BOARD OF COMMISSIONERS

L. KEVIN ENSLEY, CHAIR
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COUNTY MANAGER BRYANT MOREHEAD
COUNTY ATTORNEY FRANK G. QUEEN

HAYWOOD COUNTY BOARD OF COMMISSIONERS
REGULAR AGENDA FOR
MONDAY, MAY 15, 2023 – 5:30 PM
HISTORIC COURTHOUSE AT 215 N. MAIN STREET, WAYNESVILLE, NC

Citizens are encouraged to view the Board of Commissioners meetings online. Regular meetings are streamed live on the county website at www.haywoodcountync.gov, Agendas, Minutes, Videos. Public comments may be made by using the eComment feature at www.haywoodcountync.gov , Agendas, Minutes, Videos or by email to the Clerk to the Board at amy.stevens@haywoodcountync.gov no later than 5:00 p.m. on the Sunday before each regularly scheduled Monday Board meeting.

I. Call to Order

II. Pledge of Allegiance/Invocation - BOCC Pastor Josh Frazier

III. Public Hearing

IV. Public Comment Session
Citizens must sign up for public comment prior to ten (10) minutes of start time and each speaker is limited to three (3) minutes. Audience members may not address the Board at any time during deliberations unless recognized by the Chairman.

V. Constituent Concerns

VI. Administrative/Agency Reports/Presentations

1. Presentation of the Haywood County Floodprint proposal by NC State University Coastal Dynamics Design lab - Coastal Dynamics Design lab, FASLA, PLA NC State Professor and University Faculty Scholar and Director Andy Fox

2. Presentation of the Manager's Recommended Budget for Fiscal Year 2023-2024 - County Manager Bryant Morehead

VII. Discussion/Adjustment to Agenda

VIII. Consent Agenda

1. Request approval of May 1, 2023 regular meeting minutes

2. Request approval of April 2023 Releases, Refunds, and Discoveries

3 Request approval of April 2023 Tax Collections update and refunds

4. Request approval of Proclamation Recognizing May 14-20, 2023 as National Police Week

5. Request approval of budget amendment - Public Health, Dental Clinic - $4,500 - to accept and appropriate funds from Delta Dental Foundation, Smiles for Kids grant - to provide every child enrolled in the local public elementary and middle schools with basic dental care tools

6. Request approval of budget amendment - Social Services, Maple Leaf Adult Respite - $500 - to accept and appropriate grant funds from Schwab Charitable Foundation to purchase supplies and materials for the recipients to enjoy activities and games.

7. Request approval to accept and appropriate grant from NC Emergency Management for TS Fred unmet needs for Center Pigeon Fire Department in the amount of $30,000 and for County Manager to execute all documents

8. Request approval to accept and appropriate grant from NC Emergency Management for TS Fred unmet needs for bridge and road repair in the amount not to exceed $445,000 and for County Manager to execute all documents

IX. Regular Agenda

1. Request approval to purchase one KME Sever Side Mount Service Pumper Truck in the amount of $853,000 by Crabtree-Ironduff Fire Department - Captain of Crabtree Ironduff Volunteer Fire Department Chad Moody

2 Request to execute Memorandum of Agreement with NC Office of State Budget and Management for a Flood Warning Notification project in the amount of $1,000,000 and to award the Water Level Sensor Gauge Bid to Distinctive AFWS Designs, Inc in the amount of $197,965.00 and approval for County Manager to execute related contract documents - Emergency Services Director Travis Donaldson

3. Request approval to accept the bid in the amount of $24,900 for electrical cleanup, electrical demolition for all unused equipment, installation of new distribution panels, and connections for a new uninterrupted power supply (UPS) by Latham Electric, Inc and approval for the County Manager to execute all documents related to the Backup 911 renovation project- Haywood County Facilities Director Tim Sisk

4. Request approval of additional repairs to Daikin HVAC system at our Paragon Parkway facility - Facilities and Maintenance Director Tim Sisk

5. Request approval to award bid to Jacky Jones Chrysler Dodge Jeep Ram as the lowest responsible responsive bidder for the purchase of ten 2023 Dodge Chargers police package in the amount of $387,000 and authorize the County Manager to execute all necessary documents - Assistant County Manager Kris Boyd

6. Request approval of Consolidated Fee Schedule - Management Analyst Will Scarbrough

X. Appointments

1. Request approval of appointment of one position by vote to the Haywood Community College Board of Trustees

XI. Closed Session

XII. Adjournment

HAYWOOD COUNTY BOARD OF COMMISSIONERS
REGULAR AGENDA REQUEST

Item Title:
Presentation of the Haywood County Floodprint proposal by NC State University Coastal Dynamics Design lab - Coastal Dynamics Design lab, FASLA, PLA NC State Professor and University Faculty Scholar and Director Andy Fox

Board Action Request:

Requested Action Department:
Economic Development

Presenter:
Amy Stevens

Background/Justification:
Coastal Dynamics Design Lab (CDDL) is operated within the NC State Unversity College of Design. CDDL brings together architects, landscape architects, graphic designers and engineers with scientists and local stakeholders to create innovative, sustainable, adaptable and resilient design solutions that address environmental and human needs.

