

CITY OF SANTA CRUZ  
809 Center Street  
Santa Cruz, California 95060



## **JOINT CITY COUNCIL - REDEVELOPMENT AGENCY AGENDA**

Regular Meeting

April 26, 2011

- |           |  |
|-----------|--|
| 2:00 P.M. | CLOSED LITIGATION SESSION, COURTYARD CONFERENCE ROOM                               |
| 3:00 P.M. | CONSENT, GENERAL BUSINESS AND PUBLIC HEARINGS, COUNCIL CHAMBERS                    |
| 5:00 P.M. | ORAL COMMUNICATIONS, COUNCIL CHAMBERS  |
| 7:00 P.M. | GENERAL BUSINESS, PUBLIC HEARINGS AND MATTERS OF PUBLIC INTEREST, COUNCIL CHAMBERS |

Council will receive e-mail regarding items on the agenda during the meeting at [citycouncil@cityofsantacruz.com](mailto:citycouncil@cityofsantacruz.com).

**Written correspondence and telephone calls received after 5:00 p.m. on the Monday immediately preceding a Council meeting may not have time to reach Councilmembers, nor be read by them prior to consideration of an item. Please make any communication to Councilmembers regarding Council meeting items prior to 5:00 p.m. Monday.**

Council meetings are cablecast on Comcast Channel 25.

Written material for every item listed in the open sessions is available for review at the Central Branch Library Reference Desk.

Time limits set by Council Policy are guidelines. Unless otherwise specified, procedures for all items, except those approved in one motion on the Consent Agenda, are:

- Oral staff report
- Public comment - 2 minutes each; maximum total time may be established by the Presiding Officer at the beginning of the item
- Council/Agency deliberation and action

## Closed Litigation Session

**2:00 PM**

The Presiding Officer will open the City Council and Redevelopment Agency Closed Litigation Sessions in a public meeting in the Courtyard Conference Room, for the purpose of announcing the agenda, considering Item 1, and for public testimony. Thereafter, the meeting will be closed to the public.

### Referral to Closed Session

1. Municipal Wharf License Agreement - Paradise Dogs (no address, no APN). (ED)

Motion to approve a referral to closed session for discussion regarding the desirability of negotiating and executing a new Municipal Wharf license agreement and to provide instructions to the Director of Economic Development regarding same.

### Closed Session

- A. Conference with Legal Counsel – Liability Claims (Government Code §54956.95).

1. Claimant: State Farm Insurance Co.
2. Claimant: Benjamin Tucker

Claims Against: City of Santa Cruz

- B. Conference with Real Property Negotiator- Real Property Negotiations (Government Code §54956.8).

2 Municipal Wharf License Negotiations (Paradise Dogs - Licensee; City of Santa Cruz - Licensor)  
City Negotiator—Bonnie Lipscomb  
No APN

- C. Conference With Legal Counsel - Existing Litigation (Government Code §54956.9).

1. Norse v. City of Santa Cruz, United States Court of Appeals Case No. 07-15814
2. People v. Huntsinger, Santa Cruz Superior Court Case No. CV169557

**Closed Session (continued)**

D. Conference with Legal Counsel-Anticipated Litigation (Government Code §54956.9).

Significant Exposure of City to Litigation (Government Code §54956.9(b)).

1 case to be discussed.

**Joint City Council/Redevelopment Agency**

**3:00 PM**

**Call to Order**

**Roll Call**

**Pledge of Allegiance**

**Presentation** - Sister Cities Hans Christian Andersen Writing Competition

**Presentation** - Proclamations honoring Prom Dress Drive Volunteers

**Presiding Officer's Announcements**

**Statements of Disqualification**

**Additions and Deletions**

**Consent Agenda**

2. Minutes of the April 5, 2011 Special City Council Meeting (CC)

Motion to approve as submitted.

3. Minutes of the April 12, 2011 Regular City Council Meeting. (CC)

Motion to approve as submitted.

4. Minutes of the April 12, 2011 Regular Redevelopment Agency Meeting. (CC)

Motion to approve as submitted.

**Consent Agenda (continued)**5. 41 Grandview St., #605 - Change in Inclusionary Housing Unit Status. (ED)

Motion to approve, authorize and direct the City Manager to execute documents, in a form approved by the City Attorney, to change the occupancy status of an existing inclusionary unit from owner-occupied to a unit available for rent to very low-, low-income, or Section 8 households for a limited period of time as set forth below.

6. Award Contract for a Tractor Drawn Aerial Ladder Fire Truck. (FN)

Motion to accept the proposal of Golden State Fire Apparatus (Modesto, CA), a dealer for Pierce Manufacturing Inc., for a Tractor Drawn Aerial Apparatus in the amount of \$932,333 and to authorize the City Manager to execute an agreement in a form approved by the City Attorney with Pierce Manufacturing Inc. for a Tractor Drawn Aerial Apparatus, and to reject all other proposals.

7. Liability Claims Filed Against City of Santa Cruz. (HR)

Motion to reject liability claims: a) State Farm Insurance, b) Benjamin Tucker; based on staff investigation.

8. Authorization to Enter into an Agreement with the Santa Cruz Seaside Company for the Construction of a Temporary Beach Deck and a Temporary Beach Access Ramp on an Annual Basis. (PK)

Resolution authorizing and directing the City Manager to enter an agreement with the Santa Cruz Seaside Company in a form acceptable to the City Attorney to 1) construct, on an annual basis, a temporary beach deck and 2) install, on an annual basis, a temporary beach access ramp.

9. 12.5% Sodium Hypochlorite for the Wastewater Treatment Facility—Award Bid. (PW)

Motion to accept the bid of Sierra Chemical Co., Sparks, NV, complying with specifications for 12.5% Sodium Hypochlorite in the amount of \$0.7246/gallon, and rejecting all other bids; and to authorize the City Manager to execute the agreement.

**Consent Agenda (continued)**10. Ferric Chloride for the Wastewater Treatment Facility - Award Bid. (PW)

Motion to accept the bid of Kemira Water Solutions, Inc. (Lawrence, Kansas) complying with specifications for 36-40% Ferric Chloride in the amount of \$735.00 per dry ton and rejecting all other bids; authorizing and directing the City Manager to execute an agreement between the City of Santa Cruz and Kemira Water Solutions, Inc. in a form acceptable to the City Attorney.

11. West Cliff Drive Paving – Budget Adjustment. (PW)

Resolution amending the FY 2011 budget to transfer funds in the amount of \$250,000 and to fully fund the West Cliff Drive Paving project, from Almar to Swanton.

**End Consent Agenda****Public Hearing**12. 2011 - 2012 Action Plan for the City's Housing and Community Development Program. (ED)

Resolution adopting the 2011 - 2012 Annual Action Plan for the City's Housing and Community Development Program, certifying environmental review, and authorizing the City Manager to sign an application for federal funding assistance for the 2011 - 2012 program year.

Resolution authorizing the City Manager to execute program/project contracts, loan agreements and related loan documents with CDBG and HOME sub-recipients and contractors in connection with Consolidated Plan activities proposed in the 2011 - 2012 Annual Action Plan and any subsequent revisions to the Action Plan.

Resolution authorizing the continuance of existing funding for reprogrammable CDBG and HOME funds from the 2010 - 2011 Consolidated Plan Program Year to the 2011 - 2012 Program Year.

## **General Business**

13. Planning and Community Development Fee Schedule Update to Establish New Fee for New Project Applications on Properties with Current Entitlements, and Revised Fees for Environmental Review to Reflect Costs. (PL)

Resolution amending the Planning and Community Development fee schedule to include a "Revised Project Fee" for similar projects on sites with active entitlements and to increase the existing "Negative Declaration/Initial Study Fee" to reflect costs, and rescinding Resolution No. NS-28,345.

14. Water Supply Assessment for General Plan 2030. (WT)

Motion to approve the Water Supply Assessment for the General Plan 2030.

15. Council Meeting Calendar (CC)

The City Council will review the meeting calendar attached to the agenda and revise it as necessary.

16. Council Memberships in City Groups and Outside Agencies (CC)

The Presiding Officer will provide Councilmembers with the opportunity to update Council and the public regarding City Groups and Outside Agencies.

17. City Attorney Report on Closed Session (CA)

**Joint City Council/Redevelopment Agency**

**5:00 PM**

**Call to Order**

**Roll Call**

Joint City Council/Redevelopment Agency Oral Communications - 30 Minutes

**The City Council and Redevelopment Agency will recess to the 7:00 p.m. session.**

## **Joint City Council/Redevelopment Agency**

**7:00 PM**

### **Call to Order**

### **Roll Call**

**Presentation** - Omega Nu Ducky Derby

**Presentation** - CPVAW & Santa Cruz City Schools Safety Skills Classes

### **General Business**

18. Citywide Wayfinding Project. (ED)

Motion to accept the wayfinding report and authorize the Executive Director to move forward with RFP release and award of contract(s) for design of first priority projects.

### **Adjournment**

The Redevelopment Agency will adjourn from the regular meeting of April 26, 2011 to the next regularly scheduled meeting on May 10, 2011, for a Closed Litigation Session at the approximate hour of 1:30 p.m. in the Courtyard Conference Room, followed by Open Sessions at the approximate hours of 3:00 p.m., 5:00 p.m. and 7:00 p.m. in Council Chambers.

The City Council will adjourn from the regularly scheduled meeting of April 26, 2011 to a Special Closed Personnel Session on May 3, 2011 at 5:00 p.m. in the Courtyard Conference Room, followed by an Open Study Session at 7:00 p.m. in Council Chambers, and then to the next regularly scheduled meeting on May 10, 2011, for a Closed Litigation Session at the approximate hour of 1:30 p.m. in the Courtyard Conference Room, followed by Open Sessions at the approximate hours of 3:00 p.m., 5:00 p.m. and 7:00 p.m. in Council Chambers.

**Advisory Body Appointments**

The following positions are vacant. Council will make appointments at a future meeting.

Measure K Oversight Committee	Three (3) vacancies
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**Public Hearing:** If, in the future, you wish to challenge in court any of the matters on this agenda for which a public hearing is to be conducted, you may be limited to raising only those issues which you (or someone else) raised orally at the public hearing or in written correspondence received by the City at or before the hearing.

Any person seeking to challenge a City Council decision made as a result of a proceeding in which, by law, a hearing is required to be given, evidence is required to be taken, and the discretion in the determination of facts is vested in the City Council, shall be required to commence that action either 60 days or 90 days following the date on which the decision becomes final as provided in Code of Civil Procedure Section 1094.6 Please refer to code of Civil Procedure 1094.6 to determine how to calculate when a decision becomes “final.” The 60-day rule applies to all public hearings conducted pursuant to the City’s Zoning Ordinance, Title 24, Santa Cruz Municipal Code. The 90-day rule applies to all other public hearings.

**City Council Agenda Legislative History Addendum**

No information was submitted.

City staff is responsible for providing the City Clerk with such documentation and information for the Legislative History Addendum. The information will be on file in the City Clerk’s Department.

The Addendum is a listing of information specific to City Council business, but which does not appear on a Council meeting agenda. Such entities would include, but not be limited to:

- Court decisions
- Coastal Commission Appeals of City Council actions
- Closed Session Agreements/Settlements, which are public record
- Association of Monterey Bay Area Governments
- Local Agency Formation Commission

ADDENDUM TO CITY COUNCIL AGENDA – April 26, 2011  
**INFORMATION ITEMS PREVIOUSLY DISTRIBUTED TO CITY COUNCILMEMBERS**  
(Copies available in the Central Branch Library at the Reference Desk)

City Manager	Monthly Camping Incident and Homeless Shelter Attendance Reports 4/6/11 (CM FYI 159)
Economic Development Department	Pacific Coast Kites – Renewal of the Municipal Wharf License for the Business Located on the Municipal Wharf 4/4/11 (ED FYI 011)  Student Public Art/Anti-Graffiti Project (Water Street Bridge) 3/15/11 (ED FYI 007)  401-B Upper Park Road – DeLaveaga Golf Lodge Restaurant Lease Extension 4/13/11 (ED FYI 012)
Planning Department	General Plan Consistency with the 2012–2014 Capital Improvement Program 4/11/11 (PL FYI 029)
Public Works Department	Transportation Planning Grant Application – King Street Bikeway 4/4/11 (PW FYI 0070)

ADDENDUM TO CITY COUNCIL AGENDA – April 26, 2011  
**MAYOR’S PROCLAMATIONS**

1. Proclaiming April 13, 2011 as “National Bookmobile Day” and encouraging all residents to visit one of the nineteen stops in their neighborhood to take advantage of the wonderful library resources available at your library, brought to you directly by the Bookmobile.



## CITY COUNCIL AGENDA REPORT

DATE: 4/18/2011

AGENDA OF: 4/26/2011

DEPARTMENT: Economic Development

SUBJECT: Referral to Closed Session: Municipal Wharf License Agreement -  
Paradise Dogs (no address, no APN). (ED)

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**RECOMMENDATION:** Motion to approve a referral to closed session for discussion regarding the desirability of negotiating and executing a new Municipal Wharf license agreement and to provide instructions to the Director of Economic Development regarding same.

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**BACKGROUND:** Vince Tuzzi operates the hot dog vending cart known as Paradise Dogs on City owned property at the Municipal Wharf under a license agreement with the City. The present license expires on July 14, 2011 and Mr. Tuzzi has indicated that he would like a new license.

**DISCUSSION:** Staff recommends that the City Council refer this matter to closed session for discussion regarding the desirability of negotiating and executing a new license and providing instructions to the Director of Economic Development regarding same.

**FISCAL IMPACT:** None at this time.

Prepared by:

Norm Daly

Wharf Property Manager

Submitted by:

Bonnie Lipscomb

Director of Economic Development

Approved by:

Martin Bernal

City Manager

**ATTACHMENTS:** None

**MINUTES ARE UNOFFICIAL UNTIL APPROVED BY COUNCIL**

CITY OF SANTA CRUZ  
809 Center Street  
Santa Cruz, California 95060

**MINUTES OF A SPECIAL CITY COUNCIL MEETING**

**April 5, 2011**

**2:00 PM**

**Closed Personnel Session**

Mayor Coonerty opened the Closed Personnel Session in a public meeting in the Courtyard Conference Room, for the purpose of announcing the agenda and receiving public comment on the listed agenda items; thereafter, the meeting was closed to the public.

**Roll Call**

Present: Councilmembers Robinson, Beiers, Terrazas, Bryant; Vice Mayor Lane; Mayor Coonerty.

Absent: Councilmember Madrigal.

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Staff: City Manager M. Bernal; Assistant City Manager T. Shull; Administrative Services Director L. Sullivan, Consultant Tim Davis.

A. Labor Negotiations (Government Code §54957.6).

Lisa Sullivan—Negotiator

- Employee Organizations—
1. SEIU temps
  2. Police Officers' Association
  3. Mid-Managers
  4. Unrepresented

Council received status reports, instructed the negotiator, and took no reportable action.

**Recess** – The City Council recessed to the 4:00 p.m. Session.

## City Council

4:00 PM

**Call to Order** – 4:05 p.m.

### Roll Call

Present: Councilmembers Robinson, Beiers, Madrigal (arrived at 4:15 p.m.), Terrazas, Bryant; Vice Mayor Lane; Mayor Coonerty.

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Staff: City Manager M. Bernal; Assistant City Manager T. Shull; Director of Planning and Community Development J. Rebagliati; Director of Water B. Kocher; Deputy Water Director/Engineering Manager L. Almond; Water Conservation Manager T. Goddard; Water Resources Manager C. Berry, Acting Deputy City Clerk L. Camarie, Interim City Clerk Administrator T. Graves.

### General Business

1. Habitat Conservation Plan Update (WT)

Director of Water B. Kocher, Water Resources Manager C. Berry, Legal Counsel S. Skaggs, Fisheries Biologist J. Hagar, System Modeler G. Fisk, Hydrologist T. Blaggett, and Water Conservation Manager T. Goddard presented oral reports and responded to Council's questions.

SPEAKING FROM THE FLOOR IN SUPPORT AND/OR EXPRESSING CONCERNS:

Dennis Davie  
George Mead  
Kevin Collins

SPEAKING FROM THE FLOOR IN OPPOSITION AND/OR EXPRESSING CONCERNS :

Steve Pleich	Jordan Sheffield
Alice Woolpert	Karen Grobe
Golden Love	Jacquelyn Griffith
Paul Gratz	Katherine Gunderson
Mathilde Rand	David Stearns
Rick Longinotti	Celia Scott
Christy Kirven	Eric Milken
Peter Petoe	Nick Evans

**General Business (continued)**

1. Habitat Conservation Plan Update (WT) (continued)

Action

Councilmember Robinson moved, seconded by Mayor Coonerty, to authorize the Water Director to enter into negotiations with NOAA Fisheries for a permit to bring the City's water operations in the San Lorenzo River, Newell Creek and North Coast streams into compliance with the Endangered Species Act. The motion carried unanimously.

**Adjournment:** At 6:20 p.m. the City Council adjourned from the special meeting of April 5, 2011 to the next regularly scheduled meeting on April 12, 2011 for a Closed Session after the hour of 1:30 p.m. in the Courtyard Conference Room followed by open sessions at the approximate hours of 3 p.m., 5:00 p.m., and 7:00 p.m. in Council Chambers.

Respectfully submitted

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Liz Camarie  
Acting Deputy City Clerk

Attest

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Tom Graves  
Interim City Clerk Administrator

Approved

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Ryan Coonerty  
Mayor

**MINUTES ARE UNOFFICIAL UNTIL APPROVED BY COUNCIL**

CITY OF SANTA CRUZ  
809 Center Street  
Santa Cruz, California 95060

**MINUTES OF A REGULAR JOINT CITY COUNCIL/  
REDEVELOPMENT AGENCY MEETING**

APRIL 12, 2011

**Closed Litigation Session**

1:30 PM

Mayor Coonerty opened the Closed Litigation Session at 1:38 p.m. in the Courtyard Conference Room, for the purpose of announcing the agenda, considering Items 1 and 2, and considering public testimony. Two members of the public were present.

**SPEAKING FROM THE FLOOR:**

Robert Norse  
An unidentified man

**Referral to Closed Session**

1. 55-D Municipal Wharf (Ocean Conservancy), APN 005-681-02. (ED)

Motion to refer to closed session discussion of an existing Municipal Wharf lease with Ocean Conservancy and to provide instructions to the Director of Economic Development regarding same.

2. 1547-1549 Pacific Avenue and 1110 Cedar Street (Park Pacific), APN 005-041-10 and 005-041-15 and 005-041-05. (ED)

Motion to refer to closed session to provide direction to staff regarding the proposed sale and potential acquisition of the property identified above.

Action

Vice Mayor/Vice Chair Lane moved, and Mayor/Chair Coonerty seconded, that items 1 and 2 be added to the Closed Session Agenda. The motion carried unanimously (Councilmember/Member Madrigal absent.)

**Closed Litigation Session (continued)**

3. Conference With Legal Counsel - Existing Litigation (Government Code §54956.9).

Robert Norse v. City of Santa Cruz, et al.  
U.S. Ninth Circuit Court of Appeal Case No. 07-15814

Action

Vice Mayor/Vice Chair Lane moved, and Councilmember/Member Robinson seconded, to add this item to the agenda as the need to act arose subsequent to the agenda being posted, and action is necessary before the next regular meeting. The motion carried unanimously (Councilmember/Member Madrigal absent.)

Council closed the session to the public at 1:46 p.m. Councilmembers Robinson, Beiers, Terrazas, Bryant; Vice Mayor Lane; and Mayor Coonerty were present. Councilmember Madrigal was absent. (See pages 1464-1465 for report on closed session.)

## Joint City Council/Redevelopment Agency

### 3:00 PM SESSION

Mayor/Chair Coonerty called the meeting to order at 3:07 p.m. in the Council Chambers.

#### Roll Call

Present: Councilmembers/Members Robinson, Beiers, Madrigal, Terrazas, Bryant; Vice Mayor/Vice Chair Lane; Mayor/Chair Coonerty.

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Staff City Manager M. Bernal; Executive Director of Economic Development and Redevelopment B. Lipscomb, Director of Finance J. Dilles, Chief of Fire R. Oliver, Director of Administrative Services L. Sullivan, Director of Planning and Community Development J. Rebagliati; Chief of Police K. Vogel, Director of Public Works M. Dettle, Deputy Water Director L. Almond, Operations Manager K. Van Der Maaten, Assistant Director of Public Works C. Schneiter, Green Business Coordinator C. Atchison, Acting Deputy City Clerk L. Camarie, Interim City Clerk Administrator T. Graves.

#### Pledge of Allegiance

#### Presiding Officer's Announcements

**Introduction of New Employees** – Director of Parks and Recreation D. Shoemaker introduced Superintendent of Parks Mauro Garcia; Deputy Water Director L. Almond introduced Utility Maintenance Technician Benjamin Crabb and Electrical Instrumentation Technician Eric Karo; Director of Planning and Community Development J. Rebagliati introduced Code Compliance Specialist Michael Stoker; and Director of Public Works M. Dettle introduced Resource Recovery Workers Hermenegildo Avalos and Ricky Shaw.

**Presentation** – CityServe Volunteer Coordinator L. Keeffe introduced volunteers receiving the CityServe Outstanding Volunteer Awards and Mayor Coonerty presented them with their certificates.

**Presentation** – Assistant City Manager T. Shull announced that the City had been recognized with the United Way President's Award for its very successful workplace campaign; Vice Mayor D. Lane was also recognized for his work with Project Homeless Connect.

**Presentation** – Assistant Public Works Director C. Schneiter presented a Transportation Project Update, discussing recently completed and current projects.

**Statements of Disqualification** – None.

**Additions and Deletions** – None.

### **Consent Agenda**

Action

Councilmember/Member Terrazas moved, seconded by Vice Mayor/Vice Chair Lane, to approve the Consent Agenda. The motion carried unanimously.

3. Minutes of the March 1, 2011 Special and March 8, 2011 Regular City Council Meetings.(CC)

Motion carried to approve as submitted.

4. Minutes of the March 1, 2011 Special and March 8, 2011 Regular Redevelopment Agency Meetings. (CC)

Motion carried to approve as submitted.

5. Minutes of the March 15, 2011 Emergency City Council Meeting. (CC)

Motion carried to approve as submitted.

6. Minutes of the March 22, 2011 Regular City Council Meeting. (CC)

Motion carried to approve as submitted.

7. Minutes of the March 22, 2011 Regular Redevelopment Agency Meeting. (CC)

Motion carried to approve as submitted.

**Consent Agenda (continued)**

8. AB 313: Residential Care Facility for the Elderly: Notification – Resolution of Support. (CN)

Resolution No. NS-28,347 was adopted supporting Assembly Bill 313: Residential Care Facility for the Elderly (RCFE): Notification, which would require notice to RCFE residents and emergency contacts prior to a potential facility license revocation.

9. Appointing the City's Alternate Representative to the Santa Cruz County Regional Transportation Commission. (CN)

Motion carried to appoint Councilmember Terrazas to serve as the City's alternate representative to the Santa Cruz County Regional Transportation Commission.

10. Senate Bill 444: Rental Mobilehome Park Conversion and Resident Support Survey – Resolution of Support. (CN)

Resolution No. NS-28,348 was adopted supporting SB 444: Land Use: Subdivisions: Rental Mobilehome Park Conversion, which would allow local jurisdictions to prevent conversions of rental mobilehome parks if the Resident Support Survey does not demonstrate adequate resident support.

11. Termination of the Declaration of a State of Emergency in the City of Santa Cruz from the March 11, 2011 Tsunami Surge – Resolution. (CM)

Resolution No. NS-28,349 was adopted terminating the Declaration of a State of Emergency in the City of Santa Cruz which arose from the tsunami surge event of March 11, 2011.

**Consent Agenda (continued)**

12. FY 2012 Cooperative Retail Management Business Real Property Improvement District Assessments. (ED)

Motion carried to approve the report prepared by the Downtown Management Corporation for FY 2012.

Resolution of Intention No. NS-28,350 was adopted to levy a business improvement assessment for FY 2012.

Motion carried to schedule a public hearing for May 10, 2011, after the hour of 3:00 p.m., on the levy of the assessments for FY 2012.

13. Tannery Arts Center - Grant of Public Utility Easement over a Portion of Lot 3 Tannery Arts Center Subdivision. (ED)

Redevelopment Agency Resolution No. 1533 was adopted authorizing the Executive Director to grant a public utility easement over a portion of Lot 3 of the Tannery Arts Center Subdivision, 1020 River Street (APN 008-661-03).

14. 2 Municipal Wharf - Venture Quest (APN 005-381-10) Municipal Wharf License Agreement. (ED)

Motion carried to authorize and direct the City Manager to execute a Municipal Wharf License Agreement and any amendments thereto of a non-substantive nature, in a form acceptable to the City Attorney, with Dave Johnston for the operation of a kayak rental business at 2 Municipal Wharf

15. Liability Claims Filed Against City of Santa Cruz. (HR)

Motion carried to reject liability claims: a) Michael Boyd, b) Anthony Ruffo; based on staff investigation.

**Consent Agenda (continued)**

16. Temporary Extension of Cowell Beach Concession Contract. (PK)

Resolution No. NS-28,351 was adopted authorizing and directing the City Manager to extend the agreement with Ed Guzman of Club Ed Lessons and Beach Rentals Concession for the operation of an ocean and beach related concession on Cowell Beach through December 31, 2011.

17. Rising Fuel Expenses - Budget Adjustment. (PW)

Resolution No. NS-28,352 was adopted to amend the FY 2011 budget to appropriate funds in the amount of \$200,000, to fund rising fuel expenses.

18. Branciforte Creek Subdivision (5 Isbel Drive) – Tract No.1565 – Approve Final Map. (PW)

Resolution No. NS-28,353 was adopted approving the Final Map for Branciforte Creek Subdivision - Tract No. 1565 (5 Isbel Drive), and authorizing and directing the City Manager to execute the Subdivision Agreement.

19. City of Santa Cruz Sewer Liner Project (m400807) – Authorization to Advertise

Motion carried to approve the plans and specifications for the City of Santa Cruz Sewer Liner Project (m400807), and authorize staff to advertise for bids. The City Manager is hereby authorized and directed to execute the contract as authorized by Resolution NS-27,563.

20. Public Utility Easement for PG&E Gas Facilities in the Eastside Triangle Park on Poplar Avenue, APN 011-023-01. (PW)

Resolution No. NS-28,354 was adopted authorizing and directing the City Manager to execute any and all documents, in a form approved by the City Attorney, granting Pacific Gas and Electric Company (PG&E) a public utility easement for gas facilities on the said City owned parcel inside the Eastside Triangle park on Poplar Avenue between Water Street and Soquel Avenue (APN 001-023-01).

**Consent Agenda (continued)**

21. Water Supply Project –Desalination Pilot Study – Contract with Camp Dresser & McKee, Inc. – Notice of Completion. (WT)

Motion carried to accept the work completed by Camp Dresser & McKee, Inc. of Walnut Creek CA, and authorize the filing of a Notice of Completion for the Desalination Pilot Study.

**End Consent Agenda**

**Public Hearing**

22. Ordinance 2011-03 Repealing Section 10.40.060 of the Santa Cruz Municipal Code, Parking for Demonstration. (CN)

Action

Councilmember/Member Robinson moved, seconded by Councilmember Bryant, to pass Ordinance No. 2011-03 for final adoption. The motion carried unanimously.

**General Business**

23. Planning Commission Appointment. (CC)

Mark Mesiti-Miller was appointed.

24. Council Meeting Calendar (CC)

The City Council accepted the meeting calendar attached to the agenda as presented.

25. Council Memberships in City Groups and Outside Agencies (CC)

Councilmember Madrigal thanked the *Santa Cruz Sentinel* for donation of its announcements, and the community for its generosity, in providing prom dresses for high school girls at the Walnut Avenue Women's Center on March 26, 2011.

**General Business (continued)**

26. City Attorney Report on Closed Session (CA)

A. Conference with Legal Counsel – Liability Claims (Government Code §54956.95).

1. Claimant: Michael Boyd
2. Claimant: Anthony Ruffo
3. Claimant: Geico Insurance

Claims Against: City of Santa Cruz

3 claims were discussed. Council authorized the settlement of Claim 3.

B. Labor Negotiations (Government Code §54956.6).

Lisa Sullivan — Negotiator  
Employee Group — Executives

Council received a status report, instructed the negotiator, and took no reportable action.

C. Conference with Real Property Negotiator- Real Property Negotiations (Government Code §54956.8).

2 Municipal Wharf License Negotiations (Venture Quest - Licensee;  
City of Santa Cruz - Licensor)  
City Negotiator—Bonnie Lipscomb  
APN 005-381-10

55-D Municipal Wharf Lease Negotiations (Ocean Conservancy -  
Lessee; City of Santa Cruz – Lessor)  
City Negotiator—Bonnie Lipscomb  
APN 005-681-02

**General Business (continued)**

26. City Attorney Report on Closed Session (CA) (continued)

D. Conference with Real Property Negotiator - Real Property Negotiations (Government Code §54956.8)

1547-1549 Pacific Avenue/1110 Cedar Street Property Acquisition  
(Redevelopment Agency)  
Agency Negotiator—Bonnie Lipscomb  
APN 005-041-10; 005-041-15; 005-041-05

Council received status reports, instructed the City Attorney, and took no reportable action.

E. Conference with Legal Counsel-Anticipated Litigation (Government Code §54956.9).

Significant Exposure of City to Litigation (Government Code §54956.9(b)).

Initiation of Litigation by City (Government Code §54956.9(c)).

Council received status reports, instructed the City Attorney, and took no reportable action.

**Recess** – The City Council/Redevelopment Agency recessed to the 5:00 p.m. Session.



## **Joint City Council/Redevelopment Agency**

### **5:00 P.M. SESSION**

Vice Mayor/Vice Chair Lane called the meeting to order at 5:08 p.m. in the Council Chambers.

#### **Roll Call**

Present: Councilmembers/Members Robinson, Beiers, Madrigal, Terrazas, Bryant; Vice Mayor/Vice Chair Lane.

Absent: Mayor/Chair Coonerty.

#### **Joint City Council/Redevelopment Agency Oral Communications**

Ed Davidson objected to the change to 5:00 p.m. for Oral Communications. He additionally expressed concern about the attempt to prohibit water extension to the UCSC Upper Campus. He stated that forcing 3,000 students to be thrown into the City's housing market will cause housing and traffic problems, and the same amount of water will be used.

Anthony Joseph Annono requested replacement of valuable property that was allegedly lost while it was in the possession of the Police Department.

Mike Tomasi objected to the change to 5:00 p.m. for Oral Communications.

**Recess** – At 5:17 p.m., the City Council/Redevelopment Agency recessed to the 7:00 p.m. Session.



CITY OF SANTA CRUZ  
809 Center Street  
Santa Cruz, California 95060

**MINUTES OF A JOINT CITY COUNCIL/  
REDEVELOPMENT AGENCY MEETING**

APRIL 12, 2011

**7:00 P.M. SESSION**

Vice-Mayor/Vice Chair Lane called the meeting to order at 7:05 p.m. in Council Chambers.

**Roll Call**

Present: Councilmembers/Members Robinson, Beiers, Madrigal, Terrazas, Bryant; Vice Mayor/Vice Chair Lane.

Absent: Mayor/Chair Coonerty.

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Staff: City Manager M. Bernal, Assistant City Manager T. Shull, Deputy City Attorney C. Cassman, Executive Director of Economic Development and Redevelopment B. Lipscomb, Director of Finance J. Dilles, Director of Planning and Community Development J. Rebagliati, Director of Parks and Recreation D. Shoemaker, Director of Public Works M. Dettle, Director of Water B. Kocher, Police Chief K. Vogel, Fire Chief Ron Oliver, Assistant Finance Director C. Fyfe, Assistant Director of Public Works C. Schneider, Chief Building Official J. Ancic, Principal Planner K. Thomas, Green Building and Environmental Specialist J. Fullerton, Acting Deputy City Clerk L. Camarie, Interim City Clerk Administrator T. Graves.

**Presentation** - Green Building Awards – Green Building Awards were presented to the owners of 224 Sunset Avenue, 219 National Street, 358 Frederick Street, and 1306 King Street.

**General Business**

27. City of Santa Cruz Capital Improvement Projects Fiscal Year 2012 - 2014.  
(FN)

Vice Mayor/Vice Chair Lane opened the public hearing at 7:16 p.m.

City Manager M. Bernal, Director of Finance J. Dilles, Director of Parks and Recreation D. Shoemaker, Director of Public Works M. Dettle, and Assistant Director of Public Works C. Schneiter presented oral reports and responded to Council's questions.

**Recess** – At 9:06 p.m. Council took a 10-minute recess.

Council reconvened at 9:14 p.m.

**SPEAKING FROM THE FLOOR EXPRESSING CONCERNS:**

Micah Posner  
Eric Grabiell  
Zoe Attenberg  
Tawn Kennedy  
Kelly Human  
Jack Nelson  
Bob Vorse  
Rick Longinotti  
John Golder

Councilmember/Member Madrigal moved, seconded by Councilmember/Member Beiers, that Mr. Golder be allowed two additional minutes to speak. The motion FAILED by the following vote:

AYES: Councilmembers/Members Madrigal, Beiers.  
NOES: Councilmembers/Members Robinson, Terrazas, Bryant; Vice Mayor/Vice Chair Lane.  
ABSENT: Mayor/Chair Coonerty.  
DISQUALIFIED: None.

**SPEAKING FROM THE FLOOR EXPRESSING CONCERNS (continued)**

Mark D. Lee

**General Business (continued)**

27. City of Santa Cruz Capital Improvement Projects Fiscal Year 2012 – 2014. (FN) (continued)

Action Councilmember/Member Terrazas moved, seconded by Councilmember/Member Beiers, that the 5 Isbel Drive bike lane project be moved to the funded list, with the anticipation of future grants. The motion carried unanimously (Mayor/Chair Coonerty absent).

Action Councilmember/Member Robinson moved, seconded by Councilmember/Member Beiers, that the mistake on page 24 pertaining to funding for reconstruction and overlay of residential collector streets be corrected. A new line of debt proceeds shall be added to FY 2013 and 2014. The motion carried unanimously (Mayor/Chair Coonerty absent).

Action Councilmember/Member Beiers moved, seconded by Councilmember/Member Bryant, that the rail trail from Bay to Moore Creek be added to the unfunded list. The motion carried unanimously (Mayor/Chair Coonerty absent).

Councilmember/Member Beiers moved, seconded by Councilmember/Member Madrigal, that the traffic signal in the Beach/South of Laurel Area Plan be eliminated from funding in 2014 and moved to the unfunded list. The motion FAILED by the following vote:

AYES: Councilmembers/Members Beiers, Madrigal.  
NOES: Councilmembers/Members Robinson, Terrazas,  
Bryant; Vice Mayor/Vice Chair Lane.  
ABSENT: Mayor/Chair Coonerty.  
DISQUALIFIED: None.

Action Councilmember/Member Beiers moved, seconded by Councilmember/Member Madrigal, that the King Street Bikeway Planning Project be included, with an anticipated grant, in FY 2013. The motion carried unanimously (Mayor/Chair Coonerty absent)

Action Councilmember/Member Beiers moved, seconded by Councilmember/Member Madrigal, that the widening of the Highway 1 Bridge be agendized on a regular meeting agenda in the next 12 months. The motion carried unanimously (Mayor/Chair Coonerty absent).

1470  
JOINT CITY COUNCIL/  
REDEVELOPMENT AGENCY MEETING  
APRIL 12, 2011  
3:00 P.M. SESSION

**Adjournment** — At 11:28 p.m., the Redevelopment Agency adjourned from the regularly scheduled meeting of April 12, 2011 to the next regularly scheduled meeting on April 26, 2011, for a closed litigation session at 1:30 p.m., in the Courtyard Conference Room, followed by open sessions at the approximate hours of 3:00 p.m., 5:00 p.m., and 7:00 p.m. in Council Chambers.

**Adjournment** — At 11:28 p.m., the City Council adjourned from the regularly scheduled meeting of April 12, 2011, to the next regularly scheduled meeting on April 26, 2011, for a closed litigation session at 1:30 p.m., in the Courtyard Conference Room, followed by open sessions at the approximate hour of 3:00 p.m., 5:00 p.m., and 7:00 p.m. in Council Chambers.

Respectfully submitted

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Liz Camarie  
Acting Deputy City Clerk

Attest

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Tom Graves  
Interim City Clerk Administrator

Approved

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Ryan Coonerty  
Mayor

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Don Lane  
Vice Mayor

# MINUTES OF A REGULAR REDEVELOPMENT AGENCY MEETING

APRIL 12, 2011

## 3:00 PM SESSION

Mayor/Chair Coonerty called the meeting to order at 3:07 p.m. in the Council Chambers.

### Roll Call

Present: Councilmembers/Members Robinson, Beiers, Madrigal, Terrazas, Bryant; Vice Mayor/Vice Chair Lane; Mayor/Chair Coonerty.

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Staff City Manager M. Bernal; Executive Director of Economic Development and Redevelopment B. Lipscomb, Director of Finance J. Dilles, Chief of Fire R. Oliver, Director of Administrative Services L. Sullivan, Director of Planning and Community Development J. Rebagliati; Chief of Police K. Vogel, Director of Public Works M. Dettle, Deputy Water Director L. Almond, Operations Manager K. Van Der Maaten, Assistant Director of Public Works C. Schneider, Green Business Coordinator C. Atchison, Acting Deputy City Clerk L. Camarie, Interim City Clerk Administrator T. Graves.

### Pledge of Allegiance

### Presiding Officer's Announcements

**Introduction of New Employees** – Director of Parks and Recreation D. Shoemaker introduced Superintendent of Parks Mauro Garcia; Deputy Water Director L. Almond introduced Utility Maintenance Technician Benjamin Crabb and Electrical Instrumentation Technician Eric Karo; Director of Planning and Community Development J. Rebagliati introduced Code Compliance Specialist Michael Stoker; and Director of Public Works M. Dettle introduced Resource Recovery Workers Hermenegildo Avalos and Ricky Shaw.

**Presentation** – CityServe Volunteer Coordinator L. Keeffe introduced volunteers receiving the CityServe Outstanding Volunteer Awards and Mayor Coonerty presented them with their certificates.

**Presentation** – Assistant City Manager T. Shull announced that the City had been recognized with the United Way President's Award for its very successful workplace campaign; Vice Mayor D. Lane was also recognized for his work with Project Homeless Connect.

REDEVELOPMENT AGENCY MEETING  
APRIL 12, 2011  
7:00 P.M. SESSION

**Presentation** – Assistant Public Works Director C. Schneiter presented a Transportation Project Update, discussing recently completed and current projects.

**Statements of Disqualification** – None.

**Additions and Deletions** – None.

**Consent Agenda**

Action

Councilmember/Member Terrazas moved, seconded by Vice Mayor/Vice Chair Lane, to approve the Consent Agenda. The motion carried unanimously.

3. Minutes of the March 1, 2011 Special and March 8, 2011 Regular City Council Meetings.(CC)

Motion carried to approve as submitted.

4. Minutes of the March 1, 2011 Special and March 8, 2011 Regular Redevelopment Agency Meetings. (CC)

Motion carried to approve as submitted.

5. Minutes of the March 15, 2011 Emergency City Council Meeting. (CC)

Motion carried to approve as submitted.

6. Minutes of the March 22, 2011 Regular City Council Meeting. (CC)

Motion carried to approve as submitted.

7. Minutes of the March 22, 2011 Regular Redevelopment Agency Meeting. (CC)

Motion carried to approve as submitted.

REDEVELOPMENT AGENCY MEETING  
 APRIL 12, 2011  
 7:00 P.M. SESSION

**Consent Agenda (continued)**

8. AB 313: Residential Care Facility for the Elderly: Notification – Resolution of Support. (CN)

Resolution No. NS-28,347 was adopted supporting Assembly Bill 313: Residential Care Facility for the Elderly (RCFE): Notification, which would require notice to RCFE residents and emergency contacts prior to a potential facility license revocation.

9. Appointing the City's Alternate Representative to the Santa Cruz County Regional Transportation Commission. (CN)

Motion carried to appoint Councilmember Terrazas to serve as the City's alternate representative to the Santa Cruz County Regional Transportation Commission.

10. Senate Bill 444: Rental Mobilehome Park Conversion and Resident Support Survey – Resolution of Support. (CN)

Resolution No. NS-28,348 was adopted supporting SB 444: Land Use: Subdivisions: Rental Mobilehome Park Conversion, which would allow local jurisdictions to prevent conversions of rental mobilehome parks if the Resident Support Survey does not demonstrate adequate resident support.

11. Termination of the Declaration of a State of Emergency in the City of Santa Cruz from the March 11, 2011 Tsunami Surge – Resolution. (CM)

Resolution No. NS-28,349 was adopted terminating the Declaration of a State of Emergency in the City of Santa Cruz which arose from the tsunami surge event of March 11, 2011.

REDEVELOPMENT AGENCY MEETING  
APRIL 12, 2011  
7:00 P.M. SESSION

**Consent Agenda (continued)**

12. FY 2012 Cooperative Retail Management Business Real Property Improvement District Assessments. (ED)

Motion carried to approve the report prepared by the Downtown Management Corporation for FY 2012.

Resolution of Intention No. NS-28,350 was adopted to levy a business improvement assessment for FY 2012.

Motion carried to schedule a public hearing for May 10, 2011, after the hour of 3:00 p.m., on the levy of the assessments for FY 2012.

13. Tannery Arts Center - Grant of Public Utility Easement over a Portion of Lot 3 Tannery Arts Center Subdivision. (ED)

Redevelopment Agency Resolution No. 1533 was adopted authorizing the Executive Director to grant a public utility easement over a portion of Lot 3 of the Tannery Arts Center Subdivision, 1020 River Street (APN 008-661-03).

14. 2 Municipal Wharf - Venture Quest (APN 005-381-10) Municipal Wharf License Agreement. (ED)

Motion carried to authorize and direct the City Manager to execute a Municipal Wharf License Agreement and any amendments thereto of a non-substantive nature, in a form acceptable to the City Attorney, with Dave Johnston for the operation of a kayak rental business at 2 Municipal Wharf

15. Liability Claims Filed Against City of Santa Cruz. (HR)

Motion carried to reject liability claims: a) Michael Boyd, b) Anthony Ruffo; based on staff investigation.

REDEVELOPMENT AGENCY MEETING  
APRIL 12, 2011  
7:00 P.M. SESSION

**Consent Agenda (continued)**

16. Temporary Extension of Cowell Beach Concession Contract. (PK)

Resolution No. NS-28,351 was adopted authorizing and directing the City Manager to extend the agreement with Ed Guzman of Club Ed Lessons and Beach Rentals Concession for the operation of an ocean and beach related concession on Cowell Beach through December 31, 2011.

17. Rising Fuel Expenses - Budget Adjustment. (PW)

Resolution No. NS-28,352 was adopted to amend the FY 2011 budget to appropriate funds in the amount of \$200,000, to fund rising fuel expenses.

18. Branciforte Creek Subdivision (5 Isbel Drive) – Tract No.1565 – Approve Final Map. (PW)

Resolution No. NS-28,353 was adopted approving the Final Map for Branciforte Creek Subdivision - Tract No. 1565 (5 Isbel Drive), and authorizing and directing the City Manager to execute the Subdivision Agreement.

19. City of Santa Cruz Sewer Liner Project (m400807) – Authorization to Advertise

Motion carried to approve the plans and specifications for the City of Santa Cruz Sewer Liner Project (m400807), and authorize staff to advertise for bids. The City Manager is hereby authorized and directed to execute the contract as authorized by Resolution NS-27,563.

20. Public Utility Easement for PG&E Gas Facilities in the Eastside Triangle Park on Poplar Avenue, APN 011-023-01. (PW)

Resolution No. NS-28,354 was adopted authorizing and directing the City Manager to execute any and all documents, in a form approved by the City Attorney, granting Pacific Gas and Electric Company (PG&E) a public utility easement for gas facilities on the said City owned parcel inside the Eastside Triangle park on Poplar Avenue between Water Street and Soquel Avenue (APN 001-023-01).

REDEVELOPMENT AGENCY MEETING  
APRIL 12, 2011  
7:00 P.M. SESSION

**Consent Agenda (continued)**

21. Water Supply Project –Desalination Pilot Study – Contract with Camp Dresser & McKee, Inc. – Notice of Completion. (WT)

Motion carried to accept the work completed by Camp Dresser & McKee, Inc. of Walnut Creek CA, and authorize the filing of a Notice of Completion for the Desalination Pilot Study.

**End Consent Agenda**

**Public Hearing**

22. Ordinance 2011-03 Repealing Section 10.40.060 of the Santa Cruz Municipal Code, Parking for Demonstration. (CN)

Action

Councilmember/Member Robinson moved, seconded by Councilmember Bryant, to pass Ordinance No. 2011-03 for final adoption. The motion carried unanimously.

**General Business**

23. Planning Commission Appointment. (CC)

Mark Mesiti-Miller was appointed.

24. Council Meeting Calendar (CC)

The City Council accepted the meeting calendar attached to the agenda as presented.

25. Council Memberships in City Groups and Outside Agencies (CC)

Councilmember Madrigal thanked the *Santa Cruz Sentinel* for donation of its announcements, and the community for its generosity, in providing prom dresses for high school girls at the Walnut Avenue Women's Center on March 26, 2011.

REDEVELOPMENT AGENCY MEETING  
 APRIL 12, 2011  
 7:00 P.M. SESSION

**General Business (continued)**

26. City Attorney Report on Closed Session (CA)

A. Conference with Legal Counsel – Liability Claims (Government Code §54956.95).

1. Claimant: Michael Boyd
2. Claimant: Anthony Ruffo
3. Claimant: Geico Insurance

Claims Against: City of Santa Cruz

3 claims were discussed. Council authorized the settlement of Claim 3.

B. Labor Negotiations (Government Code §54956.6).

Lisa Sullivan —Negotiator  
 Employee Group — Executives

Council received a status report, instructed the negotiator, and took no reportable action.

C. Conference with Real Property Negotiator- Real Property Negotiations (Government Code §54956.8).

2 Municipal Wharf License Negotiations (Venture Quest - Licensee;  
 City of Santa Cruz - Licensor)  
 City Negotiator—Bonnie Lipscomb  
 APN 005-381-10

55-D Municipal Wharf Lease Negotiations (Ocean Conservancy -  
 Lessee; City of Santa Cruz – Lessor)  
 City Negotiator—Bonnie Lipscomb  
 APN 005-681-02

REDEVELOPMENT AGENCY MEETING  
APRIL 12, 2011  
7:00 P.M. SESSION

**General Business (continued)**

26. City Attorney Report on Closed Session (CA) (continued)

D. Conference with Real Property Negotiator- Real Property Negotiations (Government Code §54956.8)

1547-1549 Pacific Avenue/1110 Cedar Street Property Acquisition  
(Redevelopment Agency)  
Agency Negotiator—Bonnie Lipscomb  
APN 005-041-10; 005-041-15; 005-041-05

Council received status reports, instructed the City Attorney, and took no reportable action.

E. Conference with Legal Counsel-Anticipated Litigation (Government Code §54956.9).

Significant Exposure of City to Litigation (Government Code §54956.9(b)).

Initiation of Litigation by City (Government Code §54956.9(c)).

Council received status reports, instructed the City Attorney, and took no reportable action.

**Recess** – The City Council/Redevelopment Agency recessed to the 5:00 p.m. Session.

REDEVELOPMENT AGENCY MEETING  
APRIL 12, 2011  
7:00 P.M. SESSION

## **REDEVELOPMENT AGENCY MEETING**

### **5:00 P.M. SESSION**

Vice Mayor/Vice Chair Lane called the meeting to order at 5:08 p.m. in the Council Chambers.

#### **Roll Call**

Present: Councilmembers/Members Robinson, Beiers, Madrigal, Terrazas, Bryant; Vice Mayor/Vice Chair Lane.

Absent: Mayor/Chair Coonerty.

#### **Joint City Council/Redevelopment Agency Oral Communications**

Ed Davidson objected to the change to 5:00 p.m. for Oral Communications. He additionally expressed concern about the attempt to prohibit water extension to the UCSC Upper Campus. He stated that forcing 3,000 students to be thrown into the City's housing market will cause housing and traffic problems, and the same amount of water will be used.

Anthony Joseph Annono requested replacement of valuable property that was allegedly lost while it was in the possession of the Police Department.

Mike Tomasi objected to the change to 5:00 p.m. for Oral Communications.

**Recess** – At 5:17 p.m., the City Council/Redevelopment Agency recessed to the 7:00 p.m. Session.

CITY OF SANTA CRUZ  
809 Center Street  
Santa Cruz, California 95060

**MINUTES OF A REDEVELOPMENT AGENCY MEETING**

APRIL 12, 2011

**7:00 P.M. SESSION**

Vice-Mayor/Vice Chair Lane called the meeting to order at 7:05 p.m. in Council Chambers.

**Roll Call**

Present: Councilmembers/Members Robinson, Beiers, Madrigal, Terrazas, Bryant; Vice Mayor/Vice Chair Lane.

Absent: Mayor/Chair Coonerty.

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Staff: City Manager M. Bernal, Assistant City Manager T. Shull, Deputy City Attorney C. Cassman, Executive Director of Economic Development and Redevelopment B. Lipscomb, Director of Finance J. Dilles, Director of Planning and Community Development J. Rebagliati, Director of Parks and Recreation D. Shoemaker, Director of Public Works M. Dettle, Director of Water B. Kocher, Police Chief K. Vogel, Fire Chief Ron Oliver, Assistant Finance Director C. Fyfe, Assistant Director of Public Works C. Schneiter, Chief Building Official J. Ancic, Principal Planner K. Thomas, Green Building and Environmental Specialist J. Fullerton, Acting Deputy City Clerk L. Camarie, Interim City Clerk Administrator T. Graves.

**Presentation** - Green Building Awards – Green Building Awards were presented to the owners of 224 Sunset Avenue, 219 National Street, 358 Frederick Street, and 1306 King Street.

REDEVELOPMENT AGENCY MEETING  
 APRIL 12, 2011  
 7:00 P.M. SESSION

### **General Business**

27. City of Santa Cruz Capital Improvement Projects Fiscal Year 2012 - 2014.  
(FN)

Vice Mayor/Vice Chair Lane opened the public hearing at 7:16 p.m.

City Manager M. Bernal, Director of Finance J. Dilles, Director of Parks and Recreation D. Shoemaker, Director of Public Works M. Dettle, and Assistant Director of Public Works C. Schneiter presented oral reports and responded to Council's questions.

**Recess** – At 9:06 p.m. Council took a 10-minute recess.

Council reconvened at 9:14 p.m.

#### **SPEAKING FROM THE FLOOR EXPRESSING CONCERNS:**

Micah Posner  
 Eric Grabiell  
 Zoe Attenberg  
 Tawn Kennedy  
 Kelly Human  
 Jack Nelson  
 Bob Vorse  
 Rick Longinotti  
 John Golder

Councilmember/Member Madrigal moved, seconded by Councilmember/Member Beiers, that Mr. Golder be allowed two additional minutes to speak. The motion FAILED by the following vote:

AYES:	Councilmembers/Members Madrigal, Beiers.
NOES:	Councilmembers/Members Robinson, Terrazas, Bryant; Vice Mayor/Vice Chair Lane.
ABSENT:	Mayor/Chair Coonerty.
DISQUALIFIED:	None.

#### **SPEAKING FROM THE FLOOR EXPRESSING CONCERNS (continued)**

Mark D. Lee

REDEVELOPMENT AGENCY MEETING  
APRIL 12, 2011  
7:00 P.M. SESSION

**General Business (continued)**

27. City of Santa Cruz Capital Improvement Projects Fiscal Year 2012 – 2014. (FN) (continued)

Action Councilmember/Member Terrazas moved, seconded by Councilmember/Member Beiers, that the 5 Isbel Drive bike lane project be moved to the funded list, with the anticipation of future grants. The motion carried unanimously (Mayor/Chair Coonerty absent).

Action Councilmember/Member Robinson moved, seconded by Councilmember/Member Beiers, that the mistake on page 24 pertaining to funding for reconstruction and overlay of residential collector streets be corrected. A new line of debt proceeds shall be added to FY 2013 and 2014. The motion carried unanimously (Mayor/Chair Coonerty absent).

Action Councilmember/Member Beiers moved, seconded by Councilmember/Member Bryant, that the rail trail from Bay to Moore Creek be added to the unfunded list. The motion carried unanimously (Mayor/Chair Coonerty absent).

Councilmember/Member Beiers moved, seconded by Councilmember/Member Madrigal, that the traffic signal in the Beach/South of Laurel Area Plan be eliminated from funding in 2014 and moved to the unfunded list. The motion FAILED by the following vote:

AYES: Councilmembers/Members Beiers, Madrigal.  
NOES: Councilmembers/Members Robinson, Terrazas, Bryant; Vice Mayor/Vice Chair Lane.  
ABSENT: Mayor/Chair Coonerty.  
DISQUALIFIED: None.

Action Councilmember/Member Beiers moved, seconded by Councilmember/Member Madrigal, that the King Street Bikeway Planning Project be included, with an anticipated grant, in FY 2013. The motion carried unanimously (Mayor/Chair Coonerty absent)

Action Councilmember/Member Beiers moved, seconded by Councilmember/Member Madrigal, that the widening of the Highway 1 Bridge be agendized on a regular meeting agenda in the next 12 months. The motion carried unanimously (Mayor/Chair Coonerty absent).

REDEVELOPMENT AGENCY MEETING  
APRIL 12, 2011  
7:00 P.M. SESSION

**Adjournment** — At 11:28 p.m., the Redevelopment Agency adjourned from the regularly scheduled meeting of April 12, 2011 to the next regularly scheduled meeting on April 26, 2011, for a closed litigation session at 1:30 p.m., in the Courtyard Conference Room, followed by open sessions at the approximate hours of 3:00 p.m., 5:00 p.m., and 7:00 p.m. in Council Chambers.

Approved

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Ryan Coonerty  
Chair

Attest

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Bonnie Lipscomb  
Executive Director



## CITY COUNCIL AGENDA REPORT

DATE: 4/18/2011

AGENDA OF: 4/26/2011

DEPARTMENT: Economic Development

SUBJECT: 41 Grandview St., #605 - Change in Inclusionary Housing Unit Status.  
(ED)

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**RECOMMENDATION:** Motion to approve, authorize and direct the City Manager to execute documents, in a form approved by the City Attorney, to change the occupancy status of an existing inclusionary unit from owner-occupied to a unit available for rent to very low-, low-income, or Section 8 households for a limited period of time as set forth below.

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**BACKGROUND:** The two-bedroom condominium unit located at 41 Grandview St., #605 was constructed as one of twenty-nine inclusionary units in the 115-unit development. This unit was constructed under an early version of SCMC Chapter 24.16 that restricted inclusionary units for a period of thirty years from the date of initial occupancy. The unit will remain an inclusionary housing unit until 2035 at which time the affordability restrictions will terminate.

**DISCUSSION:** On April 1, 2011 staff received a request from owners Jason and Heather Rieckewald-Schmidt to change the occupancy status of the unit from an owner-occupied unit to a unit available for rent for a period not to exceed one year. The owners' stated reason for the request is that they would like to rent and occupy a larger home in Santa Cruz with their in-laws in order to provide care for Mr. Rieckewald's father who has recently undergone heart surgery.

Approval of this request for a change in unit status from owner-occupied to rental is consistent with previous City Council discussions and actions that supported an option for households living in an owner-occupied inclusionary unit to move away and rent the unit out when faced with changing household circumstances. In addition, SCMC 24.16.045(3) now allows for temporary vacation of such a unit.

Staff recommends that approval of the request for a change in unit status be conditioned by the following:

1. The change in unit status will be effective for a period not to exceed one year, and
2. Said period may be extended for reasonable cause in additional one year increments, not to exceed a total of three years, by the Director of Economic Development and Redevelopment; and

3. Tenants incomes may not exceed the limits established in the Affordable Housing Guidelines; and
4. Rents may not exceed the limits established in the Affordable Housing Guidelines; and
5. At the expiration of the period the owners shall either:
  - a. Re-occupy the unit as their principal place of residence; or
  - b. Sell the unit to an eligible household.

If the request for a change in unit status is approved, the maximum allowable rent for this unit would be \$1,160 per month, including utilities. Staff will monitor the unit on an annual basis to verify that the tenant is income eligible and the amount of rent paid is within the limits established by the Affordable Housing Guidelines.

FISCAL IMPACT: None

Prepared by:  
Norm Daly  
Housing Programs  
Coordinator

Submitted by:  
Bonnie Lipscomb  
Director of Economic  
Development

Approved by:  
Martin Bernal  
City Manager

ATTACHMENTS:  
None



## CITY COUNCIL AGENDA REPORT

DATE: 4/18/2011

AGENDA OF: 4/26/2011

DEPARTMENT: Finance

SUBJECT: Award Contract for a Tractor Drawn Aerial Ladder Fire Truck. (FN)

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**RECOMMENDATION:** Motion to accept the proposal of Golden State Fire Apparatus (Modesto, CA), a dealer for Pierce Manufacturing Inc., for a Tractor Drawn Aerial Ladder Fire Truck in the amount of \$932,333 and to authorize the City Manager to execute an agreement in a form approved by the City Attorney with Pierce Manufacturing Inc. for a Tractor Drawn Aerial Ladder Fire Truck, and to reject all other proposals.

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**BACKGROUND:** The City's Fire Department is an all-risk agency that responds to fire and vehicle accidents, provides advanced life support and hazardous material emergency response, and conducts cliff and water rescues. It was determined in the 2009-2011 Santa Cruz Fire Strategic Plan that the Fire Department is in need of a modern 100' aerial ladder fire truck for emergency response throughout the community (via our auto and mutual aid agreements with UCSC and Scotts Valley).

This new fire truck will remove from service an aging 17-year old fire truck and a 23-year old rescue vehicle not designed for fire response and consolidate rescue equipment onto one vehicle. This will increase firefighting effectiveness and address many of the 16 Firefighter Life Safety Initiatives created by the National Fallen Firefighters Foundation.

**DISCUSSION:** The Purchasing Division recommended that this purchase be made through a formal Request For Proposals ("RFP") process due to the unique ladder fire truck design features required. The dimensions of Station #1's bay limited the height and length, our tree-lined winding roads and narrow streets lined with vehicles require a high level of maneuverability, and the aerial ladder must be able to fully support cliff rescue requirements. The RFP process also allowed the City's evaluation committee to consider other important factors such as vendor qualifications, safety features offered, the vendor's build plan, and warranty offered.

A formal Request For Proposals ("RFP") for a Tractor Drawn Aerial Apparatus was distributed via email to known vendors and advertised on the City's website beginning February 15, 2011. Sealed proposals were received until 11:00 a.m. on March 15, 2011 and the results are listed in the attachment entitled Request For Proposals Results for a Tractor Drawn Aerial Ladder Fire Truck. Proposals were received from 1) E-one (Oakdale, CA), 2) Fire Truck Headquarters (Oakland, CA), 3) Golden State Fire Apparatus (Modesto, CA), 4) Kovatch Mobile Equipment (Ontario, CA), and 5) Seagrave Fire Apparatus (Gardnerville, NV).

The Purchasing Division recommends awarding the contract to Pierce Manufacturing Inc. Their proposal demonstrated the ability to provide a conforming ladder fire truck at the best price.

FISCAL IMPACT: There is no impact to the general fund budget in the current fiscal year. FEMA awarded the City an Assistance To Firefighters Grant in the amount of \$657,000 to assist in the purchase and the remaining \$275,333 will be internally financed. Payments will begin next fiscal year.

The internal financing is consistent with the City's Investment Policy and will save on financing costs and earn a better return on the City's investment portfolio. The finance period will be five years and the annual debt service payments will be funded through the General Capital Improvement Fund. The interest rate to be earned by the City will be a variable rate of 2% over our portfolio rate.

Prepared by:  
Malissa Kaping  
Buyer II

Submitted by:  
Jack Dilles  
Finance Director

Approved by:  
Martin Bernal  
City Manager

ATTACHMENTS:  
Agreement  
Award Notice

THIS AGREEMENT made and entered into this 27th day of April 2011 by and between the CITY OF SANTA CRUZ, a Municipal Corporation, hereinafter called "City" and Golden State Fire Apparatus Inc., hereinafter called "Vendor";

IT IS AGREED:

That for, and in consideration of, the covenants and agreements herein contained, and the payments at the prices stated in the bid proposal, exhibits and addendum attached hereto, and by this reference made a part hereof, Vendor hereby covenants and agrees to furnish any and all required services as set forth in the attached six page "Specifications and Terms & Conditions for Tractor Drawn Aerial Apparatus" dated April 2011. Vendor will bear any and all other expense necessary or incidental to the performance of the work specified herein, and will furnish the Tractor Drawn Aerial Apparatus as stated in the attached 185 page "Proposal," dated February 2011, and will do everything required by this Agreement for the furnishing of the Tractor Drawn Aerial Apparatus.

