be on both city and highway roads. A DOT compliant brake test will be conducted to ensure the system is holding air. The brake condition and wheel seals will also be inspected.
- Electrical - Operate all lights, sirens, and other electrical accessories to verify operation.
- Pump - If applicable, vacuum test the pump to hold for 15 minutes. After vacuum test, operate the relief valve, transfer valve and check pump shift. Check water tank for leaks and inspect water level gauge for calibration. With discharge caps loose, rapid test all individual gauges and main gauges for calibration. Lubricate valve rods.
- Foam System – If applicable, tighten caps and connect foam lines. Test selector, valves, metering valve and operation of foam system (including flush).

- Fuel Tank - Fuel tank will be filled at the dealership location prior to final delivery.
- DEF Tank - DEF tank will be filled at the dealership location prior to final delivery.
- Wash - The apparatus will be thoroughly washed at the dealership location prior to final delivery.

FINAL DELIVERY (CUSTOMER LOCATION)

GSFA will, at their expense, deliver the Product (including any applicable equipment, spare parts, and supplies) to the Customer specified address once completed. Prior to delivery of the Product, Customer agrees to provide proof of liability and physical damage insurance to GSFA. GSFA will not release the Product to the Customer until such proof of insurance is provided.

It is the responsibility of the Customer to have any outstanding balance due, paid in full to GSFA, prior to or at the time that the Product is complete and ready to deliver. If payment is late or delivery is delayed pending payment, a daily finance charge of \$150.00 and a daily storage fee of \$50.00 may apply until such payment is received.

Due to insurance liability, the Product will not be delivered without full acceptance and full payment (or prior written agreement between the Customer and GSFA).

END OF DEALER SUPPLIED PRODUCTS and/or SERVICES



City of Sunnyvale

Agenda Item

23-0625

Agenda Date: 5/23/2023

SUBJECT

Adopt Ordinance No. 3214-23 to Add Chapter 10.66 (PEDESTRIAN MALL ON SOUTH MURPHY AVENUE) to Title 10 (VEHICLES AND TRAFFIC) of the Sunnyvale Municipal Code Establishing a Pedestrian Mall on South Murphy Avenue and to Amend Various Sections of Chapter 10.56 (BICYCLES) of the Sunnyvale Municipal Code Related to Bicycles on Pedestrian Malls

BACKGROUND

The attached Ordinance was introduced at a regular meeting of the City Council held on May 16, 2023 with the following vote: 7-0

RECOMMENDATION

Adopt Ordinance No. 3214-23 23 to Add Chapter 10.66 (PEDESTRIAN MALL ON SOUTH MURPHY AVENUE) to Title 10 (VEHICLES AND TRAFFIC) of the Sunnyvale Municipal Code establishing a pedestrian mall on South Murphy Avenue and to Amend various Sections of Chapter 10.56 (BICYCLES) of the Sunnyvale Municipal Code Related to Bicycles on Pedestrian Malls.

ORDINANCE NO. 3214-23

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF SUNNYVALE TO ADD CHAPTER 10.66 (PEDESTRIAN MALL ON SOUTH MURPHY AVENUE) TO TITLE 10 (VEHICLES AND TRAFFIC) OF THE SUNNYVALE MUNICIPAL CODE ESTABLISHING A PEDESTRIAN MALL ON SOUTH MURPHY AVENUE AND TO AMEND VARIOUS SECTIONS OF CHAPTER 10.56 (BICYCLES) OF THE SUNNYVALE MUNICIPAL CODE RELATED TO BICYCLES ON PEDESTRIAN MALLS

WHEREAS, in response to the COVID-19 pandemic, the City of Sunnyvale temporarily closed one segment of South Murphy Avenue, between West Evelyn Avenue and East Washington Avenue (i.e., the 100 block of South Murphy Avenue) to vehicular traffic to facilitate outdoor dining and pedestrian zones; and

WHEREAS, on June 1, 2020, City staff issued Special Events Permit No. 2020-06-01 to allow the closure of the 100 block of South Murphy Avenue in accordance with Sunnyvale Municipal Code Chapter 9.45 and California Vehicle Code Section 21101(e), which allowed restaurants to expand their outdoor dining footprint into the right-of-way with the issuance of a Miscellaneous Plan Permit issued by the Planning Division; and

WHEREAS, after the issuance of Special Events Permit No. 2023-06-01, the City Council adopted Resolution No. 1075-21 and its amendments, which directed the City Manager to temporarily close the 100 block of South Murphy Avenue to vehicular traffic; and

WHEREAS, on February 7, 2023, the City Council adopted Resolution No. 1172-23, again directing the City Manager to extend the temporary closure of the 100 block of South Murphy Avenue; and

WHEREAS, pursuant to Resolution No. 1172-23, the temporary closure of the 100 block of South Murphy Avenue to vehicular traffic was to remain in effect through December 31, 2023; and

WHEREAS, the City wishes to retain these pedestrian zones beyond the end of the COVID-19 pandemic; and

WHEREAS, the Pedestrian Mall Law of 1960 (California Streets and Highways Code Section 11000 et seq.) authorizes municipalities to close streets to vehicular traffic and to establish pedestrian malls; and

WHEREAS, the City Council wishes to establish a pedestrian mall on South Murphy Avenue, pursuant to the Pedestrian Mall Law of 1960; and

WHEREAS, on February 7, 2023, the City Council adopted Resolution No. 1171-23 declaring its intention to establish a pedestrian mall on the 100 block of South Murphy Avenue, and setting a public hearing on the establishment of such pedestrian mall on May 16, 2023; and

WHEREAS, on August 11, 2020, the City Council certified an Environmental Impact Report (EIR) (State Clearinghouse #2018052020) for the Downtown Specific Plan (DSP) Amendments and six Specific Development Projects (2020 DSP EIR), which provided a program-level review of the 2020 DSP Amendments, pursuant to the California Environmental Quality Act (CEQA) Guidelines Section 15146(b), and project-level review of six development projects, pursuant to CEQA Guidelines Section 15146(a); and

WHEREAS, CEQA Guidelines Section 15164(a) provides that an agency “shall prepare an addendum to a previously certified EIR if some changes or additions are necessary but none of the conditions described in Section 15162 calling for preparation of a subsequent EIR have occurred”; and

WHEREAS, with respect to the establishment of the pedestrian mall on the 100 block of South Murphy Avenue, none of the triggers set forth in CEQA Guidelines Section 15162 have occurred that would require preparation of a subsequent EIR; and

WHEREAS, pursuant to CEQA Guidelines Section 15164, the City prepared an addendum to the 2020 DSP EIR (Addendum); and

WHEREAS, a public hearing on the establishment of the pedestrian malls was held on May 16, 2023 in accordance with Streets and Highways Code Section 11301 et seq.; and

WHEREAS, at the public hearing on May 16, 2023, opportunity to present evidence, both written and/or oral, pertaining to the establishment of the pedestrian mall was provided, and all interested persons desiring to comment on the establishment of the pedestrian mall were heard; and

WHEREAS, the City did not receive written objections to the establishment of the pedestrian mall from the owners of land abutting on the proposed pedestrian mall representing a majority of the frontage on the proposed pedestrian mall pursuant to Streets and Highways Code Section 11306; and

WHEREAS, the City did not receive any written claims for damages by reason of the establishment of the proposed pedestrian malls pursuant to Streets and Highways Code Section 11304; and

WHEREAS, at the conclusion of the public hearing on May 16, 2023, the City Council adopted a resolution to proceed with establishing a pedestrian mall in accordance with Streets and Highways Code Section 11311; and

WHEREAS, the City Council now wishes to enact an ordinance, in accordance with Streets and Highways Code Section 11600, to establish the pedestrian mall on the 100 block of South

Murphy Avenue;

NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF SUNNYVALE DOES HEREBY ORDAIN AS FOLLOWS:

SECTION 1. Chapter 10.56 AMENDED. Sections 10.56.010 (Definitions.), 10.56.140 (Riding on sidewalks and overhead pedestrian crossings—Prohibited.), and 10.56.170 (Stunt riding prohibited.) of Chapter 10.56 (BICYCLES) of Title 10 (VEHICLES AND TRAFFIC) of the Sunnyvale Municipal Code are hereby amended to read as follows:

10.56.010. Definitions.

For the purpose of this chapter, the word “bicycle” shall have the same meaning as that term is defined in the Vehicle Code Section 231 as the same exists or may be amended hereafter. A “bicyclist” is a person riding a bicycle. References to the “chief of public safety” means the chief or the chief’s designee. The word “pedestrian mall” shall have the same meaning as that term is defined in Chapter 10.66 of this code as the same exists or may be amended hereafter.

10.56.140. Riding on sidewalks, pedestrian malls and overhead pedestrian crossings—Prohibited.

- (a) [Text unchanged.]
- (b) [Text unchanged.]
- (c) It is unlawful for any person to ride or operate a bicycle, motor driven cycle or motor scooter upon any pedestrian mall, except in the portion designated as a bike path.
- (d) [Text unchanged; renumbered.]
- (e) [Text unchanged; renumbered.]

10.56.170. Stunt riding prohibited.

It is unlawful for any person riding or operating a bicycle to perform or attempt to perform any acrobatic or stunt riding upon any public sidewalk, pedestrian mall, pedestrian facility, or bicycle facility that is not part of a street or highway. Stunt riding shall be defined as activity falling within Vehicle Code Sections 21203, 21204, 21205 and 23103. This section is not meant to prohibit stunt riding as part of officially sanctioned events, or places clearly posting stunt riding as appropriate.

SECTION 2. Chapter 10.66 ADDED. Chapter 10.66 (PEDESTRIAN MALL ON SOUTH MURPHY AVENUE) is hereby added to Title 10 (VEHICLES AND TRAFFIC) of the Sunnyvale City Code and reads as follows:

Chapter 10.66. PEDESTRIAN MALL ON SOUTH MURPHY AVENUE.

10.66.010. Definitions.

The following words and phrases and their derivations when used in this chapter shall, for the purposes of this chapter, have the meanings respectively ascribed to them.

(1) “Intersecting street” means any street which meets or crosses a pedestrian mall at a mall intersection but includes only those portions thereof on either side of a mall intersection which lie between the mall intersection and the first intersection of the intersecting street with a public street or highway open to vehicular traffic. If any portion of a pedestrian mall terminates on a street at a place thereon other than a place of intersection with a public street or highway open to vehicular traffic, intersecting street also includes that portion of any street which lies between such place of termination and the first intersection of such “street” with a public street or highway open to vehicular traffic.

(2) “Mall intersection” means any intersection of a street constituting a part of a pedestrian mall with a different street, which intersection is itself part of the “pedestrian mall

(3) “Motor vehicle” means any vehicle that is self-propelled, except a self-propelled or motorized wheelchair, tricycle or quadricycle if used or operated by a person who, by reason of a physical disability, is otherwise unable to move about as a pedestrian.

(4) “Motor vehicle traffic” means motor vehicles, either singly or together, while using any street for purposes of travel.

(5) “Pedestrian mall” means one or more streets, or portions thereof, on which vehicular traffic is restricted in whole or in part and which is to be used exclusively or primarily for pedestrian travel.

(6) “Street” means any way or place of whatever nature, publicly maintained and open to the use of the public for purposes of vehicular travel.

(7) “Vehicle” means any device by which a person or property may be propelled, moved or drawn upon a street, except a device moved exclusively by human power.

10.66.020. Establishment of pedestrian mall on South Murphy Avenue.

A pedestrian mall is established on South Murphy Avenue, the boundaries of which are set forth in Chapter 10.66.040 (Pedestrian mall boundaries). There are no intersecting streets in this portion of South Murphy Avenue.

10.66.030. Pedestrian mall boundaries.

The boundaries of the pedestrian mall established herein are as follows:

(a) South Murphy Avenue between West Evelyn Avenue and East Washington Avenue

(i.e., the 100 block of South Murphy Avenue).

10.66.040. Prohibition of vehicular traffic on pedestrian mall and exceptions.

All motor vehicle traffic is prohibited within the pedestrian mall boundaries at all times. However, the following vehicles shall be allowed access to the pedestrian mall on South Murphy Avenue at all hours:

(a) Emergency vehicles, including, but not limited to, police vehicles, fire vehicles and ambulances.

(b) Public utility vehicles, including street sweepers; any vehicle owned or operated by an agency or company providing essential utility services to property, such as electricity, telephone, water, sewer, cable, internet and gas; and any vehicle, as authorized by the public works director or designee, for purposes of performing city services on a pedestrian mall.

(c) Garbage and recycling trucks as necessary for the collection of waste or refuse.

Additionally, the following vehicles may be permitted access to the pedestrian mall on South Murphy Avenue by appointment only:

(a) Private maintenance vehicles, including grease trap cleaners and other maintenance vehicles for large equipment drop-offs, as authorized by the public works director or designee.

(b) Other commercial vehicles, as authorized by the public works director or designee, for purposes of performing work or services on the pedestrian mall, which include, but not limited to, work or services related to special events on the pedestrian mall.

10.66.050. Regulations for the use of the pedestrian mall.

Regulations for the use of the pedestrian mall on South Murphy Avenue shall be as set forth in Council Policy 1.1.10, or as it may be renumbered or amended, entitled Use of the Public Street and Sidewalk on the 100 Block of South Murphy Avenue, which is adopted herein by this reference.

SECTION 3. Compliance with CEQA. The adoption and implementation of this ordinance complies with the provisions of the California Environmental Quality Act ("CEQA") under CEQA Guidelines Section 15164(a) which provides that an agency "shall prepare an addendum to a previously certified EIR if some changes or additions are necessary but none of the conditions described in Section 15162 calling for preparation of a subsequent EIR have occurred." The Addendum to the 2020 DSP EIR was presented and considered by the City Council during a public hearing on May 16, 2023. The City Council found that the Addendum was prepared for the establishment of the pedestrian mall on the 100 block of South Murphy Avenue in compliance with the requirements of CEQA and CEQA Guidelines, and is adequate for the City's use as the lead agency under CEQA. The City Council finds none of the conditions described in CEQA Guidelines Section 15162 or 15163 regarding the preparation of a subsequent or supplemental

EIR, respectively, has occurred and, accordingly, under CEQA Guidelines Section 15164 an addendum is required. The City Council incorporates by this reference the findings and mitigation measures contained in the 2020 DSP EIR and Addendum as to the environmental effects of the establishment of the Pedestrian Mall, together with the additional findings contained in this ordinance. The Council hereby directs the Planning Division to file a Notice of Determination regarding the establishment of the pedestrian mall on South Murphy Avenue within five business days of adoption of this ordinance.

SECTION 4. Constitutionality; Severability. If any section, subsection, sentence, clause or phrase of this ordinance is for any reason held to be invalid, such decision or decisions shall not affect the validity of the remaining portions of this ordinance. The City Council hereby declares that it would have passed this ordinance, and each section, subsection, sentence, clause and phrase thereof irrespective of the fact that any one or more sections, subsections, sentences, clauses or phrases be declared invalid.

SECTION 5. Effective Date. This ordinance shall be in full force and effect thirty (30) days from and after the date of its adoption.

SECTION 6. Posting and Publication. The City Clerk is directed to cause copies of this ordinance to be posted in three (3) prominent places in the City of Sunnyvale and to cause publication once in The Sun, the official publication of legal notices of the City of Sunnyvale, of a notice setting forth the date of adoption, the title of this ordinance, and a list of places where copies of this ordinance are posted, within fifteen (15) days after adoption of this ordinance.

Introduced at a regular meeting of the City Council held on May 16, 2023, and adopted as an ordinance of the City of Sunnyvale at a regular meeting of the City Council held on May 23, 2023, by the following vote:

AYES:
NOES:
ABSTAIN:
ABSENT:
RECUSAL:

ATTEST:

APPROVED:

DAVID CARNAHAN
City Clerk

LARRY KLEIN
Mayor

Date of Attestation: _____

(SEAL)

APPROVED AS TO FORM:

JOHN A. NAGEL
City Attorney



City of Sunnyvale

Agenda Item

23-0626

Agenda Date: 5/23/2023

SUBJECT

Adopt Ordinance No. 3215-23 to Add Chapter 19.71 (RESIDENTIAL TENANT PROTECTIONS PROGRAMS) to Title 19 (ZONING) of the Sunnyvale Municipal Code Relating to Tenant Protections and Right to Lease

BACKGROUND

The attached Ordinance was introduced at a regular meeting of the City Council held on April 25, 2023 with the following vote 7-0

RECOMMENDATION

Adopt Ordinance No. 3215-23 to Add Chapter 19.71 (RESIDENTIAL TENANT PROTECTIONS PROGRAMS) to Title 19 (ZONING) of the Sunnyvale Municipal Code relating to Tenant Protections and Right to Lease

ORDINANCE NO. 3215-23

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF SUNNYVALE TO ADD CHAPTER 19.71 (RESIDENTIAL TENANT PROTECTIONS PROGRAMS) TO TITLE 19 (ZONING) OF THE SUNNYVALE MUNICIPAL CODE RELATING TO TENANT PROTECTION AND RIGHT TO LEASE

WHEREAS, the “Tenant Protection Act of 2019” (Assembly Bill [“AB”] 1482) (Civil Code Sections 1946.2 and 1947.12) was approved by the California Legislature on September 11, 2019, signed by the Governor on October 8, 2019, and amended in July 2021 (AB 978) to include some rented mobile homes within the residential rental units covered by the Tenant Protection Act of 2019; and

WHEREAS, AB 1482 imposes statewide rent control and “just cause” eviction protections for tenants; and

WHEREAS, Civil Code Section 1946.2(g)(1)(B) authorizes the adoption of local eviction protection ordinances that are more protective than the provisions of the state law; and

WHEREAS, the City Council, pursuant to its police powers as a Charter City, has broad authority to maintain public peace, health, and safety of its community and preserve the quality of life for its residents; and

WHEREAS, housing instability threatens the public peace, health, and safety as eviction from one’s home can lead to prolonged homelessness; increased residential mobility; loss of community; strain on household finances due to the necessity of paying rental application fees and security deposits; stress and anxiety experienced by those displaced; increased commute times and traffic impacts if displaced workers cannot find affordable housing within the city in which they work; and interruption of the education of children in the home; and

WHEREAS, eviction creates particular hardships for individuals and households of limited means, given the shortage of housing, particularly affordable housing, within the City of Sunnyvale and the San Francisco Bay Area region generally; and

WHEREAS, the City of Sunnyvale desires to adopt a local tenant protection ordinance that is more protective than the provisions of AB 1482, and add new sections to Chapter 19.71 of the Sunnyvale Municipal Code.

NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF SUNNYVALE DOES ORDAIN AS FOLLOWS:

SECTION 1. Chapter 19.71 ADDED. Chapter 19.71 (Residential Tenant Protections Programs) is hereby added to Title 19 (Zoning) of the Sunnyvale Municipal Code and reads as follows:

Chapter 19.71. RESIDENTIAL TENANT PROTECTIONS PROGRAMS

19.71.010. Title, findings, and intent.

(a) Findings. Pursuant to Civil Code Section 1946.2(g)(1)(B), the City Council hereby makes the following binding findings within this chapter that this chapter is more protective than the provisions of Civil Code Section 1946.2 because:

- (1) The just causes for termination of a residential tenancy under this chapter are consistent with Civil Code Section 1946.2, and such provisions relating to just cause are incorporated by reference into this chapter; and
- (2) This chapter provides additional tenant protections that are not prohibited by any other provision of law. Specifically, this chapter applies eviction protections to residential real properties that have received certificates of occupancy within the previous fifteen (15) years, provides for higher relocation assistance amounts than those available to tenants covered by Civil Code Section 1946.2, and requires certain minimum lease terms.

(b) Intent. As provided in Civil Code Section 1946.2(g)(2), a residential real property shall not be subject to both a local ordinance requiring just cause for termination of a residential tenancy and Civil Code Section 1946.2. This chapter incorporates Civil Code Section 1946.2 by reference with the intent that the protections of Civil Code Section 1946.2 be extended to apply to residential tenants covered by Civil Code Section 1946.2, as well as to residential real properties that have been issued certificates of occupancy within the previous fifteen (15) years; to increase the amount of relocation benefits available to tenants; and that those provisions of this chapter which differ from Civil Code Section 1946.2 supplement and are more protective of residential tenants than Civil Code Section 1946.2.

19.71.020. Definitions.

When used in this chapter, these terms mean the following:

(a) “Just cause” for purposes of this chapter is defined as the at-fault causes set forth in Civil Code Section 1946.2(b)(1) and the no-fault causes set forth in Civil Code Section 1946.2(b)(2).

(b) “Owner” means any person, acting as principal or through an agent, having the right to offer residential real property for rent, and includes a predecessor in interest to the owner.

(c) “Rent” means all periodic payments and all nonmonetary consideration including, but not limited to, the fair market value of goods, labor performed or services rendered to or for the benefit of the tenant under a rental agreement concerning the use and occupancy of a residential real property and all attendant housing services, including all payments and consideration demanded or paid for parking, utility charges (if included in the rental amount paid

by the tenant to the owner), pets, furniture and other benefits, privileges or facilities connected with the use or occupancy of the residential real property.

(d) “Residential real property” means any dwelling unit that is intended for human habitation, including any dwelling or unit in a mobile home park that is not owner-occupied.

However, residential real property as used in this chapter shall not include residential real properties or residential circumstances referenced in Civil Code Section 1946.2(e)(1) through (6) and (8).

(e) “Tenancy” means the lawful occupation of residential real property and includes a lease or sublease.

(f) “Tenant” means any individual or household who lawfully occupies residential real property including a subtenant.

19.71.030. Adoption of Civil Code Section 1946.2 by reference related to terminations of tenancy.

(a) This chapter adopts and incorporates by reference Civil Code Section 1946.2 in the Municipal Code in its entirety and as such statute may be amended from time to time, except for Civil Code Section 1946.2(e)(7), which is specifically excluded, and except for any other provisions that directly conflicts with this chapter.

(b) It is expressly intended that this chapter shall apply to residential real property regardless of when the certificate of occupancy has been issued, including residential real property for which a certificate of occupancy has been issued within the previous fifteen (15) years.

(c) This chapter shall not apply to Short Term Rentals, as defined in Chapter 19.76 of this code.

19.71.040. Notice of terminations of tenancy.

(a) Notice to Terminate Tenancy. Owners shall provide tenants written notice of the relocation assistance available to the tenant pursuant to Section 19.71.050 for any no-fault just cause eviction as defined in Civil Code Section 1946.2(b)(2) no less than thirty (30) days prior to the issuance of a notice of termination, unless the eviction is required by an order issued by a government agency and necessitates vacating the residential real property in a time sensitive manner.

(b) An owner’s failure to strictly comply with this section shall render the notice of termination void.

19.71.050. Relocation assistance for no-fault just cause evictions.

(a) For a tenancy for which just cause is required to terminate the tenancy under Civil Code Section 1946.2(b)(2) (no-fault just cause), the owner shall be obligated to provide the tenant with relocation assistance in accordance with this Section 19.71.050.

(b) The amount of relocation assistance provided to tenants for a no-fault just cause eviction shall be equal to two (2) times the tenant's monthly rent that was in effect when the owner issued the notice of intent to terminate the tenancy.

(c) The owner shall provide one-half of the relocation assistance owed to the tenant within fifteen (15) calendar days of service of the notice to terminate the tenancy. The remaining one-half of the relocation assistance may be provided either (1) in the form of a waiver of rent equivalent to one month towards the final month of tenancy, so long as the tenant has not previously paid the final month's rent; or (2) a payment in cash or money order paid no later than the date the tenant vacates the residential real property. If the owner elects to waive the rent for the final month of tenancy, then the notice of relocation benefits provided pursuant to Section 19.71.040 shall state the amount of rent waived and that no rent is due for the final month of the tenancy.

19.71.060. Requirement to offer written lease; minimum lease terms.

(a) One-Year Lease Term. If a prospective tenant or existing tenant identified under subsection (e) and (f) of this section wishes to rent residential real property from an owner and if said owner wishes to rent said residential real property to said prospective tenant, the owner must offer to the prospective tenant a written lease which has a minimum term of one (1) year. Such offer must be made in writing. If the prospective tenant accepts the offer of a written lease which has a minimum term of one year, this acceptance must be in writing. Signing a lease which has a minimum term of one year will be considered an offer if signed by the owner, and an acceptance if countersigned by the prospective tenant. If the prospective tenant rejects the offer for a written lease which has a minimum term of one year, such rejection must be in writing. Writing shall be defined as written notice or email. This written notice shall include, but is not limited to, the length of rental term offered and rental rate. Acceptance or denial of this offer shall include signature of both tenant and owner, which signature maybe via electronic signatures.

(b) Shorter Lease Term. If said prospective tenant or existing tenant identified under subsection (e) of this section rejects the offer for a written lease which has a minimum term of twelve months as provided in subsection (a) of this section, said owner and said prospective tenant may then enter into a written lease that provides for a term of fewer than twelve (12) months, including a month to month lease term.

(c) Tenant Selected Lease Term. If owner offers an upfront menu of lease terms to tenant prior to lease acceptance, that shall satisfy this Section 19.71.060. The menu of term options shall allow the tenant the choice of the *minimum* number of options as follows: one (1) month, three (3) months, six (6) months, twelve (12) months. This chapter shall not cap the maximum term length that may be offered by the owner through this style of lease term offer. The menu of term options can be presented to the tenant digitally through a rental software or rental website, or through a written form where the tenant selects the term length when applying for the residential real property. If the owner offers this style of a menu of term options, the owner is not required to comply with subsections (a) and (b) of this section.

(d) Rejection. It is the tenant's responsibility to accept or reject the offer of a written lease in writing within five (5) calendar days of service of the written offer. If the tenant or prospective tenant rejects the offer for a written lease which has a minimum term of one (1) year, then the owner and tenant or prospective tenant may enter into an agreement, oral or written, that provides for a rental term of less than one (1) year. Failure to accept or reject shall allow owner to offer a lease to another tenant.

(e) Renewal of Lease. If both the owner and tenant wish to continue the rental relationship, upon the expiration of a written lease or rental agreement which has a term other than month to month, a written lease shall be offered again in accordance with the procedures set forth in subsections (a) through (c) of this section. The owner shall have no obligation to re-offer a tenant a one-year lease term if the tenant has previously rejected such offer(s) in accordance with the procedures set forth in subsections (a) through (c) of this section and has a written lease with a term of fewer than six (6) months.