The County and the Town of Canton have signed a Memorandum of Understanding for CDDL to develop a Haywood County Floodprint to assist with reducing flood risk, improving public safety and enhancing long-term environmental function within historically flood-prone areas.

The phases of the project are: Inventory and Analysis, Planning and Design Alternatives and Project Portfolio. The project is scheduled to be completed in the fall of 2024.

Budgetary Impact:
North Carolina Office of Recovery and Resiliency (NCORR) is providing funds for CDDL to develop the Haywood County Flooprint.

Policy Impact:

Attachments:
HaywoodCommissioners_2023-05-15.pdf

HAYWOOD COUNTY FLOODPRINT

ACCELERATING RECOVERY & RESILIENCE FOLLOWING TROPICAL STORM FRED

Haywood County Board of Commissioners meeting
May 15, 2023

Andy Fox, PLA, FASLA
Director, Coastal Dynamics Design Lab
Professor, NC State University Dept. of Landscape Architecture & Environmental Planning

NC STATE COASTAL DYNAMICS DESIGN LAB (CDDL)

The CDDL operates from within the NC State University College of Design. **Our mission is to organize and lead research and design teams to address critical ecological and community development challenges in vulnerable coastal regions and shoreline communities.**

We provide North Carolina communities with technical assistance focused on short-term rebuilding activities and long-term resiliency strategies.

We focus on increasing local capacity related to community development, recreation and heritage-based tourism, management of public landscapes, navigating disaster recovery processes, and identifying and leveraging funding sources.

Outcomes of our work includes citizen engagement activities, policy and programming recommendations, planning reports and design plans, and construction and installation of numerous community amenities.

WHAT IS A FLOODPRINT?

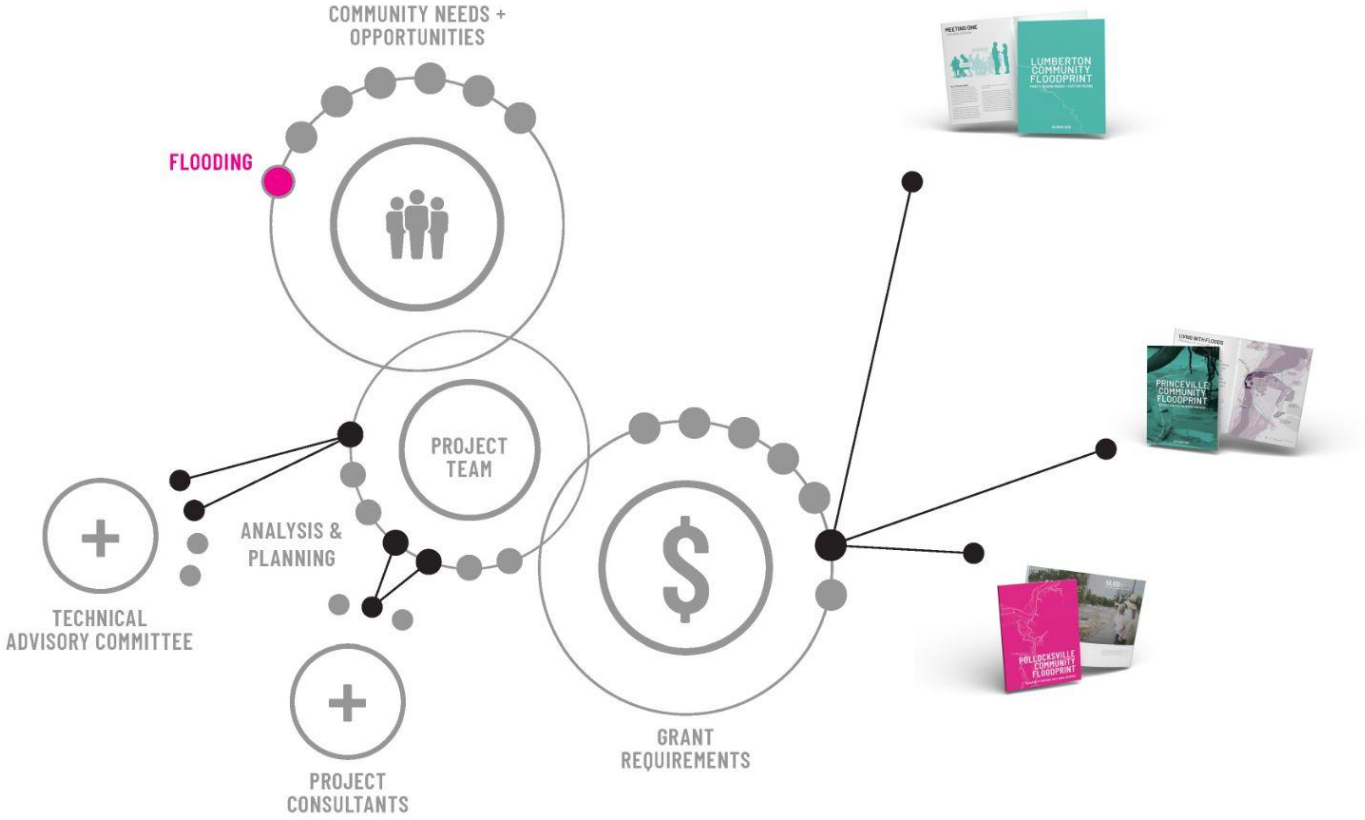
“Floodprinting” is landscape planning approach that addresses land/water relationships, including the powerful forces associated with flooding.