GOLDEN STATE FIRE APPARATUS

CITY OF SANTA CRUZ,  
a Municipal Corporation

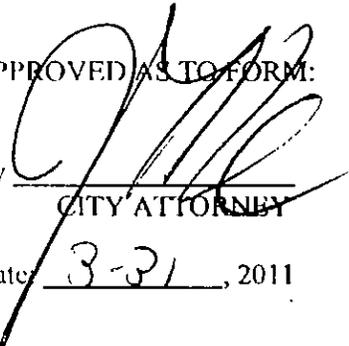
By \_\_\_\_\_

By \_\_\_\_\_

Date \_\_\_\_\_, 2011

Date \_\_\_\_\_, 2011

APPROVED AS TO FORM:

By   
CITY ATTORNEY

Date 3-31, 2011

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## 1. SPECIFICATIONS

### 1.1 NFPA Standards

The apparatus will comply with the latest National Fire Protection Association (NFPA) Standard 1901 for Motor Fire Apparatus, unless otherwise specified in this specification. Item(s) in this specification may exceed NFPA standards and will be considered minimum for compliance.

### 1.2 Compliance with applicable laws

Apparatus engine will meet California Air Resources Board 2010 emissions requirements.

In addition, the apparatus will comply with all California and federal environmental, engine emissions, motor vehicle, and safety regulations. This includes, but is not limited to, requirements of the U.S. Department of Transportation, State of California Motor Vehicle Code, and Air Pollution and Emission Control.

### 1.3 Apparatus Design

The apparatus will be designed as stated the Request For Proposals dated February 2011 and includes clarifications as stated in the Vendor's proposal received March 15, 2011. Minor modifications will be allowed if agreed to, in writing, between the parties. Vendor will not be allowed to make unauthorized changes.

The apparatus will be assigned to Fire Station #1 located in a historic building with height and length limitations; the building has already been modified for maximum height and length. The highest point on the apparatus will not exceed 130" (10'10") and the overall length will not exceed 732" (61') when fully outfitted with all specified equipment.

The tractor will be of a two axle design (ie: single rear axle). The wheelbase on the tractor will be as short as possible with the overall length to be determined at pre construction conference.

#### 1.3.1 Front Axle/ Suspension

The front axle will be of an independent suspension type. A key requirement will be a maximum possible cramp angle in the steering.

### 1.4 Performance Bond

Vendor will furnish a Performance and Payment Bond equal to 100 percent of the total contract amount within 30 days of the notice of award. Such Bond will be in form acceptable to the City and issued by a surety company included within the U.S. Treasury Department's Listing of Approved Sureties (as published in 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.

Vendor and Vendor's surety agree that the Bond issued hereunder, whether expressly stated or not, also includes the surety's guarantee of the apparatus manufacturer's Bumper to Bumper warranty period included within the proposal received March 15, 2011. Owner agrees that the penal amount of this bond will be simultaneously amended to 100 percent of the total contract amount upon satisfactory acceptance and delivery of the apparatus. Notwithstanding anything contained within this contract to the contrary, the surety's liability for any warranties of any type will not exceed three years from the date of such satisfactory acceptance and delivery, the actual Bumper to Bumper warranty period, whichever is shorter.

Notwithstanding any document or assertion to the contrary, the Bond will apply only to the three year Bumper to Bumper warranty. The bond will not apply to any other warranties that are included within the proposal dated March 15, 2011 (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 apparatus. In the event of any contradiction or inconsistency between this provision and any other document or assertion, the provision will prevail.

### **1.5 Preconstruction Conference and Approval of Drawings**

A preconstruction conference will be conducted between SCFD and Vendor's engineers to finalize design. Location of preconstruction conference will be mutually agreed upon and the Vendor will be responsible for all related costs.

Two sets of engineering blueprints, specifically for this apparatus, will be provided by Vendor and approved by the City before construction begins. Such drawings will become part of the total contract.

These drawings will be drawn to scale on a CAD system to ensure an accurate and professional drawing. The drawing will show five views of the vehicle (front, rear, both sides and top). The blueprints will show the overall dimensions of the apparatus, proposed compartment sizes and features, booster tank position and the location of all emergency warning and work lights that are to be provided on the apparatus.

In the event that the drawings contradict the specification, the specification document will have precedence unless mutually agreed upon by the parties.

### **1.6 Vendor Site Inspections**

The City will have the option to inspect the apparatus at the Vendor's facility twice prior to final delivery. One visit shall be scheduled "mid-build" and one visit shall be scheduled near final delivery. Related costs are as set forth in the Vendor's proposal.

### **1.7 Delivery**

Delivery will be FOB Santa Cruz completed by January 16, 2012 and in the manner set forth in the Vendor's proposal.

To ensure proper break-in of all components while still under warranty, the apparatus will be delivered under its own power. Rail or truck freight is not acceptable.

After transportation from the factory, and immediately prior to delivery, the apparatus will receive a pre-delivery service consisting of, at a minimum: engine oil and filter change, chassis lubrication, fuel filter change, adjustment of engine to manufacturer's specifications, complete inspection, including all electrical and mechanical devices for proper operation and correction of leaks or obvious problems. In addition, the unit will be cleaned and fully detailed.

Upon delivery, training will be provided to selected SCFD staff on basic operation to allow for acceptance testing of apparatus and equipment.

### **1.8 Performance Tests and Certificates**

The road and pump tests specified in NFPA 1901 will be conducted by the Vendor at the time of delivery. A test fit of the Fire Station #1's middle bay will also be required upon delivery.

Vendor will furnish a weight certificate showing weights on front axle, rear axle and total weight for the completed apparatus at time of delivery, with water tank full, but without personnel, equipment and hose.

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

### **1.9 Acceptance**

The City will have at least 17 calendar days to inspect and test the apparatus and equipment to ascertain that all requirements of these specifications have been fully complied with and that the equipment is proper and complete and in perfect working order. It is understood and agreed that the City will have the right to make such tests of the equipment before acceptance of the apparatus and equipment.

In the event of disapproval or rejection by the City, or the apparatus fails to meet the test requirements of these specifications on the first trial, the Vendor will, at its own expense, make such repairs or replacements the City considers necessary to conform to these specifications and a second trial may be made. Such trials will be final and conclusive and failure to comply with these requirements will be cause for rejection. Failure to comply with changes, as the City may consider necessary to conform to any clause of the specifications within 30 calendar days of notice to the Vendor, will be cause for rejection of the apparatus.

Permission to keep or store the apparatus in any building owned or occupied by the City or it's use by the SCFD during the above-specified period with the permission of the Vendor, will not constitute acceptance.

### **1.10 Training**

Within 30 calendar days after delivery, the Vendor will provide a qualified and responsible instructor to familiarize all SCFD personnel in the basic operation of the apparatus and its components. An on-site structured program covering proper operation and preventative maintenance will be presented.

The training sessions will be scheduled at times mutually agreed upon between the parties.

### **1.11 Operation and Parts Manuals**

Manuals will be "as-built" and specifically written for the apparatus being purchased. Generic manuals for a multitude of different chassis and bodies will not be accepted.

- Vendor will supply a minimum of three hardcopy operation and maintenance manuals covering the completed apparatus as delivered.
- Vendor will supply a minimum of three hardcopy parts manuals will also be provided for the vehicle that will include an overall vehicle layout, keyed to service repair parts, to assist in spare parts selection and identification.
- Vendor will supply a minimum of two hardcopy "as-built" wiring schematics.

The above manuals will also be provided in CD format.

Vendor will also provide software for all electrical controlled components including the emission control device.

**1.12 Warranty**

Vendor will guarantee the apparatus against defective workmanship and materials as described in the Vendor's proposal. Should any failure occur within the guarantee period, Vendor will replace or repair, without cost to the City, any equipment that is defective.

**1.13 Subcontractors**

Work will not be subcontracted without prior approval of the City. If at any time, the City determines any subcontractor is incompetent or undesirable, Vendor will be notified and will take immediate steps for cancellation of the subcontract.

**2. TERMS & CONDITIONS****2.1 Governing Law**

Both parties agree that the law governing this agreement will be that of the State of California.

**2.2 Insurance**

Vendor shall submit correct Certificate of Insurance(s) within ten days of contract execution. Vendor shall maintain insurance in full force and effect during the entire period of performance under contract. Failure to do so shall be cause for termination of the contract.

**2.2.1 Certificate Requirements**

- Proof of **Commercial General Liability Insurance** and **Commercial Automobile Liability Insurance** shall be issued by Vendor's insurance agent on an ACORD Certificate of Insurance form, current version.
- The certificate shall have a policy number(s) and current effective dates.

**2.2.2 Limits**

- Vendor shall carry Commercial General Liability as follows:
  1. \$1,000,000 each occurrence Bodily Injury and Property Damage Liability
  2. \$1,000,000 Products/Completed Operations Aggregate
  3. \$5,000,000 General Aggregate
  4. \$1,000,000 Personal and Advertising Injury
- Commercial Automobile Liability as follows:
  1. \$1,000,000 each Accident Bodily Injury and Property Damage Combined Single Limit
- Commercial Umbrella Liability as follows:
  1. \$25,000,000 each occurrence
  2. \$25,000,000 Products & Completed Operations Aggregate
  3. \$25,000,000 General Aggregate

**2.2.3 Additional Insured Endorsement**

- City of Santa Cruz, its officers, agents and employees will be included as Additional Insured-Designated Person or Organization for General Liability and Commercial Automobile Liability.

**2.2.4 Certificate Holder**

- The Certificate Holder shall be listed as City of Santa Cruz, Risk Management, 809 Center St Rm 7, Santa Cruz, CA 95060.

**2.2.5 Workers' Comp**

- Vendor shall obtain and maintain, during the life of the agreement, Workers' Compensation Insurance, covering all of its employees on the project with a company satisfactory to City. Vendor shall be responsible for the insurance coverage as herein provided of all employees of said Vendor. Proof of Workers' Comp

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coverage shall be sent to City of Santa Cruz, Risk Management, 809 Center St Rm 7, Santa Cruz, CA 95060.

### **2.3 Indemnification**

Proposer agrees to indemnify, defend, and hold harmless the City, its officers, agents and employees, from and against any and all claims, demands, actions, damages, or judgments, including associated costs of investigation and defense arising in any manner from proposer's negligence, recklessness, or willful misconduct in the performance of this agreement.

### **2.4 Liquidated Damages**

The apparatus will be delivered by January 16, 2012 and accepted by the City by February 4, 2012. Any delivery delay beyond January 16, 2012 will result in the Vendor paying the City of Santa Cruz \$100.00 per calendar day for each day the apparatus is unavailable.

### **2.5 Assignment**

The Vendor will under no circumstances assign the agreement, in-part or whole, without the written permission of the City of Santa Cruz.

### **2.6 Government Regulations**

Vendor will comply with all federal, state, and local regulations, licenses, and permits related to Fire apparatus manufacturing.

### **2.7 Termination of Contract**

If during execution of the contract, the City determines that a breach of contract has or may occur, the City will attempt to reach a fair agreement with the Vendor in a timely manner.

However, the City will have the right to terminate this contract at any time upon giving 30 calendar days written notice to the Vendor. If the City terminates the contract, all finished or unfinished work completed by the Vendor under this contract may, at the option of the City, become the City's property; the Vendor may be entitled to receive just and equitable compensation for any satisfactory work.

Termination of the contract pursuant to this paragraph may not relieve the Vendor of any liability to City for damages sustained by City because of any breach of contract by the Vendor, and City may withhold any payments to the Vendor for the purpose of set-off until such time as the exact amount of damages due City from the Vendor is determined.

### **2.8 Optional Piggyback Provision**

Vendor indicated on the RFP Cover Page a willingness to extend the pricing, terms and conditions of their proposal to other government agencies. Participating government agencies may enter into a contract with the Vendor for the purchase of the same apparatus based on the same terms, conditions, and price offered in this agreement. Minor changes in terms and conditions may be negotiated by participating agencies and the Vendor. This offer will be made available to participating agencies for up to six months following the award of this contract by the City of Santa Cruz to the Vendor.

### **2.9 Civil Rights Compliance/Equal Opportunity Assurance**

Every vendor of materials and services and all firms doing business with the City of Santa Cruz will be in compliance with the applicable provisions of the Americans with Disabilities Act of 1990, and will be an equal opportunity employer as defined by Title VII of the Civil Rights Act of 1964 and including the

California Fair Employment and Housing Act of 1980. As such, firm will not discriminate against any person on the basis of race, religious creed, color, national origin, ancestry, disability, medical condition, marital status, age, or sex with respect to hiring, application for employment, tenure or terms and conditions of employment. In addition, the City of Santa Cruz, as defined in Resolution NS-20,137 and Ordinance 92-11, further prohibits discrimination on the basis of sexual orientation, height, weight and physical characteristics. Vendors agree to abide by all of the foregoing statutes, regulations, ordinances and resolutions.

#### **2.10 MacBride Principles and the Peace Charter**

The City Council of the City of Santa Cruz approved Resolution No. NS-19,378 on the 24th day of July 1990, endorsing the MacBride Principles and Peace Charter and encourages all companies doing business in Northern Ireland to abide by the MacBride Principles and Peace Charter.

**SECTION 6: RFP COVER PAGE**

**1. Number of Copies**

Submit one unbound original and five copies of proposal. Each copy must include:

- a) This cover page,
- b) Answers to all questions in Section 7: RFP Questionnaire.
- c) Response to Section 8: Vendor's Conformance to Specifications.
- d) Pricing as shown in Section 9: Pricing

**2. Proposal Response Sheet**

The undersigned, upon acceptance, agrees to furnish the following in accordance with terms and conditions as per City of Santa Cruz "Request for Proposals for Tractor Drawn Aerial Apparatus" dated February 2011.

Name of your organization: **Golden State Fire Apparatus**

Address: **1237 Doker Drive Modesto, CA 95351**

Telephone Number: **209-522-0422**

Fax Number: **209-522-0464**

E-mail address: **rich@goldenstatefire.com**

Signature of Authorized Representative: Richard J. Myers

Printed Name of Authorized Representative: RICHARD J. MYERS

- 3. If vendor is awarded contract, will vendor extend contract terms and pricing to other government agencies?  Yes  No

**4. Addenda**

It is each bidder's responsibility to ensure that they have received all addenda prior to submission of their bid. Addenda will be posted on the Open Bids page of the City's website, [www.cityofsantacruz.com](http://www.cityofsantacruz.com).

How many addenda were issued for this solicitation? **3**

**4. Due Date**

All proposals will be delivered to the Purchasing Division by **11 a.m. PST on March 15, 2011.**

**5. Proposal Submission**

Mail or deliver proposals to the City of Santa Cruz, Purchasing Division, 809 Center St Rm 101, Santa Cruz, CA 95060.

## SECTION 7: RFP QUESTIONNAIRE RESPONSES

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### Criteria 3: Vendor's qualifications, experience, and references (20%)

1.) Pierce has been in continuous business since 1913 and was purchased by Oshkosh Corporation in 1996 and specializes in custom fire apparatus applications. Oshkosh Corporation is a publicly traded company listed on the NYSE.....symbol OSK.

2.) Pierce is the largest fire apparatus manufacturer in the nation with over 25,000 units in active front line service. Golden State Fire Apparatus, Inc. has over 1,000 units in Central and Northern California that are in active service. We would encourage you to contact or visit any Pierce customer and obtain their opinion(s) of our products and business representation. We have provided a nationwide tiller user list to demonstrate work that we've done for other public agencies that is specific to your specifications.

3.) Sales representative contact information:

Rich Myers – Sales Representative  
1237 Doker Drive  
Modesto, CA. 95351  
Email: [rich@goldenstatefire.com](mailto:rich@goldenstatefire.com)  
Office: (209) 522-0422  
Cell: (209) 988-1926

Chris Regenfuss – West, Requirements Manager  
2600 American Drive  
Appleton, WI. 54914  
Email: [cregenfuss@piercemfg.com](mailto:cregenfuss@piercemfg.com)  
Office: (920) 832-3488  
Cell: (920) 450-4558

4.) See included licenses under the tab labeled BID DOCUMENTS for physical evidence of compliance.

- Pierce Manufacturing, Inc. Lic. No. 16864
- Golden State Fire Apparatus, Inc. Lic. No. 11438

5.) See included certificate under the tab labeled BID DOCUMENTS for proof of 3<sup>rd</sup> party certification of NFPA compliance.

6.) See included certificate under the tab labeled BID DOCUMENTS for proof of ISO 9001 compliance.

7.) Pierce Manufacturing, Inc. was incorporated in 1913 and built specialized truck bodies. In 1996 Pierce Manufacturing, Inc. was purchased by Oshkosh Corporation. As of today the Pierce brand has been in business 98 years. Please see the two most recent audited financial statements and a Dun & Bradstreet report included under the tab labeled BID DOCUMENTS.

8.) We have provided a nationwide tiller user list that is broken down in the years of service you requested. This list also includes all California customers. We would encourage site visits to inspect any apparatus.

### Criteria 4: Vendor's ability to execute contract (10%)

## SECTION 7: RFP QUESTIONNAIRE RESPONSES

9.) We will provide general layout drawings per section "2.6 Preconstruction Conference and Approval of Drawings" in your spec which states Two sets of engineering blueprints, specifically for this apparatus, will be provided by Vendor and approved by the City before construction begins. Such drawings will become part of the total contract. You can expect these drawings 41-60 days from contract execution.

10.) The unit will be manufactured at Pierce Manufacturing, Inc. located in Appleton, Wisconsin.

11.) The specified apparatus includes a specially designed rear body to allow for the reduced overall height from our standard height tiller cabs. We were able to meet this requirement without sacrificing any NFPA headroom requirements of the tiller operator. We achieved this by modifying the rear compartmentation while staying within the general specified design. We also custom built a tractor reservoir compartment to house the specified Tri Max fire extinguishing system.

12.) Pierce offers several safety systems with the Arrow XT cab and chassis. Although the City did not specify any specific safety systems, we can offer a full complement of side roll protection systems, frontal air bags for the officer and driver, tire blow out protection, and electronic stability control. These items can be added to any of our cabs prior to the order or at the pre-construction meeting at additional cost.

13.) Pierce will only build to full NFPA, FMVSS, and DOT federal compliance standards. As far as the state of California is concerned we comply with all California laws, regulations, Cal OSHA, and standards as far as fire apparatus are concerned.

14.) The delivery timeframe is dictated off of the order date. Once that date is determined we schedule the build time for your particular project. As of today, Pierce engineers have assured us that if the order is placed right after Council approval in May, we would be able to meet the January 2012 deadline.

15.) All costs will be the responsibility of the vendor. We will make all flight, hotel, and meal arrangements while your committee members are with our representatives. As proposed by the department, we would conduct the pre-construction meeting in Santa Cruz, and the subsequent inspection trips at our Appleton, WI facility. The dates would be dictated by the unit's placement in the Pierce build schedule, and would be provided to department personnel.

16.) Once construction begins the customer will receive weekly progress reports. These reports will cover six (6) weeks of manufacturing and as the construction progresses you'll receive more and more photos, usually 12-16 photos per week. Through the progress of the photos you'll be able to check compliance to specs on the options you've selected. You'll access the reports via a secure login on our website [www.goldenstatefire.com](http://www.goldenstatefire.com). The login instructions will be sent to your committee once the first report is loaded.

17.) After completion of manufacturing the unit is tested by UL (3<sup>rd</sup> party tester). Not only are we conducting Type 1 testing on the aerial device, but also the electrical system (this includes A/C, generator, both emergency and scene lighting, etc.). UL also tests for NFPA compliance after the unit has been manufactured to ensure compliance to the standards. These tests are documented and given to the customer upon delivery. From there, the customer will make the final inspection to test the apparatus themselves. The final testing procedure is conducted in Modesto, CA. where we go over the truck once more to find warranty items that will be fixed prior to final delivery to the customer.

18.) The unit will be delivered under its own power from Appleton, WI. to Modesto, CA. by a contracted driver of the manufacturer's choosing. The delivery costs are included in our proposal and no additional charges will be incurred. The anticipated delivery date is difficult to nail down without knowing the order date. The order date is the trigger date for which all other events and schedules are dictated, and is

## SECTION 7: RFP QUESTIONNAIRE RESPONSES

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especially crucial in this instance. As stated above, we have been assured by Pierce engineers that due to the grant restrictions, we could fulfill the January, 2012 delivery date, provided there are no unanticipated delays in the order placement.

19.) Per section 11739 of the California Vehicle Code the dealer is required to register the apparatus on behalf of the customer.

20.) On initial delivery of the fire apparatus, the contractor will supply a qualified representative to demonstrate the apparatus and provide initial instruction to the fire department regarding the operation, care, and maintenance of the apparatus for a period of three (3) days.

21.) The terms of payment are making payment within 30 days after the unit leaves the manufacturing facility in Appleton, WI. For every day that exceeds this timeline there will be a \$150.00 per day interest charge added to the final invoice.

22.) We are providing a 100% performance bond per section 2.5 Performance Bond in your specification. This also includes coverage during the three (3) year bumper to bumper warranty period.

### **Criteria 5: Warranty work / Anticipated Maintenance (20%)**

23.) Pierce fire apparatus have a proven track record of reliability. Three features we offer at Pierce can extend the life of our apparatus by offering state of the art proprietary components. The TAK-4 independent front and tiller axle suspensions offer significant ride quality improvement and increased braking capacity over our competitors. This improved ride quality reduces normal wear and tear on the other body, cab, and aerial components. In addition, our Pierce manufactured multiplexed chassis electrical system has a proven track record of reliability and ease of use. This is a benefit for the diagnosis and repairs of any issues that may arise. Finally, we are offering the new for 2010 Detroit Diesel DD-13 motor, which has been proven in thousands of miles in over the road trucks. It offers significant increases in fuel economy and has been redesigned for ease of service with improved oil and fuel filtration systems.

24.) Scheduled normal maintenance is the responsibility of the department once the unit is placed in service. Any warranty claims or repairs would be conducted by our authorized service center at Burton's Fire Inc. Any potential arrangements with the Central FPD mechanic would need to be finalized by the department and Burton's Fire Inc. The aerial device does require scheduled maintenance and testing in order to maintain full warranty coverage. Pierce provides these guidelines with the warranty and technical documents. All costs related to annual testing of the ladders and aerial device are the responsibility of the department.

25.) See included warranty documents that outline the warranties provided broken down by component. These can be found under the tab labeled WARRANTIES. The service work is provided and administered by Burton's Fire, Inc. located in Modesto, CA. Their website is [www.burtonsfire.com](http://www.burtonsfire.com). We file all warranty claims on behalf of the customer so there is no divided warranty responsibility.

26.) Burton's Fire, Inc. is the only authorized and certified Pierce repair facility. They do provide a mobile service to our customers. They stock over \$800,000.00 in parts at their Modesto, CA. headquarters. All employees have attended and passed the appropriate Pierce training classes to become a gold certified repair facility for Pierce Manufacturing in the Central and Northern CA. territories. They have twenty (20) employees and twelve (12) service bays. Parts, technical assistance, and warranty work is all obtained from Burton's Fire, Inc. For more information on the capabilities of Burton's Fire, Inc. please see their website at [www.burtonsfire.com](http://www.burtonsfire.com)

## SECTION 7: RFP QUESTIONNAIRE RESPONSES

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27.) Burton's Fire, Inc. is the authorized service facility in Central and Northern CA. for Pierce Manufacturing, Inc. They will review service opportunities on a case by case basis. Ken Cooper of Central Fire Protection District is already well versed in servicing Pierce products within your territory and has a working relationship with Burton's Fire, Inc.

28.) All campaigns and recalls are handled by Pierce Manufacturing at their expense. We contact the customer and schedule the appointment as a priority that gets pushed to the top. All campaigns and recalls are done in the name of safety and reported to the appropriate state and federal authorities.

**SECTION 9: PRICING****Apparatus Cost per specifications**

One Tractor Drawn Aerial Apparatus per specifications: \$ 859,644.22

9.5% Sales Tax: \$ 81,666.20

TOTAL: \$ 941,310.42

**Payment Discounts Offered**

Final payment terms will be mutually agreed upon between the parties prior to contract signing. The City prefers payment terms of 90% payment after delivery and 10% payment after acceptance. However Vendors are encouraged to include the following payment discount options for consideration. An Advance Payment Bond in an amount equal or greater than the pre-payment amount will be required if the City agrees to provide a pre-payment.

1. 100% payment within 15 - 29 days of delivery and acceptance:

Number of Days: 15

Discount Offered: \$2,625.00

2. Chassis pre-payment:

Amount of pre-payment: \$299,247.41 Discount Offered: \$8,977.42

3. 50% pre-payment within 30 days of contract signing:

Discount Offered: \$18,920.00

4. Other, Explain: \_\_\_\_\_

**Optional Add-ons**

The City has a limited budget for this purchase. The City would like to include the Add On items listed below; however, we do not have adequate funding to purchase them. Indicate below which items you will include at no additional cost and the cost for items you will charge extra for. The City will include as many of the items we can afford in the final contract.

1. Extended seven year bumper-to-bumper warranty: Chassis-\$26,392.00  
Body/Aerial-\$68,248.00
2. One Kenwood 5710 mobile radio and five charging stations (Section 2.17.40): \$ 2,600.00
3. David Clark noise canceling head sets with hardware (Section 2.17.41): \$ 3,817.00
4. Full ladder compliment (Section 2.21.31): \$ 4,693.00
5. Each pike pole (Section 2.21.31): \$ 85.22
6. Each rubbish hook (Section 2.21.31): \$ 94.94

**SECTION 8: VENDOR'S CONFORMANCE TO SPECIFICATIONS**

As stated in section 3.10, exceptions to, or deviations from, a particular specification will be evaluated and considered by the City so long as those deviations are fully explained. Proposers are required to explain all deviations in their proposal. Major deviations may result in rejection of the proposal.

The determination as to whether any deviation is, or is not, acceptable will be made by the City and such determination will be final and binding upon all proposers.

Specification	Proposer fully complies	Deviation
2.1 NFPA Standards	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.2 Compliance with applicable laws	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.3 Apparatus Dimensions and Basic Design	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.3.1 Front Axle/ Suspension	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.4 Brand Requirements	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.5 Performance Bond	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<b>Notwithstanding any document or assertion to the contrary, any surety bond related to the sale of a vehicle will apply only to the Three Year Basic 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.</b>
2.6 Preconstruction Conference and Approval of Drawings	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.7 Vendor Site Inspections	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.8 Delivery	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<b>Pierce Mfg will need the contract in-house as soon as possible after Council approval.</b>
2.9 Performance Tests and Certificates	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Specification	Proposer fully complies	Deviation
2.10 Acceptance	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.11 Training	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.12 Operation and Parts Manuals	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.13 Warranty	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<b>Pierce is providing a three (3) year bumper to bumper extended warranty with this proposal.</b>
2.14 Warranty Repair Options	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<b>Burton's Fire Inc. is the Pierce authorized warranty and repair center for our area. Any agreement between Burtons Inc. and the City would have to be worked out internally between those agencies.</b>
2.15 Subcontractors	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.16 Aerial Ladder	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.16.1 Mounts	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.16.2 Signage	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.17 Cab	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.17.1 Seating Capacity	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.17.2 Cab Floor	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.17.3 Electrical Operated Cab Door Windows	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.17.4 Fender Crowns	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.17.5 Doors	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Specification	Proposer fully complies	Deviation
2.17.6 Cab Steps	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.17.7 Grab Handles	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.17.8 Door Locks	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.17.9 Cab Interior Upholstery	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.17.10 Cab Interior Paint	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.17.11 Cab Seating	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Pierce is proposing the PS6 seat option, which is a seat manufactured by Seats Inc. They offer a larger bottom cushion and are a superior seat to the standard specified 911 seats.
2.17.12 Officer's Seat Compartment	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Pierce is unable to offer a radio compartment under the officer seat due to NFPA air seat headroom requirements.
2.17.13 Seat Upholstery	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.17.14 Seat Embroidery	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.17.15 Storage Cabinets	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Pierce is unable to provide a compartment constructed of "Gear Grid" material due to NFPA required collision requirements. We have provided a substitute standard compartment with a forward facing roll-up door because of the conflicts with the outboard forward facing seat.
2.17.16 Sun Visors	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.17.17 Sun Visor Retention Bracket	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.17.18 Mirrors	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.17.19 Cab Lift	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Specification	Proposer fully complies	Deviation
2.17.20 Interlock, Cab Lift to Parking Brake	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.17.21 Label for Cab Lift Fluid Level	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.17.22 Cab Heater	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.17.23 Air Conditioning	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.17.24 Interior Cab Insulation	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.17.25 Cab Interior	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.17.26 Cab Instrumentation	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.17.27 Gauge Panel	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.17.28 Audible Alarms	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.17.29 Controls	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.17.30 Additional Controls and Switches	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.17.31 Diagnostic Panel	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.17.32 Kussmaul Auto Eject	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.17.33 Electrical Power Control System	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.17.34 High Idle	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.17.35 Bumper	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Specification	Proposer fully complies	Deviation
2.17.36 Tow Eyes	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.17.37 Crew Cab Windows	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.17.38 Seat Belts (red)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.17.39 Seat Belt Indicator Light	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.17.40 Dedicated Radio Equipment Connection Points	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.17.41 Intercom System	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.17.42 Master Battery Switch	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.17.43 Jumper Studs	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.17.44 Flashlights	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<b>We have provided the lights requested in 2.20.26 and 2.20.27 at the desired locations in place of the wiring only.</b>
2.17.45 Air Horn Control	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.17.46 Mechanical Siren	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.17.47 Mechanical Siren Control	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.17.48 Siren Speaker	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.17.49 Bracket, Foot Switches	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.17.50 Solar Panel	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<b>Due to the size required for sufficient voltage to power the batteries, we will be unable to offer a solar powered charger on the crew cab roof. There is insufficient space remaining with the air conditioner and the specified light tower.</b>

Specification	Proposer fully complies	Deviation
2.18 Tiller Cab	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.18.1 Tiller Cab Floor	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<b>Due to conflicts with the edge of the rubber flooring with the tiller cab door, we will provide aluminum diamond plate flooring as standard.</b>
2.18.2 Tiller Cab Heater	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.18.3 Tiller Cab Seat	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<b>The tillermans seat will also be the Pierce PS6 seat</b>
2.18.4 Tiller Cab Steps	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.18.5 Jackknife Alarm	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.18.6 Tiller Warning Indicator	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.18.7 Tiller Air Horn Control	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.18.8 Bracket, Foot Switch	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.18.9 Tiller Cab Video System	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.18.10 Tiller Cab Sun Visor	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.18.11 Sun Visor Retention Bracket	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.18.12 Tiller Trailer Lock Out	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.18.13 Firefighting Water Delivery System	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.19 Drive Train	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.19.1 Oil Seals	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Specification	Proposer fully complies	Deviation
2.19.2 Shock Absorbers	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.19.3 Rear Axle Suspension	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.19.4 Fifth Wheel	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.19.5 Fender Panels	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.19.6 Anti-lock Brake System	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.19.7 Brakes	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<b>Meritor does not offer rear disc brakes on axles rated over 27,000 lbs. We have included 16x8.63" S-Cam brakes.</b>
2.19.8 Engine Brake	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.19.9 Air Compressor, Brake System	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.19.10 Brake System	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.19.11 All Wheel Lock-up	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.19.12 Exhaust System	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.19.13 Engine Heater	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<b>To be determined at pre-construction.</b>
2.19.14 Tiller Trailer Non-drive Axle	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.19.15 Tiller Trailer Brakes	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.19.16 Coolant Filter Location	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.19.17 Engine Oil Filter Location	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Specification	Proposer fully complies	Deviation
2.19.18 Radiator	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.19.19 Fuel Tank	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.19.20 Fuel Cooler	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.19.21 Auxiliary Fuel Pump	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.19.22 Fuel Shutoff	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.19.23 Transmission	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.19.24 Transmission, Shifter	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.19.25 Transmission Cooler	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.19.26 Downshift Mode (w/engine brake)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.19.27 Driveline	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.19.28 Steering	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.19.29 Tires	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.19.30 Wheels	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.19.31 Lug Nut Covers	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.20 Lighting	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.20.1 Engine Compartment Light	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	The specified single LED light does meet NFPA, so a total of three (3) LED lights were added.

Specification	Proposer fully complies	Deviation
2.20.2 Cab Interior Lighting	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<b>Weldon does not offer blue LED lights, so in order to meet the blue light requirement, Pierce is offering blue/white incandesant lights.</b>
2.20.3 Crew Cab Dome Lights	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.20.4 Tiller Cab Dome Switch	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.20.5 Exterior Lighting	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.20.6 Warning Lights (Cab Face)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.20.7 Midship Directional Light	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.20.8 Step Lights	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.20.9 Rear FMVSS Lighting	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.20.10 Rear ID/Marker Dot Lighting	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.20.11 Fog Lights	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.20.12 Map Light	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.20.13 Marker Lights	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.20.14 Intermediate Light	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.20.15 Rear Marker Lights	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.20.16 "Do Not Move Apparatus" Indicator	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.20.17 Compartment Lighting	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Specification	Proposer fully complies	Deviation
2.20.18 Additional Compartment Lights	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.20.19 Cab Perimeter Scene Lights	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<b>Pierce will provide Amdor, Model AY-9500-012 12.00" strip white LED perimeter lights IPO the 4.00 round LED lights as they provide greater illumination for step lights.</b>
2.20.20 Perimeter Scene Lights, Body	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<b>We have provided the requested locations and quantity with the Amdor lights.</b>
2.20.21 Additional Perimeter Lights	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<b>We have provided the requested locations and quantity with the Amdor lights.</b>
2.20.22 Scene Lights	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.20.23 Side Scene Lights	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.20.24 Additional Scene Lights	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.20.25 Centering Light	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.20.26 Hand Held Light and Chargers	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.20.27 Hand Held Spotlight	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.20.28 Warning Light (Cab Roof)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.20.29 Warning Lights (Cab Roof Sides)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.20.30 Headlight Flasher	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.20.31 Side Zone Lower Lighting	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.20.32 Rear Zone Lower Lighting	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.20.33 Warning Lights (Rear of Hose Bed)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Specification	Proposer fully complies	Deviation
2.20.34 Traffic Directing Light	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.20.35 120-Volt Lighting	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.20.36 Remote Switch (Quartz Light)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.20.37 Floodlight Mounting Brackets	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.20.38 Aerial 750W Floodlights	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.20.39 Spotlights	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.20.40 Turntable Lighting	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.20.41 Stabilizer Scene Lights	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.20.42 Aerial Locator Light, Strobe	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.20.43 Stabilizer Warning Lights	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.20.44 Stabilizer Beam Warning Lights	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.20.45 "A" Pillar Rotating Post Lights	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<b>Due to the redesign of the 2010 Arrow XT cab; Pierce is unable to provide "A" pillar style cab spotlights. The "A" pillar has been redesigned and cannot be compromised with mounting holes. We can offer handheld spotlights within the cab as an option.</b>
2.20.46 Tractor Cab Roof Mounted Lighting	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<b>Pierce will provide a 120V Will-Burt Powerlite 3.0 NS with 4 LED lights. The specified 12V or 24V versions do not provide the full tilt and dual remote control functions requested.</b>
2.21 Trailer	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Specification	Proposer fully complies	Deviation
2.21.1 Compartmentation	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.21.2 Tractor Reservoir Compartment	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<b>Due to the space required to mount the Tri Max system, we are providing lap-style doors in this compartment.</b>
2.21.3 Compartmentation, Driver's Side	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.21.4 Compartmentation, Passenger's Side	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.21.5 Louvers	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.21.6 Roll-up Doors	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.21.7 Pull-out Trays	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.21.8 Two-Way Utility Trays	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.21.9 Slide-out / Tilt-down Tray for D6 and P6	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.21.10 S Slide-out / Tilt-down Tray for D4 and P4	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.21.11 Retaining Angle on Compartment Floor	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.21.12 Compartment Access Panel	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.21.13 Storage Box	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.21.14 Tool Box	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.21.15 Cable Release	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.21.16 Adjustable "J" Hooks	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Specification	Proposer fully complies	Deviation
2.21.17 Partition, vertical Compartment	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.21.18 Aluminum Pegboard	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.21.19 Rear Wall	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.21.20 Floor Extension	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.21.21 Handhold Cut-outs	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.21.22 Slide-out Tool Board	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.21.23 Mounting Tracks	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.21.24 Adjustable Shelves	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.21.25 Additional Mounting Tracks	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.21.26 Rub Rail	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.21.27 Body Fender Crowns	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.21.28 Compartment Storage	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.21.29 Air Bottle Holders	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.21.30 Air Bottle Storage Bin	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.21.31 Ground Ladder Storage	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.21.32 Ladder Lock	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	



MEMORANDUM  
ADDENDUM #1  
FOR TRACTOR DRAWN AERIAL APPARATUS RFP

DATE: February 24, 2011  
TO: Prospective Vendors  
FROM: Malissa Kaping, Buyer II  
SUBJECT: ADDENDUM #1 FOR TRACTOR DRAWN AERIAL APPARATUS RFP

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The purpose of this addendum is to address the questions received by vendors. The following changes, corrections, additions and/or deletions are incorporated into the RFP. It is your responsibility to understand and comply with this addendum.

A signed copy of this document must be submitted with your proposal. Failure to do so may result in rejection of your proposal.

Company Name: Golden State Fire Apparatus

Authorized Representative: Ronald J. M...  
(Signature)

The Request For Proposals for "Tractor Drawn Aerial Apparatus" dated February 2011 has been amended as follows:

**Question 1: Will the City accept electronically stored files for the copies (i.e. CD, flash drive, or DVD)?**

Reference Section 1.3 (page 1) and 3.2 (page 39): The City would prefer a hardcopy original and five hardcopy copies. This will assist the City in saving money in printing costs, will avoid file format compatibility problems, and will avoid electronic viruses and Trojans.

**Question 2: Where would the City prefer to hold the preconstruction conference?**

Reference Section 2.6 (page 3): The City would prefer for the meeting to be in Santa Cruz; however, the City would consider other locations. Vendors are asked to submit in their proposal information regarding the suggested preconstruction conference location and related expenses by answering Section 7: RFP Questionnaire, Question 15 (page 50).

**Question 3: Please confirm that preconstruction meeting attendees are available to attend the meeting within 14 calendar days after award notification.**

Reference Section 2.6 (page 3): Council approval will need to occur before the preconstruction meeting. Council approval is expected on, or before, May 10<sup>th</sup>. The City is well aware of the tight build deadline and will certainly be prepared to meet within 2 weeks of Council award.

**Question 4: Please clarify if the 17 inspection days are to be included within the delivery requirement of January 16, 2012.**

Reference Section 2.8 (page 4), 2.10 (page 4), 3.1 (page 39), and 4.4 (page 44): The Assistance to Firefighters Grant requires the City to accept the apparatus prior to February 4, 2012. However, the City will require delivery prior to January 16, 2012 to allow for at least a 17 day inspection period. It is also worth noting that the grant also requires a liquidated damages clause to encourage timely delivery.

**Question 5: What is the length of the desired aerial ladder?**

Reference Section 2.16 (page 6): The aerial ladder shall be 100' reach or greater from the vertical points of ground to the tip of the ladder at an 80 degree angle and shall have a 12' narrow roof ladder mounted to the inside of the 4<sup>th</sup> section of the ladder.

**Question 6: Please provide a more defined description of what a “rated mount” at the aerial tip is.**

Reference Section 2.16.1 (page 6): Rated mounts are of a design to support straps, carabineers, pulleys and rope to create an above ground anchor point.

**Question 7: A speaker for an electronic siren is requested, but there is not a request for an electronic siren.**

Reference Section 2.17.48 (page 17): A speaker for an electronic siren will be mounted to the front cab/bumper area and wiring run to the location where the Kenwood mobile radio will be located inside the cab.

**Question 8: You have indicated that the vendor supply a “tiller axle” sufficient for the anticipated GVW. Please supply the weight of the equipment payload that the SCFD anticipates to carry on this vehicle, so that correct GVW calculations may be made.**

Reference Section 2.19.14 (page 21): The City does not have an exact weight of equipment at this time; calculate weight for a maximum weight rated axle.

**Question 9: Please provide information as to what type (aluminum or steel) wheels that you want.**

Reference Section 2.19.30 (page 23): Rims will be aluminum.

**Question 10: Please provide the quantity and type of light desired for the “Additional Compartment Lights.”**

Reference Section 2.20.18 (page 26): Additional 4” LED lighting will be provided in the compartments above each shelf level to illuminate that shelf. Each light will be mounted to a painted bracket, which will be mounted to adjustable shelf tracks

**Question 11: Is the “Optional Add-On” compliment for this truck, or a second set for other purposes?**

Reference Section 2.21.31 (page 38) and Section 9; Pricing, Optional Add-on item 4 (page 65): The intent of section 2.21.31 is to specify the ground ladder storage requirements of the apparatus. The intent of Section 9: Pricing, Optional Add-on item 4 is to determine whether it is more cost effective to purchase ladders, pike poles, and rubbish hooks with the apparatus or separately. The City will want Duo Safety Aluminum ladders.

**Question 12: Please confirm warranty term – 3 or 5 years.**

Reference Section 7, Question 25 (page 50): Vendors are asked to submit in their proposal information regarding the warranty offered by answering this question. The warranty wording included in the RFP is a sample and should state three years throughout.



MEMORANDUM  
ADDENDUM #2  
FOR TRACTOR DRAWN AERIAL APPARATUS RFP

DATE: February 24, 2011  
TO: Prospective Vendors  
FROM: Malissa Kaping, Buyer II  
SUBJECT: ADDENDUM #2 FOR TRACTOR DRAWN AERIAL APPARATUS RFP

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The purpose of this addendum is to address the questions received by vendors. The following changes, corrections, additions and/or deletions are incorporated into the RFP. It is your responsibility to understand and comply with this addendum.

A signed copy of this document must be submitted with your proposal. Failure to do so may result in rejection of your proposal.

Company Name: Golden State Fire Apparatus

Authorized Representative: Ruby M. [Signature]  
(Signature)

The Request For Proposals for "Tractor Drawn Aerial Apparatus" dated February 2011 has been amended as follows:

**Question 13: Please clarify voltage to tractor roof mounted light mast.**

Reference Section 2.20.46 (page 31): The Will Burt Nightscan Chief 1.8 light is available at <http://www.willburt.com/> and comes as a 12 or 24 volt DC operation. 24 volt would be preferred but the 12 volt can be listed as a deviation on page 62.

**Question 14: Will the bottles be stored vertically or horizontally?**

Reference Section 2.21.30 (page 38): The bottles will be stored horizontal with a slight angle to the back of the holder.

**Question 15: Please provide specs and a total quantity of pike poles and rubbish hooks needed.**

Reference Section 2.21.31 (page 38): The City will want equipment as recommended by NFPA 1901:

- o Four pike poles mounted in brackets fastened to the apparatus (lengths to be determined at pre-construction conference),
- o Two 3 ft to 4 ft plaster hooks with D handles mounted in brackets fastened to the apparatus, and
- o Three rubbish hooks in brackets fastened to the apparatus.



MEMORANDUM  
ADDENDUM #3  
FOR TRACTOR DRAWN AERIAL APPARATUS RFP

DATE: March 8, 2011  
TO: Prospective Vendors  
FROM: Malissa Kaping, Buyer II  
SUBJECT: ADDENDUM #3 FOR TRACTOR DRAWN AERIAL APPARATUS RFP

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The purpose of this addendum is to address the questions received by vendors. The following changes, corrections, additions and/or deletions are incorporated into the RFP. It is your responsibility to understand and comply with this addendum.

A signed copy of this document must be submitted with your proposal. Failure to do so may result in rejection of your proposal.

Company Name: Golden State Fire Apparatus

Authorized Representative: Ruej M. [Signature]  
(Signature)

The Request For Proposals for "Tractor Drawn Aerial Apparatus" dated February 2011 has been amended as follows:

**Question 16: Is the 12' ladder mounted on the fly section or in the ladder tunnel?**

Reference Section 2.16 (page 6) and Section 2.21.31 (page 38): The 12' roof ladder will be mounted to the top fly section of the aerial ladder.

**Question 17: Give the dimensions for the tool box located on the floor mounted tray in side D/6 and P/6.**

Reference Section 2.21.14 (page 35): The City is not requiring specific dimensions. Please see the referenced section for a full explanation; the specification states that "the length, width, and depth will be determined by the slide out tray width and height allowed."

**Question 18: Give the width and depth for the narrow 12' roof ladder.**

Reference Section 2.21.31 (page 38): Duo Safety makes a 12' roof ladder that can be specially ordered to a minimum width of 14"; see Duo Safety Aluminum Roof Ladder Series #775A.

**Question 19: The 14' combination ladder does not appear to fit. The 14' combo closed length is 102", body width is 96"; therefore, if it was mounted transversely, it would overhang the body on each side by 3". Would the City prefer to swap out the 14' with a smaller 12' combo or Little Giant model 17?**

Reference Section 2.21.31 (page 38): The 14' combination ladder can be substituted with the Little Giant Model 17, lightest weight to be considered.

**Question 20: Will a public bid opening be conducted?**

Reference Section 3 (pages 39-43): No, this solicitation is not based solely on price and a full evaluation of all proposals must be conducted before the award notice. Proposals will be opened and reviewed in confidence; an Intent to Award Notice will be sent to all those who submitted proposals once the City has completed the evaluation. The contract will be awarded to the best value Vendor based on the criteria listed in the solicitation.

*City of Santa Cruz Fire Dept.*  
*Proposal for One (1) 105' Tractor Drawn Aerial Ladder*  
Quote # 40315-11

Golden State Fire Apparatus Inc., is pleased to submit a proposal to you for a Pierce® Tractor-Drawn Aerial Ladder per your request for quotation. The following paragraphs will describe in detail the apparatus proposed. Loose equipment not specifically requested will not be provided. PIERCE MANUFACTURING was incorporated in 1917. 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 50 years of experience in the fire apparatus market. Our plant is located in Appleton, Wisconsin with over 757,000 total square feet of floor space situated on approximately 97 acres of land. A \$7 million dollar inventory of parts is available to keep your unit in service long after it has left the factory.

**QUALITY AND WORKMANSHIP**

Pierce has set the pace for quality and workmanship in the fire apparatus field. Our tradition of building the highest quality units with craftsmen second to none has been the rule right from the beginning. We currently have a "Quality Achievement Supplier" program to insure that the vendors and suppliers that we utilize meet the high standards that we demand. That is just part of our overall "Quality at the Source" program at Pierce. Another part of this program is employing experts in their fields, like a Certified American Welding Society Inspector to monitor our weld quality.

**DELIVERY**

The apparatus will be delivered under its own power to insure proper break-in of all components while the apparatus is still under warranty.

**INFORMATION**

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

**SAFETY VIDEO**

At the time of delivery Pierce will also provide one 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, aerial operation, and safety during maintenance.

**PERFORMANCE TESTS**

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

**COMMERCIAL GENERAL LIABILITY INSURANCE**

Certification of insurance coverage will be enclosed.

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**ISO COMPLIANCE**

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 Number 32454 is included with this proposal.

**SINGLE SOURCE MANUFACTURER**

Pierce Manufacturing, Inc. provides an integrated approach to the design and manufacture of our products that delivers superior apparatus and a dedicated support team. From our headquarters, all chassis, cab, body and aerial systems are engineered, tested and hand assembled to the customer's exact specifications. Pierce® vehicles are also backed by a network of sales and service organizations that are dedicated exclusively to the fire service who are ready to help you 24 hours a day, 7 days a week with parts, service and training. 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.

**NFPA 2009 STANDARDS**

This unit will comply with the NFPA standards effective January 1, 2009, except for fire department directed exceptions. These exceptions will be set forth in the Statement of Exceptions.

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

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

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

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

**NFPA COMPLIANCY**

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

**INSPECTION CERTIFICATE**

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

The following tests will be conducted:

- Magnetic particle inspection will be conducted on every structural weld to assure the integrity of the weldments and to detect any flaws or weaknesses. Magnets will be placed on each side of the weld while iron powder is placed on the weld itself. The powder will detect any crack that may exist. This test will conform to ASTM E709 and be performed prior to assembly of the aerial device.
- With aluminum structural components, visual inspection will be performed on aluminum surfaces (non-magnetic). A liquid penetrant test will be performed on any suspected

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defective area. This test will conform to ASTM E165 and be performed prior to assembly of the aerial device.

- Ultrasonic inspection will be used to detect any flaws in pins, bolts and other critical mounting components.

Functional tests, load tests, stability tests, and visual structural examinations will be performed. These tests will determine any unusual deflection, noise, vibration, or instability characteristics of the unit.

**TOTAL VEHICLE ASSESSMENT CERTIFICATION**

The apparatus will be third-party, independent, audit-certified through Underwriters Laboratory (UL) to the current edition of NFPA 1901 standards. The certification includes: all design, production, operational and performance testing of the apparatus.

**GENERATOR TEST**

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

**INSPECTION TRIP(S)**

The bidder will provide two (2) factory inspection trips for two (2) Santa Cruz FD customer representatives. The inspection trips will be scheduled at times mutually agreed upon between the manufacturer's representative and the customer. All costs such as travel, lodging and meals will be the responsibility of the bidder.

**AFTERMARKET SUPPORT WEBSITE**

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

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

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

**My Fleet Screen**

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

**Parts Screens**

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

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**Warranty Screen**

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

**My Reports Screens**

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

**Technical Support Screens**

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

**Training**

The Training screens will provide access to upcoming training classes offered by Pierce Manufacturing along with interactive electronic learning modules (Operators Guides) covering the operation of major vehicle components will be provided. Access to training manuals used in Pierce Manufacturing training classes will be provided.

**About Pierce**

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

**PERFORMANCE BOND, 3 YEARS**

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 Bumper to Bumper warranty period included within this proposal. Owner agrees that the penal amount of this bond will be simultaneously amended to 100 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 three (3) years from the date of such satisfactory acceptance and delivery, or the actual Bumper to Bumper warranty period, whichever is shorter.

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**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.

**ARROW-XT™ TRACTOR CHASSIS**

The Pierce Arrow-XT 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 heavy-duty line tilt cab.

**WHEELBASE**

The wheelbase of the vehicle will be 160.00".

**GVW RATING**

The gross vehicle weight rating will be 76,600.

**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 .38" thick steel, with 3.50" wide flanges.

**FRAME REINFORCEMENT**

In addition, a mainframe inverted "L" liner will be provided. It will be heat-treated steel measuring 12.00" x 3.00" x .25". Each liner will have a section modulus of 7.795 cubic inches, yield strength of 110,000 psi, and rbm of 857,462 in-lb. Total rbm at wheelbase center will be 3,976,502 pounds per rail.

The frame liner will be mounted inside of the chassis frame rail, beginning at the front edge of the mainframe rail and extending to the rear cab crossmembers.

**FRONT NON DRIVE AXLE**

The Oshkosh TAK-4® front axle will be of the independent suspension design with a ground rating of 22,800 lb.

Upper and lower control arms will be used on each side of the axle. Upper control arm castings will be made of 100,000-psi yield strength 8630 steel and the lower control arm casting will be made of 55,000-psi yield ductile iron.

The center cross members and side plates will be constructed out of 80,000-psi yield strength steel.

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Each control arm will be mounted to the center section using elastomer bushings. These rubber bushings will rotate on low friction plain bearings and be lubricated for life. Each bushing will also have a flange end to absorb longitudinal impact loads, reducing noise and vibrations.

There will be nine (9) grease fittings supplied, one (1) on each control arm pivot and one (1) on the steering gear extension.

The upper control arm will be shorter than the lower arm so that wheel end geometry provides positive camber when deflected below rated load and negative camber above rated load.

Camber at load will be zero degrees for optimum tire life.

The kingpin bearing will be of low friction design and be sealed for life.

Toe links that are adjustable for alignment of the wheel to the center of the chassis will be provided.

The wheel ends will have little to no bump steer when the chassis encounters a hole or obstacle.

The steering linkage will provide proper steering angles for the inside and outside wheel, based on the vehicle wheelbase.

The axle will have a third party certified turning angle of 45 degrees. Front discharge, front suction, or aluminum wheels will not infringe on this crank angle.

**FRONT SUSPENSION**

Front Oshkosh TAK-4™ independent suspension will be provided with a minimum ground rating of 22,800 lb.

The independent suspension system will be designed to provide maximum ride comfort. The design will allow the vehicle to travel at highway speeds over improved road surfaces and at moderate speeds over rough terrain with minimal transfer of road shock and vibration to the vehicle's crew compartment.

Each wheel will have torsion bar type spring. In addition, each front wheel end will also have energy absorbing jounce bumpers to prevent bottoming of the suspension.

The suspension design will be such that there is at least 10.00" of total wheel travel and a minimum of 3.75" before suspension bottoms.

The torsion bar anchor lock system allows for simple lean adjustments, without the use of shims. One can adjust for a lean within 15 minutes per side. Anchor adjustment design is such that it allows for ride height adjustment on each side.

The independent suspension was put through a durability test that simulated 140,000 miles of inner city driving.

**SHOCK ABSORBERS**

Heavy-duty telescoping shock absorbers (KONI) will be provided on the front suspension.

**OIL SEALS**

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

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**FRONT TIRES**

Front tires will be Goodyear 425/65R22.50 radials, 20 ply G296 tread.

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.

**REAR AXLE**

The rear axle will be a Meritor™, Model RS-30-185, with a capacity of 31,000 lb.

**TOP SPEED OF VEHICLE**

A rear axle ratio will be furnished to allow the vehicle to reach an NFPA compliant top speed of 60 MPH.

**REAR SUSPENSION**

The rear springs will be Standens semi-elliptical, 3.00" x 52.00", 11 leaves main with a ground rating of 31,000 lbs. Castings will be used for spring hangers with provisions for lubrication. The grease fittings will be 90 degree type and will be accessible without removing the wheels or cutting any sheet metal. The two (2) top-leaves will wrap the forward spring hanger pin and the top leaf will wrap the rear spring hanger pin on both the front and rear suspensions.

Kaiser spring pins will be provided, with double "figure-eight" grease grooves and a layer of electroless nickel plating, 1.00 mil thick, around the entire pin. The bushing that holds the spring pin in place will also have a grease groove.

**OIL SEALS**

Oil seals will be provided on the rear axle.

**REAR TIRES**

Rear tires will be four (4) Goodyear 315/80R22.50 radials, 18 ply "all season" Regional RHD II G137 (Regional Haul Drive) tread.

The tires will be mounted on Alcoa 22.50" x 9.00" polished aluminum disc wheels with a ten (10)-stud 11.25" bolt circle.

**LUG NUT COVERS**

Chrome plated lug nut covers will be installed on all lug nuts.

**TIRE BALANCE**

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

**TIRE PRESSURE MANAGEMENT**

There will be a VECSAFE LED tire alert pressure management system provided that will monitor each tire's pressure. A chrome plated brass sensor will be provided on the valve stem of each tire for a total of eight (8) tires.

The sensor will calibrate to the tire pressure when installed on the valve stem for pressures between 20 and 120 psi. The sensor will activate an integral battery operated LED when the pressure of that tire drops eight (8) psi.

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

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**ANTI-LOCK BRAKE SYSTEM**

The vehicle will be equipped with a Wabco, Model XS4M, anti-lock braking system. The ABS will provide a four (4) channel anti-lock braking control on both the front, rear and tiller 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.

**ANTI-LOCK BRAKE SYSTEM WARRANTY**

The Wabco ABS system will come with a **three (3) year or 300,000 mile parts and labor warranty** provided by Meritor Wabco Vehicle Control Systems.

**BRAKES**

The service brake system will be full air type.

The front brakes will be Knorr/Bendix disc type with a 17.00" ventilated rotor for improved stopping distance.

The brake system will be certified, third party inspected, for improved stopping distance.

The rear brakes will be Meritor™ 16.50" x 8.63" cam operated with automatic slack adjusters.

**AIR COMPRESSOR, BRAKE SYSTEM**

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

**BRAKE SYSTEM**

The brake system will include:

- Bendix-Westinghouse dual brake treadle valve with vinyl covered foot surface
- Heated automatic moisture ejector on air dryer
- Total air system capacity of 5,198 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
- MGM spring set parking brake system
- Parking brake operated by a Bendix-Westinghouse PP-1 control valve
- A parking "brake on" indicator light on instrument panel
- Bendix-Westinghouse SR-1 valve, in conjunction with a double check valve system, providing automatic spring brake application at 40 psi

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.

- Wabco System Saver 1200 air dryer with spin-on coalescing filter cartridge
- 100 Watt Heater

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**BRAKE LINES**

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

**AIR INLET**

One (1) air inlet with male coupling will be provided. It will allow station air to be supplied to the apparatus brake system through a shoreline hose. The inlet will be located in the driver side lower step well of cab. A check valve will be provided to prevent reverse flow of air. The inlet will discharge into the "wet" tank of the brake system. A mating female coupling will also be provided with the loose equipment.

**ALL WHEEL LOCK-UP**

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

**ENGINE**

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

Make: Detroit Diesel

Model: DD13

Power: 500 hp at 1800 rpm

Torque: 1650 lb-ft at 1200 rpm

Governed Speed: 2080 rpm

Emissions Level: EPA 2010

Fuel: Diesel

Cylinders: Six (6)

Displacement: 781 cubic inches (12.8L)

Starter: Delco 39MT

Fuel Filters: Dual cartridge style with check valve, water separator, and water in fuel sensor

Coolant Filter: Cartridge style with shut off valves on the supply and return line.

**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."

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**ENGINE BRAKE**

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

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

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

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

**CLUTCH FAN**

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

**ENGINE AIR INTAKE**

The air intake with an ember separator will be mounted high on the passenger side of the cab, to the front of the crew cab door. The ember separator is designed to prevent road dirt and recirculating hot air from entering the engine. The ember separator will be easily accessible through a hinged stainless steel grille, with one (1) flush quarter turn latch.

**EXHAUST SYSTEM**

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

**RADIATOR**

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

For maximum cooling performance, the radiator core will be made of copper fins having a serpentine design, soldered to brass tubes. The tubes will be welded to brass headers using the patented Beta-Weld process for increased strength, longer road life and solder-bloom corrosion protection. The radiator core will have a minimum frontal area of 1396 square inches. Steel supply and return tanks will be bolted to the core headers and steel side channels to complete the radiator assembly. The radiator will be compatible with commercial antifreeze solutions. The radiator will be mounted in such a manner as to prevent the development of leaks caused by twisting or straining when the apparatus operates over uneven ground. The radiator assembly will be isolated from the chassis frame rails with rubber isolators.

The radiator will include an integral deaeration tank, with a remote-mounted overflow 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. A heavy-duty fan will draw in fresh, cool air through the radiator. Shields or baffles will be provided to prevent recirculation of hot air to the inlet side of the radiator.

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**COOLANT LINES**

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

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

**FUEL TANK**

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

A .75" drain plug will be provided in a low point of the tank for drainage.

A fill inlet will be located on the driver's side rear of the chassis on the vertical portion of the fender skirting area. The inlet will be covered with a hinged, spring loaded, stainless steel door that is marked "Ultra Low Sulfur - Diesel Fuel Only."

A .50" diameter vent will be provided running from the top of tank to just below the fuel fill inlet.

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

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

**DIESEL EXHAUST FLUID TANK**

A 4.5 gallon diesel exhaust fluid (DEF) tank will be provided and mounted in the driver's side body forward of the rear axle. The tank will be constructed of 16-gauge type 304-L stainless steel.

A .50" drain plug will be provided in a low point of the tank for drainage.

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

The tank will meet the engine manufacturer's 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.

**FUEL COOLER**

An air to fuel cooler will be installed in the engine fuel return line.

**TRANSMISSION**

An Allison Gen IV, 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.

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

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

**TRANSMISSION SHIFTER**

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

The transmission ratio will be 1st - 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.

**TRANSMISSION COOLER**

A shell and tube transmission oil cooler will be provided using engine coolant to control the transmission oil temperature. The cooler will have an aluminum shell and copper tubes. The cooler will be assembled using pressed in rubber tube sheets to mechanically create a reliable seal between the coolant and the oil. No brazed, soldered, or welded connections will be used to separate the coolant from the oil.