(f) Existing Month to Month Tenancies. Within 120 days of the effective date of the ordinance codified in this chapter, any existing month to month tenant renting residential real property as of the effective date of this chapter may request a written lease with a minimum term of one (1) year, provided such tenant has not previously received a written notice of lease or rental agreement violation pursuant to Code of Civil Procedure Section 1161 and such violation remains uncured. The tenant shall make such a request in writing, as defined in subsection (a) of this section. The owner shall, upon receipt of such notice, offer to said tenant a written lease on terms substantially similar to those of the existing rental arrangement (except as to length of term) in accordance with the procedures set forth in this section, as applicable.

(g) Good Faith. This chapter requires the exercise of good faith, which shall mean honestly and without fraud, collusion or deceit. It shall further mean that the written lease is not being utilized as a method of circumventing any of the provisions of this chapter. An example of good faith is when the owner offers in writing a lease which has a minimum term of one (1) year, that lease is substantially similar to the written rental agreement for a period of less than one (1) year.

(h) Exemptions. This section shall not apply to the following:

- (1) Residential real property that is exempt from the just cause eviction protections set forth in Civil Code Section 1946.2, except for Civil Code Section 1946.2(e)(7), because it is expressly intended that this section shall apply to residential real property regardless of when the certificate of occupancy has been issued including residential real property for which a certificate of occupancy has been issued within the previous fifteen (15) years.
- (2) Short Term Rentals, as defined in Chapter 19.76 of this code.

19.71.070. Notice of tenant rights.

(a) An owner of residential real property subject to this chapter shall provide written notice to the tenant as follows:

- (1) For any tenancy commenced or renewed on or after the effective date of the ordinance codified in this chapter, as an addendum to the lease or rental agreement, or as a written notice signed by the tenant, with a copy provided to the tenant.
- (2) For any tenancy existing prior to the effective date of the ordinance codified in this chapter, by written notice to the tenant no later than sixty (60) days after the effective date of this ordinance, or as an addendum to the lease or rental agreement.

(b) On or before June 15, 2023, the director of community development shall develop sample language for the lease provision as well as a sample written notice referenced in subsection (a) above. Owners may use either the sample language for the lease provision or the sample written notice to comply with the requirements of subsection (a) above. In addition, the lease provision or written notice shall be in lettering no less than 12-point type. The sample language for the lease provision and the sample written notice shall be available on the City of Sunnyvale Housing Division's Internet Web site so that they are accessible to any member of the public.

(c) Manner of Notice. Owners must provide the notice to tenants in writing if the application and lease are processed in writing, electronically if the application and/or lease are processed electronically, or both if both methods are utilized. The provision of the notice shall be subject to Civil Code Section 1632.

(d) Posting Requirement. Owners must prominently display in lettering no less than 12-point type a poster that summarizes the ordinance codified in this chapter and the Tenant Protection Act of 2019 (Assembly Bill 1482), and provides contact information for the City of Sunnyvale Housing Division. The postings must be placed in conspicuous areas under the owner's control where all tenants can easily see and read such postings. On or before June 15, 2023, the director of community development shall develop a sample posting that the owners may use to comply with the requirements of this subsection (d). The sample posting shall be available on the City of Sunnyvale Housing Division's Internet Web site so that it is accessible to any member of the public.

19.71.080. Owner retaliation prohibited.

An owner is prohibited from retaliating against a tenant for lawfully and peaceably exercising their legal rights. No owner may take any action increasing any rental amount, reducing any service, causing the tenant to involuntarily quit the premises, or discriminating against the tenant because of the tenant's use of any remedy provided by this chapter.

19.71.090. Nonwaiver.

Any waiver or purported waiver by a tenant of their rights under this chapter prior to the time when such rights may be exercised, except a rejection of a written lease which has a

minimum term of one (1) year in accordance with the procedures set forth in Section 19.71.060 (Requirement to offer written lease; minimum lease terms) shall be void and unenforceable as contrary to public policy.

19.71.100. Remedies.

In the event of a violation of this chapter, a residential tenant may institute a civil proceeding for injunctive relief, money damages, and whatever other relief the court deems appropriate. The remedy available under this section shall be in addition to any other existing remedies which may be available to the residential tenant under local, county, state or federal law. In addition, this chapter grants a defense to eviction to any unlawful detainer actions in violation of this chapter.

SECTION 2. Compliance with CEQA. The City Council finds that the adoption and implementation of this ordinance are exempt from the provisions of the California Environmental Quality Act (“CEQA”) under CEQA Guidelines Section 15061(b)(3) in that the City Council finds there is no possibility that the implementation of this ordinance may have a significant effect on the environment.

SECTION 3. Constitutionality; Severability. If any section, subsection, sentence, clause or phrase of this ordinance is for any reason held to be invalid, such decision or decisions shall not affect the validity of the remaining portions of this ordinance. The City Council hereby declares that it would have passed this ordinance, and each section, subsection, sentence, clause and phrase thereof irrespective of the fact that any one or more sections, subsections, sentences, clauses or phrases be declared invalid.

SECTION 4. Effective Date. This ordinance shall be in full force and effect thirty (30) days from and after the date of its adoption.

SECTION 5. Posting and Publication. The City Clerk is directed to cause copies of this ordinance to be posted in three (3) prominent places in the City of Sunnyvale and to cause publication once in The Sun, the official publication of legal notices of the City of Sunnyvale, of a notice setting forth the date of adoption, the title of this ordinance, and a list of places where copies of this ordinance are posted, within fifteen (15) days after adoption of this ordinance.

Introduced at a regular meeting of the City Council held on _____, and adopted as an ordinance of the City of Sunnyvale at a regular meeting of the City Council held on _____, by the following vote:

AYES:
NOES:
ABSTAIN:
ABSENT:
RECUSAL:

ATTEST:

APPROVED:

DAVID CARNAHAN
City Clerk

LARRY KLEIN
Mayor

Date of Attestation: _____

(SEAL)

APPROVED AS TO FORM:

JOHN A. NAGEL
City Attorney



City of Sunnyvale

Agenda Item

23-0031

Agenda Date: 5/23/2023

REPORT TO COUNCIL

SUBJECT

Selection of the Preferred Alignment of the Bernardo Avenue Undercrossing Project to be Defined as the Proposed Project for the Project for Environmental Review

SUMMARY OF COMMISSION AND MOUNTAIN VIEW COUNCIL ACTIONS

The Mountain View Bicycle and Pedestrian Advisory Commission considered this item on February 22, 2023. The Commission passed a motion recommending to the Mountain View City Council the selection of the eastern alignment alternative as the preferred alignment of the Bernardo Avenue Undercrossing Project. The vote was 4-0, with one abstention.

The Sunnyvale Bicycle and Pedestrian Advisory Commission considered this item on March 16, 2023. The Commission passed a motion recommending to the Sunnyvale City Council the selection of the eastern alignment as the preferred alignment of the Bernardo Avenue Undercrossing Project. The vote was 5-0, with Commissioner Davé absent.

The Mountain View Council Transportation Committee (CTC) considered this item on April 10, 2023. The CTC was established to oversee programs and activities intended to improve and enhance the City of Mountain View's transportation systems. The CTC consists of Mountain View Councilmember Ellen Kamei (Chair), Mayor Alison Hicks, and Councilmember Lisa Matichak. The CTC passed a motion recommending that the Mountain View City Council select the eastern alignment alternative as the preferred alignment for the Bernardo Avenue Undercrossing Project. The vote was 3-0. Comments from the CTC members included the following:

- Desire to include public art;
- Preference for a separation between bicycles and pedestrians;
- Request to include safety features for a variety of concerns including collisions between modes, potential for assaults, lighting, visibility; and
- Request to hear more about funding at a later date.

Additionally, there were four public speakers on the item; all were in favor of the project and most were in favor of the eastern alignment alternative.

The Mountain View City Council considered this item as a consent item on April 25, 2023. The Mountain View City Council passed a motion to approve the Council Transportation Committee's recommendation to select the eastern alignment alternative as the preferred alignment for the design and environmental review of Bernardo Avenue Undercrossing. The vote was 7-0.

PUBLIC CONTACT

Public contact was made by posting the Council meeting agenda on the City's official-notice bulletin

board at City Hall, at the Sunnyvale Public Library and in the Department of Public Safety Lobby. In addition, the agenda and this report are available at the NOVA Workforce Services reception desk located on the first floor of City Hall at 456 W. Olive Avenue (during normal business hours), and on the City's website.

ALTERNATIVES

1. Selection of the Eastern Alignment as the Preferred Alignment of the Bernardo Avenue Undercrossing Project.
2. Selection of the Western Alignment as the Preferred Alignment of the Bernardo Avenue Undercrossing Project.
3. Do not Select any Preferred Alignment of the Bernardo Avenue Undercrossing Project.

STAFF RECOMMENDATION

Alternative 1: Selection of the Eastern Alignment as the Preferred Alignment of the Bernardo Avenue Undercrossing Project.

Based on the feedback heard to date, the eastern alignment is the preferred alignment. The community, the Mountain View Bicycle/Pedestrian Advisory Committee, the Sunnyvale Bicycle and Pedestrian Advisory Commission and the Mountain View City Council have all stated a preference for the eastern alignment. This alignment is also preferred by Caltrain staff as it provides more space for multiple options of construction methods. The additional space within the County-owned triangular property can be used for construction activities, which would decrease the need to close lanes on Central Expressway. This alternative also allows for a larger opening to let in natural light. This opening would also create a more open feel for the undercrossing. To the east of North and South Bernardo Avenues, there are fewer utilities present that would conflict with the tunnel construction. The eastern alignment requires less utility coordination and relocation. Due to these reasons, the eastern alignment is expected to have a shorter construction duration and lower construction cost. Generally, the eastern alignment is expected to have fewer impacts to the community, the commuting public and utility facilities during construction, and greater benefits to the active transportation users once built when compared to the western alignment.

Prepared by: Angela Obeso, Principal Transportation Engineer

Reviewed by: Dennis Ng, Transportation and Traffic Manager

Reviewed by: Chip Taylor, Director, Public Works

Reviewed by: Teri Silva, Assistant City Manager

Approved by: Kent Steffens, City Manager

ATTACHMENTS

1. Report to Bicycle and Pedestrian Advisory Commission [23-0030, March 16, 2023] (without attachments)

Additional Attachments for Report to Council

2. Excerpt of Draft Minutes of the Bicycle and Pedestrian Advisory Commission Meeting of March 16, 2023



City of Sunnyvale

Agenda Item

23-0030

Agenda Date: 3/16/2023

REPORT TO BICYCLE AND PEDESTRIAN ADVISORY COMMISSION

SUBJECT

Recommend to the City Council the Selection of a Preferred Alignment for the Bernardo Avenue Undercrossing Project

BACKGROUND

The Bernardo Avenue Undercrossing Project proposes to construct a pedestrian and bicycle tunnel to connect north and south Bernardo Avenue beneath the Caltrain railroad tracks and Central Expressway, at the location shown in Attachment 2 to this report. There is currently no existing connection between the north and south segments of Bernardo Avenue. The project was identified in the Active Transportation Plan as a High Priority crossing improvement in both the Bicycle Plan and Pedestrian Plan.

In 2016, staff applied for a One Bay Area Grant, Cycle 2 (OBAG2) grant. In 2017, the project received an award of \$500,000 from OBAG2 for partial funding of the final design phase of the project (Attachment 3). On July 11, 2017, City Council accepted the grant (RTC No. 17-0573).

In 2017, City Council awarded a contract to WMH Corporation to provide preliminary design and environmental clearance (RTC No. 17-0622). In 2018, the City entered a cost-sharing agreement with the City of Mountain View for the preliminary design and environmental clearance (RTC No. 17-1203). This agreement was authorized by Mountain View City Council on December 12, 2017.

In early 2020, City of Sunnyvale and Santa Clara Valley Transportation Authority (VTA) staff jointly submitted a grant application for the project's final design phase to the 2016 Measure B Bicycle and Pedestrian Program - Capital Project 10-Year Priority List, fiscal year 2020/21 funding cycle. In mid-2020, VTA awarded the project \$2,253,785 for final design with an additional \$746,215 available to be requested in a future funding cycle, for a total of \$3,000,000. (See Attachment 4 for the award letter.) An additional \$15,000,000 was requested for partial construction costs but was not awarded.

On February 6, 2020, Caltrain/Peninsula Corridor Joint Powers Board (Caltrain/JPB) approved the Rail Corridor Use Policy (RCUP). This policy is intended to guide the use of the Caltrain/JPB property and support delivery of Caltrain's long-term service vision. As a non-railroad use, the Bernardo Avenue Undercrossing project is required to be reviewed by Caltrain staff and their board. The project was the first project to be presented to Caltrain after the implementation of the RCUP.

On June 3, 2021, Caltrain/JPB approved a Use Variance (see Attachment 5) for the project, allowing it to move forward through Caltrain's review processes, with the following conditions:

1. The project will be designed and constructed to account for and minimally disrupt all current and future rail infrastructure, assets, and facilities in the area.
2. The proposed project will be designed and constructed so as to minimally disrupt Caltrain

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- operations and freight operations during and after construction.
3. The proposed project will be designed to be compatible with the potential future grade separation project at Mary Avenue.
 4. The design of the proposed project will comply with all current and future railroad standards, including those for engineering, operations, and maintenance.
 5. The proposed project will be designed to not impede the railroad's ability to maintain its infrastructure and right-of-way in the area during and after construction.
 6. The JPB will be responsible for delivering the project from the 35% design stage through the final design and the construction of the proposed project.
 7. Future agreements will provide clear roles and responsibilities for all parties for all stages of the proposed project.

On December 2, 2020, a joint meeting was held with Sunnyvale's and Mountain View's Bicycle and Pedestrian Advisory Commission/Committee (BPAC). The project team presented one eastern alignment and six variations of a western alignment. These alignments had various features including:

- An intermediate bicycle-only ramp connecting to/from eastbound Central Expressway;
- Stairs in addition to ramps accessing the tunnel;
- Tunnel ceiling openings in landscaped areas such as the median along Central Expressway;
- Direct access to the private property at 280 North Bernardo Avenue; and
- Connecting the North Bernardo Avenue ramp just north of the Central Expressway intersection.

The feedback received included the following:

- Improving directness of nonmotorized travel such as through pedestrian stairs, bike channels along stairways, pedestrian crossings at all approaches and minimizing required distances of travel;
- Improving light and visibility through median openings, open areas, and lighting;
- Designing for wide-access ramps or tunnels, smooth transitions at crossings and ramp-access points, and reducing sharp corners and turns;
- Considering bike access to the eastbound Central Expressway bike shoulder;
- Integrating with a future pedestrian/bike trail on the north side of Evelyn Avenue; and
- Providing protected crossing movements, regular landings to reduce speeds, and no bollards.

Throughout the project, the project team has been coordinating with City of Mountain View, VTA, County of Santa Clara and Caltrain staff. This coordination included reviews of and receiving feedback on the preliminary designs. All the feedback heard to date has been reviewed, evaluated and incorporated into the designs as appropriate.

For purposes of an environmental review leading to final design, a preferred project alignment must be selected by Sunnyvale and Mountain View City Councils.

The City of Mountain View's Council Transportation Committee will be having a public hearing on the project in late March or early April 2023. They will make a recommendation to the full Mountain View City Council. It is anticipated that the Mountain View City Council will take action on their recommendation through a consent item in April 2023. Exact dates of these meetings are not yet

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confirmed.

The Sunnyvale City Council is scheduled to consider this item at their May 23, 2023, meeting. Since the City of Sunnyvale is the project lead City for this phase of work, Sunnyvale City Council will make the final determination on the preferred alternative for environmental clearance.

EXISTING POLICY

General Plan, Chapter 3, *Land Use and Transportation Element*:

- Goal H: Options for Healthy Living - Create a city development pattern and improve the city's infrastructure in order to maximize healthy choices for all ages, including physical activity, use of the outdoors, and access to fresh food.
- Policy LT-1.7: Emphasize efforts to reduce regional vehicle miles traveled by supporting active modes of transportation including walking, biking, and public transit.
- Goal LT-3: An Effective Multimodal Transportation System - Offer the community a variety of transportation modes for local travel that are also integrated with the regional transportation system and land use pattern. Favor accommodation of alternative modes to the automobile as a means to enhance efficient transit use, bicycling, and walking and corresponding benefits to the environment, person-throughput, and qualitative improvements to the transportation system environment.
- Policy LT-3.6: Promote modes of travel and actions that provide safe access to City streets and reduce single-occupant vehicle trips and trip lengths locally and regionally.
- Policy LT-3.8: Prioritize safe accommodation for all transportation users over non-transport uses. As city streets are public spaces dedicated to the movement of vehicles, bicycles, and pedestrians, facilities that meet minimum appropriate safety standards for transport uses shall be considered before non-transport uses are considered.
- Policy LT-3.19: Utilize intelligent transportation systems and other technological applications to improve travel efficiency and safety.
- Policy LT-3.21: Implement best practices, innovative facilities, and technology to enhance complete streets.
- Policy LT-3.24: Ensure effective and safe traffic flows for all modes of transport through physical and operational transportation improvements.

Active Transportation Plan

The 2020 Sunnyvale Active Transportation Plan includes the Bernardo Avenue Undercrossing project as a recommendation within the Bicycle Plan and the Pedestrian Plan.

Complete Streets Policy

The Complete Streets Policy was adopted by City Council on December 6, 2016, through Resolution No. 793-16 (RTC No. 16-0972) and amended on August 28, 2018 through Resolution No. 896-18 (RTC No. 18-0642). Through this policy, the City commits to creating and maintaining Complete Streets that provide safe, sustainable, integrated, efficient and convenient transportation systems that serve all categories of users and maintain sensitivity to local conditions.

ENVIRONMENTAL REVIEW

The selection of a preferred alternative for the project merely defines the "Project" for purposes of the environmental review and does not approve the Project. Therefore, the present action is not itself a project that requires separate environmental review (CEQA Guidelines Section 15061(b)(3).) The

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next stage of the current project will include the required environmental review pursuant to the California Environmental Quality Act (CEQA). The appropriate CEQA document will be prepared and presented to City Council at the appropriate time for approval prior to starting final design.

DISCUSSION

Through coordination with the City of Mountain View, VTA, County of Santa Clara and Caltrain, and with feedback received from the community and the Bicycle and Pedestrian Advisory Commission/Committee members, the options were refined. The alternatives currently under consideration are included as Attachments 6 and 7.

The final alternatives for consideration were developed after evaluating a number of different variations. An intermediate bicycle-only ramp variations for both eastern and western alignments were a desirable feature for confident bicyclists in order to provide a direct connection to eastbound Central Expressway. However, the evaluation of this feature revealed several safety concerns, cost implications and design challenges. These included the following:

- Potential for unintended pedestrian usage where no pedestrian facilities exist on Central Expressway;
- Central Expressway is suitable for advanced and confident bicyclists only, but a ramp could encourage usage by less experienced bicyclists;
- Caltrain did not support the retaining wall structures on both sides of their right-of-way immediately adjacent to electrification poles and overhead wires, for constructability and maintenance purposes;
- The County of Santa Clara did not support having bicyclists and potential pedestrians enter the expressway at a traffic signal without bicycle and pedestrian elements;
- The intermediate ramp would result in a substantial construction cost; and
- For the western alignment, additional trees and landscaping would need to be removed in the County owned property to facilitate the intermediate ramp.

For these reasons, the project team refined the alternatives to remove the intermediate ramp from both eastern and western alignment alternatives.

The public right-of-way available on both sides of the proposed undercrossing is constrained. A ramp would meet connectivity goals while also adhering to the Americans with Disabilities Act requirements for a pedestrian facility. Including a ramp and stairs in the alternatives would require additional vehicle lane shifting and could also potentially require private property acquisition on one or both sides of the undercrossing. This would require additional coordination with private property owners and would incur additional costs to the project. The project team refined the alternatives to remove stairs from the undercrossing alignments.

The western alternative was also refined so the ramps would connect directly to the two signalized intersections by shifting the tunnel westward. This eliminated the need of having the ramp opening occur north of Central Expressway at North Bernardo Avenue and in the center of the northern shoulder of the South Bernardo/Evelyn Avenue intersection.

Additional revisions were made to both alignments to coordinate with the now existing Caltrain electrification poles and equipment at this location.

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The features and challenges related to the western alignment include:

- More utility coordination and potential relocations, which increase construction costs;
- Opportunities for only small natural light skylights or openings;
- Longer, continuous tunnel;
- Straight tunnel which improves visibility and perception of being safer; and
- Space for the City of Mountain View to request stairways or a wider landing plaza if 280 North Bernardo Avenue is substantially developed in the future.

The features and challenges related to the eastern alignment include:

- Fewer utility coordination and relocations;
- Good opportunity for a larger natural light opening within the County-owned property;
- Two shorter tunnel segments with a longer total length;
- Visibility challenges relating to difficulty in seeing the opposite end of tunnel from the other end, which may result in the perception of being less safe; and
- Less potential roadway lane closures during construction due to ability to use the County-owned property for some phases of work.

On February 2, 2023, the refined alternatives were presented to the community via a virtual meeting where both Sunnyvale and Mountain View community members were invited. Outreach for this meeting included website updates, email correspondence to email subscribers (662 Sunnyvale recipients), social media postings, flyer postings within Sunnyvale neighborhoods adjacent to the project, and postcard mailers to all Mountain View tenants, owners, and business operators within 750 feet of the project area (363 recipients).

More than 20 members of the public attended the virtual community meeting. The alternatives as attached to this report (Attachments 6 and 7) were presented along with some potential design features for consideration. The feedback received at the meeting and via email after the meeting included the following:

- General support for moving the project forward;
- General preference for the eastern alignment due to benefits associated with the use of the triangular, County-owned property;
- Preference for more natural light and openings;
- Some individuals desired the eastbound Central Expressway bicycling connection due to the benefit of connecting directly to the eastbound expressway without having to utilize the traffic signal at North Bernardo Avenue at Central Expressway;
- Some individuals opposed the eastbound Central Expressway bicycling connection due to concerns of fast-moving bicycles next to pedestrians;
- Concern about safety and comfort of the undercrossing, desire to be able to see from one end to the other in the tunnel, desire for security cameras within the tunnel;
- Interest in including bollards or some other feature to prevent vehicles from driving onto the ramps;
- Some interest in having separate bicycle and pedestrian space within the tunnel, similar to Homer Avenue Undercrossing in Palo Alto; and
- Desire to see more bicycling network and routes to the north of the project.

On February 22, 2023, the Mountain View Bicycle/Pedestrian Advisory Committee heard an update

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on the project and made a recommendation to their City Council. The action was to recommend to the City Council the selection of the Eastern Alignment as the preferred alignment of the Bernardo Avenue Undercrossing Project. This action passed with 4 yeses, 0 noes, and 1 abstention.

The City of Sunnyvale has secured funding to design and construct a two-way multiuse bicycle and pedestrian facility on the north side of Evelyn Avenue between Mathilda Place and Bernardo Avenue. The City of Mountain View plans to conduct a Feasibility Study on implementing a similar facility between Bernardo Avenue and the Mountain View Caltrain Station. The Bernardo Avenue Undercrossing project team has evaluated the proposed Evelyn Avenue projects and determined that the project does not prevent implementation of the Evelyn Avenue bicycle facilities. Coordination between the project teams will continue as they all move forward.

FISCAL IMPACT

Funding for the design phase of the project is available under Project 832910 - Bernardo Avenue Undercrossing, which includes funding from Mountain View. The current action does not impact the existing budget. As part of the preliminary design and environmental review, a construction cost estimate will be prepared. Additional funding for Caltrain's costs on managing the final design and construction phases will need to be allocated prior to starting final design and advertising for construction.

PUBLIC CONTACT

Public contact was made by posting the Council agenda on the City's official-notice bulletin board outside City Hall, at the Sunnyvale Public Library, Senior Center, Community Center and in the Department of Public Safety Lobby. In addition, the agenda and report are available at the Sunnyvale Public Library, Office of the City Clerk, and on the City's website.

ALTERNATIVES

1. Recommend to City Council the Selection of the Eastern Alignment as the Preferred Alignment of the Bernardo Avenue Undercrossing Project
2. Recommend to City Council the Selection of the Western Alignment as the Preferred Alignment of the Bernardo Avenue Undercrossing Project
3. Do not Recommend to City Council the Selection of any Preferred Alignment of the Bernardo Avenue Undercrossing Project

RECOMMENDATION

Alternative 1: Recommend to City Council the Selection of the Eastern Alignment as the Preferred Alignment of the Bernardo Avenue Undercrossing Project

Based on the feedback heard to date, the eastern alignment is recommended. Both the community and the Mountain View Bicycle/Pedestrian Advisory Committee have stated a preference for the eastern alignment. This alignment is also preferred by Caltrain staff as it allows for more space for multiple construction method options. The additional space within the County-owned triangular property can be used for construction activities, which would decrease the need to close lanes on Central Expressway. This alternative also allows for a larger opening to let in natural lighting. This opening would also create a more open feel for the tunnels. To the east of North and South Bernardo Avenues, there are fewer utilities present that would conflict with the tunnel construction. The eastern alignment requires less utility coordination and relocations. Due to these reasons, the eastern alignment is expected to have a shorter construction duration and lower construction costs.

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Generally, the eastern alignment is expected to have fewer impacts to the community, the commuting public and the utilities during construction, and greater benefits to the active transportation users once built compared to the western alignment.

Prepared by: Angela Obeso, Principal Transportation Engineer

Reviewed by: Dennis Ng, Transportation and Traffic Manager

Reviewed by: Chip Taylor, Director, Public Works

Reviewed by: Teri Silva, Assistant City Manager

Approved by: Kent Steffens, City Manager

ATTACHMENTS

1. Reserved for Report to Council
2. Bernardo Avenue Project Location Map
3. VTA 2016 Measure B Award Letter
4. VTA Board Memorandum Recommending One Bay Area Grant, Cycle 2 - Program of Projects
5. Caltrain Staff Report Approving Compatibility Finding
6. Bernardo Avenue Undercrossing Eastern Alignment Alternative
7. Bernardo Avenue Undercrossing Western Alignment Alternative



City of Sunnyvale

Excerpt Meeting Minutes - Draft Bicycle and Pedestrian Advisory Commission

Thursday, March 16, 2023

6:30 PM

Online and Conference Room,
Washington Community Swim Center,
255 S. Pastoria Ave.,
Sunnyvale, CA 94086

CALL TO ORDER

Chair Mehlman called the meeting to order at 6:33 p.m.