The goal of each Floodprint is to help communities increase their social and physical resilience, specifically through **strategies that reduce flood risk, improve public safety, and enhance long-term environmental function** with historically flood-prone areas.

All aspects of the Floodprint process lead to the **co-creation of actionable plans that attract the resources communities need to respond, rebuild, and prepare for living with floods**.

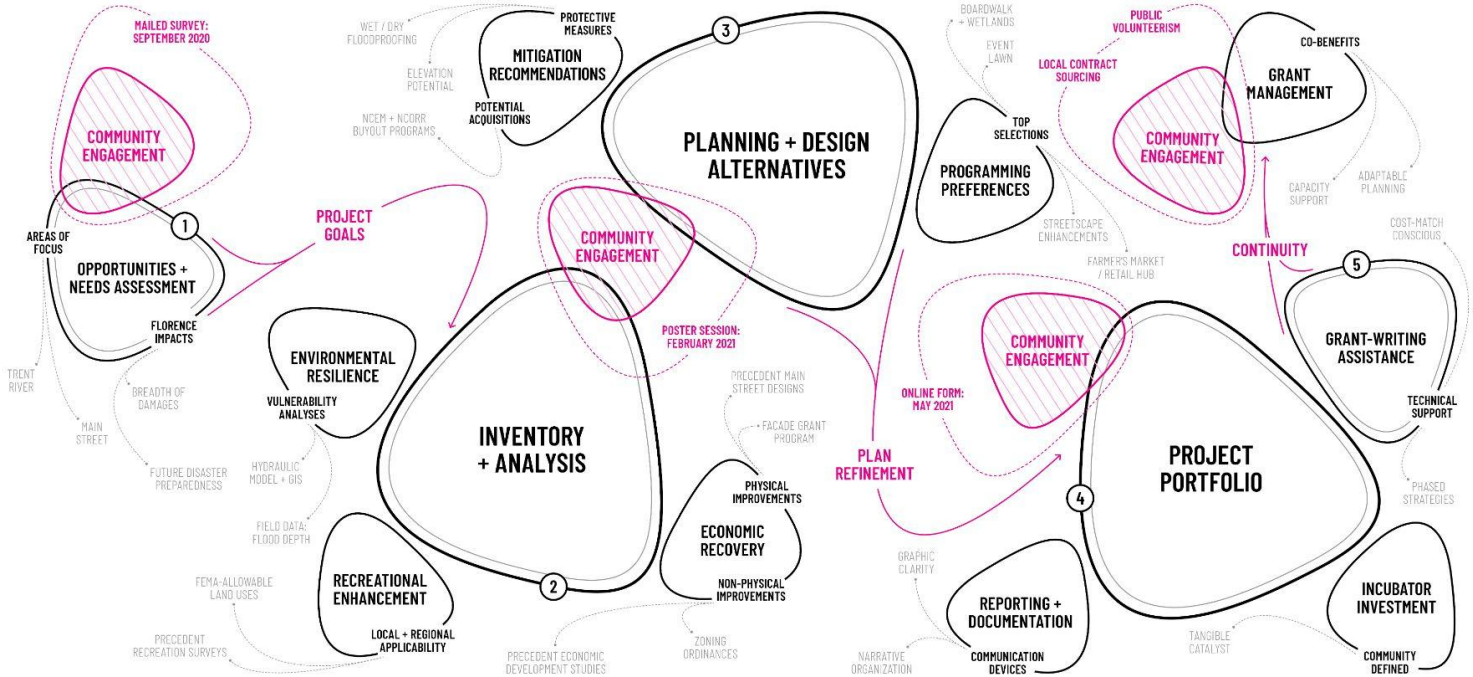
HAYWOOD COUNTY FLOODPRINT

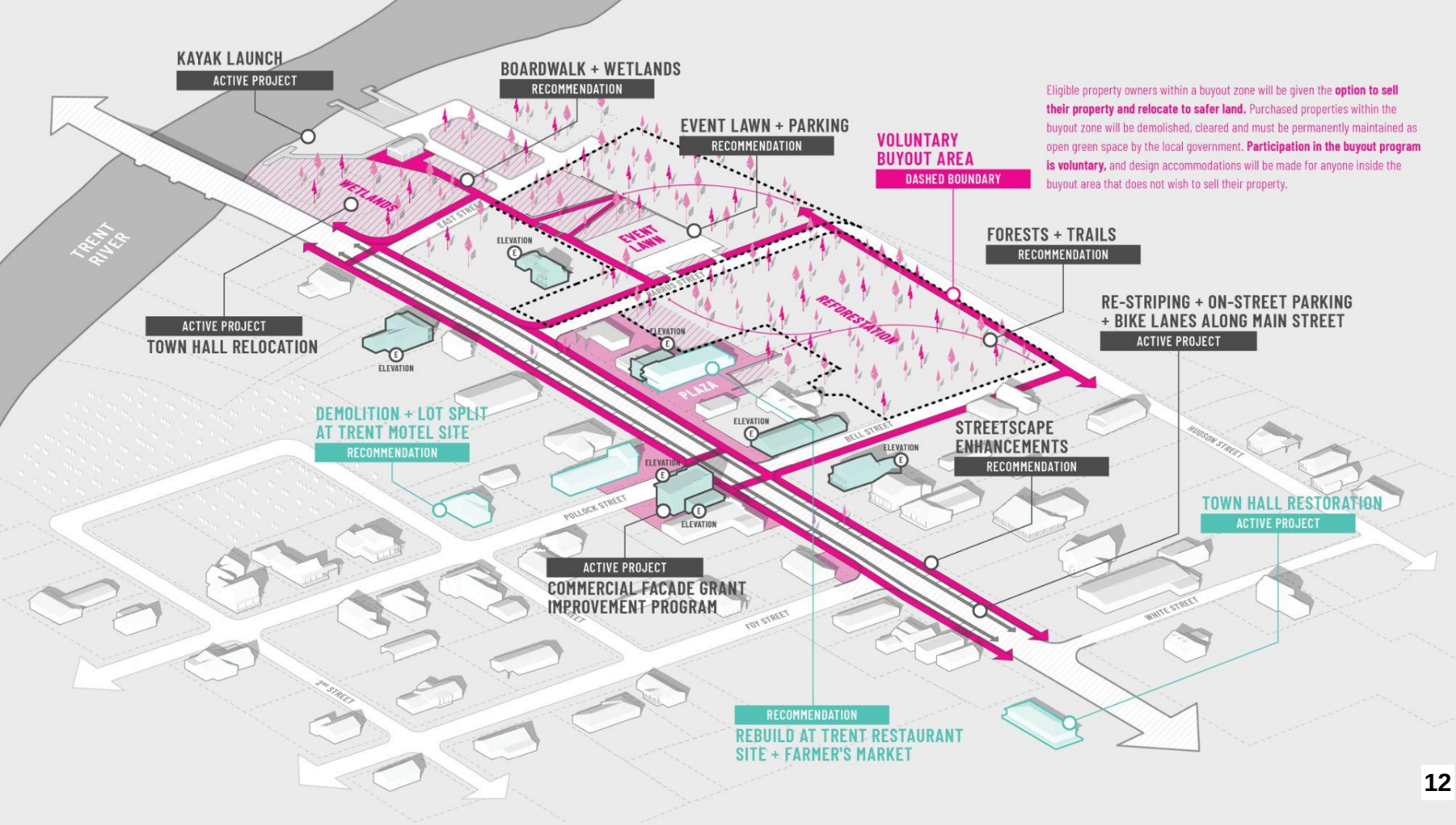
FUNDING	PARTNERS	TIMELINE	SCOPE
Direct: **North Carolina Office of Recovery and Resiliency** (NCORR) Prime: **U.S. Department of Housing and Urban Development** (HUD)	Primary: + **Haywood County** + **Town of Canton** + **CDDL** Technical Advisors: + **TBD** (determined locally)	MOA Executed: **April 27, 2023** Project Start: **May 1, 2023** 50% Floodprint: **January 31, 2024** Project Completion: **October 31, 2024**	+ Geospatial Analysis + Community Engagement + Hydraulic Modeling + Schematic Design + 3D Modeling + Benefit-Cost Assessment + Grant Writing



