



# CITY OF CLEAR LAKE

15 North 6th Street • P.O. Box 185 • Clear Lake, IA 50428  
Phone (641) 357-5267 • Fax (641) 357-8711  
www.cityofclearlake.com

Mayor  
NELSON P.  
CRABB

January 13, 2012

City  
Administrator  
SCOTT  
FLORY

HONORABLE MAYOR & CITY COUNCIL MEMBERS:

The next meeting of the Clear Lake City Council is scheduled for Monday, **January 16, 2012**, at 6:30 p.m., in the Council Chambers, at City Hall. Please refer to the enclosed agenda for the items discussed below.

COUNCIL  
MEMBERS

DANA  
BRANT  
Ward 1

TONY J.  
NELSON  
Ward 2

JIM  
BOEHNKE  
Ward 3

MIKE  
CALLANAN  
At Large

TERRY  
UNSWORTH  
At Large

ITEM #6A **CDBG Sanitary Sewer Collection System Project (Phase 2)**. This represents the final phase of the CDBG Sanitary Sewer Collection System Improvement Project. Phase 1, of course, included all of the underground improvements (e.g., water main; sanitary sewer main; water & sanitary sewer service laterals; subdrain; storm sewer; etc.). As a reminder, the particular street segments involved in this project are as follows: Buddy Holly Place, North Shore Drive to 8<sup>th</sup> Avenue N.; Buddy Holly Place, from 8<sup>th</sup> Avenue N. to 5<sup>th</sup> Place N.; 5<sup>th</sup> Place N., from 8<sup>th</sup> Avenue N. to 10<sup>th</sup> Avenue N.; and 10<sup>th</sup> Avenue N., from 5<sup>th</sup> Place N. to N. 8<sup>th</sup> Street.

Phase 1 preliminary special assessments were previously levied against benefited properties for sanitary sewer & water service laterals last summer. Phase 2 essentially involves the same properties and special assessment district boundaries. Special assessments to be levied against benefited properties in Phase 2 will be for sidewalk upgrades (installing sidewalk where no sidewalk is currently or replacing defective sidewalks); driveway upgrades (upgrading driveways to PCC where they are currently gravel); and only that portion of the street paving that is not being replaced as part of the CDBG funded sanitary sewer work. As a result, only 3 blocks (Buddy Holly Place) will receive a special assessment for street paving. Furthermore, that paving assessment will be limited to only a 22' cross-section, as opposed to the usual 31' (back-of-curb to back-of-curb). The balance of the street paving on Buddy Holly Place is being funded from CDBG and local funds.

The schedule calls for the Council to initiate the special assessment process at the January 16<sup>th</sup> meeting. The public hearing on the Resolution of Necessity would be held on February 6<sup>th</sup>. Notices to affected property owners will be mailed by January 23<sup>rd</sup>. The Project bid letting would be held on March 7<sup>th</sup> with award of contract proposed for the Council's March 12<sup>th</sup> meeting.



The estimated cost of construction is approximately \$1.7 million. The total estimated costs of indirect expenses, such as legal, engineering, administrative, etc. is approximately \$270,000. Therefore, the total anticipated cost of the project is roughly \$2 million. The total preliminary special assessments are estimated at roughly \$165,000, which equates to approximately 7 ½% of the total project cost.

**ITEM #6B. Purchase of 2012 Pick-up for Public Works Dept.** The Council allocated \$30,000 in the FY 12 municipal budget to purchase and equip a new ¾ ton 4x4 pick-up for the public works department. This particular truck will allow the department to rotate out of its fleet a much older and heavily used small Dodge pick-up. Its primary functions will be hauling of small hand and power tools, including miscellaneous equipment and materials; and pulling equipment trailers.

The Public Works staff solicited competitive quotes from four (4) vendors. The least costly quote was submitted by Stivers Ford of Waukee, IA, for a 2012 Ford F-250XL 4WD. The total cost of the pick-up itself is \$22,144 and does meet all the specifications of the department. The quote from Stivers is roughly 11% less than the next lowest quote.

The total anticipated cost to equip the new pickup with necessary accessories such as bed liner; tool boxes; running boards; cab rack; lift gate; work lights; and a 120 V inverter is \$4,395. Consequently, the total cost of the pick-up, with accessories is \$26,539. Anticipated delivery time is 8-10 weeks.

**ITEM #6D. RFP – Fire Dept aerial ladder truck.** The City has been allocating funding for several years now to a fire department vehicle reserve fund. The account currently has a fund balance of \$450,000. The primary purpose of the account was to bank funds for the anticipated replacement of vehicles for the department, in order to avoid outside borrowing to acquire such items and to mitigate the fiscal impact over a period of years.

As part of the FY 13 budget proposal, the Fire Chief is requesting authorization to issue a Request for Proposals to purchase a new 75' aerial ladder truck. The proposed aerial ladder truck would replace the department's Engine #3 pumper truck. It is estimated that the value of the Engine #3 pumper truck, either through outright sale or trade-in, is roughly \$25,000.

There is currently a balance of \$200,000 remaining from the original \$2.3 million general obligation fire station bond issue that was approved by the electorate back in August of 2010. These funds could be used to assist with the purchase a new fire truck for the department. The ballot language at that time authorized the issuance of the bonds for the purposes of constructing, furnishing, and "equipping" a new fire station.

It is anticipated that the cost of the proposed aerial ladder truck would be \$675,000. Currently, that amount represents the cumulative total, from all sources, that the City would have available to purchase the vehicle at this time. There would be some additional costs, however, to provide specific turn-out gear for the department for the new truck. Those costs are anticipated to be around \$30,000.

An aerial ladder truck has been identified by the department as a need for sometime now. However, because of the size constraints of the former fire station building, it was not possible to acquire such a vehicle, as it would not have fit into the former fire station building. Now that the new fire station has been completed, the department would like to proceed with issuance of an RFP for this new fire fighting apparatus.

If the department receives authorization to issue the RFP, the Fire Chief will send that out later in January to a total of ten (10) prospective bidders. Bids would be due by the end of February. The department would review the bids and make a recommendation to the Council regarding an award of contract to be considered at the March 19<sup>th</sup> meeting. The new vehicle would likely have an anticipated delivery date of between October and November of 2012.

**ITEM #6E. 209 1<sup>st</sup> Avenue S. Redevelopment Project.** The City has received a request from the developer to enter into a Development Agreement for the redevelopment of the former Fredricksen Welding shop located at 209 1<sup>st</sup> Avenue N. The request is for the City to assist, via a property tax rebate, in defraying some of the actual expenses associated with certain environmental work necessary on the site. Although the request is for a 5-year, not to exceed \$60,000, actual reimbursement would not occur until the anticipated \$1.3 million project came on the tax rolls at full value. Furthermore, reimbursement would be limited to only those items that would be related to environmental work, such as asbestos abatement; contaminated soil removal and disposal; environmental site analysis, engineering, and testing; and storm water quality improvements, such as porous paving and rain gardens. The Development Agreement does allow, as rebate eligible costs, curb & gutter removal and replacement and alley improvements.

The proposed project would entail the demolition of the existing buildings located on the property, site grading, and construction of 5, two-story, residential townhomes/condominiums on the site, generally in the 1,200-1,300 sq ft. range. The current site has a "taxable" assessed valuation of \$60,000. The proposed new project would increase the "assessed" valuation to \$1,300,000. This would increase property tax revenues to the City by about \$12,000 to \$13,000 annually.

The developer has received approval from the City's Board of Adjustment for certain variances necessary to construct the project. The Project will go before the Planning & Zoning Commission later this month for site plan review.

If the Council is inclined to proceed with a Development Agreement for this project, a public hearing on the matter will be necessary. Enclosed in your packet is a "draft" of the proposed Development Agreement, public hearing notice, and a Resolution setting the date for a public hearing.

Please feel free to contact me if you have questions about any of the agenda items.

Scott Flory  
City Administrator

Cc: Jennifer Larsen, City Clerk (with attachments)  
Joe Weigel, Public Works Director (with attachments)  
Linda Nelson, Finance Officer (with attachments)  
Greg Peterson, Chief of Police (with attachments)  
Charlie Biebesheimer, City Attorney (with attachments)

TENTATIVE AGENDA  
CLEAR LAKE CITY COUNCIL  
CITY HALL – 15 N. 6<sup>TH</sup> STREET  
MONDAY, JANUARY 16, 2012  
CITY HALL – COUNCIL CHAMBERS  
6:30 P.M.

1. Call To Order by Mayor Nelson P. Crabb.
2. Approval of Agenda.
3. Consent Agenda:
  - A. Minutes – January 2, 2012.
  - B. Approval of the bills & claims.
  - C. Licenses & Permits:
    - Liquor License: Class C Beer Permit (BC) with Carryout wine & Sunday Sales, Back Alley Wine of Clear Lake; Class B Native Wine Permit (WBN) with Sunday Sales, Lake Coffee & Ice Cream, (renewals).
    - Excavator's License: Charlson Excavating, Clear Lake, (renewal).
4. Citizen's opportunity to address the Council on items not on the agenda:
  - In conformance with the City Council's Rules of Procedure, no action can occur on items presented during the Citizens Forum.
  - Please walk to the lectern, state your name (spell last name), address, and subject of your discussion.
  - Speakers are limited to a maximum of five (5) minutes per person.
5. Unfinished Business:
6. New Business:
  - A. CDBG Sanitary Sewer Collection System Improvement Project – Street Paving (Phase 2):
    - Introduction by Scott Flory, City Administrator.
    - Review of Preliminary Assessment Plat & Schedule, Jason Petersburg, P.E., Veenstra & Kimm.
    - **Motion** to approve **Resolution #12-01**, "A Preliminary Resolution for the construction of street improvements in the City of Clear Lake, State of Iowa."
    - Discussion and consideration of **Motion** by City Council.
    - **Motion** to approve **Resolution #12-02**, "A Resolution Fixing Values of Lots".
    - Discussion and consideration of **Motion** by City Council.

- **Motion** to approve **Resolution #12-03**, “A Resolution adopting preliminary plat & schedule; estimate of cost; and proposed plans & specifications for the construction of the Sanitary Sewer Collection System Improvement Project – Contract 2 Street Paving Improvements”.
  - Discussion and consideration of **Motion** by City Council.
  - **Motion** to approve **Resolution #12-04**, “A Resolution of Necessity (Proposed)”.
  - Discussion and consideration of **Motion** by City Council.
- B. Purchase of a 2012 Ford F-250XL 4WD Pick-up Truck for the Public Works Department:
- Introduction by Scott Flory, City Administrator.
  - Review of request, Joe Weigel, Public Works Director.
  - **Motion** to authorize and approve the purchase by City Council.
  - Discussion and consideration of **Motion** by City Council.
- C. Change meeting date for the March 5, 2012 City Council meeting to March 12, 2012, at 6:30 p.m.:
- Review of request, Mayor Nelson P. Crabb.
  - **Motion** to approve the request by City Council.
  - Discussion and consideration of **Motion** by City Council.
- D. Authorization for the Fire Chief to issue a Request for Proposals (RFP) for an aerial ladder truck to replace the department’s 1983 pumper truck:
- Introduction by Scott Flory, City Administrator.
  - Review of request, Doug Meyers, Fire Chief.
  - **Motion** to approve and authorize issuance of the RFP by City Council.
  - Discussion and consideration of **Motion** by City Council.
- E. 209 1<sup>st</sup> Avenue S. – Fredricksen on 1<sup>st</sup> Avenue S.:
- Introduction by Scott Flory, City Administrator
  - Review of request, Tim Stenberg, Joshson LLC.
  - **Motion** to approve **Resolution #12-05**, “A Resolution to fix a date of a meeting at which it is proposed to approve a Development Agreement with Joshson LLC, including property tax rebate payments in an aggregate amount not to exceed \$60,000.”

7. Chief of Police’s Report:

**8. Mayor's Report:**

- Reappointment of Cerise Sissel (2902 N. Shore Drive) and Fred Muth (206 N. 35<sup>th</sup> Street) to the Board of Adjustment for terms ending December 31, 2016 (subject to Council approval).
- Reappointment of Alan Duea (481 N. Shore Drive) and Al Penfold (1809 S. Shore Drive) to the Planning and Zoning Commission for terms ending December 31, 2016 (subject to Council approval).
- Appointment of Tom Arndorfer (12 East Gate Court) to the Library Board of Trustees for the term ending June 30, 2016 (subject to Council approval).

**9. Public Works Director's Report:**

**10. City Administrator's Report:**

- Set date & time for budget work sessions (January 18-20).

**11. City Attorney's Report:**

**12. Closed Session: Pursuant to Iowa Code Chapter 20.17(3) to conduct a strategy meeting concerning collective bargaining.**

**13. Other Business:**

**14. Adjournment.**

**NEXT REGULAR MEETING – FEBRUARY 6, 2012**



**VEENSTRA & KIMM, INC.**

2800 Fourth Street SW, Suite 9 • Mason City, Iowa 50401-1596  
641-421-8008 • 641-380-0313(FAX) • 877-241-8008(WATS)

Jason Petersburg, P.E.  
January 5, 2012

**Sanitary Sewer Collection System Improvement Project - Contract 2; Street Paving Improvements**

City of Clear Lake Timeline

<u>Task</u>	<u>Date</u>
Adopt Preliminary Resolution & Set Date for Public Hearing on Resolution of Necessity	January 16, 2012
Mail Notices to Property Owners	By January 23, 2012
1st Publication in Newspaper	January 25, 2012
2nd Publication in Newspaper	February 1, 2012
Public Hearing on Resolution of Necessity	February 6, 2012
Set Date for Public Hearing on Plans, Specifications, Form of Contract, & Estimate of Cost	February 6, 2012
Publish Notice of Hearing & Letting	February 7-February 16, 2012
Public Hearing on Plans, Specification, Form of Contract, and Estimate of Cost	February 20, 2012
Bid Letting	March 7, 2012
Contract Award	March 12, 2012
Approve Contract & Bond	March 19, 2012

## SECTION 5. ENGINEER'S OPINION OF PROBABLE COST

### A. General

The estimated construction costs for this project are presented in the Engineer's Opinion of Probable Construction Cost which can be found at the end of this section. The Engineer's Preliminary Opinion of Probable Construction Cost for this Project is **\$1,791,000**. Indirect Project Costs for engineering, legal, and administration are estimated to be **\$267,600**. The Total Project Costs are estimated to be **\$2,058,600**.

### B. Construction Cost Summary

Miscellaneous Work	\$78,000
Water Distribution System Improvements	\$480
Sanitary Sewer Improvements	\$12,600
Storm Sewer Improvements	\$42,770
Street & Related Work	\$1,461,700
Landscaping / Restoration	\$123,900
Lighting	<u>\$71,550</u>
<b>Total Construction Cost</b>	<b>\$1,791,000</b>

C. Indirect Project Cost Summary

1. Engineering (Per Engineering Agreement)

a. Engineering Design Services	\$112,600
b. Assessment Services	\$11,800
c. ROW & Easement Acquisition Services	\$6,000
d. Construction Services	\$125,000
	<u>\$255,400</u>

2. Legal

a. Bond Counsel	\$8,000
b. City Attorney	\$2,000
	<u>\$10,000</u>

3. Administrative

a. City Staff	\$2,000
b. Permits	\$0
c. Publications	\$120
d. Postage	\$80
	<u>\$2,200</u>

**Total Indirect Cost** **\$267,600**

D. Total Estimated Project Cost

Construction Costs	\$1,791,000
Indirect Project Costs	<u>\$267,600</u>
<b>Total Estimated Project Costs</b>	<b>\$2,058,600</b>

E. Indirect Project Cost Allocation

$$\$267,600 / \$1,791,000 = 14.94\%$$





**PRELIMINARY ASSESSMENT SCHEDULE**  
**SANITARY SEWER COLLECTION SYSTEM IMPROVEMENT PROJECT**  
**CONTRACT 2 - STREET PAVING IMPROVEMENTS**  
**CLEAR LAKE, IOWA**

PROJECT NO.	MATERIALS	OWNER NAME	PROJECT ADDRESS	ESTIMATE	PAVING		CONCRETE		TOTAL		TOTAL ESTIMATE	PERCENT OF TOTAL ESTIMATE
					PAVING	CONCRETE	PAVING	CONCRETE	PAVING	CONCRETE		
11	05-12-2018-0000	CITY OF CLEAR LAKE	ALLEN ROAD 31 W/TURTLE AND	120.00	120.00	0.00	228.75	12.00	344.43	344.43	100.00%	0.00%
12	05-12-2018-0000	LYNCH, JOHNET	13744 CHAMPLAIN RD N 13744+47+7 W W 13712 RD 31 W/TURTLE AND AND	100.00	0.00	0.00	0.00	0.00	100.00	100.00	100.00%	0.00%
13	05-12-2018-0000	HANDICAP VILLAGE	110 CHAMPLAIN RD N 13744+47+7 W W 13712 RD 31 W/TURTLE AND AND	120.00	120.00	0.00	228.75	12.00	344.43	344.43	100.00%	0.00%
14	05-12-2018-0000	KENNETT, CAROL A & BERNICE L	1218 W 148TH ST S CHAMPLAIN RD N 13744+47+7 W W 13712 RD 31 W/TURTLE AND AND	100.00	0.00	0.00	0.00	0.00	100.00	100.00	100.00%	0.00%
15	05-12-2018-0000	KENNETT, CAROL A & BERNICE L	1218 W 148TH ST S CHAMPLAIN RD N 13744+47+7 W W 13712 RD 31 W/TURTLE AND AND	100.00	0.00	0.00	0.00	0.00	100.00	100.00	100.00%	0.00%
16	05-12-2018-0000	KENNETT, CAROL A & BERNICE L	1218 W 148TH ST S CHAMPLAIN RD N 13744+47+7 W W 13712 RD 31 W/TURTLE AND AND	100.00	0.00	0.00	0.00	0.00	100.00	100.00	100.00%	0.00%
17	05-12-2018-0000	SMOTHERING, THOMAS J (COURT MARSHAL)	144 N 13712 CHAMPLAIN RD N 13744+47+7 W W 13712 RD 31 W/TURTLE AND AND	100.00	0.00	0.00	0.00	0.00	100.00	100.00	100.00%	0.00%
18	05-12-2018-0000	MADSON, CHARLUSTE & LLOYD I	110 CHAMPLAIN RD N 13744+47+7 W W 13712 RD 31 W/TURTLE AND AND	100.00	0.00	0.00	0.00	0.00	100.00	100.00	100.00%	0.00%
19	05-12-2018-0000	ANDERSON, JEFFREY A & ANDERSON, LEBEL I	110 CHAMPLAIN RD N 13744+47+7 W W 13712 RD 31 W/TURTLE AND AND	100.00	0.00	0.00	0.00	0.00	100.00	100.00	100.00%	0.00%
20	05-12-2018-0000	HANDICAP VILLAGE	110 CHAMPLAIN RD N 13744+47+7 W W 13712 RD 31 W/TURTLE AND AND	120.00	120.00	0.00	228.75	12.00	344.43	344.43	100.00%	0.00%
21	05-12-2018-0000	GOLL, DOBRYN D	1307 S 13712 CHAMPLAIN RD N 13744+47+7 W W 13712 RD 31 W/TURTLE AND AND	100.00	0.00	0.00	0.00	0.00	100.00	100.00	100.00%	0.00%
22	05-12-2018-0000	DELLINGER, THOMAS & EITNE	148 W 148TH ST S CHAMPLAIN RD N 13744+47+7 W W 13712 RD 31 W/TURTLE AND AND	100.00	0.00	0.00	0.00	0.00	100.00	100.00	100.00%	0.00%
23	05-12-2018-0000	CITY OF CLEAR LAKE	ALLEN ROAD 31 W/TURTLE AND	120.00	120.00	0.00	228.75	12.00	344.43	344.43	100.00%	0.00%
24	05-12-2018-0000	MANSVAARDT, BOY W & PATRICK A	110 CHAMPLAIN RD N 13744+47+7 W W 13712 RD 31 W/TURTLE AND AND	100.00	0.00	0.00	0.00	0.00	100.00	100.00	100.00%	0.00%





PRELIMINARY ASSIGNMENT SCHEDULE  
 SANITARY SEWER COLLECTION SYSTEM IMPROVEMENT PROJECT  
 CONTRACT 2 - STREET PAVING

NO.	PROPERTY ADDRESS	OWNER NAME	PROPERTY DESCRIPTION	SECT.	BLK.	LOT	ACRES	FRONT	REAR	LEFT	RIGHT	ADJACENT	DISTRICT	TOTAL TRAIL	NUMBER OF CURBS	CONDITIONAL	PRELIMINARY	PERCENT OF TOTAL	PERCENT OF TOTAL
38	61-1451-00-00 CLEAR LAKE, IN 5018	SELLINGER, THOMAS S. REINE 217 7TH AVE N CLEAR LAKE, IN 5018	1.8 X 3.8 PARCELS ADJ TO CLEAR LAKE 217 7TH AVE N	SECT 1	BLK 1	LOT 1	0.14	100.00'	100.00'	100.00'	100.00'		CHICAGO SOUTH	\$1,400.00	8	\$1,400.00	\$1,400.00	0.000%	0.000%
39	61-1451-00-00 CLEAR LAKE, IN 5018	TORRESAHL, ALICE 301 6TH AVE N CLEAR LAKE, IN 5018	1.8 X 3.8 PARCELS ADJ TO CLEAR LAKE 301 6TH AVE N	SECT 1	BLK 1	LOT 2	0.14	100.00'	100.00'	100.00'	100.00'		CHICAGO SOUTH	\$1,400.00	8	\$1,400.00	\$1,400.00	0.000%	0.000%
40	61-1451-00-00 CLEAR LAKE, IN 5018	ZHABADNIK, DAVID J & DOBIS K 708 N 10TH ST CLEAR LAKE, IN 5018	3.0 X 1.8 X 3.8 PARCELS ADJ TO CLEAR LAKE 708 N 10TH ST	SECT 1	BLK 1	LOT 3	0.14	100.00'	100.00'	100.00'	100.00'		CHICAGO SOUTH	\$1,400.00	8	\$1,400.00	\$1,400.00	0.000%	0.000%
41	61-1451-00-00 CLEAR LAKE, IN 5018	USTAD, DAVID R & DEBRA K MADONNETT, LAUREN 308 8TH AVE N	1.2 X 3.8 PARCELS ADJ TO CLEAR LAKE 308 8TH AVE N	SECT 1	BLK 1	LOT 4	0.14	100.00'	100.00'	100.00'	100.00'		CHICAGO SOUTH	\$1,400.00	8	\$1,400.00	\$1,400.00	0.000%	0.000%
42	61-1451-00-00 CLEAR LAKE, IN 5018	KEMMERER, W DEAN 210 8TH AVE N CLEAR LAKE, IN 5018	1.2 X 3.8 PARCELS ADJ TO CLEAR LAKE 210 8TH AVE N	SECT 1	BLK 1	LOT 5	0.14	100.00'	100.00'	100.00'	100.00'		CHICAGO SOUTH	\$1,400.00	8	\$1,400.00	\$1,400.00	0.000%	0.000%
43	61-1451-00-00 CLEAR LAKE, IN 5018	CITY OF CLEAR LAKE PO BOX 181 711 N 10TH ST CLEAR LAKE, IN 5018	ALYR 3.8 X 3.8 PARCELS ADJ TO CLEAR LAKE 711 N 10TH ST	SECT 1	BLK 1	LOT 6	0.14	100.00'	100.00'	100.00'	100.00'		CHICAGO SOUTH	\$1,400.00	8	\$1,400.00	\$1,400.00	0.000%	0.000%
44	61-1451-00-00 CLEAR LAKE, IN 5018	PECK, CHRIS L 219 8TH AVE N CLEAR LAKE, IN 5018	1.4 X 3.8 PARCELS ADJ TO CLEAR LAKE 219 8TH AVE N	SECT 1	BLK 1	LOT 7	0.14	100.00'	100.00'	100.00'	100.00'		CHICAGO SOUTH	\$1,400.00	8	\$1,400.00	\$1,400.00	0.000%	0.000%
45	61-1451-00-00 CLEAR LAKE, IN 5018	NEISON, JANICA 1421 NORTH WINDY DR CLEAR LAKE, IN 5018	1.3 X 3.8 PARCELS ADJ TO CLEAR LAKE 711 N 10TH ST	SECT 1	BLK 1	LOT 8	0.14	100.00'	100.00'	100.00'	100.00'		CHICAGO SOUTH	\$1,400.00	8	\$1,400.00	\$1,400.00	0.000%	0.000%
46	61-1451-00-00 CLEAR LAKE, IN 5018	COOGLAN, TODD M & MICHAEL L 711 N 10TH ST CLEAR LAKE, IN 5018	1.0 X 1.3 X 3.8 PARCELS ADJ TO CLEAR LAKE 711 N 10TH ST	SECT 1	BLK 1	LOT 9	0.14	100.00'	100.00'	100.00'	100.00'		CHICAGO SOUTH	\$1,400.00	8	\$1,400.00	\$1,400.00	0.000%	0.000%
47	61-1451-00-00 CLEAR LAKE, IN 5018	KING, JAMES H 711 N 10TH ST CLEAR LAKE, IN 5018	1.0 X 1.3 X 3.8 PARCELS ADJ TO CLEAR LAKE 711 N 10TH ST	SECT 1	BLK 1	LOT 10	0.14	100.00'	100.00'	100.00'	100.00'		CHICAGO SOUTH	\$1,400.00	8	\$1,400.00	\$1,400.00	0.000%	0.000%
48	61-1451-00-00 CLEAR LAKE, IN 5018	CITY OF CLEAR LAKE 711 N 10TH ST CLEAR LAKE, IN 5018	ALYR 3.8 X 3.8 PARCELS ADJ TO CLEAR LAKE 711 N 10TH ST	SECT 1	BLK 1	LOT 11	0.14	100.00'	100.00'	100.00'	100.00'		CHICAGO SOUTH	\$1,400.00	8	\$1,400.00	\$1,400.00	0.000%	0.000%
49	61-1451-00-00 CLEAR LAKE, IN 5018	WHITEHURST, JEFFREY L & CYNTHIA L 1501 2ND AVE N CLEAR LAKE, IN 5018	1.1 X 3.8 PARCELS ADJ TO CLEAR LAKE 729 N 10TH ST	SECT 1	BLK 1	LOT 12	0.14	100.00'	100.00'	100.00'	100.00'		CHICAGO SOUTH	\$1,400.00	8	\$1,400.00	\$1,400.00	0.000%	0.000%
50	61-1451-00-00 CLEAR LAKE, IN 5018	BELL, SALLY L & MICHELLE MARK ALLEN 711 N 10TH ST CLEAR LAKE, IN 5018	1.2 X 3.8 PARCELS ADJ TO CLEAR LAKE 711 N 10TH ST	SECT 1	BLK 1	LOT 13	0.14	100.00'	100.00'	100.00'	100.00'		CHICAGO SOUTH	\$1,400.00	8	\$1,400.00	\$1,400.00	0.000%	0.000%