ROLL CALL

Present 5 - Chair Leia Mehlman
Vice Chair Bryce Beagle
Commissioner Alex Bonne
Commissioner Dan Hafeman
Commissioner Timothy Oey
Absent 1 - Commissioner Arwen Davé

PUBLIC HEARINGS/GENERAL BUSINESS

2 [23-0030](#) Recommend to the City Council the Selection of a Preferred Alignment
for the Bernardo Avenue Undercrossing Project

Alternative 1: Recommend to City Council the Selection of the Eastern Alignment as
the Preferred Alignment of the Bernardo Avenue Undercrossing Project.

Angela Obeso, Principal Transportation Engineer and Dave Dickinson, WMH
Engineering, gave a presentation on the status of the Bernardo Avenue
Undercrossing Project and asked BPAC to make a recommendation to City Council.
Highlighting the following:

- Project Purpose and Limits
- Existing Access - Evelyn Avenue Intersection
- Existing Access - Central Expressway Intersection
- Existing Bicycle and Pedestrian Routes
- Project Description and Partners
- Work Performed to Date -
 - Sunnyvale and Mountain View agreement

- Measure B funding
- Developed conceptual options
- Joint Bicycle and Pedestrian Advisory Commission/Committee (BPAC)

Presentation

- Caltrain/Joint Powers Board approved Use Variance
- On-going agency coordination
- Alternative refinements from feedback
- Community Outreach meeting
- Mountain View Bicycle/Pedestrian Advisory Committee
- Project Alternatives - Western Alternative, Western Alternative with Intermediate Bike Ramp, Eastern Alternative, Eastern Alternative with Intermediate Bike Ramp, Undercrossing Cross-Section Options
- Design Features to Enhance User Experience - Comfort, Accessibility, Lighting, etc.
- Community Meeting Feedback, Feb. 2, 2023
- Mountain View BPAC Meeting, Feb. 22, 2023
- Objective - BPAC's alternative recommendation to City Council
- Need recommendation to obtain environmental clearance
- Staff Recommendation - Recommend to City Council the Selection of the Eastern Alignment as the Preferred Alignment of the Bernardo Avenue Undercrossing Project

Vice Chair Beagle asked about the following:

- Anything physically preventing vehicles from jumping a curve and hitting the skylight?
- Would it be feasible and cheaper to get Caltrain to shift their poles before they electrify their wires?
- Will the intersection need to be completely redone for both alternatives?
- If adjustments were to be made at the intersection, has staff look into making it a protected intersection?

Ms. Obeso and Mr. Dickinson addressed the questions.

Commissioner Bonne commented and asked about the following:

- Estimate for standard and worst case impact on Caltrain as you tunnel under the tracks and is it based on previous experience with tunneling under Caltrain who actively use train tracks?
- What are the underground utilities you may have to move? Would there be neighborhood interruptions?

- Can you abate the water that will go down the tunnel? Will the tunnel be usable?
- Look at the friction of the surface when wet and at turns for safety for bicyclists and pedestrians
- What are the impacts you can have to reduce the speed of traffic on Evelyn Avenue?

Ms. Obeso and Mr. Dickinson addressed the questions.

Commissioner Hafeman commented and asked about the following:

- One reason the Eastern Alignment Alternative is preferred is because of the speed of construction and they can store construction equipment without closing lanes
- Concerned with the safety of the turns for bicyclists
- Can the tunnel on the inside be wider and merge it back down to 20 feet so there is more leeway?

Ms. Obeso and Mr. Dickinson addressed the questions.

Commissioner Oey asked about the following:

- Is art included as part of the project?
- Would the u-turn stay on East Evelyn Avenue?
- Will there be flat areas for ADA on the tunnel descent?

Ms. Obeso and Mr. Dickinson addressed the questions.

Chair Mehlman commented and asked about the following:

- Worried about ramps becoming streams
- Why are there acute right angle turns into the undercrossings?
- Concerned about raised bumps being slippery. High reflective paint is slippery too
- Suggested a public art space and liaising with City's Art Program

Ms. Obeso addressed the question.

Vice Chair Beagle asked about the following:

- Did staff look into making the road on the east side of Evelyn Avenue more narrow and have 11 foot lanes?
- How is it expected to operate with Evelyn Avenue Trail?

Chair Mehlman asked about the following:

- When the slip right turn lane is eliminated, is Mountain View planning on

redesigning that section of the bike lane?

Ms. Obeso and Mr. Dickinson addressed the question.

Public comment opened at 7:38 p.m.

Jim van Pernis, member of the public, commented on the following:

- Sent Commissioner Oey an image of a bike tunnel from the Netherlands that goes under train tracks as an example
- In favor of the Eastern Alignment Alternative
- Concerned with the openings of the tunnel and if bikes, other devices, cargo bikes and extra large bikes would be able to maneuver around

Jonathan Blum, member of Bike Sunnyvale, commented on the following:

- Thanked staff for their diligence and clarity of their presentation, particularly appreciated the proposed changes at the North Bernardo intersection to make it safer for pedestrians
- Bike Sunnyvale prefers the Eastern Alignment Alternative because it would be aesthetically nicer due to the tunnel design, the 189 Bernardo building on the northeast corner plans to provide some amenities, including seating, water and restrooms and this alignment is intrinsically less likely to have an accidental car intrusion because of the way the ramps line up against the direction of the nearest traffic, it may cost less and finally there is potential to make the ramps less steep
- Main concerns are safe crossing for cyclists wishing to connect between eastbound Central Expressway and Bernardo Avenue and how to minimize the risk of collisions at those 90 degree turns

Mark, member of the public, commented on the following:

- Likes the changes made since last time
- If using Eastern Alignment Alternative then Evelyn Avenue on the west side of the intersection is not affected so the u-turn would work
- The u-turn will be essential for traffic coming out of the new housing on that street if they want to go to downtown Mountain View

Public Comment closed at 7:47 p.m.

Commissioner Oey commented on the following:

- In support of the Eastern Alignment Alternative especially interested in avoiding bollards

- Happy that the tunnel is wide and high
- Does not like the Homer Avenue Undercrossing which creates an extra obstacle
- In favor of art being added to avoid graffiti and makes it more entertaining to go through a tunnel
- Flat spots will help reduce speed for bicycles going down and will help wheelchair users and other disabled people
- Yellow bumps are a useful signal to cars, but a hazard for wheeled modes, slippery when wet

Chair Mehlman commented on the following:

- Suggest having a visual or psychological queue to separate pedestrian traffic from cycling traffic
- Likes that there is a lot of light and space
- In favor of the Eastern Alignment Alternative
- Would like to have access for Central Expressway

Vice Chair Beagle commented on the following:

- Likes the Homer Avenue Undercrossing because of the visuals that show what is a bike lane and is not a bike lane
- Really likes the art at the California Avenue Undercrossing because it is fun and novel and on the walls and ceiling
- Glad to see that the pork chop slip lanes are going away
- You should not have to stop at the stoplight when traveling on the westbound bike lane on Evelyn Avenue

Commissioner Bonne commented on the following:

- Suggest looking at what highways and aircraft runways have done with grooved concrete. Good for getting water away from the tire and shoe surfaces so that hydroplaning is less of a possibility
- Adding aesthetically appealing art
- The ceiling is a great place for texture and lights of a non repeating pattern

Commissioner Hafeman commented on the following:

- This will be primarily a commute route so needs to be as efficient as possible to get through the process with no more delays
- You can still get to Central Expressway in both directions on and off this trail
- Need wayfinding signs

Commissioner Beagle commented on the following:

- Is there any investigations into reopening or extending the undercrossing nearby, Whisman?

Commissioner Oey commented on the following:

- Would like to have a crossing light set up to get across Central Expressway
- Surface treatment instead of curbs could state where to walk and where to bike
- Likes having the gentle ramp down and turn and then come back up instead of switchbacks

MOTION: Commissioner Hafeman moved and Commissioner Oey seconded to Recommend to City Council the Selection of the Eastern Alignment as the Preferred Alignment of the Bernardo Avenue Undercrossing Project.

The motion carried with the following vote:

Yes 5 - Chair Mehlman
Vice Chair Beagle
Commissioner Bonne
Commissioner Hafeman
Commissioner Oey

No 0

Absent 1 - Commissioner Davé



City of Sunnyvale

Agenda Item

23-0067

Agenda Date: 5/23/2023

REPORT TO COUNCIL

SUBJECT

Accept the Findings of the Poplar Avenue Sidewalk Study (DPW 21-04), Approval of Installation of a 6-foot Wide Sidewalk and 4-foot Wide Park Strip Along the East Side of Poplar Avenue Between El Camino Real and Peterson Middle School, and Approval of Installation of a Minimum 6-foot Wide Sidewalk on the North and South Sides of Bryant Way East of Poplar Avenue

BACKGROUND

Poplar Avenue between Peterson Middle School and El Camino Real is a two-lane local roadway. It is located within the Raynor Park neighborhood, which was previously annexed from the County of Santa Clara. At the time of the annexation in the 1970s, the residents of Raynor Park expressed a desire to retain the rural character of the neighborhood; therefore, there is currently no sidewalk on either side of the road for the majority of the segment except for locations where redevelopments occurred, and sidewalk was installed as part of those redevelopments.

Peterson Middle School is located at the southern terminus of Poplar Avenue. It is a neighborhood serving public school with approximately 900 students in Grades 6 to 8. Based on the 2018 Safe Routes to School Education Program Hand Tally survey performed at the school, approximately 22% of the students walk to school, and 16% of the students bike to school. There is a secured bicycle parking corral on the east side of Poplar Avenue at Rosalia Avenue.

In May 2019, as part of the development of the Active Transportation Plan (ATP), the project team conducted a School Walk Audit at Peterson Middle School during school dismissal with the school vice principal, school staff, parents, and city staff. The objective of the School Walk Audit was to understand the areas of concern for students walking and bicycling to school, and for the project team to identify infrastructure improvements in the school's vicinity to create a safer walking and bicycling environment for students.

Rosalia Avenue along the school frontage provides one-way vehicular access to the primary drop-off/pick-up area; therefore, all vehicles exiting the drop off/pick-up area would travel northbound along Poplar Avenue. See Attachment 1 for the Project Location Map. Since there is no existing sidewalk on the majority of Poplar Avenue, it was observed during the School Walk Audit that students would walk or bike in the vehicular lanes of Poplar Avenue.

In the ATP, the proposed improvements on Poplar Avenue include installing sharrows to allow a Class IIIB Bicycle Boulevard and conducting a study for filling in the sidewalk gap, which might consist of a pedestrian path with delineators or implementation of a permanent sidewalk and may necessitate a Parking Study for the potential removal of on-street parking.

Staff has worked with the Santa Clara Unified School District (SCUSD), Peterson Middle School

administration, Parent-Teacher Association, and Poplar residents/ property owners to propose quick-build improvements that would provide an interim walk/bike area on the east side of Poplar Avenue for students during school hours where there currently is no permanent sidewalk. The improvements would include installing a new double yellow centerline, shoulder stripes on both sides of Poplar Avenue and a yellow, high-visibility crosswalk crossing at Bryant Way on the east side. Staff had conducted outreach to determine neighborhood/property owner support to prohibit on-street parking on the east side of Poplar Avenue on school days from 7:30 a.m. to 3:30 p.m. to provide a walking/biking area for students going to and departing from school. The City obtained grant-funding for quick build bicycle and pedestrian improvements in June 2021, and will begin construction of interim Poplar Avenue improvements in Summer/Fall 2023.

At the Study Issues Workshop on February 25, 2021, Council ranked the sidewalk study on Poplar Avenue between El Camino Real and Peterson Middle School (DPW 21-04) number two. Subsequently, at the May 20, 2021 City Council Budget Workshop, Council approved the recommended budget that included study issues that were above the line to include DPW 21-04. The key elements of the approved study included 1) a topographic land survey, 2) preparation of a conceptual design for a permanent sidewalk along the east side of Poplar Avenue from El Camino Real to Peterson Middle School using principles and practices described in the City's Vision Zero Plan and ATP, 3) preparation of a preliminary cost estimate for design and construction costs, and 4) coordination and outreach with SCUSD, Peterson Middle School, the surrounding neighborhood and the public.

EXISTING POLICY

General Plan, Housing Element, Goal F

Policy F.3: Continue a high quality of maintenance for public streets, rights of-way, and recreational areas, and provide safe and accessible pedestrian, bike, and transit linkages (accessibility) between jobs, residences, transportation hubs, and goods and services.

General Plan, Land Use and Transportation Element, Goal C

An Effective Multimodal Transportation System: Offer the community a variety of transportation modes for local travel that are also integrated with the regional transportation system and land use pattern. Favor accommodation of alternative modes to the automobile as a means to enhance efficient transit use, bicycling, and walking and corresponding benefits to the environment, person throughput, and qualitative improvements to the transportation system environment.

Resolution No. 793-16 Complete Streets Policy (and Resolution No. 896-18 amending Resolution No. 793-16): The City wishes to improve its commitment to Complete Streets and desires that its streets form a comprehensive and integrated transportation network promoting safe, equitable, and convenient travel for all users while preserving flexibility, recognizing community context, and using the latest and best design guidelines and standards.

Vision Zero Plan

- Reduce fatalities and serious injuries by 50 percent by 2029 and to continue improving traffic safety towards zero fatal and serious injury collisions in the ten years that follow.
- Call to action to make Sunnyvale's streets safer, especially for people biking and walking.

Active Transportation Plan

- Sunnyvale is a Complete Streets Community where residents and commuters have a choice to bicycle and walk to meet their transportation needs on a connected, comfortable, convenient, safe and efficient network designed for all abilities and ages.
- Increase active transportation mode share to 10% by 2030 and continue to work toward increasing the active transportation mode share in the next 10 years.

ENVIRONMENTAL REVIEW

This action is exempt under CEQA pursuant to CEQA Guidelines Section 15304 as it is a minor public alteration in the condition of land, which does not involve removal of healthy, mature, scenic trees.

DISCUSSION

In June 2022, staff began working with Bellecci & Associates to study the closure of the sidewalk gap on the east side of Poplar Avenue between El Camino Real and Peterson Middle School. As part of the consultant's topographic survey study, it was determined that the public right-of-way along Poplar Avenue was 60-feet wide and allowed for the installation of a standard 10-foot sidewalk on the east side of Poplar Avenue, while maintaining space for an 11-foot wide through lane with sharrows, and an 8-foot wide parking lane for on-street parking in either direction. As a result, Transportation and Traffic staff determined that on-street parking can remain, and a Parking Study would not be required.

On October 18, 2022, City staff met with representatives from the SCUSD and Peterson Middle School to introduce the scope of the study, understand their concerns, and coordinate the study with the Laurelwood Master Plan, which includes potential developments at Peterson Middle School. At this meeting, SCUSD made staff aware of the sidewalk gaps on Bryant Way (directly east of Poplar Avenue) as it related to their school's master plan. A limited analysis of the Bryant Way sidewalk gaps was included within the overall study.

On November 22, 2022, an Outreach Letter was sent to each resident located along the proposed sidewalk routes. The letter notified residents of the study and provided opportunities to meet with staff in-person at their homes or schedule a call to ask questions and share their feedback. By December 15, 2022, staff had met with all five affected residents and their responses and concerns are noted under the "Community Feedback and Responses" section of the Poplar Avenue Sidewalk Study Technical Memorandum (Attachment 2).

In April 2023, Bellecci & Associates finalized their technical memorandum identifying two alternatives for the Poplar Avenue permanent sidewalk installation. Conceptual plans and typical sections of the alternatives are shown in Attachment 3. Additionally, a limited analysis of the Bryant Way sidewalk gap closure was also conducted, where the existing public right-of-way was confirmed, and preliminary design and construction costs were estimated.

Two alternatives were evaluated along the east side of Poplar Avenue. Poplar Concept A includes a standard residential sidewalk configuration which consists of a 6-foot wide sidewalk and 4-foot wide park strip. Poplar Concept B differs from the first alternative along the portion south of Bryant Way and includes an 8-foot wide sidewalk with no park strip to reduce impacts to existing trees and shrubs along the frontages of 1340 and 1350 Poplar Avenue.

The preliminary cost estimate to design and construct the sidewalks are as follows:

	Design Cost	Construction Cost	Total Project Cost
Poplar Concept A	\$125,000	\$675,000	\$800,000
Poplar Concept B	\$117,000	\$627,000	\$744,000
+ Bryant (North & South)	+\$35,000	+\$220,000	+\$255,000
+ Bryant (South)	+\$18,000	+\$108,000	+\$126,000

The sidewalk closure on the east side of Poplar Avenue would provide a critical pedestrian and bicycle linkage for students accessing Peterson Middle School. Although new sidewalk improvements along Bryant Way were not originally part of the scope of the study, preliminary costs to close these sidewalk gaps adjacent to Poplar Avenue have been prepared based on discussion and input from SCUSD staff. The estimated cost of this work is included as an option to further improve access for both students and residents.

FISCAL IMPACT

The design and construction of this project is not funded. The total project costs are estimated at approximately \$1.055 million. Possible funding sources for this project may include Transportation Development Act (TDA) funds, dedicated sidewalk and streets funding, such as Measure B, General Fund and Green Stormwater Infrastructure. The City may also elect to pursue future grant possibilities or utilize Community Benefit contributions.

The City currently receives approximately \$140,000 each fiscal year for programming. In FY 2023/24, the accumulated TDA funds are anticipated to be \$336,620. Staff is bringing an item to the BPAC on May 18, 2023 (BPAC 23-0429) for recommendation to City Council for possible utilizing the TDA funding for design and the remainder to be used for a portion of construction of this project. The Council is scheduled to hear the item on June 20, 2023.

PUBLIC CONTACT

Public contact was made by posting the Council meeting agenda on the City's official-notice bulletin board at City Hall, at the Sunnyvale Public Library and in the Department of Public Safety Lobby. In addition, the agenda and this report are available at the NOVA Workforce Services reception desk located on the first floor of City Hall at 456 W. Olive Avenue (during normal business hours) and on the City's website.

ALTERNATIVES

1. Accept the findings of the Poplar Avenue Sidewalk Study (DPW 21-04), approval of installation a 6-foot wide sidewalk and 4-foot wide park strip along the east side of Poplar Avenue, between El Camino Real and Peterson Middle School, and approval of installation of a minimum 6-foot wide sidewalk on the north and south sides of Bryant Way east of Poplar Avenue.
2. Accept the findings of the Poplar Avenue Sidewalk Study (DPW 21-04), and approve the installation of Concept B. which differs from the Alternative 1 along the portion south of Bryant Way and includes an 8-foot wide sidewalk with no park strip to reduce impacts to existing trees

and shrubs along the frontages of 1340 and 1350 Poplar Avenue.

3. Do not accept the findings of the Poplar Avenue Sidewalk Study (DPW 21-04).
4. Provide other direction to staff as Council deems appropriate.

RECOMMENDATION

Alternative 1: Accept the findings of the Poplar Avenue Sidewalk Study (DPW 21-04), approval of installation of Concept A: 6-foot wide sidewalk and 4-foot wide park strip along the east side of Poplar Avenue, between El Camino Real and Peterson Middle School, and install a minimum 6-foot wide sidewalk on the north and south sides of Bryant Way east of Poplar Avenue.

Prepared by: Marlon Quiambao, Senior Engineer

Reviewed by: Dennis Ng, Transportation and Traffic Manager

Reviewed by: Jennifer Ng, Assistant Director of Public Works

Reviewed by: Chip Taylor, Director of Public Works

Reviewed by: Teri Silva, Assistant City Manager

Approved by: Kent Steffens, City Manager

ATTACHMENTS

1. Project Location Map
2. Poplar Avenue Sidewalk Study Technical Memorandum
3. Poplar Avenue Sidewalk Exhibits





Poplar Avenue at Peterson Middle School

Poplar Avenue Sidewalk Study Technical Memorandum

April 14, 2023



TECHNICAL MEMORANDUM

Date: April 14, 2023

To: Arely Trujillo, EIT, City of Sunnyvale
Marlon Quiambao, P.E., City of Sunnyvale

From: Anoop Reddy Admal, P.E., Bellecci & Associates, Inc.
Emma Schoenthal, Bellecci & Associates, Inc.
Anthony Nguyen, EIT, Bellecci & Associates, Inc.

Project: Poplar Avenue Sidewalk Study, City of Sunnyvale, CA

This technical memorandum is prepared by Bellecci & Associates, Inc. as part of the design engineering services for City of Sunnyvale Public Works Department to provide an analysis of alternatives for the sidewalk and parking along the east side of Poplar Avenue between Rosalia Avenue and El Camino Real (State Route 82).

I BACKGROUND

Poplar Avenue between Peterson Middle School and El Camino Real is a two-lane local road and located within the Raynor Park neighborhood, which was previously annexed from the County of Santa Clara. At the time of annexation in the 1970s, the residents of Raynor Park expressed a desire to retain the rural character of the neighborhood. There is currently no sidewalk on either side of the road for the majority of the segment, except for locations where redevelopment occurred, and sidewalk was installed as part of the redevelopment. This segment of Poplar Avenue is currently an existing Class IIIB Bicycle Boulevard with bicycle sharrows on the roadway.

Peterson Middle School is a neighborhood-serving public school with approximately 900 students from Grade 6 to 8. Based on the 2018 Safe Routes to School Education Program Hand Tally survey performed at the school, approximately 22% of the students walk to school, and 16% of students bike to school. There is a secured bicycle parking corral on the east side of Poplar Avenue at Rosalia Avenue.

In May 2019, as part of the development of the Active Transportation Plan (ATP), the City's project team conducted a School Walk Audit at Peterson Middle School during school dismissal with the school vice principal, school staff, parents, and City staff. The objective of the School Walk Audit was to understand the areas of concern for students walking and bicycling to school, and for the project team to identify priority infrastructure improvements in the school vicinity to produce a safer walking and bicycling environment for students.

Rosalia Avenue along the school frontage provides one-way vehicular access to the primary drop-off/pick-up area. Therefore, all vehicles exiting the drop-off/pick-up area travel northbound along Poplar Avenue. It was observed during the 2019 School Walk Audit that students would walk in the vehicular lanes of Poplar Avenue as there is no existing sidewalk.

In the ATP, the proposed improvements on Poplar Avenue include installing sharrows to allow a Class IIIB Bicycle Boulevard, and conducting a study to review the width of existing public right-of-way to determine if the removal of on-street parking is needed to close the sidewalk gap, which could consist of a pedestrian/bicycle path with delineators or implementation of a permanent sidewalk installation.

In February 2021, staff worked with Santa Clara Unified School District (SCUSD), school administration, Peterson Middle School Administration, Parent-Teacher Association, and Poplar residents/property owners to consider federally-funded, quick-build improvements. The improvements would provide an interim walk/bike area for students during school hours until a long-term solution could be studied. The quick-build improvements would include the installation of a new double yellow centerline, shoulder stripes on both sides of Poplar Avenue, and a yellow, high-visibility crosswalk crossing on the east side of Bryant Way. Staff received neighborhood and property owner support to temporarily prohibit on-street parking along the east side of Poplar Avenue on school days from 7:30 a.m. to 3:30 p.m. in order to provide a walking/biking area for students traveling to and departing from school. The City obtained grant-funding for quick-build bicycle and pedestrian improvements in June 2021, and will begin construction of interim Poplar Avenue improvements in Summer/Fall 2023.

In June 2021, City Council approved funding for the Poplar Avenue Sidewalk Study (Study) to perform a topographical land survey to identify the existing right-of-way and utilities along this corridor, and to assess any potential drainage issues that may result from the improvements considered. The Study would present conceptual design options for a permanent sidewalk along the east side of Poplar Avenue from El Camino Real to Peterson Middle School and include preliminary cost estimates for design and construction.

II PROJECT GOALS

The goals of the Poplar Avenue Sidewalk Study include the following:

- a. **Sidewalk Gap Closure:** The goal is to close the existing sidewalk gap along the east side of Poplar Avenue between Rosalia Avenue and El Camino Real (State Route 82). Installing new sidewalk and bulbouts, features that are outlined in the City of Sunnyvale's Active Transportation Plan, will improve pedestrian safety between Peterson Middle School and El Camino Real (State Route 82). A permanent sidewalk will allow pedestrians to comfortably walk along a path separate from the travel lane.
- b. **Minimize impacts to existing landscaping and property frontages:** Poplar Avenue is a neighborhood corridor with residential properties lining both sides of the roadway. Some of the landscaping, vegetation, fences, trees, and mailboxes along the property frontages are within the City of Sunnyvale's right-of-way. The project's goal is to install a City-standard sidewalk with minimal impact to the existing property frontage features and with engagement of the property owners regarding impacts to their frontage.
- c. **Minimize overall construction and maintenance costs:** The study evaluated conceptual layout alternatives and identified potential cost saving options, including minimizing impacts to landscaping and trees, avoiding right-of-way acquisition, and minimizing impacts to existing utilities including water mains, sewers mains, storm drains,

joint poles, overhead electrical lines, underground electrical facilities, overhead telecommunication lines, and underground telecommunication facilities.

III DESIGN ALTERNATIVES

The design team conducted field topographic survey along the east side of Poplar Avenue from El Camino Real to Peterson Middle School. The design team surveyed the street monuments, completed a desktop study of the existing right-of-way using available parcel subdivision maps, and prepared right-of-way mapping. Poplar Avenue right-of-way is 60-feet wide. The southern limit of Poplar Avenue right-of-way is along the southern parcel line of 1350 Poplar Avenue.

Poplar Avenue has an existing 5.5-foot wide sidewalk on the east side from El Camino Real (State Route 82) to 1308 Poplar Avenue, where it widens to a 10-foot wide sidewalk that includes 4-foot wide tree planters along 1314 Poplar Avenue. Beginning south of 1314 Poplar Avenue, a 6-foot wide sidewalk with 4-foot wide park-strip is proposed including an 8-foot wide parking lane and 11-foot wide travel lane, until the Bryant Way and Poplar Avenue intersection. All existing utility facilities are to be adjusted to meet the finished grade of the proposed sidewalk.