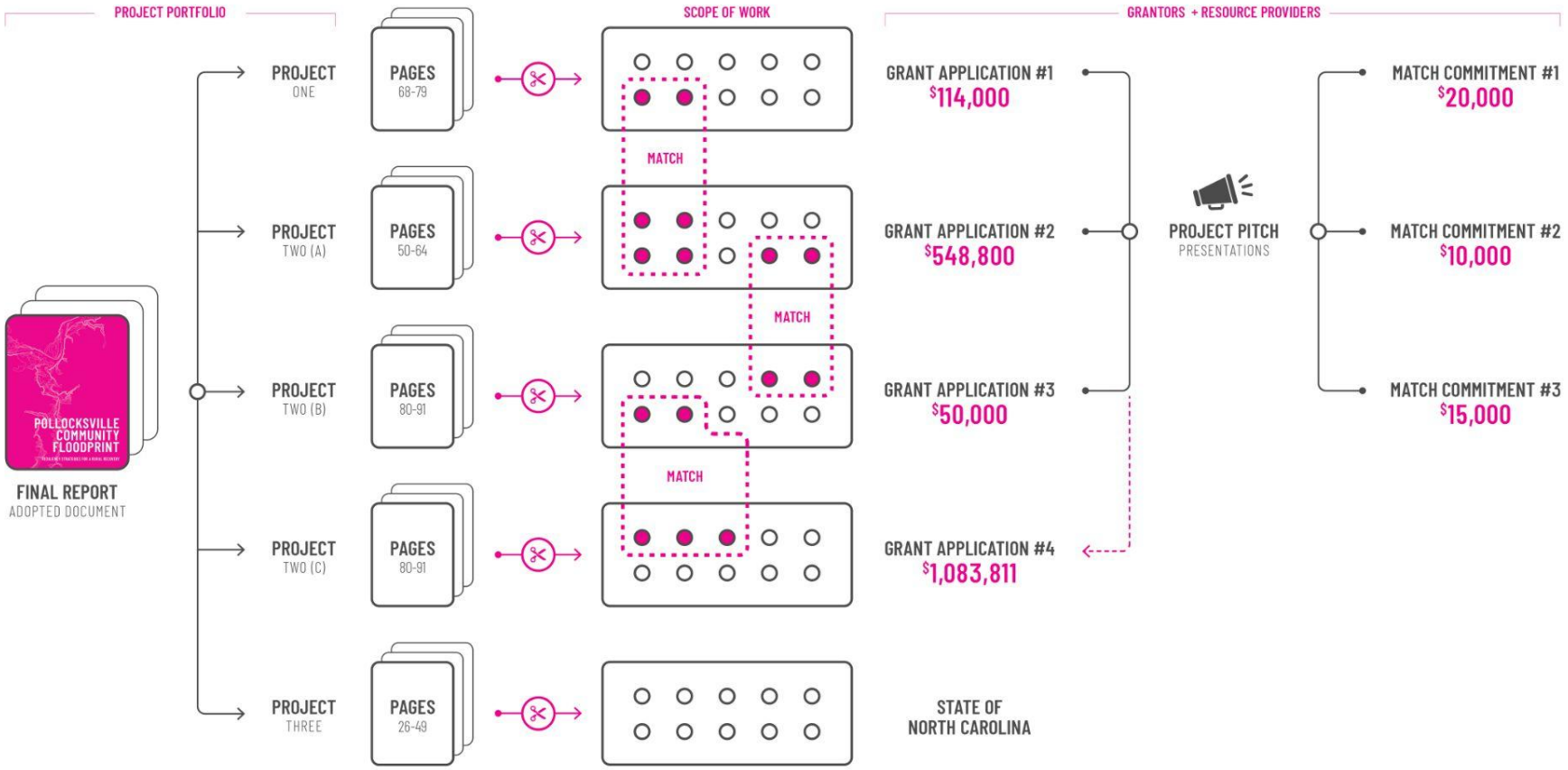
ALIGNING COMMUNITY NEEDS + OPPORTUNITIES WITH AVAILABLE FINANCIAL RESOURCES THROUGH A UNIFIED VISION