**TRANSMISSION COOLER WARRANTY**

The Champ three (3)-year parts, labor and collateral damage warranty will be provided with this cooler, plus an additional two (2) years of parts and labor only coverage. The collateral damage for the first three (3) years will not exceed \$10,000 per occurrence.

**DOWNSHIFT MODE (w/engine brake)**

The transmission will be provided with an aggressive downshift mode.

This will provide earlier transmission downshifts to 3rd gear from 6th gear, resulting in improved engine braking performance.

**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, slip joint will be coated with Glidecoat or equivalent.

**STEERING**

Sheppard M110 steering gears, with integral heavy-duty power steering, will be provided. For reduced system temperatures, the power steering will incorporate an air to oil cooler and a Vickers V20F three (3)-line hydraulic pump with integral pressure and flow control.

The steering wheel will be:

- 18.00" in diameter
- Capable of tilting and telescoping
- Four (4)-spoke design

**STEERING WARRANTY**

The steering gear will have a three (3) year parts and labor warranty.

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**LOGO AND CUSTOMER DESIGNATION ON HORN BUTTON**

The steering wheel 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: *City of*

The second row of text will be: *Santa Cruz*

The third row of text will be: *Fire Dept*

**WHEEL CHOCKS, PROVIDED BY FIRE DEPARTMENT**

NFPA 1901, 2009 edition, section 8.8.2 requires two or more wheel chocks mounted in readily accessible locations that together will hold the apparatus, when loaded to its GVWR or GCWR, on a hard surface with a 20 percent grade with the transmission in neutral and the parking brake released.

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

**WHEEL CHOCK BRACKETS, PROVIDED BY FIRE DEPARTMENT**

The wheel chock brackets are not on the apparatus as manufactured. The fire department will provide and install the wheel chock brackets.

**BUMPER**

A one (1) piece, 0.38" thick steel channel bumper, a minimum 12.00" high will be attached to the front of the chassis frame. The outer corners will be angled back slightly.

The bumper will be painted job color.

A 9.00" formed steel channel will be mounted directly behind bumper for additional strength.

**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.

**TOW EYES**

Two (2) 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.

The tow eyes will be mounted directly to the bumper frame.

Cutouts will be provided in the front face of the stainless steel bumper to allow the 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.

The tow eyes will be painted black.

**GRAVEL PAN**

A gravel pan, constructed of bright aluminum treadplate, will be furnished between the bumper and cab face.

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**FOG LIGHTS**

Two (2) Perlux Model 06401 rectangular halogen fog lamps, with clear lenses, will be provided one (1) on each side recessed into the front bumper.

The fog lamp switch will include an internal indicator. This switch will be properly identified and installed on the switch panel within reach of the driver. The parking, tail, side marker and license plate lamps will be activated by the headlamp switch prior to the activation of these fog lights. The fog lights will be able to switch on or off independently of the low beam headlights. The front fog lights will be reset to an off position whenever the headlight switch or the vehicle ignition switch is set to the off position. The fog lights will be deactivated when the high beam headlights are activated, when the headlight switch is turned off or when the ignition switch is turned off.

**CAB**

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

Construction of the cab will consist of 5052-H32 .125" aluminum welded to extruded aluminum framing.

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

The cab will be 96.00" wide with an interior width of 87.50".

The overall height (from the cab roof to the ground) will be approximately 103.00". 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 floor to ceiling height inside the crew cab will be 54.00" in the center and 59.25" in the outboard positions.

The crew cab floor will measure 40.12" from rear wall to the back side of engine tunnel.

The engine tunnel, at the rearward highest point (knee level); will measure 47.75" to the back wall.

The crew cab will be of the totally enclosed design with access doors constructed in the same manner as the driver and passenger doors.

The cab will be a full tilt cab style. The engine will be easily accessible and capable of being removed with the cab tilted. The cab will be capable of tilting 45 degrees and 90 degrees with crane assist.

The cab will have a three (3)-point rubber mounting and will be tilted by a hydraulic pump connected to two (2) cab lift cylinders. The cab will then be locked down by a two (2)-point automatic locking mechanism that actuates after the cab has been lowered.

**INTERIOR CAB INSULATION**

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

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**ENGINE TUNNEL**

Engine hood side walls will be constructed of .50" aluminum. The top will be constructed of .19" aluminum and will be tapered at the top to allow for more driver and passenger elbow room.

The engine hood will be insulated for protection from heat and sound. The noise insulation keeps the dBA level within the limits stated in the current NFPA series 1900 pamphlet.

**FENDER LINERS**

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

**REAR WALL COVERING**

Bright aluminum treadplate will be overlayed on the outside rear wall of the crew cab except for areas that are not typically visible when the cab is lowered.

**WINDSHIELD**

A curved safety glass windshield will be provided with over 2,754 square inches of clear viewing area. The cab windshield will have bright trim inserts in the rubber molding holding the glass in place. Economical windshield replacement glass will be readily available from local auto glass suppliers.

All cab glass will be tinted.

**WINDSHIELD WIPERS**

Two (2) electric windshield wipers with washer will be provided that meet FMVSS and SAE requirements.

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

A glove box with a drop-down door will be installed in the front dash panel in front of the officer position.

**CAB LIFT**

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

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

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

Cab will be locked down by a two (2)-point automatic spring-loaded hook mechanism that actuates after the cab has been lowered.

The hydraulic cylinders will be equipped with a velocity fuse that protects the cab from accidentally descending when the control is located in the tilt position.

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

**INTERLOCK, CAB LIFT TO PARKING BRAKE**

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

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**CAB RAISING / LOWERING ALARM**

An alarm will sound when the cab is in the process of being raised or lowered. The alarm will be located at the D/S battery box and will deactivate when the cab is completely raised or lowered.

**CAB LIFT RESERVOIR LABEL**

A label will be provided on the cab lift reservoir to indicate when the reservoir is full. The label will read "full level" with the cab in the raised position.

**MOLDING (On Sides of Cab)**

Chrome molding will be provided on both sides of cab.

**MIRRORS**

A Moto Mirror-Plus polished mirror, 7.62" x 13.50" flat glass and a 6.62" x 6.25" convex glass will be mounted on each side of the front cab doors. Driver and passenger side mirrors will be heated and adjustable with remote control convenient to the driver.

**DOORS**

To enhance entry and egress to the cab, the forward cab doors will be a minimum of 37.50" wide x 61.75" high. The crew cab doors will be located on the sides of the cab and will be constructed in the same manner as the forward cab doors. The crew cab doors will measure a minimum of 34.88" wide x 61.75" high.

The forward cab and crew cab doors will be constructed of extruded aluminum with a nominal material thickness of .125". The exterior door skins will be constructed from .090" aluminum.

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

A flush mounted, chrome plated paddle type door handle will be provided on the exterior of each cab door. Each door will also be provided with an interior flush paddle handle.

The cab doors will be provided with both interior (rotary knob) and exterior (keyed) locks as required by FMVSS 206. The locks will be capable of activating when the doors are open or closed. The doors will remain locked if locks are activated when the doors are opened, then closed.

A full length, heavy duty, stainless steel, piano-type hinge with a .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.

Full height polished stainless steel scuffplates will be installed on the inside of all cab doors. Cab door panels will be removable without disconnecting door and window mechanisms.

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

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

**ELECTRIC OPERATED CAB DOOR WINDOWS**

All four (4) cab doors will be equipped with electric operated windows with flush mounted automotive style switches.

The driver's side lower instrument panel will also have three (3) controls, officer's door window and both crew cab door windows.

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**CAB STEPS**

The forward cab and crew cab access steps will be a full size two (2) step design to provide largest possible stepping surfaces for safe ingress and egress. The bottom steps will be designed with a grip pattern punched into bright aluminum treadplate material to provide support, slip resistance, and drainage. The bottom steps will be a bolt-in design to minimize repair costs should they need to be replaced. The forward cab steps will be a minimum 24.75" wide, and the crew cab steps will be 21.25" 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. Three (3) step entrance designs will not be acceptable due to safety concerns. A slip-resistant handrail will be provided adjacent to each cab door opening to assist during cab ingress and egress.

**STEP LIGHTS**

For reduced overall maintenance costs compared to incandescent lighting, there will be four (4) Ritar, Model M27HW2, LED, step lights provided. The lights will be installed at each cab and crew cab door, one (1) per step, in the driver side front doorstep, driver side crew cab doorstep, passenger side front doorstep and passenger side crew cab doorstep.

The lights will be activated when the adjacent door is opened.

**FENDER CROWNS**

Stainless steel fender crowns will be installed at the cab wheel openings. The fender crowns will have a radius outside corner that will allow the fender crown to extend out further than the standard width crown, thus extending beyond the sidewall of the front tires and allow the crew cab doors to open fully.

**FIFTH WHEEL**

The fifth wheel will be designed to allow the tiller trailer to pivot fore & aft and be rotated. The fifth wheel will also be capable of full operation up to a 14 degree break over angle.

A fifth wheel lockout system will be provided to limit motion during aerial operations.

The fifth wheel lockout system, when activated, will prevent movement between the upper and lower plates of the fifth wheel assembly.

In the normal road travel condition the cylinder mounted solenoid valves will be open and will allow transfer of oil between the front and rear pair of cylinders.

When the stabilizers are in their proper supporting position and as the aerial leaves the boom support, the solenoid valves will close.

The closed valves will allow no oil to be transferred and the fifth wheel assembly will become rigid.

A fill and a gauge port will be provided on the top of the trailer goose neck for maintenance.

**FENDER PANELS**

The chassis behind the cab will be assembled with fender panels over the wheels, running boards and steps for access to the turntable and decking over the frame rails.

The fender panels will be fabricated of .125"-5052 aluminum with a 38,000 psi tensile strength.

Fender design will be provided for prevention of rust pockets and ease of maintenance.

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The area over the frame rails between the cab and fifth wheel will be covered with aluminum treadplate to serve as a walkway area.

The walkway area will be properly reinforced with a steel substructure attached to the frame rails.

Running boards will be installed on each side directly behind the cab for access to the walkway area behind the cab and the turntable.

The running boards will be covered with aluminum treadplate.

The rear wall of the crew cab will have two (2) windows, each being 11.29" wide x 17.95" high.

**SUNVISORS**

Two (2) vinyl sunvisors will be provided, one (1) above each windshield.

**SUNVISOR RETENTION BRACKET**

Two (2) polished stainless steel brackets will be attached to the cab headliner to secure the visors in the stowed position.

**CAB INTERIOR**

The wrap-around style high impact ABS plastic cab dash fascia will be designed to provide 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. The center console will include an easily removable cover for the defroster.

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

The engine tunnel will be padded and covered with 46 ounce leather grain vinyl resistant to oil, grease and mildew. The upper door liners will be constructed of an aluminum backing covered with padded upholstery.

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

Forward portion of cab headliner will provide easy access for servicing electrical wiring or for other maintenance needs without removing the entire unit.

**CAB INTERIOR UPHOLSTERY**

The cab interior upholstery will be dark silver gray.

**INTERIOR PAINT (Cab)**

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

**CAB FLOOR**

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

The top surface of the material has a series of raised pyramid shapes evenly spaced, which offer a superior grip surface. Additionally, the material has a .25" thick closed cell foam (no water absorption) which offers a sound dampening material for reducing sound levels.

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**CAB DEFROSTER**

There will be a 41,000 BTU/hr defroster in the cab located under the engine tunnel.

The defroster ventilation will be built into the design of the cab dash instrument panel and will be easily removable for maintenance.

The defroster will have a three (3)-speed blower and temperature controls accessible to the driver and officer.

The defroster ducts will be designed to provide maximum defrosting capabilities for the front cab windows.

**CAB/CREW CAB HEATER**

Two (2) auxiliary heaters with 32,000 BTU/hr each will be provided in the cab. The heaters will have a three (3)-speed blower and temperature controls accessible to the driver and officer. There will also be louvers located below the rear facing seat riser and below the driver and officer positions for airflow.

The heaters will be mounted, one (1) within each rear facing seat riser.

**AIR CONDITIONING**

A high-performance, customized air conditioning system will be furnished inside the cab and crew cab. A 19.10 cubic inch compressor will be installed on the engine.

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 four (4) hours.

A roof-mounted condenser that meets and exceeds the performance specification will be installed on the cab roof. Mounting the condenser below the cab or body would reduce the performance of the system and will not be acceptable.

An evaporator unit that meets and exceeds the performance specification will be installed in the cab, located in the center of the cab ceiling over the engine tunnel. The evaporator will include two (2) high performance cores and plenums with multiple outlets, one (1) plenum directed to the front and one (1) plenum directed to the rear of the cab.

The evaporator unit will be provided with adjustable air outlets strategically located to direct air flow to the driver, officer and crew cab area.

All hose used will be class 1 type to reduce moisture ingress into the air conditioning system.

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

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

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**GRAB HANDLE**

A black rubber covered grab handle will be mounted on the lower portion of the driver's side cab entrance to assist in entering the cab. The grab handle will be securely mounted to the post area between the door and steering wheel column.

A long rubber grab handle will be mounted on the dash board in front of the officer.

**ENGINE COMPARTMENT LIGHTS**

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

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

**ACCESS TO ENGINE DIPSTICKS**

For access to the engine oil and transmission fluid dipsticks, there will be a door on the engine tunnel, inside the crew cab. The door will be on the rear wall of the engine tunnel, on the vertical surface. The door will be 17.75" wide x 12.75" 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 tube will be provided for filling the engine oil.

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

**SEATING CAPACITY**

The seating capacity in the cab will be four (4).

**DRIVER SEAT**

A 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 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 driver configurations, the seat will have an adjustable reclining back. The seat back will be a high back style with side bolster pads for maximum support. For optimal comfort, the seat will be provided with 17.00" deep foam cushions designed with EVC (elastomeric vibration control).

The seat will be furnished with a three (3)-point, shoulder type seat belt. The seat belt tongue will be stored at waist position for quick application by the seat occupant. The seat belt receptacle will be provided on a cable conveniently nested next to the seat cushion, providing easy accessibility. The seat belt will be furnished with dual automatic retractors that will provide ease of operation in the normal seating position.

**OFFICER SEAT**

A seat will be provided in the cab for the passenger. The seat design will be a cam action type, with air suspension. The seat back will be a high back style with nine (9) degree fixed recline angle and side bolster pads for maximum support. For optimal comfort, the seat will be provided with 17.00" deep 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.

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The seat will be furnished with a three (3)-point, shoulder type seat belt. The seat belt tongue will be stored at waist position for quick application by the seat occupant. The seat belt receptacle will be provided on a cable conveniently nested next to the seat cushion, providing easy accessibility. The seat belt will be furnished with dual automatic retractors that will provide ease of operation in the normal seating position.

**FORWARD FACING DRIVER SIDE OUTBOARD SEAT**

There will be one (1) forward facing flip-up seat provided at the driver side outboard position in the crew cab. The seat back will be a high back style with nine (9) degree fixed recline angle. For optimal comfort, the seat will be provided with 15.00" deep 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 three (3)-point, shoulder type seat belt. The seat belt tongue will be stored at waist position for quick application by the seat occupant. The seat belt receptacle will be provided on a cable conveniently nested next to the seat cushion, providing easy accessibility. The seat belt will be furnished with dual automatic retractors that will provide ease of operation in the normal seating position.

**EMS COMPARTMENT**

A forward facing EMS compartment will be provided in the crew cab at the center position.

The compartment will be 38.00" wide x 48.00" high x 22.63" deep with one (1) Gortite roll up door, non-locking, with white finish. The clear door opening of the compartment will be 38.00" high x 27.50" wide.

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

**COMPARTMENT LIGHT**

There will be one (1) Amdor LED strip light installed on the left side of the compartment opening. The lights will be controlled by an automatic door switch.

**This storage compartment will be compliant per NFPA standard for automotive fire apparatus.**

**FORWARD FACING PASSENGER SIDE OUTBOARD SEAT**

There will be one (1) forward facing flip-up seat provided at the passenger side outboard position in the crew cab. The seat back will be a high back style with 9 degree fixed recline angle. For optimal comfort, the seat will be provided with 15.00" deep 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 three-point, shoulder type seat belt. The seat belt tongue will be stored at waist position for quick application by the seat occupant. The seat belt receptacle will be provided on a cable conveniently nested next to the seat cushion, providing easy accessibility. The seat belt will be furnished with dual automatic retractors that will provide ease of operation in the normal seating position.

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**P/S REAR FACING EMS COMPARTMENT**

An EMS compartment, 42.50" high x 19.00" wide x 24.00" deep will be installed. The clear door opening will be 32.50" high x 14.00" wide. The compartment will be located at the passenger's side outboard rear facing seat position. There will be one (1) Gortite roll up door, non-locking, with white finish installed on the compartment. The compartment will be constructed of aluminum and painted to match the cab interior.

**COMPARTMENT LIGHT**

There will be one (1) Amdor LED strip light installed on the right side of the compartment opening provided. The light(s) will be controlled by an automatic door switch.

**This storage compartment will be compliant per NFPA standard for automotive fire apparatus.**

**D/S REAR FACING EMS COMPARTMENT**

An EMS compartment, 22.00" wide x 42.50" high x 26.00" deep with one (1) Gortite roll up door, non-locking, with white finish will be provided in the crew cab. The clear door opening of the compartment will be 37.50" high x 20.00" wide. The EMS compartment will be located in the rear facing driver's side position. The compartment will be constructed of aluminum and painted to match the cab interior.

**COMPARTMENT LIGHT**

There will be one (1) Amdor LED strip light installed on the left side of the compartment opening. The light(s) will be controlled by an automatic door switch.

**This storage compartment shall be compliant per NFPA standard for automotive fire apparatus.**

**SEAT UPHOLSTERY**

All seat upholstery will be 46 ounce leather grain dark silver gray vinyl resistant to oil, grease and mildew. The backrest bolsters on SCBA type seats and top outside edges of bottom cushion will be lined with Tuff-Tex material for long lasting durability.

**EMBROIDERY, SEATS**

The cab seats will be provided with custom embroidery. "SCFD" will be embroidered in the upper area of each seat back.

This option will be provided for five (5) seat positions located on the two front seats, the two crew cab seats, and the tiller cab seat.

**SHOULDER HARNESS HEIGHT ADJUSTMENT**

All seating positions furnished with three (3)-point shoulder type seat belts will include a height adjustment. This adjustment will optimize the belts effectiveness and comfort for the seated firefighter.

**SEAT BELTS**

All seating positions in the cab and crew cab will have red seat belts.

**SEAT BELT MONITORING SYSTEM**

A seat belt monitoring system (SBMS) will be provided. The SBMS will be capable of monitoring up to ten (10) seat positions indicating the status of each seat position with a green or red LED indicator as follows:

Driver Seat:

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Seat Occupied	Buckled	Green
No Occupant	Unbuckled	Not Illuminated

The driver seat will not include an occupant sensor. The display indication for the driver seat will illuminate red any time the parking brake is released and the driver seat belt is not buckled.

All Other Seats:

Seat Occupied	Buckled	Green
Seat Occupied	Unbuckled	Red
No Occupant	Buckled	Red
No Occupant	Unbuckled	Not Illuminated

Alarm:

The SBMS will include an audible alarm that will be activated when a red illumination condition exists and the parking brake is released, or a red illumination condition exists and the transmission is not in park.

**HELMET STORAGE, PROVIDED BY FIRE DEPARTMENT**

NFPA 1901, 2009 edition, section 14.1.8.4.1 requires a location for helmet storage be provided. There is no helmet storage on the apparatus as manufactured. The fire department will provide a location for storage of helmets.

**CAB DOME LIGHTS**

There will be two (2) Weldon Model 8081, incandescent dome lights installed in the cab. The lights will be mounted above the inside shoulder of the driver and officer.

- The forward, clear, light will be controlled by the door switch and the lens switch.
- The rear, blue, light will be controlled by the lens switch only.

In addition, there will be two (2) adjustable map lights with an integral switch recessed into the cab ceiling. One (1) light will be located above the driver's seat and one (1) light will be located above the officer's seat.

**CREW CAB INTERIOR LIGHTING**

There will be two (2) Weldon, Model 8081-0000-13, incandescent dome lights with grey bezels installed in the crew cab located one (1) each side, controlled by the following:

- The forward, clear light shall be controlled by the door switch and the lens switch.
- The rear, red light shall be controlled by the lens switch only.

A courtesy light at each door opening, controlled by automatic door switches.

**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

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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

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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)

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Seat belt

Parking brake

Stop engine

Rack down

The following green telltale lamps will be provided:

Left turn

Right turn

Battery on

The following blue telltale lamp will be provided:

High beam

**ALARMS**

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

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

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

**INDICATOR LAMP AND ALARM PROVE-OUT**

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.

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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 three (3) to five (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 and defroster controls.**

**Turn signal arm:** A self-cancelling 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 three (3) 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 three (3) switch panels in the overhead console on the officer's side and up to three (3) switch panels in the engine tunnel rear facing console accessible to both driver and 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

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such as computers to connect to various vehicle systems for improved troubleshooting providing a lower cost of ownership. Diagnostic switches will allow engine and ABS systems to provide blink codes should a problem exist. The diagnostic panel will include the following:

Engine diagnostic port

Transmission diagnostic port

ABS diagnostic port

SRS diagnostic port (where applicable)

Command Zone USB diagnostic port

Engine diagnostic switch (blink codes flashed on check engine telltale indicator)

ABS diagnostic switch (blink codes flashed on ABS telltale indicator)

Diesel particulate filter regeneration switch (where applicable)

Diesel particulate filter regeneration inhibit switch (where applicable)

**CAB LCD DISPLAY**

A digital four (4)-row by 20-character dot matrix display will be integral to the gauge panel. The display will be capable of showing simple graphical images as well as text. The display will be split into three (3) sections. Each section will have a dedicated function. The upper left section will display the outside ambient temperature. The upper right section will display odometer, trip mileage, PTO hours, fuel consumption, engine hours, and other configuration specific information. The bottom section will display INFO, CAUTION, and WARNING messages. Text messages will automatically activate to describe the cause of an audible caution or warning alarm. The LCD will be capable of displaying multiple text messages should more than one caution or warning condition exist.

**AIR RESTRICTION INDICATOR**

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

**SWITCH PANELS**

The emergency light switch panel will have a master switch for ease of use plus individual switches for selective control. Each switch panel will contain eight (8) membrane-type switches each rated for one million (1,000,000) cycles. Panels containing less than eight (8) switch assignments will include non-functioning black 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.

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 backlighting is activated and illuminated red whenever the switch is active. 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.

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**WIPER CONTROL**

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 with six (6)-second interval 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.

**HOURMETER - AERIAL DEVICE**

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

**AERIAL MASTER**

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

**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 20' amps at 12 volts DC.

Power and ground will terminate for an MDT mount in front of the officer seat.

Termination will be with heat shrinkable butt splicing.

Wires will be sized to 125% of the protection.

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

**SPARE CIRCUIT**

There will be five (5) 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 for 5 portable radio installations. One within reach of the officer, two within reach of the driver, one in the crew cab per direction, and one in the tiller cab per direction.

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.

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**INFORMATION CENTER**

An information center employing a 7.00" diagonal 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 F
- An Optical Gel will be placed between the LCD and protective lens
- Five weather resistant user interface switches
- Black enclosure with gray decal
- Sunlight Readable
- Linux operating system
- Minimum of 400nits rated display

**OPERATION**

The information center will be designed for easy operation for everyday use.

The page button will cycle from one screen to the next screen in a rotating fashion.

A video button will allow a NTSC signal into the information center to be displayed on the LCD. Pressing any button while viewing a video feed will return the information center to the vehicle information screens.

A menu button will provide access to maintenance, setup and diagnostic screens.

All other button labels will be specific to the information being viewed.

**GENERAL SCREEN DESIGN**

Where possible, background colors will be used to provide "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.

Every screen will include the following:

- Exterior Ambient Temperature
- Time (12 or 24 hour mode)
- Text Alert Center:
  - 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.

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- Button Labels: 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.

**PAGE SCREENS**

The Information center will include the following screens:

**Load Manager Screen:** A list of items to be load managed will be provided. The list will provide:

- Description of the load
- Individual load shed priority: The lower the priority number the earlier the device will be shed should a low voltage condition occur.
- Load Status: The screen will indicate if a load has been shed (disabled) or not shed.

"At a Glance" color features are utilized on this screen

**Do Not Move Truck:** The Do Not Move Truck 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)
- Any other device that is opened, extended, or deployed that creates a hazard or is likely to cause damage to the apparatus if the apparatus is moved will cause an "Alert Center" message if the parking brake is disengaged.

**Chassis Information:** The following information will be shown:

- Engine RPM

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- Fuel Level
- Battery Voltage
- Engine Coolant Temperature
- Engine Oil Pressure

"At a Glance" color features are utilized on this screen

Active Alarms List: This screen will show a list of all active text messages. The list items text will match the text messages shown in the "Alert Center". The date and time the message occurred is displayed with each message in the list.

**MENU SCREENS**

The following screens will be available through the Menu button:

View System Information: A detailed list of vehicle information:

- Battery Volts
- Pump Hours
- Transmission Oil Temperature
- Pump Engaged
- Engine Coolant Level
- Engine Oil Level
  - Oil level will only be shown when the engine is not running
- Power Steering Level

Set daytime and nighttime Display Brightness:

- Brightness: Increase and decrease
- Default setting button

Configure Video Mode:

- Set Video Contrast
- Set Video Color
- Set Video Tint

Set Startup Screen:

- Choose the screen that will be active at vehicle power-up

Set Date & Time:

- 12 or 24 hour format
- Set time
- Set date

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View Active Alarms:

- Shows a list of all active alarms
  - Date and time of the occurrence is shown with each alarm
- Silence alarms
  - All alarms are silenced

System Diagnostics:

- Module type and ID number
- Module version
- Module diagnostics information:
  - Input or output number
  - Circuit number connected to that input or output
  - Circuit name (item connected to the circuit)
  - Status of the input or output
  - Power and Constant Current module diagnostic information

Button functions and button labels may change with each screen.

**VEHICLE DATA RECORDER**

A vehicle data recorder (VDR) will be provided. The VDR will be capable of reading and storing vehicle information. The VDR will be capable of operating in a voltage range from 8VDC to 16VDC. The VDR will not interfere with, suspend, or delay any communications that may exist on the CAN data link during the power up, initialization, runtime, or power down sequence. The VDR will continue operation upon termination of power or at voltages below 8VDC for a minimum of 10ms.

The information stored on the VDR can be downloaded through a USB port mounted in a convenient location determined by cab model. A CD provided with the apparatus will include the programming to download the information from the VDR. A USB cable can be used to connect the VDR to a laptop to retrieve required information.

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

Vehicle Speed - MPH

Acceleration - MPH/sec

Deceleration - MPH/sec

Engine Speed - RPM

Engine Throttle Position - % of Full Throttle

ABS Event - On/Off

Seat Occupied Status - Yes/No by Position (7-12 Seating Capacity)

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Seat Belt Buckled Status - Yes/No by Position (7-12 Seating Capacity)

Master Optical Warning Device Switch - On/Off

Time - 24 Hour Time

Date - Year/Month/Day

**INTERCOM SYSTEM WIRING ONLY**

Wiring only will be supplied and installed for a five (5) position David Clark Intercom system, with single radio interface at the driver and officer positions and intercom only at two (2) crew positions, located at both forward facing seats, and at the tiller operator's position. A C3820 power cable will also be supplied at the master intercom unit location.

**RADIO INTERFACE NOT REQUIRED**

The apparatus manufacturer shall not provide a radio / intercom interface.

**RADIO ANTENNA MOUNT**

An antenna-mounting base, Model MATM, with 17 feet of coax cable and weatherproof cap will be provided for a two (2)-way radio. The mount will be located on the cab roof just to the rear of the officer seat. The cable will be routed to the seat box on the officer side with enough cable for customer to route to the instrument panel if needed.

**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.

**COMMAND ZONE CONTROL SYSTEM**

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

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

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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 reprogrammable to accommodate changes to the vehicle's operating parameters

Complete operating and troubleshooting manuals

USB connection to the main control module for advanced troubleshooting

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

Module circuit board will meet SAE J771 specifications

Operating temperature from -40C to +70C

Storage temperature from -40C to +70C

Vibration to 50g

IP67 rated enclosure (Totally protected against dust and also protected against the effect of temporary immersion between 15 centimeters and one (1) meter)

Operating voltage from eight (8) volts to 16 volts DC

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

**CIRCUIT PROTECTION AND CONTROL DIAGRAM**

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

**ON-BOARD ADVANCED/VISUAL ELECTRICAL SYSTEM DIAGNOSTICS**

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

Text description of active warning or caution alarms

Simplified warning indicators

Amber caution light with intermittent alarm

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Red warning light with steady tone alarm

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

**ADVANCED DIAGNOSTICS**

An advanced, Windows-based, diagnostic software program will be provided for this control system. The software will provide troubleshooting tools to service technicians equipped with an IBM compatible computer.

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

**INDICATOR LIGHT AND ALARM PROVE-OUT SYSTEM**

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

**VOLTAGE MONITOR SYSTEM**

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

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

**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.

**ENHANCED SOFTWARE**

The Command Zone control system will include the following software enhancements:

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

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

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

**EMI/RFI PROTECTION**

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

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

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

**BATTERY SYSTEM**

Four (4) 12 volt, Exide Model 31S950X3W batteries that include the following features will be provided:

- 950 CCA, cold cranking amps
- 190 amp reserve capacity
- High cycle
- Group 31
- Rating of 3800 CCA at 0 degrees Fahrenheit
- 760 minutes of reserve capacity
- Threaded stainless steel studs

Each battery case will be a black polypropylene material with a vertically ribbed container for increased vibration resistance. The cover will be manifold vented with a central venting location to allow a 45 degree tilt capacity.

The inside of each battery will consist of a "maintenance free" grid construction with poly wrapped separators and a flooded epoxy bottom anchoring for maximum vibration resistance.

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**BATTERY SYSTEM**

A single starting system will be provided.

An ignition switch and starter button will be located on the instrument panel.

**MASTER BATTERY SWITCH**

A master battery switch, to activate the battery system, will be provided inside the cab within easy reach of the driver.

An indicator light will be provided on the instrument panel to notify the driver of the status of the battery system.

**BATTERY COMPARTMENTS**

Batteries will be 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 battery hold-downs will be of a non-corrosive material. All bolts and nuts will be stainless steel.

Heavy-duty battery cables will be used to provide maximum power to the electrical system. Cables will be color-coded.

Battery terminal connections will be coated with anti-corrosion compound. Battery solenoid terminal connections will be encapsulated with semi-permanent rubberized compound.

**JUMPER STUDS**

One (1) set of battery jumper studs with plastic color-coded covers will be installed on the bottom of the driver's side battery box. This will provide for easy jumper cable access.

**BATTERY CHARGER**

There will be a Kussmaul 1200, Model 091-187-12-Remote battery charger provided. A bar graph display indicating the state of charge will be provided.

The charger will have a maximum output of 40 amps and a fully automatic regulation.

The battery charger will be wired to the AC shoreline inlet through an AC receptacle adjacent to this battery charger.

Battery charger/compressor will be mounted below the EMS compartment.

The battery charger indicator will be located near the driver's seat riser with special bracketry.

**KUSSMAUL AUTO EJECT FOR SHORELINE**

One (1) shoreline receptacle will be provided to operate the dedicated 120-volt circuits on the truck without the use of the generator.

The shoreline receptacle (s) will be provided with a NEMA 5-20, 120 volt, 20 amp, straight blade Kussmaul Super auto eject plug with a yellow weatherproof cover. The cover is spring loaded to close, preventing water from entering when the shoreline is not connected.

The unit is completely sealed to prevent road dirt contamination.

A solenoid wired to the vehicle's starter is energized when the engine is started. This instantaneously drives the plug from the receptacle.

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An internal switch arrangement will be provided to disconnect the load prior to ejection to eliminate arcing of the connector contacts.

The shoreline will be connected to battery charger and engine heater.

A mating connector body will also be supplied with the loose equipment.

The shoreline receptacle will be located on the driver side exterior of cab, behind crew cab door.

**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.

**SPEAKER WIRE**

Wiring will be provided for a two-way radio remote mounted speaker.

There will be two (2) pair routed from the two way radio to the location provided

**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.

High Idle to not be controlled by the load manager.

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 includes a "Load Manager" screen indicating the following:

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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)

**EXTERIOR LIGHTING**

Exterior lighting will meet or exceed Federal Department of Transportation, Federal Motor Vehicle Safety Standards and National Fire Protection Association requirements in effect at time of proposal.

Front headlights will be Dat-S-Syst kit number XP4656-Kit, rectangular lights mounted in the front trim housing. Headlights will consist of two (2) lights mounted in the front trim on each side of the cab grill. The outside light on each side will contain a HID low and halogen high beam. The inside light on each side will contain a high beam light only.

The LED directional lights will wrap-around on the outside corners of the trim housing. The headlight and LED directional lights will be in the same assembly.

Five (5) LED clearance and marker lights will be installed across the leading edge of the cab.

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**WARNING LIGHTS (Cab Face)**

Two (2) pair of 65F\* Code 3®, flashing LED warning lights will be installed on the cab face above the headlights, in a common bezel.

The outboard lights will be used as the NFPA warning lights and will be red LED/red lens.

The inboard lights will be additional lights and will be steady red.

One (1) switch located in the cab on the switch panel will control these lights

To meet NFPA requirements, any clear lights will be disabled when the parking brake is applied.

**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.

**MANUAL, FIRE APPARATUS PARTS**

Two (2) custom parts manuals for the complete fire apparatus will be provided in hard copy with the completed unit.

The manual will contain the following:

- Job number
- Part numbers with full descriptions
- Table of contents
- Parts section sorted in functional groups reflecting a major system, component, or assembly
- Parts section sorted in Alphabetical order
- Instructions on how to locate a part

The 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.

**SERVICE PARTS INTERNET SITE**

The service parts information included in this manual is 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.

**MANUALS, CHASSIS SERVICE**

Two (2) chassis service manuals containing parts and service information on major components will be provided with the completed unit.

The manuals will contain the following sections:

- Job number
- Table of contents

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- Troubleshooting
- Front Axle/Suspension
- Brakes
- Engine
- Tires
- Wheels
- Cab
- Electrical, DC
- Air Systems
- Plumbing
- Appendix

The manual will be specifically written for the chassis model being purchased. It will not be a generic manual for a multitude of different chassis and bodies.

**MANUALS, CHASSIS OPERATION**

Two (2) chassis operation manuals will be provided.

**ELECTRICAL WIRING DIAGRAMS**

There will be three (3) compact discs containing "As-Built" electrical wiring diagrams specifically prepared for the apparatus provided. The diagrams will consist of information pertaining to the 12 volt DC systems only.

Due to the complexity of each custom unit built and possible changes that may occur, the design of the "As Built" electrical wiring diagrams will begin after the apparatus is shipped from the manufacturer's facility. The CD's will be shipped to the customer no more that 75 days after the apparatus is shipped from the manufacturer's facility. There will be two (2) CD's shipped to the customer and one (1) CD stored at the apparatus manufacturer's facility for future reference.

Each CD will include the following capabilities:

The capability of viewing each separate diagram.

The capability of zooming in on any section of each separate diagram.

The capability of printing each separate diagram.

The capability of printing each zoomed in area of each separate diagram.

Each CD will include the following items:

Title page, identifying the job number and chassis model.

Table of contents.

Truck specific electrical compartment and instrument layouts for the chassis.

Truck specific electrical compartment layouts for the body.

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Applicable drawings from the appropriate standard wiring diagrams.

All truck specific wiring diagrams (special drawings).

Harness drawings for all wiring harnesses used on the chassis.

Harness drawings for all wiring harnesses used on the body.

All truck Input and output programming sheets (multiplexed trucks only).

There will be two (2) hard copies of these diagrams required for this unit:

The spiral bound, clear plastic covered hard copies will include everything from the CD's printed on 11" x 17" white paper.

**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:

- 1) Documentation of the electrical system performance tests.
- 2) A written load analysis, which will include the following:
  - A) The nameplate rating of the alternator.
  - B) The alternator rating under the conditions specified per:  
Applicable NFPA 1901 or 1906 (Current Edition).
  - C) The minimum continuous load of each component that is specified per:  
Applicable NFPA 1901 or 1906 (Current Edition).
  - D) Additional loads that, when added to the minimum continuous load, determine the total connected load.
  - E) 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).

**TOW EYES**

Two (2) rear painted tow eyes will be located at the rear of the apparatus and will be mounted directly to the torque box. The inner and outer edges of the tow eyes will be radiused.

**COMPARTMENTATION**

Body and compartments will be fabricated of .125", 5052-H32 aluminum with a tensile strength range of 31,000 to 38,000 psi. 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. Compartment flooring will be of the sweep out design with the floor higher than the compartment door lip. The compartment door opening will be framed by flanging the edges in 1.75" and bending out again .75" to form an angle. Drip protection will be provided above the doors by means of bright aluminum extrusion or formed bright aluminum treadplate. 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

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the corners TIG welded. Side compartment covers will be separate from the compartment tops. All screws and bolts which protrude into a compartment will have acorn nuts on the ends to prevent injury.

**AGGRESSIVE WALKING SURFACE**

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

**LOUVERS**

All body compartments will have a minimum of one (1) set of louvers stamped into a wall to provide the proper airflow inside the compartment and to prevent water from dripping into the compartment. These louvers will be formed into the metal and not added to the compartment as a separate plate.

**TRACTOR RESERVOIR COMPARTMENT**

A compartment will be provided ahead of the tractor fifth wheel.

The compartment on the driver's side will be approximately 45.00" wide x 37.75" high x 8.00" deep with a door opening of 40.50" wide x 31.25" high.

The compartment on the passenger's side will be approximately 45.00" wide x 36.75" high x 8.00" deep. The door opening will be 40.50" wide x 30.25" high. The floor of this compartment will be raised 1.00" to allow for proper clearance from exhaust components.

The transverse section will be approximately 19.38" wide x 15.50" high.

The compartment will be fabricated out of smooth aluminum painted job color. Bright aluminum treadplate will be provided on the top of the compartment.

The compartment will be furnished with a vertically hinged, lap style compartment door on each side that have a D handle latch and positive door hold open device.

**COMPARTMENTATION, DRIVER SIDE**

Driver side compartmentation will consist of one large compartment.

The compartment will be approximately 69.83" wide x 55.63" high x 24.50" deep, with a door opening of approximately 64.13" wide x 47.83" high.

The upper 38.75" of each compartment will be transverse to the passenger side front compartmentation.

This compartment will have a roll-up door.

Two (2) compartments will be provided in the center body section on the driver side. Each compartment will be full-height.

The forward compartment will be 47.13" wide x 55.63" high x 24.50" deep with a door opening of 39.00" wide x 47.75" high.

The upper 38.75" of the forward compartment will be transverse to the passenger side front compartmentation.

The rear compartment will be 44.50" wide x 55.63" high x 24.50" deep with a door opening of 39.00" wide x 47.75" high.

Both compartments will have roll-up doors.

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Three (3) compartments will be provided in the rear body section on the driver side. The rear body module will be lowered 7.00" to obtain a reduced over all height.

The forward compartment will be 69.00" wide x 42.70" high x 24.50" deep, with a door opening of 63.75" wide x 34.50" high. This compartment will be located ahead of the rear wheels. This compartment will be located ahead of the rear wheels and will have a roll-up door.

The compartment directly above the rear wheels will be 63.00" wide x 12.75 high x 12.00" deep with a clear door opening of 55.50" wide x 10.25 high. Each compartment will be provided with a lift-up door.

The rearward compartment will be 49.00" wide x 34.50" high x 12.00" deep with a door opening of 43.50" wide x 34.50" high. This compartment will be located behind the rear wheels. This compartment will have roll-up a door.

**COMPARTMENTATION, PASSENGER SIDE**

Passenger side compartmentation will consist of one large compartment.

The compartment will be approximately 69.63" wide x 55.63" high x 24.50" deep, with a door opening of approximately 64.13" wide x 47.83" high.

The upper 38.75" of each compartment will be transverse to the driver's side front compartmentation.

This compartment will have a roll-up door.

Two (2) compartments will be provided in the center body section on the passenger side. Each compartment will be full-height.

The forward compartment will be 47.13" wide x 55.63" high x 24.50" deep with a door opening of 39.00" wide x 47.75" high.

The upper 38.75" of the forward compartment will be transverse to the driver side front compartmentation.

The rear compartment will be 44.50" wide x 55.63" high x 24.50" deep with a door opening of 39.00" wide x 47.75" high.

Both compartments will have roll-up doors.

Three (3) compartments will be provided in the rear body section on the passenger side. The rear body module will be lowered 7.00" to obtain a reduced over all height.

The forward compartment will be 69.00" wide x 42.70" high x 24.50" deep, with a door opening of 63.75" wide x 34.50" high. This compartment will be located ahead of the rear wheels. This compartment will be located ahead of the rear wheels and will have a roll-up door.

The compartment directly above the rear wheels will be 63.00" wide x 12.75 high x 12.00" deep with a clear door opening of 55.50" wide x 10.25 high. Each compartment will be provided with a lift-up door.

The rearward compartment will be 49.00" wide x 34.50" high x 12.00" deep with a door opening of 43.50" wide x 34.50" high. This compartment will be located behind the rear wheels. This compartment will have roll-up a door.

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**ROLL-UP DOOR**

Ten (10) compartment doors will be installed on the side compartments, double faced, aluminum construction, painted one (1) color to match the lower portion of the body and manufactured by A&A Manufacturing (Gortite).

Lath sections will be an interlocking rib design and will be individually replaceable without complete disassembly of door.

Between each slat at the pivoting joint will be a PVC inner seal to prevent metal to metal contact and prevent dirt or moisture from entering the compartments. Seals will allow door to operate in extreme temperatures ranging from plus 180 to minus 40 degrees Fahrenheit. Side, top and bottom seals will be provided to resist ingress of dirt and weather and be made of Santoprene.

All hinges, barrel clips and end pieces will be nylon 66. All nylon components will withstand temperatures from plus 300 to minus 40 degrees Fahrenheit. Hardened plastic will not be acceptable.

A polished stainless steel lift bar to be provided for each roll-up door. will be provided for opening door. Lift bar will be located at the bottom of door and have latches on the outer extrusion of the doors frame. A ledge will be supplied over lift bar for additional area to aid in closing the door.

Doors will be constructed from an aluminum box section. The exterior surface of each slat will be flat. The interior surfaces will be concave to provide strength and prevent loose equipment from jamming the door from inside.

To conserve space in the compartments, the spring roller assembly will not exceed 3.00" in diameter. A roll-up door that retracts below the compartment ceiling (garage door style) will not be acceptable.

The header for the roll-up door assembly will not exceed 4.00".

A heavy-duty magnetic switch will be used for control of "open compartment door" warning lights.

All mechanical components of the door will be warranted to be free from defects in materials and workmanship for the lifetime of the vehicle. All parts covered under this warranty will be to the original owner.

Except as provided below, and provided the vehicle has been placed in service within 60 days after delivery to the original purchaser as established by our original invoice, for a period of six (6) years after delivery to the original purchaser, A&A Manufacturing Inc. ("A&A") warrants to the user that its roll up doors (if painted) are free of blistering, peeling, bubbling, or any other adhesion defect caused by defective manufacturing methods or paint material selection for exterior surfaces of the roll up doors. This limited warranty will apply only if the vehicle is properly maintained and used in service which is normal to the particular vehicle. Normal service means service, which does not subject the vehicle to stresses or impacts greater than normally result from the careful use of the vehicle. If the buyer discovers a defect or nonconformity, the buyer must notify Pierce in writing within 30 days after the date of discovery. This limited warranty is not transferable by the first user and is applicable to the vehicle in the following percentage costs of warranty repair, if any:

Months Adhesion Blistering Bubbling Corrosion Cracking Gloss Color Retention

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0 to 12	100%	100%	100%	100%	100%	100%	100%
13 to 24	100%	100%	100%	100%	100%	100%	100%
25 to 36	100%	100%	100%	100%	100%	100%	100%
37 to 48	50%	50%	50%	50%	100%	100%	100%
49 to 60	25%	25%	25%	25%	50%	50%	50%
61 to 72	25%	25%	25%	25%	50%	50%	50%

In addition, the door will also be warranted against corrosion perforation for a period of ten (10) years.

**REAR BUMPER**

A 4.50" stainless steel rear bumper will be furnished. Bumper will be highly polished, has radiused ends and reinforcing ribs top and bottom. It will extend the full width of the body. A 4.00" formed steel channel will be mounted directly behind the bumper for additional strength.

**PULL-OUT TRAY**

There will be seven (7) slide-out trays with 2.00" sides and a capacity of 500 pounds provided. Capacity rating will be in the extended position.

Slides will be General Device ball bearing type for ease of operation and years of dependable service.

Automatic locks will be provided for both the "in" and "out" positions. The trip mechanism for it will be located at the front of the tray for ease of use with a gloved hand.

Tray location will be P3, P4, P5, D4, D5, and D6.

Heavy-duty steel angle iron assembly will support the body under the compartment floor. It will be attached to the chassis frame for load transfer and to reduce stress on body.

**TWO (2)-WAY UTILITY TRAY**

There will be two (2) slide-out trays provided.

The capacity rating will be 500 pounds minimum in the extended position.

Interior tray dimensions will be 85.00" long x 4.00" deep x as wide as possible for the compartment.

Tray will slide out to either side of the vehicle; two-thirds (2/3) of its length.

The vertical location of the tray within the compartment will be adjustable.

The construction will consist of .188" thick aluminum for the tray bottom, and special aluminum extrusions for the tray sides, end, and tracks.

Corners will be welded to form a rigid unit.

Tray will be supported with a minimum of six (6) ball bearing rollers; each rated for a minimum 500 pound load.

Automatic locks will be provided for both the in and out tray positions.

One each on each side of the partition in D6 and P6.

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**SLIDE-OUT/TILT-DOWN TRAY**

There will be six (6) slide-out trays provided.

The capacity rating (in the extended position) will be 215 pounds minimum.

Approximately two-thirds of the tray will slide-out from its stored position and will tilt 30 degrees down from horizontal. The vertical position within the compartment will be adjustable.

Construction will consist of .188" thick aluminum for the tray bottom and end, and special aluminum extrusions for the tray sides, front and tracks.

The tray corners will be welded for strength and rigidity.

The tray will be equipped with ball bearing rollers for smooth operation.

Two spring loaded locks will be provided at the front of the tray, one on each end.

Rubber padded stops will be provided for both the in out tray position.

The tray(s) will be located in two (2) each on D6 and P6 and one (1) each in D4 and P4.

**COMPARTMENT ACCESS PANEL**

A removable access panel will be provided on the floor of the compartment. When removed, the panel will provide access to the fuel sender assembly for easy maintenance. The panel will be flush with the flooring of the compartment and be installed in such a manner that will prevent items from catching on the panel.

**TOOL BOX**

A tool box will be furnished.

The outside size will be determined at the pre-construction meeting.

The tool box will be black in color.

Construction will be of .50" polypropylene plastic with joints and seams nitrogen welded. A cut out carrying handle will be provided on each end.

There will be six (6) provided. It will be located D6 and P6.

**TOOL BOX MOUNTING PROVISION**

Aluminum angles will be provided to hold six (6) tool boxes in place. The aluminum angles will be 1.00" x 1.00". The tool boxes will be located D6 and P6.

The exact size of the tool boxes will be provided.

**CABLE RELEASE**

A cable release will be provided to allow one handed operation of the latches for slide out tilt trays. A cable will connect the two pull knobs so when you pull the cable from the center, it will release the dual knobs and release the tray. Cable will be plastic coated.

A total of six (6) shall be provided one for each slide out/tilt tray.

**COMPARTMENT BETWEEN TOW EYES**

A compartment will be supplied at the rear of the unit, above the rear bumper. It will be 8.50" high x 25.75" wide x 27.00" deep. The compartment will have a single-pan aluminum treadplate drop-down door with pawl latches.

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**ADJUSTABLE "J" HOOKS, FOUR (4)**

An aluminum track will be provided with four (4) adjustable "J" hooks commonly used to hold cord, rope and hoses. The hooks will be made of aluminum. The track and hooks will be installed in compartment to be determined for a total quantity of one (1).

**PARTITION, VERTICAL COMPARTMENT**

One (1) partition will be bolted in D6/P6. Each partition will be the full vertical height of the compartment.

**ALUMINUM PEGBOARD**

Two (2) horizontally installed tracks, with .19" aluminum pegboard will be installed on the back wall of one (1) compartment. The holes will be .19 diameter, punched 1.00" on center. The pegboard will be spatter painted. The locations are to be determined.

Retainers will be used to mount the pegboard to the tracks.

**REAR WALL**

The entire rear surface of the apparatus and all the doors will be covered with smooth aluminum.

**FLOOR EXTENSION**

There will be a compartment floor extension provided. The floor extension will extend from the area over the frame rails to within an inch of the compartment door. The floor extension will have a 2.00" vertical lip and a 1.00" return flange.

A total of four (4) will be provided and located D5, D6, P5 and P6.

**TROUGH, (2), LADDER & STOKES STORAGE**

An assembly of two (2) aluminum troughs will be provided for the storage of a stokes basket and a Little Giant combination ladder. The two (2) troughs will be enclosed in the same box, but be accessed from separate doors. Each trough will have a lift-up access door on both the driver and passenger's side.

The forward trough will hold the stokes basket and the rearward trough will house the combination ladder.

The dimensions of the stokes basket and the ladder will be provided and it will be mounted just to the rear of the main body compartment, under the aerial ladder.

**SLIDE OUT TOOL BOARD**

Two (2) slide out aluminum tool board(s) will be provided.

It will be a minimum of .188" thick with .20" diameter holes in a pegboard pattern with 1.00" centers between holes.

The tool board will be as tall as possible.

A 1.00" x 1.00" aluminum tube frame will be welded to the edge of the pegboard.

The tool board shall be painted to match the compartment interior.

The tool board will be mounted to the floor of the slide out tray using a fixed mount.

One each in D-5 and P5.

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**CUTOUT, HANDHOLD**

A cutout with radius corners and smooth edges will be provided at the at the end of each of an adjustable partition in D7/P7.

A total quantity of two (2) will be provided.

**MOUNTING TRACKS**

There will be two (2) tracks for mounting equipment. These tracks will be installed vertically on the back wall of the compartment(s).

The compartment(s) with mounting tracks will be to be determined.

**ADJUSTABLE SHELVES**

There will be five (5) shelves with a minimum capacity of 500 pounds provided. The construction will consist of .188" aluminum 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 will be one in D3, One in P3, two in D4, and one in P4.

**MOUNTING TRACKS**

There will be 12 sets of tracks for mounting shelf(s) in each compartment. These tracks will be installed vertically to support the adjustable shelf(s).

**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.

**BODY FENDER CROWNS**

Stainless steel fender crowns will be provided around the rear wheel openings. These fender crowns must be wide enough to prevent splashing onto the body from the 315/80R22.5 tires on a 30,000 lb rear axle.

A rubber welting will be provided between the body and the crown to seal the seam and restrict moisture from entering.

A dielectric barrier will be provided between the fender crown fasteners (screws) and the fender sheet metal to prevent corrosion.

**MOUNTING TRACKS**

There will be two (2) pair of horizontal mounting tracks provided for mounting air bottle brackets in a location to be determined. Each pair of mounting tracks will be provided with four (4) pair of mounting studs.

**AIR BOTTLE STORAGE BIN**

A storage bin will be provided for storage of 20 air bottles. This storage bin will be installed in a location to be determined. Each separate air bottle storage compartment will be 7.50" square x 23.00" deep. The storage bin will be formed out of aluminum and the flooring lined with rubber.

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**EXTENSION LADDERS, INSTALLED BY DEALER**

NFPA 1901, 2009 edition, section 8.7.2 requires two (2) extension ladders.

The extension ladders are not on the apparatus as manufactured. There will be two (2) extension ladder(s) installed by the dealer. The ladder(s) will be a 35' Duo-Safety 1200-A, two (2)-section.

**ADDED EXTENSION LADDER**

There will be a 30', two (2) section, aluminum, Duo-Safety Series 1200A extension ladder provided.

**EXTENSION LADDERS, AERIAL, INSTALLED BY DEALER**

NFPA 1901, 2009 edition, section 8.7.2 requires two (2) extension ladders.

The extension ladders are not on the apparatus as manufactured. There will be one (1) extension ladder(s) installed by the dealer. The ladder(s) will be a 24' Duo-Safety 900-A, two (2)-section.

**ROOF LADDER, INSTALLED BY DEALER**

NFPA 1901, 2009 edition, section 8.7.2 requires two (2) roof ladders.

The roof ladders are not on the apparatus as manufactured. There will be two (2) roof ladder(s) installed by the dealer. The ladder(s) will be a 20' Duo-Safety 875-A.

**ADDED ROOF LADDER**

There will be one (1) 12' roof, aluminum, Series 775-A provided.

**ADDED ROOF LADDER**

There will be one (1) 16' roof, aluminum, Series 875-A provided.

**FOLDING LADDER, AERIAL, INSTALLED BY DEALER**

NFPA 1901, 2009 edition, section 8.7.2 requires a minimum of one folding ladder.

The folding ladder is not on the apparatus as manufactured. There will be one (1) folding ladder(s) installed by the dealer. The ladder(s) will be a 10' Duo Safety 585A.

**GROUND LADDER STORAGE**

The ground ladders will be removable from the center rear of the apparatus.

The ladders will be individually stored in stainless steel slides and will be arranged in such a manner that any one (1) ladder can be removed without having to move or remove any other ladder. Black Dura-Surf friction reducing material will be added to the stainless steel slides, on the bottom horizontal surfaces, of the ladder storage rack.

A door will be provided at the rear. The door will be capable of opening beyond 90 degrees to aid in ladder storage. The door will be a single lift-up door constructed of aluminum with D-ring handles and pneumatic lift assist cylinders.

Doors will be of double pan aluminum construction. Single sheet aluminum doors will not be considered. **NO EXCEPTIONS.**

Mounting provisions for one (1) 12' narrow roof folding ladder will be mounted on the fly section of the aerial device.

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**LADDER LOCK**

A ladder lock mechanism will be provided for each vertically-stored ladder in the ladder storage area. Each locking mechanism will consist of a hinged stainless steel plate with a plunger-style locking device. Each ladder will be removable without unlocking the remaining ladders. There will be a total of seven (7) individual ladder locks provided.

**PIKE POLE 10 FT, PROVIDED BY DEALER**

NFPA 1901, 2009 edition, Section 8.8.2 requires four (4) pike poles mounted in brackets fastened to the apparatus.

The pike poles are not on the apparatus as manufactured. The dealer will provide and mount the pike poles.

There will be one (1) 10 ft pike pole(s) provided.

**PIKE POLE 8 FT, PROVIDED BY DEALER**

NFPA 1901, 2009 edition, Section 8.8.2 requires four (4) pike poles mounted in brackets fastened to the apparatus.

The pike poles are not on the apparatus as manufactured. The dealer will provide and mount the pike poles.

There will be one (1) 8 ft pike pole(s) provided.

**PIKE POLE 6 FT, PROVIDED BY DEALER**

NFPA 1901, 2009 edition, Section 8.8.2 requires four (4) pike poles mounted in brackets fastened to the apparatus.

The pike pole is not on the apparatus as manufactured. The dealer will provide and mount the pike poles.

There will be two (2) 6 ft pike pole(s) provided.

**PIKE POLE 3 FT, PROVIDED BY DEALER**

NFPA 1901, 2009 edition, Section 8.8.2 requires four (4) pike poles mounted in brackets fastened to the apparatus.

The pike poles are not on the apparatus as manufactured. The dealer will provide and mount the pike poles.

There will be two (2) 3 foot pike pole(s) provided.

**PIKE POLE STORAGE**

Storage will be provided in the torque box for six (6) customer furnished pike poles. **The exact amount of pike poles will be determined at the pre-construction meeting. The pike pole sizes will also be provided.**

**ELECTRICAL HARNESSING INSTALLATION**

All 12-volt wiring and harnessing installed by the apparatus manufacturer will conform to specification PM-QA W-101: Pierce manufacturing Wiring Harness Specification.

To ensure rugged dependability, all wiring harnesses installed by the apparatus manufacturer will conform to the following specifications:

SAE J1128 - Low tension primary cable

SAE J1292 - Automobile, truck, truck-tractor, trailer and motor coach wiring

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SAE J163 - Low tension wiring and cable terminals and splice clips

SAE J2202 - Heavy duty wiring systems for on-highway trucks

NFPA 1901 - Standard for automotive fire apparatus

FMVSS 302 - Flammability of interior materials for passenger cars, multipurpose passenger vehicles, trucks and buses

SAE J1939 - Serial communications protocol

SAE J2030 - Heavy-duty electrical connector performance standard

SAE J2223 - Connections for on board vehicle electrical wiring harnesses

NEC - National Electrical Code

SAE J561 - Electrical terminals - Eyelet and spade type

SAE J928 - Electrical terminals - Pin and receptacle type A

Wiring will be run in loom where exposed, and have grommets or other edge protection where wires pass through metal. Wiring will be color, function and number coded. Wire colors will be integral to each wire insulator and run the entire length of each wire. Function and number codes will be continuously imprinted on all wiring harness conductors at 2.00" intervals. All wiring installed between the cab and into doors will be enclosed within an expandable rubber boot to protect the wiring. Exterior exposed wire connectors will be positive locking, and environmentally sealed to withstand elements such as temperature extremes, moisture and automotive fluids. Electrical wiring and equipment will be installed utilizing the following guidelines:

1. All wire ends not placed into connectors will be sealed with a heat shrink end cap. All holes made in the roof will be caulked with silicon. Large fender washers, liberally caulked, will be used when fastening equipment to the underside of the cab roof. Any electrical component that is installed in an exposed area will be mounted in a manner that will not allow moisture to accumulate in it. Exposed area will be defined as any location outside of the cab or body. For low cost of ownership, electrical components designed to be removed for maintenance will be quickly accessible. For ease of use, a coil of wire will be provided behind the appliance to allow them to be pulled away from the mounting area for inspection and service work. Corrosion preventative compound will be applied to non-waterproof electrical connectors 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. Any lights containing non-waterproof sockets in a weather-exposed area will have corrosion preventative compound added to the socket terminal area. All electrical terminals in exposed areas will have DOW 1890 protective Coating applied completely over the metal portion of the terminal. Rubber coated metal clamps will be used to support wire harnessing and battery cables routed along the chassis frame rails. Heat shields will be used to protect harnessing in areas where high temperatures exist. Harnessing passing near the engine exhaust will be protected by a heat shield.

All braided wire harnesses will have a permanent label attached for easy identification of the harness part number and fabrication date.

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**BATTERY CABLE INSTALLATION**

All 12-volt battery cables and battery cable harnessing installed by the apparatus manufacturer will conform to the following requirements:

SAE J1127 - Battery Cable

SAE J561 - Electrical terminals, eyelets and spade type

SAE J562 - Nonmetallic loom

SAE J836A - Automotive metallurgical joining

SAE J1292 - Automotive truck, truck-tractor, trailer and motor coach wiring

NFPA 1901 - Standard for automotive fire apparatus

Battery cables and battery cable harnessing will be installed utilizing the following guidelines:

1. All battery cables and battery harnesses will have a permanent label attached for easy identification of the harness part number and fabrication date. For ease of identification and simplified use, battery cables will be color coded. All positive battery cables will be red in color or wrapped in red loom the entire length of the cable. All negative battery cables will be black in color. For ease of identification, all positive battery cable isolated studs throughout the cab and chassis will be red in color.

For increased reliability and reduced maintenance, all electrical buss bars located on the exterior of the apparatus will be coated to prevent corrosion.

**ELECTRICAL COMPONENT INSTALLATION**

All lighting used on the apparatus will be, at a minimum, a two (2) wire light grounded through a wired connection to the battery system.

An operational test will be conducted to ensure that any equipment that is permanently attached to the electrical system is properly connected and in working order. The results of the tests will be recorded and provided to the purchaser at time of delivery.

**STEP LIGHTS**

There will be a total of sixteen (16) Ri-Tar, Model M27-06HW2 Super LED step lights provided for access to the tiller cab and turntable.

The step lights will be actuated by the aerial master switch in the cab.

All other steps on the apparatus will be illuminated per the current edition of NFPA 1901.

**REAR FMVSS LIGHTING**

The rear stop/tail and directional lighting will consist of the following:

Two (2) Code 3®, Model: 65STA, amber LED directional lights.