1332 Poplar Avenue and 1336 Poplar Avenue have pavers, a decorative wall, and vegetative landscaping encroaching into the public right-of-way that will be impacted by the proposed 10-foot wide improvements. Existing driveways will need to be partially rebuilt. An existing PG&E power pole between 1332 and 1336 Poplar Avenue will need to be relocated within public right-of-way. The existing power pole's guy wire is located within a public utility easement and will need to be reset. An application to PG&E will need to be submitted to relocate the pole towards the back of walk to retain sidewalk clearances. PG&E will relocate the pole outside of the sidewalk path of travel and within public right-of-way as part of the existing franchise agreement with PG&E.

At the intersection of Bryant Way and Poplar Avenue, bulbouts are proposed to narrow the lanes on Bryant Way and improve pedestrian safety per the City's Active Transportation Plan and principles identified in the Vision Zero Plan. Accessible curb ramps are proposed at the Bryant Way and Poplar Avenue intersection on the east side to meet ADA Requirements.

The design improvements proposed at 1332 Poplar Avenue and 1336 Poplar Avenue conform to Poplar Concept A as described below. The project considers two concepts for the proposed sidewalk fronting 1340 Poplar Avenue and 1350 Poplar Avenue, between Bryant Way and Rosalia Avenue, which are depicted in the exhibits and described below:

Poplar Concept A: A 6-foot wide sidewalk and 4-foot wide park strip with curb and gutter is proposed with a 6-inch buffer from back of walk to the existing property line. Removal of two trees, vegetation, and landscaping within the public right-of-way are required, impacting the frontages of the two properties. Concept A maximizes the current and future public space along Poplar Avenue. This layout configuration meets the City Standards (Standard Detail 9C-1) for new construction.

Poplar Concept B: An attached 8-foot wide sidewalk with curb and gutter (per City Standard Detail 9C) is proposed. The back of walk will have a 3-foot wide buffer from the right-of-way to minimize the removal of large trees and some vegetation along the two property frontages and conform to existing driveways within public right-of-way. Concept B reduces the amount of space for public use within the public right-of-way compared to Concept A.

City staff and Design team coordinated with the SCUSD to review the preliminary concepts. During the meeting, SCUSD staff indicated that students also walk along Bryant Way and requested that this adjacent sidewalk gap be considered in the study. The extension of sidewalks on Bryant Way would also align the design concepts to support SCUSD's Laurelwood Master

Plan, which includes potential developments at Peterson Middle School. Bryant Way was not in the scope of this study. However, City staff directed the design team to evaluate a rough order of magnitude for the sidewalk gap closure improvements along Bryant Way east of Poplar Avenue.

IV EVALUATION OF CONCEPTS

Address Block #	Concept A	Concept B
1308	Existing 5.5-foot wide sidewalk and curb and gutter with parking along the east side of Poplar Avenue. No new improvements proposed.	
1314	Existing 10-foot wide sidewalk and curb and gutter with parking along east side of Poplar Avenue. No new improvements proposed.	
1332 1336	Proposed 6-foot wide sidewalk and 4-foot wide park strip improvements, curb and gutter, 8-foot wide parking lane, and 11-foot wide travel lane. Existing rosebushes at 1332 Poplar Avenue and existing decorative CMU wall at 1336 Poplar Avenue that straddle public right-of-way will be impacted. Cedar tree in front of 1336 Poplar Avenue was recommended to be removed by the City's Arborist.	
1336 1340	Proposed bulbouts to narrow the crossing at Bryant Way and improve safety for pedestrians. Case A Curb Ramps with detectable domes shall meet ADA requirements. Existing water sampling station will need to be relocated. Existing storm drainage catch basin on the southeast corner of Bryant Way and Poplar Avenue will be converted to a manhole and new storm drain inlet to be installed.	
1340	Planting and bioretention area at bulbout. Shamel ash tree closest to the private driveway is recommended by the City Arborist for removal. Existing water valve within the gutter pan may need to be relocated into the asphalt paved surface.	Proposed 8-foot wide attached sidewalk with 3-foot buffer from right-of-way to reduce impact to landscaping and protect existing trees within the public right-of-way. Parking area replaced with bulbout for sight distance.
1340 1350	Proposed 6-foot wide sidewalk and 4-foot wide landscape (self-retaining area with mulch) improvements, curb and gutter, 8-foot wide parking lane, and 11-foot wide travel lane. Driveway improvements beyond the right-of-way will be limited to meet the existing driveway grades for conform. Date Palm trees at 1350 Poplar Avenue will need to be relocated.	Proposed 8-foot wide attached sidewalk with 3-foot buffer from right-of-way to reduce impact to landscaping and protect in place existing trees within the public right-of-way. Includes 8-foot wide parking lane and 11-foot wide travel lane.

V ENVIRONMENTAL FACTORS AND MUNICIPAL REGIONAL PERMIT REQUIREMENTS – C.3 REQUIREMENTS

The project proposes to remove an Incense Cedar at 1336 Poplar Avenue, a group of small trees along Bryant Way at 1340 Poplar Avenue, and a Shamel Ash at 1340 Poplar Avenue. Additionally, the project plans to relocate small date palms at 1350 Poplar Avenue onto private property. All other trees within the project footprint will remain in place. Removal of trees were reviewed and allowed by the Arborist. The installation of new street trees along the proposed park strip will be considered during the design of sidewalk improvements. The feasibility of installing street trees may depend on conflicts with existing underground utilities and the availability of nearby landscape irrigation facilities.

Municipal Regional Stormwater Permit, Order No. R2-2022-0018, NPDES Permit No. CAS612008, Provision C.3 (MRP 3.0) is applicable for this project. C.3 (b). ii of new MRP C3.0 identified Regulated projects - Other Redevelopment Projects including Public Works projects are excluded from this C.3, unless they create and/or replace 5,000 contiguous (project area interrupted by cross streets or intersection are considered contiguous) square feet or more of impervious surface including sidewalk gap closures, sidewalk section replacements, and ADA curb ramps. Since this project is creating or replacing more than 5,000 square feet of disturbed soil area, this project will be subject to C.3 requirements per the new MRP.

C.3 Requirements include bioretention areas sized to treat runoff from the impervious area. In general, the street flows to the north toward El Camino Real and east on Bryant Way. The project intends to capture an equivalent area of impervious surface on Poplar Avenue south of Bryant Way. The study identified a new bioretention planter on the southeast corner of Bryant and Poplar. The bioretention planter will require a new irrigation system with a new irrigation meter, backflow, and controller. The irrigation controller will require a new PG&E service from the nearby poles. Bay Area Stormwater Management Agencies Association (BASMAA) set minimum bioretention sizing criteria for projects that must provide treatment of 80 percent of annual runoff and the following equations are used to size the bioretention planter per BASMAA green infrastructure manuals with a 6-inch reservoir storage.

For bioretention with 6-in surface reservoir configuration:

$$SizingFactor = 0.00060 \times MAP(in) + 0.0086$$

For bioretention with 12-in surface reservoir configuration:

$$SizingFactor = 0.00050 \times MAP(in) + 0.0057$$

The MAP for this project location is 15.3 inches.

$$SizingFactor = 0.00060 \times 15.3 in + 0.0086$$

$$SizingFactor = 0.01778$$

The total impervious area for this project is 5,984 square feet. Therefore, the minimum bioretention area is computed as follows:

$$Minimum\ Bioretention\ Area = 5984\ SF \times 0.1778$$

$$Minimum\ Bioretention\ Area = 107\ SF$$

VI EXISTING UTILITIES ALONG THE CORRIDOR

The existing utilities described below are based on research of existing record drawings combined with the information gathered through field surveying of surface-evident utility covers.

- a. **AT&T:** AT&T has existing underground conduits along the east side of Poplar Avenue from El Camino Real before turning east onto Bryant Way. There are two boxes on Poplar Avenue identified as SB 1308 and SB 1747. On the west side of Poplar Avenue are overhead AT&T wires between Bryant Way and Rosalia Avenue. Adjustment of AT&T facilities may be required at no cost to the City under the existing franchise agreement. Project will need to coordinate with AT&T representatives to include a revocable bid item for adjustment of AT&T facilities.
- b. **Comcast:** Comcast has overhead wires from Rosalia Avenue to Bryant Way. The overhead wires are on the west side between Bryant and Rosalia and cross over to the east side between Bryant Way and El Camino Real. There is a joint pole at the northern intersection of Bryant Way and Poplar Avenue where the overhead wires terminate, and the conduits are undergrounded heading north to El Camino Real. The underground conduits travel northward towards El Camino Real, with a few boxes in the sidewalk area servicing the properties along the east side of Poplar Avenue. No comcast facilities are impacted with this project.
- c. **Sanitary Sewer Mains:** City of Sunnyvale has existing 8" VCP and 10" VCP sanitary sewer mains flowing from south to north along Poplar Avenue located near the street centerline. At the southern Bryant Way and Poplar Avenue intersection, there is a sewer main that flows east. At the northern Bryant Way and Poplar intersection, an 8" sewer main from the west flows into the 10" sewer main on Poplar Avenue. No sewer facilities are impacted with this project.
- d. **Storm Drainage:** City of Sunnyvale has an existing 24" RCP storm drainage pipe flowing from the intersection of Bryant Way and Poplar Avenue heading north towards El Camino Real. There are catch basins located at the southeast and southwest corners of Bryant Way and Poplar Avenue that connect into the 24" RCP Storm Drain Main with 12" RCP laterals. Drainage from the proposed bioretention area will be connected to the existing drainage structure at the southeast corner of Poplar Avenue and Bryant Way. Curb openings with energy dissipators will be installed at the bioretention area to capture the street and sidewalk stormwater runoff.
- e. **Water:** City of Sunnyvale has an existing 8" water main and fire hydrants along the east side of Poplar Avenue. There are 6 water valves and 4 water meter boxes that service the properties along Poplar Avenue and Bryant Way. Water meters boxes and valve boxes will be adjusted to new grade with the proposed improvements and the water sampling station will need to be relocated. A new irrigation service with new irrigation meter and backflow will be installed for the new bioretention area.
- f. **PG&E Electric:** There are existing overhead PG&E electric facilities located on PG&E power poles. The proposed improvements require a relocation of a PG&E pole and guy wires at no cost to the City under the existing franchise agreement. The project will also require a PG&E application for new service for irrigation. The pole on the north side of Bryant Way will also need to be relocated if permanent sidewalk improvements on Bryant Way are also considered.
- g. **PG&E Gas:** PG&E Gas distribution main along Poplar Avenue travels along the west side of the roadway. The size of the main is 2 inches and the laterals servicing the properties along Poplar Avenue are 3/4 inches. No PG&E gas facilities are impacted with this project.

VII COST ANALYSIS

Preliminary construction costs were developed based on the two Poplar Concept Alternatives and the addition of Bryant sidewalks on the north and south sides. Estimated total project construction costs were then determined for each alternative by factoring in additional anticipated project costs including Design Fee/Contingency, Construction Support, Construction Base Bid/Contingency, and Bid Contingency. The Table below indicates the total estimated Design and Construction costs for each option:

	Design Cost	Construction Cost	Total Project Cost
Poplar Concept A	\$125,000	\$675,000	\$800,000
Poplar Concept B	\$117,000	\$627,000	\$744,000
+ Bryant (North & South)	+\$35,000	+\$220,000	+\$255,000
+ Bryant (South)	+\$18,000	+\$108,000	+\$126,000

VIII RECOMMENDATION

After analyzing the two different permanent sidewalk layout concepts on the east side of Poplar Avenue, we recommend Poplar Concept A. Poplar Concept A maximizes the public use space in a location that will have increasing pedestrian use due to the proximity of Peterson Middle School. The Poplar Concept A configuration meets the City Standard for new construction of permanent sidewalk and park-strip.

Improvements identified in Poplar Concept A include many features outlined in the City of Sunnyvale's Active Transportation Plan and Vision Zero Plan: new permanent concrete sidewalk, advanced stop bars, yellow school crosswalk markings, and bulbouts. The total project costs for the Poplar Concept A improvements is \$800,000.

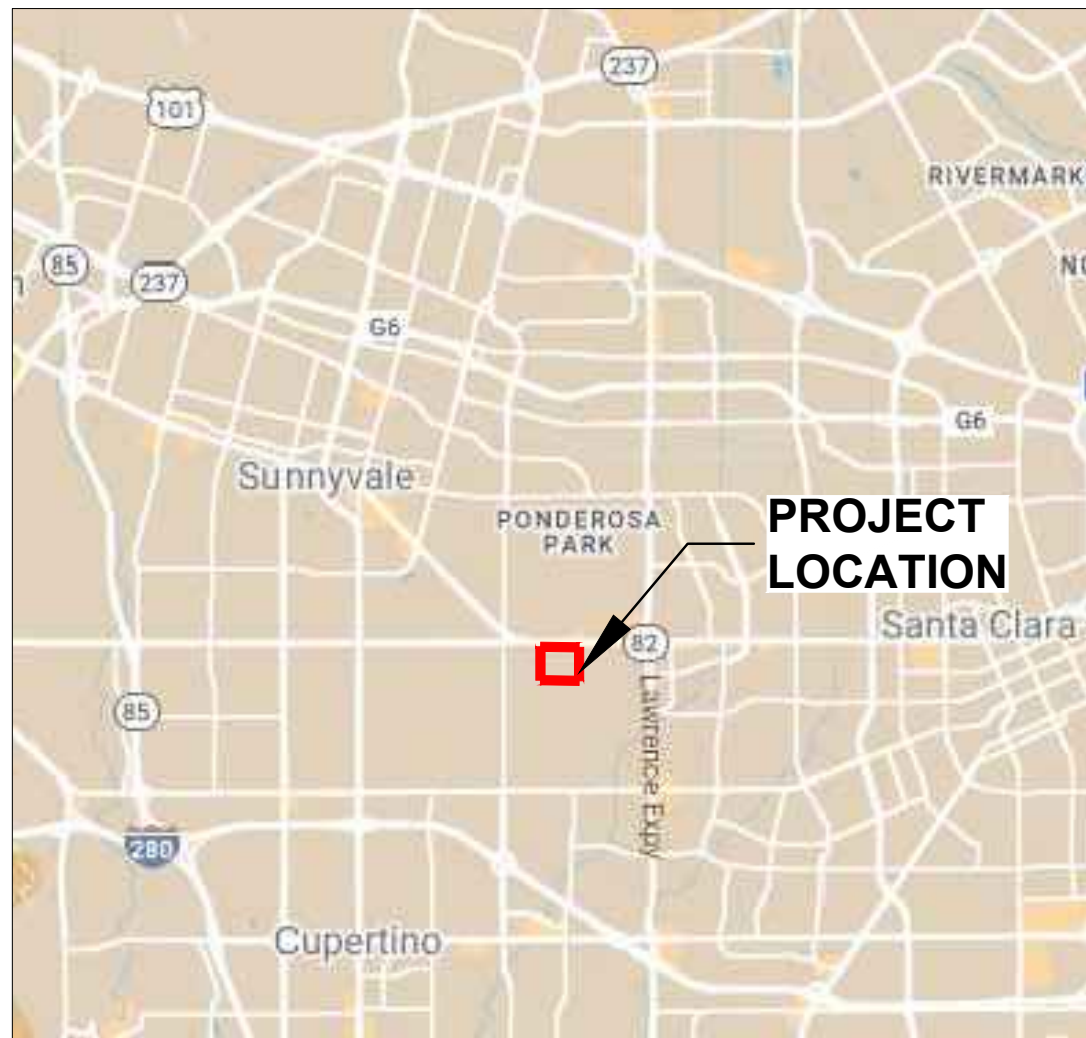
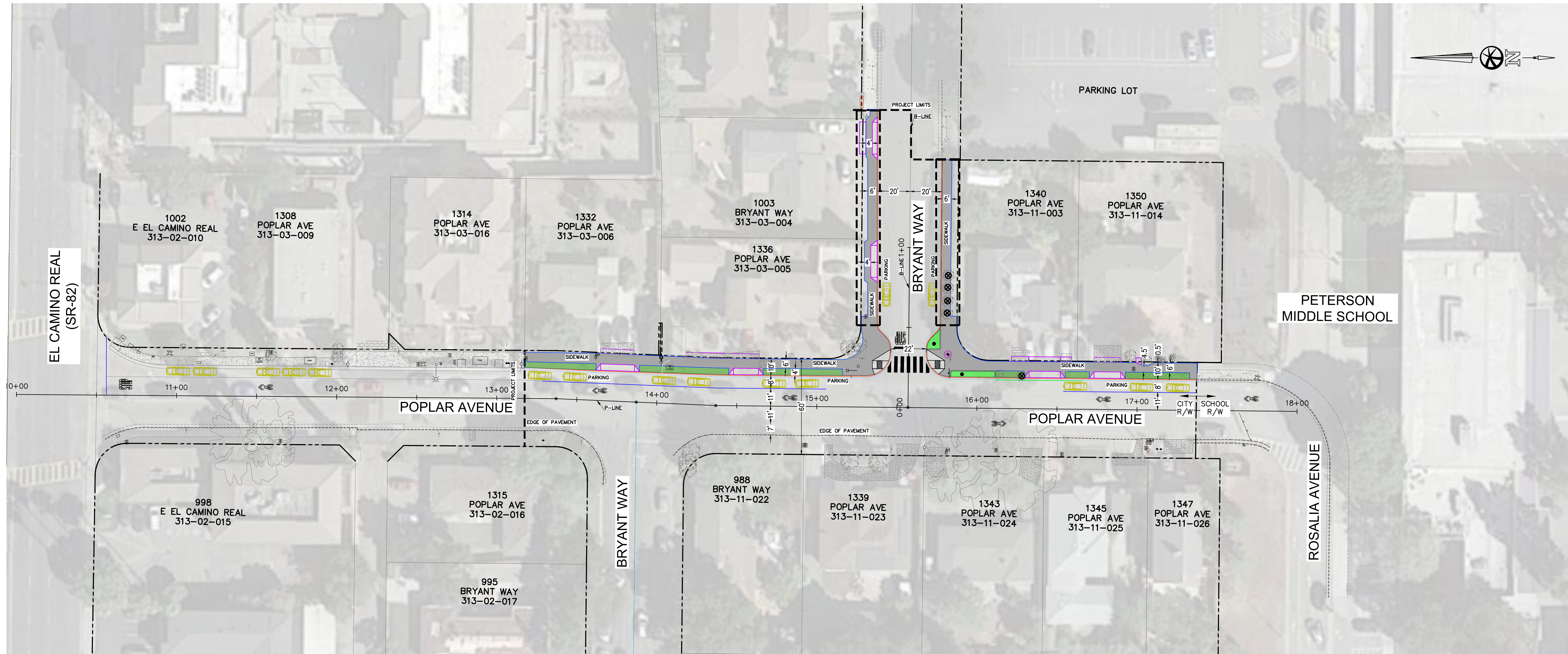
Trees located along property frontages may be preserved in the proposed park-strip or behind the proposed sidewalk and no right-of-way acquisitions are needed. The concept design also includes storm water treatment per the MRP requirements.

New sidewalk improvements along Bryant Way were not part originally part of the scope of this study. After review of the area and based on discussion and input from SCUSD staff, cost estimates for new sidewalk along Bryant Way to fill sidewalk gaps adjacent to the study area were prepared and included as an option to further improve access to both students and residents.

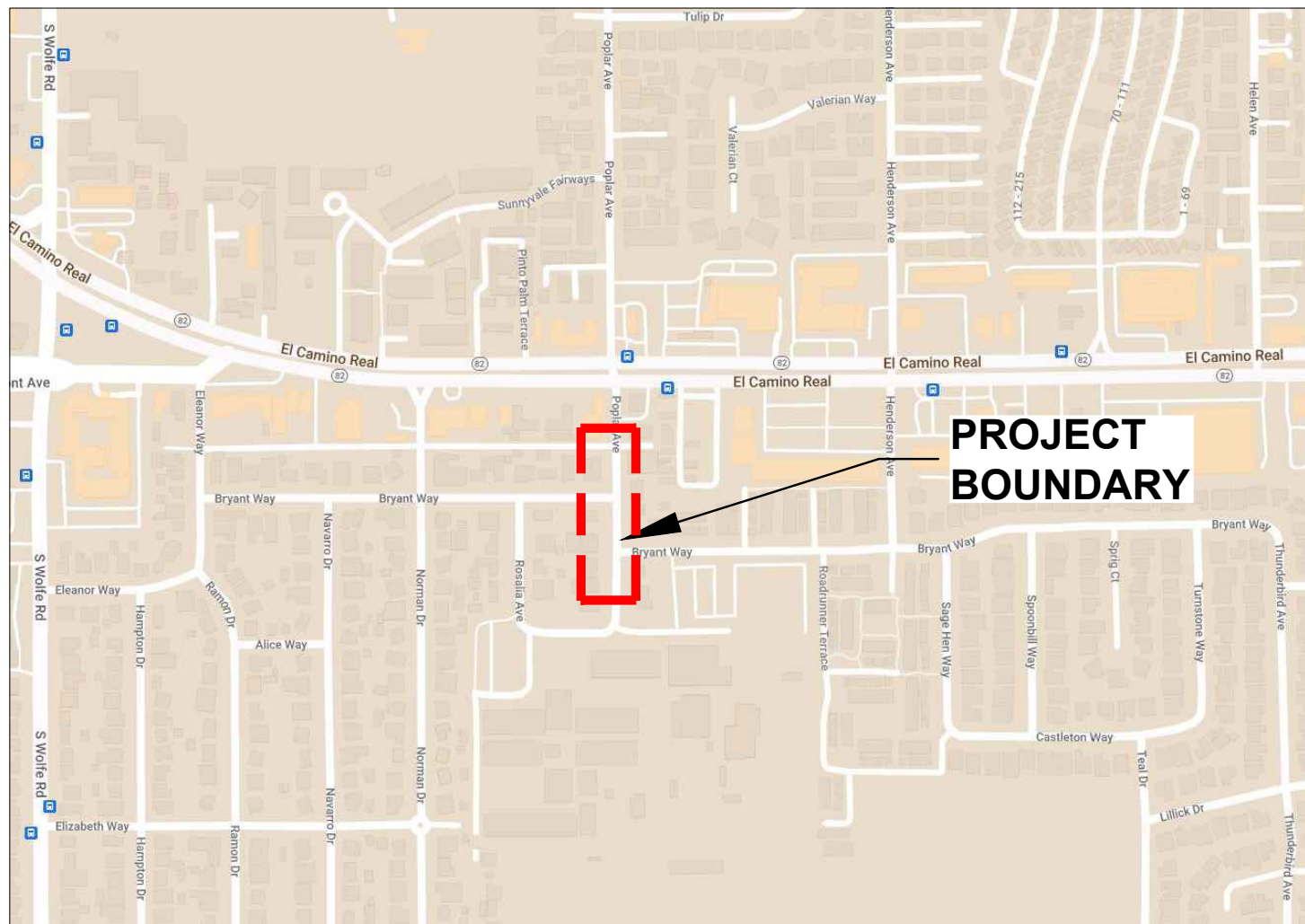
Attachment A

Concept Plans and Typical Sections





VICINITY MAP
SCALE: NTS



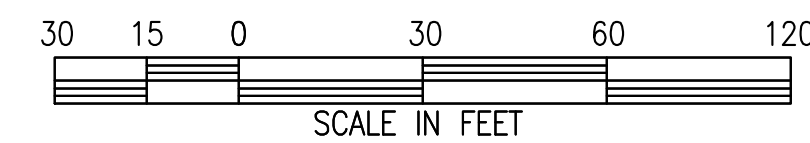
SITE MAP
SCALE: NTS

PLAN

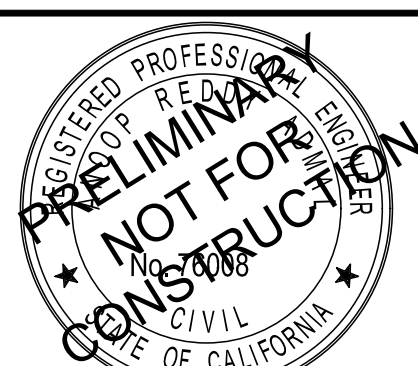
SCALE: 1" = 30'

LEGEND

- SIDEWALK
- BIORETENTION AREA
- PARK STRIP AREA
- DRIVEWAY
- CURB RAMP
- TREE TO BE REMOVED



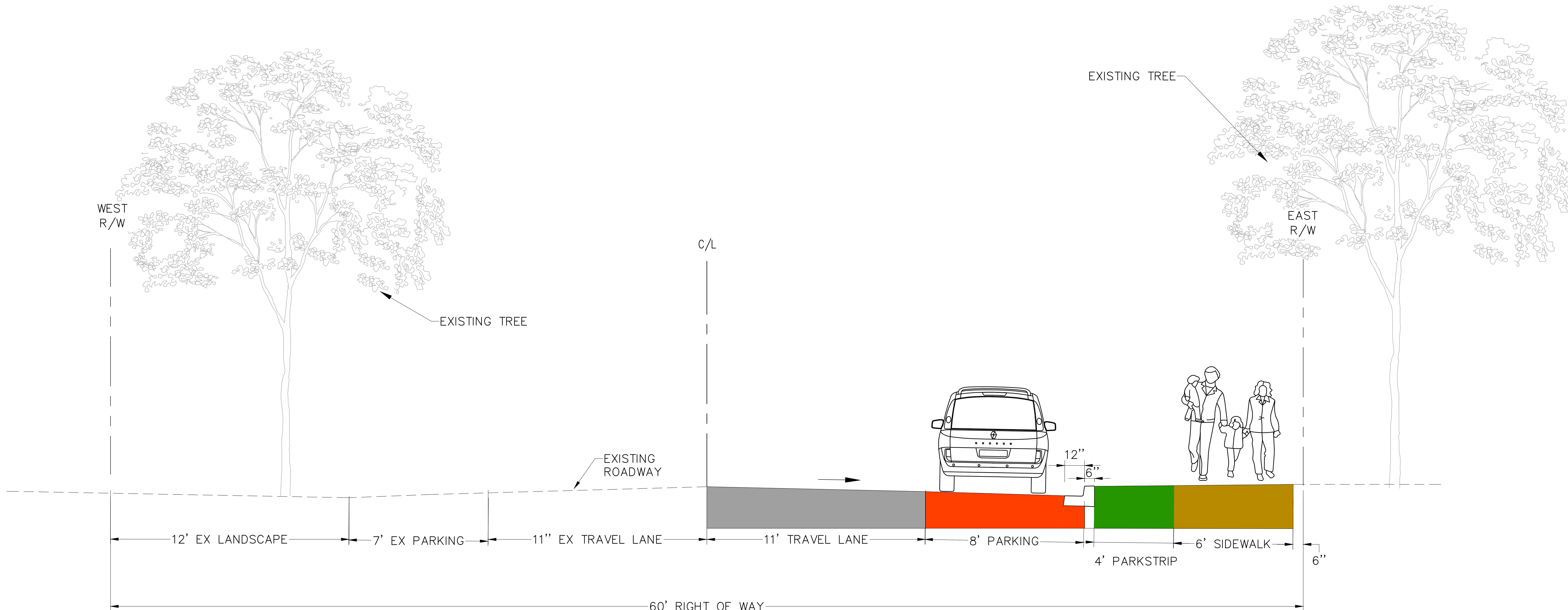
Rev.	Description	Date






Date	
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Drawn By:	AN
Checked By:	AA
Consultant's Job No.	220071