FLOODPRINT PROCESS + PRODUCTS


MAILED SURVEY: SEPTEMBER 2020
COMMUNITY ENGAGEMENT
AREAS OF FOCUS
1
OPPORTUNITIES + NEEDS ASSESSMENT
FLORENCE IMPACTS
TRENT RIVER
MAIN STREET
BREADTH OF DAMAGES
FUTURE DISASTER PREPAREDNESS
PROJECT GOALS
WET / DRY FLOODPROOFING
ELEVATION POTENTIAL
PROTECTIVE MEASURES
MITIGATION RECOMMENDATIONS
POTENTIAL ACQUISITIONS
NCEM + NCORR BUYOUT PROGRAMS
3
PLANNING + DESIGN ALTERNATIVES
COMMUNITY ENGAGEMENT
POSTER SESSION: FEBRUARY 2021
ENVIRONMENTAL RESILIENCE
VULNERABILITY ANALYSES
HYDRAULIC MODEL + GIS
FIELD DATA: FLOOD DEPTH
INVENTORY + ANALYSIS
2
RECREATIONAL ENHANCEMENT
FEMA-ALLOWABLE LAND USES
LOCAL + REGIONAL APPLICABILITY
PRECEDENT RECREATION SURVEYS
PRECEDENT ECONOMIC DEVELOPMENT STUDIES
ZONING ORDINANCES
PRECEDENT MAIN STREET DESIGNS
FACADE GRANT PROGRAM
PHYSICAL IMPROVEMENTS
ECONOMIC RECOVERY
NON-PHYSICAL IMPROVEMENTS
PLAN REFINEMENT
BOARDWALK + WETLANDS
EVENT LAWN
TOP SELECTIONS
PROGRAMMING PREFERENCES
STREETSCAPE ENHANCEMENTS
FARMER'S MARKET / RETAIL HUB
PUBLIC VOLUNTEERISM
LOCAL CONTRACT SOURCING
CO-BENEFITS
GRANT MANAGEMENT
COMMUNITY ENGAGEMENT
CAPACITY SUPPORT
ADAPTABLE PLANNING
CONTINUITY
COST-MATCH CONSCIOUS
5
GRANT-WRITING ASSISTANCE
TECHNICAL SUPPORT
PHASED STRATEGIES
ONLINE FORM: MAY 2021
COMMUNITY ENGAGEMENT
4
PROJECT PORTFOLIO
GRAPHIC CLARITY
REPORTING + DOCUMENTATION
NARRATIVE ORGANIZATION
COMMUNICATION DEVICES
TANGIBLE CATALYST
INCUBATOR INVESTMENT
COMMUNITY DEFINED



Eligible property owners within a buyout zone will be given the **option to sell their property and relocate to safer land.** Purchased properties within the buyout zone will be demolished, cleared and must be permanently maintained as open green space by the local government. **Participation in the buyout program is voluntary,** and design accommodations will be made for anyone inside the buyout area that does not wish to sell their property.


PROJECT PORTFOLIO
POLLOCKSVILLE COMMUNITY FLOODPRINT
FINAL REPORT
ADOPTED DOCUMENT
PROJECT ONE
PROJECT TWO (A)
PROJECT TWO (B)
PROJECT TWO (C)
PROJECT THREE
PAGES 68-79
PAGES 50-64
PAGES 80-91
PAGES 80-91
PAGES 26-49
SCOPE OF WORK
MATCH
MATCH
MATCH
GRANTORS + RESOURCE PROVIDERS
GRANT APPLICATION #1 $114,000
GRANT APPLICATION #2 $548,800
GRANT APPLICATION #3 $50,000
GRANT APPLICATION #4 $1,083,811
STATE OF NORTH CAROLINA
PROJECT PITCH PRESENTATIONS
MATCH COMMITMENT #1 $20,000
MATCH COMMITMENT #2 $10,000
MATCH COMMITMENT #3 $15,000