Two (2), Code 3®, Model: 65STR, red LED, stop, tail lights.

The lights will be installed at the rear, each with a flange.

Four (4) red reflectors will be provided.

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A Weldon, Model 23882-2600-00 license plate bracket will be mounted on the driver's side above the warning lights. A Weldon, Model 9186-23882-30, step lamp will illuminate the license plate.

Two (2) Code 3®, Model 65RV, LED backup lights will be provided. These lights will be installed with a flange.

**REAR ID/MARKER DOT LIGHTING**

The three (3) identification lights located at the rear will be installed per the following:

RI-Tar, Model M27, LED

As close as practical to the vertical centerline.

Centers spaced not less than six (6) inches or more than twelve (12) inches apart.

Red in color.

All at the same height.

The four (4) clearance lights located at the rear will be installed per the following:

RI-Tar, Model M27, LED

To indicate the overall width of the vehicle.

One (1) each side of the vertical centerline.

All at the same height.

As near the top as practical.

To be visible from the rear and the side.

One (1) each side, facing the side.

One (1) each side, facing the rear.

Per FMVSS 108 and CMVSS 108 requirements.

**WARNING LIGHT FLASH PATTERN**

The flash pattern of all the exterior warning lights will be set to the light manufacturer's certified California, Title XIII flash pattern.

**ADDITIONAL TURN SIGNAL LIGHT**

There will be two (2) Whelen, 60A00TAR, Populated Arrow Shape, amber LED directional light provided rear of the cab per direction in a 15 degree bezel.

**MAP LIGHT**

One (1) map light with goose neck with a switch control on base of light will be installed per direction. The light will be a Sunnex, Model 742 with a 20.00" long flexible neck that exits the top of the chassis mount.

**LIGHT, INTERMEDIATE**

There will be one (1) pair, of Truck-Lite, Model: 60115Y, amber, LED, turn signal, marker lights furnished, one (1) each side, horizontally in the rear fender panel.

A stainless steel trim will be included with this installation.

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**MARKER LIGHTS**

There will be one (1) pair of amber and red LED marker lights with rubber arm, located rear of trailer each side. The amber lens will face the front and the red lens will face the rear of the truck.

These lights will be activated with the running lights of the vehicle.

**"DO NOT MOVE APPARATUS" INDICATOR**

A Code 3 Model 550FR red halogen indicator beacon, located in the driving compartment, will be illuminated automatically per the current NFPA requirements. The light will be labeled "Do Not Move Apparatus if Light Is On".

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

**DO NOT MOVE TRUCK MESSAGES**

Messages will be displayed on the gauge panel LCD located forward of the steering wheel directly in front of the driver whenever the Do Not Move Truck light is active. The messages will designate the item or items not in the stowed for vehicle travel position (parking brake disengaged).

The following messages will be displayed (where applicable):

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

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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.

**COMPARTMENT LIGHTING**

There will be 15 compartments with Amdor LED compartment light strips. The strips will be centered vertically along each side of the door framing. The compartments with these strip lights will be located each compartment. Opening the compartment door will automatically turn the compartment lighting on.

**COMPARTMENT LIGHTING**

There will be one (1) Truck-Lite, Model 44308C, 4.00" diameter white LED light provided in five (5) of the compartment(s), on each adjustable shelf per direction.

The light will be held in place by a Truck-Lite Model 40700 grommet.

Opening the compartment door will automatically turn compartment lighting on.

**PERIMETER SCENE LIGHTS, CAB**

There will be four (4) lights Amdor Luma Bar H2O, Model AY-9500-020, 20.00" LED weatherproof strip light(s) provided for each cab door. The lights will be activated automatically when the cab exit doors are opened and by the same means as the body perimeter lights.

**PERIMETER SCENE LIGHTS, BODY**

There will be four (4) Amdor LumaBar, Model AY-9500-020, 20.00" white LED strip lights provided. The lights will be located one (1) each side of the apparatus under the rear step area of the apparatus, and one (1) each side of the apparatus, under the turntable access steps. The perimeter scene lights will be activated by a parking brake control and driver side overhead switch panel and officer side overhead switch panel.

The lighting will be capable of providing illumination at a minimum level of two (2) foot-candles on ground areas within 30.00" of the edge of the apparatus in areas designed for personnel to climb onto the apparatus or descend from the apparatus to the ground level.

**ADDITIONAL PERIMETER LIGHTS**

There will be ten (10) lights Amdor, Model AY-9500-012 12.00" white LED perimeter light(s) provided Two (2) under the front bumper of the cab, and four (4) each side of the trailer, per direction.

**SIDE SCENE LIGHTS**

There will be two (2) pairs of Zico, Model ZQL-SS-H7614, scene lights installed one pair in front of the rear axle and one pair to the rear.

The lights will be controlled by a control from the driver side switch panel and at the tiller cab.

**SCENE LIGHTS**

One (1) pair of Weldon 3010 Series rectangular scene lights will be installed on the rear exterior wall of the tractor cab. The lights will have a clear lens 28 degree internal optics. The lights will be controlled by the aerial master switch.

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**12 VOLT LIGHTING**

There will be one (1) Whelen Pioneer PCP2, 12 volt LED combination spotlight and floodlight(s) provided on the front visor, centered.

The light will be controlled by the following:

A switch at the driver's side switch panel

A switch at the passenger's side switch panel

No additional switch location

These light(s) may be load managed when the parking brake is set.

**12 VOLT LIGHTING**

There will be one (1) Whelen Model PCP2, 12 volt LED combination spotlight and floodlight(s) installed in semi-recessed housing(s) Model PBA203 located under the rear tiller cab window centered.

The light(s) selected above will be controlled by the following:

A switch at the driver's side switch panel

A switch at the rear of apparatus in the tiller cab

No additional switch location

No additional switch location

These light(s) may be load managed when the parking brake is set

**CENTERING LIGHT**

Two (2) centering lights will be provided on the crew cab roof. The lights will be a "boat" type light mast which will be sized so they do not exceed the maximum over all height requirement of the vehicle. The lights will be mounted at the center rear of the crew cab and will be used by the tillerman to center the tiller trailer on the chassis. The lights will be wired to the headlight switch.

**HAND HELD SPOTLIGHT**

There will be four (4) Koehler, Model: #5002\*, light and charger units mounted three in the cab per direction and one on the tiller cab per direction.

The color will be yellow

The charger will be hard wired to the 12 VDC system.

**HAND HELD LIGHT**

There will be Stream light LiteBox #45116 spotlights with an orange thermoplastic body provided. There will be three (3) lights mounted Two (2) in the cab per direction and One (1) in the tiller cab per direction.

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**TILLER CAMERA SYSTEM**

There will be two (2) Zone Defense SYS-322-S camera systems provided. Each system will have a side mount video camera and 5" LCD display.

The cameras will be located one (1) on the driver and one (1) on the passenger side of the tiller body, located per direction at the pre con. The displays will be located one each side of the tiller cab and connected to that side camera to display whenever the ignition switch is on.

**GUARD, CAMERA**

There will be one (1) smooth aluminum guard/s fastened over the body camera/s to protect from damage and theft. The cover shall have a tapered design. The cover/s will be located at each camera. The guards will be painted to match the body color.

**AIR HORN SYSTEM**

One (1) Hadley round air horn with 6.00" bell will be provided and installed in the front bumper, recessed outside frame D/S. The air horn system will be piped to the air brake system wet tank utilizing .38" tubing. A pressure protection valve will be installed to prevent the loss of air in the brake system.

**AIR HORN CONTROL**

The air horns will be actuated by a lanyard rope pull control provided within reach of the driver and a foot switch located on the officer's side.

**SPEAKER**

There will be one (1) speaker provided. Each speaker will be a Federal, Model ES100, 100 watt. Each speaker will use a Federal, Model ESFMT recess mount polished trim ring. Each speaker will be pre-wired to the instrument panel.

The speaker(s) will be recessed in the center of the front bumper.

**MECHANICAL SIREN, (Auxiliary)**

A Federal Q2B siren will be furnished. A siren brake button will be installed on the switch panel.

The control solenoid will be powered up after the emergency master switch is activated.

The mechanical siren will be recessed in the front bumper in the center. The siren will be properly supported using the bumper framework.

The mechanical siren will be actuated by two (2) foot switches, one (1) located on the officer's side and one (1) on the driver's side.

**WEDGE STYLE FOOT SWITCH BRACKET**

There will be one (1) wedge style bracket provided at the each switch in the cab and in the tiller cab. The bracket will be large enough to hold one (1) foot switch. The bracket will be angled approximately 30 degrees.

A second siren brake switch will be installed on the passenger side.

**WARNING LIGHT (Cab Roof)**

One (1) 80" Code 3@ model 2180ALRC-101-LED lightbar will be mounted on the cab roof.

This lightbar will include the following:

One (1) red LED OPTIX modules in the driver side front corner.

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- One (1) red LED OPTIX modules in the driver side rear corner.
- One (1) red LED OPTIX modules in the passenger side front corner.
- One (1) red LED OPTIX modules in the passenger side rear corner.
- Six (6) red flashing LED X Directional Optic modules facing forward.
- Six (6) red flashing LED X Wide Optic modules facing forward.
- Two (2) red steady burn LED X Optic modules.

This lightbar will have clear lenses.

There will be one (1) switch located in the cab, on the switch panel will control this light-bar.

**WARNING LIGHTS (CAB ROOF SIDES)**

Two (2) Code 3®, Model 2118NFPA1, LED lightbars will be mounted on the cab roof, one (1) each side over the crew cab doors.

The length of each lightbar will be 18.00".

Each lightbar will include the following:

- Two (2) red LED X Wide Optic modules.
- Four (4) red LED X Directional Optic modules.

The lightbars, per NFPA, will be activated by a lighted switch on the cab instrument panel. These lightbars may be load managed when the parking brake is set.

**HEADLIGHT FLASHER**

The high beam headlights will flash alternately between the left and right side, with a control switch located on the cab instrument panel.

The flashing will automatically cancel when the headlight (high or low beam) switch is activated or when the parking brake is set.

**SIDE ZONE LOWER LIGHTING**

Four (4) Code-3® model 65 flashing LED lights will be located at the following positions:

- Two (2) lights, one (1) each side on the front cab corner, one each side.
  - The color of these lights will be red LED/red lens.
- Two (2) lights, over tiller axle, one each side.
  - The color of these lights will be red LED/red lens.

These lights will be provided with a flange.

The above four (4) lights will be required to meet or exceed the lower level optical warning and optical power requirements of NFPA.

The lights will be controlled by a lighted switch on the cab instrument panel.

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**REAR ZONE LOWER LIGHTING**

Two (2) Code 3®, model 65, LED lights will be located at the rear of the apparatus and will be required to meet the lower level optical warning and optical power requirements of NFPA.

The color of the lights will be red LED/red lens.

The lights will be installed with a flange

The lights will be controlled by a lighted switch on the cab instrument panel.

**WARNING LIGHTS (Rear of Hose Bed)**

Code 3®, Model LDB24NFPA\* LED beacons will be provided at the rear of the truck, located one (1) each side.

The color of both beacons will be red LED with both domes red.

**TRAFFIC DIRECTING LIGHT**

There will be one (1) Code 3 model NASL839, 40.50" long x 2.00" high x 2.87" deep, LED traffic directing light installed at the rear of the apparatus.

A Code 3 control head will be included with this installation.

The auxiliary warning mode will be activated with the control head only.

This traffic directing light will be surface mounted at the rear of the apparatus as high as practical.

The traffic directing light controller will be located within the switch panel on the center console. The controller will be within easy reach of the driver.

**ELECTRICAL SYSTEM GENERAL DESIGN for ALTERNATING CURRENT**

The following guidelines will apply to the 120/240 VAC system installation:

**General**

Any fixed line voltage power source producing alternating current (ac) line voltage will produce electric power at 60 cycles plus or minus five (5) cycles.

Except where superseded by the requirements of NFPA 1901, all components, equipment and installation procedures will conform to NFPA 70, National Electrical Code (herein referred to as the NEC).

Line voltage electrical system equipment and materials included on the apparatus will be listed and installed in accordance with the manufacturer's instructions. All products will be used only in the manner for which they have been listed.

**Grounding**

Grounding will be in accordance with Section 250-6 "Portable and Vehicle Mounted Generators" of the NEC. Ungrounded systems will not be used. Only stranded or braided copper conductors will be used for grounding and bonding.

An equipment grounding means will be provided in accordance with Section 250-91 (Grounding Conductor Material) of the NEC.

The grounded current carrying conductor (neutral) will be insulated from the equipment grounding conductors and from the equipment enclosures and other grounded parts. The

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neutral conductor will be colored white or gray in accordance with Section 200-6 (Means of Identifying Grounding Conductors) of the NEC.

In addition to the bonding required for the low voltage return current, each body and driving or crew compartment enclosure will be bonded to the vehicle frame by a copper conductor. This conductor will have a minimum amperage rating of 115 percent of the nameplate current rating of the power source specification label as defined in Section 310-15 (amp capacities) of the NEC. A single conductor properly sized to meet the low voltage and line voltage requirements will be permitted to be used.

All power source system mechanical and electrical components will be sized to support the continuous duty nameplate rating of the power source.

Operation

Instructions that provide the operator with the essential power source operating instructions, including the power-up and power-down sequence, will be permanently attached to the apparatus at any point where such operations can take place.

Provisions will be made for quickly and easily placing the power source into operation. The control will be marked to indicate when it is correctly positioned for power source operation. Any control device used in the drive train will be equipped with a means to prevent the unintentional movement of the control device from its set position.

A power source specification label will be permanently attached to the apparatus near the operator's control station. The label will provide the operator with the information detailed in Figure 19-4.10.

Direct drive (PTO) and portable generator installations will comply with Article 445 (Generators) of the NEC.

Overcurrent protection

The conductors used in the power supply assembly between the output terminals of the power source and the main over current protection device will not exceed 144 inches. (3658 mm) in length.

For fixed power supplies, all conductors in the power supply assembly will be type THHW, THW, or use stranded conductors enclosed in nonmetallic liquid tight flexible conduit rated for a minimum of 194 degrees Fahrenheit (90 degrees Celsius).

For portable power supplies, conductors located between the power source and the line side of the main overcurrent protection device will be type SO or type SEO with suffix WA flexible cord rated for 600-volts at 194 degrees Fahrenheit (90 degrees Celsius).

Wiring Methods

Fixed wiring systems will be limited to the following:

- Metallic or nonmetallic liquid tight flexible conduit rated at not less than 194 degrees Fahrenheit (90 degrees Celsius)

or

- Type SO or Type SEO cord with a WA suffix, rated at 600 volts at not less than 194 degrees Fahrenheit (90 degrees Celsius)

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Electrical cord or conduit will not be attached to chassis suspension components, water or fuel lines, air or air brake lines, fire pump piping, hydraulic lines, exhaust system components, or low voltage wiring. In addition the wiring will be run as follows:

- Separated by a minimum of 12 inches (305 mm), or properly shielded, from exhaust piping
- Separated from fuel lines by a minimum of six (6) inches (152 mm) distance.

Electrical cord or conduit will be supported within six (6) inches (152 mm) of any junction box and at a minimum of every 24 inches (610 mm) of continuous run. Supports will be made of nonmetallic materials or corrosion protected metal. All supports will be of a design that does not cut or abrade the conduit or cable and will be mechanically fastened to the vehicle.

Wiring Identification

All line voltage conductors located in the main panel board will be individually and permanently identified. The identification will reference the wiring schematic or indicate the final termination point. When prewiring for future power sources or devices, the unterminated ends will be labeled showing function and wire size.

Wet Locations

All wet location receptacle outlets and inlet devices, including those on hardwired remote power distribution boxes, will be of the grounding type provided with a wet location cover and installed in accordance with Section 210-7 "Receptacles and Cord Connections" of the NEC.

All receptacles located in a wet location will be not less than 24 inches (610 mm) from the ground. Receptacles on off-road vehicles will be a minimum of 30 inches (762 mm) from the ground.

The face of any wet location receptacle will be installed in a plane from vertical to not more than 45 degrees off vertical. No receptacle will be installed in a face up position.

Dry Locations

All receptacles located in a dry location will be of the grounding type. Receptacles will be not less than 30 inches (762 mm) above the interior floor height.

All receptacles will be marked with the type of line voltage (120-volts or 240-volts) and the current rating in amps. If the receptacles are direct current, or other than single phase, they will be so marked.

Listing

All receptacles and electrical inlet devices will be listed to UL 498, Standard for Safety Attachment Plugs and Receptacles, or other appropriate performance standards. Receptacles used for direct current voltages will be rated for the appropriate service.

Electrical System Testing

The wiring and associated equipment will be tested by the apparatus manufacturer or the installer of the line voltage system.

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The wiring and permanently connected devices and equipment will be subjected to a dielectric voltage withstand test of 900 volts for one (1) minute. The test will be conducted between live parts and the neutral conductor, and between live parts and the vehicle frame with any switches in the circuit(s) closed. This test will be conducted after all body work has been completed.

Electrical polarity verification will be made of all permanently wired equipment and receptacles to determine that connections have been properly made.

Operational Test per Current NFPA 1901 Standards

The apparatus manufacturer will perform the following operation test and ensure that the power source and any devices that are attached to the line voltage electrical systems are properly connected and in working order. The test will be witnessed and the results certified by Underwriters Laboratories.

The prime mover will be started from a cold start condition and the line voltage electrical system loaded to 100 percent of the nameplate rating.

The power source will be operated at 100 percent of its nameplate voltage for a minimum of two (2) hours unless the system meets category certification as defined in the current NFPA 1901 standard.

Where the line voltage power is derived from the vehicle's low voltage system, the minimum continuous electrical load as defined in the current NFPA 1901 standard will be applied to the low voltage electrical system during the operational test.

GENERATOR

The apparatus will be equipped with a complete electrical power system. The generator will be a Harrison Model 15.0 MPC 15.0 kW Hydraulic unit. The wiring and generator installation will conform to the present National Electrical Codes Standards of the National Fire Protection Association. The installation will be designed for continuous operation without overheating and undue stress on components.

Generator Performance

- Continuous Duty Rating: 15,000 watts
- Nominal Volts: 120/240
- Amperage: 125 @ 120 volts, 62.5 @ 240 volts
- Phase: Single
- Cycles: 60 hertz
- Engine Speed at Engagement: Idle
- RPM range: 925 to 3,000 (hydraulic pump)

Generator Dimensions

- Length: 35.00 inches
- Width: 23.00 inches
- Height: 19.00 inches

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- Weight: 455 pounds (dry)

The output of the generator will be controlled by an internal hydraulic system. An electrical instrument gauge panel will be provided for the operator to monitor and control all electrical operations and output.

The generator will be driven by a transmission power take off unit, through a hydraulic pump and motor.

The generator will include an electrical control inside the cab. The hydraulic engagement supply will be operational at any time (no interlocks).

An electric/hydraulic valve will supply hydraulic fluid to the clutch engagement unit provided on the chassis PTO drive.

Generator Instruments and Controls

To properly monitor the generator performance a digital meter panel will be furnished and mounted next to the circuit breaker panel. The meter will indicate the following items:

- Voltage
- Amperage for both lines
- Frequency
- Generator run hours
- Over current indication
- Over temperature indication
- "Power On" indication
- Two (2) fuse holders with two (2) amp fuses (for indicator light protection)

The meter and indicators will be installed near eye level in the compartment. Instruments will be flush mounted in an appropriate sized weatherproof electrical enclosure. All instruments used will be accurate within +/- two (2) percent.

Generator Wiring:

The system will be installed by highly qualified electrical technicians to assure the required level of safety and protection to the fire apparatus operators. The wiring, electrical fixtures and components will be to the highest industry quality standards available on the domestic market. The equipment will be the type as designed for mobile type installations subject to vibration, moisture and severe continuous usage. The following electrical components will be the minimum acceptable quality standards for this apparatus:

Wiring:

All electrical wiring will be fine stranded copper type. The wire will be sized to the load and circuit breaker rating; ten (10) gauge on 30 amp circuits, 12 gauge on 20 amp circuits and 14 gauge on 15 amp circuits. The cable will be run in corner areas and extruded aluminum pathways built into the body for easy access.

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Load Center:

The main load center will be a Cutler Hammer with circuit breakers rated to load demand.

Circuit Breakers:

Individual breakers will be provided for all on-line equipment to isolate a tripped breaker from affecting any other on-line equipment.

GENERATOR LOCATION

The generator will be mounted above the gooseneck of the trailer per direction.

GENERATOR REMOTE START

Remote start switches will be provided in the cab switch panel, one (1) each side for the driver and officer to engage the hydraulic generator. A light will be provided at each switch location to indicate that the generator is running.

CIRCUIT BREAKER PANEL

The circuit breaker panel will be located per direction.

120 VOLT LIGHTING

A Kwik-Raze Model 736-HD portable light with hold down assembly will be provided.

The light fixture will be a single 750 watt, 120 volt, Magnafire Series unit that draws 6.25 amps with an on/off switch on the light head.

A 20 amp, 120 volt, twist-lock plug with protective boot will be provided.

There will be Four (4) located each upper corner of the trailer body per direction.

REMOTE SWITCH (Quartz Light)

A remote on/off actuation switch, with a 12VDC, green indicator light, will be provided to actuate a 120/240 volt solenoid switch for each quartz light.

The two (2) switches will be located in the cab. The switches will control the lights one switch for the driver side lights and one for the passenger side lights.

120 VOLT LIGHTING

There will be one (1) Willi-Burt Night Scan Powerlite elevated lighting system, Model NS 3.0-800 LED provided.

Mast will operate with a 12 volt DC control and 20 psi regulated air from the chassis air system.

All electrical cables will be internal of the mast for better protection.

Controls for the mast and the lighting system will include two (2) hand held wired remote units. They will be operable with a single hand for turn/tilt, up/down, and on/off. Length of the control cords will be 25 feet each. The mast will automatically stow and the lights will automatically nest when the down switch is activated. The first remote control will be located driver side per direction and the second remote control will be located passenger side per direction.

Weight of the unit will not exceed 155 pounds.

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Four (4), 150 watt, 120-volt AC LED Whelen Pioneer Series flood lights will be mounted on the mast in a weatherproof directional lighting system that will have the ability to rotate 385 degrees and tilt 330 degrees.

The light heads will have a split tilt function, where the left and right sides can tilt independently in different directions or together in the same direction.

A "do not move truck" warning indicator will activate in the cab when the mast is out of the nested position.

A label will be provided at the operator's location to indicate mast operation instructions, warning information, extended tower height from the ground and bulb replacement data.

**TOWER "LOOK UP" LIGHT**

A self contained 12 volt flood light will be provided on the light tower. The light will turn on automatically when the tower is raised and turn off when the tower is lowered.

There will be one (1) tower provided on the crew cab roof.

**AERIAL 750W FLOODLIGHTS**

There will be 750W, 120 volt light(s) installed at the aerial tip.

The light(s) will be Kwik-Raze model 736.

The light(s) will be mounted on a demountable bracket.

Light(s) will rotate 360 degrees.

Actuation of the light(s) will be through an integral switch located on the light head along with a single switch at the turntable control console.

A total of Two (2) will be provided and will be located aerial tip.

**FOUR (4)-SECTION 100 FOOT TRACTOR-DRAWN AERIAL LADDER**

**CONSTRUCTION STANDARDS**

The ladder will be constructed to meet all of the requirements as described in the current NFPA 1901 standards.

The aerial device will be a true ladder type device; therefore ladders attached to booms will not be considered.

These capabilities will be established in an unsupported configuration.

All structural load supporting elements of the aerial device that are made of a ductile material will have a design stress of not more than 50% of the minimum yield strength of the material based on the combination of the live load and the dead load. This 2:1 structural safety factor meets the current NFPA 1901 standard.

All structural load supporting elements of the aerial device that are made of non-ductile material will have a design stress of not more than 20% of the minimum ultimate strength of the material, based on the combination of the rated capacity and the dead load. This 5:1 safety factor meets the current NFPA 1901 standard.

Wire ropes and attaching systems used to extend and retract the fly sections will have a 5:1 safety factor based on the ultimate strength under all operating conditions. The factor of

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safety for the wire rope will remain above 2:1 during any extension or retraction stall. The minimum ratio of the diameter of wire rope used to the diameter of the sheave used will be 1:12. Wire ropes will be constructed of seven (7) strands over an inner wire core for increased flexibility. The wire rope will be galvanized to reduce corrosion.

The aerial device will be capable of sustaining a static load one and one-half times its rated tip load capacity (live load) in every position in which the aerial device can be placed when the vehicle is on a firm level surface.

The aerial device will be capable of sustaining a static load one and one-third times its rated tip load capacity (live load) in every position the aerial device can be placed when the vehicle is on a slope of five degrees downward in the direction most likely to cause overturning.

With the aerial device out of the cradle and in the fully extended position at zero degrees elevation, a test load will be applied in a horizontal direction normal to the centerline of the ladder. The turntable will not rotate and the ladder will not deflect beyond what the product specification allows.

All welding of aerial components, including the aerial ladder sections, turntable, pedestal, and outriggers, will be in compliance with the American Welding Society standards. All welding personnel will be certified, as qualified under AWS welding codes.

All material and welds will have a structural safety factor of 2:1. This will be derived from taking into account structure weight, payload, wind load, ice load, and nozzle reactions.

The aerial device will be capable of operating in conditions of wind up to 50 mph and icing conditions of up to a .25" coating over the aerial structure.

All of the design criteria must be supported by the following test data: (no exception)

- Strain gage testing of the complete aerial device
- Analysis of deflection data taken while the aerial device was under test load

The following standards for materials are to be used in the design of the aerial device:

- Materials are to be certified by the mill that manufactured the material
- Materials that are certified or recertified by vendors other than the mill will not be acceptable
- Material testing that is performed after the mill test will be for verification only and not with the intent of changing the classification
- All welded structural components for the ladder will be traceable to their mill lots.

**LADDER CONSTRUCTION**

The ladder is comprised of four (4) sections.

The ladder will have the capability to support a minimum of 500 pounds at the tip in the unsupported configuration, based upon 360 degree rotation, up to full extension and from -5 degrees to +75 degrees.

The ladder will be constructed of high strength low alloy steel, minimum 70,000 pounds per square inch yield, with full traceability on all structural members.

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Each section will be trussed diagonally, vertically and horizontally using welded steel tubing.

All critical points are reinforced for extra rigidity and to provide a high strength-to-weight ratio.

All ladder rungs are round and welded to each section utilizing "K" bracing for lateral and torsional rigidity.

The inside width dimensions of the ladder will be:

- Base Section        39.00"
- Lower Mid Section    32.25"
- Upper Mid Section    26.62"
- Fly Section         21.38"

The height of the handrails above the centerline of the rungs will be:

- Base Section        26.75"
- Lower Mid Section    22.87"
- Upper Mid Section    20.25"
- Fly Section         17.50"

The ladder will be designed to provide continuous egress for firefighters and civilians from an elevated position to the ground. The end of the fly section will be constructed in a manner that aids personnel in climbing off the ladder.

The egress section will be designed to maintain the rated load of the aerial device. It will be bolted on for easy replacement.

Each rung will be covered with a secure, heavy-duty, fiberglass pultrusion that incorporates an aggressive, no-slip coating.

The rung covers will be glued to each rung, and will be easily replaceable should the rung cover become damaged.

Each rung cover edge will have 2.00" of photo-luminescent, aggressive, no-slip coating to assist in providing a light source for each rung during low light conditions.

The photo-luminescent coating will remain visible for up to 20 hours after exposure to light.

Under no circumstances will the rung covers be fastened to the rungs using screws or rivets. (No exception)

The rung covers will have a 10-year, limited warranty.

**VERTICAL HEIGHT**

The ladder shall extend to a nominal height of 100' above the ground at 75 degrees. The measurement of height shall be consistent with NFPA standards.

**HORIZONTAL REACH**

The rated horizontal reach shall be 95'1". The measurement of horizontal reach shall be consistent with NFPA standards.

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**TURNTABLE**

The upper turntable assembly will connect the aerial ladder to the turntable bearing. The steel structure will have a mounting position for the aerial elevation cylinders, ladder connecting pins, and upper turntable operator's position. The turntable platform will be rectangular-shaped and approximately 96.00" wide by 72.00" long.

The turntable will be a 1.00" thick steel deck, coated with a non-skid, chemical resistant material in the walking areas. The stepping surfaces will meet the skid-resistance requirements of the current NFPA 1901 standard.

The turntable is lighted for nighttime operation with a minimum of two (2) work lights activated by the aerial master switch.

The turntable handrails will be a minimum 42.00" high and will not increase the overall travel height of the vehicle. The handrails will be constructed from aluminum and have a slip resistant knurled surface.

**ELEVATION SYSTEM**

Two (2) double acting lift cylinders will be utilized to provide smooth precise elevation from 5 degrees below horizontal to 75 degrees above horizontal.

The lift cylinders will have a 6.00" internal diameter (bore), a .50" wall thickness, a 4.50" diameter cylinder rod and a 33.38" stroke.

The lift cylinders will be equipped with integral holding valves located on the cylinder to prevent the unit from falling should the charged lines be severed at any point within the hydraulic system. (No exception).

They also will have spherical bushings at each end to reduce pin wear.

Both raising and lowering functions are influenced by flow compensation which maintains ladder tip speed within approximately 10% regardless of load, angle or extension.

Ladder tip speed is automatically decelerated at angles above 60 degrees reducing "tip-lash".

The pivot pins will be stainless steel and 2.25" in diameter. Each elevation pin will be stainless steel with a greaseless ladder pivot pin.

**EXTENSION/RETRACTION SYSTEM**

A full hydraulic powered extension and retraction system will be provided using two (2) hydraulic cylinders and wire ropes.

Each set is capable of operating the ladder in the event of a failure to the other.

The extension cylinder will have a 3.00" internal diameter (bore), 1.75" diameter rod and a 134.00" stroke.

Extension and retraction will be internally limited within the cylinders, eliminating excess strain on wire ropes, sheaves and the ladder structure.

Each of the cylinders, wire ropes and sheave assemblies will be completely independent of the other, so as to provide a safety factor wherein a failure of one assembly will not affect the function and operation of the other.

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The extension cylinders are equipped with counter balance valves to synchronize the cylinders for smoother operation and prevent the unit from retracting should the charged lines be severed at any point within the hydraulic system. The cylinders will also have internal deceleration valves, to cushion the movement of the cylinder when approaching full extension or retraction. All extension/retraction pins will have a corrosion-preventative, QPQ black finish.

The reeling of the wire rope will be such as to provide synchronized, simultaneous movement of all sections to full extension.

The extension/retraction wire ropes will be 7-flex galvanized with stainless steel threaded ends, and will possess the following characteristics:

- Lower Mid Section .50 diameter, 26,200# breaking strength
- Upper Mid Section .38" diameter, 14,880# breaking strength
- Fly Section .31" diameter, 10,380# breaking strength

Wear pads made of polymer material will be used between the telescoping sections for maximum weight distribution, strength and smoothness of operation.

Adjustment screws are provided on the wear pads to permit proper side alignment.

All sheaves will be plastic and greaseless and all sheave pins and pivot pins will be stainless steel. (No exception)

#### **ROTATION SYSTEM**

A 46.00" diameter, external tooth, monorace, slewing ring bearing will be used for the rotation system. The gear teeth will be a stub tooth form.

The bearing race will have sealed 1.00" ball bearings.

The bearing will provide 360 degree continuous rotation.

The turntable will be bolted to the bearing using 36 SAE Grade 8, .875" diameter bolts.

To secure the bearing to the base support 36 Grade 8, .875" diameter bolts will be used.

The turntable base and the torque box bearing plate will be machined to fit the bearing thereby providing even distribution of forces.

A hydraulically driven, planetary gear box with a drive speed reducer will be used to provide infinite and minute rotation control throughout the entire rotational travel.

The gearbox will have a torque rating of 130,000 pounds per square inch.

A spring applied, hydraulically released disc type swing brake will be furnished to provide positive braking of the turntable assembly.

Provisions will be made for auxiliary operation of the system in case of prime mover failure.

The hydraulic system is equipped with pressure relief valves which will limit the rotational torque to a non-destructive power.

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**ROTATION INTERLOCK**

A permanently installed prevention mechanism will be provided as part of the rotation system to prevent the rotation of the aerial device to the side in which the stabilizers have not been fully deployed or are short-jacked.

The mechanism will allow full and unrestricted use of the aerial in the 180 degree area on the side(s) where the stabilizers have been fully deployed.

The system will also have a manual override to comply with NFPA 1901.

This will consist of a switch located in the lower control station so that activation will require two (2) persons (one at an aerial device control location and one at the lower control station).

**SYSTEMS THAT PERMIT THE AERIAL TO ROTATE TO THE "SHORT JACK" SIDE WITHOUT AUTOMATICALLY STOPPING THE ROTATION AND/OR WITHOUT ACTUATION OF THE "MANUAL OVERRIDE" will NOT BE ACCEPTED. SYSTEMS THAT ONLY INCLUDE AN ALARM ARE NOT CONSIDERED AN INTERLOCK AND will NOT BE ACCEPTED.**

**LOAD CAPACITIES**

The following load capacities will be established with the stabilizers at full horizontal extension and placed in the down position to level the truck and to relieve the weight from the tires and axles. Capacities will be based upon full extension and 360 degree rotation.

A load chart, visible at the operator's station, will be provided. The load chart will show the recommended safe load at any condition of the aerial device's elevation and extension. (No exception)

**50 MPH WIND CONDITIONS/WATERWAY DRY**

Degrees of	5 to 9	10 to 19	20 to 29	30 to 39	40 to 49	50 to 59	60 to 69	70 to 75
Elevation								
Egress	500	500	500	500	500	500	500	500
Fly						250	500	750
Upper Mid				250	250	500	1000	1000
Lower Mid			250	250	500	750	1000	1000
Base		250	250	500	750	1000	1000	1000

**50 MPH WIND CONDITIONS/WATERWAY CHARGED**

Degrees of	5 to 9	10 to 19	20 to 29	30 to 39	40 to 49	50 to 59	60 to 69	70 to 75
Elevation								
Egress	500	500	500	500	500	500	500	500
Fly						250	500	750

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Upper Mid				250	500	750	1000	
Lower Mid			250	500	750	1000	1000	
Base		250	500	750	1000	1000	The ladder will extend to a nominal height of 100' above the ground at 75 degrees. The measurement of height will be consistent with NFPA standards.	

The rated horizontal reach will be 95'1". The measurement of horizontal reach will be consistent with NFPA standards.

**BOOM SUPPORT**

A heavy-duty boom support will be provided for support of the ladder in the travel position. On the base section of the ladder, a stainless steel scuffplate will be provided where the ladder comes into contact with the boom support. In the stowed position, the ladder tip will be not less than 11.00" below horizontal for unsurpassed visibility and safety while maneuvering the apparatus.

**EXTENSION INDICATOR**

Extension markings and corresponding numerical indicators will be provided along each inside and outside top rail of the base section of the aerial every ten (10) feet. They will indicate various positions of extension up to full. Markings and indicators will be clearly visible to the console operator. To aid in visibility during hours of darkness, the markings and numerical indicators will be of a red reflective material.

**FOLDING STEPS**

One (1) set of folding steps will be provided at the tip of the ladder. The steps will be bright finished, non-skid with a luminescent coating that is rechargeable from any light source and can hold a charge for up to 24 hours.

**SPOTLIGHTS**

Four (4) Unlity AG-S-4007 12 volt spot/flood lights will be furnished.

The two (2) "tracking lights" will be mounted on the base section of the ladder, one (1) on each side.

The two (2) "tip lights" will be mounted on the tip of the ladder, one (1) on each side.

The lights will be mounted below the handrail height so as not to increase the overall height of the unit.

An individual master switch with appropriate identification labels will be provided for the "tracking lights" and "tip lights" in addition to the on/off switch located on the light itself.

**ELECTRICAL SYSTEM**

The aerial electrical system will be designed and manufactured in such a way that the power and signal protection and control compartments will contain circuit protection devices and power control devices. The power and signal protection and control components will be protected against corrosion, excessive heat, excessive vibration, physical damage, and water spray.

The aerial electrical system will be designed and manufactured to allow the following:

- All of the serviceable components will be readily accessible.

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- Circuit protection devices will be utilized to protect each circuit.
- General protection circuit breakers will be Type-I automatic reset (continuously resetting) or Type-II (manual resetting) and conform to SAE requirements. When required, automotive type fuses conforming to SAE requirements will be utilized to protect electronic equipment.
- Power control relays and solenoids, when utilized, will have a direct current (dc) rating of 125% of the maximum current for which the circuit is protected.

The aerial electrical system will be designed and manufactured to allow the following:

- Toggle switches will be utilized that are certified for the outside conditions that fire apparatus experience.
- All wiring will be protected through conduit or loom.
- All wiring harnesses will be properly supported to eliminate harness damage through rubbing.
- All connectors utilized in the system will be of a waterproof design.
- Two (2) inductive proximity switches and an illumination light will be incorporated into the boom support.
- The aerial master and aerial PTO can be engaged after the water pump has been engaged without having to bring the RPM back to idle.
- Standard cabling to the tip of the aerial will consist of one (1) 16/20 cable and one (1) 12/8 cable.

**DRIVER SIDE TORQUE BOX POWER DISTRIBUTION PANEL**

A fuse and relay panel, located in the passenger side gooseneck area, will include the following:

- NEMA 4x rated weatherproof enclosure
- Relays, fuses, and circuit breakers for aerial and stabilizer interlocks and control switches

**TURNTABLE LIGHTING**

The turntable will be lighted for nighttime operation with a minimum of two (2) work lights activated by the aerial master switch. A foot switch will be located at the turntable console to allow hydraulic flow to the aerial device. The foot switch will be protected by a cover to prevent accidental activation. Activation of the foot switch is necessary for aerial device operation.

**TURNTABLE CONSOLE**

The following switches and indicator lights will be standard on the turntable console:

- High idle on/off switch
- Tip/Tracking light switch
- Indicator and alarm test switch
- Emergency hydraulic power switch

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- STABILIZERS NOT FULLY EXTENDED amber indicator light
- Rung alignment green indicator light

The turntable console will be lighted for nighttime operation with one (1) work light activated by the aerial master switch. A fuse panel will be located in the turntable console.

**TURNTABLE OVERRIDE CONTROLS**

The aerial manual override controls will be located in the turntable control console.

**MASTER OVERRIDE CONTROLS**

An emergency power switch will be located at the rear of the apparatus. The switch will activate the emergency power unit and allow control of the aerial or stabilizers based on the direction the switch are toggled.

A work light will be provided to illuminate the master override controls when the battery switch is active and the master override door is open.

**BOOM SUPPORT**

Two (2) Turck inductive proximity switches will be provided on the boom support to detect if the aerial device is fully stowed within the boom support.

**STABILIZER INDICATOR**

A "Stabilizers Not Stowed" indicator will be provided in the driver's compartment. It will illuminate automatically whenever the stabilizers are not fully stowed, to prevent damage to the apparatus if moved. The stabilizer system will also be wired to the "Do Not Move" indicator light, which will flash whenever the apparatus parking brake is not fully engaged and the stabilizers are not fully stowed.

**CRADLE INTERLOCK SYSTEM**

A cradle interlock system will be provided to prevent the lifting of the aerial from the nested position until the operator has positioned all the stabilizers in a load supporting configuration. A switch will be installed at the cradle to prevent operation of the stabilizers once the aerial has been elevated from the nested position.

**STABILIZER ALARM**

An electronic warning device will be provided at each stabilizer to warn personnel that the stabilizers are being deployed. Each alarm will produce a fast pulsing 90 DBA signal and will cancel only when the stabilizer is put into a load bearing configuration.

**STABILIZER SCENE LIGHTS**

A 4.00" clear floodlight will be provided on each stabilizer to illuminate the surrounding area. The light will be actuated by the aerial master switch.

**CONTROL STATION**

There will be a turntable control station located on the right hand side of the turntable so the operator will be able to easily observe the ladder tip while operating the controls. The controls will permit the operator to regulate the speed of the aerial functions within safe limits (as determined by the manufacturer and NFPA standards). The controls will be clearly marked and lighted for nighttime operation. A hinged aluminum cover will be provided. The momentary foot switch located at the turntable control station will activate the aerial function controls. They are capable of being operated independently or simultaneously.

The following controls and indicator lights will be clearly identified, illuminated, and conveniently located for ease of operation and viewing:

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- Elevation, extension/retraction, and rotation controls
- High idle switch
- Rung alignment indicator light
- Tip/Tracking lights
- Hydraulic system pressure gauge
- Indicator/Alarm test switch
- EPU switch
- Operator's load chart
- Stabilizer Not Fully Extended Indicator light
- Monitor controls
- Aerial waterway flow meter

There will also be a minimum of two (2) 12-volt work lights installed on the turntable to illuminate the surrounding area for nighttime operation. The work lights will be activated by the aerial master switch.

**STABILIZER CONTROL STATION**

There will be an easily accessible control station located at both the driver and passenger side of the apparatus. The following controls and indicator lights will be clearly identified and conveniently located for ease of operation and viewing at each control station.

- Stabilizer controls for driver and passenger side
- Stabilizer Firm On Ground Indicator lights
- Stabilizer Fully Extended Indicator lights
- Inclinator for grade and slope
- Stabilizer EPU switch
- High Idle switch

**STABILIZERS**

The vehicle will come equipped with a stabilization system consisting of two (2) hydraulically operated out and down style stabilizers. This system will meet or exceed all requirements of the NFPA specifications related to stabilization and setup on sloped surfaces.

The stabilizer/leveling jacks will have a maximum spread of 17' measured from the centerline of the jack footpads when the beams are fully extended. The beams will be 6.81" wide x 8.88" high with 3/4" thick top and bottom plates and 1/2" thick sides of 100,000-PSI minimum yield strength steel. The cylinders will have pilot-operated check valves with thermal relief designed to insure that the beams will not drift out of the stowed position during travel. Wear pads will guide the stabilizers.

The horizontal extension cylinders will be totally enclosed within the beams and will incorporate telescoping hydraulic tubing to supply the jack cylinder hydraulic power. Stabilizer hydraulic hoses will remain stationary during operation of the stabilizers to

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prevent hose wear and potential failure. The cylinders will be equipped with decelerators to reduce the speed of extension and retraction when the beams are near the fully retracted and extended positions. The stabilizer extension hydraulic cylinders will have the following dimensions: 2.25" bore, 1.38" rod, and 57.25" stroke.

The vertical jack cylinders will be capable of 12.00" ground penetration. The cylinders will be supplied with pilot operated check valves on each jack cylinder to hold the cylinder in the stowed or working position, should a charged line be severed at any point in the hydraulic system. For safety, the integral holding valves will be located in the cylinder base end; NOT in the transfer tube. Vertical jack cylinder rods will be fully enclosed by a telescoping inner box to protect the cylinder rods from damage. The stabilizer jack hydraulic cylinders will have the following dimensions: 4.25" bore, 3.00" rod, and 28.88" stroke.

Each stabilizer jack will have a polished stainless steel shield. The stainless steel shield will be a maximum of 14.00" wide so as to allow the extension of the stabilizer between parked cars or other obstacles. This plate will serve as a protective guard and a mounting surface for warning lights. The top, forward, and rear edges will be flanged back 90 degrees for added strength. A 4.00" diameter clear work light will be provided to illuminate the stabilizer and the ground. Lighting will automatically activate with the aerial master switch.

**STABILIZER PADS**

The stabilizer footpad will be 12.00" in diameter. The footpad will be attached to the jack cylinder rod by means of a machined ball at the end of the jack cylinder rod which mates to a socket machined into the footpad. The footpad will have the ability to pivot 20 degrees from horizontal in any direction to allow setup on uneven terrain.

**AUXILIARY STABILIZER PADS**

An auxiliary ground pad will be supplied for each stabilizer to provide additional load distribution on soft surfaces. The pads will be 24.00" square and made from a lightweight composite material. The ground pressure will not exceed 75 pounds per square inch when the ground pads are used and the apparatus is fully loaded and the aerial device is carrying its rated capacity in any position. There will be one (1) pad located on each side of the apparatus, behind the stabilizers.

**STABILIZER CONTROLS**

An electrically controlled hydraulic valve will power stabilizer movement. The valve can also be manually controlled in the event of electrical malfunction. Hydraulic power override controls will be incorporated into the valve. The manual override mechanism will be completely sealed within the valve assembly to prevent any possibility of corrosion.

The stabilizer controls will be located to provide the operator with a full view of each stabilizer being positioned. Each stabilizer control panel will include the following:

- In/out stabilizer beam control toggle switch
- Up/down stabilizer jack control toggle switch
- Emergency hydraulic power unit (EPU) control toggle switch
- High idle control toggle switch
- Stabilizer fully extended LED indicator lights
- Stabilizer planted LED indicator lights

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As a safety device, an electrically actuated diverter valve will be provided. The hydraulic power will be diverted to the aerial ladder controls automatically the instant all stabilizer jacks are firmly planted on the ground. Once the aerial ladder is raised from the bedded position, the stabilizer hydraulic power is cut off so the stabilizers will not accidentally be moved while the aerial is being operated.

To aid in leveling the unit, two bubble type angle indicators will be located near the stabilizer controls. One indicator will show the angle of the truck from the front to rear and the other will show the side to side angle of the truck. The indicators will be color coded green to show when the truck has been properly leveled allowing the aerial device to be operated at full capacity.

A stabilizer deployment audible warning alarm will be provided at each side of the body, activated by the stabilizer movement.

A "Stabilizers Not Stowed" indicator light will be provided in the cab within view of the driver. It will illuminate automatically whenever the stabilizers are not fully stowed to prevent damage to the vehicle if it is moved. The stabilizer system will also be wired to the "Do Not Move Truck" indicator light. This light will flash whenever the apparatus parking brake is not engaged and the stabilizers are not fully stowed.

**STABILIZER PINS**

The stabilizer jacks will have holes for the stabilizer pins.

**NO DOORS, STABILIZER CONTROL BOX**

There will be no doors on the stabilizer control box at the rear of the truck.

**AERIAL LOCATOR LIGHTS, STROBE**

Two (2) lights will be installed, one (1) each side at the aerial tip for the purpose of locating the aerial device while in operation. The lights will be Whelen, Model 800D, strobe beacons. The lights will be activated whenever the aerial device is raised from the cradle. The color of the locator lights will be amber.

**STABILIZER WARNING LIGHTS**

There will be two (2) Code 3®, Model: 65, flashing LED warning lights mounted on the stabilizer cover panels, one (1) on each panel.

The color of these lights will be red LED/red lens.

These warning lights will be activated by the aerial master switch.

All of the above lights will be provided with a flange.

**STABILIZER BEAM WARNING LIGHTS**

Two (2) 4.00" diameter red LED flashing lights will be mounted on each stabilizer, one (1) facing forward and one (1) facing rearward. The lights will be Grote Supernova 40 series LED lights. The lights will be recessed in the horizontal beam of the stabilizer. These warning lights will be activated with the aerial master switch.

**HYDRAULIC SYSTEM**

All hose assemblies will be assembled and crimped by the hose manufacturer certified technician. An assembly cell will be located on the premises where the technician can perform audits of the final aerial assembly for proper fitting torque and hose routing.

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All manufacturing employees responsible for the installation of hydraulic components will be properly trained. Training will include: proper handling, installation, torque requirements, cleanliness and quality control procedures for hydraulic components.

Hoses used in the aerial hydraulic system will be of a premium quality hose with a high abrasion resistant cover. All pressure hoses will have a working pressure of 4000 psi and a burst pressure rating of 16,000 psi.

The hydraulic oil will be a premium Multi-Vis product having a leading edge additive package, provide oxidation stability, and be extremely shear stable and maximum anti-wear properties. All oil delivered to the manufacturing site will have a minimum ISO cleanliness level of 18/15/13.

Each aerial will be evaluated as to the region and climate where it will be used to determine the optimum viscosity and proper oil grade. Oil viscosity will be based on an optimum range of 80 to 1000 SUS during normal aerial use. Before shipment of the unit, an oil sample will be taken and analyzed to confirm the oil is within the allowable ISO grade tolerance.

The aerial hydraulic system will have a minimum oil cleanliness level of ISO 18/15/13 based on the ISO 4406:1999 cleanliness standard. Each customer will receive a certificate of actual cleanliness test results and an explanation of the rating system.

Each aerial will include an oil sample port, identified with a yellow dust cap and a label, for subsequent customer testing.

Ball valves will be provided in the hydraulic suction and return lines to permit component servicing without draining the oil reservoir.

The system hydraulic pressure will be displayed on a 2.5" liquid filled gauge, located on the control console.

The hydraulic system will be additionally protected from excessive pressure by a secondary pressure relief valve set at 3,150 psi. In the event the main hydraulic pump compensator malfunctions, the secondary relief will prevent system damage.

#### **HYDRAULIC CYLINDERS**

All cylinders used on the aerial device will be produced by a manufacturer that specializes in the manufacture of hydraulic cylinders.

Each cylinder will include integral safety holding cartridges.

Each cylinder will be designed to a minimum safety factor of 4:1 to failure.

All safety holding cartridges will be installed at the cylinder manufacturer, in a controlled clean environment to avoid possible contamination and or failure.

#### **HYDRAULIC PUMP**

The hydraulic system will be supplied by a 4.6 cubic inch variable volume, load and pressure compensating piston pump. The pump will be rated at a minimum of 5,365 psi peak pressure and 2,600 rpm. The pump will meet the demands of all three simultaneous aerial functions. The pump will provide proper flow for single aerial function with the engine at idle speed. A switch will be provided on the control console to increase the engine speed for multiple function operation.

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**EMERGENCY PUMP**

The aerial will be equipped with an emergency hydraulic pump, electrically driven from the truck batteries. The pump will be capable of running for 30 minutes for limited aerial functions to stow the unit in case of a main pump or truck system failure. A momentary switch will be located at the stabilizer and aerial control locations to activate the emergency pump.

**AERIAL CONTROL VALVE**

The aerial hydraulic control valve will be designed with special spool flows, limiting the oil flow for the designed function speed. The valve will be manually controlled and be located in the control console with the handles protruding through the operating surface for operation. The activation handles will be spaced a minimum of 3.5" for ease of operation. The valve spools will be designed to bleed off downstream pressure, in the neutral position and allow proper seating of any cylinder holding cartridge.

**OIL RESERVOIR**

The oil reservoir will have a minimum capacity of 40 gallons. The oil fill location will be easily accessible and be labeled "Hydraulic Oil Only" and also indicate the grade of oil that is installed in the reservoir. The fill cap will have a 40 micron filter to provide protection from contamination. A drain hose will be included and will terminate with a quarter turn ball valve.

Two suction ports will be provided, one for the main hydraulic pump and one for the emergency pump. The main suction will be slightly elevated off the bottom of the reservoir and include a 100 mesh suction strainer. The emergency suction port will be closer to the bottom of the reservoir to provide some reserve oil for emergency operation.

A six (6) disc type magnetic drain will also be provided to collect any ferrous contaminants.

A combination sight glass and thermometer will be mounted to the reservoir in an easily viewable location.

**HIGH PRESSURE FILTER**

The pressure filter will be rated for 6,000 psi working pressure and generously sized for efficiency and capacity. A 90 psi bypass spring will be included to protect the element and hydraulic system during lower than normal system operating temperatures.

The 5Q filter element will be constructed of a micro glass medium, which has the highest capture efficiency, dirt holding capacity and life expectancy over other media such as cellulose and synthetic. The nominal rating will be 5 micron and have an efficiency rating of 99.3 % for 5 micron sized particles. The element will have a dirt holding capacity of not less than 35 grams.

**RETURN FILTER**

The return filter will be rated for 150 psi working pressure and generously sized for efficiency and capacity. A 25 psi bypass spring will be included to protect the element and hydraulic system during lower than normal system operating temperatures. The 10Q filter element will be constructed of a micro glass medium, which has the highest capture efficiency, dirt holding capacity and life expectancy over other media such as cellulose and synthetic. The nominal rating will be 10 microns and have an efficiency rating of 99.5% for 10 micron sized particles. The element will have a dirt holding capacity of not less than 84.7 grams.

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**HYDRAULIC SWIVEL**

The aerial ladder will be equipped with a high pressure hydraulic swivel which will connect the hydraulic lines from the hydraulic pump and reservoir, through the rotation point, to the aerial control bank. The hydraulic swivel will allow for 360-degree continuous rotation of the aerial.

**ELECTRIC SWIVEL**

The ladder will be equipped with an electric swivel to allow 360-degree rotation of the aerial while maintaining connections in all electrical circuits through the rotation point. A minimum of 32 collector rings that are capable of supplying 30-amp continuous service will be provided. All collector rings will be enclosed and protected against condensation and corrosion.

**HYDRAULIC PLUMBING COMPONENTS WARRANTY**

All hydraulic plumbing component suppliers will warrant the hose, adaptors, and fittings from component failure for a period of five (5) years. The supplier's obligation under this warranty will be limited to the replacement or repair of any failed components. The buyer understands that the seller will not be liable for any other costs or damages.

**HYDRAULIC CYLINDER WARRANTY**

Each hydraulic cylinder will have a structural warranty of not less than five (5) years and a seal warranty of not less than two and one-half (2.5) years.

**HYDRAULIC SYSTEM COMPONENTS WARRANTY**

All hydraulic system component suppliers will warrant all Motion and Control Group components for a period of five (5) years. This warranty will cover the valves, pumps, and hydraulic motors. Each component supplier's obligation under this warranty will be limited to the replacement or repair of any failed components. The buyer understands that the seller will not be liable for any other costs or damages. A copy of the five (5) year warranty will be included with the bid.

**120-VOLT RECEPTACLE AT TIP**

A 120-volt, 20 amp, three (3)-prong twist lock receptacle, with weatherproof cover will be provided at the tip of the aerial device.

**COMMUNICATION SYSTEM**

An Atkinson communication system will be furnished between the aerial tip and the turntable operator's position. The communication system will be a two (2)-way system with the communication speaker at the tip requiring no operator attention to transmit or receive. The transmitting and receiving volume controls will be located at the turntable operator's position.

**RESCUE LIFTING SYSTEM**

A rescue lifting attachment will be provided. The lifting attachment will mount to the aerial egress and will consist of a pair of Nylatron pulleys mounted to a stainless steel shaft. The pulleys will be adjustable from side to side and will have a total lifting capacity of 500 pounds, regardless of whether one (1) or both pulleys are being utilized.

**TRIMAX, 70 GALLON**

A 70 gallon Tri-Max system will be installed above and in the transverse compartment behind the cab.

**AGENT TANK**

The agent tank will hold 70 gallons of pre-mix foam agent and will be manufactured in accordance with ASME standards. The tank fill will include a fill funnel plus a garden hose

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adaptor to facilitate easy foam and water filling. The tank will be coated with an epoxy polyurethane red paint.

**AIR SUPPLY**

Two (2) 100 cu. ft. air cylinders will be provided with this foam system. Both air cylinders are required to discharge the full agent tank at normal blend-air settings. High pressure air hose and connections will be rated for 6000 psi. Two high volume air regulators (87cfm, 155 psi) will be provided, matched to the discharge flow rating. All low pressure hose will be steel braided, 1 ¼" 300 psi, and 210F degrees. All ball valves will be rated for 400 psi pressure relief valve will be provided, set at 200 psi.

**DISCHARGE SYSTEM**

A blend-air valve will be conveniently located to adjust the foam expansion ratio from 5:1 to 20:1 or more. The pressurization will be a quick opening valve on the low pressure side of the regulator allowing the system to be stored and transported without pressure until needed for firefighting (activation time 5 sec).

A 2.00" Akron electric quarter turn discharge valve will be provided with a 1.50" MN.S.T. swivel for connecting the system discharge hose. 200' of polyester double jacket (DJ) hose will be provided with this system. The DJ hose will be stored in a tray within the transverse compartment behind the cab. A 1.50" Akron Saberjet CAFS nozzle with pistol grip will be provided on the end of the DJ hose. The hose will be capable of being pulled out of the hose tray from either the driver's side or passenger side of the truck. The hose will be blue.

Elastic netting will be provided across the ends of the tray to secure the hose during travel.

**FOAM SYSTEM CONTROLS**

The foam system will have two (2) operator control panels for operating this system. Each control panel will be located within the transverse compartment behind the cab. One (1) control panel will be located on the driver's side of the transverse compartment and one (1) control panel will be located on the passenger side of the transverse compartment. Each control panel will have the following items on it.

- One (1) pressure gauge for the air bottles
- One (1) pressure gauge for the main tank pressure
- One (1) remote activation switch (this switch will open up both air bottles to charge the main tank)
- One (1) Akron electric discharge valve controller

The driver's side control panel will have one (1) adjustable pressure regulator (0-400PSI) contained on it.

**PERFORMANCE**

The unit will be capable of discharging up to 1400 gpm of finished foam product. Duration time will be from 1 ½ to 6 minutes depending on the discharge rate. Foam coverage distance will be 75 feet or more.

**SPECIAL HEIGHT BOOM SUPPORT**

A special height boom support will be provided to raise the aerial device to clear the compartment above the body.

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**AIR HORN CONTROL AT AERIAL TURNTABLE**

A push button control for the air horns will be provided at the aerial turntable. Collector ring space will be available for this option to be utilized.

**AERIAL STABILITY GAUGE**

There will be a Class 1 Load Minder located in the turntable control station. The gauge and warning alarm will be clearly identified and conveniently located for ease of viewing.

**STABILIZER SCENE LIGHTS**

One (1) Trucklite, Model 44042C LED, scene light will be installed on each stabilizer to illuminate the surrounding area. These lights will be installed in place of the standard lights. A total of four (4) lights will be installed.

**CHAIN, AERIAL TURNTABLE**

A chain will be installed at the aerial turntable.

**WATERWAY, BASE PIPE**

A waterway system will be provided consisting of the following:

An Akron 1494 ladder pipe with an electric 5177 nozzle will be provided. The ladder pipe will have a 3.00" NST swivel inlet.

12 volt power will be supplied and dual controls of the electric nozzle will be provided at the aerial turntable and the aerial tip.

**TOOLS**

The following tools will be provided for retorquing of all specified bolts as recommended by the manufacturer:

- Torque Wrench
- All Required Extensions, Sockets and Adapters
- 4-to-1 Multiplier

**MANUALS**

Two (2) operator maintenance manuals and two (2) wiring diagrams pertaining to the aerial device will be provided with the apparatus at time of pick-up.

**INITIAL INSTRUCTION**

On initial delivery of the fire apparatus, the contractor will supply a qualified representative to demonstrate the apparatus and provide initial instruction to the fire department regarding the operation, care, and maintenance of the apparatus for a period of three (3) days.

**TILLER CAB**

A permanently mounted tiller cab will be located on top of the tiller trailer, to the rear of the aerial ladder. The maximum overall height of the tiller cab will not exceed 130.00". The tiller cab will be totally enclosed.

The cab windshield will be automotive approved tinted safety glass and will provide a minimum of 1,513 square inches of clear viewing area. Each side window, directly rearward of the windshield, will be more than 536 square inches. The side windows, combined with the windshield, will provide a minimum of 2,585 square inches of unobstructed viewing area. In order to provide maximum visibility for the tillerman, there will be no corner posts at the forward corners of the windshield.

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The upper area of each tiller cab door will be contoured into the roof, providing greater clearance when entering and exiting the tiller cab. The tiller cab doors will be equipped with drop-down sliding window. The windows will be 18.00" wide x 31.00" high.

The rear wall of the tiller cab will have a vertically-split sliding window. The window will be 33.50" wide x 27.75" high.

The tiller cab floor will be constructed of aluminum treadplate.

A two (2) speed electric windshield wiper with washer will be provided for the front windshield. The windshield washer reservoir will have a capacity of two (2) quarts and will be located forward of the tiller cab.

An adjustable, telescopic steering column will be provided.

Auxiliary lighting inside the tiller cab will consist of a red/clear overhead dome light with an integral switch. The red lens will be controlled by the lens switch only and the clear light will be controlled by the lens switch or the door switch.

The diagnostic plug for the trailer ABS system will be provided in the driver side tiller access stepwell, behind the fuel fill door.

The following controls/alarms will be provided inside the tiller cab:

- Buzzer signaling system with push button in tiller cab steering wheel as well as a labeled push button in the tractor cab, within reach of the driver.
- Jackknife alarm

The following will be provided on the steering column support pedestal:

- Two (2) heater/defroster outlets
- Heater/defroster control switch

The cornering lights will be controlled by a switch on the steering column (these lights will also come on with turn signal activation).