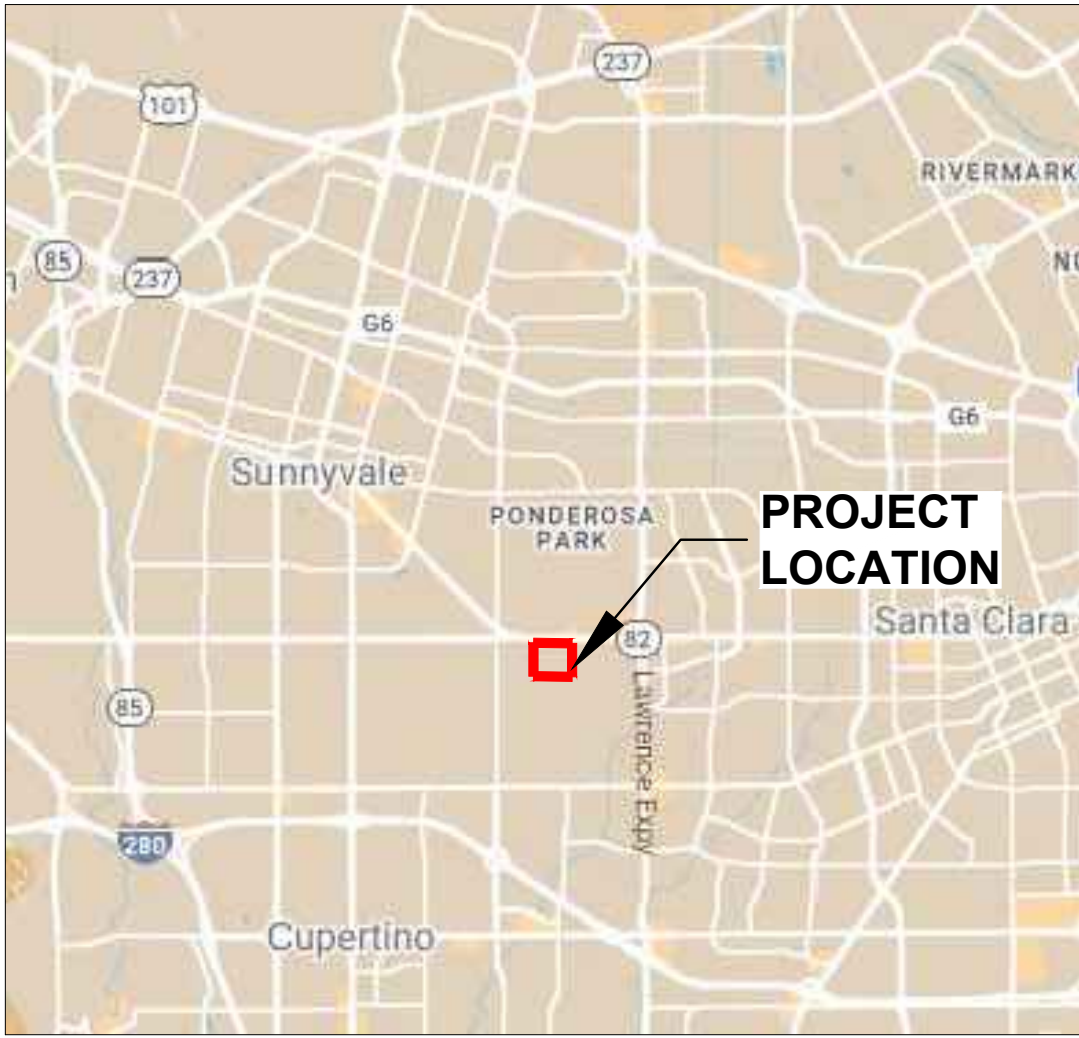
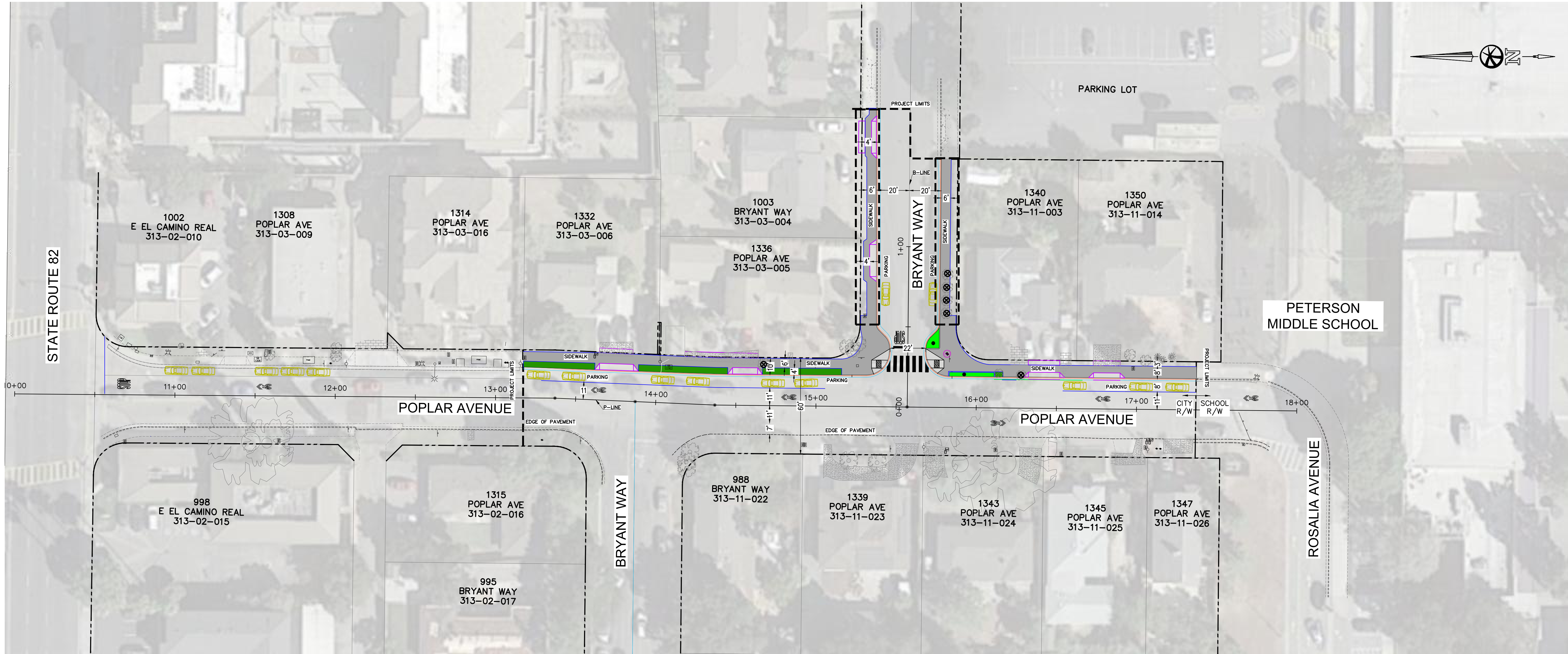
POPLAR AVENUE SIDEWALK STUDY	
POPLAR CONCEPT A	

	City of Sunnyvale Santa Clara County California	City of Sunnyvale Project No. TR-22-02
	Department of Public Works 456 West Olive Avenue Sunnyvale, CA 94086	Drawing No. Sheet ____ of ____

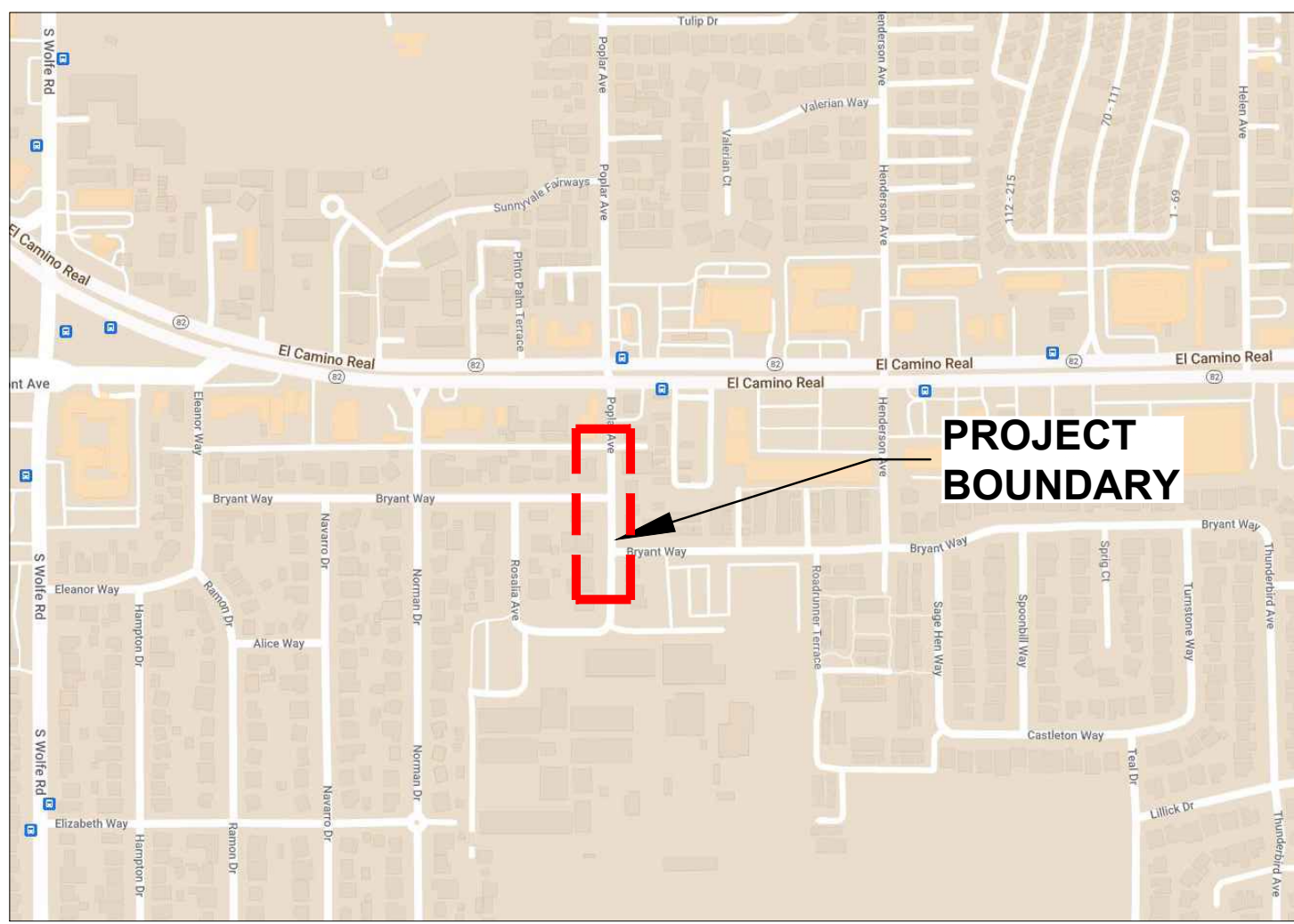


TYPICAL SECTION - POPLAR CONCEPT A
NTS

			 925 • 685 • 4569 bellecci.com		Date		POPLAR AVENUE SIDEWALK STUDY		 Sunnyvale	City of Sunnyvale Santa Clara County California	City of Sunnyvale Project No. TR-22-02	
					Scale	1"=30'						
					Designed By:	AA	TYPICAL SECTION - POPLAR CONCEPT A			Department of Public Works 456 West Olive Avenue Sunnyvale, CA 94086	Drawing No.	
					Drawn By:	AN						
					Checked By:	AA						
Rev.	Description	Date			Consultant's Job No.	220071				Sheet _____ of _____		



VICINITY MAP
SCALE: NTS



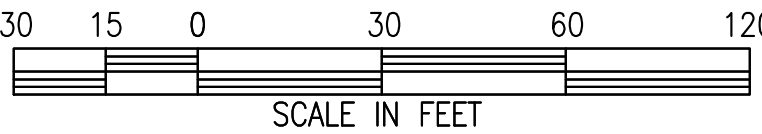
SITE MAP
SCALE: NTS

PLAN

SCALE: 1" = 30'

LEGEND

- SIDEWALK
- BIORETENTION AREA
- PARK STRIP AREA
- DRIVEWAY
- CURB RAMP
- TREE TO BE REMOVED



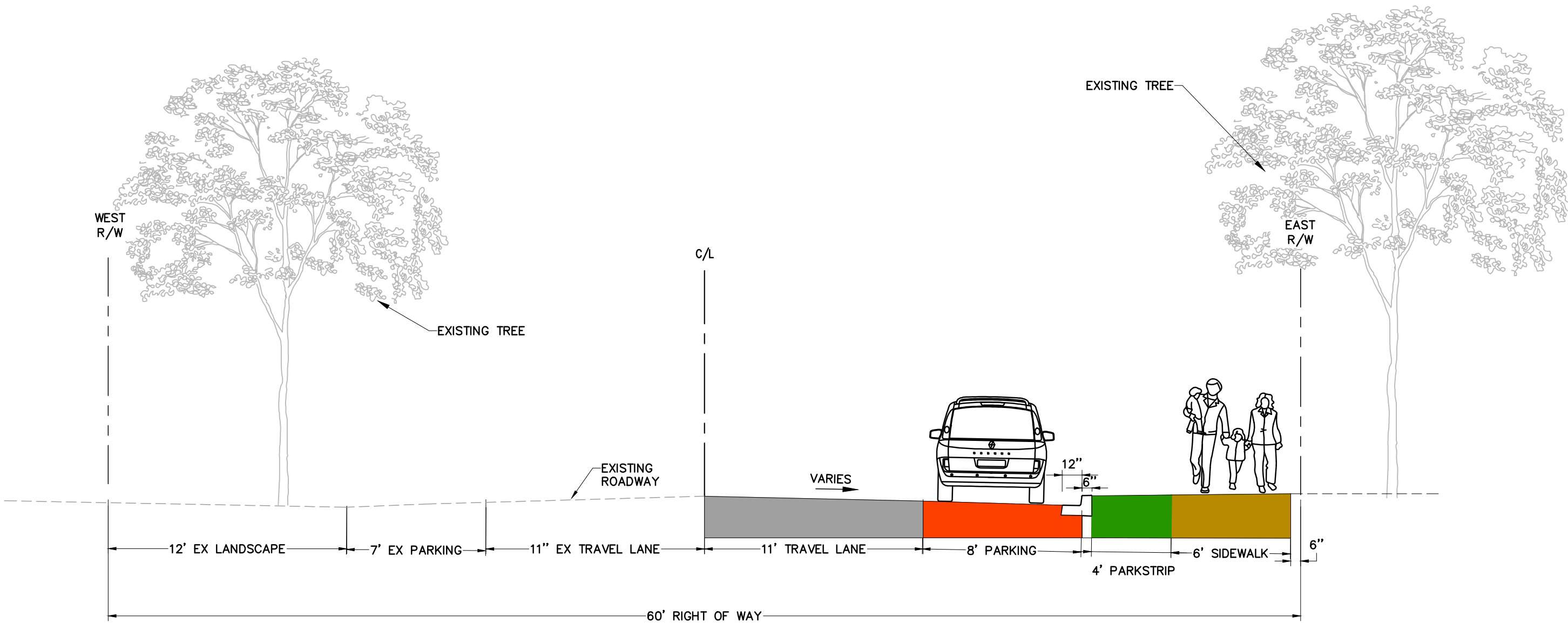
Rev.	Description	Date



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Consultant's Job No.	220071

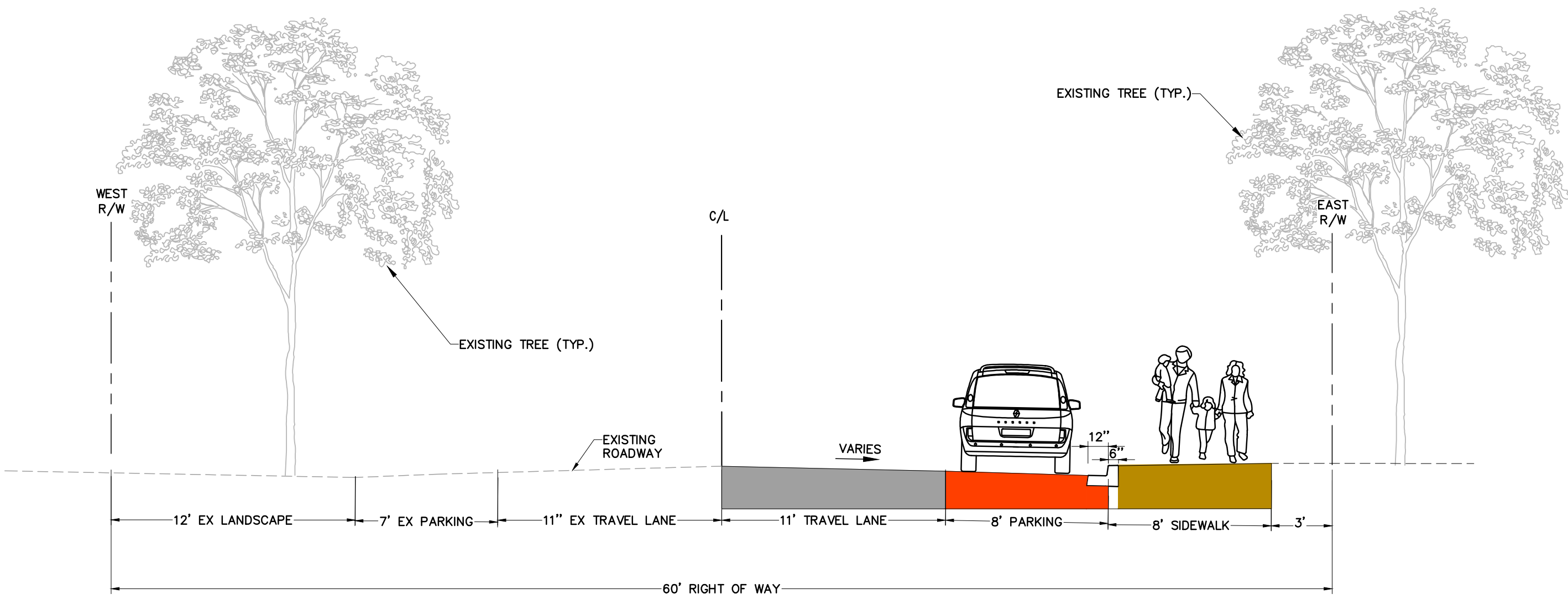
POPLAR AVENUE SIDEWALK STUDY	
POPLAR CONCEPT B	

	City of Sunnyvale Santa Clara County California	City of Sunnyvale Project No. TR-22-02
	Department of Public Works 456 West Olive Avenue Sunnyvale, CA 94086	Drawing No.
		Sheet ____ of ____






TYPICAL SECTION- POPLAR CONCEPT B - NORTH OF BRYANT WAY

NTS



TYPICAL SECTION- POPLAR CONCEPT B - SOUTH OF BRYANT WAY

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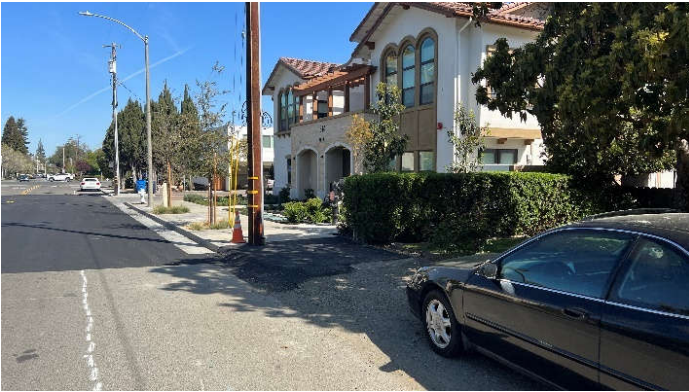
			 925 • 685 • 4569 bellecci.com		Date		POPLAR AVENUE SIDEWALK STUDY		 City of Sunnyvale Santa Clara County California Department of Public Works 456 West Olive Avenue Sunnyvale, CA 94086	City of Sunnyvale Project No. TR-22-02	
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					Designed By:	AA	TYPICAL SECTION - POPLAR CONCEPT B			Drawing No.	
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Attachment B

Site Photographs



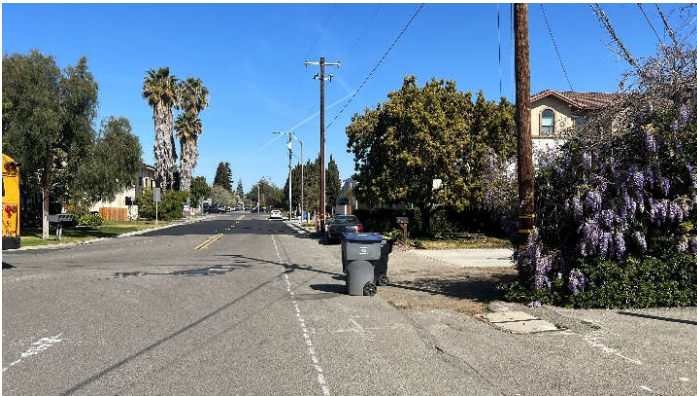
Poplar Avenue Sidewalk Study



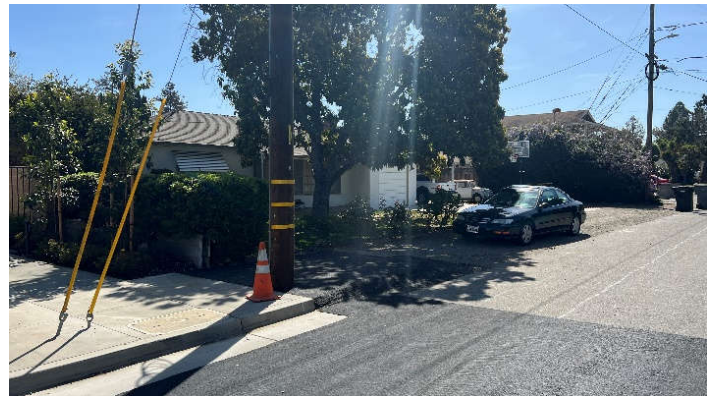
1314 Poplar Avenue, North



1314 Poplar Avenue, South



1332 Poplar Avenue, North



1332 Poplar Avenue, South



1336 Poplar Avenue, North



1336 Poplar Avenue, South

Poplar Avenue Sidewalk Study



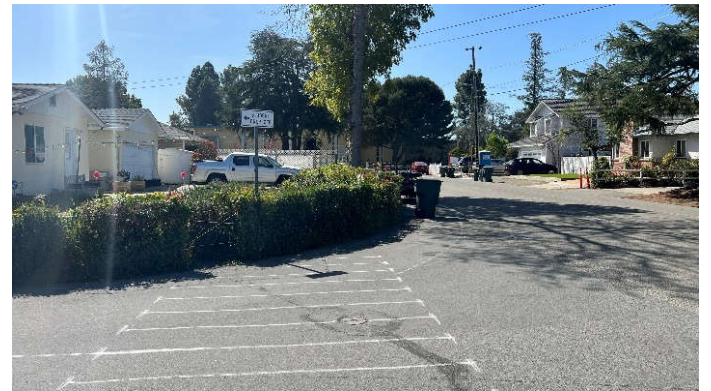
Bryant Way Intersection, South



Bryant Way Intersection, North



1340 Poplar Avenue, North



1340 Poplar Avenue, South



1350 Poplar Avenue, North



1350 Poplar Avenue, South

Attachment C

Community Feedback and Responses



Outreach to Residents along Poplar Avenue

Design team responses are in blue.

1332 Poplar – Contacted via letter and site visit on 12/1/2022 at 10-10:25 am. Revisited site on 12/15/2022 at 3:50 to 4:15 pm.

- City staff informed resident that new sidewalk may affect their landscaping.
- Supported the initiative to add a sidewalk along the east side of Poplar Ave.
- Shared her email address to receive updates on reporting the project to Council.
[Acknowledged.](#)

1336 Poplar - left contact 12/1/2022, met on 12:00-1:00 pm, 12/6/2022

- Asked about keeping the third driveway on Poplar along their northern property line. (City to share the municode 18.12.070, and provide a CDD contact to discuss further questions).
[Current plans show removal of the third driveway per the municipal code.](#)
- Asked why City isn't considering sidewalk on West side of Poplar since students also walk on that side; parents often park just north of the west leg of Bryant and walk their child to school from there.
[Current project scope includes sidewalk gap closure on the east side only.](#)
- Noted corner utility on Poplar and Bryant is a sampling station.
[Acknowledged.](#)
- Shared concerns about drainage once the sidewalk is built.
[We do not anticipate any significant changes to drainage, these will be included in final design and coordinated with the property owner.](#)
- OK with the removal of the wall on Poplar. Shared concerns about the rough surface left if the existing wall is removed to install the sidewalk.
[Scope includes minor conforms at back of sidewalk.](#)
- OK with the removal of the existing street tree
[Acknowledged.](#)
- Shared concern of the project's impact on the newly installed fence along the southeast corner. Will the project impact the tree and fence?
[No.](#)
- Will the City relocate the mailbox?
[Yes.](#)
- Would like City to give a heads up when the Study is presented to Council.
[Yes, City to notify the impacted residents.](#)

1340 Poplar met residents outside their residence between 10:45-11:05 am, 12/1/2022

- Would like to know exact location of the public r/w so they can prepare accordingly for how the changes will affect their property (e.g. replant bordering landscape to maintain a visual buffer from back of walk to property).