$4,915,473



LUMBERTON, NC
POPULATION: 20,928

$4,207,253



WHITEVILLE, NC
POPULATION: 5,148

$522,000



PRINCEVILLE, NC
POPULATION: 2,119

$2,541,611

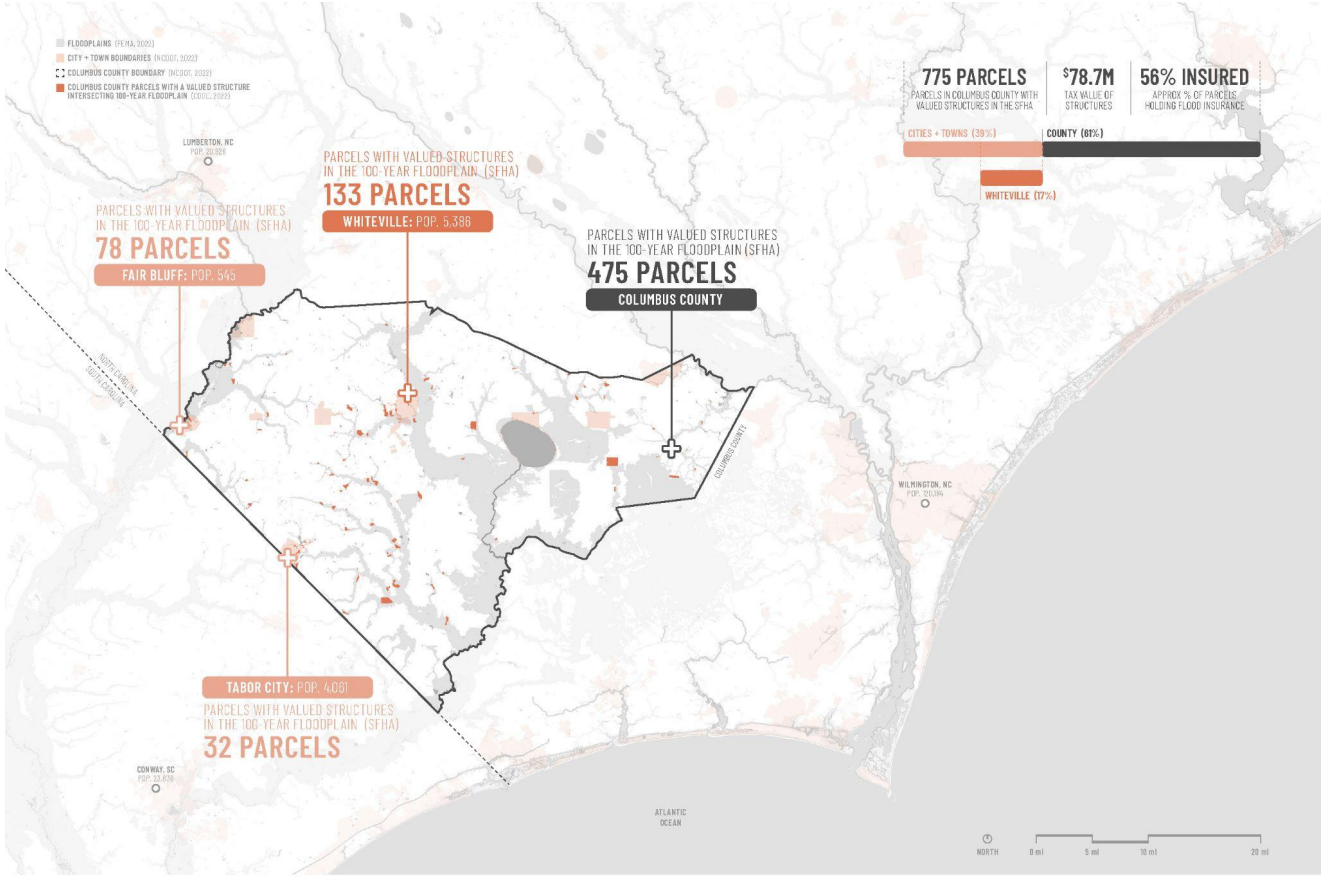


POLLOCKSVILLE, NC
POPULATION: 216

$12,186,337

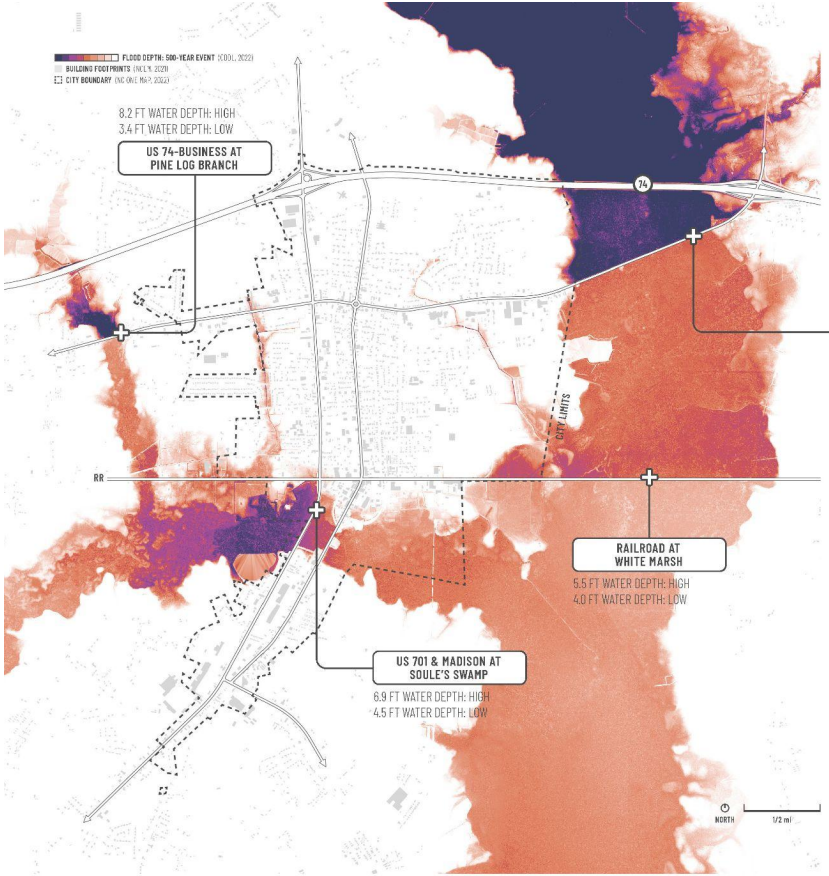
TOTAL VALUE OF EXTERNAL RESOURCES PROVIDED (AT NO COST TO FLOODPRINT COMMUNITIES)