PRELIMINARY ASSIGNMENT SCHEDULE  
 SANITARY SEWER COLLECTION SYSTEM IMPROVEMENT PROJECT  
 CONTRACT 2 - STREET PAVING IMPROVEMENTS  
 CLEAR LAKE, IOWA

PROPERTY NO.	OWNER NAME	PROPERTY DESCRIPTION	SHEET	FRONT LOT		REAR LOT		TOTAL AREA		TOTAL AREA	VALUATION	CONDITIONAL	PRELIMINARY	PERCENT OF TOTAL
				AREA	FRONT LOT	AREA	FRONT LOT	AREA	FRONT LOT					
51	OWNER NAME TAYLOR, SHAWN L. CLEAR LAKE, IA 52828	1.1 ACRE 1.5 CONC. DRIVE W/ 1.5" DIA. R/S SANITARY AND TO CLEAR LAKE 712 N 17TH ST	10	10.00	10.00	10.00	10.00	40.00	40.00	40.00	\$40,000.00	1.00	\$40,000.00	0.0001%
52	OWNER NAME BERNARD, TERRY M & JENNY M 513 17TH AVE N CLEAR LAKE, IA 52828	1.7 ACRE 1.5 CONC. DRIVE W/ 1.5" DIA. R/S SANITARY AND TO CLEAR LAKE 513 17TH AVE N	11	10.00	10.00	10.00	10.00	40.00	40.00	40.00	\$40,000.00	1.00	\$40,000.00	0.0001%
53	OWNER NAME WATSON, MICHAEL D 708 N 17TH ST CLEAR LAKE, IA 52828	1.4 ACRE 1.5 CONC. DRIVE W/ 1.5" DIA. R/S SANITARY AND TO CLEAR LAKE & PART 1.5 OF 1.5 ACRE 708 N 17TH ST	12	10.00	10.00	10.00	10.00	40.00	40.00	40.00	\$40,000.00	1.00	\$40,000.00	0.0001%
54	OWNER NAME BETTER, CHERYL A 719 17TH AVE N CLEAR LAKE, IA 52828	1.3 ACRE 1.5 CONC. DRIVE W/ 1.5" DIA. R/S SANITARY AND TO CLEAR LAKE 719 17TH AVE N	13	10.00	10.00	10.00	10.00	40.00	40.00	40.00	\$40,000.00	1.00	\$40,000.00	0.0001%
55	CITY OF CLEAR LAKE P.O. BOX 143 CLEAR LAKE, IA 52828	ALLOT 1/4 AC. BALDWIN ADD 10 N 17TH ST	14	10.00	10.00	10.00	10.00	40.00	40.00	40.00	\$40,000.00	1.00	\$40,000.00	0.0001%
56	LESLIE, THOMAS S 1 COUNTRY CLUB M CLEAR LAKE, IA 52828	1/4 AC. BALDWIN ADD 1 COUNTRY CLUB M	15	10.00	10.00	10.00	10.00	40.00	40.00	40.00	\$40,000.00	1.00	\$40,000.00	0.0001%
57	OWNER NAME TWIN STATE, INC 2411 S WASHINGTON DUBUQUE, IA 52002	1.3 ACRE 1.5 CONC. DRIVE W/ 1.5" DIA. R/S SANITARY AND TO CLEAR LAKE 813 17TH AVE N	16	10.00	10.00	10.00	10.00	40.00	40.00	40.00	\$40,000.00	1.00	\$40,000.00	0.0001%
58	OWNER NAME TWIN STATE, INC 2411 S WASHINGTON DUBUQUE, IA 52002	PART 1/4 AC. BALDWIN ADD 813 17TH AVE N	17	10.00	10.00	10.00	10.00	40.00	40.00	40.00	\$40,000.00	1.00	\$40,000.00	0.0001%
59	CITY OF CLEAR LAKE P.O. BOX 143 CLEAR LAKE, IA 52828	ALLOT 1/4 AC. BALDWIN ADD 813 17TH AVE N	18	10.00	10.00	10.00	10.00	40.00	40.00	40.00	\$40,000.00	1.00	\$40,000.00	0.0001%
60	OWNER NAME TWIN STATE, INC 2411 S WASHINGTON DUBUQUE, IA 52002	1.3 ACRE 1.5 CONC. DRIVE W/ 1.5" DIA. R/S SANITARY AND TO CLEAR LAKE 813 17TH AVE N	19	10.00	10.00	10.00	10.00	40.00	40.00	40.00	\$40,000.00	1.00	\$40,000.00	0.0001%
61	OWNER NAME TWIN STATE, INC 2411 S WASHINGTON DUBUQUE, IA 52002	PART 1/4 AC. BALDWIN ADD 813 17TH AVE N	20	10.00	10.00	10.00	10.00	40.00	40.00	40.00	\$40,000.00	1.00	\$40,000.00	0.0001%
62	OWNER NAME TWIN STATE, INC 2411 S WASHINGTON DUBUQUE, IA 52002	1/4 AC. BALDWIN ADD 813 17TH AVE N	21	10.00	10.00	10.00	10.00	40.00	40.00	40.00	\$40,000.00	1.00	\$40,000.00	0.0001%
63	OWNER NAME TWIN STATE, INC 2411 S WASHINGTON DUBUQUE, IA 52002	PART 1/4 AC. BALDWIN ADD 813 17TH AVE N	22	10.00	10.00	10.00	10.00	40.00	40.00	40.00	\$40,000.00	1.00	\$40,000.00	0.0001%

PRELIMINARY ASSESSMENT SCHEDULE  
 SANITARY SEWER COLLECTION SYSTEM IMPROVEMENT PROJECT  
 CONTRACT 2 - STREET PAVING IMPROVEMENTS  
 CLEAR LAKE, IOWA

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)			
PROPERTY ID NO.	PARCEL NO.	OWNER NAME MAILING ADDRESS	PROPERTY DESCRIPTION PROPERTY ADDRESS	STREET	FRONT LOT LINE DEPTH (FEET)	REAR LOT LINE DEPTH (FEET)	BENEFIT FACTOR	FRONTAGE (FEET)	BENEFIT LENGTH	GENERAL STREET ASSESSMENT	DIRECT ASSESSMENTS	TOTAL TRIAL ASSESSMENT	VALUATION FIXED BY POLICIES	CONDITIONAL PAYMENT	TOTAL PRELIMINARY ASSESSMENT	PERCENT OF TOTAL ASSESSED COST	PERCENT OF TOTAL PROJECT COST			
70	05-12-452-017-00	HOVLAND, THOMAS L 3377 4TH ST SW MASON CITY, IA 50401	E1/2 S1/2 EDC E 20' & EDC S 84.4' L 11 RICHARD & BURENS ADD	5th Pl N							Driveway Sidewalk	\$1,351.68 \$0.00		\$0.00	\$1,351.68	\$79,931.68	\$0.00	\$1,351.68	0.0241%	0.0151%
71	05-12-452-016-00	HOVLAND, THOMAS L 3377 4TH ST SW MASON CITY, IA 50401	CON PR 80.8' N SW COR L 11 RICHARD & BURENS ADD TH S 84.4' 27' E 44.4' N 11 SW Pl N								Driveway Sidewalk	\$0.00 \$0.00		\$0.00	\$0.00	\$28,150.00	\$0.00	\$0.00	0.0000%	0.0000%
72	05-12-452-015-00	TIERNY HOLDINGS LLC P.O. BOX 1333 MASON CITY, IA 50402	L 1/2 RICHARD BURENS ADD EDC N 193.8' E1/2 & EDC N 200' W1/2 & EDC HWY	5th Pl N							Driveway Sidewalk	\$0.00 \$0.00		\$0.00	\$0.00	\$190,340.00	\$0.00	\$0.00	0.0000%	0.0000%
73	05-12-452-013-00	HOVLAND, THOMAS L 3377 4TH ST SW MASON CITY, IA 50401	S 20' N 205.14' L 11 EDC W 1 RD & EDC E 20' RICHARD & BURENS ADD	5th Pl N							Driveway Sidewalk	\$0.00 \$0.00		\$0.00	\$0.00	\$2,430.00	\$0.00	\$0.00	0.0000%	0.0000%
74	05-12-452-012-00	WINFIELD, OWEN C & LEONA M BOX 394 CRENSHAW, IA 50634	W 39' E 59' N1/2 L 11 EDC N 175' & EDC S 20' RICHARD & BURENS ADD	5th Pl N							Driveway Sidewalk	\$0.00 \$0.00		\$0.00	\$0.00	\$170.00	\$0.00	\$0.00	0.0000%	0.0000%
75	05-12-452-008-00	BLEDSOE, JOHN J & PATRICIA B 523 10TH AVE N CLEAR LAKE, IA 50428	N 195.8' E1/2 L 12 RICHARD & BURENS ADD	5th Pl N							Driveway Sidewalk	\$0.00 \$0.00		\$0.00	\$0.00	\$44,830.00	\$0.00	\$0.00	0.0000%	0.0000%
76	05-12-452-009-00	CERRO GORDO COUNTY 220 N WASHINGTON AVE MASON CITY, IA 50401	E 3' W 16.8' N 1/2 L 11 RICHARD & BURENS ADD	5th Pl N							Driveway Sidewalk	\$0.00 \$0.00		\$0.00	\$0.00	\$1.00	\$0.00	\$0.00	0.0000%	0.0000%
77	05-12-452-010-00	MELING, SCOTT E & TERISE J 529 10TH AVE N CLEAR LAKE, IA 50428	N 178.14' L 11 EDC W 1 RD & EDC E 39' RICHARD & BURENS	5th Pl N							Driveway Sidewalk	\$0.00 \$0.00		\$0.00	\$0.00	\$11,380.00	\$0.00	\$0.00	0.0000%	0.0000%
78	05-12-452-011-00	LUONG, THIRATH M 531 10TH AVE N CLEAR LAKE, IA 50428	N 175' W 39' E 59' N1/2 L 11 RICHARD & BURENS ADD	5th Pl N							Driveway Sidewalk	\$0.00 \$0.00		\$0.00	\$0.00	\$46,180.00	\$0.00	\$0.00	0.0000%	0.0000%
79	05-12-476-006-00	CLEAR LAKE STRIP MALL LLC 508 W WASHINGTON LAKE MILLS, IA 50450	RICHARD & BURENS ADD PARK L'S 8-10 BEG INTERSEC E LINE 5TH PL N & N LINE 5th Pl N								Driveway Sidewalk	\$2,590.72 \$0.00		\$0.00	\$2,590.72	\$1,042,090.72	\$0.00	\$2,590.72	1.5804%	0.1288%
80	05-12-476-001-00	SNOW, JON M 926 3TH PL N CLEAR LAKE, IA 50428	880 AT HWY COR L 10 TH S 124.22' TH N 85.1' 30' E 95.38' ALC LINE PARA WITH 5th Pl N 10th Ave N	926 3TH PL N							Driveway Sidewalk	\$0.00 \$1,464.00		\$0.00	\$1,464.00	\$96,394.00	\$0.00	\$1,464.00	0.4931%	0.0711%
81	05-12-404-023-00	CONTRACT WUBBEN, PAUL D & HEATHER L 534 10TH AVE N CLEAR LAKE, IA 50428  DEED: WUBBEN JERRY D & ELENOR O 522 10TH AVE N CLEAR LAKE, IA 50428	S 143' E 49.5' L 8 SAM SAMPSONS SUB W1/2 N 80.33 AC SE 1/4 & W1/2 L 25 RICHARD 10th Ave N	534 10TH AVE N							Driveway Sidewalk	\$0.00 \$897.92		\$0.00	\$897.92	\$41,547.92	\$0.00	\$897.92	0.5477%	0.0435%



**PRELIMINARY ASSESSMENT SCHEDULE**  
**SANITARY SEWER COLLECTION SYSTEM IMPROVEMENT PROJECT**  
**CONTRACT 2 - STREET PAVING IMPROVEMENTS**  
**CLEAR LAKE, IOWA**

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
PROPERTY ID	PARCEL NO.	OWNER NAME	PROPERTY DESCRIPTION	ASSESSOR'S PARCEL ID	AREA (SQ FT)	AREA (SQ YD)	PERCENT OF TOTAL ASSESSABLE												
95	06-12-07-0000	RONNER, DEANNA R	RESID 47' X 137' W/2 COM L3 RICHARD & BIRDSON ACRES 3 & PAVA WITH LINE 1' 00" AND N 423' 00" AND N	100	100	100	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
96	06-12-07-0000	LL CLEAR LAKE PROPERTY, LLC	RES 137' W/2 COM L3 RICHARD & BIRDSON ACRES 117' 0" W/2 N 81' 0" TO N 100' AND N 130 W/2 RICHARD & BIRDSON ACRES 117' 0" W/2 N 81' 0" TO N 100' AND N 130 W/2	100	100	100	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
97	06-12-07-0000	ZION LUTHERAN CHURCH	RES 47' X 137' W/2 COM L3 RICHARD & BIRDSON ACRES 117' 0" W/2 N 81' 0" TO N 100' AND N 130 W/2	100	100	100	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
98	06-12-07-0000	HOWARD, BILL R	RES 47' X 137' W/2 COM L3 RICHARD & BIRDSON ACRES 117' 0" W/2 N 81' 0" TO N 100' AND N 130 W/2	100	100	100	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
99	06-12-07-0000	ECHBERGER, JASON R	RES 47' X 137' W/2 COM L3 RICHARD & BIRDSON ACRES 117' 0" W/2 N 81' 0" TO N 100' AND N 130 W/2	100	100	100	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
100	06-12-07-0000	COEY, JEFFREY A & BARNETT, AMANDA J	RES 47' X 137' W/2 COM L3 RICHARD & BIRDSON ACRES 117' 0" W/2 N 81' 0" TO N 100' AND N 130 W/2	100	100	100	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
101	06-12-07-0000	ZION LUTHERAN CHURCH	RES 47' X 137' W/2 COM L3 RICHARD & BIRDSON ACRES 117' 0" W/2 N 81' 0" TO N 100' AND N 130 W/2	100	100	100	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
102	06-12-07-0000	NICHOLS, KENNETH D	RES 47' X 137' W/2 COM L3 RICHARD & BIRDSON ACRES 117' 0" W/2 N 81' 0" TO N 100' AND N 130 W/2	100	100	100	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
103	06-12-07-0000	MAKER, SANDRA L	RES 47' X 137' W/2 COM L3 RICHARD & BIRDSON ACRES 117' 0" W/2 N 81' 0" TO N 100' AND N 130 W/2	100	100	100	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
104	06-12-07-0000	BENJAMIN DUANE LENOCCOLE TRUST	RES 47' X 137' W/2 COM L3 RICHARD & BIRDSON ACRES 117' 0" W/2 N 81' 0" TO N 100' AND N 130 W/2	100	100	100	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

A. Total Estimated Project Cost: \$1,628,400  
 B. Total Estimated Project Revenue: \$1,628,400  
 C. Total Estimated Project Profit: \$0  
 D. Total Estimated Project Loss: \$0  
 E. Total Estimated Project Surplus: \$0  
 F. Total Direct Assessments: \$52,919.89

Council Member \_\_\_\_\_ introduced the following Resolution entitled "PRELIMINARY RESOLUTION FOR THE CONSTRUCTION OF STREET IMPROVEMENTS IN THE CITY OF CLEAR LAKE, STATE OF IOWA", and moved its adoption. Council Member \_\_\_\_\_ seconded the motion to adopt. The roll was called and the vote was,

AYES: \_\_\_\_\_

\_\_\_\_\_

NAYS: \_\_\_\_\_

Whereupon, the Mayor declared the Resolution duly adopted as follows:

PRELIMINARY RESOLUTION FOR THE  
CONSTRUCTION OF STREET IMPROVEMENTS  
IN THE CITY OF CLEAR LAKE, STATE OF IOWA

WHEREAS, this Council, after a study of the requirements, is of the opinion that it is necessary and desirable that construction of street, sidewalk and driveway improvements, together with necessary grading, incidental drainage facilities and miscellaneous related work, be constructed within the City of Clear Lake, State of Iowa, as hereinafter described; and

WHEREAS, it is proposed that the project be constructed as a single improvement under the authority granted by Division IV of Chapter 384 of the City Code of Iowa:

NOW, THEREFORE, BE IT RESOLVED BY THE COUNCIL OF THE CITY OF CLEAR LAKE, STATE OF IOWA:

Subdivision A. That the City of Clear Lake, State of Iowa, construct street, sidewalk and driveway improvements, together with necessary grading, incidental drainage facilities and miscellaneous related work, as hereinafter described.

Subdivision B. The beginning and terminal points of the improvements shall be as follows:

SANITARY SEWER COLLECTION SYSTEM IMPROVEMENT  
PROJECT-CONTRACT 2 - STREET PAVING IMPROVEMENTS  
CLEAR LAKE, IOWA

- Buddy Holly Place from North Shore Drive to 8th Avenue North
- 8th Avenue North from Buddy Holly Place to 5th Place North
- 5th Place North from 8th Avenue North to 9th Avenue North
- 5th Place North from Highway 18 to 10th Avenue North
- 10th Avenue North from 5th Place North to North 8th Street

Subdivision C. That Veenstra & Kimm, Inc. of Mason City, Iowa , having been employed as Engineer to prepare plats, schedules, estimates, plans and specifications and otherwise to act in the capacity with respect to the project is hereby ordered to prepare and file with the Clerk preliminary plans and specifications and estimates of the total cost of the work and the plat and schedule of special assessments against benefited properties.

Subdivision D. That this Council hereby determines that all property within the area hereinafter described will be specially benefited by the improvements, to-wit:

SANITARY SEWER COLLECTION SYSTEM IMPROVEMENT  
PROJECT-CONTRACT 2 - STREET PAVING IMPROVEMENTS  
CLEAR LAKE, IOWA

An area in Section 12 &13 of Township 96 North, Range 22 West of the 5<sup>th</sup> Principal Meridian located in the City of Clear Lake, Cerro Gordo County, Iowa.

The description of the benefited area is as follows:

<u>SUBDIVISION</u>	<u>BLOCK</u>	<u>LOTS</u>
• Camp Meeting Grounds	28	
• Camp Meeting Grounds	29	1-15
• M Tuttle 2 <sup>nd</sup> Addition	32	3-6
• Chappells Replat of M Tuttle 2 <sup>nd</sup> Addition	33	2-9
• Camp Meeting Grounds	30	1-8
• Railroad Addition	8	1-6
• Woodford Wheeler Property Tract in SW Section 12 T- 96N R22W		
• Nelson Petroleum Products Inc. Property Tract in Depot Grds in Railroad Addition		
• Railroad Addition	7	1-4
• Railroad Addition	6	1-4
• Railroad Addition	5	1-3
• Railroad Addition	4	3-4
• Railroad Addition	9	1-4
• Railroad Addition	10	3-6
• Farmers Coop Elevator Co. Property Tract in Depot Grounds in Railroad Addition		
• Richards & Burdens Addition		1-11
• Andrew Larsons		1-4
• Richards & Burdens Addition		35

Subdivision E. The improvement shall be designated as the "Sanitary Sewer Collection System Improvement Project-Contract 2 - Street Paving Improvements", and such name shall be a sufficient designation to refer to the improvement in all subsequent proceedings.

PASSED AND APPROVED this 16th day of January, 2012.

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Mayor

ATTEST:

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City Clerk

Council Member \_\_\_\_\_ introduced the following Resolution entitled "RESOLUTION FIXING VALUES OF LOTS" and moved its adoption. Council Member \_\_\_\_\_ seconded the motion to adopt. The roll was called and the vote was,

AYES: \_\_\_\_\_

\_\_\_\_\_

NAYS: \_\_\_\_\_

Whereupon, the Mayor declared the Resolution duly adopted as follows:

RESOLUTION FIXING VALUES OF LOTS

WHEREAS, this Council after full investigation, has arrived at a determination of the value of each lot located within the Sanitary Sewer Collection System Improvement Project-Contract 2 - Street Paving Improvements, the valuation being set forth in a preliminary schedule entitled "Preliminary Assessment Plat and Schedule For Sanitary Sewer Collection System Improvement Project-Contract 2 - Street Paving Improvements, Clear Lake, Iowa", under the column therein headed "Valuation Fixed by the Council":

NOW, THEREFORE, BE IT RESOLVED BY THE COUNCIL OF THE CITY OF CLEAR LAKE, STATE OF IOWA:

That the schedule of values, hereinabove referred to, be and the same is adopted as the valuations of the lots, with the proposed public improvements completed, within the boundaries of the improvements and the Clerk is hereby directed to forthwith deliver the same to Veenstra & Kimm, Inc., the Engineer, for the project, the Engineer to insert the values in the schedule of assessments which is to be prepared and filed with this Council.