- Would prefer to minimize changes along Bryant; vegetation between roadway and their fence gives them a sense of privacy from the multi-story apartments along El Camino.
[Acknowledged, these considerations will be included in final design.](#)
- OK removing southern street tree and keeping northern street tree on Poplar Avenue.
[Acknowledged.](#)
- Would like City to give a heads up when construction starts.
[Yes, City to notify the impacted residents.](#)

1350 Poplar - met residents outside the residence between 10:25-10:40 am, 12/1/2022

- Worried that parents in cars won't respect kids on bikes.
[Additional signing and striping to be considered in final design.](#)
- Drivers do not respect stop sign at Bryant & Poplar or posted speed limits
- Bikers along southbound Poplar cross over Rosalia and often interfere with cars driving northbound; curious if City has plans to make the crossing safer for bikers.
[The school's recommended path for bicyclists is to go southbound on Poplar Avenue, turn left onto Bryant Way, and then turn right into the parking lot. Additional signing and striping to be considered in final design.](#)
- Would like City to give a heads up when construction starts.
[Yes, City to notify the impacted residents](#)

1003 Bryant – contact attempted via letter and site visit on 12/1/2022 at 10:00-10:25 am.
Revisited site on 12/15/2022 at 3:00-3:50 pm

- Supported the initiative to add a sidewalk along the east side of Poplar Ave.
- Shared her email address to receive updates on reporting the project to Council.
[Acknowledged.](#)

1334 Poplar – contact attempted via letter and site visit on 12/1/2022 at 10-10:25 am. No contact made as of 12/9/2022. Staff to consider other options for engagement.

Outreach to Santa Clara Unified School District

Minutes for Meeting held on Tuesday, October 18, 2022

Talking Points

- The City presented Alternatives 1 & 2 to Michal Healy (Director of Facility Development and Planning), Chandra Henry (Peterson Middle School Principal), and Linda Pfeifer (Peterson Middle School Secretary), the school and school district representatives. The City also gave background on how this study was initiated.
- District/School representatives confirmed that students access bike lockers through Poplar and not through Bryant via the parking lot.
- District/School representatives confirmed that the Alternatives compliment the school district's masterplan.
- District/School representatives confirmed that they want the sidewalk study to include closing the sidewalk gap on Bryant, particularly the south side of Bryant.
- District/School representatives' only concern regarding the bulbouts installation to reduce crossing distance on Bryant is if cafeteria trucks can make the turns; City & Consultant assured school reps that consultant performed turning templates, showing that fire trucks can make the turn. If fire trucks can make the turns, so can cafeteria trucks.
- Alternative 1: Drainage area in front of 1340 will be above ground, landscape will be low-water use.

Things to keep in mind

- The Alternatives presented are not final. Consultant will be updating the plans over these next couple of weeks. The City will share final designs with school representatives as soon as we have them.
- After finalizing the alternatives, City will review and prepare to present to City Council. The goal is to present to Council in January or February of 2023. Before presenting to Council, the City will also do public outreach, both targeted and general outreach, to inform residents of how they will be impacted by the project.
- District/School representatives mentioned they would be willing to provide a letter in time for presenting the alternatives to City Council to show support for the project.



Office of the
Superintendent

February 28, 2023

City of Sunnyvale City Council
456 W. Olive Avenue
Sunnyvale, CA 94086

Re: Letter of Support for the Poplar Avenue Sidewalk Study and Implementation

Dear City of Sunnyvale City Council Members,

Santa Clara Unified School District highly supports the Poplar Avenue Sidewalk Study and its implementation. The City of Sunnyvale Safe Routes to Schools, Public Works and Traffic Departments have always been great partners in helping to solve complicated access issues and helping to ensure our students and community are able to safely access SCUSD campuses. Many improvements have already been implemented by the City and St. Anton around Peterson.

Recently, the St. Anton project, called Murphy Station Apartments, constructed sidewalks on the east side of Poplar Avenue for the length of their project and installed sharrows on the street reminding drivers to share the road with bicycles. This was a major improvement, however the remaining portion of Poplar Avenue, which has residential homes, does not have sidewalks. In order to access Peterson Middle School, students must walk in the street trying to avoid parked and moving cars as they walk, bike or roll to the Peterson Middle School entrance. Adding sidewalks, curbs and crosswalks would vastly improve the safety of everyone walking on Poplar Avenue, especially the students.

The safety of our students and community is of the utmost importance and Santa Clara Unified School District encourages the City of Sunnyvale City Council to move forward with one of the options to install sidewalks on Poplar Avenue. We look forward to working together to find the best solution for everyone.

Sincerely,

Dr. Gary Waddell
Superintendent

Mark Schiel
Chief Business Official

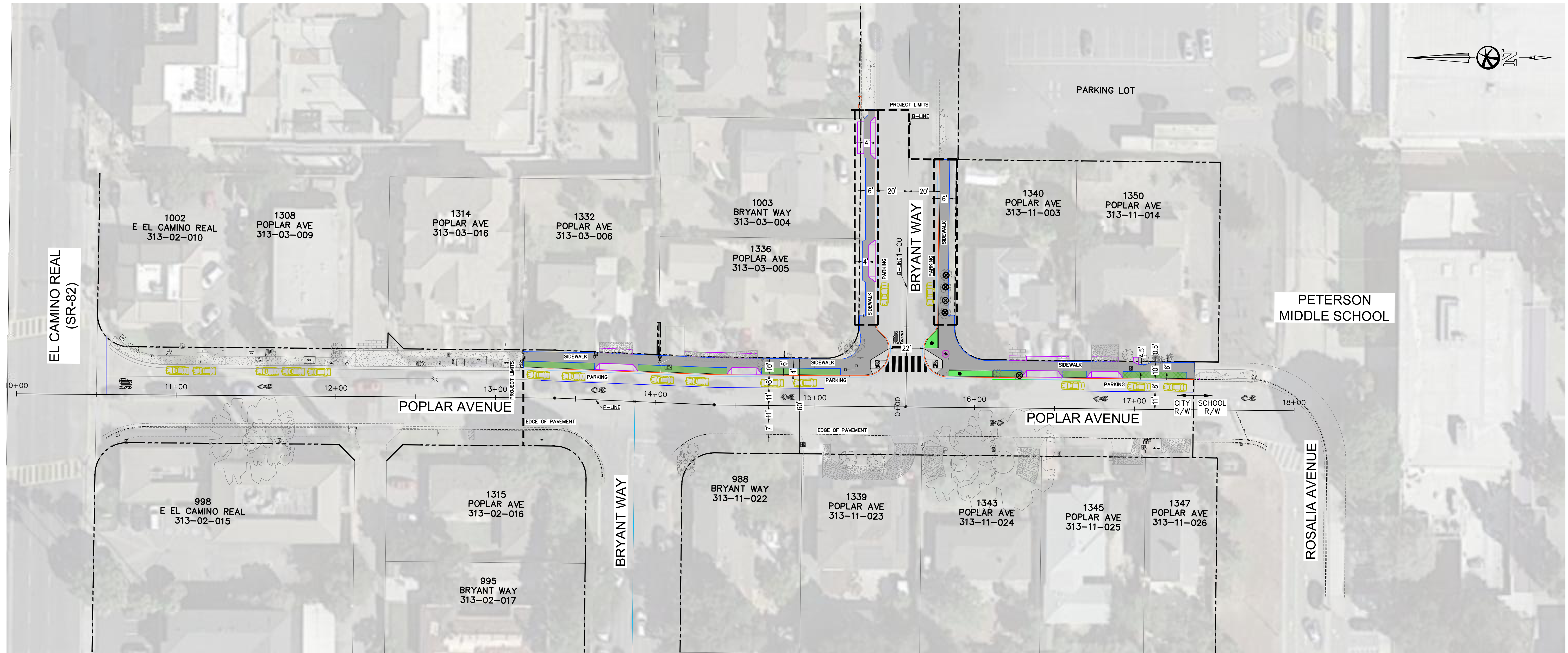
Michal Healy
Facility Development and Planning Director

Chandra Henry
Peterson Middle School Principal

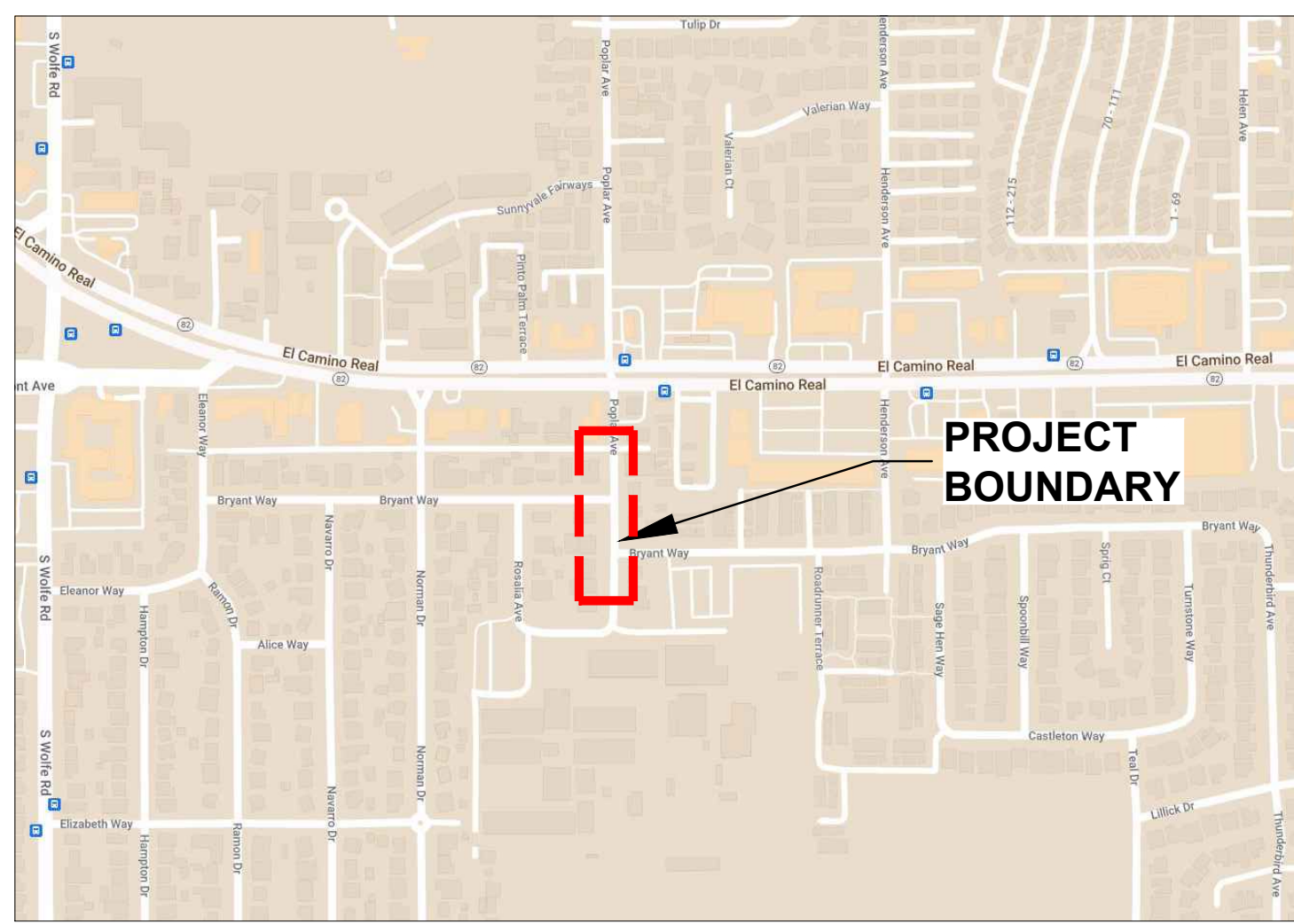
1889 Lawrence Road • Santa Clara, CA 95051 • (408) 423-2000 • www.santaclarausd.org

Superintendent Gary Waddell, Ed.D. • **Board of Trustees** Jim Canova, Vickie Fairchild, Albert Gonzalez,
Bonnie Lieberman, Jodi Muirhead, Andrew Ratermann, Michele Ryan, Ph.D.

Graduates of Santa Clara Unified School District are resilient, future-ready, lifelong learners
who think critically, solve problems collaboratively, and are prepared to thrive in a global society.



VICINITY MAP
SCALE: NTS



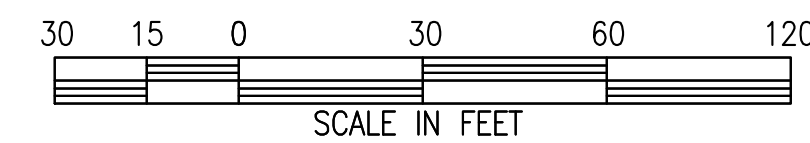
SITE MAP
SCALE: NTS

PLAN

SCALE: 1" = 30'

LEGEND

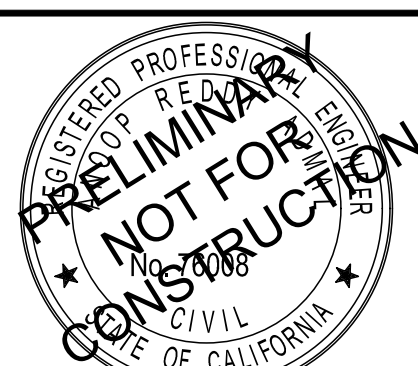
- SIDEWALK
- BIORETENTION AREA
- PARK STRIP AREA
- DRIVEWAY
- CURB RAMP
- TREE TO BE REMOVED



Rev.	Description	Date
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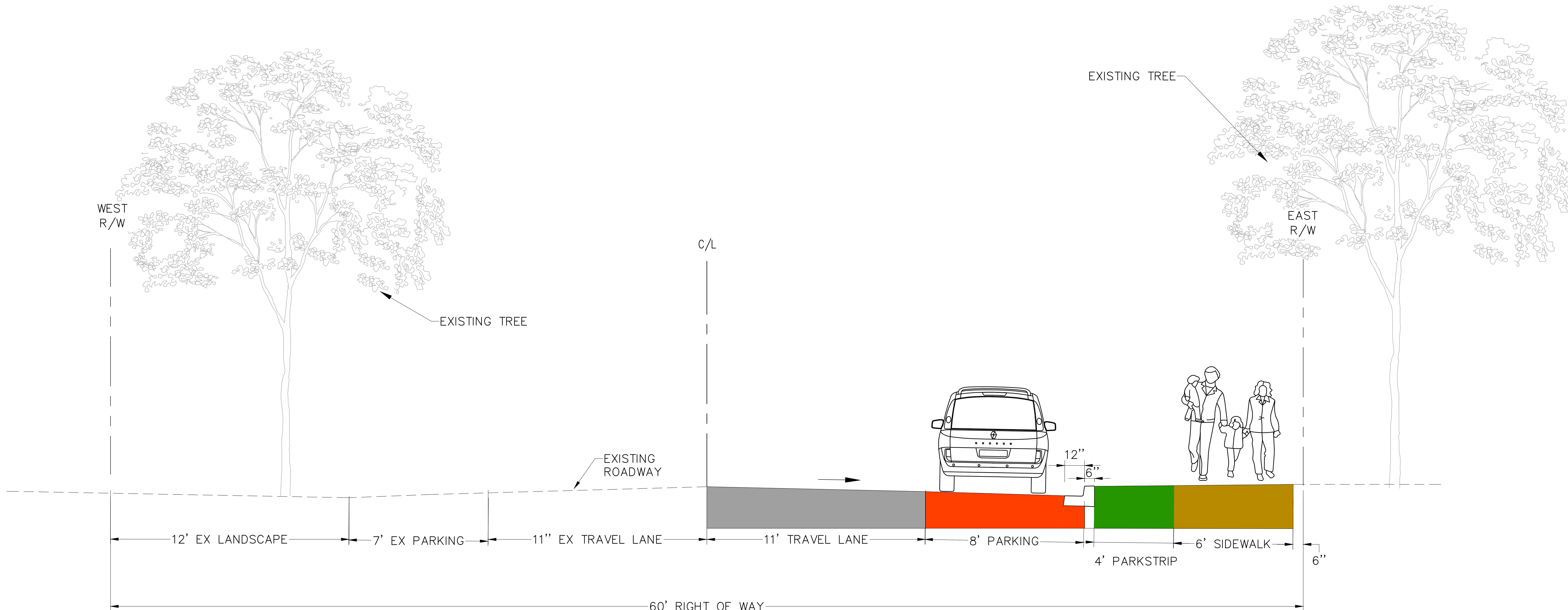


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POPLAR AVENUE SIDEWALK STUDY	
POPLAR CONCEPT A	

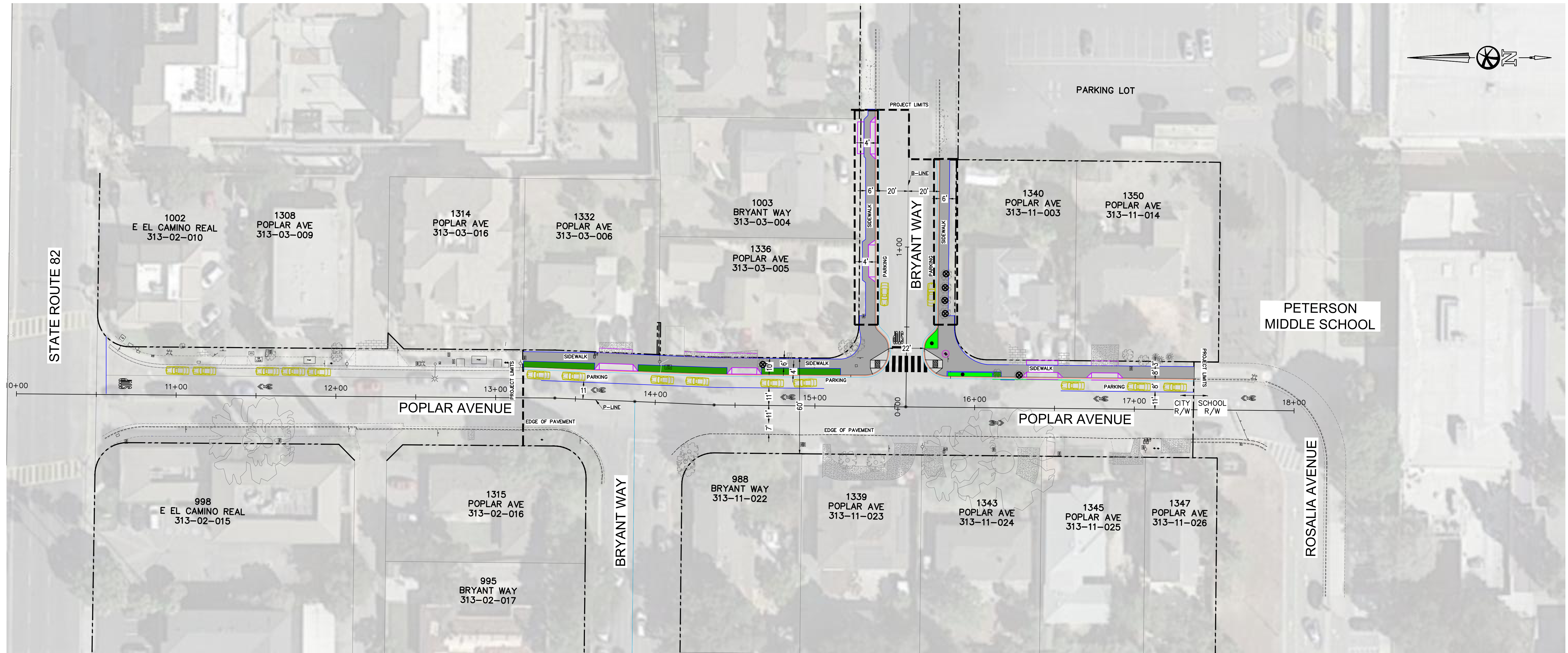


City of Sunnyvale Santa Clara County California	City of Sunnyvale Project No. TR-22-02
Department of Public Works 456 West Olive Avenue Sunnyvale, CA 94086	Drawing No.
	Sheet ____ of ____

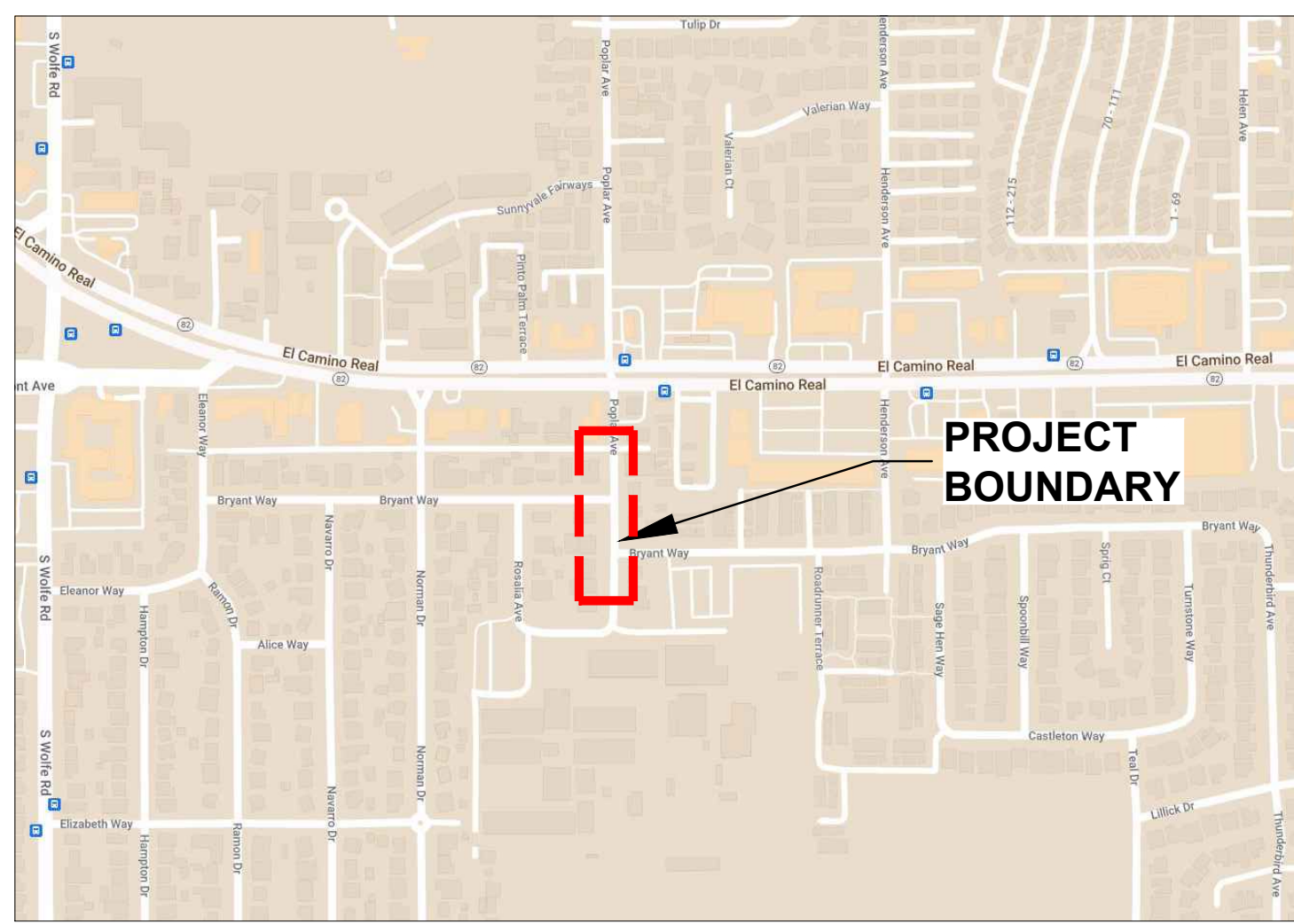


TYPICAL SECTION - POPLAR CONCEPT A
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VICINITY MAP
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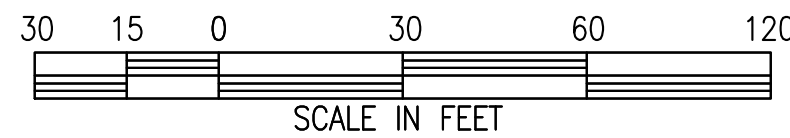
SITE MAP
SCALE: NTS

PLAN

SCALE: 1" = 30'