The following controls/gauges will be located in the upper control panel:

- Step light switch
- Tiller wheel position indicator gauge. (L-C-R)
- Two (2) 2.00" diameter amber turn signals
- Windshield wiper/washer control switch

**TILLER CAB HEATER**

For the tillermans comfort, the cab is equipped with a 13,650 BTU heater/defroster.

The heater will have a multi-speed motor and thermostatic control located in the tiller cab within reach of the tillerman.

The heater will be diesel/kerosene fueled and will have a separate three (3) gallon fuel tank which will provide a minimum of 23 hours of continuous running time.

The fuel tank will be recessed in the body, behind the driver side tiller cab access steps.

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There will be a minimum of two (2) defrost outlets in the cab for maximum defrost performance.

The heater/defrost system will have an airflow of 85 cfm.

**TILLER CAB AIR CONDITIONING**

Air conditioning will be provided for the tiller cab.

The unit will be manufactured by Danhard Inc.

The air conditioner will have cooling capacity of 13,500 BTU.

The unit will be 120 volt AC and will be run off of the onboard generator. The full load amperage draw will be 12.00 amps in the cooling mode.

The evaporator will be located ahead of the tiller cab on the top deck of the tiller trailer. The air conditioning unit will not increase the overall height of the tiller cab.

**TILLER CAB SEAT**

A seat will be provided in the tiller cab. 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. 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 three-point, shoulder type seat belt. To provide quick, easy use for occupants wearing bunker gear, the seat belt will have a minimum 120.00" shoulder length and 55.00" lap length. The seat belt tongue will be stored at waist position for quick application by the seat occupant. The seat belt receptacle will be provided on a cable conveniently nested next to the seat cushion, providing easy accessibility. The seat belt will be furnished with dual automatic retractors that will provide ease of operation in the normal seating position. The seat belt webbing will be red in color.

**TILLER CAB STEPS**

For access to the tiller cab, two (2) sets of steps will be furnished at the rear of the apparatus, one set each side. The steps will be moved rearward and be in alignment with the tiller cab door. The bottom three (3) access steps will be full width, approximately 21.00" wide, and located just behind the tiller axle. The top step will be full width, approximately 18.50" wide. The steps will be securely reinforced and constructed of aluminum treadplate. Handrails will be provided on each side of the step assemblies for maximum safety. The steps will be illuminated for nighttime operation.

**JACKKNIFE ALARM**

An audible and visual warning system will be provided to warn both drivers when the jackknife position approaches the maximum allowable angle.

**TILLER WARNING INDICATOR**

A warning indicator in the tractor cab will be activated if the parking brake is released and the tiller driver is not present in the tiller cab.

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**CONVEX MIRRORS (tiller cab)**

A 6.00" diameter round convex mirror with adjustable arm will be installed on each side of tiller cab.

The additional air horn will be actuated by a foot switch in the tillermans cab.

**TILLER TRAILER FRAME**

The gooseneck area of the tiller trailer will be constructed of 100,000 psi minimum yield strength steel.

The gooseneck area will have a section modulus of 289.00 cu. in. and a resistance to bending moment of 28,900,000 inch pounds.

The gooseneck area will be 46.00" wide x 13.50" deep.

The tiller trailer frame will be box type construction to effectively resist trailer twist.

The side rails will have a 13.38" tall web over the front and mid sections of the trailer, with a continuous smooth taper to a 10.75" over the tiller axle.

The frame rails will be constructed of 80,000 psi minimum yield strength heat treated .38" thick steel, with 3.50" wide flanges and covered by top and bottom plates to form a ridged box structure. Cover plates will be 50,000 psi minimum yield strength steel.

The tiller trailer frame will have a section modulus of 267.70 cu. in., and a resisting bending moment (rbm) of 12,880,000 inch pounds over the critical regions of the frame assembly, with a section modulus of 18.96 cu. in. with an rbm of 2,085,803 inch pounds over the rear axle.

The overall length of the tiller trailer frame will be 462.00".

**WALKWAY, TURNTABLE TO BODY**

A walkway will be provided from the aerial turntable to the tiller body.

**TILLER TRAILER NON DRIVE AXLE**

The tiller trailer axle will be of the independent suspension design with a ground rating of 22,800 lb.

Upper and lower control arms will be used on each side of the axle. Upper control arm castings will be made of 100,000-psi yield strength 8630 steel and the lower control arm casting will be made of 55,000-psi yield ductile iron.

The center cross members and side plates will be constructed out of 80,000-psi yield strength steel.

Each control arm will be mounted to the center section using elastomer bushings. These rubber bushings will rotate on low friction plain bearings and be lubricated for life. Each bushing will also have a flange end to absorb longitudinal impact loads, reducing noise and vibrations.

The upper control arm will be shorter than the lower arm so that wheel end geometry provides positive camber when deflected below rated load and negative chamber above rated load.

Camber at load will be zero degrees for optimum tire life.

The kingpin bearing will be of low friction design and be sealed for life.

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Toe links that are adjustable for alignment of the wheel to the center of the trailer will be provided.

The wheel ends must have little to no bump steer when the chassis encounters a hole or obstacle.

The steering linkage will provide proper steering angles for the inside and outside wheel, based on the vehicle wheelbase.

The turning angle will be 24 degrees or greater.

**TILLER TRAILER NON DRIVE AXLE WARRANTY**

The non drive axle system will have a **three (3) year parts and labor warranty.**

**TILLER TRAILER STEERING**

Dual Sheppard M110 steering gears, with *Integral heavy-duty power steering*, will be provided.

The steering wheel will be 18.00" in diameter, and capable of tilting and telescoping.

**BRAKES**

The tiller trailer brakes will be Knorr/Bendix disc type with a 17.00" ventilated rotor for improved stopping distance.

**SUSPENSION**

Independent suspension will be provided with a minimum ground rating of 22,800 lb. The independent suspension system will be designed to provide maximum ride comfort. The design will allow the vehicle to travel at highway speeds over improved road surfaces, and at moderate speeds over rough terrain with minimal transfer of road shock and vibration to the vehicle's crew compartment.

Each wheel will have torsion bar type spring. In addition, each wheel end will also have energy absorbing jounce bumpers to prevent bottoming of the suspension. The suspension design will be such that there is at least 10.00" of total wheel travel and a minimum of 3.75" before suspension bottoms. The torsion bar type spring and anchor lock system will allow for simple lean adjustments without the use of shims. Adjustment for a lean will be accomplished within 15 minutes. Anchor adjustment design is such that it allows 4.00" of ride height adjustment per side.

The independent suspension will have been put through a durability test that simulated a minimum of 140,000 miles of inner city driving.

**TIRES**

Tiller trailer tires will be Goodyear radials, 425/65R22.50, 18-ply highway tread.

**WHEELS, TILLER**

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

**OIL SEALS**

Oil seals will be provided on the tiller axle.

**LOOSE EQUIPMENT**

The following equipment will be furnished with the completed unit:

- One (1) bag of chrome, stainless steel, or cadmium plated screws, nuts, bolts and

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**PAINT - BODY PAINTED TO MATCH CAB**

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

1. Manual Surface Preparation - All exposed metal surfaces on the custom body will be thoroughly cleaned and prepared for painting. Surfaces that will not be painted include all chrome plated, polished stainless steel, anodized aluminum and bright aluminum treadplate. Each imperfection on the exterior metal surface will be removed or filled and then sanded smooth for a smooth appearance. All seams will be sealed before painting.
2. Chemical Cleaning and Treatment - The aluminum surfaces will be properly cleaned using a four (4)-phase, high pressure and high temperature acid etching system. All steel surfaces will be properly treated using a three (3)-phase, high temperature, cleaning/phosphatizing system. Surfaces are chemically cleaned to remove all dirt, oil, grease and metal oxides to ensure the subsequent coatings bond well. An ultra pure water final rinse of 25 parts per million solids or less, will be applied to final rinse all metal surfaces at the conclusion of the metal treatment process. This final rinse ensures all chemical residues are removed and that no minerals, (salts), from the water dry onto the metal surface and remain under the primers and topcoats. These salts can lead to blistering and under film corrosion.
3. Primer/Surfacer Coats - A minimum of two (2) mil dry, (.002), of two component urethane primer/surfacer will be hand applied to the chemically treated metal surfaces to provide a strong corrosion protective base coat and to smooth out the surface. The primer is a high solids and low VOC paint.
4. Hand Sanding to Ultra Fine Finish - The primer/surfacer coat is lightly sanded with mild abrasive paper to an ultra smooth finish. This hand finish process is critical to produce the smooth mirror like finish in the topcoat.
5. Sealer Primer Coat - A two (2) component sealer primer coat is applied over the sanded primer to again build toward the final smooth finish. This layer of primer sealer also gives additional corrosion protection.
6. Topcoat Paint - Two (2) coats of an automotive grade, two component acrylic urethane paint are applied to provide the lasting beauty and durability. The acrylic urethane topcoat contains a clear coat resin chemistry that creates the high gloss and depth of image. This type of topcoat provides the best resistance against acid rain and other more common chemicals.
7. Clearcoat - Two (2) coats of an automotive grade two (2) component urethane will be applied. Lap style doors will be clear coated to match the body. Roll-up doors will not be clear coated and the standard roll-up door warranty will apply.

A cyclic corrosion test, (General Motors test GM-9540), of 40 cycles will be required before making changes to the exterior coating process. Exterior coating systems, (excluding the undercarriage components), must achieve a 1/16 or less maximum creep from the scribe for aluminum and an 1/8 or less maximum creep from the scribe for galvanized after 40 cycles in the General Motors GM-9540 test.

Each batch of color topcoat, together with the finish painted vehicle, is tested for precise color match. Visual color match will be checked following ASTM D-1729, (American Standard Testing Methods), procedures using CIE, (International Commission on Illumination), D75 Northern Daylight light source. Instrumental color match will follow ASMT

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D-2244 procedures with a maximum delta E of 1.0 for whites, 1.4 for yellows, blues, greens and 1.5 for reds.

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

The cab, body, and the tiller cab will be painted red per direction.

Prior to reassembly and reinstallation of lights, handrails, door hardware and any miscellaneous body items, an isolation tape or gasket material will be used to prevent damage to the finish painted surfaces. A nylon washer will be installed under each acorn nut or metal screw that is fastened directly to a painted body surface.

**PAINT - ENVIRONMENTAL IMPACT**

Contractor will meet or exceed all current State (his) 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 must 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 means is used, it must 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 mechanically on a continual basis to keep the water clean.
- Paint wastes are disposed of in an environmentally safe manner. They are used as fuel in kilns used in the cement manufacturing process - thereby extracting energy from a waste material.
- Empty metal paint containers will be cleaned, crushed and recycled to recover the metal.
- Solvents used in clean-up operations will be collected, recycled on-site, or sent off-site for distillation and returned for reuse. Residue from the distillation operation will be used as fuel in off-site cement kilns.

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

**PAINT CHASSIS FRAME ASSEMBLY**

The chassis frame assembly will be painted black before the installation of the cab and body, and before installation of the engine and transmission assembly, air brake lines, electrical wire harnesses, etc. Components that are included with the chassis frame assembly will be painted black are frame rails, cross members, axles, suspension, steering gear, fuel tank, body substructure supports, miscellaneous mounting brackets, etc.

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**WINTER DELIVERY TRANSIT COATING**

All non-painted metal surfaces on the exterior of the vehicle will be sprayed with a corrosion protective coating provided by Carwell. The transit coating can be removed with soap and water. The transit coating is made of a linseed oil base and is biodegradable.

The underside non-painted metal surfaces will also be coated with a corrosion protective coating.

**PAINT, COMPARTMENT INTERIOR**

The compartment interior will be painted with a gray spatter finish for ease of cleaning and to make it easier to touch up scratches and nicks.

**AERIAL DEVICE PAINT COLOR**

The aerial device paint procedure will consist of a six (6) step finishing process as follows:

1. Manual Surface Preparation - All exposed metal surfaces on the aerial device structural components above the rotation point will be thoroughly cleaned and mechanically shot-blasted to remove metal impurities and prepare the aerial for painting.
2. Primer/Surfacer Coats - A two (2) component urethane primer/surfacer will be hand applied to the chemically treated metal surfaces to provide a strong corrosion protective base coat and to smooth out the surface. All seams will be caulked before painting.
3. Hand Sanding - The primer/surfacer coat will be lightly sanded to an ultra smooth finish.
4. Sealer Primer Coat - A two (2) component sealer primer coat will be applied over the sanded primer.
5. Topcoat Paint - Urethane base coat will be applied to opacity for correct color matching.
6. Clearcoat - Two (2) coats of an automotive grade two (2) component urethane will be applied.

Surfaces that will not be painted include all chrome plated, polished stainless steel, anodized aluminum and bright aluminum treadplate.

All buy out components, such as monitor, nozzle, gauges, etc. will be supplied as received from the vendor.

Removable items such as brackets will be removed and painted separately to ensure paint coverage behind all mounted items.

The aerial device (turntable and ladder sections) will be painted white using the six (6) step finishing process. The support structure, rotation motor, components below the rotation point, stabilizers, torque box, tiller axle and suspension, will be cleaned, caulked, primed and painted job color.

The tip of the ladder will be painted a contrasting color for high visibility.

**REFLECTIVE BAND**

A 10.00" white reflective band will be provided across the front of the vehicle and along the sides of the body.

The reflective band provided on the cab face will be at the headlight level.

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**CHEVRON STRIPING, REAR**

There will be alternating chevron striping located on the rear-facing vertical surface of the apparatus including the rear door and bumper. The tillerman cab will not be covered.

The colors will be red and fluorescent yellow diamond grade.

Each stripe will be 6.00" in width.

This will meet the requirements of NFPA 1901, 2009 edition, which states that 50% of the rear surface will be covered with chevron striping.

**REFLECTIVE STRIPE ON STABILIZERS**

There will be a 4.00" wide white reflective stripe provided on the forward and rear facing side of all aerial stabilizers.

**REFLECTIVE STRIPE, CAB DOORS**

A 6.00" x 16.00" white reflective stripe will be provided across the interior of each cab door. The stripe will be located approximately 1.00" up from the bottom, on the door panel.

This stripe will meet the NFPA 1901 requirement.

**REFLECTIVE STRIPE, TILLERMAN DOORS**

A 6.00" x 16.00" white reflective stripe will be provided across the interior of each tillerman's entry door. The stripe will be located approximately 1.00" up from the bottom, on the door panel.

This stripe will meet the NFPA 1901 requirement.

**LETTERING ON AERIAL BOOM**

There will be 6.00" to 7.00" high ruby red reflective vinyl lettering provided on a separate panel on each side of the base ladder section. The lettering will include a black outline. The panels will be painted white #10.

**ONE (1) YEAR MATERIAL AND WORKMANSHIP**

A Pierce basic apparatus limited warranty certificate, WA0008, is included with this proposal.

**FIFTY (50) YEAR STRUCTURAL INTEGRITY**

The Pierce custom chassis frame limited warranty certificate, WA0013, is included with this proposal.

**FRONT AXLE THREE (3) YEAR MATERIAL AND WORKMANSHIP WARRANTY**

The Pierce T-4 suspension limited warranty certificate, WA0050, is included with this proposal.

**REAR AXLE TWO (2) YEAR MATERIAL AND WORKMANSHIP WARRANTY**

A Meritor axle limited warranty certificate, WA0046, is included with this proposal.

**TEN (10) YEAR STRUCTURAL INTEGRITY**

The Pierce custom cab limited warranty certificate, WA0012, is included with this proposal.

**TEN (10) YEAR PRO-RATED PAINT AND CORROSION**

A Pierce cab limited pro-rated paint warranty certificate, WA0055, is included with this proposal.

*City of Santa Cruz Fire Dept.*  
*Proposal for One (1) 105' Tractor Drawn Aerial Ladder*  
Quote # 40315-11

**FIVE (5) YEAR MATERIAL AND WORKMANSHIP**

The Pierce Command Zone electronics limited warranty certificate, WA0014, is included with this proposal.

**TRANSMISSION WARRANTY**

The transmission will have a **five (5) year/unlimited mileage** warranty covering 100 percent parts and labor. The warranty will be provided by Allison Transmission.

Note: The transmission cooler is not covered under any extended warranty you may be getting on your Allison Transmission. Please review your Allison Transmission warranty for coverage limitations.

**TEN (10) YEAR STRUCTURAL INTEGRITY**

The Pierce apparatus body limited warranty certificate, WA0009, is included with this proposal.

**TWENTY (20) YEAR AERIAL DEVICE STRUCTURAL INTEGRITY WARRANTY**

The Pierce device limited warranty certificate, WA0052, is included with this proposal.

**FOUR (4) YEAR PRO-RATED PAINT AND CORROSION**

A Pierce aerial device limited pro-rated paint warranty certificate, WA0047, is included with this proposal.

**TWO (2) YEAR GENERATOR MATERIAL AND WORKMANSHIP WARRANTY**

A Harrison Hydra-Gen limited warranty certificate, WA0051, is included with this proposal.

**TEN (10) YEAR PRO-RATED PAINT AND CORROSION**

A Pierce body limited pro-rated paint warranty certificate, WA0057, is included with this proposal.

**THREE (3) YEAR EXTENDED**

The Pierce aerial tiller body and device limited warranty certificate, WA0160, is included with this proposal.

**THREE (3) YEAR EXTENDED**

The Pierce custom chassis warranty certificate, WA0070, is included with this proposal.

**ENGINE INSTALLATION CERTIFICATION**

The fire apparatus manufacturer will provide a certification, along with a letter from the engine manufacturer stating they approve of the engine installation in the bidder's chassis. The certification will be provided at the time of bid.

**CAB INTEGRITY CERTIFICATION**

Pierce manufacturing will provide a cab crash test certification with this proposal. The certification states that the cab must meet or exceed the requirements below:

- European Occupant Protection Standard ECE Regulation No.29
- SAE J2422 Cab Roof Strength Evaluation - Quasi-Static Loading Heavy Trucks
- SAE J2420 COE Frontal Strength Evaluation - Dynamic Loading Heavy Trucks
- Roof Crush

*City of Santa Cruz Fire Dept.*  
*Proposal for One (1) 105' Tractor Drawn Aerial Ladder*  
Quote # 40315-11

The cab will be subjected to a roof crush force of 100,000 lb. This value will be 450 percent of the ECE 29 criteria, which must be equivalent to the front axle rating up to a maximum of ten (10) metric tons.

- Side Impact

The cab will be subjected to dynamic preload with a 13,275-lb moving barrier is slammed into the side of the cab at 5.50 mph, striking with an impact of 13,000 ft-lb of energy. This test will closely represent the forces a cab will see in a rollover incident.

- Frontal Impact

The cab will withstand a frontal force produced from 65,200 ft-lb of energy using a swing-bob type platen.

The same cab will withstand all tests without any measurable intrusion into the survival space of the occupant area.

**CAB DOOR DURABILITY CERTIFICATION**

Robust cab doors help protect occupants. Cab doors will survive a 200,000 cycle door slam test where the slamming force exceeds 20 G's of deceleration. The bidder will certify that the sample doors similar to those provided on the apparatus have been tested and have met these criteria without structural damage, latch malfunction, or significant component wear.

**WINDSHIELD WIPER DURABILITY CERTIFICATION**

Visibility during inclement weather is essential to safe apparatus performance. Windshield wipers will survive a 3 million cycle durability test in accordance with section 6.2 of SAE J198 *Windshield Wiper Systems - Trucks, Buses and Multipurpose Vehicles*. The bidder will certify that the wiper system design has been tested and that the wiper system has met these criteria.

**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.

**SEAT BELT ANCHOR STRENGTH**

Seat belt attachment strength is regulated by Federal Motor Vehicle Safety Standards and should be validated through testing. Each seat belt anchor design will withstand 3000 lb of pull on both the lap and shoulder belt in accordance with FMVSS 571.210 Seat Belt Assembly Anchorages. The bidder will certify that each anchor design was pull tested to the required force and met the appropriate criteria.

**SEAT MOUNTING STRENGTH**

Seat attachment strength is regulated by Federal Motor Vehicle Safety Standards and should be validated through testing. Each seat mounting design will be tested to withstand 20 G's of force in accordance with FMVSS 571.207 Seating Systems. The bidder will certify that each seat mount and cab structure design was pull tested to the required force and met the appropriate criteria.

*City of Santa Cruz Fire Dept.*  
*Proposal for One (1) 105' Tractor Drawn Aerial Ladder*  
Quote # 40315-11

**CAB DEFROSTER CERTIFICATION**

Visibility during inclement weather is essential to safe apparatus performance. The defroster system will clear the required windshield zones in accordance with SAE J381 Windshield Defrosting Systems Test Procedure And Performance Requirements - Trucks, Buses, And Multipurpose Vehicles. The bidder will certify that the defrost system design has been tested in a cold chamber and passes the SAE J381 criteria.

**CAB HEATER CERTIFICATION**

Good cab heat performance and regulation provides a more effective working environment for personnel, whether in-transit, or at a scene. The cab heaters will warm the cab 77 F from a cold-soak, within 30 minutes when tested using the coolant supply methods found in SAE J381. The bidder will certify that a substantially similar cab has been tested and has met these criteria.

# NATIONWIDE TILER USER LIST

Ordered Date	Customer Name	Chief Name	Address Line 1	City	ST	Postal Code	Prefix	Phone Number
	8-10 YEARS AGO							
3/30/2000	AETNA HOSE, HOOK AND LADDER CO		MAIN ST	NEWARK	DE	19702	302	2506244
3/30/2000	ALAMEDA COUNTY FIRE DEPARTMENT		1430 164TH AVE	SAN LEANDRO	CA	94578		
4/28/2000	ALBANY CITY OF	WARREN ABRIEL	ROOM 202, CITY HALL	ALBANY	NY	12207	518	4528656
4/28/2000	ALBANY CITY OF	WARREN ABRIEL	ROOM 202, CITY HALL	ALBANY	NY	12207	518	4477879
6/22/2000	ALEXANDRIA CITY OF	JAMES GOWER	900 SECOND STREET	ALEXANDRIA	VA	22314		
6/22/2000	ALHAMBRA FIRE DEPARTMENT		ATTN JOHN EMMAS	ALHAMBRA	CA	91801	626	5705190
6/29/2000	ANNAPOLIS CITY OF	CHARLES CLARK	93 MAIN STREET	ANNAPOLIS	MD	21401	410	2637975
11/30/2000	ARCADIA FD		710 S SANTA ANITA AVE	ARCADIA	CA	91007	626	5745134
11/30/2000	BAKERSFIELD CITY FIRE DEPARTMENT	ADAMSON, JOHN	2101 H STREET	BAKERSFIELD	CA	93301	661	6318418
9/30/2001	BAKERSFIELD CITY FIRE DEPARTMENT	GARY HUTTON	2101 H STREET	BAKERSFIELD	CA	93301	661	3283650
1/21/2002	BAKERSFIELD CITY FIRE DEPARTMENT	GARY HUTTON	2101 H STREET	BAKERSFIELD	CA	93301	661	3263650
1/28/2002	BALTIMORE FIRE DEPT	DONALD HEINBUCH	15 S. EUTAW STREET	BALTIMORE	MD	21201	410	3963092
3/19/2002	BALTIMORE FIRE DEPT	DONALD HEINBUCH	15 S. EUTAW STREET	BALTIMORE	MD	21201	410	3963092
8/31/2002	BALTIMORE FIRE DEPT	DONALD HEINBUCH	15 S. EUTAW STREET	BALTIMORE	MD	21201	410	3963092
11/30/2002	BALTIMORE FIRE DEPT	DONALD HEINBUCH	15 S. EUTAW STREET	BALTIMORE	MD	21201	410	3963092
12/23/2002	BERKELEY FIRE DEPARTMENT	DEBRA PRYOR	PO BOX 700	BERKELEY	CA	94704	510	9813473
2/27/2003	BERKELEY FIRE DEPARTMENT	DEBRA PRYOR	PO BOX 700	BERKELEY	CA	94704	510	9813473
2/28/2003	BEVERLY HILLS CITY OF	JOHN KARNS	445 NORTH REXFORD DR	BEVERLY HILLS	CA	90210	310	2812743
9/25/2003	BREA F.D.		# 1 CIVIC CTR CIRCLE	BREA	CA	92821	714	6716364
11/18/2003	BUCKEYE FIRE DEPT	SCOTT ROUNDS	404 SOUTH MILLER RD	BUCKEYE	AZ	85326	623	3864691
3/5/2004	CITY OF ATLANTIC CITY	ROBERT MACREADY	SUITE 420A 2715 ATLANTIC AVE	ATLANTIC CITY	NJ	08401	609	3475654
3/5/2004	CITY OF CHESAPEAKE		956 GREENBRIAR PARKWAY	CHESAPEAKE	VA	23320	757	8804425
3/5/2004	CITY OF CHESAPEAKE FD	STEVEN BEST	304 ALBEMARLE DR	CHESAPEAKE	VA	23322	757	3826297
3/9/2004	CITY OF CLEARWATER FIRE DEPARTMENT	RICHARD RILEY	610 FRANKLIN STREET	CLEARWATER	FL	33756	727	2247365
5/28/2004	CITY OF HIGH POINT	MARTHA YOUNTS	434 SOUTH ELM STREET	HIGH POINT	NC	28280	336	8833358
5/28/2004	CITY OF SAN LEANDRO		835 E 14TH STREET, SUITE 200	SAN LEANDRO	CA	94577	510	6183490
6/17/2004	CITY OF UNION CITY		3400B ALVARADO NILES BOULEVARD	UNION CITY	CA	94587	510	7603410
6/17/2004	CITY OF VIRGINIA BEACH	RANDY JOURNIGAN	927 SOUTH BIRDBECK ROAD	VIRGINIA BEACH	VA	23456	757	4376400
6/17/2004	CITY OF WILMINGTON	PAUL MAHONEY	800 FRENCH STREET	WILMINGTON	DE	19801-3537		
8/24/2004	CLAYTON CO FD	ALEX COHILLAS	7810 HWY 85	RIVERDALE	GA	30274		
8/24/2004	COSTA MESA FD	MIKE MORGAN	77 FAIR DR	COSTA MESA	CA	92628	714	7545106
8/31/2004	DETROIT FIRE DEPARTMENT	IVAN OZMAN	1400 ERSKINE STREET	DETROIT	MI	48207		
10/20/2004	DETROIT FIRE DEPARTMENT	IVAN OZMAN	1400 ERSKINE STREET	DETROIT	MI	48207		
12/31/2004	DOWNEY FIRE DEPARTMENT	DARREN MOON	12222 PARAMOUNT	DOWNEY	CA	90242	562	9047300
4/27/2005	EDEN VOLUNTEER FIRE COMPANY		1695 NEW HOLLAND AVE	LANCASTER	PA	17601	717	3975881
5/31/2005	EUGENE FIRE DEPT CITY OF	TAYLOR ROBERTSON	1705 W 2ND AVE	EUGENE	OR	97402	541	682-7100

# NATIONWIDE TILER USER LIST

6/23/2005	FLEET SERVICES DEPARTMENT	PHIL JOHNSTON	CITY OF LITTLE ROCK	LITTLE ROCK	AR	72209	501	9183760
9/9/2005	FLEET SERVICES DEPARTMENT	PHIL JOHNSTON	CITY OF LITTLE ROCK	LITTLE ROCK	AR	72209	501	9183760
12/28/2005	FORSYTH COUNTY FIRE DEPT	AVERY GRAVITT	3520 SETTINGDOWN ROAD	CUMMING	GA	30040	770	8888860
12/31/2005	FREDERICK COUNTY	STEVE LEATHERMAN	12 EAST CHURCH STREET	FREDERICK	MD	21702	301	6942073
1/31/2006	FREMONT FIRE DEPARTMENT	GEOFF LATENDRESE	3300 CAPITOL AVENUE, BUILDING B	FREMONT	CA	94537-5006	510	4944224
2/13/2006	FULLERTON CITY FIRE DEPT	TERRY STRINGHAM	312 EAST COMMONWEALTH AVE	FULLERTON	CA	92832	714	738-6512
3/31/2006	GARDEN GROVE CITY OF	RON MEISLAHN	11222 ACACIA PARKWAY	GARDEN GROVE	CA	92840	714	7415390
5/12/2006	GLENDALE CITY OF		ATTN: MIKE MATLOCK	GLENDALE	CA	91206	818	548-4029
5/12/2006	GLENDALE FIRE DEPT CITY OF		FIRE STAT #21 & ADMINISTRATION	GLENDALE	CA	91204-1206	818	548-4865
6/21/2006	GLENDALE FIRE DEPT CITY OF		FIRE STAT #21 & ADMINISTRATION	GLENDALE	CA	91204-1206	818	548-4865
8/8/2006	HOLLYWOOD FIRE RESCUE		24801 THREE NOTCH RD	HOLLYWOOD	MD	20636	571	2380866
8/29/2006	HONOLULU FD		636 SOUTH ST	HONOLULU	HI	96813	808	7237118
8/31/2006	HONOLULU FD		636 SOUTH ST	HONOLULU	HI	96813	808	7237118
9/29/2006	HUNTINGTON BEACH FIRE DEPT		17371 GOTHARD STREET	HUNTINGTON BEACH	CA	92647	714	5365461
9/29/2006	INDIANAPOLIS FD		2551 S BELMONT	INDIANAPOLIS	IN	46201	317	3276055
9/29/2006	JACKSONVILLE CITY OF	LARRY PETERSON	2581 COMMONWEALTH AVE	JACKSONVILLE	FL	32254	904	6307903
10/31/2006	JACKSONVILLE CITY OF	LARRY PETERSON	2581 COMMONWEALTH AVE	JACKSONVILLE	FL	32254	904	6307903
10/31/2006	JACKSONVILLE CITY OF	LARRY PETERSON	2581 COMMONWEALTH AVE	JACKSONVILLE	FL	32254	904	6307903
10/31/2006	JACKSONVILLE CITY OF	LARRY PETERSON	2581 COMMONWEALTH AVE	JACKSONVILLE	FL	32254	904	6307903
10/31/2006	KENT CITY OF	KEN WEATHERILL	24811 116TH AVE SE	KENT	WA	98031	253	8564431
11/29/2006	KERN COUNTY		5642 VICTOR ST	BAKERSFIELD	CA	93308	661	3917075

4-6 YEARS AGO

3/31/2007	LAPLATA VOLUNTEER FIRE DEPT		ROUTE 6	LAPLATA	MD	20646	310	9349201
4/12/2007	LAS VEGAS FIRE DEPARTMENT	DAVID WASHINGTON	ATTN AIMEE MILLER	LAS VEGAS	NV	89101		
4/19/2007	LAS VEGAS FIRE DEPARTMENT	DAVID WASHINGTON	ATTN AIMEE MILLER	LAS VEGAS	NV	89101		
4/24/2007	LONG BEACH, CITY FLEET SERV		ATTN LYNN - ACCTS PAYABLE	LONG BEACH	CA	90802	562	5701207
6/30/2007	MINNEAPOLIS CITY OF		1200 CURRIE AVE NORTH	MINNEAPOLIS	MN	54913	612	6732333
8/31/2007	MINNEAPOLIS CITY OF		1200 CURRIE AVE NORTH	MINNEAPOLIS	MN	54913	612	6732333
9/21/2007	MONTGOMERY COUNTY FIRE AND RESCUE	STEVE LAMPHIER	255 ROCKVILLE PIKE, SUITE 180	ROCKVILLE	MD	20850	240	7772494
9/30/2007	MONTGOMERY COUNTY FIRE AND RESCUE	STEVE LAMPHIER	255 ROCKVILLE PIKE, SUITE 180	ROCKVILLE	MD	20850	240	7772494
9/30/2007	MONTGOMERY COUNTY FIRE AND RESCUE	STEVE LAMPHIER	255 ROCKVILLE PIKE, SUITE 180	ROCKVILLE	MD	20850	240	7772494
9/30/2007	MONTGOMERY COUNTY FIRE AND RESCUE	STEVE LAMPHIER	255 ROCKVILLE PIKE, SUITE 180	ROCKVILLE	MD	20850	240	7772494
10/31/2007	MONTGOMERY COUNTY FIRE AND RESCUE	STEVE LAMPHIER	255 ROCKVILLE PIKE, SUITE 180	ROCKVILLE	MD	20850	240	7772494
10/31/2007	MONTGOMERY COUNTY FIRE AND RESCUE	STEVE LAMPHIER	255 ROCKVILLE PIKE, SUITE 180	ROCKVILLE	MD	20850	240	7772494
10/31/2007	MONTGOMERY COUNTY FIRE AND RESCUE	STEVE LAMPHIER	255 ROCKVILLE PIKE, SUITE 180	ROCKVILLE	MD	20850	240	7772494
11/19/2007	MONTGOMERY COUNTY FIRE AND RESCUE	STEVE LAMPHIER	255 ROCKVILLE PIKE, SUITE 180	ROCKVILLE	MD	20850	240	7772494
1/30/2008	MOUNTAIN VIEW CITY OF		500 CASTRO STREET SECOND FLOOR	MOUNTAIN VIEW	CA	94041	650	9036296
2/12/2008	NEW BEDFORD FIRE DEPARTMENT	PAUL LEGER	868 PLEASANT STREET	NEW BEDFORD	MA	02740	508	9916105
2/29/2008	NEWPORT BEACH FD		592 SUPERIOR AVE	NEWPORT BEACH	CA	92663	949	6443000

# NATIONWIDE TILER USER LIST

3/31/2008	NORTH HUDSON FIRE RESCUE	PETE GIUNCHINI	6:02 TONNELLE AVE	NORTH BERGEN	NJ	07047	201	3922113
4/8/2008	NORTH HUDSON FIRE RESCUE	PETE GIUNCHINI	6:02 TONNELLE AVE	NORTH BERGEN	NJ	07047	201	3922113
4/30/2008	NORTH HUDSON FIRE RESCUE	PETE GIUNCHINI	6:02 TONNELLE AVE	NORTH BERGEN	NJ	07047	201	3922113
4/30/2008	NORTH HUDSON REGIONAL FD		11 PORT IMPERIAL BLVD	WEST NEW YORK	NJ	07093	201	3922113
5/19/2008	OLYMPIA FD		100 EAST-SIDE ST NE	OLYMPIA	WA	98507	360	753-8471
6/26/2008	PASSAIC FIRE DEPARTMENT		11 HOPE AVENUE	PASSAIC	NJ	07055	973	3655687
7/30/2008	PLEASANT GROVE CITY CORP	MARC SANDERSON	110 S 100 EAST	PLEASANT GROVE	UT	84062	801	7969496
7/30/2008	POWAY FIRE DEPARTMENT	JON CAVAN	13050 COMMUNITY ROAD	POWAY	CA	92074-0789	858	6794341
8/5/2008	RALEIGH FD	BRYANT WOODALL	PO BOX 590	RALEIGH	NC	27610	919	2502815
8/8/2008	RALEIGH FIRE DEPT	PHIL WOODLEAF	5001 WESTERN BLVD	RALEIGH	NC	27602		
10/29/2008	RENO CITY	PAUL WAGNER	200 EVANS AVENUE	RENO	NV	89501	775	334-2300
12/5/2008	REVERE FIRE DEPARTMENT	DOHERTY, DANIEL	400 BROADWAY	REVERE	MA	02151		
12/10/2008	REVERE FIRE DEPARTMENT	GENE DOHERTY	400 BROADWAY	REVERE	MA	02151	781	2868365
12/24/2008	ROCKLIN FIRE DEPARTMENT	BILL MIKESSELL	4060 ROCKLIN ROAD	ROCKLIN	CA	95677	916	6255300
12/26/2008	SACRAMENTO METROPOLITAN FIRE DISTRICT		2101 HURLEY WAY	SACRAMENTO	CA	95825-3208	916	5684360
1/6/2009	SACRAMENTO METROPOLITAN FIRE DISTRICT		2101 HURLEY WAY	SACRAMENTO	CA	95825-3208	916	5684360
1/7/2009	SALT LAKE CITY FD		315 E 200 SOUTH	SALT LAKE CITY	UT	84114-5520	801	9659615
1/7/2009	SALT LAKE CITY FD		315 E 200 SOUTH	SALT LAKE CITY	UT	84114-5520	801	9659615
1/8/2009	SAN BERNARDINO FIRE DEPARTMENT	MIKE ALDER	200 EAST THIRD STREET	SAN BERNARDINO	CA	92410	909	3845279
2/20/2009	SAN BERNARDINO FIRE DEPARTMENT	MIKE ALDER	200 EAST THIRD STREET	SAN BERNARDINO	CA	92410	909	3845279
8/17/2009	SAN LUIS OBISPO CITY OF	TODD NEWMAN	2160 SANTA BARBARA AVE	SAN LUIS OBISPO	CA	93401	805	7817375
9/22/2009	SAN MARCOS FIRE DEPT (CA)		1 CIVIC CENTER DRIVE	SAN MARCOS	CA	92069	760	7441050
9/23/2009	SEATTLE CITY OF		301 2ND AVE S	SEATTLE	WA	98104	206	3861400
10/21/2009	SEATTLE CITY OF		301 2ND AVE S	SEATTLE	WA	98104	206	3861400
11/5/2009	SEATTLE CITY OF		301 2ND AVE S	SEATTLE	WA	98104	206	3861400
11/30/2009	SEATTLE CITY OF		301 2ND AVE S	SEATTLE	WA	98104	206	3861400
12/18/2009	SPOKANE CITY OF	ART NICHOLS	44 W RIVERSIDE	SPOKANE	WA	99207	509	6257160
12/31/2009	ST. MATTHEWS FIRE PROTECTION DISTRICT	WILLIAM SENG	240 SEARS AVENUE	LOUISVILLE	KY	40207	502	8937825

0-1 YEAR AGO

2/19/2010	STOCKTON FIRE DEPARTMENT	KIM OLSON	425 N EL DORADO STREET	STOCKTON	CA	95202-1951	209	9378552
2/19/2010	TAMPA CITY OF	FRANK PFISTER	808 E ZAK ST	TAMPA	FL	33602	813	2747011
3/16/2010	TORRANCE FIRE DEPARTMENT		1701 CRENSHAW BLVD	TORRANCE	CA	905013312	310	7817011
3/31/2010	UNION COLONY FRA	JEFF ODELL	919 7TH STREET	GREELEY	CO	80631	970	3509501
5/31/2010	UPLAND FD CITY OF	MICHAEL ANTONUCCI	475 NORTH 2ND ST	UPLAND	CA	91786	909	9314180
6/30/2010	VILLE DE QUEBEC		50 MARIE DE L INCARNATION	QUEBEC	QC	G1N 3E7	418	6416411
6/30/2010	WEST SACRAMENTO FIRE DEPARTMENT	JAMES MEDICH	2040 LAKE WASHINGTON BLVD	WEST SACRAMENTO	CA	95691	916	6174608

**WEIGHT REVIEW ESTIMATE**

Job # 217

Reviewed By: RGO

Date Reviewed: 3/14/11

The following are the estimated fully loaded weights including all people, water/foam, hose, and NFPA equipment allowances:

	<u>Front Axle</u>	<u>Rear Axle</u>	<u>Tiller Axle</u>
Rating	22,800 LB	31,000 LB	22,800 LB
Total Weight	17,625 LB	28,059 LB	21,225 LB
Reserve Capacity	5,175 LB	2,941 LB	1,575 LB
Distribution	26%	42%	32%

3/14/2011

**Pierce Manufacturing Inc.  
City of Santa Cruz, CA.  
Bid: One (1) Pierce™ Arrow  
Bid Date: 3-15-11**

**4.2 Insurance**

**4.2.2 Limits**

**Take Exception in Its entirety**

**Replace with:**

Pierce Manufacturing Inc. maintains the following coverage:

Commercial General Liability Occurrence Form LX9641 (10-05):

\$1,000,000 Each occurrence Bodily Injury and Property Damage Liability

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

\$5,000,000 General Aggregate

\$1,000,000 Personal and Advertising Injury

Pierce Manufacturing, Inc. maintains the following Commercial Automobile Liability Coverage (ISO Form CA0001 (10 01) Symbol 1 (Any Auto) :

\$1,000,000 Each Accident Bodily Injury and Property Damage Combined Single Limit

Pierce Manufacturing Inc also maintains the following Commercial Umbrella Liability policy to meet the required limits:

Commercial Umbrella Liability Coverage Occurrence Form LX9799 (10-05):

Each Occurrence: \$25,000,000

Products & Completed Operations Aggregate: \$25,000,000

General Aggregate: \$25,000,000

**4.2.3 Additional Insured Endorsement**

**Take Exception to:**

An endorsement on both the Commercial General Liability Insurance and Commercial Automobile Liability Insurance policies shall be provided naming the City of Santa Cruz, its officers, agents and employees as an additional insured

**Replace with:**

City of Santa Cruz, its officers, agents and employees will be included as Additional Insured-Designated Person or Organization for General Liability and Commercial Automobile Liability Insurance when required by written contract.





City of Santa Cruz, CA  
Melissa Schultz to: Cherry Sewell

02/25/2011 03:01 PM

Use Cert D



Insurance Review.doc

Melissa Schultz  
Risk Analyst  
2307 Oregon St (54902)  
P.O. Box 2566  
Oshkosh WI 54903-2566  
Office: 920-235-9151 ext: 22897  
Mobile: 920-410-0200  
Fax: 920-233-9459

To: Rich Myers,  
Cc:  
Bcc:  
Subject: City of Santa Cruz

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I reviewed the specs and have the following:

1. take exception to the performance bond requirement and include the following paragraph:  
"Notwithstanding any document or assertion to the contrary, any surety bond related to the sale of a vehicle will apply only to the Three Year Basic 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.
2. unless golden state is alright with the delayed payment terms, take exception to their payment terms and state payment is due upon delivery (unless they choose a prepayment option)

Insurance exceptions will be forthcoming.

Sincerely,

Cherry L. Sewell  
Sr. Contract Administrator  
Pierce Manufacturing, Inc.  
An Oshkosh Corporation Company  
Ph: 920-832-4433  
E: csewell@piercemfg.com

"If it is not right do not do it; If it is not true do not say it."  
-Marcus Aurelius-



A Public Service Agency

Lic. No.: 16864

**VEHICLE MANUFACTURER**

Date Issued: **JUN 1, 2009**

Expiration Date: **MAY 31, 2011**

This license is valid for the period indicated above. This license shall be signed and displayed in the office at the address shown below, pursuant to the California Vehicle Code.

\* ISSUED TO VALID ONLY AT **PIERCE 2600 AMERICAN DR APPLETON**



A/C

License must be renewed prior to expiration date pursuant to California Vehicle Code Sections 11105, 11105.6, 11204, 11410, 11608, 11620 or 11717.

FORM CONTROL NO. 1012246

\_\_\_\_\_  
SIGNATURE OF LICENSEE



A Public Service Agency

**VEHICLE DEALER**

Lic. No.: **11438**

Date Issued: **MAR 1, 2011**

Expiration Date: **FEB 28, 2013**

This license is valid for the period indicated above. This license shall be signed and displayed in the office at the address shown below, pursuant to the California Vehicle Code.

ISSUED **GOLDEN STATE FIRE APPARATUS**  
TO **1237 DOKER DR**  
VALID **MODESTO CA 95351**  
ONLY AT

**A/C NEW**

License must be renewed prior to expiration date pursuant to California Vehicle Code Sections 11105, 11105.6, 11204, 11410, 11508, 11620 or 11717.

FORM CONTROL NO **1043742**

*Maria A. Wright*  
SIGNATURE OF LICENSEE



Decide with Confidence

# Comprehensive Report

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ATTN: [wdean@oshkoshcorp.com](mailto:wdean@oshkoshcorp.com)

Report Printed: AUG 20 2010

## Overview

### BUSINESS SUMMARY

**OSHKOSH CORPORATION**  
2307 Oregon St  
Oshkosh, WI 54902

D&B D-U-N-S Number: 00-607-0445

<p><b>D&amp;B's Credit Limit Recommendation</b> How much credit should you extend?</p> <p><a href="#">Learn More</a> <a href="#">View Now</a></p>
<p><b>Payment Trends Profile</b> Payment trends and industry benchmarks</p> <p><a href="#">Jump to Payment Trends</a></p>
<p><b>Enhanced Financial Stress Score</b> Provides a 26% predictive boost in performance over original score</p> <p><a href="#">More Info</a></p>
<p><b>New and Improved Commercial Credit Score</b> 8.0 (available on DNB.com on August 9, 2010) Integrates consumer credit insight for a 9% predictive lift on small businesses</p> <p><a href="#">More Info</a></p>

This is a headquarters location.  
Branch(es) or division(s) exist.

**Mailing address:** PO Box 2566  
Oshkosh, WI 54903

**Web site:** [www.oshkoshtruckcorporation.com](http://www.oshkoshtruckcorporation.com)

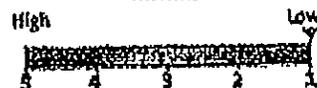
**Telephone:** 920 235-9151

**Fax:** 920 233-9670

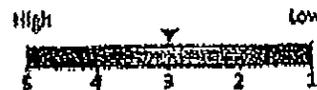
**Chief executive:** ROBERT G BOHN, CHB-CEO+

**Stock symbol:** OSK

**Credit Score Class: 1**  
Low risk of severe payment delinquency over next 12 months



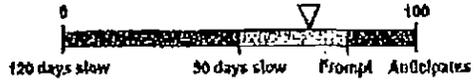
**Financial Stress Class: 3**



**D&B PAYDEX®: 69**

Year started: 1917  
 Employes: 14,000 (1,300 here)  
 Financial statement date: JUN 30 2010  
 Sales F: \$5,295,200,000  
 Net worth: \$514,100,000  
 History: CLEAR  
 Financing: SECURED  
 Financial condition: FAIR  
 SIC: 3711  
 3531  
 3715

When weighted by dollar amount, payments to suppliers average 16 days beyond terms.



D&B Rating: 5A3  
 Financial strength: 5A is \$50 million and over.  
 Composite credit appraisal: 3 is fair.

Line of business: Mfg heavy-duty specialized trucks



**EXECUTIVE SUMMARY**

The Financial Stress Class of 3 for this company shows that firms with this class had a failure rate of 0.24% (24 per 10,000), which is lower than the average of businesses in D&B's database

The Credit Score class of 1 for this company shows that 6.0% of firms with this class paid one or more bills severely delinquent, which is lower than the average of businesses in D&B's database.

Financial Information from a fiscal consolidated statement dated 09/30/09 is included.

Predictive Scores	This Business	Comments
Financial Stress Class	3	Failure Rate lower than the average of businesses in D&B's database
Financial Stress Score	1483	Highest Risk: 1,001; Lowest Risk: 1,875
Credit Score Class	1	Probability of Severely Delinquent Payment is lower than the average of businesses in D&B's database
Credit Score	572	Highest Risk: 101; Lowest Risk: 670

**Other Key Indicators**

PAYDEX Scores	16 days beyond terms	Pays more slowly than the average for its industry of 11 days beyond terms
Industry Median	11 days beyond terms	
Present management control	93 years	
UCC Filings	UCC filing(s) are reported for this business	
Public Filings	Evidence of open suits only in the D&B database	
Financing	Is secured	
History	Is clear	
Special Events	Are reported for this business	

**CREDIT CAPACITY SUMMARY**

D&B Rating: 5A3

Financial strength: 5A indicates \$50 million and over.  
Composite credit appraisal: 3 is fair.

This credit rating was assigned because of D&B's assessment of the company's financial ratios and its cash flow. For more information, see the D&B Rating Key.

Sales:	\$5,295,200,000	Payment Activity:	(based on 378 experiences)
# of Employees Total:	14,000 (1,300 here)		
As of 09/30/09		Average High Credit:	\$280,502
Worth:	\$514,100,000	Highest Credit:	\$20,000,000
Working Capital:	\$484,600,000	Total Highest Credit:	\$89,512,900

Note: The Worth amount in this section may have been adjusted by D&B to reflect typical deductions, such as certain intangible assets.

#### SPECIAL EVENTS

08/18/2010

**ANNOUNCED OFFICER CHANGE:** According to published reports, Oshkosh Corporation announced that Mike Wuest, Executive Vice President and President of the Commercial segment, is retiring. Frank Nerenhausen is being promoted to Executive Vice President and President of the Commercial segment, effective August 23.

08/09/2010

**EARNINGS UPDATE:** According to published reports, comparative operating results for the 9 months ended June 30, 2010: Sales of \$7,737,300,000, Net Income of \$673,400,000; compared to Sales of \$3,781,000,000, Net Income of (\$1,239,800,000) for the comparable period in the prior year.

05/29/2010

**STOCK/BOND ISSUANCE/REDEMPTION/REPURCHASE:** According to published reports, Oshkosh Corporation announced that it has completed its previously announced offer to exchange all of its outstanding \$250,000,000 aggregate principal amount of 8 1/4% Senior Notes due 2017 and \$250,000,000 aggregate principal amount of 8 1/2% Senior Notes due 2020 for new 8 1/4% Senior Notes due 2017 and 8 1/2% Senior Notes due 2020 that have been registered under the Securities Act of 1933. All of the Senior Notes due 2017 and Senior Notes due 2020 were tendered in the exchange offer, which expired on May 24, 2010.

05/03/2010

**EARNINGS UPDATE:** According to published reports, comparative operating results for the 6 months ended March 31, 2010: Sales of \$5,298,300,000, Net Income of \$462,200,000; compared to Sales of \$2,566,000,000, Net Income of \$1,213,000,000 for the comparable period in the prior year.

04/27/2010

**STOCK/BOND ISSUANCE/REDEMPTION/REPURCHASE:** According to published reports, Oshkosh Corporation announced that it has commenced an offer to exchange all of its outstanding 8% Senior Notes due 2017 and 8% Senior Notes due 2020 for new 8% Senior Notes due 2017 and 8% Senior Notes due 2020 that have been registered under the Securities Act of 1933, as amended. The exchange offer will expire on May 24, 2010, unless extended by Oshkosh Corporation. Valid tenders of the Original Notes must be made, and may be withdrawn at any time, before the exchange offer expires.

03/04/2010

**STOCK/BOND ISSUANCE/REDEMPTION/REPURCHASE:** According to published reports, Oshkosh Corporation announced that it successfully completed its previously announced private offering of \$250 million of senior notes due 2017 and \$250 million of senior notes due 2020 to qualified institutional buyers pursuant to Rule 144A under the Securities Act of 1933 and in offshore transactions pursuant to Regulation S under the Securities Act. The senior notes due 2017 were issued at par with an interest rate of 8%, and the senior notes due 2020 were issued at par with an interest rate of 8%.

02/27/2010

**STOCK/BOND ISSUANCE/REDEMPTION/REPURCHASE:** According to published reports, Oshkosh Corporation announced that it priced \$250 million of senior notes due 2017 and \$250 million of senior notes due 2020 in a private offering to qualified institutional buyers pursuant to Rule 144A under the Securities Act of 1933 and in offshore transactions pursuant to Regulation S under the Securities Act. The senior notes due 2017 were priced at par with an interest rate of 8 1/4%, and the senior notes due 2020 were priced at par with an interest rate of 8 1/2%. The offering is expected to close on March 3, 2010. The Company expects to receive approximately \$489.5

million in proceeds from the sale of the notes, after deducting underwriting discounts and commissions and estimated expenses of the offering.

02/23/2010

**STOCK/BOND ISSUANCE/REDEMPTION/REPURCHASE:** According to published reports, Oshkosh Corporation announced that it intends, subject to market and other conditions, to sell up to \$500 million aggregate principal amount of its senior notes due 2017 and senior notes due 2020 in a private offering to qualified institutional buyers pursuant to Rule 144A under the Securities Act of 1933 and in offshore transactions pursuant to Regulation S under the Securities Act. The notes will be unsecured and will be guaranteed by all of the Company's subsidiaries that from time to time guarantee obligations under the Company's senior credit facility.

02/10/2010

**GOVERNMENT CONTRACT:** According to published reports, Oshkosh Corporation announced that its Defense Division received a delivery order to an existing contract valued at more than \$158 million from the U.S. Marine Corps Systems Command for more than 400 Logistics Vehicle System Replacements. The order brings the total number of LVSRs under contract to nearly 1,300. With this latest order, LVSR production and delivery is extended into July 2011.

02/08/2010

**GOVERNMENT CONTRACT:** According to published reports, Oshkosh Corporation announced that its Defense Division received an award valued at more than \$84 million from the U.S. Army Tank-automotive and Armaments Command Life Cycle Management Command to supply more than 625 add-on armor kits for the MRAP All Terrain Vehicle. Under the delivery order, Oshkosh will provide explosively formed penetrator protection kits for the M-ATV. Delivery of the kits is expected to begin in April 2010 and be completed by the end of August 2010. The Oshkosh-supplied kits will include EFP armor, base door armor and a door-assist mechanism. To date, Oshkosh has received awards valued at more than \$4 billion to deliver 6,619 M-ATVs, as well as spare parts kits and aftermarket in-theater support.

01/28/2010

**EARNINGS UPDATE:** According to published reports, comparative operating results for the 3 months ended December 31, 2009: Sales of \$2,434,100,000, Net Income of \$169,600,000; compared to Sales of \$1,328,700,000, Net Income of (\$20,800,000) for the comparable period in the prior year.

01/22/2010

**GOVERNMENT CONTRACT:** According to published reports, Oshkosh Corporation announced that its Defense Division received four awards valued at more than \$89 million from the Defense Logistics Agency to supply parts for the MRAP All Terrain Vehicle, Heavy Equipment Transporter and Heavy Expanded Mobility Tactical Truck. Under two delivery orders with the DLA, Oshkosh will supply M-ATV spare parts, including engines, transmissions, transfer cases and alternators. Work under the orders is expected to be completed by October 2010. Under two other delivery orders with the DLA, Oshkosh will supply 2,400 axle assemblies for the HEMTT A2 and A4 models and more than 430 engines for the HET. Work under these orders is expected to be completed by December 2010.

01/06/2010

**GOVERNMENT CONTRACT:** According to published reports, Oshkosh Corporation announced that its Defense Division has received a delivery order valued at more than \$290 million from the U.S. Army Tank-automotive and Armaments Command Life Cycle Management Command to deliver more than 725 next-generation Palletized Load Systems A1. The order was issued under the U.S. Army's existing Family of Heavy Tactical Vehicles contract. Production will begin in April 2010 and be completed in September 2011.

12/28/2009

**GOVERNMENT CONTRACT:** According to published reports, Oshkosh Defense, a division of Oshkosh Corporation announced that it has received an order valued at more than \$54 million from the U.S. Army Tank-automotive and Armaments Command Life Cycle Management Command to supply more than 970 add-on protection kits for the MRAP All-Terrain Vehicle. Under the delivery order, Oshkosh will supply more than 170 explosively formed penetrator kits through April 2010 and 800 rocket-propelled grenade kits through May 2010.

12/12/2009

**GOVERNMENT CONTRACT:** According to published reports, Oshkosh Corporation announced that it has received an additional \$175 million order from the U.S. Army Tank-automotive and Armaments Command Life Cycle Management Command to deliver 400 MRAP All Terrain Vehicles.

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| [Payments](#)

| [Public Filings](#)

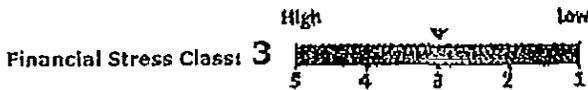
| [History & Operations](#)

| [Banking & Finance](#)

Scores  **EXCLUSIVE**

**FINANCIAL STRESS SUMMARY**

The Financial Stress Score Model predicts the likelihood of business failure which includes ceasing business without paying all creditors in full, reorganization or obtaining relief from creditors under state/federal law over the next 12 months. Scores were calculated using a statistically valid model derived from D&B's extensive data files.



**Probability of Failure**

Among Businesses with this Class: 0.24% (24 per 10,000)

**Financial Stress National Percentile: 54** (Highest Risk: 1; Lowest Risk: 100)

**Financial Stress Score: 1483** (Highest Risk: 1,001; Lowest Risk: 1,875)

Average failure rate of Businesses in D&B's Database: 0.48% (48 per 10,000)

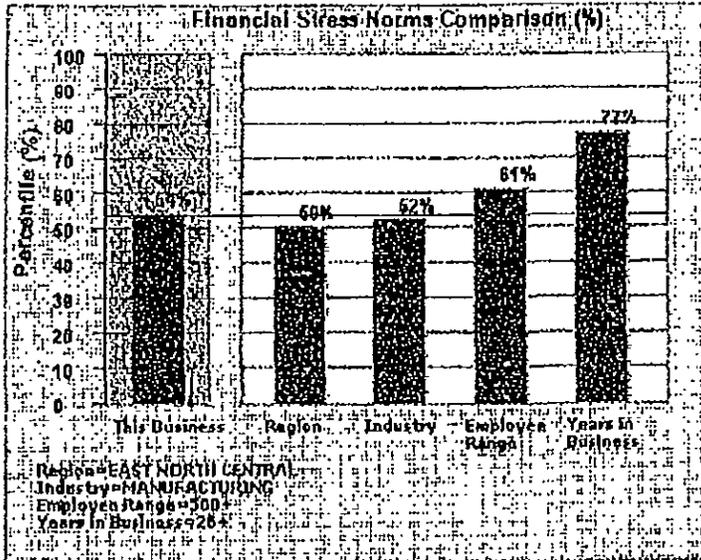
The Financial Stress Score of this business is based on the following factors:

- Higher risk rating assigned by National Debt Rating Agency.
- Low proportion of satisfactory payment experiences to total payment experiences.
- High proportion of slow payment experiences to total number of payment experiences.
- UCC Filings reported.
- High number of Inquiries to D&B over last 12 months.

**Notes:**

- The Financial Stress Class indicates that this firm shares some of the same business and financial characteristics of other companies with this classification. It does not mean the firm will necessarily experience financial stress.
- The probability of failure shows the percentage of firms in a given percentile that discontinue operations with loss to creditors. The average probability of failure is based on businesses in D&B's database and is provided for comparative purposes.
- The Financial Stress National Percentile reflects the relative ranking of a company among all scorable companies in D&B's file.
- The Financial Stress Score offers a more precise measure of the level of risk than the Class and Percentile. It is especially helpful to customers using a scorecard approach to determining overall business performance.

Norms	National %
This Business	54
Region: EAST NORTH CENTRAL	50
Industry: MANUFACTURING	52
Employee Range: 500+	61
Years In Business: 26+	77

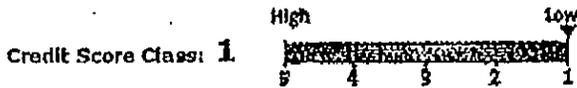


This business has a Financial Stress Percentile that shows:

- Lower risk than other companies in the same region.
- Lower risk than other companies in the same industry.
- Higher risk than other companies in the same employee size range.
- Higher risk than other companies with a comparable number of years in business.

**CREDIT SCORE CLASS SUMMARY**

The Commercial Credit Score predicts the likelihood that a company will pay its bills in a severely delinquent manner (90 days or more past terms), obtain legal relief from creditors or cease operations without paying all creditors in full over the next 12 months. Scores are calculated using a statistically valid model derived from D&B's extensive data files.



Low risk of severe payment delinquency over next 12 months.

**Incidence of Delinquent Payment**

Among Companies with this Class: 6.00%  
 Average Compared to Businesses in D&B's Database: 23.50%

Credit Score Percentile: **100** (Highest Risk: 1; Lowest Risk: 100)

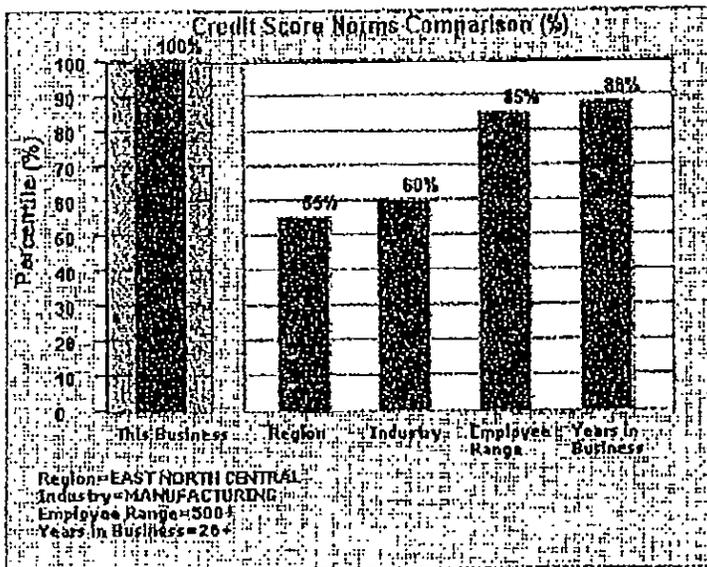
Credit Score: **572** (Highest Risk: 101; Lowest Risk: 670)

The Credit Score of this business is based on the following factors:

- Most recent amount past due.
- Composite credit appraisal is rated fair.
- Low proportion of satisfactory payment experiences to total payment experiences.
- Financial ratios indicate higher risk.