PASSED AND APPROVED this 16th day of January, 2012.

\_\_\_\_\_  
Mayor

ATTEST:

\_\_\_\_\_  
City Clerk

Council Member \_\_\_\_\_ introduced the following Resolution entitled "RESOLUTION ADOPTING PRELIMINARY PLAT AND SCHEDULE, ESTIMATE OF COST AND PROPOSED PLANS AND SPECIFICATIONS FOR THE CONSTRUCTION OF THE SANITARY SEWER COLLCTION SYSTEM IMPROVEMENT PROJECT - CONTRACT 2 STREET PAVING IMPROVEMENTS" and moved its adoption. Council Member \_\_\_\_\_ seconded the motion to adopt. The roll was called and the vote was,

AYES: \_\_\_\_\_

\_\_\_\_\_

NAYS: \_\_\_\_\_

Whereupon, the Mayor declared the Resolution duly adopted as follows:

RESOLUTION ADOPTING PRELIMINARY PLAT AND SCHEDULE, ESTIMATE OF COST AND PROPOSED PLANS AND SPECIFICATIONS FOR THE CONSTRUCTION OF THE SANITARY SEWER COLLCTION SYSTEM IMPROVEMENT PROJECT - CONTRACT 2 STREET PAVING IMPROVEMENTS

WHEREAS, this Council has caused to be prepared preliminary plat, schedule and estimate of cost, together with plans and specifications, for the construction of the Sanitary Sewer Collection System Improvement Project-Contract 2 - Street Paving Improvements, and this Council has fixed the valuations of the property proposed to be assessed as shown therein; and

WHEREAS, the Council finds that each lot separately assessed in the schedule of assessments meets the definition of a lot as described in Iowa Code Section 384.37(10) or in the case of lots consisting of multiple parcels that the parcels have been assembled into a single unit for the purpose of use or development; and

WHEREAS, the plat and schedule, estimate of cost and plans and specifications appear to be proper for the purpose intended:

NOW, THEREFORE, BE IT RESOLVED BY THE COUNCIL OF THE CITY OF CLEAR LAKE, STATE OF IOWA:

That the plat and schedule, estimate of cost and plans and specifications be and the same are hereby adopted as the proposed plat, schedule, estimate of cost and plans and specifications for the improvements and are hereby ordered placed on file with the Clerk for public inspection.

BE IT FURTHER RESOLVED, that the boundaries of the District for the making of the improvements, as shown in the Engineer's plat, be and the same are hereby fixed as the boundaries for the Sanitary Sewer Collection System Improvement Project- Contract 2 - Street Paving Improvements.

PASSED AND APPROVED this 16th day of January, 2012.

\_\_\_\_\_  
Mayor

ATTEST:

\_\_\_\_\_  
City Clerk

Council Member \_\_\_\_\_ introduced the following Resolution entitled "RESOLUTION OF NECESSITY (PROPOSED)", and moved its adoption. Council Member \_\_\_\_\_ seconded the motion to adopt. The roll was called and the vote was,

AYES: \_\_\_\_\_

\_\_\_\_\_

NAYS: \_\_\_\_\_

Whereupon, the Mayor declared the Resolution duly adopted as follows:

RESOLUTION OF NECESSITY (PROPOSED)

WHEREAS, preliminary plans and specifications and plat and schedule and estimate of cost are now on file in the office of the Clerk showing the boundaries of the District, containing the properties and lots to be assessed, locations of the improvements, each lot proposed to be assessed, together with a valuation of each lot as fixed by the Council, an estimate of the cost of the entire proposed improvements, stating the cost of each type of construction and kind of materials to be used, and an estimate of the amount proposed to be assessed against each lot, for the construction of the Sanitary Sewer Collection System Improvement Project-Contract 2 - Street Paving Improvements, as hereinafter described, in the City of Clear Lake, State of Iowa:

NOW, THEREFORE, BE IT RESOLVED BY THE COUNCIL OF THE CITY OF CLEAR LAKE, STATE OF IOWA:

That it is deemed desirable, advisable and necessary to construct as a single improvement the Sanitary Sewer Collection System Improvement Project-Contract 2 - Street Paving Improvements, in the City of Clear Lake, State of Iowa.

The District containing the properties to be assessed is set out and described in the following "Notice to Property Owners", set out in this Resolution.

The improvements within the District are located and described in the following "Notice to Property Owners", set out in this Resolution.

The method of construction shall be by contract.

Costs of the improvements will be assessed to the properties within the boundaries of the District. No property shall be assessed more than it is benefited by the improvements nor more than 25% of its value on the date of its assessment. The assessment may include a ten percent Default and Deficiency Fund, as authorized by Section 384.44, City Code of Iowa.

A plat and schedule and estimate of costs are now on file in the office of the Clerk as required by law.

Any difference between the amount which is derived from cash payments made by property owners during the thirty day collection period and the sale of Improvement Bonds issued against assessments on benefited properties and the total cost of the improvements, shall be paid for from the proceeds derived from the issuance and sale of bonds as authorized by Section 384.25, City Code of Iowa, and/or from such other funds of the Municipality as may be legally used for such purpose.

BE IT FURTHER RESOLVED, that this Council meet at \_\_\_\_\_ o'clock \_\_\_\_\_ .M., on the 6th day of February, 2012, in the Council Chambers, City Hall, 15 North 6th Street, Clear Lake, Iowa, for the purpose of hearing property owners subject to assessment and interested parties for or against the improvement, its cost, the assessment, or the boundaries of the District. Unless a property owner files objections with the Clerk at the time of the hearing on this Resolution, he shall be deemed to have waived all objections pertaining to the regularity of the proceedings and the legality of using special assessment procedure.

BE IT FURTHER RESOLVED, that the Clerk is hereby instructed to cause notice to be published and mailed as required by law of the pendency of this Resolution and of the time and place of hearing objections thereto, and to the preliminary plans and specifications, estimate of costs and to the making of the improvements; the Notice to be in substantially the following form:

(Two publications required)

NOTICE TO PROPERTY OWNERS

Notice is hereby given that there is now on file for public inspection in the office of the Council of the City of Clear Lake, State of Iowa, a proposed Resolution of Necessity, an estimate of costs and plat and schedule showing the amounts proposed to be assessed against each lot and the valuation thereof within the District as approved by the Council of the City of Clear Lake, State of Iowa, for a street improvement, designated as the Sanitary Sewer Collection System Improvement Project-Contract 2 - Street Paving Improvements, of the types and in the location as follows:

SANITARY SEWER COLLECTION SYSTEM IMPROVEMENT  
PROJECT-CONTRACT 2 - STREET PAVING IMPROVEMENTS  
CLEAR LAKE, IOWA

The location of the assessed improvements are as follows:

- Buddy Holly Place from North Shore Drive to 8th Avenue North
- 8th Avenue North from Buddy Holly Place to 5th Place North
- 5th Place North from 8th Avenue North to 9th Avenue North
- 5th Place North from Highway 18 to 10th Avenue North
- 10th Avenue North from 5th Place North to North 8th Street

That the proposed District to be benefited and subject to assessment for the cost of such improvements is described as follows:

SANITARY SEWER COLLECTION SYSTEM IMPROVEMENT  
PROJECT-CONTRACT 2 - STREET PAVING IMPROVEMENTS  
CLEAR LAKE, IOWA

An area in Section 12 & 13 of Township 96 North, Range 22 West of the 5<sup>th</sup> Principal Meridian located in the City of Clear Lake, Cerro Gordo County, Iowa.

The description of the benefited area is as follows:

<u>SUBDIVISION</u>	<u>BLOCK</u>	<u>LOTS</u>
• Camp Meeting Grounds	28	
• Camp Meeting Grounds	29	1-15
• M Tuttle 2 <sup>nd</sup> Addition	32	3-6
• Chappells Replat of M Tuttle 2 <sup>nd</sup> Addition	33	2-9
• Camp Meeting Grounds	30	1-8
• Railroad Addition	8	1-6
• Woodford Wheeler Property Tract in SW Section 12 T- 96N R22W		
• Nelson Petroleum Products Inc. Property Tract in Depot Grds in Railroad Addition		
• Railroad Addition	7	1-4
• Railroad Addition	6	1-4
• Railroad Addition	5	1-3
• Railroad Addition	4	3-4
• Railroad Addition	9	1-4
• Railroad Addition	10	3-6
• Farmers Coop Elevator Co. Property Tract in Depot Grounds in Railroad Addition		
• Richards & Burdens Addition		1-11
• Andrew Larsons		1-4
• Richards & Burdens Addition		35

The Council will meet at \_\_\_\_\_ o'clock \_\_\_\_\_.M., on the 6th day of February, 2012, at the Council Chambers, City Hall, 15 North 6th Street, Clear Lake, Iowa, at which time the owners of property subject to assessment for the proposed improvements, or any other person having an interest in the matter may appear and be heard for or against the making of the improvement, the boundaries of the District, the cost, the assessment against any lot, tract or parcel of land, or the final adoption of a Resolution of Necessity. A property owner will be deemed to have waived all objections unless at the time of Hearing he has filed objections with the Clerk.

This Notice is given by authority of the Council of the City of Clear Lake, State of Iowa.

---

City Clerk, City of Clear Lake, State of  
Iowa

(End of Notice)

INTRODUCED AND APPROVED at a meeting held on the 16th day of January,  
2012.

\_\_\_\_\_  
Mayor

ATTEST:

\_\_\_\_\_  
City Clerk

CITY OF CLEAR LAKE

BID SUMMARY  
FOR  
2012 PICKUP FOR PUBLIC WORKS

Stivers Ford, Waukee, Iowa (State Bid)

Ford F-250 XL 4WD	\$22,144
<b>Total</b>	\$22,144

Pritchard Auto Co., Clear Lake, Iowa

Ford F-250 XL 4WD	\$24,560
<b>Total</b>	\$24,560

Difference= \$2416.00
--------------------------

Karl Chevrolet, Ankeny, Iowa

Chevrolet 2500 Silverado 4WD	\$24,764
<b>Total</b>	\$24,764

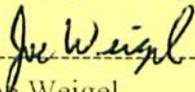
Difference= \$2620.00
--------------------------

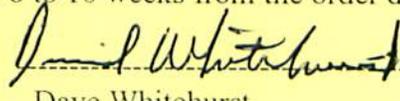
Dewey Ford, Ankeny, Iowa

Ford F250 XL 4WD	\$24,848
<b>Total</b>	\$24,848

Difference= \$2704.00
--------------------------

We recommend accepting the bid of \$22,144 for a Ford F-250 from Stivers Ford. Delivery of the pickup will be approximately 8 to 10 weeks from the order date.

  
-----  
Joe Weigel  
Public Works Director

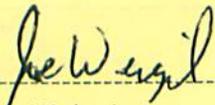
  
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Dave Whitehurst  
Foreman Public Works

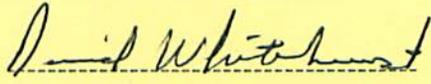
PICKUP ACCESSORIES

2500 CHEVY ¾ TON PICKUP

Bed Liner	\$150.00
Tool Boxes	1,100.00
Running Boards	150.00
Cab Rack	250.00
Eagle Liftgate	1,925.00
Top Amber Light and Strobe	220.00
120 V Inverter	250.00
Vis-Bean Work Light	350.00
<b>Total</b>	<b>\$4,395.00</b>

The above pickup accessories will be purchased and installed by the Public Works staff.

  
-----  
Joe Weigel  
Public Works Director

  
-----  
Dave Whitehurst  
Foreman Public Works



## The 2012 Ford F-250 XL

4x4 SD Regular Cab 8' box 137" WB SRW



*Prepared For:* Dave Whitehurst

*Prepared By:*

*Prepared On:*

5 HPU Group 2 - Standard Cab Long Box 8,600 GVWR 4x4 LARGE STANDARD CAB PICKUP w/4-WHEEL DRIVE: 8,600 lb. GVWR minimum, 8-foot Straight Side Body, V-8 Engine, Automatic Transmission			
Line Number	Base Vehicle Minimum Specifications	State Package or Code Number	
Line 1	Wheelbase: Minimum 133 inches, 56" CA	137	
Line 2	Air conditioning w/all required options.	STD	
Line 3	Tilt steering column, Automatic speed control.	525	
Line 4	Wipers, intermittent.	STD	
Line 5	Rear step bumper.	STD	
Line 6	Engine: Base engine for model bid with specified options and accessories. If base is available as E85 flex-fuel, it must be provided. STATE: Cylinders: 8 Liters: 6.2 Horsepower: 365 Torque: 405	996	
Line 7	Power point.	STD	
Line 8	Radio, AM FM w/internal clock. Delete satellite radio if standard.	STD	
Line 9	Power 4-wheel anti-lock brakes.	STD	
Line 10	Interior trim package w/insulating headliner, full door and back of cab panels, dome lamp. Split bench seat (3-pass) w/cloth upholstery, folding center seat/armrest/storage box.	1S	
Line 11	Full floor covering, rubber preferred - if available it must be provided. If floor covering must be carpet. OEM floor mats must be provided.	STD	
Line 12	Tires, all-terrain (not all-season) radials, spare mounted under box.	THB HAS THE MAX LOAD RANGE OF 3195#	
Line 13	Rear axle, anti-spin differential. State standard ratio: 3.73 E LOCKING	X3E	
Line 14	Daytime running lights.	942	
Line 15	Power windows.	90L	
Line 16	Power door locks with remote keyless entry.	90L	
Line 17	Transfer case with Hi/Lo ranges.	STD	
Line 18	Delete vehicle communication system (OnStar or equivalent) if standard.	NA	
Line 19	State GVWR:	10000	
Line 20	State Payload Capacity:	3790	
Line 21	<b>BASE VEHICLE PRICE CONFIGURED AS PER ABOVE</b>		\$21,688.00
Line 22	<b>Delivery Charge. Per mile charge for anywhere in the State of Iowa. Use \$0.00 format</b>		\$2.50
<b>Options List - Dealer must provide price for each option. (Prices are required to complete Bid - If standard state STD, if part of a package state package code, if not available state N/A, if dealer installed/provided state DLR. If cost is a deduct, state as a negative (-) number, if cost is zero (0), enter '0'.)</b>		<b>State Package or Code Number</b>	<b>Option Price MUST be provided</b>
Line 23	Engine block heater.	41H	\$0.00
Line 24	Sliding rear window.	433	\$150.00
Line 25	Power driver's seat	NA	\$0.00
Line 26	Trailer tow extendable mirrors. Power adjustable main head.	STD/90L	\$0.00
Line 27	Trailer tow package: Class IV receiver hitch, 2-inch shaft, 7-wire trailer wiring receptacle at hitch, OEM integral trailer brake controller.	STD/52B	\$230.00
Line 28	2 extra key sets w/ob, 4 total complete functional sets with each vehicle	DLR	\$230.00
Line 29	Gauge Package: Tachometer, oil pressure, coolant temperature, voltmeter and/or transmission temperature.	STD	\$0.00
Line 30	Paint: DOT Orange. GM 9W4. Ford W5684E. Dodge TY5262.	W5684E	\$498.00
Line 31	Shift-on-the-fly electric transfer case.	213	\$155.00
Line 32	4 x 4 off-road suspension and undercarriage protection package.	413 SKID PLATES	\$83.00
Line 33	Tires: Highest load capacity available all-terrain (no all-season) radial. Spare mounted under box.	THB HAS THE MAX LOAD RANGE OF 3185	\$0.00
Line 34	Axles: optional lower ratio (higher numerically). State ratio 4.30	X4M	\$0.00
Line 35	Snow plow prep package. Increased capacity front suspension and other components necessary for increased load caused by installation of a front snow plow.	473	\$71.00
Line 36	(Line Item Removed)		
Line 37	Increased GVWR. Minimum 9,200 GVWR in lieu of 8,600 standard - include all required options and other pertinent information. STATE: Upgrade GVWR & Upgrade Payload	GVWR IS 10,000	\$0.00
Line 38	Increased GVWR. Minimum 9,600 GVWR in lieu of 8,600 standard - include all required options and other pertinent information. STATE: Upgrade GVWR & Upgrade Payload	GVWR IS 10,000	\$0.00
Line 39	E85 FFV engine - include all required options and other pertinent information. STATE: Cylinders 8 Liters 6.2 Horsepower 365 Torque 405 LIST OTHER REQUIREMENTS:	996 IS FFV	\$0.00
Line 40	Engine upgrade #1. Minimum 6.0L displacement - include all required options and other pertinent information. STATE: Cylinders 8 Liters 6.2 Horsepower 365 Torque 405 LIST OTHER REQUIREMENTS:	896 IS FFV	\$0.00
Line 41	Engine upgrade #2. Turbocharged Diesel, minimum 6.6 liters. Must be rated minimum 350 Hp., minimum 750 lb/ft torque with HD Automatic Transmission. STATE: Cylinders 8 Liters 6.7 Horsepower 400 Torque 800 LIST OTHER REQUIREMENTS:	89T	\$8,503.00
Line 42	Engine upgrade #3. Minimum 6.8L displacement - include all required options and other pertinent information. STATE: Cylinders Liters Horsepower Torque LIST OTHER REQUIREMENTS:	NA	\$0.00
Line 43	Full Floor Carpeting & OEM Mats if not provided in base above.	NA	\$0.00
Line 44	Stability Control System, if available.	STD	\$0.00
Line 45	DEDUCT COST: Delete Daytime running lights.	STD	(\$20.00)
Line 46	DEDUCT COST: Delete Power windows.	STD	(\$550.00)
Line 47	DEDUCT COST: Delete Power door locks with remote keyless entry.	SEE LINE 47	\$0.00

BID ID: HPU 2.1 - UI			
UI Required Options (Prices are required to complete Bid - if standard state STD, if part of a package state package code, if not available state N/A, if dealer installed/provided state DLR, if cost is a deduct, state as a negative (-) number, if cost is zero (0), enter '0'.)		State Package or Code Number	Option Price - MUST be provided
Line 23	Engine block heater.	41H	\$0.00
Line 26	Trailer tow extendable mirror, Power adjustable main head.	STD/90L	\$0.00
Line 27	Trailer tow package: Class IV receiver hitch, 2-inch shaft, 7-wire trailer wiring receptacle at hitch, OEM integral trailer brake controller.	STD/52B	\$230.00
Line 28	2 extra key sets w/fob, 4 total complete functional sets with each vehicle	DLR	\$230.00
Line 31	Shift-on-the-fly electric transfer case.	213	\$155.00
Line 33	Tires: Highest load capacity available all-terrain (no all-season) radial, Spare mounted under box.	THB HAS THE MAX LOAD RANGE OF 3195	\$0.00
Line 35	Snow plow prep package, Increased capacity front suspension and other components necessary for increased load caused by installation of a front snow plow.	473	\$71.00
Line 39	E85 FFV engine - include all required options and other pertinent information. STATE: Cylinders 8 Liters 6.2 Horsepower 365 Torque 405 LIST OTHER REQUIREMENTS:	996 IS FFV	\$0.00
Line 44	Stability Control System, if available.	STD	\$0.00
Estimated Quantity:		1	
Delivered FOB: University of Iowa, Iowa City.		Delivery Miles	Delivery Cost
Line 48	Delivery Cost - Enter miles in whole number, MapQuest city to city - Cost will be automatically calculated	-50	(\$125.00)
Line 49	<b>TOTAL PRICE EACH: Add Base Cost, Options, and Delivery Cost</b>		<b>\$22,249.00</b>
Below Information Must Be Provided to complete LCC			
Vehicle Make (i.e.: Ford, Chevrolet, etc.):		FORD	
Vehicle Common Model Name (i.e.: Taurus, CK1500, Uplander, etc.):		F250	
Vehicle Exact Model Code (i.e.: R44, CC15653, R8KL52, etc.):		F2B	
Vehicle Trim Package Common Name (i.e.: XLT, SE, LT, etc.):		XL	
Exact Trim Package Code Designation (i.e.: 617A, 25J, 2LT, 1WT, etc.):		600A	
State Exact Engine Code (i.e.: 99L, LY6, EVE, etc.):		996	
State Exact Transmission Code (i.e.: MYD, DGO, 44T, etc.):		44P	
American Made (Yes/No):		YES	
EPA Highway MPG Rating (if applicable):		NA	

BID ID: HPU 2.2 - DAS			
DAS Required Options (Prices are required to complete Bid - if standard state STD, if part of a package state package code, if not available state N/A, if dealer installed/provided state DLR, if cost is a deduct, state as a negative (-) number, if cost is zero (0), enter '0'.)		State Package or Code Number	Option Price - MUST be provided
Line 23	Engine block heater.	41H	\$0.00
Line 24	Sliding rear window.	433	\$150.00
Line 27	Trailer tow package: Class IV receiver hitch, 2-inch shaft, 7-wire trailer wiring receptacle at hitch, OEM integral trailer brake controller.	STD/52B	\$230.00
Line 29	Gauge Package: Tachometer, oil pressure, coolant temperature, voltmeter and/or transmission temperature.	STD	\$0.00
Line 31	Shift-on-the-fly electric transfer case.	213	\$155.00
Line 32	4 x 4 off-road suspension and undercarriage protection package.	413 SKID PLATES	\$83.00
Line 33	Tires: Highest load capacity available all-terrain (no all-season) radial, Spare mounted under box.	THB HAS THE MAX LOAD RANGE OF 3195	\$0.00
Line 34	Axles: optional lower ratio (higher numerically). State ratio 4.30	X4M	\$0.00
Line 35	Snow plow prep package, Increased capacity front suspension and other components necessary for increased load caused by installation of a front snow plow.	473	\$71.00
Line 40	Engine upgrade #1, Minimum 6.0L displacement - include all required options and other pertinent information. STATE: Cylinders 8 Liters 6.2 Horsepower 365 Torque 405 LIST OTHER REQUIREMENTS:	996 IS FFV	\$0.00
Estimated Quantity:		2	
Delivered FOB Factory Direct: Department of Administrative Services, Des Moines.		Delivery Miles	Delivery Cost
Line 50	Delivery Cost - Enter miles in whole number, MapQuest city to city - Cost will be automatically calculated	-224	(\$560.00)
Line 51	<b>TOTAL PRICE EACH: Add Base Cost, Options, and Delivery Cost</b>		<b>\$21,817.00</b>
Below Information Must Be Provided to complete LCC			
Vehicle Make (i.e.: Ford, Chevrolet, etc.):		FORD	
Vehicle Common Model Name (i.e.: Taurus, CK1500, Uplander, etc.):		F250	
Vehicle Exact Model Code (i.e.: R44, CC15653, R8KL52, etc.):		F2B	
Vehicle Trim Package Common Name (i.e.: XLT, SE, LT, etc.):		XL	
Exact Trim Package Code Designation (i.e.: 617A, 25J, 2LT, 1WT, etc.):		600A	
State Exact Engine Code (i.e.: 99L, LY6, EVE, etc.):		996	
State Exact Transmission Code (i.e.: MYD, DGO, 44T, etc.):		44P	
American Made (Yes/No):		yes	
EPA Highway MPG Rating (if applicable):		na	