LEGEND

- SIDEWALK
- BIORETENTION AREA
- PARK STRIP AREA
- DRIVEWAY
- CURB RAMP
- TREE TO BE REMOVED



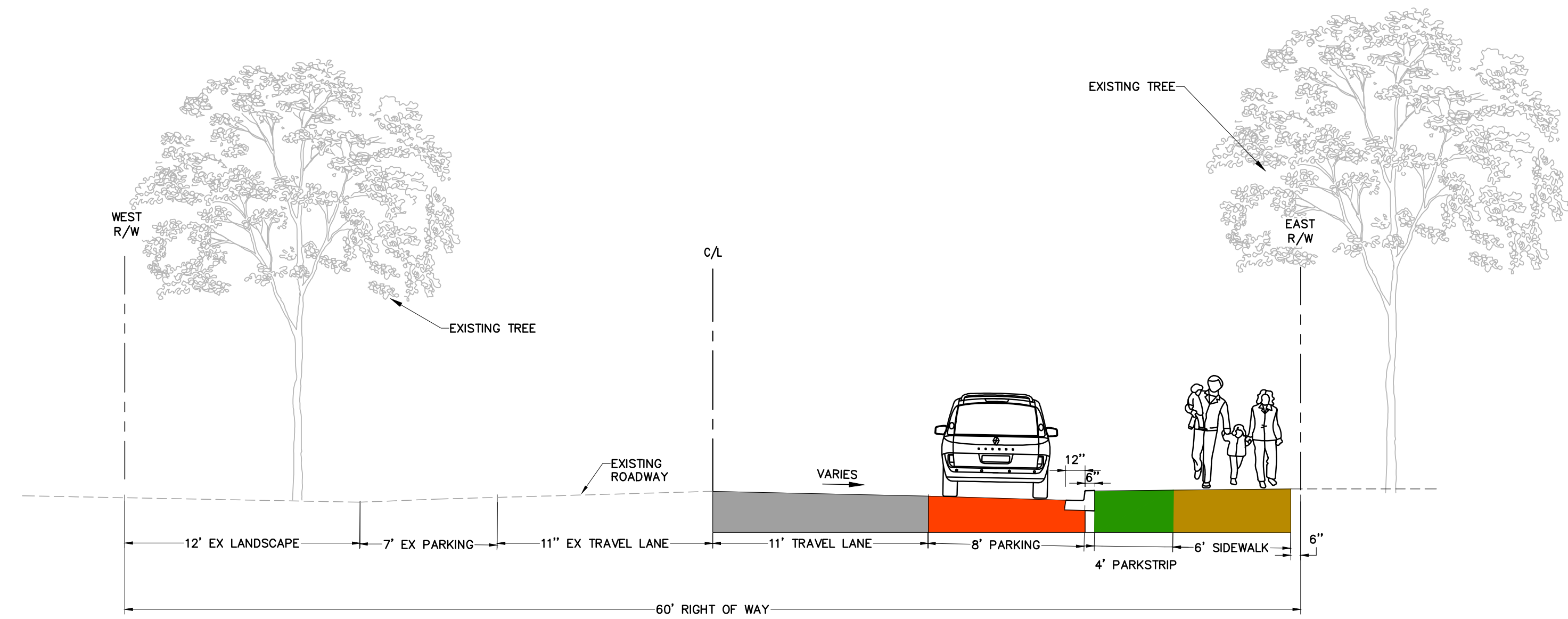
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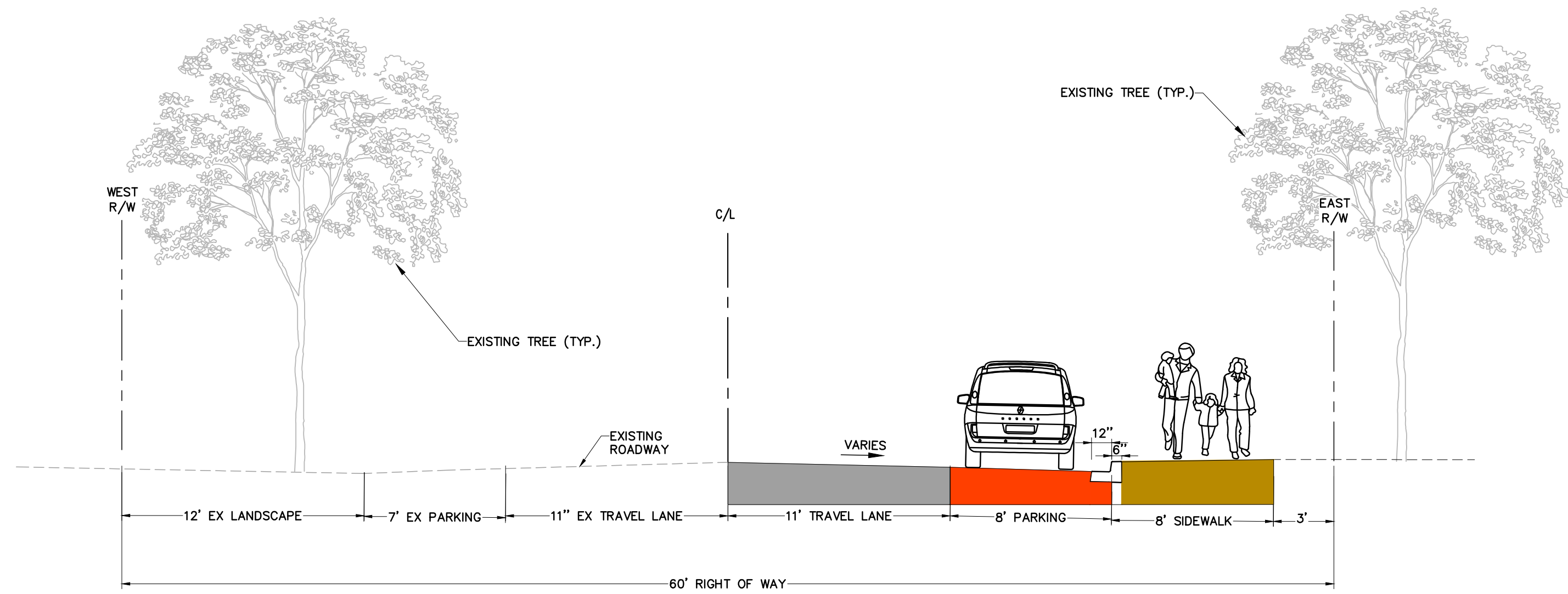
POPLAR AVENUE SIDEWALK STUDY	
POPLAR CONCEPT B	

	City of Sunnyvale Santa Clara County California	City of Sunnyvale Project No. TR-22-02
	Department of Public Works 456 West Olive Avenue Sunnyvale, CA 94086	Drawing No.
		Sheet ____ of ____






TYPICAL SECTION- POPLAR CONCEPT B - NORTH OF BRYANT WAY

NTS



TYPICAL SECTION- POPLAR CONCEPT B - SOUTH OF BRYANT WAY

NTS

			 925 • 685 • 4569 bellecci.com		Date		POPLAR AVENUE SIDEWALK STUDY		 Sunnyvale	City of Sunnyvale Santa Clara County California	City of Sunnyvale Project No. TR-22-02	
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City of Sunnyvale

Agenda Item

23-0415

Agenda Date: 5/23/2023

Tentative Council Meeting Agenda Calendar



City of Sunnyvale

Tentative Council Meeting Agenda Calendar

Tuesday, June 6, 2023 - City Council

Closed Session

- 23-0231** 5 P.M. SPECIAL COUNCIL MEETING (Closed Session)
Closed Session Held Pursuant to California Government Code Section 54957.6:
CONFERENCE WITH LABOR NEGOTIATORS
Agency designated representatives: Tina Murphy, Director of Human Resources
Employee organization: Sunnyvale Managers Association (SMA)

Study Session

- 23-0457** 6 P.M. SPECIAL COUNCIL MEETING (Study Session)
Village Centers Master Plan

Public Hearings/General Business

- 23-0452** Annual City Council Public Hearing on FY 2023/24 Budget and Resource Allocation Plan and Establishment of Appropriations Limit and Sunnyvale Financing Authority Public Hearing on FY 2023/24 Budget
- 23-0455** Annual Review of Proposed Fees and Charges for Fiscal Year 2023/24

Tuesday, June 20, 2023 - City Council

Closed Session

- 23-0503** 5 P.M. Closed Session held pursuant to California Government Code Section 54957:
PUBLIC EMPLOYEE PERFORMANCE EVALUATION
Title: City Manager
- 23-0504** 5:30 P.M. Closed Session held pursuant to California Government Code Section 54957:
PUBLIC EMPLOYEE PERFORMANCE EVALUATION
Title: City Attorney
- 23-0232** 6 P.M. SPECIAL COUNCIL MEETING (Closed Session)
Closed Session Held Pursuant to California Government Code Section 54957.6:
CONFERENCE WITH LABOR NEGOTIATORS

Agency designated representatives: Tina Murphy, Director of Human Resources
Employee organization: Sunnyvale Managers Association (SMA)

Public Hearings/General Business

23-0454 City Council Adoption of the FY 2023/24 Budget, Fee Schedule and Appropriations Limit, and Sunnyvale Financing Authority Adoption of the FY 2023/24 Budget

Tuesday, June 27, 2023 - City Council

Closed Session

23-0505 5:30 P.M. Closed Session Held Pursuant to California Government Code Section 54957.6:
CONFERENCE WITH LABOR NEGOTIATORS
Agency designated representatives: Ad Hoc Committee on City Attorney Compensation
Council Members: Klein, Cisneros, Din
Unrepresented employee: City Attorney

23-0623 6:00 P.M. SPECIAL COUNCIL MEETING (Closed Session)
Closed Session Held Pursuant to California Government Code Section 54957.6:
CONFERENCE WITH LABOR NEGOTIATORS

Agency Designated Representatives: Tina Murphy, Director of Human Resources

Employee Organization: Sunnyvale Managers Association (SMA)

Special Order of the Day

23-0377 SPECIAL ORDER OF THE DAY - Parks and Recreation Month

Public Hearings/General Business

23-0453 Proposed Utility Rate Increases for FY 2023/24 Rates for Water, Wastewater, and Solid Waste Utilities for Service Provided to Customers Within and Outside City Boundaries; Finding of California Environmental Quality Act (CEQA) Exemption Pursuant to Public Resource Code Section 21080(b)(8) and CEQA Guidelines Section 15273

23-0532 Citywide Objective Design Standards for Multi-family Residential and Mixed-Use Developments

23-0563 SMaRT Station - Potential Proposal for City of Cupertino

-
- 23-0579** Adopt a Resolution to Cause Charges for Non-Payment of Delinquent Utility Charges to be placed on the FY 2023/24 County of Santa Clara Property Tax Roll

Tuesday, July 11, 2023 - City Council

Special Order of the Day

- 23-0475** SPECIAL ORDER OF THE DAY - Disability Pride Month

Public Hearings/General Business

- 23-0224** CONTINUED FROM MAY 16, 2023
Moffett Park Specific Plan and Final Environmental Impact Report
- 23-0507** Consider Amending the Employment Agreement between the City of Sunnyvale and City Attorney John A. Nagel to Modify the City Attorney Salary [and/or Benefits, and Adopt a Resolution Amending the Salary Resolution Schedule of Pay to Adjust the City Attorney Salary Range]

Tuesday, July 25, 2023 - City Council

Study Session

- 23-0159** 6 P.M. SPECIAL COUNCIL MEETING (Closed Session)
Closed Session held pursuant to California Government Code Section 54957
(a): THREAT TO PUBLIC SERVICES OR FACILITIES
Topic: Council Chambers and Bay Conference Room Security
Consultation with Sunnyvale Department of Public Safety: Phan Ngo, Director of Public Safety and Captain Jeromy Lima; John Nagel, City Attorney

Presentation

- 23-0519** PRESENTATION - Assembly Constitutional Amendment (ACA) No. 5 - Marriage Equality by Assemblymember Evan Low

Public Hearings/General Business

- 23-0049** Forward a Recommendation to the Council to Adopt a Resolution Amending Chapter 1: Introduction (Environmental Justice); Chapter 6: Safety and Noise, and Chapter 7: Environmental Management (Air Quality) of the Sunnyvale General Plan
- 23-0442** Consider the Fourth Substantial Amendment to the 2019 Annual Action Plan to Allocate Remaining CDBG-CV Funds for Administrative Activities and Contract Management
- 23-0513** Adopt a Resolution to Approve the Final Engineer's Report, Confirm the Assessment, and Levy and Collect an Annual Assessment for The Downtown Parking Maintenance District for Fiscal Year 2023/24

Tuesday, August 8, 2023 - City Council

Public Hearings/General Business

- 23-0161** 2023-2031 Housing Element Adoption
- 23-0242** Second Quarter General Plan Initiation Requests
- 23-0422** Consider Converting All Part-Time Bike Lanes on Homestead Road Into Full-Time Bike Lanes

Tuesday, August 15, 2023 - City Council

Study Session

- 23-0055** 6 P.M. SPECIAL COUNCIL MEETING (Study Session)
Board and Commission Interviews (as needed)

Tuesday, August 29, 2023 - City Council

Special Order of the Day

- 23-0378** SPECIAL ORDER OF THE DAY - National Library Card Sign-up Month
- 23-0379** SPECIAL ORDER OF THE DAY - POW/MIA Recognition Day

Public Hearings/General Business

- 23-0056** Board and Commission Appointments

Tuesday, September 12, 2023 - City Council

Special Order of the Day

- 23-0075** SPECIAL ORDER OF THE DAY - Ceremonial Oath of Office for Board and Commission Members
- 23-0380** SPECIAL ORDER OF THE DAY - Workforce Development Month
- 23-0381** SPECIAL ORDER OF THE DAY - Hispanic Heritage Month

Public Hearings/General Business

- 23-0057** Agenda Items Pending - to be scheduled

Tuesday, September 26, 2023 - City Council

Special Order of the Day

-
- 23-0383 SPECIAL ORDER OF THE DAY - Active Aging Week
- 23-0384 SPECIAL ORDER OF THE DAY - Arts and Humanities Month
- 23-0385 SPECIAL ORDER OF THE DAY - Domestic Violence Awareness Month

Public Hearings/General Business

- 23-0058 Agenda Items Pending - to be scheduled

Tuesday, October 10, 2023 - City Council

Special Order of the Day

- 23-0382 SPECIAL ORDER OF THE DAY - Breast Cancer Awareness Month
- 23-0386 SPECIAL ORDER OF THE DAY - Freedom from Workplace Bullies Week
- 23-0387 SPECIAL ORDER OF THE DAY - Cybersecurity Awareness Month
- 23-0388 SPECIAL ORDER OF THE DAY - National Friends of the Library Week

Public Hearings/General Business

- 23-0059 Agenda Items Pending - to be scheduled

Tuesday, October 24, 2023 - City Council

Special Order of the Day

- 23-0389 SPECIAL ORDER OF THE DAY - Picture Book Month

Public Hearings/General Business

- 23-0060 Agenda Items Pending - to be scheduled

Monday, November 6, 2023 - City Council

Study Session

- 23-0061 6 P.M. SPECIAL COUNCIL MEETING (Study Session)
Board and Commission Interviews (as needed)

Tuesday, November 14, 2023 - City Council

Study Session

- 23-0066 6 P.M. SPECIAL COUNCIL MEETING (Study Session)
Joint Meeting of City Council with Board and Commission Chairs and Vice

Chairs to Review and Improve Overall Effectiveness of Commission Meetings

Special Order of the Day

23-0390 SPECIAL ORDER OF THE DAY - Sunnyvale Stands United Against Hate Week

23-0391 SPECIAL ORDER OF THE DAY - Small Business Saturday

Public Hearings/General Business

23-0062 Board and Commission Appointments

23-0243 Third Quarter General Plan Initiation Requests

Tuesday, November 28, 2023 - City Council

Special Order of the Day

23-0076 SPECIAL ORDER OF THE DAY - Ceremonial Oath of Office for Board and Commission Members

Public Hearings/General Business

23-0063 Agenda Items Pending - to be scheduled

Tuesday, December 5, 2023 - City Council

Study Session

23-0173 6 P.M. SPECIAL COUNCIL MEETING (Study Session)
Discussion of Upcoming Selection of Vice Mayor

23-0174 Discussion of 2024 Council Intergovernmental Assignments

Public Hearings/General Business

23-0064 Agenda Items Pending - to be scheduled

Tuesday, December 12, 2023 - City Council

Public Hearings/General Business

23-0065 Agenda Items Pending - to be scheduled

Tuesday, January 9, 2024 - City Council

Public Hearings/General Business

23-0175 Selection of Vice Mayor for a One-Year Term Effective January 9, 2024

23-0176 Appoint Councilmembers to Intergovernmental Assignments; Ratify Appointments of Councilmembers made by Outside Agencies; Take Action to Modify, Create, or Terminate Council Subcommittees

23-0178 Determine the 2024 Seating Arrangements for City Council

Tuesday, January 23, 2024 - City Council

Special Order of the Day

23-0179 SPECIAL ORDER OF THE DAY - Recognition of Outgoing Vice Mayor

23-0180 SPECIAL ORDER OF THE DAY - Ceremonial Oath of Office for Vice Mayor

Public Hearings/General Business

23-0318 Annual Public Hearing-Discussion of Potential Council Study Issues and Budget Proposals for Calendar Year 2024

23-0319 Approve the Proposed 2024 Priority Advocacy Issues and Review Long-term Legislative Advocacy Positions (LAPs)

24-0001 Review the Council Policy 7.3.19 (Council Meetings) Process for City Council Colleague Memorandums to Propose new Agenda Items and Consider Amendments to the Process and/or an Extension of the Process Beyond January 31, 2024

Thursday, January 25, 2024 - City Council

Workshop

23-0068 8:30 A.M. SPECIAL COUNCIL MEETING
Strategic Planning Workshop

Tuesday, February 6, 2024 - City Council

Public Hearings/General Business

23-0244 Fourth Quarter General Plan Initiation Requests

Tuesday, February 13, 2024 - City Council

Study Session

23-0070 6 P.M. SPECIAL COUNCIL MEETING (Study Session)
Board and Commission Interviews (as needed)

Thursday, February 15, 2024 - City Council

Workshop

23-0071 8:30 A.M. SPECIAL COUNCIL MEETING
Study Issues/Budget Proposals Workshop

Tuesday, February 27, 2024 - City Council

Public Hearings/General Business

23-0072 Board and Commission Appointments



City of Sunnyvale

Agenda Item

23-0416

Agenda Date: 5/23/2023

Board/Commission Meeting Minutes



City of Sunnyvale

Meeting Minutes - Draft

Parks and Recreation Commission

Wednesday, April 12, 2023

7:00 PM

Online and Bay Conference Room
(Room 145), City Hall,
456 W. Olive Ave.,
Sunnyvale, CA 94086

CALL TO ORDER

Chair Giri called the meeting to order at 7:00 p.m.

SALUTE TO THE FLAG

ROLL CALL

Present: 4 - Chair Prakash Giri
Vice Chair Gregory Dibb
Commissioner Daniel Bremond
Commissioner David Kesting
Absent: 1 - Commissioner Dona Mason

Commissioner Mason had an excused absence.

Council Liaison Melton (present)

PRESENTATION

A [23-0399](#) Field/Facility Usage Report

Recreation Services Manager, Tracey Gott, provided a presentation on field and facility usage. Highlights included park buildings, neighborhood picnic sites, Baylands Park picnic sites, recreation center, senior center, theatre, CNC gymnasium, indoor sports center and field rentals.

Commissioners inquired and staff responded:

Can the presentation have more granular data on field use? Yes, staff will update for future presentations.

Can customer pay for reservations online? Yes, regular customers will have the

capability to pay online.

Can park buildings use key codes instead of reserving keys? The City can look into that option. Our Facilities department manages citywide building access.

Can park buildings have projectors installed? Currently park buildings don't have that equipment, but may install depending on budget.

Why are nonprofit rates cheaper than resident? Priority is provided to groups that offer a communal benefit.

Does the City receive feedback on fields? Yes, we receive feedback on fields that need improvement/maintenance.

Can the Commission receive a detailed report on the usage hours breakdown by groups? Yes, staff will compile and send out.

ORAL COMMUNICATIONS

Andrea W., informed the Commission that artificial turf is bad for the environment and uses a great amount of water to make and to keep cool once installed.

Daniela F. asked the Commission to explore a study to close certain streets on Sundays for patrons to freely bike/jog recreationally in a closed circuit.

CONSENT CALENDAR

Commissioner Bremond moved and Vice Chair Dibb seconded the motion to approve the Parks and Recreation Commission Minutes of February 8, 2023 as submitted. The motion carries by the following vote:

Yes: 4 - Chair Giri
Vice Chair Dibb
Commissioner Bremond
Commissioner Kesting

No: 0

Absent: 1 - Commissioner Mason

1 [23-0401](#) Approve the Parks and Recreation Commission Meeting Minutes of February 8, 2023

Approve the Parks and Recreation Commission Minutes of February 8, 2023 as

submitted.

PUBLIC HEARINGS/GENERAL BUSINESS

None.

STANDING ITEM: CONSIDERATION OF POTENTIAL STUDY ISSUES

None.

NON-AGENDA ITEMS & COMMENTS

-Commissioner Comments

Commissioner Kesting asked for more information on the resident that spoke about artificial turf during oral communications. Staff will forward information to the Commission.

-Staff Comments

Ricky Le extended an invitation for the Parks and Recreation Commission to volunteer at the Hands on the Arts Festival on Saturday, May 13, 2023. The Arts Commission will host a arts booth, and all commissioners are encouraged to participate.

Damon Sparacino provided an update to the Commission that he will resume monthly superintendent reports to provide the Commission with City updates regarding events, programs and recreational news.

INFORMATION ONLY REPORTS/ITEMS

- 2 [23-0402](#) Parks and Recreation Commission Proposed Study Issues,
Calendar Year: 2024

Standing item. No study issues approved in previous meeting were proposed.

ADJOURNMENT

Chair Giri adjourned the meeting at 7:56 p.m.



City of Sunnyvale

Meeting Minutes - Draft

Bicycle and Pedestrian Advisory Commission

Thursday, April 20, 2023

6:30 PM

Online and Bay Conference Room
(Room 145), City Hall,
456 W. Olive Ave.,
Sunnyvale, CA 94086

CALL TO ORDER

Chair Mehlman called the meeting to order at 6:33 p.m.

SALUTE TO THE FLAG

Chair Mehlman led the salute to the flag.

ROLL CALL

Present 7 - Chair Leia Mehlman
Vice Chair Bryce Beagle
Commissioner Alex Bonne
Commissioner Arwen Davé
Commissioner Dan Hafeman
Commissioner Sharlene Liu
Commissioner Timothy Oey

Sharlene Liu, new member of the BPAC introduced herself.

Council Liaison Cisneros (virtually present)

ORAL COMMUNICATIONS

Public Comment opened at 6:37 p.m.

No speakers.

Public Comment closed at 6:39 p.m.

CONSENT CALENDAR

Public Comment opened at 6:39 p.m.

No speakers.

Public Comment closed at 6:40 p.m.

- 1.A** [23-0509](#) Approve the Bicycle and Pedestrian Commission Meeting Minutes of March 16, 2023.

Approve the Bicycle and Pedestrian Commission Meeting Minutes of March 16, 2023 as submitted.

Commissioner Hafeman moved and Commissioner Oey seconded the motion to approve item 1.A.

The motion carried with the following vote:

Yes 6 - Chair Mehlman
 Vice Chair Beagle
 Commissioner Bonne
 Commissioner Davé
 Commissioner Hafeman
 Commissioner Oey

No 0

Abstain 1 - Commissioner Liu

PUBLIC HEARINGS/GENERAL BUSINESS

- 2** [23-0531](#) Discussion of TDA Funding

Angela Wong, Transportation Engineer, gave a presentation on the Transportation Development Act (TDA) Article 3 Funding for FY 2023/24. Highlighting the following:

- Background of TDA Funding
- What the funding can be used for:
 - Design & construction of a bicycle/pedestrian capital or quick build project
 - Secured bicycle parking facilities in high use activity areas
 - Restriping Class II bicycle lanes
- Approximately \$140,000/year of TDA funding - based on sales tax
- Current amount of TDA funds are \$336,620 (combination of last year's banked funds and this year's funds)
- Proposed Projects
 - #1 - Widen fence opening at Crawford Drive near Las Palmas Park - approximate cost \$130,000
 - #2 - Class IIIB Bicycle Boulevard on Helena Drive - approximate cost \$1,000,000
 - #3 - Crossing North Leg at Mathilda Avenue and Moffett Park Drive - not a refuge

area, so pedestrian signal will not be installed

- #4 - Straighten Bike Route 352 - not eligible for TDA funding
- #5 - Install pedestrian hybrid beacon (HAWK) on Mary Avenue and Carson Drive - would need to bank funds from multiple years which might exceed the time limit for banking it
- #6 - Install ramp on both ends of the pathway at Cheyenne Drive between Valcartier Drive and Yukon Drive - this project would not fit the TDA fundings
- #7 - Reduce pork chop islands on Westbound El Camino Real at both Murphy Avenue and Francis Street - approximate cost \$60,000
- #8 - Repave Morse Avenue from Persian Drive to Weddell Drive - not eligible for TDA funding
- #9 - Implement Class III Bicycle Route on Pastoria Avenue - staff recommends
- #10 - Reduce pork chop island at Northwest corner at Mathilda Avenue and Maude Avenue - not recommended by staff due to a project already working on removing all 4 pork chop islands
- #11 - Install curb ramp at the Southeast corner of Borregas Avenue and Weddell Drive - not recommended for TDA funding as more design elements need to be evaluated
- #12 - Bicycle Parking at Wiser Park - not eligible for TDA funding
- #13 - Class I Bicycle Parking at Orange and Pear Garages not working - property management has been contacted to make bike lockers accessible
- #14 - Provide additional bicycle parking at the new City Hall - Class II, 24 spaces are planned or under construction for public use
- #15 - Class I Bicycle Parking at Target Not Working - Staff is in contact with Target to make bike lockers accessible
- #16 - Implement crossing improvements at the intersection of Gale Avenue and Iris Avenue - staff recommends this project as it is working towards the ATP (Active Transportation Plan) - approximate cost \$215,000
- #17 - Install Class III/IIIB Bicycle Facilities where striping improvements have already been implemented - approximate cost \$166,000
- #18 - Install sidewalk on Poplar Avenue near Peterson Middle School - design cost approximate \$160,000, implementation and construction approximate cost \$895,000
- Objective is to discuss with the BPAC the proposed 18 projects no motion needed
- BPAC will make a recommendation for a project at the May BPAC meeting

Commissioner Oey asked about the following for slide #1:

- What the treatment is going to be besides just moving a post
- Will it be paved or stay as dirt?
- Will there be markings to notify drivers that someone could be crossing?

Ms. Tsang addressed the questions.

Vice Chair Beagle asked about the following for slide #1:

- Total cost of all the staff's recommended projects
- How does the funding work?
- What is the expiration date for the funds?
- Is it feasible to not flatten the surface and make it wider to save money?

Mr. Ng and Ms. Tsang addressed the questions.