Notes:

- The Commercial Credit Score Risk Class indicates that this firm shares some of the same business and financial characteristics of other companies with this classification. It does not mean the firm will necessarily experience severe delinquency.
- The probability of delinquency shows the percentage of firms in a given percentile that are likely to pay creditors in a severely delinquent manner. The average probability of delinquency is based on businesses in D&B's database and is provided for comparative purposes.
- The Commercial Credit Score percentile reflects the relative ranking of a firm among all scorable companies in D&B's file.
- The Commercial Credit Score offers a more precise measure of the level of risk than the Risk Class and Percentile. It is especially helpful to customers using a scorecard approach to determining overall business performance.



Norms	National %
This Business	100
Region: EAST NORTH CENTRAL	55
Industry: MANUFACTURING	60
Employee Range: 500+	85
Years in Business: 26+	88

This business has a Credit Score Percentile that shows:

- Lower risk than other companies in the same region.
- Lower risk than other companies in the same industry.
- Lower risk than other companies in the same employee size range.
- Lower risk than other companies with a comparable number of years in business.

Jump to:

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## Payments

### PAYMENT TRENDS

Total Payment Experiences for the HQ in D&B's File:	378
Payments Within Terms: (not dollar weighted)	69%
Total Placed For Collection:	1
Average Highest Credit:	\$280,502

Largest High Credit:	\$20,000,000
Highest Now Owning:	\$9,000,000
Highest Past Due:	\$500,000

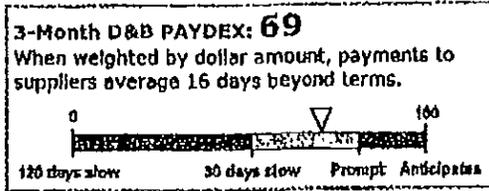
Current PAYDEX Is:	69	equal to 16 days beyond terms
Industry Median Is:	73	equal to 11 days beyond terms
Payment Trend currently is:		unchanged, compared to payments three months ago

Indications of slowness can be the result of dispute over merchandise, skipped invoices, etc. Accounts are sometimes placed for collection even though the existence or amount of the debt is disputed.

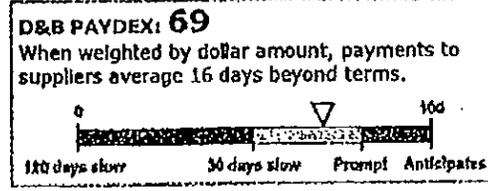
**PAYDEX Scores**

Shows the D&B PAYDEX scores as calculated on the most recent 3 months and up to 24 months of payment experiences.

The D&B PAYDEX is a unique, dollar weighted indicator of payment performance based on up to payment experiences as reported to D&B by trade references. A detailed explanation of how to read and interpret PAYDEX scores can be found at the end of this report.



Based on payments collected over last 3 months.



Based on up to 24 months of payments.

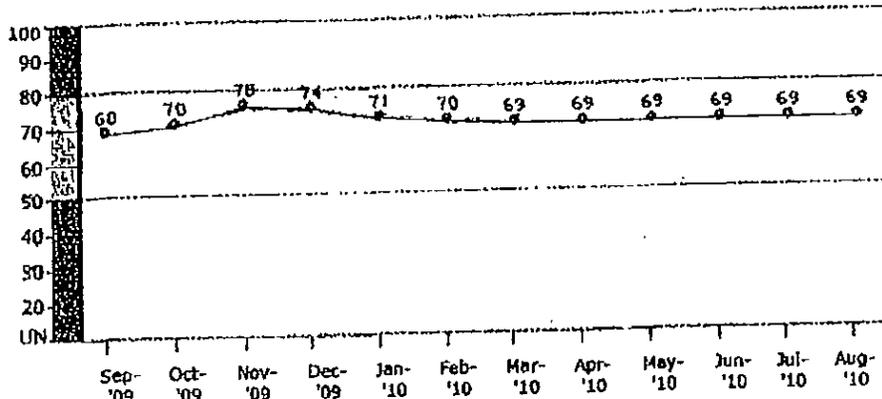
**PAYDEX Yearly Trend**

**PAYDEX Score Comparison to Industry**

	0/09	10/09	11/09	12/09	1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10
This Business	68	70	75	74	71	70	69	69	69	69	69	69
<b>Industry Quartiles</b>												
Upper	77			77			77			77		
Median	73			73			73			73		
Lower	67			68			68			67		

Shows the trend in D&B PAYDEX scoring over the past 12 months.

PAYDEX



Last 12 Months

Based on payments collected over the last 12 months.

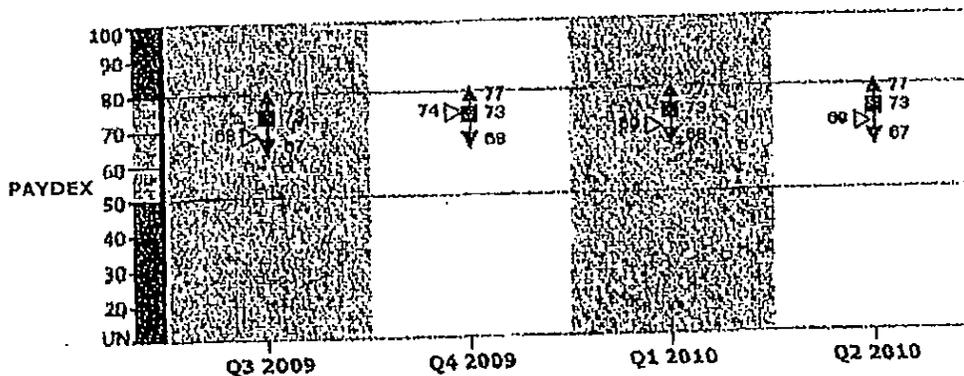
- Current PAYDEX for this Business is 69, or equal to 16 days beyond terms
- The 12-month high is 78, or equal to 8 days beyond terms
- The 12-month low is 60, or equal to 17 days beyond terms

**PAYDEX Comparison to Industry**

Shows PAYDEX scores of this Business compared to the Primary Industry from each of the last four quarters. The Primary Industry is Mfg heavy-duty specialized trucks, based on SIC code 3711.

**Quarterly PAYDEX Scores Comparison to Industry**

Previous Year					Current Year				
	9/08	12/08	3/09	6/09	9/09	12/09	3/10	6/10	
This Business	72	72	73	75	68	74	69	69	
<b>Industry Quartiles</b>									
Upper	77	77	77	77	77	77	77	77	
Median	73	73	73	73	73	73	73	73	
Lower	67	68	67	67	67	68	68	67	



Last 12 Months

Based on payments collected over the last 4 quarters.

<b>Score Comparison Key:</b>	▷ This Business	▲ Industry upper quartile
	■ Industry median	▼ Industry lower quartile

- Current PAYDEX for this Business is 69, or equal to 16 days beyond terms
- The present Industry median score is 73, or equal to 11 days beyond terms.

- Industry upper quartile represents the performance of the payers in the 75th percentile
- Industry lower quartile represents the performance of the payers in the 25th percentile

**Payment Habits**

For all payment experiences within a given amount of credit extended, shows the percent that this Business paid within terms. Provides number of experiences used to calculate the percentage, and the total dollar value of the credit extended.

\$ Credit Extended	% of Payments Within Terms	# Payment Experiences	\$ Total Dollar Amount
Over 100,000	0%	0	\$86,000,000
50,000-100,000	60%	23	\$1,625,000
15,000-49,999	60%	1	\$1,000,000
5,000-14,999	60%	52	\$362,500
1,000-4,999	60%	1	\$100,500
Under 1,000	100%	79	\$23,850

Based on up to 24 months of payments.

Payment experiences reflect how bills are met in relation to the terms granted. In some instances, payment beyond terms can be the result of disputes over merchandise, skipped invoices, etc.

**PAYMENT SUMMARY**

The Payment Summary section reflects payment information in D&B's file as of the date of this report.

There are 378 payment experiences in D&B's file, with 287 experiences reported during the last three month period.

Below is an overview of the company's dollar-weighted payments, segmented by its suppliers' primary industries:

	Total Rcv'd (#)	Total Dollar Amts (\$)	Largest High Credit (\$)	Within Terms (%)	Days Slow			
					<31	31-60	61-90	90>
<b>Top Industries:</b>								
Nonclassified	42	1,748,100	700,000	96	4	0	0	0
Whol industrial suppl	21	1,340,000	400,000	60	40	0	0	0

Whol industrial equip	19	6,347,500	2,000,000	46	42	1	0	11
Mfg car parts	15	10,936,150	5,000,000	61	34	5	0	0
Whol electrical equip	11	790,850	300,000	39	34	22	0	5
Trucking non-local	10	264,950	200,000	61	38	0	0	1
Short-trl busn credit	10	155,850	55,000	98	0	0	0	2
Mfg industrial gases	8	630,350	400,000	50	50	0	0	0
Whol metal	7	20,752,500	20,000,000	52	48	0	0	0
Whol electronic parts	7	887,000	500,000	99	0	1	0	0
Mfg ball/roll bearing	7	781,000	400,000	50	50	0	0	0
Telephone communctns	7	163,250	100,000	95	0	0	5	0
Whol service paper	6	520,500	200,000	97	3	0	0	0
Mfg relays/controls	5	5,600,100	3,000,000	91	0	9	0	0
Misc business credit	5	6,500	2,500	62	38	0	0	0
Whol const/mine equip	5	2,300	1,000	94	0	5	1	0
Help supply service	4	1,335,050	900,000	50	35	15	0	0
Mfg tires/inner tubes	4	387,500	300,000	21	78	0	1	0
Mfg molded rubber prd	4	101,750	75,000	38	25	37	0	0
Mfg plane engine/part	4	35,000	20,000	42	29	0	0	29
Radiotelephone commun	4	20,750	15,000	100	0	0	0	0
Whol chemicals	4	12,800	7,500	50	50	0	0	0
Security systems svcs	4	5,500	2,500	52	48	0	0	0
Management services	3	16,400,000	15,000,000	50	50	0	0	0
Mfg pumping equipment	3	1,215,000	1,000,000	50	1	49	0	0
Mfg computers	3	410,000	300,000	50	50	0	0	0
Arrange cargo transpt	3	101,250	100,000	51	49	0	0	0
Prepackaged software	3	35,000	20,000	60	0	11	29	0
Mfg fluid power pumps	2	9,000,000	8,000,000	94	6	0	0	0
Whol computers/softwr	2	1,002,500	1,000,000	100	0	0	0	0
Whol auto parts	2	302,500	300,000	100	0	0	0	0
Mfg misc wire prdts	2	200,000	100,000	75	25	0	0	0
Mfg cutting tool/part	2	26,000	25,000	52	48	0	0	0
Hvy const eqpt rental	2	30,000	25,000	100	0	0	0	0
Newspaper-print/publ	2	20,750	20,000	100	0	0	0	0
Mfg electric test prd	2	15,100	15,000	100	0	0	0	0
Misc equipment rental	2	17,500	10,000	79	0	21	0	0
Airport/airport svcs	2	7,500	5,000	0	100	0	0	0
Whol hardware	2	5,000	2,500	75	25	0	0	0
Misc publishing	2	5,000	2,500	50	50	0	0	0
Mfg cleaning products	2	3,000	2,500	100	0	0	0	0
Whol durable goods	2	3,000	2,500	50	50	0	0	0
Whol misc profsn eqpt	2	1,100	1,000	100	0	0	0	0
Mfg misc plastic prdt	2	1,000	750	100	0	0	0	0
Ret auto supplies	2	1,000	500	50	25	0	25	0
Computer maintenance	2	150	100	100	0	0	0	0
Ret mail-order house	2	150	100	33	67	0	0	0
Mfg alum sheet/foil	1	4,000,000	4,000,000	100	0	0	0	0
Scheduled air trans	1	2,000,000	2,000,000	100	0	0	0	0
Mfg guidance equip	1	400,000	400,000	50	50	0	0	0
Reg misc coml sector	1	250,000	250,000	100	0	0	0	0
Petroleum terminal	1	100,000	100,000	100	0	0	0	0

Mfg gray/ductile iron	1	100,000	100,000	50	50	0	0	0
Mfg photograph equip	1	95,000	95,000	100	0	0	0	0
Mfg motors/generators	1	95,000	95,000	50	50	0	0	0
Whol plumb/hydraulics	1	90,000	90,000	0	100	0	0	0
Ret groceries	1	80,000	80,000	100	0	0	0	0
Mfg plate work	1	45,000	45,000	50	0	0	50	0
Mfg construction mach	1	35,000	35,000	100	0	0	0	0
Mfg general machinery	1	35,000	35,000	100	0	0	0	0
Steel works	1	30,000	30,000	0	100	0	0	0
Passenger car rental	1	25,000	25,000	50	50	0	0	0
Mfg metal cut mach	1	25,000	25,000	50	50	0	0	0
Mfg manifold forms	1	20,000	20,000	0	50	0	50	0
Mfg industrial valves	1	20,000	20,000	50	50	0	0	0
Air courier service	1	15,000	15,000	50	0	0	0	50
Whol petroleum prdts	1	15,000	15,000	100	0	0	0	0
Whol construct materl	1	10,000	10,000	0	0	100	0	0
Mfg metal doors/trim	1	7,500	7,500	0	0	100	0	0
Periodical-print/publ	1	7,500	7,500	100	0	0	0	0
Mfg computer terminal	1	7,500	7,500	100	0	0	0	0
Books-print/publish	1	7,500	7,500	0	100	0	0	0
Mfg air/gas compress	1	7,500	7,500	100	0	0	0	0
Whol nondurable goods	1	7,500	7,500	0	100	0	0	0
Oil/gas field service	1	5,000	5,000	100	0	0	0	0
Mfg plastics/resins	1	5,000	5,000	100	0	0	0	0
Mfg welding apparatus	1	5,000	5,000	50	50	0	0	0
Whol printing paper	1	5,000	5,000	50	50	0	0	0
Mfg paint/allied prdt	1	5,000	5,000	50	50	0	0	0
Mfg valve/pipe fitting	1	2,500	2,500	100	0	0	0	0
Public finance	1	2,500	2,500	100	0	0	0	0
Mfg elect. connectors	1	2,500	2,500	100	0	0	0	0
Mfg combustion engine	1	1,000	1,000	0	0	0	100	0
Detective/guard svcs	1	1,000	1,000	0	100	0	0	0
Mfg metalworking mach	1	1,000	1,000	100	0	0	0	0
Mfg comrc'l light fixt	1	1,000	1,000	100	0	0	0	0
Coating/engrave svcs	1	1,000	1,000	0	100	0	0	0
Mfg metal stampings	1	1,000	1,000	100	0	0	0	0
Whol furniture	1	1,000	1,000	100	0	0	0	0
Mfg organic chemicals	1	500	500	100	0	0	0	0
Mfg glass products	1	500	500	0	0	100	0	0
Ret furniture	1	250	250	100	0	0	0	0
Whol office equipment	1	250	250	100	0	0	0	0
Mfg fluid meters	1	250	250	100	0	0	0	0
Mfg switchgear-boards	1	250	250	0	0	0	100	0
Mfg electric wire dev	1	250	250	100	0	0	0	0
Computer system desgn	1	100	100	100	0	0	0	0
Mfg signs/ad specitys	1	100	100	50	0	0	0	50
Ret boats	1	50	50	0	0	0	100	0
Truck rental/leasing	1	50	50	0	100	0	0	0
Mfg car bodies	1	50	50	100	0	0	0	0
Insurance agent	1	0	0	0	0	0	0	0

Photocopying service	1	0	0	0	0	0	0	0
Other payment categories:								
Cash experiences	46	12,450	2,500					
Payment record unknown	9	300,600	200,000					
Unfavorable comments	0	0	0					
Placed for collections:								
With D&B	0	0	0					
Other	1	N/A	0					
Total in D&B's file	378		20,000,000					

The highest Now Owes on file is \$9,000,000 The highest Past Due on file is \$500,000

Accounts are sometimes placed for collection even though the existence or amount of the debt is disputed. Indications of slowness can be result of dispute over merchandise, skipped invoices, etc.

**PAYMENT DETAILS**

Detailed payment history for this company

Date Reported (mm/yy)	Paying Record	High Credit (\$)	Now Owes (\$)	Past Due (\$)	Selling Terms	Last Sale Within (months)
08/10	Ppt	95,000	0			2-3 mos
	Ppt	100	50	0		1 mo
	Slow 20	5,000	2,500	1,000		1 mo
07/10	Disc-Ppt	2,500	250	0		1 mo
	Ppt	4,000,000	1,000,000	1,000		1 mo
	Ppt	500,000	300,000	0		1 mo
	Ppt	400,000	0	0		2-3 mos
	Ppt	200,000	100,000	0		1 mo
	Ppt	200,000	35,000	0		1 mo
	Ppt	80,000	10,000	0		1 mo
	Ppt	55,000	50,000	7,500		1 mo
	Ppt	45,000	0	0		6-12 mos
	Ppt	15,000	10,000	0		1 mo
	Ppt	10,000	500	250		1 mo
	Ppt	7,500	5,000	0	1 10 N45	1 mo
	Ppt	5,000	1,000	0		1 mo
	Ppt	5,000	0	0		2-3 mos
	Ppt	5,000	0	0	N30	6-12 mos
	Ppt	2,500	1,000	0	N30	1 mo
	Ppt	2,500	250	0		1 mo
	Ppt	1,000	50	50	N60	6-12 mos
	Ppt	1,000	0	0		6-12 mos
	Ppt	1,000	1,000	0	N30	1 mo
	Ppt	1,000	1,000	0		1 mo
	Ppt	750	0	0		1 mo
	Ppt	750	750	0		1 mo
	Ppt	500	500	0		1 mo
	Ppt	500	500	0		1 mo
	Ppt	500	0	0		1 mo
	Ppt	250	0	0		2-3 mos

Ppt	250	0	0		2-3 mos
Ppt	250	250	0		1 mo
Ppt	250	0	0		1 mo
Ppt	100	50	0		1 mo
Ppt	100	0	0		6-12 mos
Ppt	100	100	0		1 mo
Ppt	50	50	0	N30	1 mo
Ppt	50	0	0		2-3 mos
Ppt	50	0	0	N30	1 mo
Ppt	50	0	0	N30	6-12 mos
Disc-Slow 30	2,500	1,000	0		1 mo
Ppt-Slow 15	45,000	35,000	15,000		1 mo
Ppt-Slow 30	1,000,000	1,000,000	500,000		1 mo
Ppt-Slow 30	900,000	0	0		2-3 mos
Ppt-Slow 30	400,000	95,000	0		1 mo
Ppt-Slow 30	400,000	300,000	100,000		1 mo
Ppt-Slow 30	100,000	50,000	0		1 mo
Ppt-Slow 30	100,000	15,000	0		1 mo
Ppt-Slow 30	75,000	0	0		2-3 mos
Ppt-Slow 30	70,000	60,000	25,000		1 mo
Ppt-Slow 30	25,000	20,000	10,000		1 mo
Ppt-Slow 30	20,000	2,500	2,500	N30	1 mo
Ppt-Slow 30	5,000	1,000	0		1 mo
Ppt-Slow 30	5,000	2,500	0		1 mo
Ppt-Slow 30	5,000	5,000	1,000		1 mo
Ppt-Slow 30	2,500	750	0		1 mo
Ppt-Slow 30	2,500	250	50		1 mo
Ppt-Slow 30	1,000	50	50		1 mo
Ppt-Slow 30	1,000	750	0		1 mo
Ppt-Slow 30	500	500	0		1 mo
Ppt-Slow 60	1,000,000	600,000	200,000		1 mo
Ppt-Slow 60	10,000	1,000	1,000		1 mo
Ppt-Slow 90	7,500	1,000	1,000		2-3 mos
Ppt-Slow 90	1,000	0	0		6-12 mos
Ppt-Slow 120	15,000	0	0		2-3 mos
Ppt-Slow 180+	500	250	250		6-12 mos
Slow 15	1,000	0	0		4-5 mos
Slow 30	2,500	0	0		6-12 mos
Slow 30	1,000	1,000	1,000		1 mo
Slow 30	1,000	250	250		1 mo
Slow 30-60	40,000	15,000	10,000	N30	1 mo
Slow 60	10,000	2,500	2,500		4-5 mos
Slow 60	7,500	500	500		2-3 mos
Slow 60	1,000	0	0		6-12 mos
Slow 30-90	2,500	750	500		1 mo
Slow 90	1,000	250	250	N30	4-5 mos
Slow 90	250	0	0		6-12 mos
(078)	25,000	20,000	0		1 mo
Satisfactory. (079)	0			Sales COD	2-3 mos

(080) | 0 | Sales COD | 6-12 mos

Payment experiences reflect how bills are met in relation to the terms granted. In some instances payment beyond terms can be the result of disputes over merchandise, skipped invoices etc.

Each experience shown is from a separate supplier. Updated trade experiences replace those previously reported.

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## Public Filings

### PUBLIC FILINGS

The following data includes both open and closed filings found in D&B's database on the subject company.

Record Type	# of Records	Most Recent Filing Date
Bankruptcy Proceedings	0	-
Judgments	0	-
Liens	0	-
Suits	4	02/18/2010
UCC's	99	05/07/2010

The following Public Filing data is for information purposes only and is not the official record. Certified copies can only be obtained from the official source.

### SUITS

Status: Pending  
CASE NO.: 2010CV000385  
Plaintiff: BLAIRE JOAS  
Defendant: OSHKOSH CORPORATION AND OTHERS  
Where filed: OUTAGAMIE COUNTY CIRCUIT COURT, APPLETON, WI

Date status attained: 02/18/2010  
Date filed: 02/18/2010  
Latest Info Received: 02/23/2010

Status: Pending  
CASE NO.: 08CV000566  
Plaintiff: JARROD P ROBERTSON  
Defendant: OSHKOSH TRUCK CORPORATION AND OTHERS  
Where filed: OUTAGAMIE COUNTY CIRCUIT COURT, APPLETON, WI

Date status attained: 03/24/2008  
Date filed: 03/24/2008  
Latest Info Received: 04/01/2008

Status: Pending  
CASE NO.: 070902451  
Plaintiff: POTSKO, AMY  
Defendant: OSHKOSH TRUCK CORPORATION AND OTHERS  
Cause: PRODUCT LIABILITY  
Where filed: PHILADELPHIA COUNTY COMMON PLEAS COURT, PHILADELPHIA, PA

Date status attained: 09/21/2007  
Date filed: 09/21/2007  
Latest Info Received: 01/18/2010

**Suit amount:** \$14,999  
**Status:** Pending  
**FILING NO.:** 98-02958CC  
**Plaintiff:** TOM NEHL GMC TRUCK COMPANY  
**Defendant:** OSHKOSH TRUCK CORPORATION AND OTHERS  
**Where filed:** DUVAL COUNTY/COUNTY COURT, JACKSONVILLE, FL

**Date status attained:** 04/03/1998  
**Date filed:** 04/03/1998  
**Latest Info Collected:** 05/04/1998

If it is indicated that there are defendants other than the report subject, the lawsuit may be an action to clear title to property and does not necessarily imply a claim for money against the subject.

#### UCC FILINGS

**Collateral:** Computer equipment including proceeds and products - Leased Equipment including proceeds and products - Leased Communications equipment including proceeds and products  
**Type:** Original  
**Sec. party:** AT&T CAPITAL SERVICES, INC., HOFFMAN ESTATES, IL  
**Debtor:** OSHKOSH CORPORATION  
**Filing number:** 090003241212  
**Filed with:** SECRETARY OF STATE/UCC DIVISION, MADISON, WI  
**Date filed:** 03/16/2009  
**Latest Info Received:** 05/07/2009

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**Collateral:** General intangibles(s) including proceeds and products - Computer equipment including proceeds and products - Equipment including proceeds and products  
**Type:** Original  
**Sec. party:** HEWLETT-PACKARD FINANCIAL SERVICES COMPANY, MURRAY HILL, NJ  
**Debtor:** OSHKOSH CORPORATION and OTHERS  
**Filing number:** 080015327927  
**Filed with:** SECRETARY OF STATE/UCC DIVISION, MADISON, WI  
**Date filed:** 11/05/2008  
**Latest Info Received:** 12/08/2008

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**Collateral:** Equipment and proceeds - Computer equipment and proceeds - Communications equipment and proceeds  
**Type:** Original  
**Sec. party:** AT&T CAPITAL SERVICES, INC., HOFFMAN ESTATES, IL  
**Debtor:** OSHKOSH CORPORATION  
**Filing number:** 100001826926  
**Filed with:** SECRETARY OF STATE/UCC DIVISION, MADISON, WI  
**Date filed:** 02/15/2010  
**Latest Info Received:** 03/08/2010

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**Collateral:** Equipment and proceeds - Computer equipment and proceeds - Communications equipment and proceeds  
**Type:** Original  
**Sec. party:** AT&T CAPITAL SERVICES, INC., HOFFMAN ESTATES, IL  
**Debtor:** OSHKOSH CORPORATION  
**Filing number:** 090013699533  
**Filed with:** SECRETARY OF STATE/UCC DIVISION, MADISON, WI  
**Date filed:** 11/19/2009  
**Latest Info Received:** 12/07/2009

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**Collateral:** Equipment and proceeds - Computer equipment and proceeds -  
Communications equipment and proceeds  
**Type:** Original  
**Sec. party:** AT&T CAPITAL SERVICES, INC., HOFFMAN ESTATES, IL  
**Debtor:** OSHKOSH CORPORATION  
**Filing number:** 090011554420  
**Filed with:** SECRETARY OF STATE/UCC DIVISION, MADISON, WI  
**Date filed:** 09/28/2009  
**Latest Info Received:** 10/05/2009

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**Collateral:** Equipment and proceeds - Computer equipment and proceeds -  
Communications equipment and proceeds  
**Type:** Original  
**Sec. party:** AT&T CAPITAL SERVICES, INC., HOFFMAN ESTATES, IL  
**Debtor:** OSHKOSH CORPORATION  
**Filing number:** 090011554319  
**Filed with:** SECRETARY OF STATE/UCC DIVISION, MADISON, WI  
**Date filed:** 09/28/2009  
**Latest Info Received:** 10/05/2009

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**Collateral:** Equipment and proceeds  
**Type:** Original  
**Sec. party:** YALE MATERIALS HANDLING GB, GREEN BAY, WI  
**Debtor:** OSHKOSH CORP  
**Filing number:** 090011009213  
**Filed with:** SECRETARY OF STATE/UCC DIVISION, MADISON, WI  
**Date filed:** 09/14/2009  
**Latest Info Received:** 10/05/2009

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**Collateral:** Equipment and proceeds - Computer equipment and proceeds -  
Communications equipment and proceeds  
**Type:** Original  
**Sec. party:** AT&T CAPITAL SERVICES, INC., HOFFMAN ESTATES, IL  
**Debtor:** OSHKOSH CORPORATION  
**Filing number:** 090010339521  
**Filed with:** SECRETARY OF STATE/UCC DIVISION, MADISON, WI  
**Date filed:** 08/26/2009  
**Latest Info Received:** 09/08/2009

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**Collateral:** Equipment and proceeds - Computer equipment and proceeds -  
Communications equipment and proceeds  
**Type:** Original  
**Sec. party:** AT&T CAPITAL SERVICES, INC., HOFFMAN ESTATES, IL  
**Debtor:** OSHKOSH CORPORATION  
**Filing number:** 090004886935  
**Filed with:** SECRETARY OF STATE/UCC DIVISION, MADISON, WI  
**Date filed:** 04/21/2009  
**Latest Info Received:** 05/08/2009

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**Collateral:** Equipment and proceeds  
**Type:** Original  
**Sec. party:** MAZAK CORPORATION, FLORENCE, KY  
**Debtor:** OSHKOSH TRUCK CORPORATION  
**Filing number:** 060006973126  
**Filed with:** SECRETARY OF STATE/UCC DIVISION, MADISON, WI

Date filed: 05/08/2006  
Latest Info Received: 06/19/2006

There are additional UCC's in D&B's file on this company available by contacting 1-800-234-3867.

The public record items contained in this report may have been paid, terminated, vacated or released prior to the date this report was printed.

#### GOVERNMENT ACTIVITY

##### Activity summary

Borrower (Dir/Guar):	NO
Administrative debt:	YES
Contractor:	YES
Grantee:	NO
Party excluded from federal program(s):	NO

##### Possible candidate for socio-economic program consideration

Labor surplus area:	N/A
Small Business:	N/A
8(A) firm:	N/A

The details provided in the Government Activity section are as reported to Dun & Bradstreet by the federal government and other sources.

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## History & Operations

### HISTORY

The following information was reported 08/12/2010:

**Officer(s):** ROBERT G BOHN, CHB-CEO+  
CHARLES L SZEWS, PRES-COO+  
BRYAN J BLANKFIELD, EXEC V PRES-GENERAL COUNSEL-SEC  
MATTHEW J ZOLNOWSKI, EXEC V PRES-CHIEF ADMIN OFFICER  
DAVID M SAGEHORN, EXEC V PRES-CFO-TREAS

**DIRECTOR(S):** The officers identified by (+) and J William Anderson, Richard M Donnelly, Frederick M Franks Jr, Michael W Grebe, Kathleen J Hempel, Harvey N Medvin, J Peter Mosling Jr, Craig P Omtvedt, Richard G Slin and John J Hamre PhD.

Incorporated in the state of Wisconsin on January 31, 1930.

Business started 1917 by B A Mosling and William Besserdich.

The company's common stock is traded on the New York Stock Exchange under the symbol "OSK". As of June 30, 2009, there were 1,535 shareholders of record. As of December 2, 2008, those shareholders identified by the company as beneficially owning 5% or more of the outstanding shares were: T Rowe Price Associates Inc (7.80%); Cramer Rosenthal McGlynn LLC (6.20%) and JPMorgan Chase & Co (5.0%). As of the same date, officers and directors as a group beneficially owned 3.60% of the outstanding shares.

### EVENTS

On July 6, 2009, the company announced that it has completed the sale of the Geesink Norba Group, Emmeloord, Netherlands, to Platinum Equity, LLC, Beverly Hills, CA, on July 1, 2009. Financial terms of the deal were not disclosed.

On May 14, 2009, the company announced that GeasInk Norba has been acquired by Platinum Equity, LLC, Beverly Hills, CA, on May 13, 2009. Terms were not disclosed.

In 2007, the company acquired JLG for \$3.1 billion, including transaction costs and the assumption of debt and net of cash acquired.

**ROBERT G BOHN.** Director since 1995. He is the company's CEO since 1997 and Chairman of the Board of Directors since 2000. He joined the company in 1992, as the Vice President of Operations. He was appointed as the President and COO in 1994. Prior to joining the company, he held various executive positions with Johnson Controls, Inc., from 1984 until 1992.

**CHARLES L SZEWS.** Director since 2007. He is the company's President and COO since October 2007. He joined the company in 1996 as the Vice President and CFO and was also the Executive Vice President in 1997. Prior to joining the company, he spent eight years at Fort Howard Corporation holding a series of executive positions. Prior to Fort Howard Corporation, he was an auditor with Ernst & Young serving in various offices and capacities over a ten-year period. He is on the Board of Directors of Gardner Denver, Inc.

**BRYAN J BLANKFIELD.** He is the company's Executive Vice President, General Counsel and Secretary since 2003. He previously served as in-house legal counsel and consultant for Waste Management, Inc., a waste services company, and its predecessors from 1990 to 2002. He was appointed Associate General Counsel and Assistant Secretary of Waste Management, Inc., in 1995 and Vice President in 1998.

**MATTHEW J ZOLNOWSKI.** He is the company's Executive Vice President and Chief Administration Officer since 1999. He joined the company as the Vice President of Human Resources in 1992, was appointed Vice President of Administration in 1994.

**DAVID M SAGEHORN.** He is the company's CFO, Executive Vice President since 2007 and Treasurer since 2005. He joined the company in 2000 as the Senior Manager of Mergers & Acquisitions and has served in various assignments, including Director of Business Development, Vice President of Defense Finance, Vice President of McNellis Finance and Vice President of Business Development.

**J WILLIAM ANDERSEN.** Director since 1976. He is the Executive Director of Development, University of Wisconsin-Oshkosh from 1980 through his retirement in 1994.

**RICHARD M DONNELLY.** Director since 2001. He is also Chairman of Niles Co., Ltd and Honsel International Technologies SA.

**FREDERICK M FRANKS JR.** Director since 1997. He was Commander of the US Army Training and Doctrine Command 1991-1994 and commanded the US Army VII Corps during Operation Desert Storm.

**MICHAEL W GREBE.** Director since 1990. He was a Partner in law firm of Foley & Lardner LLP in Milwaukee 1977 until his retirement in June 2002.

**KATHLEEN J HEMPEL.** Director since 1997. She was the Vice Chairman and CFO of Fort Howard Corporation from 1992 until its merger into Fort James Corporation in 1997.

**HARVEY N MEDVIN.** Director since 2004. He was the Executive Vice President and CFO of Aon Corporation (and its predecessor) 1982 until his retirement in 2003.

**J PETER MOSLING JR.** Director since 1976. He joined the company in 1969, and was Senior Executive until his retirement in 1994.

**CRAIG P OMTVEDT.** Director since 2008. He is currently serves as a Senior Vice President and CFO for Fortune Brands, Inc.

**RICHARD G SIM.** Director since 1997. From 1998 until 2003, he was a Chairman, President and CEO of APW, Ltd., an electronic contract manufacturer.

**JOHN J HAMRE PHD.** Director since 2009. Since 2000, he has served as President and CEO for CSIS, the Center for Strategic & International Studies.

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#### CORPORATE FAMILY

For more details on the Corporate Family, use D&B's Global Family Linkage product.

**Buy Selected Report(s)**

**Subsidiaries (US):**

Select businesses below to buy Comprehensive Report(s).

<input type="checkbox"/>	Concrete Equipment Company, Inc.	Blair, NE	DUNS # 00-725-8338
<input type="checkbox"/>	Iowa Mold Tooling Co., Inc.	Garner, IA	DUNS # 00-528-6539
<input type="checkbox"/>	Jerr-Dan Corporation	Greencastle, PA	DUNS # 04-751-8014
<input type="checkbox"/>	Jlg Industries, Inc.	Hagerstown, MD	DUNS # 04-388-7728
<input type="checkbox"/>	Kewaunee Fabrications, L.L.C.	Kewaunee, WI	DUNS # 00-613-0132
<input type="checkbox"/>	Mc Neilus Companies, Inc.	Dodge Center, MN	DUNS # 60-800-2416
<input type="checkbox"/>	Oshkosh Logistics Corporation	Oshkosh, WI	DUNS # 11-901-3048
<input type="checkbox"/>	Oshkosh Specialty Vehicles, Inc.	Calumet City, IL	DUNS # 79-338-5360
<input type="checkbox"/>	Pete Bauman	Troy, MI	DUNS # 14-473-7975
<input type="checkbox"/>	Pierce Manufacturing, Inc.	Appleton, WI	DUNS # 00-612-6992
<input type="checkbox"/>	Summit Performance Systems, L.L.C.	Oshkosh, WI	DUNS # 11-901-0374
<input type="checkbox"/>	Total Mixer Technologies L L C	Oshkosh, WI	DUNS # 11-894-7568

**Subsidiaries (International):**

Select businesses below to buy Business Information Report(s).

<input type="checkbox"/>	GEESINK NORBA LTD	Pontyclun, UK (ENGLAND, SCOTLAND, WALES, N.IRELAND)	DUNS # 21-637-3613
<input type="checkbox"/>	GREENWICH OOO	Dnepropetrovsk, UKRAINE	DUNS # 56-562-4897
<input type="checkbox"/>	JLG FRANCE	FAUILLET, FRANCE	DUNS # 77-070-6489
<input type="checkbox"/>	London Machinery Inc	London, CANADA	DUNS # 20-127-4354
<input type="checkbox"/>	OSHKOSH UNIPOWER LTD	Bristol, UK (ENGLAND, SCOTLAND, WALES, N.IRELAND)	DUNS # 23-978-1813

**Branches (US):**

Select companies below to buy Business Information Report(s).

<input type="checkbox"/>	Oshkosh Corporation	East Granby, CT	DUNS # 62-535-4824
<input type="checkbox"/>	Oshkosh Corporation	Lakeland, FL	DUNS # 12-901-3970
<input type="checkbox"/>	Oshkosh Corporation	Mc Intire, IA	DUNS # 01-917-6507
<input type="checkbox"/>	Oshkosh Corporation	Killeen, TX	DUNS # 82-524-6890
<input type="checkbox"/>	Oshkosh Corporation	Arlington, VA	DUNS # 80-260-8778
<input type="checkbox"/>	Oshkosh Corporation	Arlington, VA	DUNS # 78-385-1475
<input type="checkbox"/>	Oshkosh Corporation	Appleton, WI	DUNS # 83-311-7240
<input type="checkbox"/>	Oshkosh Corporation	Oshkosh, WI	DUNS # 82-646-2962
<input type="checkbox"/>	Oshkosh Corporation	Oshkosh, WI	DUNS # 60-507-6975
<input type="checkbox"/>	Oshkosh Corporation	Oshkosh, WI	DUNS # 96-646-7011
<input type="checkbox"/>	Oshkosh Corporation	Oshkosh, WI	DUNS # 19-822-8236
<input type="checkbox"/>	Oshkosh Corporation	Oshkosh, WI	DUNS # 82-902-6686
<input type="checkbox"/>	Oshkosh Corporation	Oshkosh, WI	DUNS # 55-613-1725
<input type="checkbox"/>	Oshkosh Corporation	Oshkosh, WI	DUNS # 87-763-3420
<input type="checkbox"/>	Oshkosh Corporation	Oshkosh, WI	DUNS # 82-995-5223

<input type="checkbox"/> Oshkosh Corporation	Oshkosh, WI	DUNS # 96-228-9059
<input checked="" type="checkbox"/> Oshkosh Corporation	Oshkosh, WI	DUNS # 13-972-3956
<input checked="" type="checkbox"/> Oshkosh Truck Corporation	Chkago, IL	DUNS # 14-314-8356

**Buy Selected Report(s)**

**BUSINESS REGISTRATION**

CORPORATE AND BUSINESS REGISTRATIONS REPORTED BY THE SECRETARY OF STATE OR OTHER OFFICIAL SOURCE AS OF AUG 09 2010:

Registered Name: OSHKOSH CORPORATION

Business type: CORPORATION  
 Corporation type: PROFIT  
 Date incorporated: JAN 31 1930  
 State of incorporation: WISCONSIN  
 Filing date: JAN 31 1930  
 Registration ID: 1 001160  
 Status: INCORPORATED/QUALIFIED  
 Status attained: JAN 31 1930

Where filed: SECRETARY OF STATE, MADISON, WI

Registered agent: CT CORPORATION SYSTEM, 8040 EXCELSIOR DRIVE, SUITE 200, MADISON, WI, 537170000

**OPERATIONS**

08/12/2010

Description: The company is a designer, manufacturer and marketer of a broad range of specialty vehicles and vehicle bodies. It operates in four segments: access equipment, defense, fire & emergency and commercial.

(1) Access Equipment Segment: In this segment the company manufacturer of a wide range of aerial work platforms, telehandlers, scissor lifts and vertical masts used in a variety of construction, agricultural, industrial, institutional and general maintenance applications to safely and efficiently position workers and materials at elevated heights that might otherwise have to be reached by scaffolding, ladders, cranes or other means.

(2) Defense Segment: In this segment the company is a proprietary of military all-wheel drive product line of heavy-payload tactical trucks includes the HEMTT, the Heavy Equipment Transporter (HET), the Palletized Load System (PLS), the Common Bridge Transporter (CBT) and the Logistic Vehicle System Replacement (LVSr). The company's proprietary military medium-payload tactical trucks include the Medium Tactical Vehicle Replacement (MTVR) and the Medium Tactical Truck (MTT), a line of lower-cost, severe-duty, medium-payload tactical trucks suitable for less demanding requirements than the MTVR. The company also exports severe-duty heavy and medium-payload tactical trucks to approved foreign customers.

(3) Fire & Emergency Segment: In this segment the company manufacturer of fire apparatus assembled on custom chassis, designed and manufactured by Pierce to meet the special needs of firefighters. Pierce also manufactures fire apparatus assembled on commercially available chassis, which are produced for multiple end-customer applications. Pierce's engineering expertise allows it to design its vehicles to meet stringent industry guidelines and government regulations for safety and effectiveness. Pierce primarily serves domestic municipal customers, but also sells fire

apparatus to airports, universities and large industrial companies, and in international markets.

(4) Commercial Segment: In this segment the company manufacturer of refuse collection vehicles for the waste services industry. Through the company, McNellus, London and CON-E-CO, the company is a leading manufacturer of front and rear-discharge concrete mixers and portable and stationary concrete batch plants for the concrete ready-mix industry throughout the Americas. Through IMT, the company is a leading North American manufacturer of field service vehicles and truck-mounted cranes for the construction, equipment dealer, building supply, utility, tire service and mining industries. The company believes its commercial segment vehicles and equipment have a reputation for efficient, cost-effective, dependable and low maintenance operation.

Terms are COD for heavy machinery and Net 30 days for parts. Sells to the fire and emergency, defense and other commercial truck markets. Territory : International.

In the company's access equipment and commercial segments, business tends to be seasonal with an increase in sales occurring in the spring and summer months that constitute the traditional construction season. In addition, sales are generally lower in the first fiscal quarter in all segments due to the relatively high number of holidays which reduce available shipping days.

**Employees:** 14,000 which includes officer(s). 1,300 employed here.

**Facilities:** Owns 1,047,000 sq. ft. in a two story concrete block building.

**Location:** Industrial section on well traveled street.

**Branches:** This business has multiple branches, detailed branch information is available in D&B's linkage or family tree products.

**Subsidiaries:** This business has multiple subsidiaries, detailed subsidiary information is available in D&B's linkage or family tree products.

#### SIC & NAICS

##### SIC:

Based on information in our file, D&B has assigned this company an extended 8-digit SIC. D&B's use of 8-digit SICs enables us to be more specific to a company's operations than if we use the standard 4-digit code.

The 4-digit SIC numbers link to the description on the Occupational Safety & Health Administration (OSHA) Web site. Links open in a new browser window.

37110000 Motor vehicles and car bodies  
37110300 Military motor vehicle assembly  
37110403 Fire department vehicles (motor vehicles), assembly of  
37110408 Snow plows (motor vehicles), assembly of  
35310411 Mixers, concrete  
37150000 Truck trailers

##### NAICS:

336111 Automobile Manufacturing  
336992 Military Armored Vehicle, Tank, and Tank Component Manufacturing  
336120 Heavy Duty Truck Manufacturing  
336120 Heavy Duty Truck Manufacturing  
333120 Construction Machinery Manufacturing  
336212 Truck Trailer Manufacturing

Jump to:

[Overview](#) | [Scores](#) | [Payments](#) | [Public Filings](#) | [History & Operations](#)

## Banking & Finance

STATEMENT UPDATE



Assets Sales	999.9	48.6	4
Sales / Net Working Capital Utilization	0.0	6.7	UN
Total Liab's / Net Worth	827.4	131.9	4

**FINANCE**

11/20/2009

Three-year statement comparative:

	Fiscal Consolidated Sep 30 2007	Fiscal Consolidated Sep 30 2008	Interim Consolidated Jun 30 2009
Current Assets	2,194,900,000	2,152,400,000	1,752,400,000
Current Liab's	1,548,000,000	1,463,200,000	1,266,600,000
Current Ratio	1.42	1.47	1.38
Working Capital	646,900,000	689,200,000	485,800,000
Other Assets	4,204,900,000	3,929,100,000	2,654,100,000
Net Worth	1,393,600,000	1,388,600,000	97,300,000
Sales	6,307,300,000	7,138,300,000	
Long Term Liab	3,458,200,000	3,229,700,000	3,042,600,000
Net Profit (Loss)	268,100,000	79,300,000	

**Fiscal Consolidated statement dated SEP 30 2009:**

Assets		Liabilities	
Cash	530,400,000	Accts Pay	555,800,000
Accts Rec	563,800,000	Revolving Cr Facility/Curr Mat LT Debt	15,000,000
Inventory	789,700,000	Accruals	72,800,000
Deferred Income Taxes	75,500,000	Taxes	3,100,000
Other Curr Assets	183,800,000	Customer Advances	731,900,000
		Payroll-Related Obligations	74,500,000
		Other Curr Liab's	205,500,000
<b>Curr Assets</b>	<b>\$2,143,200,000</b>	<b>Curr Liab's</b>	<b>\$1,658,600,000</b>
Fixt & Equip	410,200,000	Long-Term Debt-Net	2,023,200,000
Goodwill	1,077,300,000	Deferred Income Taxes	239,600,000
Investments-Other	37,300,000	L.T. Liab-Other	332,500,000
Purchased Intangible Assets-Net	967,800,000	COMMON STOCK	900,000
Other Assets	132,200,000	ADDIT. PD.-IN CAP	619,500,000
		ACCUM OTHER COMPREHENSIVE LOSS	(74,700,000)
		RETAINED EARNINGS	(30,800,000)
		TREASURY STOCK	(800,000)
<b>Total Assets</b>	<b>\$4,768,000,000</b>	<b>Total</b>	<b>\$4,768,000,000</b>

(000's omitted) sales \$5,295,200; cost of goods sold \$4,509,200. Gross profit \$706,000; operating expenses \$1,698,000. Operating income \$(992,000); other income \$87,700; other expenses \$214,200; net income before taxes \$(1,118,500); Federal income tax \$(19,700). (net loss) \$1,098,800.

Statement obtained from Securities And Exchange Commission. Prepared from statement(s) by Accountant:

Deloitte & Touche LLP, Milwaukee, Wisconsin.

**ACCOUNTANT'S OPINION**

A review of the accountant's opinion indicated that the financial statement meets generally accepted accounting principles and the audit contains no qualifications.

Accounts receivable shown net less \$42,000,000 allowance. Fixed assets shown net less \$353,200,000 depreciation.

**Explanations**

The net worth of this company includes Intangibles; Other Long Term Liabilities consist of Other long term liabilities & Minority Interest.

On November 20, 2009 the financial information was updated.

**CUSTOMER SERVICE**

If you have questions about this report, please call our Customer Resource Center at 1.800.234.3867 from anywhere within the U.S. If you are outside the U.S. contact your local D&B office.

**\*\*\* Additional Decision Support Available \*\*\***

Additional D&B products, monitoring services and specialized investigations are available to help you evaluate this company or its industry. Call Dun & Bradstreet's Customer Resource Center at 1.800.234.3867 from anywhere within the U.S. or visit our website at [www.dnb.com](http://www.dnb.com).

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# 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:	No specific exclusions apply
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.

2/8/2010 WA0008



# Fire and Rescue Apparatus

## Lifetime Fifty (50) Year Structural Integrity

### Custom Chassis Frame

## 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 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.

2/8/2010 WA0013



# Fire and Rescue Apparatus

## Three (3) Year Material and Workmanship

### TAK-4 Suspension

## 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 TAK-4 Front Independent Suspension and Steering Gears 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 -or- 30,000 Miles
Conditions and Exclusions:  See Also Paragraphs 2 thru 4	This limited warranty excludes brake pads, brake rotors, seal boots and shock absorbers.

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.

2/8/2010 WA0050

# Warranty Information Contents

Effective Model Year 2009 Vehicles

<b>Linehaul</b> .....	<b>4-5</b>
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<b>Restricted Service</b> .....	<b>10</b>
<b>Terms and Conditions</b> .....	<b>11</b>

## How to Read Warranty Coverage:

Number of Years	/	Mileage (in thousands) Unl-Unlimited	/	P-Parts Only P&L-Parts & Labor
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Models or components that are approved for use by ArvinMeritor's vocational guidelines contained in ArvinMeritor Publication TP-9441 for axles, SP-8320 for trailer axles, which are not specifically listed, are warranted for one year, unlimited miles, parts only (1/Unl/P).

**ArvinMeritor™**

# Heavy Service Warranty Information



## Heavy Service Vehicles:

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

## Heavy Service Typically Is:

- Moderate mileage operation (less than 60,000 miles per year)
- On/Off road vocations (10% or more off-road)
- Moderate to frequent stops/starts (up to 10 stops per mile)

Coverage under ArvinMeritor's warranty requires that the application of products be properly approved pursuant to OEM, ArvinMeritor, Meritor WABCO, and ZF engineering approvals. Refer to TP-9441 for axles, SP-8320 for trailer axles, and/or contact ArvinMeritor regarding specific application approval questions on any product line.

## Front Drive/Non-Drive Steer Axles - 2/Uni/P&L

FD-965	FF-966	FL-941	MFS-6-163B	MFS-8-153B-N	MFS-13-143A-N	MFS-20-133A-N	MX-19-140
FF-941	FF-967	FL-943	MFS-6-162B	MFS-8-163B-N	MFS-13-144A-N	RF-21-160	MX-21-140
FF-942	FG-941	17100	MFS-6-162C	MFS-10-122A	MFS-14-143A-N	MX-10-120	MX-21-160
FF-943	FG-943	17101	MFS-7-113C-N	MFS-10-143A-N	MFS-16-122A-N	MX-12-120	MX-23-160
FF-944	FH-941	17110	MFS-7-163C-N	MFS-10-144A-N	MFS-16-143A-N	MX-14-120	
FF-946	FH-945	17111	MFS-7-163C-N	MFS-12-143A-N	RF-16-145	MX-16-120	
FF-961	FH-946	MFS-6-151A-N	MFS-8-113B-N	MFS-12-144A-N	MFS-18-133A-N	MX-17-140	

## Bus & Coach Suspensions - 2/200/P&L<sup>1,2</sup>

RIS07EF	RIS09EF	RIS10EF	RIS12EF
RIS16EF	RIS18EF	RTA20ER	RTA13EA
RFA20ER	RFA23ER	RFA25ER	RTA28ER
RAL12EF			

<sup>1</sup> Coverage includes frames, brackets, arms, knuckles and seats.

<sup>2</sup> See limitations for minor component coverage.

## Clutches

15.5" HD Clutch <sup>1,2</sup>	1/100/P&L
15.5" TwinXTend	3/350/P&L
17" FreedomLine Clutch	1/100/P&L

<sup>1</sup> Products with an in-service date prior to 11/01/02 warranted by Meritor Clutch Company.

<sup>2</sup> Products with an in-service date of 11/01/02 or later are warranted by ZFSACHs and administered by ArvinMeritor.

## Transmissions - 2/Uni/P&L

ZF-FreedomLine 12-Speed<sup>1,2,3</sup>

<sup>1</sup> Multiple engine retarders are not approvable.

<sup>2</sup> 12-speed transmission not approved for off-road vocations.

<sup>3</sup> Hard surface application only.

## Drivelines - 1/Uni/P&L

RPL	92N	RN
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## Rear Drive Single Axles - 2/Uni/P&L

MS-10-113	RS-21-145	RS-23-160	RC-23-162	RS-26-185/380	RC-25-160	61143
RS-13-120	RS-21-145/A	RS-23-160/A	RC-23-165	MS-30-616	RC-26-633	61152
RS-15-120	RS-21-160	RC-23-161	RS-24-160/A	RH-30-185	RC-26-720	61153
RS-17-144/145/A	RC-22-145	RH-23-161	RS-25-160/A	RS-30-185/380	59732	71162
RS-19-144	RC-23-160	RS-23-161/A	RH-26-185	MS-35-616	59733	71163
MS-21-114	RH-23-160	RS-23-186/380	MS-26-616	RS-38-380	61142	



## Roar Drive Tandem/Tridem Axles - 2/Unl/P&L

RT-34-144/P/A	RT-40-145/P/A	MT-52-616	RT-58-185 <sup>2</sup>	RZ-188
MT-40-143DA-N	RT-44-145/P	RT-52-185 <sup>2</sup>	MT-70-616	RZ-188
MT-40-143MA-N <sup>1</sup>	RT-46-169	MT-58-616	RZ-166	

<sup>1</sup> U.S. only. Canadian warranty = 1/Unl/P for combination vehicles only.

<sup>2</sup> Axle model designated will vary according to options and variations specified on these axles. Contact ArvinMeritor Axle Applications Engineering for details.

<sup>3</sup> Each vehicle must have a Request for Application Recommendation (RAR) approved by ArvinMeritor prior to vehicle build. All RARs must identify the chassis number or VIN. Refer to Product Information Letter #303 and #398 for further details.

### Brake Components

Cam P	3/Unl/P
Cam P <sup>1</sup>	2/100/P
Cam Cast Plus™	2/100/P&L
Cam Q Plus™	3/Unl/P&L
Cam Q Plus™ <sup>3</sup>	2/100/P&L
ASA	3/Unl/P
ASA <sup>2,4</sup>	2/100/P
Hubs/Cast Drums and Other Wheel-end Components	1/Unl/P
Hydraulic Disc Brakes	1/Unl/P
All Other Brakes	1/Unl/P
LX500 Feature <sup>1</sup>	1/Unl/P
X30™ Drums <sup>2</sup>	Wearable Life/P

<sup>1</sup> Includes: bushing, seal, cam and ASA.

<sup>2</sup> Based on stamped wear diameter max.

<sup>3</sup> Applies to City Bus, Trolley, Shuttle Bus and Airport Shuttle only.

<sup>4</sup> Warranty for all non-Meritor ASAs supplied by ArvinMeritor for all Heavy Service vocations is 1/100/P.

### Rear Drive Tandem/Tridem Axles - 3/Unl/P&L

RT-40-160/P/A
RT-48-160/P/A <sup>1</sup>
RT-48-164EH/P/A <sup>2</sup>
RT-60-160/P/A

<sup>1</sup> U.S. only. Canadian warranty = 1/Unl/P for combination vehicles only.

<sup>2</sup> Axle model designated will vary according to options and variations specified on these axles. Contact ArvinMeritor Axle Applications Engineering for details.

### Meritor® Tire Inflation System by PSI 3/500/P&L

### SimilAir™ Composite Trailer Springs 5/Unl/P, 1/Unl/L

### Air Link™ 2/200/P&L<sup>1,2</sup>

MWA46
MWA52

<sup>1</sup> Coverage includes Hangers, Trailing Arms, Walking Beams

<sup>2</sup> Bushings, Air Bag, Shock Absorbers 1/50/P

### Trailer Axles

Beam and Brackets	5/Unl/P, 1/Unl/L
Wheel End Systems <sup>1</sup>	
Standard System <sup>2</sup>	1/Unl/P&L
TRIAD (TN, TQ and TP axles)	3/Unl/P&L
TL, TA	5/Unl/P&L

<sup>1</sup> Includes hub, wheel seals and wheel bearings—all systems require annual inspections and proper documentation to ensure full coverage.

<sup>2</sup> When installed by ArvinMeritor.

<sup>3</sup> 9000 Series is 3/Unl/P, 1/Unl/L.

(For brake components and ABS coverage, refer to appropriate product warranties.)

### TAG/Pusher Axles<sup>1</sup>

TQ, TQD, TR, TRD	
Beam and Brackets	3/Unl/P, 1/Unl/L

(For brake components and ABS coverage, refer to appropriate product warranties.)

### Trailer Air Suspension Systems

RFS/MTA	
Major Structural Components <sup>1</sup>	5/Unl/P, 1/Unl/L
Height Control Valve	1/Unl/P&L
Shock Absorbers <sup>1</sup>	2/Unl/P&L
Air Springs	2/Unl/P, 1/Unl/L
Bushings <sup>1</sup>	5/Unl/P, 3/Unl/L

(For axle and ABS coverage, refer to appropriate product warranties.)

<sup>1</sup> Raw wood applications 3/Unl/P, 1/Unl/L

### Center Non-drive Axles - 2/100/P&L

61042	61052	71063
61043	61053	RC-26-700

### Shock Absorbers 1/50/P

Coverage for trailer suspension shock absorbers may vary. Please check appropriate Trailer products sections for other terms.

### Rear Engine Power Take-offs 1/Unl/P

### Transfer Cases - 1/Unl/P

MTC-4208	T-1138
MTC-4210	T-2111
MTC-4213	T-2119
	T-2120
	TG-2213

### Meritor WABCO Components<sup>1</sup>

ABS (Anti-Lock Braking System) Air/Hydraulic	3/300/P&L
Hydraulic Power Brake (HPB)	3/300/P&L
ATC (Automatic Traction Control)	3/300/P&L
EX <sup>1</sup> Air Disc Brake	3/Unl/P&L
EX <sup>3</sup> Air Disc Brake	2/100/P&L
DX Air Disc Brake	3/Unl/P
D-Elsa2	2/200/P
Single Air Dryers	
SS1200	1/100/P&L
SS1200P	3/300/P&L
SS1800	2/200/P&L
SS1800P	3/300/P&L
TWIN Air Dryer	1/100/P&L
Leveling Valves	1/Unl/P&L
Air Brake Valves	1/100/P&L
Clutch Controls	2/200/P&L
ECAS (Electronically Controlled Air Suspension)	3/300/P&L
Air Compressors <sup>2</sup>	3/300/P&L
Electronic Stability Control (ESC)	3/300/P&L
Truck Roll Stability Control (RSC)	3/300/P&L
Trailer Roll Stability Support (RSS)	3/300/P&L
Trailer Control Line Filter	1/100/P&L
Trailer Control Line Filter with ABS Valve	4/400/P, 1/100/L
Trailer ABS Valve with Control Line Filter	4/400/P, 3/300/L

<sup>1</sup> Warranted by Meritor WABCO Vehicle Control Systems.

<sup>2</sup> WABCO compressors installed on Cummins, Mercedes, and DDC engines are not warranted or serviced by ArvinMeritor. Please contact your respective dealer/distributor of those engines for warranty and servicing.

<sup>3</sup> Applies to City Bus, Trolley, Shuttle Bus and Airport Shuttle only.

<sup>4</sup> Brake warranty coverage is valid when using a Meritor chamber. For other chambers, brake coverage is 1/Unl/P.

# Terms and Conditions

# ArvinMeritor

## Coverage Exclusions:

	<u>Product Description</u>
All:	The cost of any repairs, replacements or adjustments to a covered component (1) associated with noise; (2) resulting from the use or installation of non-genuine ArvinMeritor components or materials; (3) due to vibration associated with improper operation or misapplication of drivetrain components; and (4) damage resulting from corrosion.
Front Axles:	King Pin Bushings.
Rear Axles:	Self-contained traction equalizers and oil filters. The use of NoSPIN differentials will result in the exclusion of axle shafts from warranty considerations. NoSPIN is a product of Tractech Inc.
Clutch:	Friction face and mating surface of center and pressure plate, wear pads and clutch brake.
ASA:	Boot and bushing. Bent, broken, over-torqued, missing or otherwise damaged pawl assemblies.
ABS:	Cut, broken, chaffed or otherwise damaged cable wires. Damaged sensors from removal when seized in block, or sensor adjustments. Valve failures due to contamination in air system. E.C.U. failures due to excessive over-voltage conditions.
Air System Components:	Gladhands seals. Control valve knobs and handles.
Cam Brake:	Brake lining wear (except MX500 package) and brake shoe "rust-jacking."
Disc Brake:	Pads, rotors, non-Meritor WABCO chambers.

## Coverage Limitations:

	<u>Product Description</u>
All:	Any claim beyond 60 days from date of repair will not be accepted or honored under this warranty program.
Front Axles:	Tie rod and tie rod ends limited to 3-year/300,000-mile or published vocational coverage, whichever is less. Wheel seals, gaskets and wheel bearings are covered for 1 year/unlimited miles if the wheel end equipment is supplied and assembled by ArvinMeritor.
Rear Axles:	Pinion and through shaft seals limited to 3-year/300,000-mile or published vocational coverage, whichever is less, if yoke is installed by ArvinMeritor. If yoke is not installed by ArvinMeritor, then ArvinMeritor does not warrant pinion seals. Wheel seals, gaskets and wheel bearings are covered for 1 year/unlimited miles if the wheel end equipment is supplied and assembled by ArvinMeritor.
Rear Axles:	The Meritor <sup>®</sup> breather part number A-1199-W-4053 or A-1199-R-4048 must be used for eligibility of any potential warranty consideration relating to contamination and/or loss of lube in axles.
Cam Brake:	Limited to bracket, brake spider and camshaft.
Disc Brake:	For EX brakes, warranty coverage for brake is 1/Uni/P when using chambers other than a Meritor WABCO chamber. All chamber coverages are limited to 1/Uni/P for disc brakes, excluding heavy service applications. Warranty coverage for boots, seals, bushings and pins is 2/200/P.
Transmissions:	Seal warranty is 3-years/300,000-miles or published vocational coverage, whichever is less, if yoke is installed by ArvinMeritor. If yoke is not installed by ArvinMeritor, there is no seal coverage. Approved synthetic lube required for extended transmission coverage.
Bus & Coach, R.V. Suspensions:	Links, rubber and plastic parts, bushings, bearings, joints and air springs are limited to 1/100/P&L.