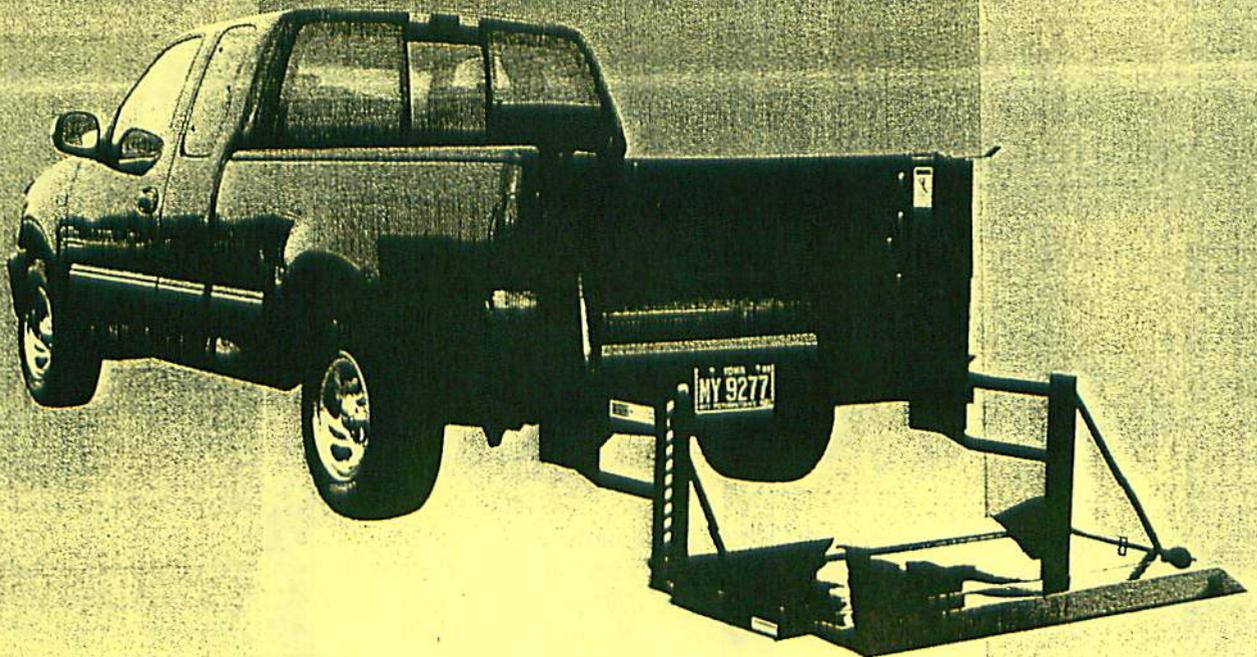
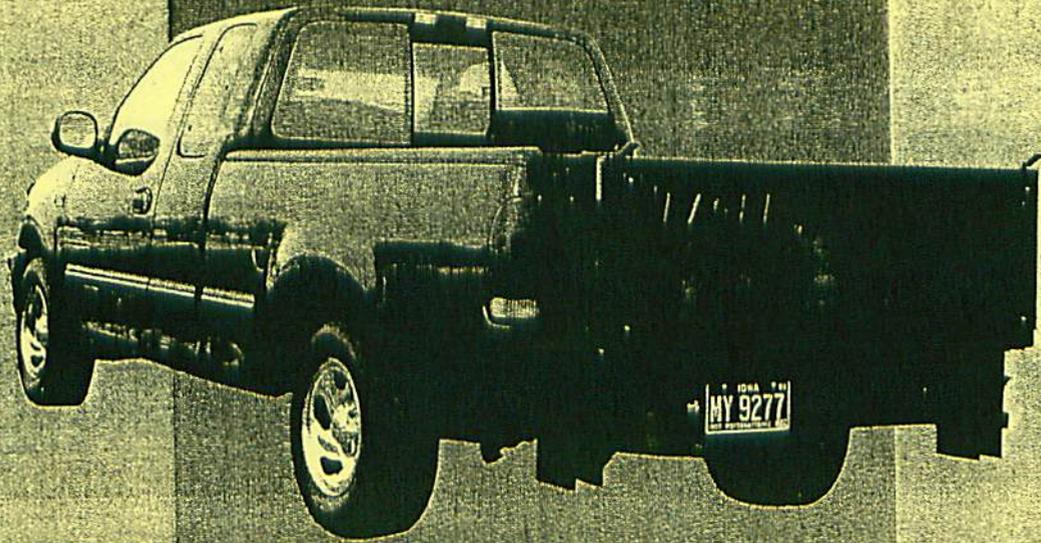




# **EAGLE LIFT**

# **LIFTGATES FOR PICKUPS**

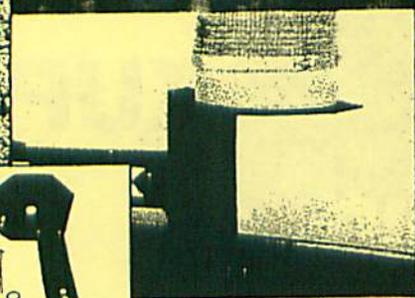
## **CABLE AND DIRECT LIFT**



# BACKRACK™

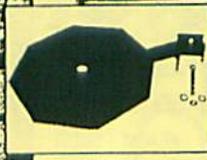
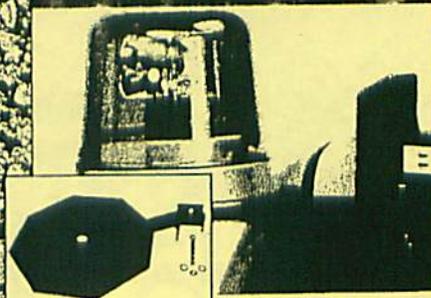
# LIGHT BRACKETS

## 6.5" Round



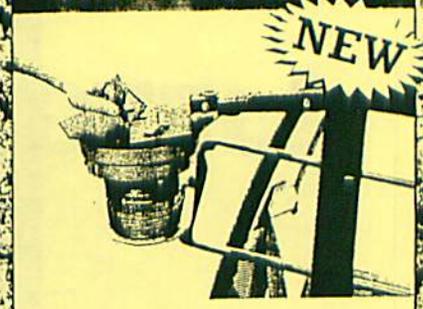
81001 Driver Side  
81003 Passenger Side  
No drilling required

## 10.5" Round



91001 Driver Side  
91002 Center Mount  
91003 Passenger Side  
No drilling required

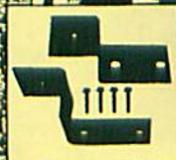
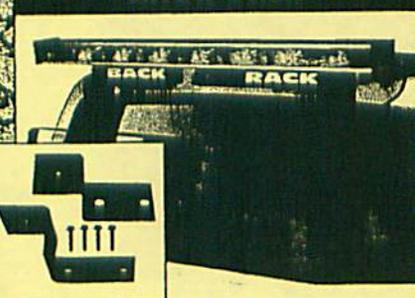
## 10.5" Round - folding



**NEW**

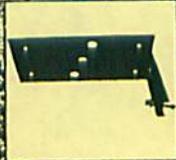
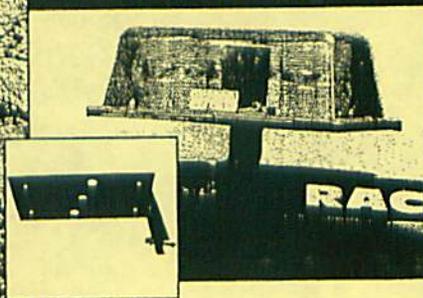
91001F Driver Side  
91003F Passenger Side  
Rotates 180 degrees  
No drilling required

## Arrow Stick



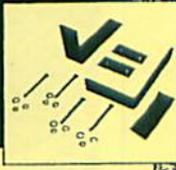
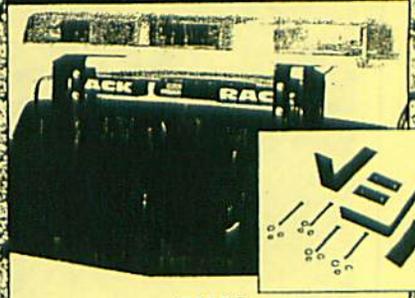
91004  
Adapts to most arrow sticks.  
Comes with 4 self-tap screws.  
Can also be used with Safety Rack.

## 16" x 7" Rectangular



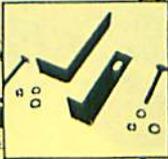
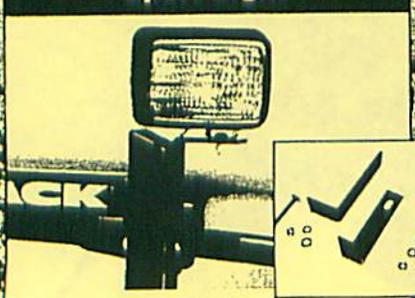
91002REC Center Mount  
91007 Side Mount  
No drilling required

## Light Bar



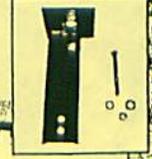
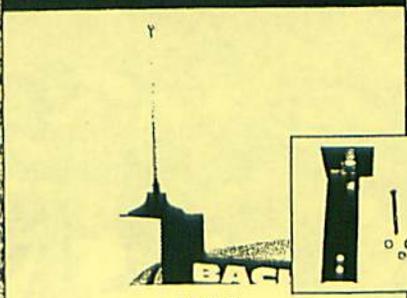
91006  
2 "L" Brackets included.  
Adapts to most light bars.  
No drilling required

## Sport Light



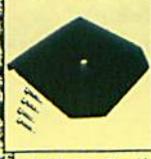
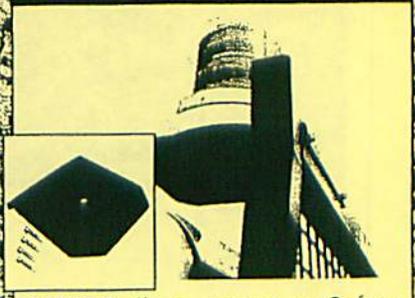
91005  
2 "L" Brackets included for use  
with sport light or other  
accessories.  
No drilling required

## Antenna



91008  
Mounts most antennas.  
3.5" x 3.5" mount surface with  
7/8" pre-drilled hole.  
No drilling required

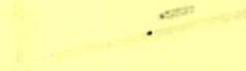
## Safety Rack - Multi-use



41000 Built to mount on Safety  
Rack. 10.5" x 10.5" mount surface.  
Self tap screws included. Two can  
be paired to mount a variety of  
accessories and lights.

Dimensions: H: 14 W: 18 L: 60 1/4  
 Weight (lbs.): 94  
 Cubic feet: 6.5

- ONE-TOUCH latch mechanism and trademarked RED PUSHBUTTON features a powder coated aluminum, automotive style latching system.
- Low profile box mounts over the side rails of your pickup and has 40% more storage space than Lo-Side Boxes.
- 10



Alternate View  
 Installation Instructions

[request information](#)

[find a dealer](#)

[online dealers](#)

**Model 176-5-01 Super-Lo Side Box - Steel - Black**

See Price!

Dimensions: H: 14 W: 18 L: 60 1/4  
 Weight (lbs.): 94  
 Cubic feet: 6.5

- ONE-TOUCH latch mechanism and trademarked RED PUSHBUTTON features a powder coated aluminum, automotive style latching system.
- Low profile box mounts over the side rails of your pickup and has 40% more storage space than Lo-Side Boxes.
- 10



Alternate View  
 Installation Instructions

[request information](#)

[find a dealer](#)

[online dealers](#)

**Model 186-3-01 Super-Lo Side Box - Steel - White**

See Price!

Dimensions: H: 13" W: 18" L: 46 3/4"  
 Weight (lbs.): 72  
 Cubic feet: 4.5

- ONE-TOUCH latch mechanism and trademarked RED PUSHBUTTON features a powder coated aluminum, automotive style latching system.
- Low profile box mounts over the side rails of your pickup and has 40% more storage space than Lo-Side Boxes.
- 10



Alternate View  
 Installation Instructions

[request information](#)

[find a dealer](#)

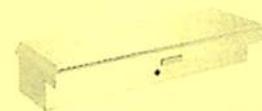
[online dealers](#)

**Model 178-0-01 Low Profile Side Box (Driver Side - Standard) - Aluminum Clear**

See Price!

Dimensions: H: 11 3/4" W: 19 1/4" L: 59 1/4"  
 Weight (lbs.): 46 lbs  
 Cubic feet: 4.2

- Greater rear-window visibility
- Extra-wide design increase storage space
- Matches profile of full and compact sized aluminum low profile saddle boxes
- Made of heavy-gauge aluminum for years of dependable durability
- Quick and easy installation



Alternate View  
 Installation Instructions

[request information](#)

[find a dealer](#)

[online dealers](#)

**Model 178-5-01 Low Profile Side Box (Driver Side - Standard) - Aluminum Black**

See Price!

Dimensions: H: 11 3/4" W: 19 1/4" L: 59 1/4"  
 Weight (lbs.): 46 lbs  
 Cubic feet: 4.2

- Extra-wide design increase storage space



Installation Instructions

City of Clear Lake  
Fiscal Year 2012-2013  
Capital Equipment & Improvements

Department: Fire Status:  New  Cost Change  Timing Change

Project Name: AERIAL LADDER Total Cost: \$660K + LOOSE EQUIPMENT \$35K.

Description: PURCHASE QUINTUPLE DESIGN FIRE APPARATUS WITH 75FT AERIAL DEVICE 2000GPM FIRE PUMP, 500 GALLON WATER TANK, HOSE (20) CAPABLE OF CARRYING SUPPLY AND ATTACK HOSE, PLUS COMPARTMENT SPACE ADEQUATE FOR NFPA/ISO COMPLIANT GROUND LADDERS & HOSE, TOOLS

SEE ATTACHED SPECIFICATIONS

Need, Justification, Benefit: 1) SAFETY OF FIREFIGHTERS 2) WILL ASSIST IN OBTAINING A LOWER ISO CLASS RATING FOR CITY THEREBY REDUCING RESIDENTIAL & COMMERCIAL INSURANCE PREMIUMS - WILL REPLACE 1983 VINTAGE PUMPER/TANKER (ENGINE 3) THAT NO LONGER WILL PASS PUMP SERVICE TESTING

Consequences of Delaying this Project: RELIANCE ON ENGINE 3 WHICH HAS FAILED THE 2 MOST RECENT PUMPER SERVICE TESTS DESPITE REPAIRS

Impact on Operating Budget:

Project Costs:	Fy 11-12	Fy 12-13	Fy 13-14	Fy 14-15	Fy 15-16	Fy 16-17	Total
Planning							
Construction							
Equipment							
Other							
Total Costs							

*\$695K (total) including loose equipment.*

Funding Sources:  
GENERAL FUND. SALE OF ENGINE 3 (\$25-30K)

Comments:



**SPECIFICATIONS**  
**FOR ONE 75' AERIAL LADDER QUINT**  
**FIRE APPARATUS AND CHASSIS**  
**FOR THE**  
**CLEAR LAKE IOWA FIRE DEPARTMENT**

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**INTENT OF SPECIFICATIONS**

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

Bids shall only be considered from companies which have an established reputation in the field of fire apparatus construction and have been in business for a minimum of twenty five (25) years.

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

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

**STATEMENT OF EXCEPTIONS TO NFPA 1901**

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

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

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

**QUALITY AND WORKMANSHIP**

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

The workmanship must be the highest quality in its respective field. Special consideration shall be given to the following points: Accessibility to various areas

requiring periodic maintenance, ease of operation (including both pumping and driving) and symmetrical proportions.

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

**PERFORMANCE TESTS AND REQUIREMENTS**

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

- a. The apparatus must be capable of accelerating to 30 MPH from a standing start within 25 seconds on a level concrete highway without exceeding the maximum governed engine RPM.
- b. The service brakes shall be capable of stopping the fully loaded vehicle within 35 feet from a speed of 25 MPH on a level concrete highway.
- c. The apparatus, fully loaded, shall be capable of obtaining a speed of 50 MPH on a level highway with the engine not exceeding 95% of its governed RPM (full load).
- d. The apparatus shall be tested and approved by a qualified testing agency in accordance with their standard practices for pumping engines.
- e. The contractor shall furnish copies of the Pump Manufacturer's Certification of Hydrostatic Test (if applicable), the Engine Manufacturer's current Certified Brake Horsepower Curve and the Manufacturer's Record of Construction Details.

**FAILURE TO MEET TESTS**

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

**EXCEPTIONS TO SPECIFICATIONS**

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

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

**GENERAL CONSTRUCTION**

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

**DELIVERY REQUIREMENTS**

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

**PURCHASER RIGHTS**

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

**U.S.A. MANUFACTURER**

The entire apparatus shall be assembled within the borders of the Continental United States to insure more readily available parts (without added costs and

delays caused by tariffs and customs) and service, as well as protecting the purchaser should legal action ever be required.

**MANUFACTURER'S EXPERIENCE**

Each manufacturer shall have been in business making similar apparatus for a minimum of twenty five (25) years and must have had single ownership for more than twenty five (25) years.

**ELIMINATION OF DIVIDED RESPONSIBILITY**

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

**FAMA COMPLIANCE**

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

**APPROVAL DRAWING**

After the award of bid and pre-construction conference, a detailed layout drawing depicting the apparatus layout and appearance including any changes agreed upon shall be provided for customer review and signature. The drawing shall become part of the contract documents. The drawing shall consist of left side, right side, frontal and rear elevation views.

**PRE-CONSTRUCTION CONFERENCE**

After award of the contract, and prior to construction of the apparatus, a pre-construction conference shall be held at the facility of the manufacturer. A provision shall be provided in the bid price for all travel, food and lodging to accommodate three (3) Fire Department personnel.

**INSPECTION TRIP**

An inspection trip at the manufacturer's facility prior to delivery of the completed apparatus shall be provided. Accommodations for three (3) Fire Department personnel to include all transportation, food and lodging shall be included in the bid price.

**PROPOSAL GUARANTEE**

A certified check or bid bond in the sum of ten percent (10%) of the total bid price shall be submitted with the "Bid Proposal" at the time of the bid. The full amount of the bid surety shall be returned to the unsuccessful bidders following the award of the contract to the successful bidder.

**PERFORMANCE BOND**

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

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

**CHASSIS**

The chassis shall be manufactured in the factory of the bidder. The chassis shall be designed and manufactured for heavy duty service with adequate strength and capacity of all components for the intended load to be sustained and the type of service required. There shall be no divided responsibility in the production of the apparatus.

**ALUMINUM CAB**

The cab shall be a full tilt 6-person 10" rear raised roof cab designed specifically for the fire service and manufactured by the chassis builder.

Cab shall be built entirely by the apparatus manufacturer within the same facilities (no exceptions). Rear of the cab shall be slanted forward at the top rear for mid-ship aerial use. The outside of the rear cab wall shall be aluminum diamond plate.

**CAB DESIGN**

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

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

The cab shall be of a fully open design with no divider wall or window separating the front and rear cab sections.

Construction of the cab shall consist of high strength 5052H32 aluminum welded to extruded aluminum framing of 6061-T6 material.

The cab roof shall utilize extruded, radiused outer corner rails with integral drip channel and box tubing type cross brace supports.

The cab sides shall be constructed from extruded door pillars and posts that provide a finished door opening, extruded and formed wheel well openings supports, formed aluminum wheel well liners and box tubing type support braces.

The cab floor and rear cab wall shall utilize box tubing type framing and support bracing.

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

The structural extrusion framework shall be overlaid with interlocked aluminum alloy sheet metal panels to form the exterior skin of the cab.

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

**CAB SUB-FRAME**

The cab shall be mounted to a steel box tube sub-frame, and shall be isolated from the chassis, through the use of no less than six (6) elastomeric bushings. The sub frame shall be painted to match the primary chassis color.

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

**CAB TILT SYSTEM**

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

The lift system shall be comprised of two (2) hydraulic lift cylinders, an electrically driven hydraulic pump, and a control switch. A mechanical locking system shall be provided to ensure the cab remains in the raised position in the event of a hydraulic failure.

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

**CAB DIMENSIONS**

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

Cab Width (excluding mirrors)	98"
Cab Length (from C/L of front axle)	
To front of cab (excluding bumper)	68"
To rear of cab	62"
Total Cab Length (excluding bumper)	130"

**INTERIOR**

The cab interior shall have Zolatone gray/black rubberized, mar resistant, textured finish.

**FENDER CROWNS**

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

**GRILLE**

The front of the cab shall be equipped with a stainless steel grille with sufficient area to allow proper airflow into the cooling system and engine compartment.

**CAB INSULATION**

The exterior walls, doors, and ceiling of the cab shall be insulated from the heat and cold, and to further reduce noise levels inside the cab. The cab interior sound levels shall not exceed 90 decibels at 45 mph in all cab seat positions. **NO EXCEPTIONS**

**ROOF DESIGN**

The cab shall be of a 10" one-half rear raised roof design with side drip rails and shall satisfy the following minimum height dimensions:

Cab Dimensions Interior
Front 59"

Rear 65"

**Cab Dimensions Exterior**

Front 65"

Rear 75"

**DIAMOND PLATE, CAB ROOF**

The roof of the cab shall have a diamond plate overlay. The overlay shall be constructed of .125" aluminum serrated diamond plate and measure 30" x 60".

**EXTERIOR GLASS**

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

Two (2) fixed position side windows shall be provided between the forward cab area and the crew cab area, one (1) each side and shall utilize tinted, tempered automotive approved safety glass. The windows shall be approximately 20.5" high x 16.50" wide to provide maximum visibility. The side windows shall be held in place by an extruded rubber molding.

The cab door and canopy windows shall utilize tinted, automotive approved safety glass.

Two (2) sliding rear windows approximately 15" x 17" shall be installed on the rear wall of the cab.

**SUN VISORS**

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

**CAB STEPS**

The lower cab steps shall be no more than 22" from the ground. An intermediate step shall be provided, mid way between the lower cab step, and the cab floor.

The intermediate step shall be slightly inset to provide for safer ingress and egress. All steps shall be covered with material that meets or exceeds the NFPA requirements for stepping surfaces.

**STEP LIGHTS**

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

**CAB STRUCTURAL INTEGRITY**

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

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

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

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

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

**SEAT BELT TESTING**

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

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

**MANUAL CAB LIFT**

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

**CAB DOORS**

The cab doorframes shall be constructed from aluminum extrusions fitted with an aluminum sheet metal skin and shall be equipped with dual weather seals. The cab doors shall be equipped with heavy-duty door latching hardware, which complies with FMVSS 206. The mechanics of the door operation shall utilize rod linkage for positive operation. A rubber coated nylon web doorstop shall be provided.

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

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

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

Door Opening:	
Front	36.5" x 73"
Rear	36.5" x 73"

**POWER WINDOWS**

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

**COMPUTER TRAY**

There shall be a slide-out tray in front of the officer's seat for a laptop computer or other use.

**DELUXE CONSOLE**

There shall be a deluxe console mounted on the engine hood between the driver and officer. The console shall be covered in black vinyl material to match the engine hood. The console shall come complete with two drink holders and recessed wells for storage of miscellaneous items. The center portion shall contain a notebook rack with dividers for the storage of up to four notebooks. A heavy duty velcro strap shall be provided to secure the notebooks.

The outboard sections shall contain duct work to direct air flow from the heater/AC towards the driver and officer.

**INTERIOR DOOR PANELS**

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

The lower portion of the doors shall also have a 304 brushed stainless steel scuff plate and shall include a total of 245 square inches of reflective material on each door, exceeding the NFPA requirement of 96 square inches. The layout shall be opposing ruby red "chevron" stripes on each side. The red striping shall be laid over white 3M reflective materials. The reflective decal shall be plainly visible to oncoming traffic when the doors are in the open position.

**CAB ACCESSORY FUSE PANEL**

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

**AIR HORNS**

Two (2) Grover 2040 Stuttertone rectangular, chrome plated, air horns shall be recess mounted, one (1) each side behind the perforated grille of the bumper. The air horns shall be controlled by a toggle switch wired through the horn button. A foot switch for the air horns shall also be provided on the officer's side.