Commissioner Hafeman asked about the following for slide #1:

- Design the project as a two stage project. Wait to have the second stage at a later date to save money
- A quote for moving just the post

Mr. Ng addressed the questions.

Commissioner Liu asked about the following for slide #1:

- TDA prioritization of projects now and then again in 4-5 years
- A crosswalk at Crawford that has a speed bump like Stella Court that has a crosswalk and a speed bump

Mr. Ng and Ms. Tsang addressed the questions.

Chair Mehlman asked about the following for slide #1:

- Add signage to vehicles to say "bicyclists may be entering roadway"

Mr. Ng addressed the question.

Commissioner Bonne asked about the following for slide #1:

- The City using Decomposed Granite (DG) instead of asphalt

Mr. Ng addressed the question.

Commissioner Oey asked about the following for slide #1:

- What's the width of the opening?
- Will there be bollards?

Mr. Ng addressed the questions.

Commission Liu asked about the following for slide #2:

- ADA directional curb ramps

Mr. Ng addressed the questions.

Chair Mehlman asked about the following for slide #2:

- Average amount of TDA funding available each year
- Issuing this proposal as a study issue, get it funded from somewhere else other than TDA funding
- Do streets automatically have striping upgrades to accommodate bicyclists as part of the normal City maintenance?

Mr. Ng and Ms. Tsang addressed the questions.

Chair Mehlman asked about the following for slide #3:

- Why is it designed this way if it is not a refuge area?

Mr. Ng addressed the question.

Vice Chair Beagle asked about the following for slide #3:

- Is this an intersection where there is always a crossing cycle?

Mr. Ng addressed the question.

Commissioner Oey asked about the following for slide #3:

- Are there any other designs for a button other than having a post there?

Mr. Ng addressed the questions.

Chair Mehlman asked about the following for slide #3:

- Can the timing be changed at the intersection so that it cycles through every single time?

Mr. Ng addressed the question.

Vice Chair Beagle asked about the following for slide #4:

- Lowering the speed limit by 5 miles per hour

- If Study Issue DPW 21-01 were to be implemented would that have an affect on the speed limit?

Mr. Ng addressed the question.

Commissioner Oey asked about the following for slide #4:

- When Study Issue DPW 21-01 is done and if Hollenbeck Avenue becomes a Class II facility then it would be eligible for TDA funding?

Mr. Ng addressed the question.

Commissioner Davé asked about the following for slide #5:

- Is Vargas Elementary School the reason for installing the HAWK beacon?

Ms. Tsang addressed the question.

Commissioner Oey asked about the following for slide #5:

- Other funding options other than TDA

Mr. Ng addressed the question.

Chair Mehlman asked about the following for slide #5:

- Will the City actively seek funding from within the City funds to address the issue at the intersection, since it's been identified in the ATP?

Mr. Ng addressed the question.

Commissioner Oey asked about the following for slide #6:

- A ramp just for bicyclists and not for pedestrians

Mr. Ng addressed the question.

Commissioner Liu asked about the following for slide #6:

- Clarification on why there can't be a ramp that comes directly out of the passageway onto Yukon

Mr. Ng addressed the question.

Commissioner Oey asked about the following for slide #6:

- What do you do about driveways?

Mr. Ng addressed the question.

Vice Chair Beagle asked about the following for slide #7:

- Removing the entire pork chop and use Quick-Build instead
- Cost of adding a bulb-out
- Where does the State's ownership end and the City's ownership begin?
- Instead of using a pork chop island, can we block the intersection at El Camino Real/Francis Street and move the traffic diverter south to have traffic come from the north to access the properties

Mr. Ng and Ms. Tsang addressed the questions.

Commissioner Hafeman asked about the following for slide #7:

- Is City staff confident that Caltrans will approve the project?
- Is City staff confident that the estimate is accurate?

Mr. Ng addressed the questions.

Commissioner Oey asked about the following for slide #7:

- Are there any projects in the ATP that would accomplish this as part of those projects?

Mr. Ng and Ms. Tsang addressed the question.

Chair Mehlman asked about the following for slide #9:

- Are miles calculated in both directions to get total mileage?

Mr. Ng and Ms. Tsang addressed the question.

Commissioner Oey asked about the following for slide #9:

- Is it a requirement to have double yellow center line in order to have sharrows?

Mr. Ng addressed the question.

Commissioner Liu asked about the following for slide #9:

- Another option to complete the project so it is less stressful for the bicyclists

Mr. Ng addressed the question.

Commissioner Bonne asked about the following for slide #9:

- Installing speed bumps or signs inside the double yellow lines reminding vehicles that the speed limit is 25 mph

Mr. Ng and Ms. Tsang addressed the question.

Chair Mehlman called for a recess at 8:13 p.m. Chair Mehlman reconvened the meeting at 8:22 p.m.

Commissioner Davé asked about the following for slide #10:

- Timeframe for when the project will be completed

Mr. Ng addressed the question.

Commissioner Oey asked about the following for slide #11:

- What is a curb ramp?

Mr. Ng addressed the question.

Chair Mehlman asked about the following for slide #11:

- Part of the issue is that there is a crosswalk and sidewalk only on one side of the intersection

Mr. Ng addressed the question.

Chair Mehlman asked about the following for slide #12:

- Temporary bicycle parking is not eligible for TDA funding but secured bicycle parking is eligible for TDA funding
- Is the City looking at installing bicycle parking in the park?

Mr. Ng addressed the questions.

Chair Mehlman asked about the following for slide #13:

- When was contact made with the property management and what was the result of that conversation?

Ms. Tsang addressed the question.

Commissioner Oey asked about the following for slide #13:

- Is a key required to access the bike lockers?

Mr. Ng and Ms. Tsang addressed the question.

Vice Chair Beagle asked about the following for slide #13:

- Is there a requirement for Class I bike lockers to be free?
- Is there a requirement for the secure aspect of the secure lockers?

Mr. Ng addressed the questions.

Chair Mehlman asked about the following for slide #13:

- How is bicycle parking access enforced?

Mr. Ng addressed the question.

Commissioner Oey asked about the following for slide #13:

- Are Pear, Orange and Target parking structures eligible for TDA funding?

Mr. Ng addressed the question.

Commissioner Liu asked about the following for slide #14:

- Making future bike parking around the new City Hall to be artsy bike parking
- Would artsy bike parking require a study issue proposal?

Mr. Ng addressed the questions.

Chair Mehlman asked about the following for slide #14:

- Has the purchase been made for the Class II bike parking?

Mr. Ng addressed the question.

Commissioner Oey asked about the following for slide #14:

- Is there any Class I parking available to visitors of City Hall?

Mr. Ng addressed the question.

Commissioner Bonne asked about the following for slide #14:

- Covered spaces for the outside bicycle parking
- Ratio of bike parking spots to car parking spots

Mr. Ng addressed the questions.

Chair Mehlman asked about the following for slide #14:

- Bike parking that is not already part of the project would have to go through additional funding

Mr. Ng addressed the question.

Chair Mehlman asked about the following for slide #16:

- Has this been partially funded?

Ms. Tsang addressed the question.

Vice Chair Beagle asked about the following for slide #16:

- How is the bulb-out chosen?
- Is this budget used just for the pedestrian improvements?

Mr. Ng addressed the questions.

Commissioner Liu asked about the following for slide #16:

- Considerations for curb extensions for the other three corners
- Is it common for curb extensions to be near school zones?

Mr. Ng and Ms. Tsang addressed the questions.

Commissioner Oey asked about the following for slide #16:

- Bundling all the Safe Routes to School funds to make a big Federal Grant

Mr. Ng addressed the question.

Vice Chair Beagle asked about the following for slide #17:

- How the 9.2 miles was calculated

Ms. Tsang addressed the question.

Chair Mehlman asked about the following for slide #18:

- Funding the design portion and banking the rest for another TDA project

Ms. Tsang addressed the question.

Commissioner Liu asked about the following for slide #18:

- Add more sidewalks as part of this project

Ms. Tsang addressed the question.

Commissioner Oey asked about the following for slide #18:

- Using roadway for the sidewalk or an easement

Ms. Tsang and Mr. Ng addressed the question.

Public Comment opened at 9:07 p.m.

No speakers.

Public Comment closed at 9:07 p.m.

Commissioner Oey commented on the following:

- First priority is to widen fence opening next to Crawford to be able to bike all the way to Downtown Sunnyvale and not have to use Sunnyvale-Saratoga Road
- Would like the implementation of the Carson crossing
- Likes the Pastoria Avenue idea of lowering the speed limit which is a high priority
- There is value in getting the Gail Avenue/Iris Avenue and Poplar Avenue/Bryant Way projects done

Commissioner Davé commented on the following:

- Six of the projects make a difference between life and death and of those 2-3 are within this year's budget
- Priority is to take care of the 2-3 projects that are within this year's budget
- Projects near the schools should be a priority

Vice Chair Beagle commented on the following:

- Happy to see both pedestrian and bicycle concerns
- Not in favor of using the budget for sharrows because they give a false security without offering any safety improvements
- In favor of using the budget for traffic calming measures

Commissioner Liu commented and asked about the following:

- It is better to put a ramp at the passageway at Yukon/Cheyenne
- In favor of putting a ramp at Borregas/Weddell

3 [23-0530](#) Report and Discussion of Recent Santa Clara Valley
Transportation Authority (VTA) Bicycle and Pedestrian
Advisory Committee (BPAC) Meeting

Commissioner Bonne, VTA BPAC Sunnyvale Representative, gave the meeting summary report for April regarding the following topics:

1. Overview of Bike Superhighway Network Project

- Characteristics: long-distance, low-stress, dedicated, accessible, efficient and attractive

- Vision of 17 "Highways" across Santa Clara County
- 2018 public feedback was: need higher quality E-W connectors
- 30% of respondents are NEW bicyclists, and indicated intent to utilize if built.

Typical response is 4%. 47% indicated they would use for commute to work/school

- The #1 design feature according to public feedback is "separated from traffic"
- On El Camino Real: 7' wide, raised, one-way with raised crossings for pedestrians. If two way bikeway, width 12-14 ft
- Cost would be \$213 million. \$28 million from applied Federal RAISE Grant

2. VTP 2050 Long-range plan update

- Goals: faster, more-frequent bus and light rail routes, more appealing to users by upgrading seats and installing WIFI on buses and VTA

3. Countywide Trails Master Plan

- Adopted in 1995 by the County Supervisor Board
- Conceptual Routes, not specific plans
- 13 off-street trails proposed
- Feedback to Draft Map by April 30 at <http://arcg.is/jfa8a>
- Contact Rebecca Coates-Maloon, Countywide Trails Program Manager at rebecca.coates-maldo@prk.sccgov.org

4. BPAC VTA May Meeting Agenda - Visionary Transit Network and additional information on Measure B

Commissioner Oey commented on the following:

- Thanked Commissioner Bonne for serving on the VTA BPAC
- Likes the raised crossing across streets

Chair Mehlman commented on the following:

- Would like to see all pedestrian crossings above grade for every single

intersection

Vice Chair Beagle commented on the following:

- Likes the continuous sidewalks that signals to vehicles they are entering a pedestrian space and would like the City to keep them in mind for future projects

Commissioner Hafeman commented on the following:

- Hopes they are wide enough so you can safely pass another bicycle

STANDING ITEM: CONSIDERATION OF POTENTIAL STUDY ISSUES

NON-AGENDA ITEMS & COMMENTS

-Commissioner Comments

Commissioner Oey commented on the following:

- May is Bike Month and we have Bike to Wherever Day will be on May 18-20
- Encourages Commissioners to pledge to ride and become Bike Ambassadors
- Sign up for bike classes at bikesiliconvalley.org/ed
- Sunday, April 23 - Viva Calle San Jose

Commissioner Hafeman commented on the following:

- Safety issue at northbound Mathilda Avenue and US 101 where the bike lane ends. Needs to have striping and warning signs to warn motorists who are making the exit off of Mathilda Avenue

Commissioner Liu commented on the following:

- Submitted information to California State Assembly Evan Low's office on having a separate section in the DMV Driver's Handbook for the rights of bikes and pedestrians
- Encourages the City to hire a Grant writer

-Staff Comments

Angela Wong commented on the following:

- There is one vacancy in the BPAC and the application process is open now
- If your term is ending, now is the time to re-apply
- Deadline to apply is Thursday, April 27 at 4 p.m. - more information can be found at www.sunnyvale.ca.gov
- Three projects from the County of Santa Clara that are asking for public input:
 - Countywide Trails Master Plan Map Update - last day to provide feedback is April 30 at www.sccgov.org

- County Active Transportation Plan Update - last day to provide feedback is May 30 at activesantaclaracounty.org
- Local Roadway Safety Plan - last day to provide feedback is May 31
- Moffett Park Specific Plan will be brought to City Council for adoption on Tuesday, May 16
- Bike to Work Day will be on May 18 from 7 to 10 a.m.
- Staff will host an energizer station at Plaza del Sol
- May 18 - Budget Workshop at 8:30 a.m. in person at City Hall or on Zoom
- Study Issue DPW 21-04(Poplar Avenue Sidewalk) will be presented to City Council on May 23

INFORMATION ONLY REPORTS/ITEMS

- | | |
|--------------------------------|------------------------------|
| <u>23-0527</u> | BPAC 2023 Annual Work Plan |
| <u>23-0528</u> | Active Items List April 2023 |
| <u>23-0529</u> | 2023 Deferred Study Issues |

ADJOURNMENT

Chair Mehlman adjourned the meeting at 9:46 p.m.



City of Sunnyvale

Meeting Minutes - Draft

Arts Commission

Thursday, April 27, 2023

7:00 PM

Online and Bay Conference Room
(Room 145), City Hall,
456 W. Olive Ave.,
Sunnyvale, CA 94086

Special Meeting

CALL TO ORDER

Chair Eskridge called the meeting to order at 7:00 p.m.

SALUTE TO THE FLAG

Chair Eskridge led the salute to the United States flag.

ROLL CALL

Present: 4 - Chair Dawna Eskridge
Commissioner Kathryn Filley
Commissioner Molly Kauffman
Commissioner Agnes Veith
Absent: 1 - Vice Chair Winnie Lam

Vice Chair Lam (excused absence)
Council Liaison Din (absent)

PRESENTATION

A [23-0404](#) Hands on the Arts Presentation

Recreation Services Coordinator, Kristin Dance, provided an update on the Hands on the Arts event.

ORAL COMMUNICATIONS

None.

CONSENT CALENDAR

Commissioner Veith moved and Commissioner Kauffman seconded the motion to

approve the consent calendar as presented. The motion carried by the following vote:

- 1 [23-0403](#) Approve the Arts Commission Meeting Minutes of February 15, 2023

Approve the Arts Commission Minutes of February 15, 2023 as submitted.

PUBLIC HEARINGS/GENERAL BUSINESS

- 2 [23-0412](#) Recommend City Council Approve 16 Design Proposals for The Great Box Cover-Up! (Utility Box Art Project-Phase 2)

Kristin Dance and Recreation Services Manager, Trenton Hill, provided a presentation on The Great Box Cover-Up (Phase 2). Highlights included: background, locations and artist proposals.

Commissioner Veith moved and Commissioner Filley seconded the motion to Recommend City Council Approve 16 Design Proposals for The Great Box Cover-Up! (Utility Box Art Project-Phase 2). The motion carried by the following vote:

Yes: 4 - Chair Eskridge
 Commissioner Filley
 Commissioner Kauffman
 Commissioner Veith

No: 0

Absent: 1 - Vice Chair Lam

- 3 [23-0413](#) Recommend Three Icon Concepts and Location Map to City Council for Final Icon Selection and Locations

Trenton Hill and Kristin Dance provided a presentation on the Sunnyvale Icons Project. Highlights included: background, examples, icons, recommended locations, design, artist selection, installation, and recommendation.

Commissioners discussed and mentioned that the current illustration of the fruit box does not look like a traditional fruit box. They added that the City of San Francisco has already chosen the parrot as their icon.

Commissioners provided their top three icons. In no particular order, the top votes were for fruit basket, sun and fruits.

Commissioner Veith moved and Commissioner Filley seconded the motion to Recommend the Three Icon Concepts of Fruit Basket, Sun and Fruit and Location Map to City Council for Final Icon Selection and Locations. The motion carried by the following vote:

Yes: 4 - Chair Eskridge
Commissioner Filley
Commissioner Kauffman
Commissioner Veith

No: 0

Absent: 1 - Vice Chair Lam

STANDING ITEM: CONSIDERATION OF POTENTIAL STUDY ISSUES

None.

NON-AGENDA ITEMS & COMMENTS

-Commissioner Comments

Commissioner Kauffman asked that the Commission be included on future discussion for selecting artists for the Utility Box Art. Staff will consider and follow up.

-Staff Comments

None.

INFORMATION ONLY REPORTS/ITEMS

4 [23-0406](#) Arts Commission Proposed Study Issues, Calendar Year: 2024
Standing item. No study issues approved in previous meeting were proposed.

ADJOURNMENT

Chair Eskridge adjourned the meeting at 8:28 p.m.



City of Sunnyvale

Meeting Minutes - Draft

Board of Library Trustees

Thursday, May 11, 2023

7:00 PM

Online and Bay Conference Room
(Room 145), City Hall,
456 W. Olive Ave.,
Sunnyvale, CA 94086

Special Meeting

CALL TO ORDER

Chair Wang called the meeting to order at 7:00 p.m.

SALUTE TO THE FLAG

Chair Wang led the salute to the United States flag.

ROLL CALL

Present: 3 - Chair Sharlene Wang
Vice Chair Mark Isaak
Board Member Meena Juttukonda
Absent: 1 - Board Member Rahul Jain

Council Liaison Srinivasan (present)
Board Member Jain (absence unexcused)

ORAL COMMUNICATIONS

None.

CONSENT CALENDAR

Motion: Vice Chair Isaak moved and Board Member Juttukonda seconded, approval of the consent calendar as presented. The motion carried by the following vote:

Yes: 3 - Chair Wang
Vice Chair Isaak
Board Member Juttukonda

No: 0

Absent: 1 - Board Member Jain

[23-0551](#) Approve the Board of Library Trustees Meeting Minutes of April 3, 2023

Approve the Board of Library Trustees Meeting Minutes of April 3, 2023 as submitted.

PUBLIC HEARINGS/GENERAL BUSINESS

[23-0555](#) Review Recommended FY 2023/24 Budget

Tim Kirby, Director of Finance, presented the FY 2023/24 budget to the board. Highlights included: citywide revenues, expenditures, reserve balances, and project updates on the Lakewood Branch Library and Civic Center Phase II.

No action was taken by the board.

Chair Wang opened the public hearing, and there being no public testimony, closed the public hearing.

STANDING ITEM: CONSIDERATION OF POTENTIAL STUDY ISSUES

NON-AGENDA ITEMS & COMMENTS

-Board Member Comments

Board Members commented on the auto renewals process, and asked for a Sister City update at an upcoming meeting.

-Staff Comments

Superintendent of Libraries, Steve Sloan spoke about: Firefighter storytime which brought in more than 300 patrons, Earth Day events, National Library Week events, May the 4th be with you events, Asian American and Pacific Islander Heritage Month events, the increase in off-site programs, and the upcoming Summer Reading Program.

ADJOURNMENT

Chair Wang adjourned the meeting at 7:53 p.m.



City of Sunnyvale

Agenda Item

23-0417

Agenda Date: 5/23/2023

Information/Action Items

Date Requested	Directive/Action Required	Dept	Due Date	Completed
9/14/21	Provide to Council a copy of final encroachment permit for the Intuitive Surgical bridge over Kifer.	DPW	Sep 2023	
4/5/22	Review no right on red at the intersection of Bernardo and Fremont Ave.	DPW	May 2023	
5/3/22	Provide a breakdown of what the various fees are for comparable cities and for an average project what percentage of the total fees of those projects fall into each of those categories. Also, would like to get a sense of how time factors into it.	CDD	May 2023	
6/7/22	Work with the Mayor to prepare advocacy letters in support of the efforts of the Amah Mutsun Tribal Band to preserve Sargent Ranch/Juristac as open space.	CDD	Jun 2023	
12/13/22	Provide UUT audit findings with the Annual Budget Report/Workshop.	FIN	May 2023	
12/13/22	Identify and review the "unfunded" list with Council during the Budget Workshop.	FIN	May 2023	
1/10/23	Provide information on metering at the Community Center and identify if there is a way to separate water usage per facility at this location.	DPW	Jun 2023	
1/10/23	Incorporate and address Council comments when the final Community Center grounds renovation project design is presented to Council for adoption.	DPW	Nov 2023	
2/7/23	Murphy Ave. pedestrian mall items for follow up: *Evaluate the crosswalk treatments at Murphy and Evelyn. *Look for more opportunities for bike racks on or near Murphy Ave *Identify options available to make Murphy Ave. more bike friendly *Look for ways to mark the clear pedestrian zone in the center of Murphy Ave. *Provide an update on the plan for Washington when Murphy Ave. is closed to vehicles	DPW	Oct 2023	
2/7/23	Provide information on the number of accidents before and after the closure of Tasman, and a graph with the number of pedestrians and bicyclists on Tasman.	DPW	May 2023	
3/14/23	Bring back an item to consider financial support for Sunnyvale Community Services	OCM	May 2023	
4/4/23	Provide Opioid settlement information to include the process to appropriate the funds and identify what the City spent funds on.	FIN	Jun 2023	

New Study Issues and Budget Proposals Sponsored by Council

Initial Sponsor in **Bold**.

Following approval by the City Manager, study issues papers and budget proposals are posted to:

<https://www.sunnyvale.ca.gov/your-government/governance/city-council/study-issues-and-budget-proposals/proposed-study-issues-and-budget-proposals>

Date Requested	RTC #	Study Issue/Budget Proposal Topic	Requested By	Dept	Approved by City Manager
3/14/23	23-0301	Evaluate Feasibility of an Art Crosswalks Program or Policy	Mehlinger , Klein, Din, Melton, Cisneros, Srinivasan, Sell	DPW	
4/4/23	23-0536	Determine Cost and Feasibility of Requiring Structural Retrofitting of Existing Seismically-Vulnerable Buildings within a Specific Time Frame	Cisneros , Mehlinger, Melton, Klein, Din, Sell, Srinivasan	CDD	
4/25/23	23-0595	Establishment of a sanctioned encampment for unhoused individuals in Sunnyvale.	Srinivasan, Klein, Cisneros, Sell, Din	CDD	



City of Sunnyvale

Agenda Item

23-0160

Agenda Date: 5/23/2023

Council Advocacy Letters

ATTACHMENTS

1. 5/10/23: Letter of Opposition Unless Amended to AB 84



456 West Olive Avenue
Sunnyvale, CA 94088-3707

408-730-7473
TDD/TYY 408-730-7501
sunnyvale.ca.gov

May 10, 2023

The Honorable Chris R. Holden
Chair, Assembly Appropriations Committee
Appropriations Committee
1021 O Street, Suite 8220
Sacramento, California 95814

**RE: AB 84 (Ward) Property tax: welfare exemption: affordable housing –
OPPOSE UNLESS AMENDED**

Larry Klein
Mayor

Omar Din
Vice Mayor

Russ Melton
Councilmember

Alysa Cisneros
Councilmember

Richard Mehlinger
Councilmember

Murali Srinivasan
Councilmember

Linda Sell
Councilmember

Dear Assembly Member Holden:

On behalf of the City of Sunnyvale, we regretfully must oppose AB 84 (Ward) unless amended, which would negatively impact local government property tax revenues by providing significant expansions of the “property tax welfare exemption.” Specifically, AB 84 allows land (including vacant land) to qualify for the exemption from the date restrictions are placed on the property, not when construction commences, expands the 140% Area Median Income (AMI) rule to cover all deed restricted affordable housing, and eliminates the statutory sunset date.

The City of Sunnyvale supports continuing to expand affordable housing statewide and efforts to reduce the cost of developing affordable housing. While Sunnyvale finds the intent of AB 84 laudable, the bill fails to provide safeguards to ensure the exemption is not abused.

For example, allowing vacant land to receive the welfare exemption from the date of deed restriction rather than when construction commences, with no time limitation, incentivizes “land banking.” This would result in the opposite of the bills intent, ultimately disincentivizing developers from beginning construction in a reasonable and timely manner.

Additionally, expanding the ability of all affordable housing properties (not just Low-Income Housing Tax Credit units) to receive the welfare exemption if a tenant’s income increases from 80 percent to 140 percent AMI is being done so without



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legislative oversight. This is the very same oversight the Legislature deemed necessary when passing AB 1193 (Gloria, Chapter 756, Statutes of 2017), which imposed a 2027-28 fiscal year sunset date on the AMI rule expansion for Low-Income Housing Tax Credit units.

Sunnyvale continues to partner in both funding and streamlined land use planning efforts for all new deed restricted TCAC developments, however, we must consider sustainable property tax revenue aspects when factoring in all new developments during these times of economic fluctuation. The City continues to support existing legislation allowing the exemption at time of construction commencement, and several sites in Sunnyvale have been successful with this approach.

Based on existing City policy to oppose any legislation that reduces or erodes local revenues or local control (LAP – Planning and Management 7.0 B(3)) and the City policy to ensure local governments' revenue sources are protected and predictable (LAP – Planning and Management 7.0 B(5)), we respectfully oppose unless amended AB 84. The bill's risks unfortunately outweigh its benefits and will disproportionately impact local governments including school districts. The negative fiscal impacts of this bill will be exclusively borne by local governments, without a guarantee that conditions to develop affordable housing will improve. We applaud the intent of the bill but have ongoing concerns with proposals that erode the local government tax base without a backfill from the state unless amended to ensure the exemption begins at construction.

For these reasons, Sunnyvale opposes AB 84 (Ward) unless amended. Thank you for your consideration of our position. Please do not hesitate to contact me or Jenny Carloni, Housing Officer at jcarloni@sunnyvale.ca.gov, if you have any questions.

Sincerely,

A handwritten signature in blue ink that reads "Larry Klein".

Larry Klein
Mayor

cc: The Honorable Gavin Newsom, Governor
The Honorable Christopher Ward, State Assembly
The Honorable Josh Becker, State Senate

The Honorable Aisha Wahab, State Senate
The Honorable Evan Low, State Assembly
City Council
Kent Steffens, City Manager
Teri Silva, Assistant City Manager
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