Warranty coverage on vehicles with 1,850 lb-ft engine torque and over may be reduced on individual drivetrain components. Contact your ArvinMeritor representative for specific details.

# Terms and Conditions

# ArvinMeritor

**(1) What is Covered by this Commercial Warranty?** ArvinMeritor Inc. warrants to the owner ("Owner") that the components listed in this publication, which have been installed by an Original Equipment Manufacturer ("OEM") as original equipment in vehicles licensed for on-highway use, will be free from defects in material and workmanship. This warranty coverage begins only after the expiration of the OEM's vehicle warranty for the applicable covered components. 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 elsewhere in this warranty statement.

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. Components (whether new, used or remanufactured) installed as replacements under this warranty are warranted only for the remainder of the original period of time or mileage under the original warranty.

For certain components, coverage requires the use of specific extended drain interval or synthetic lubricants. For further information about lubrication and maintenance, see ArvinMeritor publication Maintenance Manual Number 1 and the applicable ArvinMeritor maintenance manual for the product in question. Other conditions and limitations applicable to this warranty are detailed below.

**(2) Designation of Vocational Use Required.** To obtain warranty coverage, each Owner must notify ArvinMeritor through the OEM new truck and/or trailer dealer of the intended vocational use of the vehicle into which the ArvinMeritor 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 ArvinMeritor directly. Failure to notify ArvinMeritor 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 ArvinMeritor as to the intended vocational use of the vehicle. This notification can be sent directly to ArvinMeritor 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 ArvinMeritor's warranty requires that the application of products be properly approved pursuant to OEM, ArvinMeritor, MeritorWABCO, and ZF engineering approvals. Refer to TP-9441 for axles, SP-8320 for trailer axles, and/or contact ArvinMeritor regarding specific application approval questions on any product line.

**(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?** This warranty does not cover normal wear and tear; nor does it cover a component that fails, malfunctions or is damaged as a result of (I) improper 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 ArvinMeritor), (II) accident, natural disaster, abuse, or improper use (including loading beyond the specified maximum vehicle weight or altering engine power settings to exceed the transmission, axle, driveline, and/or clutch torque capacity), or (III) improper or insufficient maintenance (including deviation from approved lubricants, change intervals, or lube levels). This warranty does not cover any component or part that is not sold by ArvinMeritor. For vehicles that operate full or part time outside of the United States and Canada, a one year, unlimited mileage, parts only warranty (1/Unl/P) will apply.

**(5) Remedy.** The exclusive remedy under this warranty shall be the repair or replacement of the defective component at ArvinMeritor's option. ArvinMeritor reserves the right to require that all applicable failed materials are available and/or returned to ArvinMeritor for review and evaluation.

**(6) Disclaimer of Warranty.**

*THIS WARRANTY IS EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES OR CONDITIONS, EXPRESSED, IMPLIED OR STATUTORY INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR PARTICULAR PURPOSE.*

**(7) Limitation of Remedies.** In no event shall ArvinMeritor be liable for special, incidental, indirect, or consequential damages of any kind or under any legal theory, including, but not limited to, towing, downtime, lost productivity, cargo damage, taxes, or any other losses or costs resulting from a defective covered component.

**(8) 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 ArvinMeritor or the dealer from which the vehicle was purchased. To obtain service, the vehicle must be taken to any participating OEM new truck and/or trailer dealer or authorized ArvinMeritor service location. The dealer will inspect the vehicle and contact ArvinMeritor for an evaluation of the claim. When authorized by ArvinMeritor, the dealer will repair or replace during the term of this warranty any defective ArvinMeritor component covered by this warranty.

**(9) Entire Agreement.** This is the entire agreement between ArvinMeritor and the Owner about warranty and no ArvinMeritor employee or dealer is authorized to make any additional warranty on behalf of ArvinMeritor. This agreement allocates the responsibilities for component failure between ArvinMeritor and the Owner.

For more information, call 800-535-5560.

## ArvinMeritor™

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# Fire and Rescue Apparatus

## Two (2) Year Material and Workmanship

### Meritor Axles

### 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 axle shall be covered by Meritor as indicated in the attached Meritor warranty coverage description
Warranty Begins:	The date of the original purchase invoice (issued when the product ships from the factory).
Warranty Period Ends After:	Two (2) Year
Conditions and Exclusions:  See Also Paragraphs 2 thru 4	The exclusions listed in the attached Meritor 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, earthquakes, 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.

4/5/2010 WA0048



# 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 DEFLECTS 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

2/8/2010 WA0012



# 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><b>Topcoat Durability &amp; Appearance: Gloss, Color Retention &amp; Cracking</b>  0-72 months 100%  73-96 months 50%  97-120 months 25%</p> <p><b>Integrity of Coating System: Adhesion, Blistering/Bubbling</b>  0-36 months 100%  37-84 months 50%  85-120 months 25%</p> <p><b>Corrosion: Dissimilar Metal and Crevice</b>  0-36 months 100%  37-48 months 50%  49-72 months 25%  73-120 months 10%</p> <p><b>Corrosion Perforation</b>  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 not.

(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.

2/8/2010 WA0055



# 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

2/8/2010 WA0014

## NEW PRODUCT WARRANTY



**PARTICIPATING OEM SALES  
DISTRIBUTOR SALES**

### LIMITED 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

Form SE0616EN (201009)

Page 2 of 2



# 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:

<b>Coverage:</b>	The apparatus body shall be free from structural failures caused by defects in material and workmanship
<b>Warranty Begins:</b>	The date of the original purchase invoice (issued when the product ships from the factory).
<b>Warranty Period Ends After:</b>	Ten (10) Years - OR - 100,000 Miles
<b>Conditions and Exclusions:</b>	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.
<b>See Also Paragraphs 2 thru 4</b>	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.*

2/8/2010 WA0009



# Fire and Rescue Apparatus

## Twenty (20) Year Structural Integrity

### Pierce Aerial Device

## Limited Warranty

### 1. LIMITED WARRANTY

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

<b>Coverage:</b>	Each new Pierce Aerial Device shall be free from defects in material and workmanship.  Aerial Device Models Covered by this warranty include: Aerial Platforms Aerial Ladders SkyBoom
<b>Warranty Begins:</b>	The date of the original purchase invoice (issued when the product ships from the factory).
<b>Warranty Period Ends After:</b>	Twenty (20) Years - or - 100,000 Miles
<b>Conditions and Exclusions:</b>	This warranty applies only to the torque box, turntable, aerial sections and other structural components of the aerial device as identified in the Pierce specifications for the aerial device. This warranty shall be void if, or to the extent that the aerial device is not maintained in strict compliance with NFPA Standard 1914 in effect at time of sale, including such periodic inspections and testing by qualified third parties as are required by that Standard as it may be in effect from time to time. Proof of such compliance shall accompany any claims under this warranty. Third party testing agencies known to Pierce to be qualified for such purposes may be obtained from the Pierce Customer Service Department.
<b>See Also Paragraphs 2 thru 4</b>	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 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.*

2/8/2010 WA0052



# Fire and Rescue Apparatus

## Four (4) Year Pro-Rated Paint and Corrosion

### Aerial Device

# Limited Warranty

#### 1. LIMITED WARRANTY

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

Coverage:	Aerial device shall be free from blistering, peeling, corrosion or any other adhesion defect caused by defective manufacturing methods or paint material selection for exterior surfaces.
Warranty Begins:	The date of the original purchase invoice (issued when the product ships from the factory).
Warranty Period Ends After:	Four (4) Years
Conditions and Exclusions:	<p>This limited warranty is applicable to the vehicle in the following percentage coats of warranty repair, if any:</p> <p><b>Topcoat Durability &amp; Appearance: Gloss, Color Retention &amp; Cracking</b>  0-24 months 100%  25-48 months 50%</p> <p><b>Integrity of Coating System: Adhesion, Blistering/Bubbling</b>  0-24 months 100%  25-48 months 50%</p> <p><b>Corrosion: Dissimilar Metal and Crevices</b>  0-24 months 100%  25-48 months 50%</p> <p><b>Corrosion Perforation</b>  0-24 months 100%  25-48 months 50%</p> <p>This limited warranty applies only to exterior paint.</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.</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.

2/8/2010 WA0047



**MANUFACTURER'S LIMITED WARRANTY**

Harrison extends to the original purchaser of goods for use, the following warranty covering the Harrison Hydra-Gen® Generator System manufactured or supplied by Harrison Hydra-Gen®, subject to the qualifications indicated. A Harrison Hydra-Gen® Generator System consists of one or more of the following Assemblies: a Hydraulic Motor/Alternator Assembly, a Hydraulic Heat Exchanger/Fan Assembly, a Hydraulic Pump Assembly, a Hydraulic Reservoir Assembly, a Hydraulic Control Valve/Manifold Assembly or a Meter Head Assembly.

THERE IS NO OTHER EXPRESS WARRANTY. IMPLIED WARRANTIES, INCLUDING MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE LIMITED TO PERIODS OF WARRANTY SET FORTH BELOW AND TO THE EXTENT PERMITTED BY LAW. ANY AND ALL IMPLIED WARRANTIES ARE EXCLUDED. IN NO EVENT IS HARRISON LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES.

1. Harrison Hydra-Gen® warrants the original purchaser for the period set forth below, that the Generator System manufactured or supplied by Harrison Hydra-Gen® will be free from defects in workmanship and material, provided such goods are installed, operated and maintained in accordance with Harrison's written installation instructions, and further provided that each new application be reviewed and approved by Harrison's Application Engineering Group.

<u>PRODUCT APPLICATION</u>	<u>PERIOD OF WARRANTY</u>
Harrison Hydra-Gen® Generator Systems used in commercial vehicles or marine applications.	Two (2) years or 2,000 hours, which ever comes first, from the date product is received.
Repair or replacement parts.	Ninety (90) days from date of purchase Excludes Labor

2. Form WR-1 must be completed and returned to Harrison within 30 days of the product being delivered to the end user. Form WR-1 must be signed by an authorized Harrison agent and a copy returned to the end user.
3. Harrison's sole liability and Purchaser's sole remedy for a failure of goods under this warranty and for any and all other claims arising out of the purchase and use of the goods, including negligence on the part of the manufacturer, shall be limited to the repair or replacement of the product, at Harrison's option, of the parts that do not conform to this warranty, provided that the product or parts are returned to Harrison's factory at 10827 Tower Oaks Blvd, Houston, Texas 77070, or at a Harrison Authorized Distributor or it's designated service representative, transportation prepaid.
4. All claims must be brought to the attention of Harrison, an Authorized Distributor or designated service representative within thirty (30) days after goods or parts failed to meet this warranty.
5. THIS WARRANTY SHALL NOT APPLY TO:
  - a. Cost of maintenance, adjustments, installation or startup.
  - b. Paint, hydraulic fluid, and interconnecting hoses (Internal or external to system assemblies).
  - c. Failures due to accident, misuse, abuse, negligence, improper installation or lack of maintenance.
  - d. Products altered or modified in a manner not authorized by the manufacturer in writing.
  - e. Telephone or other communications expense.
  - f. Excessive labor due to components being concealed in vehicle as a result of installation.
  - g. High water, road debris, or excessive dirt.
6. No person is authorized to give any other warranties or to assume any other liabilities on Harrison's behalf, unless made or assumed in writing by an officer of Harrison.
7. This warranty gives the user specific legal rights, and the user may also have other rights that may vary from state to state.



# 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:

<b>Coverage:</b>	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.
<b>Warranty Begins:</b>	The date of the original purchase invoice (issued when the product ships from the factory).
<b>Warranty Period Ends After:</b>	Ten (10) Years
<b>Conditions and Exclusions:</b>	<p>This limited warranty is applicable to the vehicle in the following percentage costs of warranty repair, if any:</p> <p><b>Topcoat Durability &amp; Appearance: Gloss, Color Retention &amp; Cracking</b>            0-72 months 100%            73-96 months 50%            97-120 months 25%</p> <p><b>Integrity of Coating System: Adhesion, Blistering/Bubbling</b>            0-36 months 100%            37-84 months 50%            85-120 months 25%</p> <p><b>Corrosion: Distasteful Metal and Crevice</b>            0-36 months 100%            37-48 months 50%            49-72 months 25%            73-120 months 10%</p> <p><b>Corrosion Perforation</b>            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>
<b>See Also Paragraphs 2 thru 4</b>	

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.*

2/8/2010 WA0057



# Fire and Rescue Apparatus

## Three (3) Year Bumper to Bumper

### Pierce Custom Chassis - Class H

# 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 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:	Three (3) Years, or 30,000 Miles, or 4,500 Engine Hours
Conditions and Exclusions:  See Also Paragraphs 2 thru 4	<p>This general limited warranty does not apply to aspects of the product that are covered by specific Pierce or Supplier warranties. See the applicable specific warranty for details of coverage and exclusions. Specific warranties may include, but not be limited to, paint, corrosion, frame, structure, electronics, pumps, piping, and Goldstar laminates. Where conflicts exist, the coverage and exclusions of the specific warranty shall apply. If the specific warranty is a pro-rated warranty, the terms at the end of the pro-rated period will apply for the remaining years of the bumper to bumper coverage.</p> <p>This warranty does not cover normal wear to any parts or components including but not limited to: tires, brake pads or shoes, balls, liners, lubricants, light bulbs, fuses, and batteries.</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 type 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 Basis 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.

2/8/2010 WA0070



# Fire and Rescue Apparatus

## Three (3) Year Bumper to Bumper Aerial Body and Device - Tiller

### 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 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:	Three (3) Years, or 30,000 Miles, or 4,500 Engine Hours
Conditions and Exclusions:	<p>This limited warranty does not apply to aspects of the product that are covered by other Pierce or Supplier warranties. See the applicable warranty for details of coverage and exclusions. Such warranties may include, but not be limited to, paint, corrosion, frame, structure, electronics, pumps, piping, and Goldstar laminates. Where conflicts exist, the coverage and exclusions of the specific warranty shall apply. If the specific warranty is a pro-rated warranty, the terms at the end of the pro-rated period will apply for the remaining years of the bumper to bumper coverage.</p> <p>This warranty does not cover normal wear to any parts or components including but not limited to: filters, lubricants, light bulbs, slide pads, sheaves, and cables.</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 after market 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.

2/8/2010 WA0160

# Limited Warranty on New Detroit Diesel DD13 Engines Used In Fire Truck or Crash Vehicle Applications



## Terms of Coverage:

### Uses

This warranty applies to the first retail purchaser and subsequent owners during the WARRANTY PERIOD of new DD13 Engines (referred to as Engine) manufactured by Detroit Diesel and/or supplied by Detroit Diesel or Detroit Diesel of Canada Limited (which are collectively referred to as Detroit Diesel) for use in fire truck or crash vehicle applications.

### Defects

This warranty covers Engine REPAIRS to correct any malfunction occurring during the WARRANTY PERIOD resulting from defects in material or workmanship.

### Repairs

To obtain warranty repairs, you must request the needed repairs within the WARRANTY PERIOD from an authorized Detroit Diesel service outlet. Only new genuine parts, remanufactured parts or components supplied or approved by Detroit Diesel will be used. Detroit Diesel may, at its discretion, replace rather than repair components. A reasonable time must be allowed to perform the warranty repair after taking the engine to the authorized service outlet. Repairs will be performed during normal business hours.

### Warranty Period

The WARRANTY PERIOD begins on the date the Engine is delivered to the first retail purchaser or put in use prior to sale at retail, whichever date occurs first, and ends at the time or mileage/kilometer limits shown below:

Item	WARRANTY PERIOD			
	Warranty Limitations (Whichever Occurs First)		Repair Charge To Be Paid By Owner	
	MONTHS	MILEAGE	PARTS	LABOR
Engine	0-24	0-100,000 mi 0-160,000 km	No Charge	No Charge
Accessories*	0-24	0-100,000 mi 0-160,000 km	No Charge	No Charge

\* Fire Commander warranty is two years/unlimited mileage.

### Service Supplies

The cost of service supplies such as coolant, oil and filters which are not reusable due to needed repairs is covered by this warranty.

### Like Replacement Engine

Engine(s) supplied by Detroit Diesel as a replacement for an Engine still under warranty will assume the identity of the Engine being replaced and be entitled to the remaining warranty coverage.

### Engine Removal and Reinstallation

Reasonable labor costs for engine removal and reinstallation, when necessary to make a warranty repair, are covered by this warranty.

### Towing

During the base warranty period reasonable towing costs to the nearest authorized service outlet are covered by the warranty when due to warrantable failure and the engine is either inoperable, cannot be safely operated or continued operation would cause further damage to the Product.

## This Warranty Does Not Cover:

### Repairs Due To Accidents, Misuse, Alteration, Storage Damage, Negligence Or Certain Modifications

Repairs due to an accident, misuse, alteration, misapplication, storage damage, negligence or modification exceeding Detroit Diesel specifications, are not covered by this warranty.

### Maintenance

Detroit Diesel is not responsible for the cost of maintenance or repairs due to lack of performance of required maintenance services or the failure to use fuel, oil, lubricants and coolant meeting Detroit Diesel-recommended specifications. Performance of the required maintenance and use of proper fuel, oil, lubricants and coolant are the responsibility of the owner. See the Engine Operator's Guide for full details.

### Incidental or Consequential Damages

Detroit Diesel is not responsible for incidental or consequential costs or expenses which the owner may incur as a result of a malfunction or failure covered by this warranty, such as communication expenses, meals, lodging, overtime, loss of use of the Engine or vehicle ("downtime"), loss of time, inconvenience, cargo loss or damage, and other similar costs and expenses.

### Other Limitations

The performance of REPAIRS is the exclusive Owner's remedy under this warranty. Detroit Diesel does not authorize any person to assume or create for it any other obligation or liability in connection with the Engine or the Accessories.

THIS LIMITED WARRANTY AND THE EMISSIONS CONTROL WARRANTY ARE THE ONLY WARRANTIES APPLICABLE TO THE ENGINE AND ACCESSORIES AS USED IN FIRE TRUCK OR CRASH VEHICLE APPLICATIONS. DETROIT DIESEL MAKES NO OTHER WARRANTIES EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. DETROIT DIESEL SHALL NOT BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES AS DESCRIBED ABOVE.

Some states do not allow the limitation of how long this warranty may last or the limitation or exclusion of incidental or consequential damages, so the above may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which may vary from state to state.



DEMAND PERFORMANCE™  
13400 Outer Drive, West / Detroit, Michigan 48239-4001  
Telephone: 313-592-5000  
www.detroitdiesel.com



**Certification Document CD0096  
Engine Installation – Arrow XT 2010 DD13 Engine**

Pierce Manufacturing, Inc. certifies that the 2010 DD13 Engine as installed in an Arrow XT chassis meets the engine installation requirements of the engine manufacturer, the NFPA 1901 and NFPA 1906 guidelines as applicable, and Pierce engine design standards.

Validation testing was conducted in the Pierce wind tunnel chassis dynamometer and cooling test laboratory. Test results have been reviewed and accepted by representatives of the engine supplier.



**VALIDATION TEST: RD1744,  
RD11763, RD1764, RD1872**

Pierce Manufacturing, Inc.

David W. Archer  
Director of Engineering  
February 07, 2011

**DETROIT DIESEL**

Detroit Diesel Corporation  
13400 Outer Drive, Warrendale, PA 15090  
Detroit, Michigan 48090-4021  
Telephone 313-624-4000

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December 14, 2010

Mr. Jon Stego  
Pierce Manufacturing, Inc.  
2600 American Drive  
Appleton, WI 54912-2017

**Subject:** Vehicle Sign-Off Approval #21535-056  
Pierce Arrow Chassis, 2010 DD13 Engine

Mr. Stego:

Detroit Diesel has recently completed the review of Vehicle Sign-Off #21535-056. This review covers the use of a Detroit Diesel DD13 engine rated at 500 bhp / 1660 lb-ft, model number D471.914, in a Pierce Arrow chassis firetruck application. The results of this review are listed below.

Vehicle Information	Status	Comments
Air Intake System	ACCEPTED	_____
Air Compressor	ACCEPTED	_____
Exhaust System & ATD	ACCEPTED	_____
DEF System	ACCEPTED	_____
Fuel System	ACCEPTED	_____
Lubrication System	ACCEPTED	_____
Cooling System	ACCEPTED	_____
Electrical System	ACCEPTED	_____
Engine & Transmission Mounting	ACCEPTED	_____
Driven Component Systems	ACCEPTED	_____
Power Take-Off	ACCEPTED	_____
Serviceability	ACCEPTED	_____

Please contact me if you have any concerns. Thank you for your cooperation.

Sincerely,  
  
Brian Chaput  
Sr. Application Engineer

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PIERCE MANUFACTURING INC.°

AN OSHKOSH TRUCK CORPORATION® COMPANY



PERFORM LIKE NO OTHER

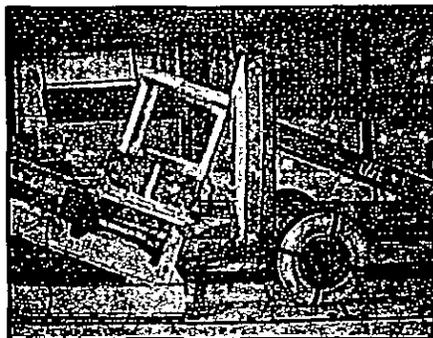
**Certification Document CD0085  
Tiller Cab  
Cab Integrity Certification**

Pierce Manufacturing certifies the integrity of the Pierce Tiller Cab relative to occupant protection.

A specimen representing the substantial structural configuration of the Pierce Tiller Cab has been successfully tested in accordance with the following standards.

- SAE J2422 Cab Roof Strength Evaluation – Quasi-Static Loading Heavy Trucks.
- European Occupant Protection Standard ECE Regulation No. 29.

**Side Impact:** The test cab was subjected to dynamic preload where a 13,275 lb moving barrier was slammed into the side of the cab at 5.6 mph, striking with an impact of 13,755 ft-lbs of energy.



**Roof Crush:** This same test cab was then subjected to a roof crush force of 24,000 lbs. This value exceeds the ECE 29 criteria, which must be equivalent to the front axle rating up to a maximum of 10 metric tons.

**Additional Roof Crush:** The same cab was then loaded with 39,000 lbs on the roof, exceeding the requirement by 1.6 times!

Pass-Fail criteria of the SAE tests and the ECE 29 test is a measure of whether the "survival space" inside the cab is compromised during any of the test loads. The Pierce cab withstood all integrity tests on the same cab without any measurable intrusion into the survival space of the occupant area.

Witnessed and Certified by:

Pierce Manufacturing, Inc.

A handwritten signature in black ink, appearing to read "James Roger Lackore".



James Roger Lackore, PE  
November 12, 2009





**Certification Document CD0002**  
**Arrow XT®**  
**Cab Doors**

Pierce Manufacturing certifies the integrity of the Arrow XT® cab doors.

Specimens representing the substantial structural configuration of the Arrow XT® cab front and crew doors have been successfully tested to meet the following objectives:

**OBJECTIVES:**

- Determine the door opening and closing forces before and after a 200,000-cycle door slam test.
- Determine if water leaks past the door seals after a 200,000-cycle door slam test.
- Evaluate components, structure, and mounting of the doors during the test for signs of fatigue.

**CONCLUSIONS:**

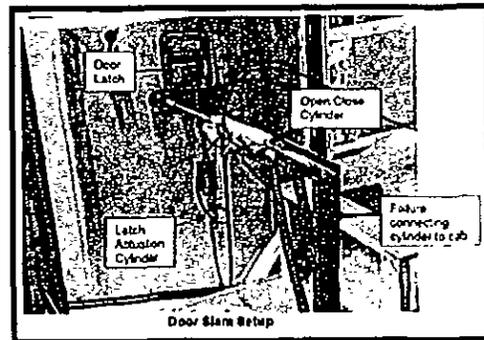
- Door closing forces met acceptable criteria before and after the test.
- Doorframe and door components did not show any signs of fatigue or excessive wear after the 250,000-cycle door slam test.
- The door seals prevented water penetration after 250,000 cycles.

**VALIDATION TEST: RD0918**

Pierce Manufacturing, Inc.



James Roger Lackore, PE  
March 16, 2008



PIERCE MANUFACTURING INC.°

AN OSHKOSH CORPORATION° COMPANY



**Certification Document CD0006**  
**Arrow XT®**  
**Windshield Wiper System**

Pierce Manufacturing certifies the integrity of the Arrow XT® Windshield Wiper System.

Specimens representing the configuration of the Arrow XT® windshield wipers have been successfully tested to meet the following objectives:

**OBJECTIVES:**

- Complete 3,000,000 cycles of windshield wiper operation per SAE J198 § 6.2
- Inspect wiper motor, pivots, linkages, and mounts frequently to validate cumulative wiper system integrity.

**CONCLUSIONS:**

- The entire wiper system successfully met the goal of 3,000,000 cycles. The wiper motors and arms did not exhibit signs of unusual wear or damage.

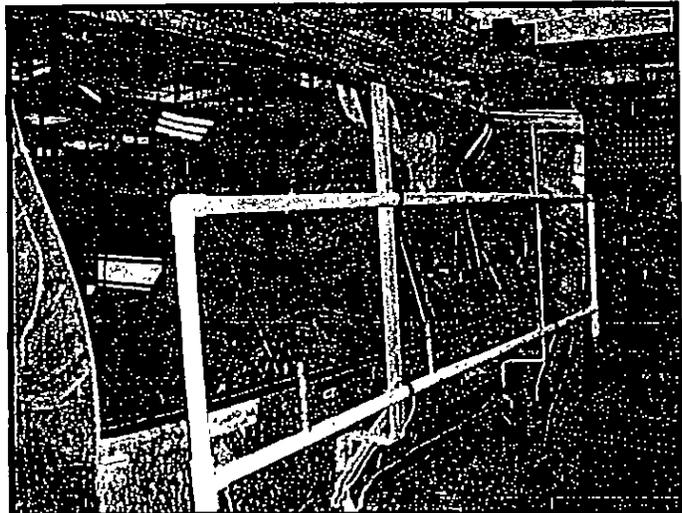
**VALIDATION TEST: RD0945**

Pierce Manufacturing, Inc.

A handwritten signature in black ink, appearing to read "James R. Lackore".



James Roger Lackore, PE  
March 16, 2008



PIERCE MANUFACTURING INC.°

AN OSHKOSH CORPORATION COMPANY



**Certification Document CD0003  
Arrow XT®  
Window Regulators**

Pierce Manufacturing certifies the integrity of the Arrow XT® window regulators.

Specimens representing the substantial structural configuration of the Arrow XT® window regulators have been successfully tested to meet the following objectives:

**OBJECTIVES:**

- Electric window regulators withstand 30,000 up-down cycles.

**CONCLUSIONS:**

- The electric window regulators withstood 61,030 cycles without failure.

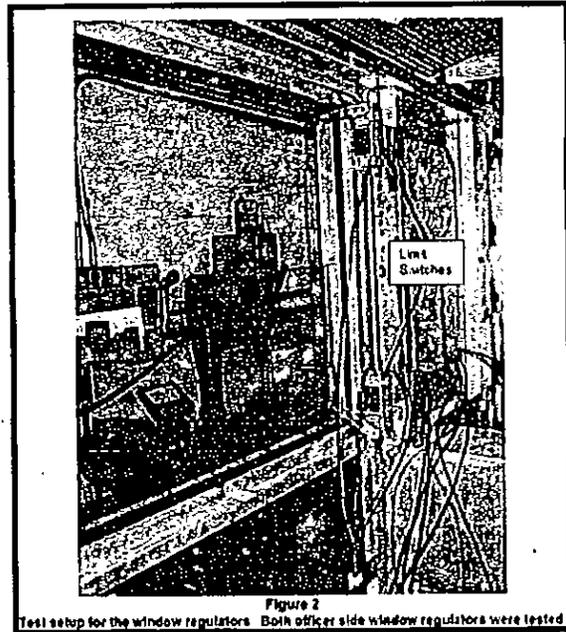
**VALIDATION TEST: RD0918**

Pierce Manufacturing, Inc.

A handwritten signature in black ink, appearing to read "James R. Lackore".



James Roger Lackore, PE  
March 16, 2008







## **Certification Document CD0050 Brake Performance – Custom Chassis**

Pierce Manufacturing, Inc. certifies that the braking performance of Pierce Custom Chassis meet all requirements of FMVSS 121 *Air Brake Systems*.

Pierce ensures compliance with this standard in two ways; by performing full vehicle compliance tests on select vehicle configurations, and by obtaining axle and brake application approvals from component suppliers.

### **Component Approval Process**

The extreme variability of US fire apparatus design makes it impractical to perform full vehicle testing on every truck configuration. Variations in axle and brake capacity, wheelbase, and load distribution all affect braking performance. Compressed air used to power the brakes is also used for air horns and many other ancillary functions. The truck manufacturing industry recognizes this wide variation in truck configuration and has established an industry practice where truck manufacturers submit detailed requests to the axle and brake manufacturers who study and approve the proposed applications if they fall within established guidelines. These guidelines are based on analysis and testing to ensure that the completed vehicle will meet the required performance standards.

Pierce chassis engineers routinely submit and obtain approvals for any new configuration prior to purchasing the components. These approvals are kept on file and organized to ensure that we build only safe and compliant apparatus.

### **Vehicle Testing**

In addition to the component approval process, Pierce performs a number of validation tests on apparatus configurations when they vary significantly from our established products. These tests include:

#### **Application and Release Timing Tests**

FMVSS 121 has requirements for how fast the brakes must apply, and how fast they must release. This testing is accomplished by instrumenting the brake treadle with a mechanical switch that records when the drivers' foot is touching the treadle. Pressure transducers are used to measure the pressure in the brake cylinders. This testing is performed on new chassis designs, or when significant changes to brake system valves, hose sizes, or hose lengths.

### Air Tank Capacity

FMVSS 121 has requirements to ensure that there is sufficient air pressure reserve to operate the brakes safely. This requirement is a ratio based on the number of braked axles and the air brake cylinder volume. This is a mathematical analysis that is performed to calculate the quantity and capacity of air tanks required on the apparatus.

### Stopping Distance Testing

Pierce performs stopping distance tests per FMVSS 121 on significantly new configurations to validate that the brakes, valves, tanks, and lines perform as a system to meet the safety requirements. This is a series of tests that begins with a complete brake burnishing procedure, and ends with multiple full-capacity stops from a range of speeds. Instrumentation includes the use of a calibrated fifth-wheel to ensure accurate measurement of speed and distance. Tests are conducted on local airport runways as well as contracted facilities at the Transportation Research Center in Ohio, and the Bosch Automotive Proving Grounds in Indiana.



The following chart provides 60 mph brake test results for a variety of apparatus configurations:

Rear Axle Qty	Front Test Weight	Rear Test Weight	FAMR	RAMR	Average of Stopping Dist	Average of % of GVWR
Single	18000	27000	18000	24000	208	108%
	18900	23700	18500	24000	228	98%
	21440	29120	21800	31000	237	80%
		28200	21500	31000	218	94%
	21450	27100	21500	29000	211	98%
	21480	30040	21800	29000	213	100%
	21508	32500	21500	33500	218	100%
	24008	31800	24000	31000	240	100%
Tandem	19508	48608	19500	48000	224	100%
	21500	40500	21800	40000	274	100%
		44000	21800	44000	291	180%
	23340	44040	24000	44000	307	98%
	24000	48000	24000	48000	298	180%
	24078	47980	24000	48000	303	180%
Triax	18748	27000	21800	27000	246	98%
	18960	23700	21800	24088	238	95%
	22800	31340	24000	31000	228	97%

### Parking Brake Performance

FMVSS 121 requires that every air-braked vehicle be capable of stopping and holding on a 20 percent grade in either direction. Tests are conducted on a calibrated grade. Grades for testing are available at our Oshkosh Truck Corp. test facility.

### VALIDATION TEST: Multiple Test Reports

Pierce Manufacturing, Inc.

James Roger Lackore, PE

April 4, 2009



**Certification Document CD0039**  
**Statement of Compliance to NFPA 1901-2009**  
**Pierce 500 lb Tip Capacity Heavy Duty Ladder**

Pierce Aerial devices comply with all applicable NFPA 1901 guidelines for capacity, structural integrity, and stability. Compliance is verified through testing either during the design process, or as part of the regular manufacturing routine. The specifics of the major tests performed on the Heavy Duty Ladder device are as follows:

**Capacity Rating**

**NFPA 1901 19.3.1** The rated capacity of the aerial ladder shall be a minimum load of 250 lb (114 kg) carried on the outermost rung of the outermost fly section with the aerial ladder placed in the horizontal position at maximum horizontal extension and with the stabilizers fully deployed. The minimum rated capacity shall remain constant throughout the entire operating envelope of the aerial ladder. The aerial ladder shall be capable of operating in any position while carrying its rated capacity on the outermost rung of the outermost fly section. If the aerial ladder has a permanently mounted water delivery system, the 250 lb (114 kg) rated capacity shall be determined without water in the system.

*As part of the pre-delivery inspection, every Pierce 500 lb Heavy Duty Ladder is loaded to at least its rated capacity of 500 pounds and rotated through 360 degrees with the ladder fully extended and elevated to 0 degrees with respect to the horizontal plane. This represents the worst-case position for stability and ensures that the hydraulic system is capable of lifting the rated load to any design elevation.*

**NFPA 1901 19.3.2** The rated capacity of the aerial ladder shall be a minimum load of 250 lb (114 kg) carried on the outermost rung of the outermost fly section with the aerial ladder at 45 degrees to the horizontal and at maximum extension while discharging water at rated capacity through the full range of monitor or nozzle movements as permitted by the aerial manufacturer.

*Upon completion of the design and development of the Pierce 500 lb Heavy Duty Ladder, the device was loaded to 500 pounds plus full water weight, and subjected to side loads equivalent to a discharge of 1,000 gpm of water plus wind forces of 50 mph. Material stress in critical locations was recorded using strain gauge instrumentation. Testing was performed at 0 degrees ladder elevation and full extension which represents the worst-case condition. This testing was witnessed and certified by professional engineers from Underwriters Laboratories, Inc.*

**NFPA 1901 19.2.12** With the stabilizers set, the aerial ladder shall be capable of being raised from the bedded position to maximum elevation and extension and rotated 90 degrees. Two or more of these functions shall be permitted to be performed simultaneously. The functions described in 19.2.12 shall be accomplished within 120 seconds if the aerial ladder has a rated vertical height of 110 ft (34 m) or less.

*As part of the pre-delivery inspection, every Pierce 500 lb Heavy Duty Ladder is raised from its bedded position to its rated height and rotated 90 degrees. All results are well within the 120-second criteria whether the functions are performed simultaneously or one at a time.*

**Water Delivery**

**NFPA 1901 19.6.1** Where a pre-piped waterway is provided, the waterway system shall be capable of flowing 1000 gpm (4000 L/min) at 100 psi (700 kPa) nozzle pressure at full elevation and extension. For ladders with a rated vertical height of 110 ft (34 m) or less, the friction loss (total system loss less head loss) between the monitor outlet and at a point below the waterway swivel shall not exceed 100 psi (700 kPa) at 1000 gpm (4000 L/min) flow with ladder at full horizontal extension.

*As part of the pre-delivery inspection, every Pierce 500 lb Heavy Duty Ladder is tested to verify that it is capable of flowing 1,000 gpm at rated height and 100 psi nozzle pressure. A second test is performed with the aerial fully extended at an*

elevation of 0 degrees with respect to the horizontal to ensure that the friction loss does not exceed 100 psi at 1,000 gpm flow rate.

### Structure

**NFPA 1901 19.20.1** All structural load-supporting elements of the aerial device that are made of a ductile material shall have a design stress of not more than 50 percent of the minimum yield strength of the material based on the combination of the rated capacity and the dead load, which is equivalent to a 2:1 safety factor.

*Upon completion of the design and development of the Pierce 500 lb Heavy Duty Ladder, each device was loaded to rated capacity and subjected to wind and water loads at the worst-case boom extension and elevation. Stress in the structural members was recorded at critical locations using strain gauge techniques. At no time were any stresses recorded that exceeded 50 percent of the material yield strength. This testing was witnessed and verified by representatives of Underwriters Laboratories, Inc.*

### Stabilization

Stability tests are performed with all normally removable items such as water, hose, ground ladders, loose equipment, etc. removed. Items mounted on the aerial device by Pierce remain as furnished.

**NFPA 1901 19.21.2** The aerial device shall be capable of sustaining a static load 1 1/2 times its rated capacity in every position in which the aerial device can be placed when the apparatus is on a firm and level surface.

*As part of the pre-delivery inspection, every Pierce 500 lb Heavy Duty Ladder is loaded to 750 pounds. It is then fully extended and rotated through 360 degrees with the ladder elevated to 0 degrees with respect to the horizontal plane. This represents the worst-case position for stability.*

**NFPA 1901 19.21.3.1** The aerial device shall be capable of sustaining a static load 1 1/3 times its rated capacity in every position in which the aerial device can be placed when the apparatus is on a slope of 5 degrees (8.7 percent) downward in the direction most likely to cause overturning.

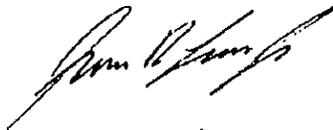
*As part of the pre-delivery inspection, every Pierce 500 lb Heavy Duty Ladder is loaded to 665 pounds with the vehicle positioned on a slope of 5 degrees. The device is then fully extended and rotated through 360 degrees with the ladder elevated to 0 degrees with respect to the horizontal plane. This represents the worst-case position for stability.*

**NFPA 1901 19.24.3** With the aerial device out of the cradle and in the fully extended position at zero degrees elevation, a test load shall be applied in a horizontal direction normal to the centerline of the ladder or boom. For aerial devices with a prepiped waterway, a 350 lb (160 kg) test load shall be applied at the tip of the ladder or boom. For aerial devices without a prepiped waterway, a 220 lb (100 kg) test load shall be applied at the tip of the ladder or boom. The turntable shall not rotate and the ladder or boom shall not deflect beyond what the manufacturer's specification allows.

*As part of the pre-delivery inspection, every Pierce 500 lb Heavy Duty Ladder is subjected to the required side load of 350 lb (160 kg) or 220 lb (100 kg), while in the fully extended position at 0 degrees. Rotation of the turntable and the maximum allowable device deflection are then verified.*

### **VALIDATION TEST: RD1301**

Pierce Manufacturing, Inc.



James Roger Lackore, PE  
January 10, 2009



### Certification Document CD0052 Aerial Device UL Certification – Steel Devices

Underwriters Laboratories witnessed the structural testing of Pierce Aerial Devices and certifies that this testing met NFPA 1901 requirements.



The standard in safety

Underwriters  
Laboratories

September 8, 2008

Pierce Manufacturing Inc.  
2600 American Drive  
Appleton, WI 54912

This is to verify that Registered Professional Engineers from UL have witnessed strain gage testing on representative aerial devices for the following types of aerial devices manufactured by Pierce Manufacturing Inc.

100 Ft. Midmount Ladder	75 Ft. Heavy Duty Ladder
95 Ft. Midmount Platform	75 Ft. Medium Duty Ladder
100 Ft. Platform Aerial	55 Ft. and 61 Ft. Skybooms
105 Ft. Heavy Duty Ladder	Heavy Duty Tiller
100 Ft. Medium Duty Ladder	Medium Duty Tiller
100 Ft. Super Duty Ladder	85 Ft. Platform Aerial
100 Ft. Sky-Arm™	

The calculated stress of the strain gages was recorded with the aerial devices subjected to a combined static rated load, weight of the structure, and a pull force to simulate wind load. Aerial devices provided with a waterway were additionally loaded to simulate the water weight in the waterway and the nozzle reaction force. Calibration records of all weights, load cells, and other measuring devices were reviewed prior to testing.

No gage exceeded the maximum allowable strain that would provide for a 2 to 1 safety factor in the structure. The calculated maximum allowable stress, based on 50% of the yield strength for the material was tabulated for each test condition.

Each aerial device certified by UL as being in compliance with NFPA 1901, Standard for Automotive Fire Apparatus, Section 19-24, is examined and tested by UL Representatives. The certification of each aerial device includes inspection and testing in accordance with NFPA 1911, Standard for the Inspection, Maintenance, Testing, and Retirement of In-Service Automotive Fire Apparatus Fire, 2007 Edition, and testing for stability and aerial device water systems as defined in NFPA 1901, Paragraphs 19-24.2 through 19-24.4.

Very truly yours,  
  
THOMAS HILLENBRAND, PE  
Program Manager  
Fire Equipment Service



## Request For Proposals Results for a Tractor Drawn Aerial Apparatus

The City of Santa Cruz has concluded the evaluation of the responses to the Request For Proposals (“RFP”) for a Tractor Drawn Aerial Apparatus. The proposals were reviewed, evaluated and scored according to the criteria listed in the RFP:

Criteria

- |  | <u>Weight</u> |
|--|---------------|
| 1. Pricing   | 40%           |
| 2. Vendor’s ability to comply with specifications      | 20%           |
| 3. Vendor’s qualifications, experience, and references | 20%           |
| 4. Vendor’s ability to execute contract                | 10%           |
| 5. Warranty work / Anticipated Maintenance             | 10%           |

The Purchasing Division has recommended award of the contract to Golden State Fire Apparatus. Their proposal demonstrated the ability to provide a conforming apparatus at the best price. This contract will be presented to the Santa Cruz City Council for approval on April 26, 2010 based on the following results:

Vendor	Criteria 1: Pricing (as submitted)		Criteria 2: Compliance Score	Criteria 3: Qualifications Score	Criteria 4: Execution Score	Criteria 5: Warranty Score	Final Score
	Price	Score					
Golden State Fire Apparatus (Pierce)	\$ 941,310.42	37.9	13.6	14.2	6.8	6.9	79.4
Seagrave Fire Apparatus	\$ 1,082,584.89	33.0	14.0	13.0	6.2	5.9	72.1
Kovatch Mobile Equipment (KME)	\$ 956,123.22	37.3	8.0	12.4	6.0	5.1	68.8
E-One	\$ 892,450.14	40.0	9.8	8.6	4.7	4.1	67.2
Fire Truck Headquarters (Smeal)	\$ 1,018,480.31	35.1	8.4	12.0	5.4	5.2	66.1



## CITY COUNCIL AGENDA REPORT

DATE: 4/18/2011

AGENDA OF: 4/26/2011

DEPARTMENT: Human Resources

SUBJECT: Liability Claims Filed Against City of Santa Cruz. (HR)

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RECOMMENDATION: Motion to reject liability claims: a) State Farm Insurance, b) Benjamin Tucker; based on staff investigation.

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BACKGROUND: I. Claims to be rejected

- a. Claimant: State Farm Insurance  
Date of occurrence: 8/07/10  
Date of claim: 10/01/10  
Amount of claim: \$24,434.21

Claimant seeks reimbursement for paying insured's property damage.  
Self-represented.

- b. Claimant: Benjamin Tucker  
Date of occurrence: 3/19/11  
Date of claim: 4/05/11  
Amount of claim: \$500.00

Claimant alleges damage to vehicle by fallen city tree.  
Self-represented.

DISCUSSION: None.

FISCAL IMPACT: None.

Prepared by:  
Barbara Choi  
Interim Risk & Safety Manager

Submitted by:  
Lisa Martinez Sullivan  
Administrative Services Director

Approved by:  
Martin Bernal  
City Manager

ATTACHMENTS: None.



## CITY COUNCIL AGENDA REPORT

DATE: 4/18/2011

AGENDA OF: 4/26/2011

DEPARTMENT: Parks and Recreation

SUBJECT: Authorization to Enter into an Agreement with the Santa Cruz Seaside Company for the Construction of a Temporary Beach Deck and a Temporary Beach Access Ramp on an Annual Basis. (PK)

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**RECOMMENDATION:** Resolution authorizing and directing the City Manager to enter an agreement with the Santa Cruz Seaside Company in a form acceptable to the City Attorney to 1) construct, on an annual basis, a temporary beach deck and 2) install, on an annual basis, a temporary beach access ramp.

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**BACKGROUND:** In January of 1995, the Santa Cruz Seaside Company (Company) submitted a Zoning Permit Application for a coastal permit, design permit, and special use permit, which would allow the Company, on an annual basis, to construct on the Main Beach near its boardwalk arcade a temporary beach deck (approximately 3,500 square feet) for public and private picnic usage.

The Coastal Commission reviewed the application to assure compliance with the California Coastal Act and City's Local Coastal Plan and requested that certain conditions be placed upon the City's approval of the application to assure that, when operational, the temporary deck would remain in compliance with the California Coastal Act and Local Coastal Plan.

In March of 1995, the City approved the Company's Zoning Permit Application with one of the conditions of approval stating: "That prior to the installation of the deck in the 1995 season, an agreement between the City and the Seaside Company shall be prepared and signed, which preserves the interest of the public trust and allows continued public access to the deck. This Agreement should establish the parameters of the public's ability to use the facility and also limit the City's liability when this deck is in use." The Company and the City entered into an agreement in 1995 which is still in effect (attachment A). The Agreement also authorizes the installation of a temporary beach access ramp.

**DISCUSSION:** Parks and Recreation staff is currently working with local Coastal Commission staff to update the Beach Management Plan. The new Beach Management Plan like the prior document will require the City and the Seaside Company to have a written agreement stipulating conditions for the deck and access ramp installation. City staff saw this opportunity as the time to review and update the 1995 Agreement to be consistent with the proposed Beach Management Plan. Most of the changes are administrative (clean-up language) or additions to clarify previous

language. There are very few changes; most are simply clarifications which have no substantive changes to the intent of the overall agreement.

Due to the timeline for the submittal of the staff report for the Coastal Commission meeting, Parks and Recreation Staff will not have an opportunity to present the final agreement to City Council before submitting to Coastal staff. If in the unlikely event that the current negotiations result in substantial changes, Staff will return to City Council for direction and follow up.

FISCAL IMPACT: None.

Submitted by:  
Dannettee Shoemaker  
Director of Parks and Recreation

Approved by:  
Martin Bernal  
City Manager

ATTACHMENTS:  
1995 Agreement  
Resolution

## AGREEMENT

This Agreement is made and entered into this 10 day of May, 1995, by and between the CITY OF SANTA CRUZ, a Municipal Corporation, hereinafter referred to as "City", and the SANTA CRUZ SEASIDE COMPANY, hereinafter referred to as "Company":

- A. WHEREAS, on January 26, 1995, Company submitted to the City's Planning and Community Development Department Zoning Permit Application No. 94-203 by which Company sought from City a coastal permit, design permit, and special use permit, which would allow Company, on an annual basis, to construct on the Main Beach near its boardwalk arcade a temporary 3,500 square foot beach deck for public and private picnic usage; and
- B. WHEREAS, in conjunction with said application process, the California Coastal Commission reviewed the application to assure compliance with the California Coastal Act and City's Local Coastal Plan and, pursuant to that review, requested that certain conditions be placed upon the City's approval of said application as to assure that, when operational, the temporary deck would remain in compliance with the California Coastal Act and Local Coastal Plan; and
- C. WHEREAS, on March 14, 1995, the City approved Company's Zoning Permit Application No. 94-203 on appeal subject to sixteen conditions of approval, with Condition No. 9 stating: "That prior to the installation of the deck in the 1195 season, an agreement between the City and the Seaside Company shall be prepared and signed, which preserves the interest of the public trust and allows continued public access to the deck. This Agreement should establish the parameters of the public's ability to use the facility and also limit the City's liability when this deck is in use".; and
- D. WHEREAS, Company and City now desire to implement Condition No. 9 to Zoning Permit 94-203 by entering into an agreement that complies with said condition; and
- E. WHEREAS, pursuant to Zoning Permit 94-203, said temporary deck is now to be annually constructed on that portion of the beach, more particularly shown and delineated on the plat attached hereto, marked Exhibit A, and by this reference incorporated herein.

NOW, THEREFORE, it is agreed by and between Company and City as follows:

- 1. City foes hereby authorize Company, at Company's sole cost and expense, to construct on an annual basis, at the location described on Exhibit A attached hereto, a 3,500 square foot beach deck and ocean access ramp (hereinto jointly referred to as "temporary deck") for public and private picnic usage. Said deck temporary deck shall be constructed only in accordance with construction plans and specifications therefore, filed with and approved by the City's Planning Director and Director of Parks and Recreation. Construction shall not commence until said plans and specification have been so approved, and a building permit issued by the City's Chief Building Official. The temporary deck shall be completed to the satisfaction of the City's Parks and Recreation Director. Title to the temporary deck, due the deck's temporary nature, shall remain vested in the company. The temporary deck shall be installed annually, commencing in 1995, no earlier than May 1 and removed annually no later than October 31.

2. In recognition of the fact that the temporary deck, due to its installation upon a public beach, must accord a public benefit, Company agrees that the temporary deck will be available to the public for public picnic use, without consideration, for a minimum of sixty percent (60%) of the days that the temporary deck is installed. Company shall have the right to reserve a maximum of forty percent (40%) of the days that the temporary deck is installed for private picnic purposes; however, the ocean access ramp shall be available for use by the public at all times during its installation. Company, in advance of its annual installation of the temporary deck, shall designate at least one (1) full week day, on which week day during that year's installation, the deck will be available for picnic use without consideration by public only. On the remaining days, Company will have the right to reserve the deck for private picnic use and long as no more than forty percent (40%) of the available days are designated for said private use and there is a reasonable distribution of public use days throughout the deck installation period. Prior to May 1 of each year, Company shall provide City with a list of dates upon which Company intends to reserve the temporary deck for private picnic use as provided herein.

RESOLUTION NO. NS-

RESOLUTION OF THE CITY COUNCIL OF THE CITY OF SANTA CRUZ AUTHORIZING AND DIRECTING THE CITY MANAGER TO EXECUTE AN AGREEMENT WITH THE SANTA CRUZ SEASIDE TO CONSTRUCT A TEMPORARY BEACH DECK AND INSTALL A TEMPORARY BEACH ACCESS RAMP ON AN ANNUAL BASIS.

WHEREAS, the Santa Cruz Seaside Company has had an agreement with the City of Santa Cruz for the construction of their temporary beach deck and installation of the temporary beach access ramp since 1995; and

WHEREAS, the Santa Cruz Seaside Company hosts approximately 3,000,000 guests annually and preserves the interest of the public trust and allows continued public access to the deck and ramp; and

WHEREAS, the Santa Cruz Seaside Company, in compliance with all the City of Santa Cruz and California Coastal Permit conditions, has successfully managed the construction and operation of a temporary beach deck and beach access ramp each summer season; and

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Santa Cruz that it hereby authorizes and directs the City Manager to execute an agreement with the Santa Cruz Seaside Company to construct a temporary beach deck and install a temporary beach access ramp in a form acceptable to the City Attorney.

PASSED AND ADOPTED this 26<sup>th</sup> day of April, 2011, by the following vote:

AYES:

NOES:

ABSENT:

DISQUALIFIED:

APPROVED: \_\_\_\_\_  
Mayor

ATTEST: \_\_\_\_\_  
Interim City Clerk Administrator



## CITY COUNCIL AGENDA REPORT

DATE: 4/18/2011

AGENDA OF: 4/26/2011

DEPARTMENT: Public Works

SUBJECT: 12.5% Sodium Hypochlorite for the Wastewater Treatment Facility—  
Award Bid. (PW)

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RECOMMENDATION: Motion to accept the bid of Sierra Chemical Co., Sparks, NV, complying with specifications for 12.5% Sodium Hypochlorite in the amount of \$0.7246/gallon, and rejecting all other bids; and to authorize the City Manager to execute the agreement.

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BACKGROUND: 12.5% Sodium hypochlorite is used by the Wastewater Treatment Facility (WWTF) as a back up disinfectant for the effluent (water going out of the plant into the ocean) and for odor control on the influent (wastewater coming into the plant).

DISCUSSION: Bids were received for 12.5% Sodium Hypochlorite for the City of Santa Cruz WWTF on April 14, 2011 at 2:30 p.m. PDT.

Bid results are as follows:

Vendor	Price Including Delivery
Sierra Chemical Co.	\$253,610.00 (\$0.7246/gallon)
Olin Chlor Alkali Products	\$258,639.00 (\$0.739/gallon)
Basic Chemical Solutions, LLC	\$273,945.00 (\$0.7827/gallon)
K.A. Steel Chemicals, Inc.	No Bid
Heavy Equipment Parts	No Bid
Univar USA, Inc.	No Bid

FISCAL IMPACT: The contract will be in effect June 2011 through May 2012. There are funds in the 2011 fiscal year Sewer Enterprise operating budget for the first month. Additional Sewer Enterprise funds will be budgeted in the 2012 fiscal year to fund the contract's remaining months. There is no impact to the General Fund.

Prepared by:	Submitted by:	Approved by:
Dan Seidel	Mark R. Dettle	Martin Bernal
Superintendent of Wastewater	Director of Public Works	City Manager

ATTACHMENTS:

- ~Agreement
- ~Bid Sheet for 12.5% Sodium Hypochlorite
- ~Bid Tabulation Sheet



PUBLIC WORKS DEPARTMENT  
809 Center Street, Room 201, Santa Cruz CA 95060 • 831 420-5160 • Fax: 831 420-5161

THIS AGREEMENT made and entered into this 1st day of June 2011 by and between the CITY OF SANTA CRUZ, a Municipal Corporation, hereinafter called "City" and Sierra Chemical Company, hereinafter called "Vendor";

IT IS AGREED:

That for, and in consideration of, the covenants and agreements herein contained, and the payments at the prices stated in the agreement proposal, exhibits and addendum attached hereto, and by this reference made a part hereof, Vendor hereby covenants and agrees to furnish any and all required services as set forth in the attached "Product/Service Specifications for 12.5% Sodium Hypochlorite". Vendor will bear any and all other expense necessary or incidental to the performance of the work specified herein, and will furnish 12.5% Sodium Hypochlorite at the prices and discounts stated in the attached "Bid Sheet," dated April 08, 2011, and will do everything required by this Agreement for the furnishing of 12.5% Sodium Hypochlorite for the contract period.

SIERRA CHEMICAL COMPANY

CITY OF SANTA CRUZ,  
a Municipal Corporation

By \_\_\_\_\_

By \_\_\_\_\_

Date \_\_\_\_\_, 2011

Date \_\_\_\_\_, 2011

APPROVED AS TO FORM:

By   
CITY ATTORNEY

Date 4-16, 2011

Sealed bids shall be enclosed in an envelope clearly marked:

“BID FOR 12 ½ % SODIUM HYPOCHLORITE”

and delivered to:

City of Santa Cruz Public Works Dept.  
809 Center Street, Room 201  
Santa Cruz CA 95060

prior to 2:30 p.m.

April 14, 2011

Closing time to receive bids will be verified according to local telephone company time.

Sierra Chemical Co.  
Business Name

2302 Larkin Circle  
Business Address

Sparks, NV 89431

775-358-0888  
Telephone Number

775-358-0987  
Fax Number

sierrachem@gbis.com  
Email Address

*Stanley K. Henderson*  
Authorized Representative  
(please print or type)

The undersigned, upon acceptance, agrees to furnish the following in accordance with terms and conditions per City of Santa Cruz “Specifications for 12 ½ % Sodium Hypochlorite” dated March, 2011, at the prices indicated herein.

**All costs incidental to the purchase of 12 ½ % Sodium Hypochlorite must appear on this Bid Sheet.**

<u>Description</u>	<u>Quantity</u>	<u>Unit Price</u>	<u>Extended Price</u>
12½ Sodium Hypochlorite Solution	350,000	\$0.5615 /gallon	\$ 196,525.00
Shipping (Calculate fuel Separately)(If Applicable)		\$0.109 /gallon	\$ 38,150.00
Fuel		\$0.0392 /gallon	\$ 13,720.00
Pesticide Fee (If Applicable) 2.1% CA Pesticide Fee		\$0.0149 /gallon	\$ 5,215.00
Regulatory Compliance Fee (If Applicable)		<del>\$0.7246</del> /gallon	<del>\$ 253,610.00</del> N/A
<b>TOTAL COST</b>		<b>\$0.7246 /gallon</b>	<b>\$ 253,610.00</b>

**Early Pay Discount**

A 0 % discount is offered for payment within 30 days.  
(Note: Discount period must be fifteen days, or greater, to be considered.)

**Local Supplier's Advantage**

For bidders located within Santa Cruz city limits, the amount of sales tax which would be returned to the City will be considered. This amount shall be calculated at 1.5% of the selling price. Are your State Board of Equalization sales recorded within the city limits of Santa Cruz? Yes  No

Source of Material Sierra Chemical Co.

Manufacturer of Material Sierra Chemical Co.

Trade/Product Name Sierra Pure Chlor

Is your firm a member of the Chlorine Institute?  Yes  No

**Order Contact**

Name: Scott Peterson

Address: 2302 Larkin Circle, Sparks, NV 89431

Phone Number: 775-358-0888/800-777-8965

Fax Number: 775-358-7799

**Emergency Leak Contact**

Name: Lynn Kinder

Phone Number: 775-240-9201/800-777-8965

This phone line must be monitored 24-hours a day.

**Training**

Fully describe training your firm will offer to the City and any associated costs (attach separate sheet, if needed):

Safe handling of Sodium Hypochlorite

**General Information**

**Company Information**

Year firm established: 1959 Annual sales: 20-30 Million Number of employees: 75

**References**

	<u>Company/Agency Name</u>	<u>Contact Name</u>	<u>Phone Number</u>
1.	<u>City of Stockton</u>	<u>Mr. Fermin Garcia</u>	<u>209-937-8763</u>
2.	<u>City of Folsom</u>	<u>Mr. Phil Carter</u>	<u>916-355-8337</u>
3.	<u>City of Tracy</u>	<u>Ms. Margie Goulart</u>	<u>209-831-4480</u>

**Delivery**

Delivery will be made 3 days after receipt of order.

Method of Delivery: Common Carrier Private Company Carrier  
(Please circle one choice or describe alternative method)

**Environmental Conservation and Sustainable Living**

Provide information regarding any existing environmental conservation goals or guidelines, Green Business certifications, existing alternative fuel service vehicles, superior employee benefit policies, recycled content packing materials, or other applicable policies (attach separate sheet, if needed):

Sierra Chemical is a member of the Chlorine Institute and NACD. We follow their responsible  
distribution process.

**Santa Cruz Tax Certificate**

Does your firm hold a City of Santa Cruz Business Tax Certificate? Yes  No

If yes, number: \_\_\_\_\_

**Optional Piggyback Contracting**

Will your firm extend the same prices, terms and conditions to other public agencies? Yes  No

**Submittals**

Vendors must submit the following with their bid.

1. Material specifications (components with analysis) with typical properties for all products offered, as explained in IFB section 3.2.
2. Affidavit that sodium hypochlorite offered complies with ANSI/NSF 60 and AWWA B300-92, as explained in IFB section 3.1.
3. Material safety data sheets for all products offered, as explained in IFB section 3.7.
4. A copy of any sales and/or service agreement that the bidder will require during the execution of any contract resulting from this solicitation. Any agreements terms that contradict the City's terms and conditions, or contain provisions that are determined not to be in the best interest of the City will disqualify the bidder.

Failure to do so may result in rejection of your bid.

**Addenda**

It is each bidder's responsibility to ensure that they have received all addenda prior to submission of their bid.

How many addenda were issued for this solicitation? \_\_\_\_\_

**Terms**

Sales tax will be added at time of purchase.

Prices are F.O.B. Santa Cruz.

Bids shall be valid for sixty days following the bid opening.

The undersigned, under penalty of perjury, declares not to be a party with other bidder or bidders to an agreement to bid a fixed or uniform price in connection with this bid.

The undersigned recognizes the right of the City of Santa Cruz to reject any or all bids received and to waive any informality or minor defects in bids received.

Sierra Chemical Co.