**ALTERNATOR**

A 320 ampere Prestolite/Leece Neville Model 4962PA, alternator with serpentine belt shall be provided. The alternator shall generate 260 amperes at idle.

A low voltage alarm, audible and visual, shall be provided.

**FRONT AXLE**

The front axle shall be a Meritor™ MFS-20-133A 3.74" drop beam with a capacity of 23,000 pounds. The axle shall be hub piloted, 10 studs, furnished with oil seals and come complete with assist cylinder, hoses, and mounting brackets.

**REAR AXLE**

The rear axle shall be a Meritor™ RS-30-185 Single reduction drive axle with a capacity of 31,000 lbs. The axles shall be hub piloted, 10 studs, furnished with oil seals.

**TOP SPEED**

Top speed shall be 60 MPH.

**BATTERIES**

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

The batteries shall be installed in a vented 304 stainless steel battery box with a removable aluminum cover to protect the batteries from road dirt and moisture. The batteries are to be placed on dri-deck and secured with a fiberglass hold down. The batteries shall be wired directly to starter motor and alternator.

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

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

**BATTERY CHARGING**

A Kussmaul Auto Charge 1200 battery system charger shall be provided. The Auto Charge 1200 is a fully automatic battery charger with a very high output for vehicles with a single battery system. A single bar graph display is provided to indicate the state of charge of the battery system. The rated output shall be 40 amps for the vehicle battery system.

A Kussmaul Model 091-55-20-120 super electric auto-eject with weatherproof cover and power interrupt shall be provided.

**BATTERY JUMPER TERMINAL**

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

**BRAKES (Front)**

The front brakes shall be Meritor S-cam style. They shall be 16.5" x 6" with heavy-duty return springs, and a double anchor pin design. They shall also have quick-change shoes for fast easy brake relining.

**BRAKES (Rear)**

The rear brakes shall be Meritor S-cam style. They shall be 16.5" x 7" with heavy-duty return springs, and a double anchor pin design. They shall also have quick-change shoes for fast easy brake relining.

**AIR BRAKE SYSTEM**

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

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

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

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

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

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

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

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

**AIR BRAKING ABS SYSTEM**

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

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

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

**BUMPER**

There shall be a 12" high double rib polished stainless steel wrap-around bumper provided at the front of the apparatus. Laser cut perforated grilles shall be incorporated into the bumper and located at the outboard of the frame rails for the air horns and at the center for the siren speaker. The bumper shall be mounted to a reinforcement plate constructed of 1/4" x 10" x 70" carbon steel. A gravel shield shall be provided, constructed of .188" aluminum diamond plate. The bumper extension shall be approximately 24".

**DIAMOND PLATE BUMPER LID**

There shall be a 1/8" diamond plate cover with latches provided for the front bumper trough. The cover shall have a 2" rise to accommodate the storage well requirements.

**STORAGE WELL COMPARTMENT**

There shall be a hose well compartment located in the center of the front bumper. The compartment shall run the full width of the bumper and measure approximately 75" wide x 16" long x 6" deep at the ends and 12" deep in the center. The compartment shall be constructed of .125" smooth aluminum plate. A hinged aluminum diamond plate cover shall be provided to provide secure storage of 150 feet of 1.75" double jacketed fire hose and nozzle.

**COOLING SYSTEM**

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

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

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

**RADIATOR**

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

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

**CHARGE AIR COOLER**

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

**COOLANT**

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

**HOSES & CLAMPS**

Silicone hoses shall be provided for all engine coolant lines.

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

**FAN**

The engine cooling system shall incorporate a heavy-duty composite 11- blade Z-series fan. It shall provide the highest cooling efficiently while producing the lowest amount of noise. This robust yet light-weight fan results in less wear and stress on motors and bearings.

A shroud and recirculation shield system shall be used to ensure air that has passed through the radiator is not drawn through again.

The fan tip to radiator core clearance shall be kept at a minimal distance to increase the efficiency of the fan and reduce fan blast noise.

**FAN CLUTCH**

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

**SURGE TANK**

The cooling system shall be equipped with an aluminum surge tank mounted to the officer's side of the cooling system core. The surge tank shall house a low

coolant probe and sight glass to monitor the coolant level. Low coolant shall be alarmed with the check engine light. The surge tank shall be equipped with a dual seal cap that meets the engine manufacturer's pressure requirements, and system design requirements.

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

**DRIVELINE**

The driveline shall consist of Spicer 1710 series, or equal, dual grease fitting universal joints with "Half-Round" end yokes. The drive shaft shall be built with a heavy-duty steel tube 4.095" outside diameter x .180 wall thickness. The shafts shall be dynamically balanced prior to installation into the chassis. A splined slip joint shall be provided in each shaft assembly. Universal joints shall be extended life. There shall be two (2) Zerk fittings in each universal joint assembly so the joint can be greased without turning the shaft.

**ENGINE ENCLOSURE**

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

The enclosure shall be constructed from 5052 H2 aluminum plate and GRP composite materials, providing high strength, low weight, and superior heat and sound deadening qualities. The exterior shall be covered in heavy duty, molded black vinyl, further reducing noise and heat in the cab.

The underside of the engine enclosure shall be covered with a sound deadening, heat reflective insulation system, and shall further minimize noise (DB levels), and eliminate engine heat from the front and rear of the cab. The insulation material shall be bonded with adhesive and mechanically fastened to the underside of the cab. All seams shall be sealed to prevent water absorption. **NO EXCEPTIONS**

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

**ENGINE**

The apparatus shall be powered by a Cummins Diesel ISX 11.9 500 HP @ 1800 R.P.M., 1645 ft. lb. torque @ 1200 R.P.M.

**ENGINE WARRANTY**

The engine shall have a five year or 100,000 mile warranty and approval by Cummins for installation in the chassis. There shall be no deductible for the first two years. A one hundred dollar deductible shall apply for service during the next three years.

**AIR COMPRESSOR**

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

**STARTER**

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

**FUEL FILTERS**

The engine fuel filters shall be mounted in a manner that is easily accessible for service or replacement. The fuel filtration system utilizes a FleetGuard FF2200 spin on filter remotely located on the pressure side of the common rail fuel system. A secondary filter mounted to the engine shall be provided and approved for use by Cummins.

**EXHAUST SYSTEM**

The engine exhaust system shall include the following components:

- Diesel Particulate Filter (DPF)
- Diesel Oxidation Catalyst (DOC)
- Diesel Exhaust Fluid (DEF)
- Selective Catalytic Reduction Filter (SCR)

The SCR catalyst utilizes the DEF fluid, which consists of urea and purified water, to convert NOx into nitrogen and water. This shall meet or exceed 2010 EPA emissions requirements.

The engine exhaust system shall be horizontal design constructed from heavy-duty truck components. The exhaust tubing shall be stainless steel to the DPF through to the SCR, aluminized steel from the SCR to the exhaust tip. A heavy duty stainless steel bellows tube shall be used to isolate the exhaust system from the engine. The system shall be equipped with single canister consisting of a Diesel Oxidation Catalyst (DOC) and a Diesel Particulate Filter (DPF), and shall be mounted under the right side frame rail, meeting the specific engine manufacturer's specifications and current emission level requirements. The outlet shall be directed to the forward side of the rear wheels, exiting the right side with a heavy duty heat diffuser. The heat diffuser shall prevent the exhaust temperature from exceeding 851 deg. F during a regeneration cycle. A heat-absorbing sleeve shall be provided on the exhaust pipe in the engine compartment area to reduce the heat, protect the alternator, and also to protect personnel while servicing the engine compartment.

**AFTER TREATMENT SYSTEM**

To meet EPA requirements of Particulate output, a DPF (Diesel Particulate Filter) is used. To meet EPA requirements of Nitrous Oxide output an SCR (Selective Catalytic Reduction) system utilizing DEF (Diesel Exhaust Fluid) is used.

**AIR CLEANER/INTAKE**

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

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

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

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

**ENGINE BRAKE**

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

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

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

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

**DIESEL EXHAUST FLUID TANK**

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

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

A placard shall accompany fill location noting DEF specifications.

**FRAME**

The chassis frame shall be of a ladder type design utilizing industry accepted engineering best practices. The frame shall be specifically designed for fire apparatus use. Each frame rail shall be constructed of two 3/8" thick-formed channels. The outer channel shall be 10.06" x 3.50" x .375" and the inner channel (liner) shall be 9.31" x 3.13" x .375". The section modulus shall be 31.28 in.<sup>3</sup>. The resistance to bending moment (RBM) shall be 1,569,160 in./lbs. The cross-members shall be constructed of minimum 3/8" formed channels and have formed gusseted ends at the frame rail attachment.

.625 inch, grade 8 flange, Huck bolt fasteners shall be used on all permanently attached brackets to the frame to eliminate the need for bolt re-tightening.

The frame shall be painted glossy black prior to installing wiring harness and other components.

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

**FUEL TANK**

The chassis shall be equipped with a 65-gallon stainless steel rectangular fuel tank. The fuel tank shall be certified to meet FMVSS 393.67 tests. It shall also maintain engine manufacturer's recommended expansion room of 5%.

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

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

The fuel tank shall be equipped with a 2 1/4" filler neck assembly with a 3/4" vent located on the left hand side of the tank. A fuel fill cap attached with a lanyard shall be provided. The bottom of the fuel tank shall contain a 1/2" drain plug.

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

The fuel tank shall be mounted in a saddle with a barrier between the tank and the saddle.

**FUEL COOLER**

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

**CAB HANDRAILS**

There shall be four (4) 24" long, handrails provided and installed, one (1) at each cab entrance. The handrails shall be constructed of 1-1/4" diameter, knurled and anodized, 3/8" heavy wall extruded aluminum and mounted utilizing chrome stanchions, which shall provide sufficient space to allow for a gloved hand to grip the rail.

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

**CAB DOOR HANDRAILS**

Two (2) 1-1/4" diameter knurled aluminum handrails rails shall be provided on the inside of the rear crew doors just above the windowsill.

**HEATER/DEFROSTER/AIR CONDITIONER**

There shall be a minimum 44,000 cool BTU and 60,000-heat BTU single unit, heater/air conditioner mounted over the engine cover. The unit shall be mounted in center of the cab on the engine hood/enclosure. Unit shall have a shutoff valve at the right side of the frame, next to the engine. Airflow of the heater/air conditioner shall be a minimum 1200 CFM. To achieve maximum cooling,

a TM-16 Compressor (10 cu. in.) shall be used. There shall be ductwork to the floor of the cab, facing forward to provide heat for the front of cab floor area.

The defroster/heater shall be a minimum of 39,000 BTU and shall be a separate unit mounted over the windshield. There shall be eight (8) louvers/defusers to direct to windshield and door glass. Airflow of the defroster/heater shall be a minimum 350 CFM. The unit shall be painted Zolatone greystone to match the cab ceiling.

The condenser shall be roof mounted and have 60,000 BTU rating. The unit shall include two fan motors. Airflow of the condenser shall be a minimum 2250 CFM. (This roof-mounted condenser shall work at full rated capacity at an idle with no engine heat problems.)

**HEATER/DEFROSTER/AIR CONDITIONING CONTROLS**

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

**AUXILIARY DEFROSTER FAN**

There shall be a Red Dot model RD-5-5786-OP 12-volt fan mounted in the cab ceiling, directed at the driver's side windshield. The fan shall be activated by a 3-position toggle switch located at the base of the fan. The switch positions shall be High, Low and Off.

**AUXILIARY DEFROSTER FAN**

There shall be a Red Dot model RD-5-5786-OP 12-volt fan mounted in the cab ceiling, directed at the Officer's side windshield. The fan shall be activated by a 3-position toggle switch located at the base of the fan. The switch positions shall be High, Low and Off. The fan shall be silver in color.

**LOAD MANAGER**

Load manager shall have the ability to sequence loads on and off. It shall also be able to shed 8 loads when the vehicle is stationary, starting at 12.7 volts lowest priority load to be shed, then respectively at 12.6, 12.4, 12.2, 12.0, 11.8, 11.4 and 11.0 volts DC. Any load that has been shed shall be off for a minimum of five minutes, and then if voltage has rebounded above shed voltage, the shed load shall automatically come on. There shall also be an indicator panel along

side the rocker switches, which indicate power is on, battery warning and fast idle. Battery warning indicator shall flash at a rate proportional to the voltage discharge rate.

**AUTOMATIC HIGH IDLE ACTIVATION**

The load management system shall be capable of activating the apparatus high idle system when the system voltage drops below 12.3 volts DC. The system shall raise engine speed for a minimum of five minutes until voltage exceeds 13.0 volt DC. The load management system shall activate the high idle feature before any devices are automatically shed OFF. The high idle function request from the load management device shall function only if the appropriate interlocks are present; that is, control of the high idle system is monitored and shall be superseded by the state of the interlock control module. The automatic high idle system shall be deactivated whenever the brake pedal is pressed, and shall remain inactive for two minutes thereafter to allow an operator to override the high idle function and return the engine to idle before PTO engagement.

**INSTRUMENT PANEL**

The main dash shroud, which covers the area directly in front of the driver from the doorpost to the engine hood, shall be custom molded and covered with a non-glare black vinyl. The dash shall be a one-piece hinged panel that tilts outward for easy access to service the internal components. The gauge panel shall be constructed of durable aesthetically pleasing light gray polymer material, placed over a heavy duty steel backing plate, for added strength and durability.

The gauges shall be Beede Instruments, NexSys Link gauges with built-in self-diagnostics and red warning lights to alert the driver of any problems. All gauges and controls shall be backlit for night vision and identified for function. All main gauges and warning lights shall be visible to the driver through the steering wheel.

**MASTER BATTERY & IGNITION SWITCH**

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

**DIESEL PARTICULATE FILTER CONTROLS**

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

**INSTRUMENTATION & CONTROLS**

Instrumentation on dash panel:

- Tachometer/hour meter with built in high exhaust system regeneration temperature, and instrument malfunction indicators
- Speedometer/odometer with built in turn signal, high beam and re-settable trip odometer
- Voltmeter
- Diesel fuel gauge
- DEF (Diesel Exhaust Fluid) gauge
- Engine oil pressure
- Transmission temperature
- Engine temperature
- Primary air pressure
- Secondary air pressure

Indicators and warning lights visible to driver:

- Battery on
- Parking brake engaged
- Low air with buzzer
- Turn signals
- Hi-beam
- Transmission temperature
- Do not shift transmission
- Check transmission
- Stop engine with buzzer
- Check engine
- Regeneration
- High exhaust temperature
- Air filter restriction light
- Back pressure
- Cab door open (flashing)
- Compartment door open (flashing)
- Antilock brake warning
- Low voltage
- Upper aerial power on (when applicable)

Other indicator and warning lights

- Differential locked
- PTO (s) engaged
- Auto-slip response
- Retarder engaged
- Retarder temperature

- Jacks out
- Jacks down

Controls located on main dash panel:

- Master power disconnect with ignition switch
- Engine start switch
- Headlight switch
- Windshield wiper/washer switch
- Differential lock switch (if applicable)
- Dimmer switch for backlighting

Controls included in steering column:

- Horn button
- Turn signal switch
- Hi-beam low-beam switch
- 4-way flasher switch
- Tilt-telescopic steering wheel controls

Controls, gauges and indicator lights located to the right of driver's position:

- Transmission shifter
- Pump shift control with OK TO PUMP and PUMP ENGAGED lights
- Heater/defroster controls
- Eighteen (18) illuminated rocker switches
- Parking brake control

Driving compartment warning labels shall include:

- HEIGHT OF VEHICLE
- OCCUPANTS MUST BE SEATED AND BELTED WHEN APPARATUS IS IN MOTION
- DO NOT USE AUXILIARY BRAKING SYSTEMS ON WET OR SLIPPERY ROADS
- EXIT WARNINGS

Additional labels included:

- COMPUTER CODE SWITCH
- ABS CODE SWITCH
- FLUID DATA TAG
- CHASSIS DATA TAG

**ENGINE WARNING SYSTEM**

An engine warning system shall be provided to monitor engine conditions such as low oil pressure, high engine temperature and low coolant level. Warning

indication shall include a STOP ENGINE (red) light with audible buzzer activation and a CHECK ENGINE (amber) light

Note: (Some engine configurations may also include a fluid warning light.)

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

**WIRING**

All wiring shall have XL high temperature crosslink insulation and shall be 10 gauge, 12 gauge, 14 gauge and 18 gauge depending on load. All wiring shall be color-coded, and the function and number stamped at 3" intervals on each wire. All wiring shall be covered with high temperature rated split loom for easy access to wires when trouble shooting. All electrical connectors and main connectors throughout the chassis shall be treated to prevent corrosion.

**DOOR AJAR INDICATION**

Four (4) red LED lights are provided in the forward cab overhead console area, visible to both driver and officer. Upon releasing the apparatus parking brake one or more of these lights shall automatically illuminate (flash) if any cab door is open, compartment door is open, any ladder or equipment rack is not in stowed position, stabilizer system deployed or any other device has not been properly stowed that may cause damage if the apparatus is moved.

**MASTER ELECTRICAL PANEL**

The chassis main breaker panel shall be wired through the master disconnect solenoid and controlled with a three-position ignition rocker switch. Circuit breakers and flashers shall be located at officer's right side lower interior firewall with removable cover and schematic provided with notebook holder on outside cover.

A deluxe breaker panel with up to 22 ground switched relays with circuit breaker protection shall be provided.

An integrated electrical sub-panel shall be provided and interfaced to the body and chassis through an engineered wire harness system.

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

Additional four relay boards with circuit breaker protection for additional loads. Maximum two boards (8 relays) per breaker panel. All relay boards set up to trip

with input from switch of positive-negative or load manager by moving connector on board (no tools needed to do this).

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

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

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

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

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

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

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

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

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

**PUMP SHIFT MODULE**

A pump shift module with indicating lights shall be located within easy reach of the driver. A gear lockup shall be provided to hold the transmission in direct drive for pump operation.

**HIGH IDLE**

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

**VEHICLE DATA RECORDER**

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

Software shall be provided to allow the fire department to collect the data as needed.

**INTERIOR**

The cab interior shall be finished in gray Durawear on the full front and rear headliners and rear firewall.

**LIGHTING CAB EXTERIOR**

Exterior lighting and reflectors shall meet or exceed Federal Motor Vehicle Safety Standards and National Fire Protection Association requirements in effect at this time.

**HALOGEN HEADLIGHTS**

There shall be dual sealed beam halogen rectangular headlights in custom housings on each side of the front of the cab.

**ALTERNATING HEAD LAMP**

The headlights shall have an alternating flash feature for emergency response use.

**HAND HELD SPOTLIGHT**

One Optronics Blue Eye Model KB-4003, 400,000-candle power hand-held spotlight shall be provided, installed at officer's side of cab.

**LIGHTING CAB INTERIOR**

Interior lighting shall be provided inside the cab for passenger safety. Two (2) ceiling mounted combination red/clear LED dome lights with a push button on/off switch in the light lens. One light shall be located over each the officer and driver's position. The lights shall also activate from the open door switch located in each cab doorjamb.

**LIGHTING CREW CAB INTERIOR**

Interior lighting shall be provided inside the crew cab for passenger safety. Two (2) ceiling mounted combination red/clear LED dome lights with a push button on/off switch in the light lens shall be provided. The lights shall also activate from the open door switch located in each cab doorjamb.

**MIRRORS**

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

**HELMET STORAGE**

A universal style helmet bracket shall be provided for each riding position.

A placard shall be provided for each riding position warning that injury may occur if helmets are worn while seated.

**SEAT BELT WARNING SYSTEM**

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

**DRIVER'S SEAT**

The driver's seat shall be a Bostrom Sierra FX air ride high back, adjustable fore/aft, upholstered with gray tweed Durawear. A 3-point seat belt shall be provided.

**OFFICER'S SEAT**

The officer's seat shall be a Bostrom Firefighter™ Tanker 450 ABTS SCBA seat. The seat shall have the following features:

- Integrated 3-point seat belt
- "Auto-Pivot & Return" head rest
- Built in lumbar support
- 100% Durawear™ gray tweed seat material

**UNDER SEAT STORAGE**

There shall be a storage compartment under the officer's seat approximately 15" wide x 10.5" tall x 15.5" deep.

**CREW SEATS**

The crew cab area shall have four (4) Bostrom Firefighter™ seats. The seating arrangement shall be: two (2) rear facing Bostrom Tanker 450 ABTS SCBA seats and two (2) forward facing Bostrom 400CT ABTS SCBA flip up seats. The seats shall have the following features:

- Integrated 3-point seat belts
- "Auto-Pivot & Return" head rest
- Built in lumbar support
- 100% Durawear™ gray tweed seat material

**SCBA BOTTLE BRACKET**

The officer and crew seats shall come equipped with an H.O. Bostrom SecureAll™ SCBA Locking System capable securing all U.S. and international SCBA brands and sizes while in transit or for storage on fire trucks.

Locking shall be achieved by pushing the SCBA unit (bottle) against the pivot arm to engage the automatic lock system. A top clamp shall surround the top of the SCBA tank for a secure fit in all directions. The bracket shall be equipped with a center guide fork to keep the tank in-place for a safe and comfortable fit in seat cavity.

All adjustment points shall utilize one tool and be easily adjustable.

The bracket system shall be free of straps and clamps that may interfere with auxiliary equipment on SCBA units.

The release handle shall be integrated into the seat cushion for quick and easy release and shall eliminate the need for straps or pull cords to interfere with other SCBA equipment.

The bracket system shall meet NFPA 1901 standards and requirements of EN 1846-2.

**CREW SEAT COMPARTMENT**

A compartment shall be provided under the forward facing crew seats on the back wall of the cab. The compartment shall be full through, with an access door on each side, accessible from the side of the crew cab doors.

**STEERING**

Ross heavy duty Model TAS-85 power steering shall be provided. The steering gear shall be bolted to the frame at the cross-member for steering linkage rigidity. Four (4) turns from lock to lock with an 18" diameter slip resistant rubber covered steering wheel. Steering column shall have six-position tilt and 2" telescopic adjustment. The cramp angle shall be 45 degrees with 315mm tires or 43 degrees with 425mm tires providing very tight turning ability.

**SUSPENSION (FRONT)**

The front suspension shall be a variable rate taper-leaf design, 54" long and 4" wide. Long life, maintenance free, urethane bushed spring shackles shall be utilized. All spring and suspension mounting shall be attached directly to frame with high strength Huck bolts and self-locking round collars. Spring shackles and pins that require grease shall not be acceptable. **NO EXCEPTIONS.**

**ENHANCED FRONT SUSPENSION SYSTEM**

The front suspension shall have the handling, stability, and ride quality enhanced by the use of a Ride Tech auxiliary spring system and Koni high performance shock absorbers.

This system shall utilize three stage, urethane auxiliary springs, and high performance gas filled shock absorbers to control the deflection of the leaf springs, and dampen vibration normally transmitted to the chassis. This maintenance free system shall be custom tuned to the apparatus gross weight rating for maximum performance, while maintaining a soft compliant ride. **NO EXCEPTIONS.**

A (3) three year 36,0000 mile warranty shall be provided by the manufacturer.

**SUSPENSION (REAR) 31,000 LB AIR RIDE**

A Ridewell model RAD-241-OS Monopivot Angular Air Ride rear suspension shall be provided. The suspension shall be a dual air spring design equipped with dual height control valves to maintain proper ride height. The ground rating of the suspension shall be 31,000 pounds.

**TIRE PRESSURE MONITOR**

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

**FRONT TIRES**

Front tires shall be Goodyear 425/65R22.5, load range L, G286 highway tread, single tubeless type with a GAWR of 22,000 pounds. Wheels shall be disc type, hub piloted, 22.5 x 12.25 10 stud 11.25 bolt circle. Chrome plated lug nut caps shall be provided.

**FRONT HUB COVERS**

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

**REAR HUB COVERS**

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

**REAR TIRES**

Rear tires shall be Goodyear 315/80R22.5, load range J, RHD Mud and Snow tread, dual tubeless type with a GAWR of 31,000 pounds. Wheels shall be disc type, hub piloted, 22.5 x 9 10 stud with 11.25" bolt circle. Chrome plated lug nut caps shall be provided.

**MUD FLAPS**

Hard rubber mud flaps shall be provided for front and rear tires.

**WHEELS**

Aluminum wheels shall be provided for the front and for the inside and outside of the rear wheels. The aluminum wheels shall match the tire and axle capacities of the apparatus.

**TOW EYES (Front)**

There shall be two front tow eyes with 3" diameter holes attached directly to the chassis frame.

**TOW EYES (Rear)**

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

**TRANSMISSION**

The chassis shall be equipped with a Generation IV Allison EVS4000 six (6) speed automatic transmission. It shall be programmed five (5) speed, sixth gear locked out, for fire apparatus vocation, in concert with the specified engine.

An electronic oil level indicator shall be provided as well as a diagnostic reader port connection. The fifth gear shall be an overdrive ratio, permitting the vehicle to reach its top speed at the engine's governed speed. The dipstick is dipped in a rubber coating for ease in checking oil level when hot.

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

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

Mechanical Ratios:	1st -	3.51:1
	2nd -	1.91:1
	3rd -	1.43:1
	4th -	1.00:1
	5th -	0.74:1
	Reverse -	-5.00

**TRANSMISSION COOLER**

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

**TRANSMISSION FLUID**

The transmission shall come filled with Castrol TranSynd™ Synthetic Transmission Fluid or approved equal meeting the Allison TES-295 specification.  
**NO EXCEPTION.**

**TRANSMISSION SHIFTER**

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

**FRONT TURN SIGNALS**

There shall be two Whelen 400 Series LED rectangular amber turn signal lights mounted one each side in the front of the headlight housing and one mounted on each side of the warning light housing.

**WHEELBASE**

The approximate wheelbase shall be 221".

**WINDSHIELD WIPERS**

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

**MISCELLANEOUS CHASSIS EQUIPMENT**

Fluid capacity plate affixed below driver's seat.

Chassis filter part number plate affixed below driver's seat.

Maximum rated tire speed plaque near driver.

Tire pressure label near each wheel location.

Cab occupancy capacity label affixed next to transmission shifter.

Do not wear helmet while riding plaque for each seating position.

NFPA compliant seat belt and standing warning plates provided.

**FIRE PUMP HALE QMAX-200**

Fire pump shall be midship mounted. The fire pump shall be of the double suction single stage centrifugal type, carefully designed in accordance with good modern practice.

The pump shall be of fine grain alloy cast iron, with a minimum tensile strength of 30,000 PSI.

The pump body shall be horizontally split, on a single plane, casing type with removable lower casing for easy removal of the entire impeller assembly including wear rings and bearings from beneath the pump without disturbing piping or the mounting of the pump in the chassis.

All moving parts in contact with water shall be of high quality bronze or stainless steel. Easily replaceable bronze labyrinth wear rings shall be provided. Discharge passage shall be designed to accomplish uniform pressure readings as the actual pump pressure. The rated capacity of the fire pump shall be 2000 gallons per minute in accordance with NFPA# 1901.

The pump shaft shall be rigidly supported by three bearings for a minimum deflection. One high lead bronze sleeve bearing to be located immediately adjacent to the impeller (on side opposite the drive unit). The sleeve bearing shall be lubricated by a force fed, automatic lubrication system, pressure balanced to exclude foreign material. The remaining bearings shall be heavy duty type, deep groove ball bearings in the gear box and they shall be splash lubricated.

The pump shaft shall have only one packing gland located on the inlet side of the pump. It shall be of split design for ease of repacking. The packing gland must be a full circle threaded design to exert uniform pressure on the packing to prevent "cocking" and uneven packing load when it is tightened. It shall be easily adjustable by hand with a rod or screw driver and requiring no special tools or wrenches. The packing rings shall be of a unique combination of braided graphite filament and braided synthetic packing and have sacrificial zinc foil separators to protect the pump shaft from galvanic corrosion.

**PUMP TRANSFER CASE**

The drive unit shall be designed of ample capacity for lubricating reserve and to maintain the proper operating temperature. Pump drive unit shall be of sufficient size to withstand up to 16,000 lbs. ft. torque of the engine in both road and pump operating conditions.

The gearbox drive shafts shall be heat treated chrome nickel steel input and output shafts shall be at least 2-3/4" in diameter, on both the input and output shafts. They shall withstand the full torque of the engine in both road and pump operating conditions.

The engagement of the pump transmission shall be of such design so as to permit transfer of power from road to pump operation only after vehicle is completely stopped. The pump shift shall be air actuated from the cab and have both a green "Pump Engaged" light, and a green "O.K.-To-Pump" light. A Third green light shall be provided on the pump operator's panel for "Throttle Ready".

The pump drive unit shall be cast and completely manufactured and tested at the pump manufacturer's factory.

**PRIMING SYSTEM**

The priming pump shall be a Trident Emergency Products compressed air powered, high efficiency, multi-stage, venturi based AirPrime System. All wetted metallic parts of the priming system are to be of brass and stainless steel construction. A single panel mounted control shall activate the priming pump and open the priming valve to the pump. The priming system shall have a five year warranty.

**PUMP ANODE**

A Hale pump anode kit assembly # 529-0050-00-0 shall be provided and installed in the pump body. A minimum of two (2) anodes shall be installed one (1) in the suction side and one (1) in the discharge side of the pump.

**PUMP CERTIFICATION**

The pump, when dry, shall be capable of taking suction and discharging water in compliance with NFPA #1901 chapter 14. The pump shall be tested by National Testing and shall deliver the percentages of rated capacities at pressures indicated below:

- 100% of rated capacity @ 150 PSI net pump pressure.
- 70% of rated capacity @ 200 PSI net pump pressure.
- 50% of rated capacity @ 250 PSI net pump pressure.

**THREAD TERMINATION**

National Standard Thread shall terminate the inlets and outlets of the apparatus.

**PRESSURE GOVERNOR**

Apparatus shall be equipped with a Class1 Pressure Governor that is connected to the Electronic Control Module (ECM) mounted on the engine. The Governor shall operate as a pressure sensor (regulating) governor (PSG) utilizing the engine's data for optimal resolution and response.

Programmable presets for RPM and Pressure settings shall be easily configurable using the menu structure.

Engine RPM, system voltage, engine oil pressure and engine temperature with audible alarm output for all shall be provided.

**INTAKE RELIEF**

There shall be a Hale stainless steel intake relief valve installed on the intake side of the pump. The surplus water shall be discharged away from the pump operator and terminate with Male NST hose thread. System is field adjustable.

**AUXILIARY COOLER**

An auxiliary cooler shall be furnished to provide additional cooling to the engine under extreme pumping conditions. Water from the pump is to be piped to the coils of the heat exchanger allowing the engine fluid to be cooled as required.

**VALVES**

All valves shall be Akron Heavy-Duty swing out 8800/8600 series unless otherwise noted. The valve shall have an all cast brass body with flow optimizing stainless steel ball, and dual polymer seats. The valve shall be capable of dual directional flow while incorporating a self-locking ball feature using an automatic friction lock design and specially designed flow optimizing stainless steel ball. The valve shall not require the lubrication of seats or any other internal waterway parts, and be capable of swinging out of the waterway for maintenance by the removal of six bolts. The valve shall be compatible with a slow close device. This valve shall be actuated using manual handles, a Rack & Sector, manual gear, or electric actuator. The manual handles shall be quickly adjustable to one of eight handle positions, and require only 90 degrees travel.

**VALVE WARRANTY**

The valves shall carry a 10-year warranty.

**PUMP CONNECTIONS**

All suction and discharge lines (except pump manifolds) 1" and larger shall be heavy-duty stainless steel pipe. Where vibration or chassis flexing may damage or loosen piping or where a coupling is necessary for servicing, a flexible connection shall be furnished. All lines shall be drained by a master drain valve or a separate drain provided at the connection. All individual drain lines for discharges shall be extended with a rubber hose in order to drain below the chassis frame. All water carrying gauge lines shall utilize nylon tubing.

**6" PUMP INLETS**

Two 6" diameter suction ports with 6" NST male threads shall be provided, one on each side of vehicle. The inlets shall extend through the side pump panels and come complete with removable strainer and long handle chrome-plated cap.

**PISTON INTAKE**

A 6" NST female x 5" Storz Piston Intake relief valve with cap and chain shall be provided. Task Force Tips brand Model AX3ST-NX

**2.5" RIGHT SIDE INLET**

One 2.5" gated inlet valve shall be provided on the right side pump panel. The valve shall be supplied with chrome plate female swivel, plug, chain, and removable strainer.

The valve shall attach directly to the suction side of the pump with the valve body behind the pump panel.

**2.5" LEFT SIDE INLET**

One 2.5" gated inlet valve shall be provided on the left side pump panel. The valve shall be supplied with chrome plate female swivel, plug, chain, and removable strainer.

The valve shall attach directly to the suction side of the pump with the valve body behind the pump panel.

**TANK TO PUMP**

The booster tank shall be connected to the intake side of the pump with a 1/4 turn 3" full flow valve with check valve, with the remote control located at the operator's panel. The 3" tank to pump line shall run from a bottom sump into the 3" valve. To prevent damage due to chassis flexing or vibration, a short 3" flexible rubber hose coupling shall be used to connect the tank to the intake valve.

**OUTLETS**

The discharge valves shall be an inline Tork-Lock constructed of brass and be of the quarter turn type of fixed pivot design to allow for ease of operation at all pressures. The valves shall be controlled from the operator's panel and shall be equipped with swing type locking handles. Each valve shall be supplied with 2-1/2" National Standard Threads and come with chrome plated female caps and chains. 2-1/2" or larger discharge outlet shall be supplied with a 3/4" quarter turn drain valve located at the outlet. All 2-1/2" and larger discharges shall be supplied with a 30 degree angle down elbow.

**2-1/2" LEFT SIDE DISCHARGES**

Two (2) 2-1/2" gated discharges shall be located on the left side pump panel. The valves shall be of the quarter turn tork-lok ball type of fixed pivot design to allow for ease of operation at all pressures. The valve shall be connected to the discharge side of the pump with the valve bodies behind the pump panel. A chrome swing type handle located on the pump operator's panel shall control the side discharges.

**2-1/2" RIGHT SIDE DISCHARGES**

One (1) 2-1/2" gated discharge shall be located on the right side pump panel. The valve shall be of the quarter turn tork-lok ball type of fixed pivot design to allow for ease of operation at all pressures. The valve shall be connected to the discharge side of the pump with the valve bodies behind the pump panel. A chrome swing type handle located on the pump operator's panel shall control the right side discharges.

**3.00" RIGHT SIDE DISCHARGE**

One (1) 3.00" gated discharge shall be located on the right side pump panel. The valves shall be of the quarter turn tork-lok ball type of fixed pivot design to

allow for ease of operation at all pressures. The valve shall be connected to the discharge side of the pump with the valve bodies behind the pump panel. A chrome swing type handle located on the pump operator's panel shall control the right side discharge.

**ADAPTER**

There shall be a 3" NST swivel female x 5" Storz adapter with cap and chain on the right side 3" discharge.

**2.5" OUTLET LEFT HOSE BED**

There shall be a 2.5" gated outlet piped to the left front of the hose bed. The outlet shall be installed with proper clearance for spanner wrenches or adapters. Plumbing shall be 2.5" piping and a full flow 2.5" ball valve with the control at the pump operator's panel.

**FRONT BUMPER DISCHARGE**

A 2.5" discharge with 2.5" plumbing shall be provided at the front bumper. The valve shall be remote controlled at the pump panel.

**CROSSLAYS**

Two (2) crosslay hose beds shall be supplied. The piping and valves shall be 2.5", the swivel shall be 2.5". The valves shall be the "drop-out" style, push/pull controlled from the pump panel.

**CROSSLAY COVER**

A vinyl cover shall be provided to enclose the top and sides of the crosslays, capable of being secured at the top and sides.

**TANK FILL**

A 1.5" tank fill shall be provided, using a quarter turn full flow ball valve controlled from the pump operator's panel.

**FOAM TANK**

There shall be a 30-gallon foam tank. The tank shall be part of the main booster tank. There shall be a 3" PVC fill tower and cap and a tank vent. There shall be a 1-1/2" flanged outlet and drain valve at the lowest point in the tank.

**FOAM SYSTEM**

The apparatus shall be equipped with a Hale FoamLogix 5.0 fully automatic electronically controlled, direct injection, discharge side foam proportioning system. Foam proportioning operation shall be based on direct measurement of water flow, and remain consistent within the specified flows and pressures.

A 12-volt DC powered variable-speed electronic direct-injection foam-concentrate proportioning system with a 5.0-gpm-foam concentrate pump shall be integrated into the apparatus to provide foam proportioning. The pump shall be capable of handling Class A or B foam concentrate and be operated by a full-function panel mounted digital display.

The system shall operate via a paddlewheel flow sensor mounted in a 3-inch stainless steel check-valve manifold that includes a chemical injection point.

The inlet of this stainless steel manifold/check-valve assembly shall be connected to the fire pump, and the outlet connected to the foam capable discharge outlet(s) on the fire apparatus, as specified. The flow sensor/stainless-steel foam manifold combination shall be capable of water or foam solution flow rates of 30- to 750-gpm. The foam proportioning system shall be equipped with a panel mounted digital display control unit with a microprocessor that monitors total water flow and foam concentrate pump output to provide the operator preset proportional amount of foam concentrate injected on the discharge side of the fire pump. Total foam concentrate pump concentrate output shall be 5.0 gallons per minute. Proportioning rate is push-button set by the pump operator on the digital display from 0.1% to 6%, in 0.1% increments.

The digital display panel mounted electronic operator control unit shall provide concentrate injection readout in tenths of a percent while also being able to read water flow, total water flowed and total amount of foam concentrate used. The control shall flash a warning indicating low concentrate in the reservoir to the operator, and shall be able to shut off the concentrate pump to prevent damage to the pump. A bar graph on the control unit shall provide visual indication of system operating capacity and shall indicate when capacity is exceeded.

The foam concentrate pump shall be fed concentrate by a non-metallic housing foam concentrate strainer that is equipped with a service shut-off valve.

The unit shall be fed 12-volt DC power from the apparatus electrical system, and be equipped with a chassis frame ground strap, per the foam proportioner manufacturer's installation and operating instruction manual.

The system shall be piped to the two crosslays, front bumper line, and rear 2-1/2" discharge.

**PUMP AND GAUGE PANELS**

The panels shall be constructed of black vinyl covered aluminum for maximum protection against abrasion caused during normal use.

Pump panels on both sides shall be easily removable. The gauge and control panels shall be two separate panels for ease of maintenance. The upper gauge panel shall be hinged with a full-length stainless steel hinge held closed with a 1/4-turn latch. There shall be one (1) hinged access door as large as possible located over the right side pump panel. This door shall have a full-length stainless steel hinge and a 1/4 turn latching mechanism.

**VALVE CONTROLS**

The pump controls and gauges shall be located at the left side of the apparatus and properly marked. The control panel shall be laid out in a user-friendly manner.

All valve controls shall have the corresponding discharge gauge located immediately adjacent to control handle to allow operator to view the discharge pressure without searching the panel.

**ESCUTCHEON PLATES**

The pump panel shall be equipped with color-coded removable escutcheon plates around the suction and discharge valves. The escutcheon plates shall be designed to allow easy access for valve repair with out dismantling the pump panel. "No Exception"

**COLOR CODING**

Each discharge valve control, outlet, and corresponding line gauge shall be color-coded.

**PUMP PANEL LIGHTS**

The pump panel controls and gauges shall be illuminated by a minimum of two (2) incandescent lights.

**PUMP PANEL GAUGES AND CONTROLS**

The following gauges and controls shall be provided at the pump panel:

- Two (2) certified laboratory test gauge outlets.
- Pump primer control.
- Master drain control and additional drains as needed.
- Tank-fill and pump cooler valve controls.
- Tank to pump valve control.
- Pump capacity rating plate.
- All discharge controls.
- Two (2) master pump gauges.
- Gauges on all 1-1/2" and larger discharge lines.

**4" MASTER GAUGES**

NoShok liquid filled pump pressure and vacuum gauges shall be provided. The gauges shall be 4" in diameter with white faces and black lettering. The gauges shall have a pressure range of 30"-0-400 psi.

**2.5" PRESSURE GAUGES**

NoShok liquid filled individual line pressure gauges shall be provided. The gauges shall be 2.5" in diameter with white faces and black lettering. The gauges shall have a pressure range of 0-400 psi.

**WATER TANK GAUGE**

An Innovative Controls weather proof encapsulated (14) super bright LED light indicator shall monitor the water tank level and shall be mounted on the pump operator's panel. The fourteen LED lights are arranged in a "V" pattern for easy identification of liquid level. When the liquid level reaches less than a 1/4 full the refill level begins to flash. The tank-sensing probe shall be chemical resistant PVC with stainless steel sensing wires. The cover plate shall be aluminum sub-plate, black background and blue graphics, with an outdoor exposure rated composite overlay.

**FOAM TANK GAUGE**

An Innovative Controls weather proof encapsulated (14) super bright LED light indicator shall monitor the foam tank level and shall be mounted on the pump operator's panel. The fourteen LED lights are arranged in a "V" pattern for easy identification of liquid level. When the liquid level reaches less than a 1/4 full the refill level begins to flash. The tank-sensing probe shall be chemical resistant

PVC with stainless steel sensing wires. The cover plate shall be aluminum sub-plate, black background and red graphics, with an outdoor exposure rated composite overlay.

**FLOW METER**

A Fire Research model FP3000 combination digital flowmeter and electronic pressure gauge shall be provided on the right side large diameter outlet and aerial device master stream outlet.

**BODY SUBFRAME**

A stainless steel subframe/undercarriage shall be provided for the body compartments.

**APPARATUS BODY**

The apparatus body shall be constructed of #4 brushed finish #304 stainless steel and shall include brushed stainless steel compartment interiors. Other scuff prone areas such as the area surrounding compartment openings, the rear inside beavertails, rear compartment door area and front and rear of the side compartments shall also be a brushed scuff resistant stainless steel finish.

The apparatus body, including the running boards shall be supported by structural channel and angle. The rear design shall be strong enough to support the complete body.

Each compartment shall be properly vented with louvers.

Each compartment shall have drain holes for the release of moisture. Each compartment shall have sweep-out flooring with no obstructions at the floor bottom.

**REAR STEP COMPARTMENTATION**

There shall be one compartment at the rear step, transverse to the sides x 30" high x 40" deep with clear unobstructed opening: 42.5" wide x 23.25" high with hinged door 44" wide x 21.5" high with roll-up door.

**COMPARTMENTATION LEFT SIDE**

L-1 There shall be one compartment ahead of the rear wheels approximately 30" wide x 60" high x 19" deep with clear unobstructed opening: 23.25" wide x 51.5" high with roll-up door.

- L-2 There shall be one compartment above the wheel well approximately 60" wide x 30" high x 19" deep with clear unobstructed opening: 53.25" wide x 21" high with roll-up door.
- L-3 The first compartment behind the rear wheels approximately 25" wide x 60" high x 19" deep with clear unobstructed opening: 18.5" wide x 51.5" high with roll-up door.
- L-4 The second compartment behind the rear wheels approximately 50" wide x 60" high x 19" deep with clear unobstructed opening: 43.5" wide x 51.5" high with roll-up door.

This compartment shall have a transverse opening to the rear compartment.

**COMPARTMENTATION RIGHT SIDE**

- R-1 There shall be a compartment ahead of the rear wheels approximately 30" wide x 45" high x 24" deep with clear unobstructed opening: 23.25" wide x 36.5" high with roll-up door.
- R-2 There shall be a compartment above the wheel well approximately 60" wide x 15" high x 24" deep with clear unobstructed opening: 50" wide x 10" high with hinged door.
- R-3 The first compartment behind the rear wheels approximately 25" wide x 45" high x 24" deep with clear unobstructed opening: 18.5" wide x 36.5" high with roll-up door.
- R-4 The second compartment behind the rear wheels approximately 50" wide x 45" high x 24" deep with clear unobstructed opening: 43.5" wide x 36.5" high with roll-up door.

This compartment shall have a transverse opening to the rear compartment.

**ROLL-UP COMPARTMENT DOORS**

The apparatus body shall be equipped with R.O.M Robinson Shutter doors. The door slats shall be double wall box frame, manufactured from anodized aluminum. The doors shall have the following features:

- Manufactured wholly in the United States.
- Concave individual slat design to prevent loose equipment from hindering door operation.
- Co-Extruded stretch resistant inner seal between slats to prevent metal-to-metal contact and inhibit moisture and dust penetration.
- Interlocking swagged/dimpled end shoes shall be utilized to provide a tight fitting assembly and allow for easy removal in the event of damage.

- Effective counter balancing for ease of lifting and lowering the doors.
- One-piece side rail and track to provide an unobstructed slide area and reduce the risk of binding.
- Non-abrasive replaceable water and dust barrier to keep compartment equipment clean and dry.
- A magnetic type switch integral to the door shall be supplied for door ajar indication and compartment light activation.
- A full width positive latch bar shall be operable with one hand, even with heavy gloves.

A door open indicator light shall be provided in the cab.

**PAINTED ROLL-UP DOORS**

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

**SCBA CYLINDER COMPARTMENTS**

There shall be six (6) spare breathing air cylinder compartments recessed in the rear fender wells, two (2) left and four (4) right side. The compartments shall have brushed stainless steel doors with equipped with a weather resistant flush fitting thumb latch. The interior of the door shall incorporate a rubber seal to keep the compartment free of road debris and moisture. The interior compartment shall be constructed of a high-density polyethylene plastic.

**ADJUSTABLE SHELVES**

There shall be six (6) adjustable shelves provided and installed in the compartments. The shelf shall be fabricated of .188" aluminum plate.

**COMPARTMENT DIVIDER**

There shall be a vertical divider/partition provided in a compartment as specified. The divider shall be constructed of .188" thick smooth aluminum plate. The top and bottom of the divider shall have a formed flange bolted to the interior of the compartment.

**600# SLIDE-MASTER TRAYS**

There shall be two (2) Slide-Master pullout drawers provided and installed. The drawer shall have a distributed load capacity of 600 lbs. and be capable of extending 70% of its depth. The tray shall be fabricated of .188" aluminum plate and have a formed lip that measures 2".

**1000# SLIDE-MASTER TRAY**

There shall be a Slide-Master pullout drawer provided and installed. The drawer shall have a distributed load capacity of 1,000 lbs. and be capable of extending 70% of its depth. The tray shall be fabricated of .188" aluminum plate with a 2" perimeter lip.

**UNISTRUT**

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

**HOSE BED**

The rear hose bed shall be divided into two separate sections. Each hose bed section shall be completely wide open to allow for quick and easy loading and unloading of hose. Hose bed flooring shall be slatted extruded aluminum.

**HOSE BED DIVIDER**

The hose bed shall be divided by a 3/16" aluminum partition that is fully adjustable by sliding in tracks located at the front and rear of the hose bed. The divider shall be located as needed.

**HOSE BED COVER**

There shall be a red nylon/vinyl hose bed cover for the main hose bed. The cover shall be capable of being securely fastened at the front, sides and rear.