Company

Stanley K. Kinder, President & CEO

Authorized Representative

*Stanley K. Kinder*

Signature

April 8, 2011

Date

BID TABULATION FORM

Bid Title: 12.5% Sodium Hypochlorite

Bid Opening Date: 4/14/11 Bids Opened By: Dan Seidel

Opening Assisted By: Filipina Warren

Admin Department Contact Person: \_\_\_\_\_ **X**

3  
2

Name of Bidder	No Bid	Bid Amount
1. Basic Chemical Solutions		\$0.7827/gallon
2. Plain Chlor Alkali		\$0.739/gallon
3. KA Steel Chemical, Inc	X	
4. Heavy Equipment Parts	X	
5. Univar	X	
6. Sierra Chemical		\$0.7246/gal
7.		
8.		



## CITY COUNCIL AGENDA REPORT

DATE: 4/18/2011

AGENDA OF: 4/26/2011

DEPARTMENT: Public Works

SUBJECT: Ferric Chloride for the Wastewater Treatment Facility - Award Bid. (PW)

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**RECOMMENDATION:** Motion to accept the bid of Kemira Water Solutions, Inc. (Lawrence, Kansas) complying with specifications for 36-40% Ferric Chloride in the amount of \$735.00 per dry ton and rejecting all other bids; authorizing and directing the City Manager to execute an agreement between the City of Santa Cruz and Kemira Water Solutions, Inc. in a form acceptable to the City Attorney.

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**BACKGROUND:** Ferric chloride is used by the Wastewater Treatment Facility (WWTF) to treat wastewater. Specifically, ferric chloride settles solids, provides odor control, and minimizes corrosive activity. Approximately 125 dry tons of ferric chloride is required annually for an estimated annual cost of \$91,875.00.

**DISCUSSION:** Bids were received for 36-40% Ferric Chloride for the City of Santa Cruz WWTF on April 7, 2011 at 2:30 p.m. PDT.

Bid results are as follows:

Vendor Price Including Delivery

Kemira Water Solutions, Inc.	\$735.00/dry ton
California Water Technologies, LLC	\$751.00/dry ton
Brenntag Pacific, Inc.	No Bid
Univar USA	No Bid
Basic Chemical Solutions, LLC	No Bid
Thatcher Company of California	No Bid
Heavy Equipment Parts	No Bid

FISCAL IMPACT: The contract will be in effect from May 1, 2011 – April 30, 2012. There are adequate funds in the FY 2011 and proposed FY 2012 Wastewater Enterprise fund operating budgets to purchase this material. There is no impact to the General Fund.

Prepared by:	Submitted by:	Approved by:
Dan Seidel	Mark R. Dettle	Martin Bernal
Superintendent of Wastewater Treatment Facility	Director of Public Works	City Manager

**ATTACHMENTS:**

Agreement  
Bid Sheet for Kemira Water Solutions, Inc.  
Bid Tabulation Sheet



PUBLIC WORKS DEPARTMENT  
809 Center Street, Room 201, Santa Cruz CA 95060 • 831 420-5160 • Fax: 831 420-5161

THIS AGREEMENT made and entered into this 1st day of May 2011 by and between the CITY OF SANTA CRUZ, a Municipal Corporation, hereinafter called "City" and Kemira Water Solutions, Inc., hereinafter called "Vendor";

IT IS AGREED:

That for, and in consideration of, the covenants and agreements herein contained, and the payments at the prices stated in the agreement proposal, exhibits and addendum attached hereto, and by this reference made a part hereof, Vendor hereby covenants and agrees to furnish any and all required services as set forth in the attached "Product/Service Specifications for 36-40% Ferric Chloride Solution". Vendor will bear any and all other expense necessary or incidental to the performance of the work specified herein, and will furnish 36-40% Ferric Chloride Solution at the prices and discounts stated in the attached "Bid Sheet," dated April 4, 2011, and will do everything required by this Agreement for the furnishing of 36-40% Ferric Solution for the contract period.

KEMIRA WATER SOLUTIONS, INC.

CITY OF SANTA CRUZ,  
a Municipal Corporation

By \_\_\_\_\_

By \_\_\_\_\_

Date \_\_\_\_\_, 2011

Date \_\_\_\_\_, 2011

APPROVED AS TO FORM:

By   
CITY ATTORNEY

Date 4-13-11, 2011

City of Santa Cruz

Bid Sheet for Ferric Chloride Solution

Sealed bids shall be enclosed in an envelope clearly marked:

"BID FOR 36 - 40% Ferric Chloride Solution"

and delivered to:

City of Santa Cruz Public Works Dept.  
809 Center Street, Room 201  
Santa Cruz CA 95060

prior to 2:30 p.m.

April 7, 2011

Closing time to receive bids will be verified according to local telephone company time.

**Kemira Water Solutions, Inc.**  
3211 Clinton Pky. Ct. #1  
Lawrence, Kansas 66047

Business Name

Business Address

Telephone Number

Fax Number

Email Address

Authorized Representative  
(please print or type)

(785) 842-7424

(785) 842-2629

tammy.yergay@kemira.com

*Tammy Yergay*

The undersigned, upon acceptance, agrees to furnish the following in accordance with terms and conditions per City of Santa Cruz "Specifications for 36 - 40% Ferric Chloride Solution" dated March, 2011, at the prices indicated herein.

**All costs incidental to the purchase of 36 - 40% Ferric Chloride Solution must appear on this Bid Sheet.**

Description	Quantity	Unit Price	Extended Price
36 - 40% Ferric Chloride Solution	125	\$735 /dry ton	\$ 91,875.00
Shipping (Calculate fuel Separately)(If Applicable)		\$ — /dry ton	\$ _____
Fuel		\$ — /dry ton	\$ _____
Pesticide Fee (If Applicable)		\$ — /dry ton	\$ _____
Regulatory Compliance Fee (If Applicable)		\$ — /dry ton	\$ _____
<b>TOTAL COST</b>		<b>\$735 /dry ton</b>	<b>\$ 91,875.00</b>

**Early Pay Discount**

A 0 % discount is offered for payment within <sup>Net</sup> 30 days.  
(Note: Discount period must be fifteen days, or greater, to be considered.)

**Local Supplier's Advantage**

For bidders located within Santa Cruz city limits, the amount of sales tax which would be returned to the City will be considered. This amount shall be calculated at 1.5% of the selling price. Are your State Board of Equalization sales recorded within the city limits of Santa Cruz? Yes  No

City of Santa Cruz

Bid Sheet for Ferric Chloride Solution

Source of Material \_\_\_\_\_

Manufacturer of Material Kemira Water

Trade/Product Name PIX-311

Order Contact

Name: Marsha Copeland kwsna.orders@kemira.com

Address: 3211 Clinton Pkwy Ct., Lawrence KS 66047

Phone Number: (785) 842-7424 (800) 879-6353

Fax Number: (785) 842-2629

Emergency Leak Contact

Name: Customer Service

Phone Number: (800) 879-6353

This phone line must be monitored 24-hours a day.

Training

Fully describe training your firm will offer to the City and any associated costs (attach separate sheet, if needed):

Complete MSDS training, safety training

General Information

Company Information

Year firm established: 2000 Annual sales: \$350 million Number of employees: 291

References

	<u>Company/Agency Name</u>	<u>Contact Name</u>	<u>Phone Number</u>
1.	<u>see attached reference</u>	_____	_____
2.	_____	_____	_____
3.	_____	_____	_____

Delivery

Delivery will be made 23 days after receipt of order.

City of Santa Cruz

Bid Sheet for Ferric Chloride Solution

Method of Delivery: Common Carrier Private Company Carrier  
(Please circle one choice or describe alternative method) *Both*

**Environmental Conservation and Sustainable Living**

Provide information regarding any existing environmental conservation goals or guidelines, Green Business certifications, existing alternative fuel service vehicles, superior employee benefit policies, recycled content packing materials, or other applicable policies (attach separate sheet, if needed):

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Santa Cruz Tax Certificate**

Does your firm hold a City of Santa Cruz Business Tax Certificate? Yes No  
*in process*

If yes, number: \_\_\_\_\_

**Optional Piggyback Contracting**

Will your firm extend the same prices, terms and conditions to other public agencies? Yes No

**Submittals**

Vendors must submit the following with their bid.

1. Material specifications (components with analysis) with typical properties for all products offered, as explained in IFB section 3.2.
2. Material safety data sheets for all products offered, as explained in IFB section 3.7.
3. A copy of any sales and/or service agreement that the bidder will require during the execution of any contract resulting from this solicitation. Any agreements terms that contradict the City's terms and conditions, or contain provisions that are determined not to be in the best interest of the City will disqualify the bidder.

Failure to do so may result in rejection of your bid.

**Addenda**

It is each bidder's responsibility to ensure that they have received all addenda prior to submission of their bid.

How many addenda were issued for this solicitation? 0

City of Santa Cruz

Bid Sheet for Ferric Chloride Solution

**Terms**

Sales tax will be added at time of purchase.

Prices are F.O.B. Santa Cruz.

Bids shall be valid for sixty days following the bid opening.

The undersigned, under penalty of perjury, declares not to be a party with other bidder or bidders to an agreement to bid a fixed or uniform price in connection with this bid.

The undersigned recognizes the right of the City of Santa Cruz to reject any or all bids received and to waive any informality or minor defects in bids received.

Kemira Water Solutions, Inc.  
Company

Tammy Yergay  
Authorized Representative

[Signature]  
Signature

4/4/11  
Date

36-40%

BID TABULATION FORM

Bid Title: Ferric Chloride Solution

Bid Opening Date: 4/7/11 Bids Opened By: Dan Seidel

Opening Assisted By: Filipina Warren

Admin Department Contact Person: \_\_\_\_\_ **X**

Name of Bidder	No Bid	Bid Amount
1. Basic Chemical Solutions	X	<del>None</del>
2. Univar	X	
3. Brenntag Pacific, Inc.	X	
4. California Water Technologies c/o PVS Technologies		\$751 per dry ton \$93,875
5. Kemira Water Solutions		\$735 per dry ton \$91,875
6. Thatcher Company of California	X	
7. Heavy Equipment Parts	X	
8.		

②

①



## CITY COUNCIL AGENDA REPORT

DATE: 4/18/2011

AGENDA OF: 4/26/2011

DEPARTMENT: Public Works

SUBJECT: West Cliff Drive Paving – Budget Adjustment. (PW)

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**RECOMMENDATION:** Resolution amending the FY 2011 budget to transfer funds in the amount of \$250,000 and to fully fund the West Cliff Drive Paving project, from Almar to Swanton.

---

**BACKGROUND:** On February 22, 2011, the City Council approved advertising the West Cliff Drive paving project (from Almar to Swanton) for bids and authorizing the City Manager to award the bid. The Public Works Department noted in the staff report that \$300,000 in ARRA funds from the Depot intersection roundabout and the Pacific Avenue paving projects, and \$98,000 in savings from the state funded Ocean Street paving project would be used to fund the West Cliff paving project.

**DISCUSSION:** The West Cliff Drive paving project has been bid and the low bidder is Don Chapin and Company from Salinas in the amount of \$597,800.50, including a 10% contingency. The project includes street reconstruction, access ramps, and striping. The project will take place in May 2011, weather permitting, and prior to the summer tourist season.

Now that the project costs are identified, the fund transfer can be formalized with adoption of a budget adjustment. Staff received authorization from Caltrans for the ARRA fund transfer.

**FISCAL IMPACT:** The budget adjustment transfers \$250,000 from the ARRA funded Depot intersection roundabout project, \$50,000 in savings from the ARRA funded Pacific Avenue paving project, and \$98,000 from savings from the state funded Ocean Street paving project. The remaining \$202,000 will be funded from the annual allocation of state Traffic Congestion Relief funds (Gas Tax). These funds are budgeted in the capital improvement program for arterial and collector street rehabilitation projects. Funds from the Traffic Impact Fee in the amount of \$250,000 are being transferred from fund balance to the Depot intersection roundabout project to replace the ARRA funds transferred to West Cliff Drive paving project. The Depot intersection project was originally funded with Traffic Impact Fee funds.

Prepared by:  
Christophe J. Schneider  
Assistant Director/City Engineer

Submitted by:  
Mark R. Dettle  
Director of Public Works

Approved by:  
Martin Bernal  
City Manager

ATTACHMENTS: Budget Adjustment







## CITY COUNCIL AGENDA REPORT

DATE: 4/18/2011

AGENDA OF: 4/26/2011

DEPARTMENT: Economic Development

SUBJECT: 2011 - 2012 Action Plan for the City's Housing and Community Development Program. (ED)

---

**RECOMMENDATION:** Resolution adopting the 2011 - 2012 Annual Action Plan for the City's Housing and Community Development Program, certifying environmental review, and authorizing the City Manager to sign an application for federal funding assistance for the 2011 - 2012 program year.

Resolution authorizing the City Manager to execute program/project contracts, loan agreements and related loan documents with CDBG and HOME sub-recipients and contractors in connection with Consolidated Plan activities proposed in the 2011 - 2012 Annual Action Plan and any subsequent revisions to the Action Plan.

Resolution authorizing the continuance of existing funding for reprogrammable CDBG and HOME funds from the 2010 - 2011 Consolidated Plan Program Year to the 2011 - 2012 Program Year.

---

**BACKGROUND:** The Five-Year Consolidated Plan provides strategic direction for housing and community development activities carried out in the City of Santa Cruz. The city's current Five-Year Consolidated Plan was approved by HUD in 2010. It covers the program period which will end on June 30, 2015. Each year of the Consolidated Plan the City Council adopts an Annual Action Plan, which lays out the activities that will be undertaken in the coming year in pursuit of Consolidated Plan goals and objectives. The Annual Action Plan is used to designate the allocation of Community Development Block Grant (CDBG) and HOME Investment Partnerships Program (HOME) funds received from the U.S. Department of Housing and Urban Development (HUD) for that year. Specific activities which will be undertaken in the 2011 - 2012 Program Year along with their funding sources are identified in the Plan. This will be the second Annual Action Plan under the 2010-2015 Consolidated Plan.

The draft Annual Action Plan was prepared based upon action taken by the Council at a public hearing on March 22, 2011 and was available for public review and comment for a period for 30 days following publication, as required by federal regulations. The Plan and the uses of CDBG and HOME program funds will be amended, if necessary, after this second public hearing and included in the final Annual Action Plan before submission to HUD.

## Citizen Participation Process

Development of the Action Plan involved citizen participation through contacts and meetings with non-profit organizations, service providers, advisory groups and individual citizens. The announcement of funding availability in November 2009, together with the public hearings on March 22, 2011, and April 26, 2011, were advertised in the newspaper and through individual contact with citizen groups.

## Program Entitlements

At the time this staff report was prepared, HUD had not yet released funding amounts for the 2011-2012 plan year. The City's HUD representative has recommended that for budgeting purposes last year's CDBG and HOME allocations be used as the basis for the 2011-2012 budget. Based on prior year HUD funding trends, staff has estimated grant amounts of \$593,500 in CDBG funds and \$540,000 in HOME funds. With the anticipated program income of \$21,604 in CDBG funds the total available for activities would be \$1,155,104. In addition, \$97,475 in CDBG funds and \$297,177 in HOME funds are available for reprogramming.

## Environmental Review for Both CDBG & HOME Funded Activities

The environmental review record for NEPA and CEQA compliance for proposed use of funds is summarized in Attachment 1. The review process resulted in statutory exemptions and categorical exclusions. For housing projects in the design stages, environmental review is not yet complete and will be done before construction begins. Environmental review of projects under the City's Unified Housing Rehabilitation Program are done on a project by project basis.

**DISCUSSION:** The Council held a Public Hearing on March 22, 2011, and tentatively indicated the activities to be funded and the amount of funding for each proposal in the Annual Action Plan. Since that time the Annual Action Plan has been completed.

For this plan year, the standard formula calculations required by HUD have been modified for CDBG funded Community Service Provider activities. Qualified Community Based Development Organizations (CBDOs) serving the Beach South of Laurel Neighborhood Revitalization Area (NRSA) may exceed HUD's 15% allocation limit for social services. The Familia Center, whose service area includes the Beach Flats neighborhood, qualifies as a CBDO.

The Annual Action Plan also identifies those projects approved in previous years that are ongoing or completed, for which the remaining authorized funds will be carried over into the new program year. A resolution authorizing the carryover is attached. (The balances shown in the resolution are only approximate and subject to change resulting from expenditures occurring through June 30, 2011. Per the resolution, the actual carryover will be the amount remaining at the end of the fiscal year.)

Upon adoption by Council and following a 15 day public review period, the Annual Action Plan will be forwarded to HUD for approval and release of federal funds. The 15 day public review period will be noticed in the newspaper and during this period the adopted Action Plan, as well as certifications and environmental review documents for projects and programs, will be available for review at the Reference Desk of the Central Public Library.

FISCAL IMPACT: All activities proposed in the 2011 - 2012 Annual Action Plan will be funded with CDBG and HOME funds or program income.

Prepared by:  
Carol Berg  
Housing and Community  
Development Manager

Submitted by:  
Bonnie Lipscomb  
Director of Economic Development

Approved by:  
Martin Bernal  
City Manager

ATTACHMENTS:

Attachment 1: Environmental Determinations

Resolution 1

Resolution 2

Resolution 3

## Attachment 1: Environmental Determinations HCD Program Plan Year 2011 – 2012

Project/Program	Environmental Review Determination for NEPA <sup>(1)</sup> and when appropriate CEQA <sup>(2)</sup>	Review Complete
<b>Street Light Fixture Replacement Project</b>	Determined to be: (1) Categorically exempt from CEQA under Section 15301 which allows minor alterations of existing facilities; and (2) exempt from NEPA under Section 58.34(a)(12) which also allows minor alterations of existing facilities that don't increase size or capacity by more than 20% and do not require compliance with any other Federal laws and authorities.	<b>YES</b>
<b>Code Enforcement Target Area Program</b>	Determined to be an exempt activity from NEPA per 24 CFR 58.34(a)(5) under Inspections and testing of properties for hazards or defects.	<b>YES</b>
<b>Relocation Assistance Program</b>	Determined to be excluded from NEPA per CFR 58.35.(b)(1) under tenant-based rental assistance.	<b>YES</b>
<b>Neighborhood Services/ Familia Ctr.</b>	Determined to be an exempt activity from NEPA per 24 CFR 58.34(a)(4) as a public service that will not have a physical impact or result in any physical changes.	<b>YES</b>
<b>Homeless Community Resource Center</b>	Determined to be an exempt activity from NEPA per 24 CFR 58.34(a)(4) as a public service that will not have a physical impact or result in any physical changes.	<b>YES</b>
<b>River Street Shelter</b>	Determined to be an exempt activity from NEPA per 24 CFR 58.34(a)(4)) as a public service that will not have a physical impact or result in any physical changes.	<b>YES</b>
<b>Sr. Housing Placement/ Sr. Network Services</b>	Determined to be an exempt activity from NEPA per 24 CFR 58.34(a)(4) as a public service that will not have a physical impact or result in any physical changes.	<b>YES</b>
<b>Beach Flats Community Center</b>	Determined to be an exempt activity from NEPA per 24 CFR 58.34(a)(4) as a public service that will not have a physical impact or result in any physical changes.	<b>YES</b>
<b>Teen Center</b>	Determined to be an exempt activity from NEPA per 24 CFR 58.34(a)(4)) as a public service that will not have a physical impact or result in any physical changes.	<b>YES</b>
<b>CDBG &amp; HOME Grant Administration</b>	Determined to be an exempt activity from NEPA per 24 CFR 58.34(a)(3) as administrative and management activities.	<b>YES</b>
<b>Rehab Housing Services Program Costs</b>	Determined to be an exempt activity from NEPA per 24 CFR 58.34(a)(3) as administrative and management activities.	<b>YES</b>
<b>Holy Cross Senior Housing Project</b>	For both projects, affordable housing pre development costs are Categorically Excluded from NEPA per 24 CFR 58.35(b)(6). Environmental determination for construction activities must be completed before permits are issued and the City enters into a loan agreement for construction funding.	<b>NO</b>
<b>Special Needs CHDO Housing Project</b>		<b>NO</b>
<b>First Time Homebuyer Program</b>	Determined to be an exempt activity from NEPA per 24 CFR 58.35(b)(5) as assistance to homebuyers to purchase an existing unit or a unit under construction.	<b>YES</b>
<b>Tenant Security Deposit Assistance Program</b>	Determined to be Categorically Excluded from NEPA per CFR 58.35.(b)(1) under tenant-based rental assistance.	<b>YES</b>
<b>HOME Housing Services Program Fund</b>	Environmental review for rehabilitation activities will be done on a case by case basis. Most rehabilitation activities are Categorically Excluded from NEPA per 24 CFR 58.35(a)(3)(i) which covers rehabilitation of buildings for residential use when the density is not increased beyond 4 units, the land use is not changed, and the footprint of the building is not increased in a floodplain or wetland.	<b>NO</b>
<p>(1) NEPA = National Environmental Policy Act  (2) CEQA = California Environmental Quality Act</p>		

RESOLUTION NO. NS-

RESOLUTION OF THE CITY COUNCIL OF THE CITY OF SANTA CRUZ  
TO ADOPT THE 2011 - 2012 ANNUAL ACTION PLAN FOR THE CITY'S HOUSING AND  
COMMUNITY DEVELOPMENT PROGRAM, CERTIFY ENVIRONMENTAL REVIEW, AND  
AUTHORIZE THE CITY MANAGER TO SIGN AN APPLICATION FOR FEDERAL  
FUNDING ASSISTANCE FOR THE 2011 - 2012 PROGRAM YEAR.

WHEREAS, the U.S. Department of Housing and Urban Development (HUD) requires that any jurisdiction receiving Federal Community Development Block Grant (CDBG) and the Home Investment Partnerships Program (HOME) grant funds from HUD prepare a Annual Action Plan to identify the activities that will be undertaken in the coming year; and

WHEREAS, the City Council, in accordance with its approved Citizen Participation Plan, held public hearings on March 22, 2011, and April 26, 2011 for the purpose of soliciting input from the public on the proposed 2011 - 2012 Annual Action Plan for the City's Housing and Community Development Program; and

WHEREAS, the City Council solicited competitive proposals for community development activities and projects including land acquisition, housing rehabilitation and housing project costs, economic development activities, public facilities, planning activities and public services which are consistent with the objectives of the Federal Community Development Block Grant (CDBG) and the Home Investment Partnerships Program (HOME) and the City's adopted Consolidated Plan, covering the program period from 2010-2015; and

WHEREAS, the City Council directed the preparation of an Annual Action Plan and an application to HUD for funding, following consideration of comments and recommendations following a publicly noticed 30 day public review period and the completion of environmental review in compliance with CEQA and NEPA; and

WHEREAS, the City Council certifies that it has fulfilled the requirements for environmental review, decision-making, and action pertaining to development of the Federal funding application for 2011 - 2012.

NOW, THEREFORE, BE IT RESOLVED that the City Council of the City of Santa Cruz does hereby adopt the proposed 2011 - 2012 Annual Action Plan and awarding of competitive project funding, as itemized in Exhibit "A.1-3" attached, and authorizes the City Manager to sign and submit the application for Federal assistance for the Housing and Community Development Entitlement Program for 2011 - 2012.

PASSED AND ADOPTED this 26th day of April, 2011 by the following vote:

AYES:

NOES:

ABSENT:

DISQUALIFIED:

APPROVED \_\_\_\_\_  
Mayor

ATTEST: \_\_\_\_\_  
Interim City Clerk Administrator

## RESOLUTION NO. NS-

## EXHIBIT A

## EXHIBIT A.1 - 2011-2012 PROGRAM YEAR FUNDING

<b>COMMUNITY DEVELOPMENT BLOCK GRANT (CDBG)</b>	
\$593,500	2011-2012 CDBG Entitlement
\$21,604	Estimated 2010-2011 program income
<hr/>	
\$615,104	<i>Basis for formula calculations</i>
\$97,475	Prior year funds to be reprogrammed
<hr/>	
\$712,579	Total available prior to allocation deductions
<b>ALLOCATION DEDUCTIONS</b>	
\$92,266	<i>Public services (15% of Basis per HUD Formula)</i>
\$123,021	<i>Administration &amp; planning (20% of Basis per HUD Formula)</i>
\$10,000	Rehab Housing Services Program Costs
<hr/>	
<b>\$487,293</b>	<b>Total CDBG funds available for Projects &amp; Additional SSP Funding</b>
<b>HOME INVESTMENT PARTNERSHIPS PROGRAM (HOME)</b>	
\$540,000	2011-2012 HOME Entitlement
\$0	Estimated 2010-2011 program income
<hr/>	
\$540,000	Basis for formula calculations
\$297,177	Prior year unused funds to be reprogrammed
<hr/>	
\$837,177	Total prior to formula allocations
<b>ALLOCATION DEDUCTIONS</b>	
\$81,000	<i>Minimum CHDO set-aside (15% of new entitlement)</i>
\$54,000	<i>Administration (10% of Basis)</i>
<hr/>	
<b>\$783,177</b>	<b>Total HOME funds available for CHDO projects.</b>
<b>\$702,177</b>	<b>Total HOME funds available for non CHDO projects.</b>

**EXHIBIT A.2- 2011-2012 CDBG BUDGET FOR PROJECTS/PROGRAMS**

<b>PROJECTS &amp; CODE ENFORCEMENT</b>		
<i>Activity:</i>	<b>Street Light Fixture Replacement Project</b>	\$200,793
<i>Applicant</i>	City of Santa Cruz Department of Public Works	
<i>Activity:</i>	<b>Code Enforcement Target Area Program</b>	\$210,000
<i>Applicant</i>	City of Santa Cruz Dept.. of Planning & Community Development	
<i>Activity:</i>	<b>Code Enforcement Relocation Assistance Program</b>	\$15,000
<i>Applicant</i>	City of Santa Cruz Dept. of Planning & Community Development	
<b>TOTAL FUNDING</b>		<b>\$425,793</b>
<b>PUBLIC/COMMUNITY SERVICES</b>		
<i>Activity:</i>	<b>Neighborhood Services - Familia Center</b>	\$81,500
<i>Applicant</i>	Familia Center	
<i>Activity:</i>	<b>Homeless Community Resource Center</b>	\$14,453
<i>Applicant</i>	Homeless Services Center	
<i>Activity:</i>	<b>River Street Shelter (Place Holder)</b>	\$14,453
<i>Applicant</i>	Santa Cruz Community Counseling Center	
<i>Activity:</i>	<b>Senior Housing Placement</b>	\$14,453
<i>Applicant</i>	Senior Network Services	
<i>Activity:</i>	<b>Neighborhood Services - B.F. Community Ctr</b>	\$14,453
<i>Applicant</i>	Community Bridges	
<i>Activity:</i>	<b>Teen Center</b>	\$14,454
<i>Applicant</i>	City of Santa Cruz	
<b>TOTAL PUBLIC/COMMUNITY SERVICES FUNDING</b>		<b>\$153,766</b>
<b>ADMINISTRATION AND PROGRAM REINVESTMENT</b>		
<i>Activity:</i>	<b>Grant Administration and Planning</b>	\$123,021
<i>Applicant</i>	City of Santa Cruz Planning & Community Development	
<i>Activity:</i>	<b>Rehab Housing Services Program Costs</b>	\$10,000
<i>Applicant</i>	City of Santa Cruz Planning & Community Development	
<b>TOTAL ADMINISTRATION &amp; OPERATING FUNDS</b>		<b>\$133,021</b>
<b>TOTAL CDBG FUNDING</b>		<b>\$712,579</b>

**EXHIBIT A.3 - 2011-2012 HOME BUDGET FOR PROJECTS/PROGRAMS**

<b>PROJECTS</b>				
		<b>CHDO</b>	<b>OTHER</b>	<b>TOTAL</b>
<i>Activity:</i>	<b>Holy Cross Senior Housing Project</b>	\$81,000	\$81,000	\$162,000
<i>Applicant</i> :	Central Coast Housing (CHDO)/Mercy Housing CA			
<i>Activity:</i>	<b>Special Needs CHDO Housing Project</b>	--	\$400,000	\$400,000
<i>Applicant</i> :	South County Housing			
<i>Activity:</i>	<b>First Time Homebuyer Program</b>	--	\$70,000	\$70,000
<i>Applicant</i> :	City of Santa Cruz			
<i>Activity:</i>	<b>Tenant Security Deposit Assistance Program</b>	--	\$75,000	\$75,000
<i>Applicant</i> :	City of Santa Cruz			
<i>Activity:</i>	<b>HOME Housing Services Program Fund</b>	--	\$76,177	\$76,177
<i>Applicant</i> :	City of Santa Cruz			
<b>TOTAL PROJECT FUNDING</b>		<b>\$81,000</b>	<b>\$702,177</b>	<b>\$783,177</b>
<b>ADMINISTRATION</b>				
- <i>Activity:</i>	<b>Grant Administration &amp; Planning</b>	--	\$54,000	\$54,000
<i>Applicant</i> :	City of Santa Cruz			
<b>TOTAL ADMINISTRATION</b>		<b>\$0</b>	<b>\$54,000</b>	<b>\$54,000</b>
<b>TOTAL HOME FUNDING</b>		<b>\$81,000</b>	<b>\$756,177</b>	<b>\$837,177</b>

RESOLUTION NO. NS-

RESOLUTION OF THE CITY COUNCIL OF THE CITY OF SANTA CRUZ  
AUTHORIZING THE CITY MANAGER TO EXECUTE PROGRAM/PROJECT CONTRACTS,  
LOAN AGREEMENTS AND RELATED LOAN DOCUMENTS WITH CDBG AND HOME  
SUBRECIPIENTS AND CONTRACTORS IN CONNECTION WITH CONSOLIDATED PLAN  
ACTIVITIES PROPOSED IN THE 2011- 2012 ACTION PLAN  
AND ANY SUBSEQUENT REVISIONS TO THE ACTION PLAN.

WHEREAS, the City Council of the City of Santa Cruz adopted a program of activities to be funded under the Federal Consolidated Plan Program for 2011 - 2012; and

WHEREAS, an allocation has been made to various non-profit and public subrecipient organizations, to provide funding for public services, facilities, housing and other projects; and

WHEREAS, the approved subgrantee organizations are nonprofit or public agencies created and operated for the purpose of providing public services, facilities, housing and other projects.

NOW, THEREFORE, BE IT RESOLVED, that the City Manager is authorized to execute a) 2011 - 2012 CDBG Sub-recipient Agreements, b) 2011 - 2012 HOME Program Agreements, c) 2011 - 2012 Subcontractor Agreements, and d) loan agreements and related loan documents.

PASSED AND ADOPTED this 26th day of April, 2011, by the following vote:

AYES:

NOES:

ABSENT:

DISQUALIFIED:

APPROVED: \_\_\_\_\_  
Mayor

ATTEST: \_\_\_\_\_  
Interim City Clerk Administrator

RESOLUTION NO. NS-

RESOLUTION OF THE CITY COUNCIL OF THE CITY OF SANTA CRUZ  
AUTHORIZING THE CONTINUANCE OF EXISTING USES FOR REPROGRAMMABLE  
CDBG AND HOME PROGRAM FUNDS FROM THE 2010 - 2011 CONSOLIDATED PLAN  
PROGRAM YEAR TO THE 2011 - 2012 PROGRAM YEAR.

WHEREAS, the City Council has determined that funds are available from the 2010 - 2011 Program Year under the Federal Consolidated Plan for the City's Housing and Community Development Program; and

WHEREAS, the City Council has considered the use of these reprogrammable funds at a public hearings on March 22, 2011 and April 26, 2011; and

WHEREAS, the Council has determined that use of these reprogrammable funds meets the requirements of Federal regulations for expenditure of funds.

NOW, THEREFORE, BE IT RESOLVED, that the City Council of the City of Santa Cruz does hereby direct the continuation of existing uses of reprogrammable funds as specified in the attached Exhibit "A," and directs staff to notify the U.S. Department of Housing and Urban Development of its expenditure.

PASSED AND ADOPTED this 26th day of April, 2011, by the following vote:

AYES:

NOES:

ABSENT:

DISQUALIFIED:

APPROVED: \_\_\_\_\_  
Mayor

ATTEST: \_\_\_\_\_  
Interim City Clerk Administrator

**RESOLUTION NO. NS-  
EXHIBIT "A"**

**CITY OF SANTA CRUZ HCD PROGRAM  
STATEMENT OF USE OF REPROGRAMMABLE FUNDS  
FROM PROGRAM YEAR 2010 - 2011  
TO  
PROGRAM YEAR 2011 - 2012**

**CDBG PROGRAM - FUND 261**

Reprogrammable Amount*	Reprogrammed From	Reprogrammed To	Amount* Reprogrammed
\$55,000	Slope Stabilization Project	Streetlight Fixture Replacement Project	\$55,000
\$12,000	River Street Shelter Roof Repair	Streetlight Fixture Replacement Project	\$12,000
\$30,475	Additional uncommitted funds as indicated by HUD in IDIS	Streetlight Fixture Replacement Project	\$30,475
Total			\$97,475

**HOME PROGRAM - FUND 253**

Reprogrammable Amount*	Reprogrammed From	Reprogrammed To	Amount* Reprogrammed
\$297,177	Additional uncommitted funds as indicated by HUD in IDIS	Special Needs Housing Project	\$297,177
Total			\$297,177

\* Approximate carryover. Actual fund balance as of June 30, 2011 will be carried forward into 2011-2012 Program Year.



## CITY COUNCIL AGENDA REPORT

DATE: 4/20/2011

AGENDA OF: 4/26/2011

DEPARTMENT: Planning

SUBJECT: Planning and Community Development Fee Schedule Update to Establish New Fee for New Project Applications on Properties with Current Entitlements, and Revised Fees for Environmental Review to Reflect Costs. (PL)

---

**RECOMMENDATION:** Resolution amending the Planning and Community Development fee schedule to include a “Revised Project Fee” for similar projects on sites with active entitlements and to increase the existing “Negative Declaration/Initial Study Fee” to reflect costs, and rescinding Resolution No. NS-28,345.

---

**BACKGROUND:** The Planning and Community Development Department routinely monitors fees to determine if the current fees cover the cost of the Department staff time and resources. During this review, it was suggested that a new fee be established, the “Revised Project Fee” to address a growing number of entitled projects where project applicants are seeking new permit entitlements for a different project, due to changes in the economy or other reasons. Also noted was the that the fees charged for Negative Declaration/Initial Study preparation does not cover the cost to the City.

**DISCUSSION:** Revised Project Fee. Currently, the city has 25 entitled projects that have not begun construction. Many of these projects have approvals that are over two years old and nearing the end of their entitlement period. Unfortunately, the economy has continued to make many of these projects infeasible as designed and ineligible for financing. Sometimes new owners wish to develop a different project on the site. The Department is working with several developers on revising such projects. These revisions go beyond the modification process provided by Modification Municipal Code Sections 24.08.780 – Modification to Planned Developments and 24.04.160 - Life of Permit. The Department recognizes that there may be some efficiency in processing a revised project on a site, as many of the technical studies will be retained or updated and planning staff will be aware of the site's issues and restrictions.

Due to this potential efficiency it makes sense to develop a fee that acknowledges the existing approval but accounts for a change to the project. Staff is recommending a Revised Project Fee in the form of a \$5,000 deposit for new plans on sites with entitled projects. The \$5,000 deposit is for the entitlement portion of the project fees and would be billed at the hourly billing rate of \$107 per hour listed on the current Department Fee Schedule. If the remaining deposit falls under \$1,000, the Department would collect additional funds in \$2,500 increments and continue to bill per hour up to the dollar amount of an application for an eligible project. If the deposit

has remaining funds at the end of the project, they would be returned to the applicant after a final decision on the entitlements has been rendered. The Revised Project Fee would only cover the entitlement fees and would not cover any fees related to other Department costs (such as Document Handling, Intake, California Environmental Quality Act (CEQA) compliance, Public Notice or outside consultant review).

Negative Declaration/Initial Study Increase. The Negative Declaration and Initial Study process is increasingly complex due to the constant threat of litigation and ever changing regulations surrounding CEQA. For example, the City is now required to analyze greenhouse gas emissions in many of its Initial Studies as a result of the passage of AB 32. The current fee to prepare a Negative Declaration and Initial Study (Neg Dec/IS) is significantly less than the average cost to the Department.

The current Neg Dec/IS fee is \$1,647. This includes a provision that the fee charged is only for the preparation of the study and does not include any outside analysis. The fee schedule also provides for additional charges to be passed to the applicant if the project requires additional staff time. In most cases, an environmental consultant is hired on contract by the Department to prepare Neg Dec/ISes for projects that are not exempt from CEQA. Staff has reviewed the consultant's time spent on Neg Dec/IS since 2006 and has determined that the average number of consultant hours spent on a typical project is 23. At the consultant's cost to the City of \$90 an hour, the average Neg Dec/IS costs \$2070, which is \$423 more than is charged to the applicant. In addition to the consultant costs, various staff within the Department spend an average of eight hours processing the document for an average cost of \$502. Additionally, Finance Department staff estimates another \$370 in Department overhead costs attributable to each Neg Dec/IS. The recommended fee is therefore \$2,942. For those projects that require an extraordinary amount of time, the Fee Schedule will continue to allow the department to recoup consultant costs.

FISCAL IMPACT: Increase in Department revenues as noted. Will vary year to year dependant on the number and types of applications made.

Prepared by:  
Michelle King  
Senior Planner

Submitted by:  
Juliana Rebagliati  
Director of Planning and  
Community Development

Approved by:  
Martín Bernal  
City Manager

ATTACHMENTS:  
Resolution  
Exhibit A--Fee Schedule

RESOLUTION NO. NS-

RESOLUTION OF THE CITY COUNCIL OF THE CITY OF SANTA CRUZ  
RESCINDING RESOLUTION NO. NS-28,345 AND ADOPTING A REVISED  
DEPARTMENT OF PLANNING AND COMMUNITY DEVELOPMENT FEE SCHEDULE  
TO INCLUDE A REVISED PROJECT FEE FOR SIMILAR PROJECTS ON SITES WITH  
ACTIVE ENTITLEMENTS AND TO INCREASE THE ENVIRONMENTAL REVIEW FOR  
THE NEGATIVE DECLARATION/INITIAL STUDY FEE TO REFLECT COSTS.

WHEREAS, on January 11, 2011 the City Council adopted Resolution No. NS-28,316 establishing a revised fee schedule for the Department of Planning and Community Development (Planning Department); and

WHEREAS, the City Council conducted a public hearing on March 22, 2011 and adopted Resolution NO. NS-28-345 fee schedule including fees related to the approved Residential Rental Inspection and Maintenance Program; and

WHEREAS, the City Council conducted a public hearing on April 26, 2011 adopting a new fee schedule now including a "Revised Project Fee" and an increase to an existing environmental review fee; and

WHEREAS, the State of California provides that zoning and building permit inspection fees and services may recover costs associated with such services; and

WHEREAS, the City Council recognizes the necessity of recovering costs associated with said rental inspection program, and

WHEREAS, the City Council finds that the preponderance of the evidence shows that the proposed fees are: (1) not a tax; (2) for an amount that is no more than necessary to cover reasonable costs of the governmental activity; and (3) in a manner in which those costs are allocated to a payor to bear a fair and reasonable relationship to the payor's burdens on, or benefits received from, the governmental activity.

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Santa Cruz that Resolution No. NS-28,345 is hereby rescinded, and the new Current Planning Division Fee Schedule, as shown in Exhibit A, attached hereto and made a part hereof, is hereby adopted; and

BE IT FURTHER RESOLVED by the City of Santa Cruz that the fees shown in Exhibit A hereto shall continue to be adjusted annually on July 1<sup>st</sup> to account for inflation, based on the Consumer Price Index for the previous 12-month period (using the San Francisco-Oakland-San Jose Area modifier).



**EXHIBIT “A”**  
**City of Santa Cruz**  
**Department of Planning and Community Development**  
**Current Planning Division**  
809 Center Street, Room 206, Santa Cruz, CA 95060  
(831) 420-5100

**FEE SCHEDULE<sup>1</sup>**

<b>Application/Fee Type</b>	<b>Fee Amount<sup>2</sup></b>
<b>Administration Fees</b>	
Hourly Billing Rate	\$107 per hour
Application Intake:	
- Public hearing cases	\$100
- Non-public hearing cases	\$50
Document Fee	
- Public hearing cases	\$70
- Non-public hearing cases	\$35
Public Notice	\$266
Technology Surcharge	5% of all fees/charges (including building) except those fees/charges under \$100, duplication, impact fees, inclusionary housing in-lieu fees, and General Plan Maintenance Fee.
Duplication	\$0.25 per page
<b>Permit Applications</b>	
Abandonment	\$2,031
Appeals	\$500
Boundary Adjustment	\$851
Certificate of Compliance	\$1,285
Coastal Permit	\$593
Coastal Permit Exclusion	\$88
Conditional Driveway Permit	\$851
Conditional Fence Permit:	
- No public hearing	\$724
- Public hearing	\$851
Condition/Mitigation Monitoring:	
- Minor	\$500 Deposit
- Major	\$5,000 Deposit
Demolition Permit	\$593
Design Permits: <sup>3</sup>	
- Large house/Substandard Lot (Public hearing)	\$1,504
- Remodel/Site alteration (No public hearing)	\$593
- New nonresidential/residential	\$329/1000 sq. ft.
- Fire Review Fee	20% of Design Permit Fee (\$4,400 max.)
Development Agreements <sup>3</sup>	\$3,076
Extension Area Revocable	\$1,175
General Plan/Zoning Map Amendment <sup>3</sup>	\$5,000 Deposit
General Plan Maintenance Fee	0.0122 of building permit valuation (charged at building permit – \$250,000 max.)
Historic Alteration Permit	\$130
Historic Building Survey Deletion	\$2,031

<sup>1</sup> Adjusted on \_\_\_\_\_ per City Council Resolution \_\_\_\_\_.

<sup>2</sup> All fees are non-refundable.

<sup>3</sup> This application may require the use of expert, outside analysis. Any such consultant costs and/or additional staff time shall be charged to, and recovered from, the applicant.

**EXHIBIT “A”**

**Page Two**

<b>Application/Fee Type</b>	<b>Fee Amount<sup>2</sup></b>
Modification to Approved Plans: - Minor - Major	\$593 \$1,153
Occupancy Permit: - New Business/Change of Use - Home Occupation - New Occupancy, Same Use	\$263 (+ \$52 fire review fee) \$180 (+ \$36 fire review fee) \$55
Plan Check — Planning	\$285 (+ \$3 per \$1,000 valuation) (Charged at Building Permit)
Planned Development <sup>3</sup>	\$3,766
Pre-application Review <sup>4</sup>	\$2,000 Deposit
Reconstruction Permit	\$1,499
Relocation of Structure Permit	\$851
Revised Project Fee <sup>5</sup>	\$5000 Deposit
Sign Permit	\$253
Slope Modification: - Minor - Major	\$335 \$1,713
Special Report Fee	\$527
Specific Plan <sup>3</sup>	\$9,500 Deposit
Subdivision <sup>3</sup>	\$2,196 + \$300 per lot
Time Extension	\$851
Use Permit <sup>3</sup> - Administrative Use <sup>6</sup> - Special Use	\$851 \$1,598
Variance	\$1,499
Watercourse Development Permit	\$271
Watercourse Variance	\$1,714
<b>Environmental Review</b>	
Archaeological Review (for Building Permit Applications)	\$162 (Charged at Building Permit)
Biotic Review	\$214
Arborist Review	\$214
Categorical Exemption	\$88
EIR Review	25% of consultant’s contract
Negative Declaration/Initial Study <sup>3</sup>	\$2,942
<b>Code Compliance</b>	
Code Violation (Investigation Fee)	Double fees for required permits
Reinspection Fee	Actual Cost
<b>Rental Inspection Program</b>	
Annual Registration Fee <sup>7</sup>	\$45
Annual Self-Certification Fee <sup>7</sup>	20% of the units @ \$20 per unit <sup>8</sup>
Annual Inspection Fee <sup>7</sup>	\$20 per unit
Reinspection Fee	\$107 per hour

<sup>4</sup> Up to \$1,000 of this fee may be deducted from the application fee upon submittal within one year of completed review.

<sup>5</sup> Revised Project Deposit Fee to be charged, up to the cost of a new entitlement application. Any unused funds returned at completion of application.

<sup>6</sup> The total fee amount for an Administrative Use Permit to allow a temporary, non-profit, seasonal fund-raiser shall be \$100.

<sup>7</sup> Penalties for late registration/annual renewals start at 20 percent of the original fee (if one month delinquent) and are assessed an additional 10 percent each month the license is delinquent (up to 50 percent maximum).

<sup>8</sup> Any fraction will be rounded up to the nearest whole number.



## CITY COUNCIL AGENDA REPORT

DATE: 4/18/2011

AGENDA OF: 4/26/2011

DEPARTMENT: Water

SUBJECT: Water Supply Assessment for General Plan 2030. (WT)

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RECOMMENDATION: Motion to approve the Water Supply Assessment for the General Plan 2030.

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BACKGROUND: Several years ago, the City initiated a comprehensive update of its General Plan. Every city and county in California is required to adopt a General Plan to serve as the "blueprint" for future development. The plan expresses the community's view of its future, and contains goals and policies to guide the City Council, Planning Commission, and other advisory bodies in making decisions about land use and development, conservation of resources, public services, and budgets. The current General Plan covered a period through 2005. The new General Plan extends from 2010 to the year 2030.

The Water Department has supported this effort in several ways over the years. Staff wrote portions of the General Plan background report, attended and presented at General Plan Advisory Committee meetings, and participated in the development of language for goals, policies, and programs concerning water supply in the Civic and Community Facilities section.

Upon advice from its outside CEQA counsel, the City has voluntarily chosen to prepare a Water Supply Assessment, even though Water Code section 10910 does not actually apply to a comprehensive general plan update. The purpose of this assessment is to provide detailed information regarding water supply availability to support the Environmental Impact Report that is being prepared in conjunction with the General Plan update and to inform long-term planning decisions. Accordingly, the Water Department contracted with Erler & Kalinowski, Inc. (EKI) to prepare the Water Supply Assessment. This is the same firm that was used to complete the Water Supply Assessment to support the City's application to LAFCO to amend the City's Sphere of influence in 2009.

DISCUSSION: As part of a Water Supply Assessment, the public water supplier for a proposed project must evaluate whether water supplies are sufficient to meet the demand of the proposed project over the next 20 years, in addition to the public water system's existing and planned future uses. This assessment describes the City's historical water demand, projected water demand (including that associated with the Project) and water supply sources, and provides a comparison of the City's expected water supply and demand through the year 2030 (including the demand of the Project). Information from the City's 2005 Urban Water Management Plan ("2005 UWMP") is incorporated in this assessment, supplemented by findings from additional

studies performed by the City and other agencies (such as the neighboring Soquel Creek and Central Water Districts), and by recent information provided by the City's Water Department, Planning Department, and EIR consultant. Once the assessment has been completed, Water Code section 10910 (g) (1) requires the governing board of the water supplier to approve the assessment at a regular or special meeting.

Rather than recite the executive summary, staff thought it would be helpful to provide a synopsis of the assessment in a question and answer format.

1. What is the proposed project being assessed?

The proposed project is the City's draft General Plan 2030, which consists of various "elements" that address state mandated topics such as land use, circulation, conservation, open space, noise, and safety. The required housing element is prepared as a separate document that is updated every seven years pursuant to state law. It also includes a land use map that depicts the arrangement and location of various land uses. The draft General Plan 2030 and related maps are posted on the City's website.

To aid the environmental analysis, a "buildout" projection was developed by the City's land use consultant, DC&E, that considers the development potential to the year 2030 in accordance with provisions of the proposed General Plan 2030 taking into account new mixed use land designations along the City's major transportation corridors, land use changes in two areas, vacant land, sites subject to reuse or redevelopment, and underutilized parcels. This buildout projection is included as Appendix B in the Water Supply Assessment. For the purpose of environmental review, the potential growth that could result from the proposed General Plan is characterized as follows:

- 3,350 additional residential dwelling units
- 1,087,983 additional commercial square footage
- 311 additional hotel rooms
- 1,273,913 additional office square footage, and
- 776,926 additional industrial square footage

Whether all such development actually will occur by 2030 is uncertain and not intended as a true prediction of the future. Rather, the above buildout potential represents a conservative estimate of the worst-case for environmental impact analysis purposes.

2. How does the University fit in?

The proposed project does not include the university, even though it is located primarily within the city, since campus growth and development are guided by the University's LRDP rather than by the City's General Plan. The University will be considered in the cumulative impacts section of the EIR, however, and thus its water demand is accounted for in this assessment.

3. What is the basis for water demand in this 20 year assessment?

This question was carefully considered at the outset. Given new information about land use changes and its potential to shape future water demand, combined with the impending need to update the City's Urban Water Management Plan in 2011, and in acknowledgement of changes

in water use that have taken place over the past five years, a decision was made not to rely on the past water demand projections contained in the 2005 Urban Water Management Plan, or the revisions to those same demand projections that were used in a previous Water Supply Assessment for amending the City's Sphere of Influence. Rather, for the purpose of this Water Supply Assessment, new water demand projections were developed by Water Department staff that extend to 2030. These new projections will be incorporated into the upcoming Urban Water Management Plan. The technical basis for these new projections is explained in the report.

In essence, each of two future demand scenarios consists of two fundamental components, 1) existing water demand; and 2) projected incremental water demand. The figures are presented in 5-year increments in Table 2 of the assessment for the following four categories:

- Project area (City of Santa Cruz)
- UCSC
- Outside the Project Area (Non-UCSC)
- Miscellaneous Uses and System Losses

New water demand associated with the new General Plan is estimated to be 251 million gallons at buildout (refer to Table 1 in the report). This estimate was developed based on local residential and commercial water demand factors through an analysis of billing data and square footage data available from the county Assessor's office.

#### 4. What are the assumptions for current and future water supply?

The Water Supply Assessment uses the same figures for water supply as presented in the adopted 2005 Urban Water Management Plan representing average, single dry year, and multiple dry years. It acknowledges and describes numerous uncertainties that have the potential to reduce the City's water supply in future years, but does not quantify those uncertainties. Specifically, the assessment recognizes that the HCP process the City is pursuing likely will negatively impact water supplies in future years, but does not factor in any estimate of such impact because that process is still in negotiation and may be years before it is resolved.

#### 5. What does the assessment conclude?

- The City's water supply for a normal hydrologic year is sufficient to meet the existing water demand and incremental demand of the project through about the year 2020.
- After 2020, the City's normal water supply may not be sufficient to meet the water demand projected for the development envisioned in the General Plan 2030 and other development expected to occur within the City's water service area, depending on the level of demand.
- The City does not have sufficient water to meet current or future projected water demand during dry years, irrespective of development associated with the Project.

The water supply assessment does not have to conclude there is sufficient water in place at this time for a project to be approved. Rather, it must discuss the water supplier's plans for acquiring additional supplies, and set forth the measures that are being undertaken to acquire and develop those supplies, including the following:

- Estimated costs
- Anticipated permits required, and
- Estimated timeframe

6. What is the process for public comment?

The technical information from this Water Supply Assessment will get factored into the Environmental Impact Report on the General Plan following City Council approval. The public will have an opportunity to comment on the assessment and on the EIR itself when a draft EIR is circulated for public input. In the interim, any comments from the public, the Water Commission, or from comments received when the report is presented to City Council will be forwarded to the City's EIR consultant to address when responding to comments on the draft EIR.

**WATER COMMISSION ACTION:** The Water Supply Assessment was reviewed by the Water Commission on April 4, 2011 and public comments were received at this meeting. The Water Commission voted unanimously to recommend that City Council approve the Water Supply Assessment. It also requested that information about the HCP process presented to Council at the recent study session on April 5, 2011 be transmitted to the General Plan EIR consultant so that it can be incorporated into the General Plan EIR.

Staff is satisfied that the consultant has completed the work specified in its contract and that a thorough job has been done addressing the topics required for a Water Supply Assessment as specified in the Water Code. Therefore, it is recommended that City Council approve the Water Supply Assessment.

**FISCAL IMPACT:** The total amount of the contract with EKI for Water Supply Assessment is \$31,000 and it is funded from FY 2010 and FY 2011 Water Engineering operating budget.

Submitted by:  
Bill Kocher  
Water Director

Approved by:  
Martín Bernal  
City Manager

Water Supply Assessment for the General Plan 2030 is available for public review at:

Water Conservation Office, 212 Locust Street, Suite B, Santa Cruz, California  
City of Santa Cruz website <http://www.cityofsantacruz.com/index.aspx?page=1288>

ATTACHMENTS: None



City Council Meeting Calendar

Date	Time	Location	Topic
April 26, 2011	1:30 p.m.	Courtyard Conf. Room	Regular Council/Agency Closed Session
*See last page for presentation information	3:00 p.m. 5:00 p.m. 7:00 p.m.	Council Chambers	Regular Council/Redevelopment Agency Open Sessions
May 3, 2011  (if needed)	4:00 p.m. and 7:00 p.m.	Courtyard Conf. Room  Council Chambers	Special Closed Litigation Session  Study Session
May 10, 2011	1:30 p.m.	Courtyard Conf. Room	Regular Council/Agency Closed Session
*See last page for presentation information	3:00 p.m. 5:00 p.m. 7:00 p.m.	Council Chambers	Regular Council/Redevelopment Agency Open Sessions
May 24, 2011	1:30 p.m.	Courtyard Conf. Room	Regular Council/Agency Closed Session
	3:00 p.m. 5:00 p.m. 7:00 p.m.	Council Chambers	Regular Council/Redevelopment Agency Open Sessions
June 7, 2011	8:30 a.m.	Courtyard Conf. Room	Special Meeting
***Note start time.		Council Chambers	Budget Hearings
June 14, 2011	1:30 p.m.	Courtyard Conf. Room	Regular Council/Agency Closed Session
*See last page for presentation information	3:00 p.m. 5:00 p.m. 7:00 p.m.	Council Chambers	Regular Council/Redevelopment Agency Open Sessions
June 28, 2011	1:30 p.m.	Courtyard Conf. Room	Regular Council/Agency Closed Session
	3:00 p.m. 5:00 p.m. 7:00 p.m.	Council Chambers	Regular Council/Redevelopment Agency Open Sessions
July 5, 2011  (if needed)	4:00 p.m. and 7:00 p.m.	Courtyard Conf. Room  Council Chambers	Special Closed Session  Study Session
July 12, 2011	1:30 p.m.	Courtyard Conf. Room	Regular Council/Agency Closed Session
	3:00 p.m. 5:00 p.m. 7:00 p.m.	Council Chambers	Budget Adoption Regular Council/Redevelopment Agency Open Sessions
July 26, 2011	1:30 p.m.	Courtyard Conf. Room	Regular Council/Agency Closed Session
	3:00 p.m. 5:00 p.m. 7:00 p.m.	Council Chambers	Regular Council/Redevelopment Agency Open Sessions
<b>August</b>			

September 6, 2011 (if needed)	4:00 p.m. and 7:00 p.m.	Courtyard Conf. Room Council Chambers	Special Closed Session Study Session
September 13, 2011	1:30 p.m. 3:00 p.m. 5:00 p.m. 7:00 p.m.	Courtyard Conf. Room Council Chambers	Regular Council/Agency Closed Session Regular Council/Redevelopment Agency Open Sessions
September 27, 2011	1:30 p.m. 3:00 p.m. 5:00 p.m. 7:00 p.m.	Courtyard Conf. Room Council Chambers	Regular Council/Agency Closed Session Regular Council/Redevelopment Agency Open Sessions
October 4, 2011 (if needed)	4:00 p.m. and 7:00 p.m.	Courtyard Conf. Room Council Chambers	Special Closed Session Study Session
October 11, 2011	1:30 p.m. 3:00 p.m. 5:00 p.m. 7:00 p.m.	Courtyard Conf. Room Council Chambers	Regular Council/Agency Closed Session Regular Council/Redevelopment Agency Open Sessions

October 25, 2011	1:30 p.m. 3:00 p.m. 5:00 p.m. 7:00 p.m.	Courtyard Conf. Room Council Chambers	Regular Council/Agency Closed Session Regular Council/Redevelopment Agency Open Sessions
November 1, 2011 (if needed)	4:00 p.m. and 7:00 p.m.	Courtyard Conf. Room Council Chambers	Special Closed Session Study Session
November 8, 2011	1:30 p.m. 3:00 p.m. 5:00 p.m. 7:00 p.m.	Courtyard Conf. Room Council Chambers	Regular Council/Agency Closed Session Regular Council/Redevelopment Agency Open Sessions
November 22, 2011	1:30 p.m. 3:00 p.m. 5:00 p.m. 7:00 p.m.	Courtyard Conf. Room Council Chambers	Regular Council/Agency Closed Session Regular Council/Redevelopment Agency Open Sessions
December 6, 2011 (if needed)	4:00 p.m. and 7:00 p.m.	Courtyard Conf. Room Council Chambers	Special Closed Session Study Session
December 13, 2011	1:30 p.m. 3:00 p.m. 5:00 p.m. 7:00 p.m.	Courtyard Conf. Room Council Chambers	Regular Council/Agency Closed Session Regular Council/Redevelopment Agency Open Sessions

Presentations/Items of public interest

May 3, 2011	7:00 p.m.	Study Session - Golf Course (Shoemaker)
May 10, 2011	7:00 p.m. 7:00 p.m. 7:00 p.m.	Museum of Natural History – Dan Harder (Shoemaker) Museum Month proclamations (Shoemaker) CVC – Maggie Ivy (Coonerty)
May 24, 2011	3:00 p.m.	Ocean Street Area Plan (King)
	7:00 p.m.	Monterey College of Law (Mitch Winick) (Coonerty)
	<b>*7:00 p.m.</b>	<b>Climate Action Teams (Santa Cruz Tree Trust) (Rebagliati)</b>
	<b>*7:00 p.m.</b>	<b>1547 Pacific Ave., (Park Pacific) (Lauritson)</b>
	<b>*7:00 p.m.</b>	<b>150 Fernside (Alsip)</b>
	<b>*7:00 p.m.</b>	<b>407 Broadway (Hyatt Place) (Ferry)</b>
	<b>*Tentative</b>	
June 7, 2011	<b>8:30 a.m.</b>	Budget Hearings
June 14, 2011	7:00 p.m.	Student Art Exhibit (Birns)
July 26, 2011	7:00 p.m.	CRLA (Irish Tapia) (Coonerty)
November 8, 2011	TBD	Veterans Recognition Event (Coonerty)
	TBD	Small Business Development Center – Teresa Tomei (Coonerty)

### **Council Membership in City Groups and Outside Agencies**

Councilmembers will have the opportunity to present oral updates to Council and the public. Councilmembers may provide direction, request additional information or that a topic raised be agendaized for future Council action. The Presiding Officer may request oral updates from Council ad hoc Committees.

The Presiding Officer will ask representatives of each entity if there is any oral update.

<b>Name of Agency/Organization</b>	<b>Currently Serving</b>
Association of Monterey Bay Area Governments (AMBAG)	L. Robinson, T. Madrigal (alternate)
City of Santa Cruz/Soquel Creek Water District (SqCWD) Desalination Project	D. Terrazas, D. Lane R. Coonerty (Alt.)
City Schools Committee	T. Madrigal, R. Coonerty, H. Bryant
City Council Ad-Hoc Committee on Technology	R. Coonerty, H. Bryant, D. Terrazas
Community Action Board	T. Madrigal, David Sweet (alternate)
Community Programs Committee	R. Coonerty, L. Robinson, H. Bryant
Conference and Visitors' Council	L. Robinson, D. Terrazas
Cultural Council Board City Representative	K. Beiers
Downtown Management Corporation	L. Robinson, H. Bryant
Economic Development Council (Mayor/Vice Mayor)	R. Coonerty, H. Bryant, D. Lane
Library Joint Powers Authority Board	K. Beiers, D. Terrazas
Library Financing Authority	D. Terrazas
Local Agency Formation Commission (LAFCO)	D. Lane
Monterey Bay Unified Air Pollution Control District	2011 City of Capitola
Public Safety Committee	D. Lane, L. Robinson, D. Terrazas
Sanctuary Inter-Agency Task Force	K. Beiers, R. Coonerty
Santa Cruz County Children's Network	D. Shoemaker, C. Scurich (alt.)
Santa Cruz Community Farmers Market, Inc.	L. Robinson
SC County Integrated Waste Management Local Task Force	D. Terrazas, Alan Schlenger (alternate) Bob Nelson, Mary Arman (alternate)
Santa Cruz Metropolitan Transit District Board	L. Robinson, H. Bryant
SC County Regional Transportation Commission (SCCRTC)	D. Lane, D. Terrazas (alternate)

Public comment on the reports given will be heard at a time to be determined by the Presiding Officer.