**HANDRAILS AND STEPS**

Handrails shall be constructed of 1-1/4" diameter knurled anodized aluminum 3/8" heavy wall extrusion. The handrail shall be mounted utilizing chrome stanchions, which shall provide sufficient space to allow for a gloved hand to grip the rail. The rails shall be located in the following areas:

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

There shall be one (1) handrail on each side of the access steps to the ladder. These handrails are covered with ribbed rubber to prevent hand slipping when climbing the steps.

There shall be one (1) fold-down step on each side of the front face of side compartments as required by N.F.P.A.

There shall be one (1) fold-down step at each side of the rear area.

There shall be two (2) pull-out steps, approximately 25-3/4" wide x 11-3/4" deep, provided on the right side of the apparatus for ease of accessing side stacked ground ladders. These steps shall be located one ahead of the rear axle and one behind the rear axle.

**RUB RAILS**

The body shall be equipped with heavy extruded aluminum rub rails at the sides. Rub rails shall be spaced away from the body by 1/2" polymer spacers. The rub rails shall be polished to a bright finish and be fitted with custom cast end caps.

**ALUMINUM TREADPLATE**

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

Treadplate locations:

1. Skirting around front bumper.
2. The step at the cab entrance.
3. The jump seat steps.
4. The running boards.
5. The rear step.
6. The top of the compartments.

**BOOSTER TANK**

The tank shall have a capacity of 500 U.S. gallons.

The tank shall be constructed of 1/2" thick polypropylene sheet stock. This material shall be a non-corrosive stress relieved copolymer thermo-plastic. The

booster tank shall be of a specific configuration and is so designed to be completely independent of the body and compartments. All joints and seams shall be welded and/or formed and tested for maximum strength and integrity. The top of the booster tank is fitted with removable lifting eyes designed with a 3 to 1 safety factor to facilitate easy removability. The transverse swash partitions shall be manufactured of 3/8" polypropylene and extend from approximately 4" off the floor to just under the cover. The longitudinal swash partitions shall be constructed of 3/8" polypropylene and extend from the floor of the tank through the cover to allow for positive welding and maximum integrity. All partitions shall be equipped with vent and air holes to permit movement of air and water between compartments. The partitions shall be designed to provide maximum water flow. All swash partitions interlock with one another and are welded to each other as well as to the walls of the tank.

The tank shall have a combination vent and manual fill tower. The fill tower shall be constructed of 1/2" polypropylene and shall be a minimum dimension of 8" x 8" outer perimeter. The tower shall be located in the left front corner of the tank. The tower shall have 1/4" thick removable polypropylene screen and a polypropylene hinged-type cover. The tank cover shall be constructed of 1/2" thick polypropylene to incorporate a multi three-piece locking design which allows for individual removal and inspection if necessary.

The sump shall be constructed of 1/2" polypropylene and be located in the left front quarter of the tank. The sump shall have a minimum of 3" national pipe threaded outlet on the bottom for a drain plug. This shall be used as a combination clean-out and drain. All tanks shall have a anti-swirl plate located approximately 2" above the sump.

All tank fill couplings shall be backed with flow deflectors to break up the stream of water entering the tank.

The tank shall rest on the body cross members in conjunction with such additional cross members, spaced at a distance that would not allow for more than 530 square inches of unsupported area under the tank floor.

The tank shall be completely removable without disturbing or dismantling the apparatus structure.

**ELECTRIC SYSTEM**

All electrical wiring in the chassis shall be XLP cross link-insulated type. Wiring is to be color-coded and include function codes every three (3) inches. Wiring harnesses shall be routed in protective, heat resistant loom, securely and neatly installed. Two power distribution centers shall be provided in central locations for greater accessibility. The power distribution centers contain automatic thermal self-resetting breakers, power control relays, flashers, diode modules, daytime driving light module, and engine and transmission data links. All breakers and relays are utilized in circuits which amp loads are substantially lower than the respective component rating thus ensuring long component life. Power

distribution centers shall be composed of a system of interlocking plastic modules for ease in custom construction. The power distribution centers are function oriented. The first is to control major truck function and the second controls overhead switching and interior operations. Each module is single function coded and labeled to aid in troubleshooting. The centers also have accessory breakers and relays for future installations. All harnesses and power distribution centers shall be electrically tested prior to installation to ensure the highest system reliability.

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

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

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

All harnesses are securely installed in areas protected against heat, liquid contaminants and damage. The harness connections and terminations use a method that provides a positive mechanical and electrical connection and are in accordance to the device manufacturers' instructions. No connections within the harness utilize wire nut, insulation displacement, or insulation piercing.

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

**BACK-UP ALARM**

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

**COMPARTMENT LIGHTING**

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

**LICENSE PLATE BRACKET**

A license plate bracket shall be provided at the rear of the apparatus. A Weldon Technologies light part # 9186-23882-30 shall be mounted directly above the license plate area for proper illumination.

**REAR VISION CAMERA SYSTEM**

Provided and mounted on the apparatus shall be a Safety Vision SV-CLCD-64 camera kit. The system shall consist of one (1) cab mounted model SV-LCD68 6.8" LCD monitor, one (1) model SV-620 (Color) high resolution 1/3" CCD camera, one (1) SV-LCDCB Control Box, and one (1) SV-523 65' camera cable. The monitor shall be dash mounted in plain view of the driver..

**REAR TURN SIGNALS**

The rear stop/tail/backup and turn signal lights shall be Whelen 600 series triple cluster lights mounted in a single polished housing on the rear body panels. The stop/tail lights shall be the top light. The amber arrow turn signals shall be located below the stop/tail lights and the backup lights shall be located below the turn signals.

**LED ICC/MARKER LIGHTS**

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

**STEP LIGHTS**

Step lights shall be provided, one each side on the front compartment face at pump panels. The lights shall be Whelen 2G Series LED lights.

Each step at the rear of the apparatus shall have a light to illuminate each step and the tailboard.

**GROUND LIGHTING**

The apparatus shall be equipped with lighting capable of illumination to meet NFPA requirements. Lighting shall be provided at areas under the driver and

crew riding area exits and shall be automatically activated when the exit doors are opened. The ground lights shall be Truck-lite® LED model #44042C. Lighting required in other areas such as work areas, steps and walkways shall be activated when the parking brake is applied, provided the ICC lights are on.

**WORK LIGHTS**

There shall be two (2) Unity brand AG 6" chrome plated sealed beam flood lights provided. The lights shall be securely mounted at the upper rear of the apparatus body. Each light shall be supplied with individual switches.

**OPTICAL WARNING SYSTEM**

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

A master optical warning device switch shall be provided to energize all of the optical warning devices provided. All lights shall operate at not less than the minimum flash rate per minute as specified by NFPA.

**UPPER LEVEL WARNING DEVICES**

The upper level is divided into zones A, B, C and D and the approved lighting package to be provided shall be as follows:

Zone A (front) shall have one (1) Whelen Model FN72QLED 12 LED Freedom Series 72" Lightbar.

Zone B (right side) shall be covered by the module from the lightbar and the right rear stanchion beacon.

Zone C (rear) shall have two (2) Whelen Model MCFLED2R Micro Edge Freedom LED light bars mounted on the rear stanchions and two (2) Whelen Model 60A00FAA amber LED, mounted at upper rear of apparatus.

Zone D (left side) shall be covered by the module from the lightbar and the left rear stanchion beacon.

**LOWER LEVEL WARNING DEVICES**

The lower level is divided into zones A, B, C and D and the approved lighting package to be provided shall be as follows:

Zone A (front) shall have a stainless steel warning light housing each side with Two (2) Whelen 600 Super LED red lights mounted in the front of each housing. The inboard pair of lights is in addition to the minimum NFPA warning system and shall be wired through a load-shedding device.

Zone B (right side) shall have four (4) Whelen 600 Series Super LED red lights mounted one on the side of the headlight housing, one at the middle of the apparatus, one on the body side at rear of apparatus, and one on the side of the aerial device.

Zone C (rear) shall have two (2) Whelen 600 Series Super LED, red lights mounted one each side of the rear of the apparatus.

Zone D (left side) shall have four (4) Whelen 600 Series Super LED, red lights mounted one on the end of the headlight housing, one at the middle of the apparatus, one on the body side at rear of apparatus and one on the side of the aerial device.

**SIREN**

One (1) Whelen Model 295 SLSA1 electronic siren shall be installed at the cab instrument panel complete with noise canceling microphone. The horn button in the steering wheel, a switch on right hand side of cab floor and the control on the siren head shall actuate the siren. A selector switch shall be provided on the instrument panel for control of horn or siren by steering wheel button.

**FEDERAL Q2B SIREN**

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

One foot switch shall be provided.

**SIREN SPEAKER**

One Cast Products SA4201-5-A weatherproof siren speaker shall be provided mounted behind the bumper.

**GENERATOR**

The apparatus shall be equipped with a complete electrical power generation system. A Smart Power hydraulic 8.0 KW generator shall be provided and installed. The generator and wiring shall conform to present National Electric Codes as outlined in the National Fire Protection Association Standards.

The output of the generator shall be controlled by an internal hydraulic system. An electrical instrument gauge panel shall be provided for the operator to monitor and control all electrical operations and output. The generator shall be powered by a transmission power take off unit, through a hydraulic pump and motor. The generator shall be operable anytime that the apparatus engine is running and meeting the minimum range of 950 RPM's. A hot shift PTO switch located in the cab dash shall activate the generator.

**120-VOLT OUTLET**

Two (2) 120-volt outlets with weatherproof cover shall be provided. All 120 volt wiring shall be installed in liquid tight conduit.

**BREAKER BOX**

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

**QUARTZ LIGHT BROW 750 WATT FOCUS**

A Fire Research Focus Model S75 Quartz Halogen Lamp shall be provided. The light shall be housed in heavy-duty aluminum housing.

Watts: 750  
 Amps: 3.13  
 Volts: 240  
 Bulb Type: Halogen  
 Width: 10"  
 Height: 7 5/8"  
 Depth: 4 7/8"

The light shall be mounted on the front of the apparatus cab.

**QUARTZ LIGHT TRIPOD 750 WATT FOCUS**

A Fire Research Focus Model S75 Quartz Halogen Lamp shall be provided. The light shall be housed in heavy-duty aluminum housing.

Watts: 750  
 Amps: 6.3  
 Volts: 120  
 Bulb Type: Halogen  
 Width: 10"  
 Height : 7 5/8"  
 Depth: 4 7/8"

The light shall be mounted on a telescoping tripod. A switch shall be located at the light head.

**QUARTZ LIGHT TELESCOPIC 750 WATT FOCUS**

Fire Research Focus model FCA540-S72 side mount pull up telescopic light shall be installed. The light pole shall be anodized aluminum and have a knurled twist lock mechanism to secure the extension pole in position. The extension pole shall rotate 360 degrees. An internal brake shall slow the extension pole during lowering. The outer pole shall be a grooved aluminum extrusion and qualify as an NFPA compliant handrail. The pole mounting brackets shall have a 3 1/2" offset. Wiring shall extend from the pole bottom with a 4' retractile cord.

The lamphead shall have one (1) quartz halogen 750 watt 240 volt bulb. The bulb shall draw 3.1 amps and generate 16,100 lumens. The bulb shall be accessible through the front. The lamphead shall direct 50 percent of the light onto the action area while providing 50 percent to illuminate the working area. The lamphead angle of elevation shall be adjustable at a pivot in the mounting arm and the position locked with a round knurled locking knob. The lamphead shall incorporate heat-dissipating fins and be no more than 5" deep by 3 3/8" high by 10" wide. Lamphead and mounting arm shall be powder coated white. The floodlight shall be UL listed as a scene light for fire service use.

The light shall be located on the side or rear of the apparatus.

**QUARTZ LIGHT AERIAL 750 WATT FOCUS**

Fire Research Focus model FCA300-S72 under aerial light shall be installed. The hinge style mounting brackets shall attach to the top of the lamp head and adjust 90 degrees. The light shall have a profile of less than 3 7/8" with the brackets set at 0 degrees and less than 6 7/8" with the brackets adjusted to 90 degrees. Wiring shall extend from the rear of the lamp head.

The lamp head shall have one (1) quartz halogen 750 watt 240 volt bulb. The bulb shall draw 3.1 amps and generate 16,100 lumens. The bulb shall be accessible through the front. The lamp head shall direct 50 percent of the light onto the action area while providing 50 percent to illuminate the working area. The lamp head shall incorporate heat-dissipating fins and be no more than 5" deep by 3 3/8" high by 11 1/2" wide. Lamp head and brackets shall be powder coated white. The floodlight shall be UL listed as scene lights for fire service use.

Location of floodlight shall be at the tip of the aerial.

**CORD REEL**

There shall be a Hannay Model ECR1614-17-18 electric rewind cable reel furnished and mounted in a compartment. The reel shall come complete with 150 feet of 10/3 Seoprene Water-resistant (SOW) yellow jacketed cable. A Hannay Type "C" roller assembly and HS-3 cable stop ball shall be provided.

**GROUND LADDERS**

The apparatus shall be equipped with heavy duty, box type "I" beam rail, ground ladders. The ladders shall meet the requirements of NFPA 1931 to ensure proper design and that sufficient strength is available for the service intended. The ground ladders shall be constructed of aluminum with non-welded, field replaceable rung to rail connections to simplify field repairs and removable plated steel butt spurs for added strength. A full 1/2", non-rotting, poly rope shall be provided for easy ladder operation.

The apparatus shall be capable of carrying minimum of 85 ft. ground ladders:

One (1) 10 ft. collapsible ladder, (mounted in fly section)

One (1) 16 ft. roof ladders with roof hooks

One (1) 24 ft. 2-section extension ladder

One (1) 35 ft. 3-section extension ladder

The ladders shall have lifetime Warranty against manufacturing defects.

**LADDER MOUNTING**

The ladders shall be mounted on brackets on the side of the body and held in place by polished aluminum quick-release spring locks.

**PIKE POLES**

Two (2) Akron Ultra-Lite 6' fiberglass pike poles shall be provided and mounted.

Two (2) Akron Ultra-Lite 8' fiberglass pike poles shall be provided and mounted.

Two (2) Akron Ultra-Lite 12' fiberglass pike poles shall be provided and mounted.

**CORROSION REDUCTION POLICY**

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

In addition to a formal program the manufacture shall show proof of testing corrosion reduction processes to ASTM B117. A copy of recent test shall be included in the bid.

**Frame Rails**

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

**Electro Plating**

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

**Fasteners**

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

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

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

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

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

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

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

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

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

**Barrier Tape**

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

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

**Gaskets**

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

Mounting with Threadlocker coating shall be used.

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

**Rollup Doors**

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

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

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

**Hinged Doors**

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

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

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

**Painting Steel**

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

**Mounting Emergency Lights and Options**

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

**Electrical Grounding**

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

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

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

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

**SALT SPRAY TESTING**

Salt spray test shall be used to confirm the relative resistance to corrosion of coated and uncoated metallic specimens, when exposed to a salt spray climate

at an elevated temperature. Test specimens shall be placed in an enclosed chamber and exposed to a continuous indirect spray of neutral (pH 6.5 to 7.2) salt water solution, which falls-out on to the specimens at a rate of 1.0 to 2.0 ml/80cm<sup>2</sup>/hour, in a chamber temperature of +35C. This climate shall be maintained under constant steady state conditions.

**Method**

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

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

**Orientation**

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

**Test durations**

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

**PAINTING**

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

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

Utilizing the stainless steel body fabrication, the interior of all compartments, inside hose bed, and surrounding areas adjacent to compartments doors shall remain a #4 brushed stainless steel finish. This practice shall eliminate the possibility of paint chipping, and electrolysis of aluminum which can cause corrosive action between dissimilar metals. Chassis and compartment doors shall be painted the color indicated.

Prior to reassembly and reinstallation of lights, handrails, door hardware and any miscellaneous items, an isolation tape or gasket material shall be used to prevent damage to the finish painted surfaces. A nylon washer shall be installed under each acorn nut or metal screw that is fastened directly to a painted surface.

The following paint process shall be utilized:

**Surface Preparation:**

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

**Substrate treatment:**

1. Use a Metal Conditioner followed with a Conversion Coating product.

**Priming:**

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

**Color Coat:**

1. Apply polyurethane base coat 1-2 mil dft minimum.

**Clear coat:**

1. Apply polyurethane clear coat 2 mil dft minimum.

**PAINT-TWO TONE CAB**

The cab exterior surfaces shall be two (2) colors. The paint break line shall be at the bottom of the windshield.

**UNDERCOATING**

Ziebart, or equal, undercoating shall be applied to visible surfaces on the underside of the truck body and chassis to help reduce noise in the cab caused by tires, stones, sand and water spray. This thick, super-tough coating, being

highly abrasion-resistant does not wear off. It also protects underbody components from moisture, mud and salt.

**ZIEBART WARRANTY**

The application shall come with Ziebart's ten (10) year rust protection limited warranty.

**LETTERING**

Up to Forty (40) 3" 22KT Gold laminate goldleaf letters, with left hand shading and right hand outline to equal 3-5/8" letter, shall be provided.

**STRIPING**

A 4" Scotchlite stripe shall be provided across the front of the cab and along each side of the apparatus.

A 1/2" 22KT gold laminate goldleaf stripe shall be provided on each side of the apparatus.

**STRIPING, CHEVRON STYLE, REAR BODY, OUTBOARD**

The apparatus shall have 6" red and yellow reflective DiamondGrade Chevron style striping affixed to the outboard right and left portion of the rear body and front bumper. The striping shall be set in a manner to have the effect of an inverted "V" shape. The stripe shall travel low to high from the outside to the inside.

**BOOM SIGN**

A boom sign, approximately 66" x 10", shall be provided on each side of the boom. The background of the boom sign shall be painted primary truck color.

**BOOM SIGN LETTERING**

Up to twenty (20) 6" 22KT Gold laminated goldleaf letters, with left hand shading and right hand outline to equal 6-5/8" letter, shall be provided on each boom sign.

**MISCELLANEOUS EQUIPMENT FURNISHED**

1 pt. touch-up paint

Pike pole tubes shall be provided, three each side of the rear compartment.

**WHEEL CHOCKS**

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

**AERIAL DEVICE - MIDSHIP MOUNTED**

An aerial device with a minimum 75-foot vertical reach shall be provided. The height dimension shall be calculated with the aerial at 75 degrees. The horizontal reach of the device shall not be less than 68.5 feet. The overall height of the apparatus with the aerial device in the bedded positions shall be no more than 10 feet and the overall length of vehicle shall be not more than 38 feet, 7 inches.

**CONSTRUCTION STANDARDS**

The aerial device shall be designed and tested with a safety factor of three to one (3:1) figured on the dead load of the ladder assembly with a tip load of 1,000 pounds and a live load of 750 pounds at the tip while flowing 1,000 GPM at 90 degrees to the side.

A one and one half to one (1.5:1) stability factor shall also be provided that is in compliance with the intent of the Occupational Safety and Health Administration (OSHA) and the American National Standards Institute (ANSI) and National Fire Protection Agency (NFPA) 1901. These capabilities shall be established in an unsupported configuration.

**CONSTRUCTION**

The aerial ladder shall be comprised of four sections and shall extend to a nominal height of 75 feet at 75 degrees, measured in a vertical plane from the top rung of the fly section to the ground.

The ladder shall have the capability to support 1,000 pounds at the tip dry and 750 pounds at the tip while flowing 1000 gallons per minute in the unsupported configuration based upon 360 degree rotation, up to full extension and from -6 degrees to 80 degrees.

The ladder shall be constructed of certified 6061-T651 heat treated aluminum alloy. Each section shall be trussed diagonally, vertically, and horizontally using aircraft type Huck bolts. All critical points shall be reinforced for extra rigidity and to provide a high strength to weight ratio. All ladder rungs shall be round and Huck bolted to each section utilizing corner gusset bracing for torsional rigidity.

Minimum Climbing Ladder Dimensions:	<u>Width</u>	<u>Height</u>
First Section	35.25"	28.5"
Second Section	31"	25.75"
Third Section	27.25"	22.5"
Fourth Section	24.25"	19.75"

Access to the climbing ladder and the mid-ship turntable area shall be accomplished through one (1) recessed step area located on left side directly below the mid-ship turntable.

**AERIAL EGRESS**

A bolt-on removable egress shall be installed on the tip of the fly section. The rungs on the egress shall be on a plane of 20 degrees to provide a smoother transition onto the ladder when it is at a high angle.

**FOLDING STEPS**

One (1) set of folding steps shall be installed at the tip of the ladder to provide solid footing for personnel.

**LADDER TRAVEL SUPPORT**

A heavy duty ladder rest shall be provided for support of the ladder in the travel position. On the base section of the ladder, stainless steel scuff plates shall be installed where the ladder comes in contact with the ladder support. A marker shall be provided on the turntable to indicate when the ladder is aligned with the travel support and may be lowered into it. The ladder rest shall be illuminated for nighttime operation.

**LIFTING CYLINDERS**

Two (2) double acting lift cylinders shall be utilized to provide smooth precise elevation from 6 degrees below horizontal to 80 degrees above horizontal. The lift cylinders shall have a 4.5" internal diameter (bore), a 2.5" cylinder rod, and a 40" stroke. The lift cylinders shall 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.

The lowering of the ladder shall be controlled by a pressure relief valve so as to limit the downward pull of the ladder when it is bedded. Both raising and lowering functions shall be influenced by flow compensation which shall maintain ladder tip speed within approximately 10% of design speed regardless of load, angle, or extension.

**EXTENSION/RETRACTION SYSTEM**

A full hydraulic powered extension and retraction system shall be provided using two sets of hydraulic cylinders and cables. Each set shall be capable of operating the ladder in the event of a failure of the other. The extension cylinder shall each have a 3.5" internal diameter (bore), a 2.5" diameter rod, and a stroke of 176.5". Extension and retraction shall be internally limited within the cylinders, eliminating excess strain on the cables, sheaves, and ladder structure. Each of the cylinder, cable, and sheave assemblies shall be completely independent of the other, so as to provide a safety factor wherein a failure of one assembly shall not affect the function and operation of the other. The extension cylinders shall be 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 reeling of the cable shall be such as to provide synchronized, simultaneous movement of all sections to full extension.

Ultra high molecular weight polyethylene (UHMW) wear pads impregnated with molybdenum disulfide shall be used between the telescoping sections for maximum weight distribution, strength and smoothness of operation.

**HYDRAULICS**

The apparatus shall be equipped with a power take-off (PTO) driven by the chassis transmission and actuated by an electric shift, located inside the cab. The PTO which drives the hydraulic pump shall meet all the requirements for the aerial unit operations. The hydraulic system shall operate at a nominal 20 gallons per minute at pressures up to 2,700 PSI. A green indicator light shall be installed on the cab instrument panel to notify the operator that the PTO is engaged.

The hydraulic system shall be supplied by a pressure compensating, variable gallonage type pump. The pump shall provide adequate fluid volume to allow all ladder functions to operate simultaneously, without noticeable loss of speed. The pump shall supply oil only when the ladder is in motion, thereby preventing overheating of the hydraulic oil. When the hydraulic pressure reaches a preset level, the pressure compensating feature of the pump shall discontinue any flow into the system.

**AUXILIARY HYDRAULIC POWER**

An emergency auxiliary hydraulic motor shall be furnished to provide a backup hydraulic system, should the regular hydraulic system fail. An electric switch located inside the hydraulic compartment shall start the auxiliary hydraulic motor. The auxiliary hydraulic motor shall be installed in the left side compartment directly below the midship turntable for ease of access and maintenance.

**INTERLOCK**

An interlock shall be provided that prevents operation of the aerial device until the chassis spring brakes have been set and the transmission has been placed in neutral or the transmission is in the drive position with the driveline to the rear axle disengaged.

An interlock shall be provided that allows operation of the engine speed control only after the chassis spring brakes have been set and the transmission is in neutral.

An interlock system shall be provided to prevent the lifting of the aerial device from the travel position until all the stabilizers are in a configuration to meet the stability requirements. The interlock system shall also prevent the moving of the stabilizers unless the aerial device is in the travel position.

One (1) limit switch shall be installed at the cradle to prevent operation of the stabilizer once the aerial has been elevated from the nested position.

**HYDRAULIC SWIVEL**

The aerial device shall be equipped with a hydraulic swivel which shall connect the hydraulic lines from the hydraulic pump and reservoir to the aerial control bank. The hydraulic swivel shall allow for 360 degrees of continuous rotation of the aerial device with no loss of speed or capacity in it's function.

**ELECTRIC SWIVEL**

The ladder shall be equipped with an electric swivel to allow for 360 degrees of continuous rotation of the aerial while connecting all electrical circuits through the rotation point. A minimum of twenty-six (26) collector rings shall be provided.

**TURNTABLE**

The turntable shall be a minimum 63" in diameter. It shall be covered with slip resistant aluminum diamondplate to provide secure footing. The turntable shall be lighted for nighttime operation.

The turntable shall be attached directly on top of the mainframe assembly using 24-5/8" diameter grade 8 bolts. Turntable side plates shall be positioned at a 45-degree angle, exactly opposite the angle of the lift cylinders, to act as a partial counter-balance weight to the ladder.

The turntable shall be equipped with a rotating mechanism with a steel balanced fly wheel connected at one end which shall rotate the turntable 360 degrees through a planetary gear box that shall handle torque loads imposed by water hammer and hose breakage. The rotating mechanism shall give the turntable

and ladder built-in coast as an added safety precaution to avoid lateral ladder side-to-side deflection (reactionary whipping effect) caused by the ladder being stopped suddenly.

The power operated turntable shall provide continuous rotating of the aerial structure clockwise or counter clockwise, thus enabling the structure to be positioned in any segment through 360 degrees. The rotating mechanism shall also provide sufficient power to rotate the aerial sections in any direction at any angle, fully extended, while carrying the manufacturer's rated load capacity with the waterway in operation and discharging water at the tip of the aerial fly section.

The complete rotation system shall have built-in relief to prevent damage from rotating the ladder into buildings or from overloaded water streams. Suitable indicators, clearly visible at all times, shall be provided to facilitate correct alignment of the turntable with the bed of the ladder. An automatic light shall be used to show correct alignment for bedding of the ladder from the turntable control station.

**TURNTABLE BEARING**

The turntable bearing shall be bolted to the top of the mainframe assembly and have a gear diameter of 42".

**TURNTABLE SUPPORT**

The turntable support shall be mounted mid-ship of truck forward the pump panel.

The turntable support assembly shall be a welded steel box beam structure extending across the chassis frame 34" x 39" in depth. The measurements of 34" x 39" are important to take shock loads imposed by water turret operation and to give a reserve strength factor to compensate for hose breakage and water hammer. To further compensate for hose breakage and water hammer, lateral tower deflection, there shall be steel support gusset beams, one each side, welded onto the turntable side plates.

**OUTRIGGER JACKS**

Two (2) hydraulically operated underslung scissor-type stabilizing jacks shall be attached to the midship mounted main frame assembly, one (1) jack on each side of vehicle with a minimum spread of 16 feet. Both jacks shall be operated by two (2) midship mounted hydraulic valve handles.

The hydraulic cylinders shall be enclosed in a protective heavy duty tubular frame. A solid steel fail-safe pin shall be provided for each jack tube. Said pins

shall be manually inserted through the tubes after the outrigger jacks have been positioned.

The outrigger jacks shall have a maximum spread of 16 feet from pad to pad. The control is electric over hydraulic with electric push button activation.

**BOOM CONTROLS**

There shall be an operator's position with four controls located at the base of the turntable next to the left side pump panel area. The controls shall be spring loaded to bring any operation of the aerial controls back to a neutral position. The four controls shall have the following functions:

1. Outrigger jack controls.
2. Raise and lower.
3. Extend and retract.
4. Rotation 360 degrees right and left.

The controls shall be equipped with a latching, hinged cover for protection. A hydraulic lockout shall be provided that shall prevent aerial operation until the outrigger jacks are set into position. Hydraulic power is transferred to aerial operation when outriggers are set. Power can be transferred back to the outriggers only after the aerial has been bedded.

There shall be a plaque located at the controls displaying functions.

A slide out step shall be provided at the controls for safety of the operator.

**INCLINOMETER**

An illuminated inclinometer shall be provided and mounted in plain view of the pedestal operator location.

**CENTRALIZED CONTROLS**

All outrigger jack controls, turntable controls and pump controls shall be located in one centralized area to: a) allow person(s) close proximity to all control stations of the truck, b) allow faster set up time for all operations of the truck.

**AERIAL DATA PLAQUES**

Load instruction plates shall be located at the turntable pedestal control station indicating the recommended safe load of the aerial. The aerial shall carry the rated load capacity indicated in the following manner: raise, extend, rotate, retract and lower without exceeding the hydraulic pressures prescribed by the manufacturer.

**OPERATIONAL TEST**

After starting the engine, setting the jacks and transmitting power to the aerial, a complete cycle of the aerial operation shall be carried out as follows: With one person operating the machine from the control station, raise the aerial from the bedded position, rotate 90 degrees and extend to full height. This shall be completed in less than 150 seconds, smoothly without vibration.

**WATERWAY**

The aerial waterway shall be constructed of heavy duty, light weight, telescopic, aluminum tubing. The water supply line shall come directly off the main pump discharge manifold and shall be piped through smooth high pressure piping without the use of 90 degree chicksan joints, to reduce friction loss. The water flow shall be controlled by a full flow ball valve to eliminate any possibility of water hammer on the waterway. The water shall be passed through a special 4" passage rotating swivel designed to also provide hydraulic passages and electrical circuits to the turntable.

Waterway piping immediately above the hydraulic swivel shall have one 90 degree elbow connected to a straight pipe attached to a reinforced stainless steel braided flex tube. There shall be no chicksan swivels or multiple bends or twists of the waterway pipe immediately above the hydraulic swivel, which would increase friction loss.

The base section of the waterway shall be a 5" minimum diameter and finish with a 3 1/2 " diameter in the fourth section of the aerial. The base section shall completely enclose the first section of waterway, thereby protecting it from possible damage from buildings, roof cornices, etc. An automatic relief valve shall be provided in the waterway to eliminate any damage to the waterway by pressure shock or retracting the boom with the drain valve closed.

The waterway shall have the capability of flowing a minimum of 1500 gallons per minute.

A 1.5" waterway drain valve shall be provided, and controlled from the pump operator's panel

**POSITIONABLE WATERWAY**

The waterway shall have the capability of being secured to the third or fourth section of the aerial by means of a lever operated positive locking device. To further enhance the safety of personnel working near the aerial, a permanent stop shall be provided at the end of the ladder, to prevent the waterway from leaving the aerial device.

A simple locking pin system shall not be acceptable. **NO EXCEPTIONS**

**WATERWAY CONTROLLER & FLOWMETER**

The waterway valve controller and flowmeter shall be an Akron model 9315. The controller/flowmeter shall be provided on the pump operator's panel.

The control shall be of a current limiting design, requiring no clutches in the motor. The unit shall have momentary open and close booted switches to operate the actuator. The controller shall have individual red, yellow and green long life LED's with light pipes for maximum visibility. The lights shall indicate closed, throttled and open. The unit shall have solid-state electronics to provide easy, accurate flow calibration through electric programming, two-button operation to read pressure, flow and total flow. 5/8" tall LED numerals shall show pressure and flow. The controller shall have a 5-year warranty.

**VALVE ACTUATOR**

The valve shall be electrically actuated with a 25:1 ratio valve actuator.

**AERIAL SPOT LIGHTS**

There shall be four (4) Unity brand spotlights with individual on/off switches for the aerial tower; two spotlights shall be mounted at the tip of the ladder, one each side, and two (2) at the base section of the ladder, one each side to act as aerial tracking lights.

**MONITOR/NOZZLE**

An Elkhart #8294-04 Scorpion lightweight monitor shall be provided. It shall be attached to the end of the aerial with a 4-bolt flange. This monitor shall be capable of full flow of the aerial waterway up to 1500 G.P.M. Positioning of the monitor shall be accomplished through electric controls located at the aerial tip, pump panel and hand held transmitter.

This monitor shall be equipped with an Elkhart SM 2000E nozzle. The nozzle shall have automatic flow rates of 350 - 2000 G.P.M.

**INTERCOM**

A Fire Research two-way voice communication system shall be provided between the aerial ladder operator's position and the monitor position. The speaker/microphone at the tip shall allow for hands-free operation.

**ELECTRIC UP THE LADDER**

A 110-volt circuit shall be provided up the ladder, complete with reel and junction box.

**OPERATION AND SERVICE MANUALS**

Complete "Operation and Service" manuals shall be supplied with the completed apparatus, one (1) printed copy and one (1) CD. Service manual instructions shall include service, maintenance and troubleshooting for major and minor components of the truck. The apparatus manufacturer shall supply part numbers for major components (i.e. Engine, Axles, Transmission, Pump, etc.). A table of contents, hydraulic, air brake and overall apparatus wiring schematics shall be included.

A video demonstration DVD on the operation of the truck shall be supplied with the manuals.

**WARRANTIES**

The following warranties shall be supplied:

1. The apparatus shall be warranted to be free from mechanical defects in workmanship for a period of one (1) year. The apparatus shall be covered for parts and labor costs associated with repairs for a period one (1) year.
2. Life-time warranty on the frame.
3. Seven (7) year pro-rated warranty on paint.
4. Ten (10) body structural warranty
5. Ten (10) year cab structural warranty
6. Two (2) year aerial mechanical warranty
7. Twenty (20) year aerial structural warranty
8. Manufacturers Warranties for all major components.

**DELIVERY**

The custom built fire apparatus shall be driven from the manufacturing facility to the community by a factory trained delivery engineer who shall thoroughly demonstrate the complete apparatus operation and maintenance to the fire department designated personnel.

**MANUFACTURING & LOCATIONS**

The apparatus shall be manufactured in facilities wholly owned and operated by the company. A complete stock of service parts and service shall be provided

EXCEPTIONS TAKEN  
YES NO

on a 24 hours around the clock basis. The company shall maintain parts and service for a minimum period of twenty (20) years on each apparatus model manufactured.

**RESOLUTION NO. \_\_\_\_\_**

**TO FIX A DATE OF MEETING AT WHICH IT IS PROPOSED TO  
APPROVE A DEVELOPMENT AGREEMENT WITH JOSHSON LLC,  
INCLUDING PROPERTY TAX REBATE PAYMENTS IN AN AGGREGATE  
AMOUNT NOT TO EXCEED \$60,000**

WHEREAS, the City of Clear Lake, Iowa (the "City"), pursuant to and in strict compliance with laws applicable to the City, on November 17, 2003, approved and established the "Downtown Urban Renewal Area & Plan"; and

WHEREAS, on March 15, 2004, the City pursuant to and in strict compliance with laws applicable to the City, approved and established the "Clear Lake Consolidated Urban Renewal Area & Plan"; and

WHEREAS, one of the primary project objectives of the "Downtown Urban Renewal Area & Plan", as adopted by the City was "to eliminate blighting influences and promote revitalization in the downtown area"; and

WHEREAS, the City proposes to enter into a development agreement (the "Development Agreement") with "Joshson LLC" ("Joshson LLC") in connection with certain environmental work and costs associated with the property and buildings located at 209 1<sup>st</sup> Avenue S.; and

WHEREAS, the Development Agreement would provide financial incentives to "Joshson LLC" in the form of property tax rebate payments, in a cumulative amount not to exceed \$60,000; and

WHEREAS, it is necessary to set a date for a public hearing on the Development Agreement.

NOW THEREFORE, IT IS RESOLVED by the City Council of the City of Clear Lake, Iowa, as follows:

Section 1. This City Council shall meet on the 6th day of February, 2012, at 6:30 o'clock p.m., at the City Council Chambers, in the City, at which time and place proceedings will be instituted and action taken to approve the Development Agreement and to authorize the property tax rebate payments.

Section 2. The City Clerk is hereby directed to give notice of the proposed action, the time when and place where said meeting will be held, by publication at least once, not less than four days and not more than twenty days, before said meeting in a legal newspaper of general circulation in the City. Said notice shall be in substantially the following form:

**NOTICE OF MEETING FOR APPROVAL OF DEVELOPMENT  
AGREEMENT WITH JOSHSON LLC AND AUTHORIZATION OF PROPERTY  
TAX REBATE PAYMENTS**

The City Council of the City of Clear Lake, Iowa, will meet at the City Council Chambers, on the 6th day of February, 2012, at 6:30 o'clock p.m., at which time and place proceedings will be instituted and action taken to approve a Development Agreement between the City and Joshson LLC, in connection with certain environmental related costs and expenses associated with the property and buildings located at 209 1<sup>st</sup> Avenue S., which agreement provides for certain financial incentives in the form of property tax rebate payments in a total aggregate and cumulative amount not exceeding \$60,000.

The Agreement to make property tax rebate payments will be subject to annual appropriation by the City Council.

At the meeting, the City Council will receive oral or written objections from any resident or property owner of the City. Thereafter, the Council may, at the meeting or at an adjournment thereof, take additional action to approve the Development Agreement or may abandon the proposal.

This notice is given by order of the City Council of Clear Lake, Iowa, in accordance with the Code of Iowa.

Jennifer Larsen  
City Clerk

Section 3. All resolutions or parts of resolutions in conflict herewith are hereby repealed.

Passed and approved January 16, 2012.

\_\_\_\_\_  
Mayor

\_\_\_\_\_  
Attest:  
City Clerk

## **DEVELOPMENT AGREEMENT**

**THIS DEVELOPMENT AGREEMENT** (the "Agreement") is made and executed this \_\_\_\_\_ day of \_\_\_\_\_, 2012, by and between the **CITY OF CLEAR LAKE**, an Iowa municipal corporation (the "City"), whose address is 15 N. 6<sup>th</sup> Street, PO Box 185, Clear Lake, Iowa, 50428, and **JOSHSON LLC**, ("Joshson LLC") whose address is 5024 S. Bur Oak Place Suite 113B Sioux Falls, SD 57108.

### **WITNESSETH:**

**WHEREAS**, the City has established the "Clear Lake Consolidated Urban Renewal Area" Plan and a Tax Increment Ordinance for the Urban Renewal Area; and

**WHEREAS**, "Joshson LLC" has proposed the acquisition of certain real property which is situated within the Urban Renewal Area and is more specifically described on "Exhibit A" hereto (the "Property"), and has proposed to undertake the demolition of an existing commercial building, along with asbestos removal, environmental clean-up, and related site work; stormwater quality improvements; and public alley and curb & gutter reconstruction (the "work"); and

**WHEREAS**, "Joshson LLC" has committed to funding all the upfront costs of the "work" to be incurred on the "Property"; and

**WHEREAS**, "Joshson LLC" has requested that the City provide financial assistance in the form of property tax rebate payments to be used by "Joshson LLC" in paying the costs of undertaking the "work"; and

**WHEREAS**, Chapter 15A of the Code of Iowa authorizes cities to provide grants, loans, guarantees, tax incentives and other financial assistance to or for the benefit of private persons

**WHEREAS**, the City and "Joshson LLC" desire to set forth the following special terms and conditions with respect to the proposed redevelopment of the Property.

**NOW, THEREFORE**, in consideration of the mutual promises and covenants contained herein, the parties mutually agree as follows:

#### **A. JOSHSON'S COVENANTS**

1. "Joshson LLC" agrees to acquire the Property and undertake the "work" described herein. Following completion of the "work" "Joshson LLC" will construct not less than five (5) townhomes/condominiums on the property

which shall have a combined aggregate value of not less than \$1,250,000 in new assessed value.

2. "Joshson LLC" agrees to provide invoices to the City for all costs incurred in relation to the "work" described herein. Such invoices may include expenses incurred for civil and environmental consulting services and environmental remediation and/or abatement activities.
3. "Joshson LLC" hereby acknowledges that failure to maintain a minimum assessed valuation on the Property of \$1,310,000 shall give the City the right to withhold any and all the unremitted Payments.
4. Joshson LLC agrees to guarantee, or otherwise ensure, the timely payment of all property taxes as they come due with respect to the Property throughout the Term, as hereinafter defined, and to submit documentation in evidence of each such payment, failure to comply with this provision shall give the City the right to withhold any and all the unremitted Payments.
5. Joshson LLC agrees to certify to the City by no later than November 1 of each year, commencing November 1, 2014 and concluding on November 1, 2018, the estimated amount of Incremental Property Tax Revenues anticipated to be paid with respect to the Property, with the completed Project thereon, in the fiscal year immediately following such certification.

#### **B. CITY'S OBLIGATION'S**

1. **Payments.** In recognition of "Joshson LLC's" obligations set forth herein, the City agrees, subject to the terms and conditions herein set forth, to make economic development property tax rebate payments (the "Payments") to "Joshson LLC", as hereinafter defined, pursuant to Chapters 15A and other relevant provisions of the Code of Iowa, provided however that (i) the aggregate, total cumulative amount of the Payments shall not exceed an amount equal to Sixty Thousand Dollars (\$60,000) and (ii) the City's obligation to make the Annual Appropriation Payments, as hereinafter defined, shall be conditioned upon annual approval and appropriation by the City Council, as hereinafter set forth.

This Agreement assumes that the full taxable value of the Project will go on the property tax rolls as of January 1, 2014. Accordingly, Payments will be made on June 1 and December 1 of each fiscal year, beginning December 1, 2015, and continuing through and including June 1, 2020, or until such earlier date upon which total Payments equal to \$60,000 have been made.

Each Payment shall be in an amount which represents 100% of the Incremental Property Tax Revenues (exclusive of Clear Lake Community Schools PPEL levy and the consolidated debt service levies of the various taxing entities of Cerro Gordo County) received by the City from the Cerro Gordo County Treasurer with respect to the Property during the semi-annual period immediately preceding each Payment date.

The City's Payments to "Joshson LLC", as proposed herein, will, further, be limited to actual expenses for the "work" as herein previously defined, and as documented by submitted invoices from "Joshson LLC" to the City.

2. **Annual Appropriation.** For the ten Payments (the "Annual Appropriation Payments") due during the time period (the "Annual Appropriation Period") commencing December 1, 2015, and continuing to and including June 1, 2020, each Payment shall be subject to annual appropriation by the City Council. Prior to November 15 of each year during the Annual Appropriation Period, the City Council of the City shall consider the question of obligating for appropriation to the funding of the Payments due in the next succeeding fiscal year, an amount of Incremental Property Tax Revenues to be collected in such following fiscal year equal to or less than the most recent "Joshson LLC's" Estimate as provided for in this Agreement (the "Appropriated Amount").

In any given fiscal year, if the City Council determines to not obligate the then considered Appropriated Amount, then the City will be under no obligation to fund the Annual Appropriation Payment scheduled to become due in the following fiscal year, and the Developer will have no rights whatsoever to compel the City to make such Payment or to seek damages relative thereto or to compel the funding of such Payment.

**Recitals.** The foregoing recitals are true and correct and are hereby incorporated herein by this reference.

**Public Hearings.** On February 6, 2012, the City Council, after providing public notice as required by law, held a public hearing on "Joshson LLC's" request for approval of this Agreement.

**City Council Action.** On February 6, 2012, the City Council: (a) made findings that the provisions of this Agreement are consistent with the Comprehensive Plan; Downtown Urban Renewal Plan; and the Downtown District Plan; and (b) adopted Resolution No. \_\_\_\_\_ approving and authorizing the execution of this Agreement.

**Successors and Assigns.** This Agreement shall automatically be binding upon and shall inure to the benefit of the City and "Joshson LLC" and their respective successors and assigns. The terms and conditions of this Agreement similarly shall be binding upon the Property and shall run with title to the same.

**Applicable Law.** This Agreement shall be governed by and construed in accordance with the laws of the State of Iowa.

**Amendments.** This Agreement shall not be modified or amended except by written agreement duly executed by both parties hereto (or their successors or assigns) and approved by the City Council.

**Entire Agreement.** This Agreement supersedes any other agreement, oral or written, and contains the entire agreement between the City and "Joshson LLC" as to the subject matter hereof.

**Severability.** If any provision of this Agreement shall be held to be invalid or unenforceable to any extent by a court of competent jurisdiction, the same shall not affect in any respect the validity or enforceability of the remainder of this Agreement.

**Effective Date.** This Agreement shall become effective upon approval by the City Council and execution of this Agreement by both parties hereto.

**Relationship of the Parties.** The relationship of the parties to this Agreement is contractual and "Joshson LLC" is an independent contractor and not an agent of the City. Nothing herein shall be deemed to create a joint venture or principal-agent relationship between the parties, and neither party is authorized to, nor shall either party act toward third persons or the public in any manner, which would indicate any such relationship with the other.

**Interpretation.** The parties hereby agree and acknowledge that they have both participated equally in the drafting of this Agreement and no party shall be favored or disfavored regarding the interpretation to this Agreement in the event of a dispute between the parties.

**Third-Party Rights.** This Agreement is not a third-party beneficiary contract and shall not in any way whatsoever create any rights on behalf of any third party.

**Attorney's Fees.** In connection with any arbitration or litigation arising out of this Agreement, the prevailing party shall be entitled to recover reasonable attorney's fees and costs through all appeals.

**Development Permits.** Nothing herein shall limit the City's authority to grant or deny any development permit applications or requests subsequent to the effective date of this Agreement. The failure of this Agreement to address any particular City, County, State and/or Federal permit, condition, term or restriction shall not relieve "Joshson LLC" or the City of the necessity of complying with the law governing said permitting requirement, condition, term or restriction. Without imposing any limitation on the City's police powers, the City reserves the right to withhold, suspend, or terminate any and all certificates of occupancy for any building or unit if "Joshson LLC" is in breach of any term and condition of this Agreement.

The City and the Joshson LLC have caused this Agreement to be signed, and the City's seal to be affixed, in their names and on their behalf by their duly authorized officers, all as of the day and date written above

CITY OF CLEAR LAKE, IOWA

\_\_\_\_\_  
Nelson P. Crabb, Mayor

ATTEST:

\_\_\_\_\_  
Jennifer Larsen, City Clerk

JOSHSON LLC

By \_\_\_\_\_

STATE OF IOWA )  
 ) ss:  
CERRO GORDO COUNTY )

On this \_\_\_\_ day of \_\_\_\_\_, 2012, before me, the undersigned, a Notary Public in and for the State of Iowa, personally appeared Nelson P. Crabb and Jennifer Larsen, to me personally known, who, being by me duly sworn, did say that they are the Mayor and City Clerk, respectively, of the City of Clear Lake, Iowa, a municipal corporation; that the seal affixed to the foregoing instrument is the corporate seal of the municipal corporation; and that the instrument was signed and sealed on behalf of the municipal corporation by the authority of its City Council, as contained in Resolution No. \_\_\_\_\_ of the City Council on the \_\_\_\_ day of \_\_\_\_\_, 2012; and that Nelson P. Crabb and Jennifer Larsen acknowledged the execution of the instrument to be their voluntary act and deed and the voluntary act and deed of the corporation, by it and by them voluntarily executed.

\_\_\_\_\_  
Notary Public in and for the State of Iowa

STATE OF IOWA )  
 ) ss:  
CERRO GORDO COUNTY )

This instrument was acknowledged before me on this \_\_\_\_ day of \_\_\_\_\_, 2012, by \_\_\_\_\_, as \_\_\_\_\_ of Joshson LLC

\_\_\_\_\_  
Notary Public in and for the State of Iowa