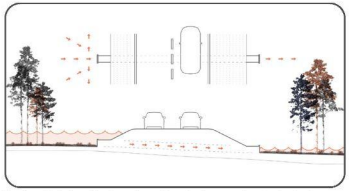

Public Engagement Event: September 2022
WHITEVILLE COMMUNITY FLOODPRINT
RECOVERY, RESTORATION & RESILIENCE
The City of Whiteville (NC) is recovering and rebuilding from devastating floods caused by Hurricanes Matthew and Florence (2016-2018), while also responding to an increase in more frequent and acute flooding events.



COUNTY-LEVEL VULNERABILITIES

Emblematic of a county-wide issue, there are only seventy-six (76) active flood insurance policies in Whiteville (2020) despite having the largest concentration of flood-prone structures in Columbus County (133 parcels; approximately 56% insured).



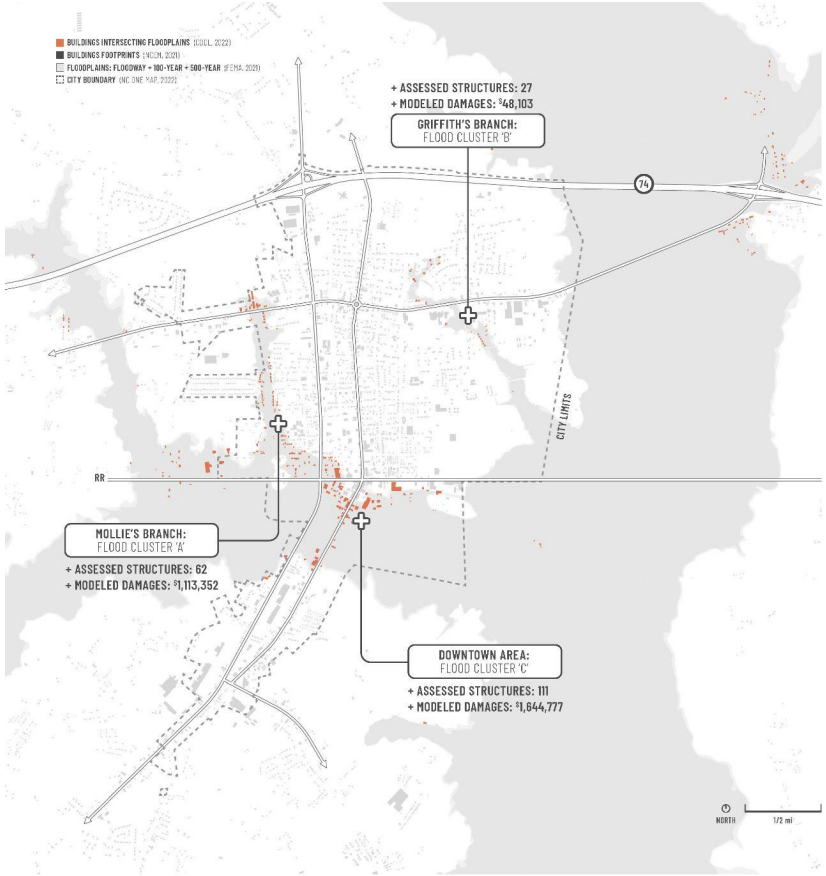


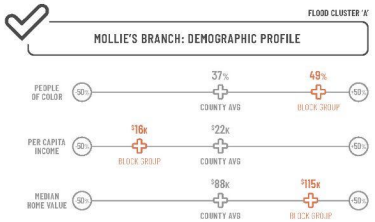
Section. Typical profile of roadway with embankment and uncersized culvert.

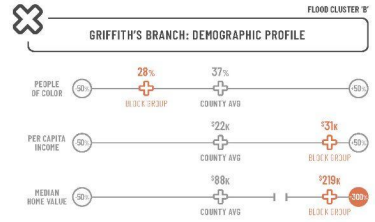
"Earthen embankments and undersized culvert conditions have established a pattern of transportation corridors acting as levees during severe flood events. While this is most notable in discrete locations at the city-scale of study, it serves as an indicator to also analyze these conditions in smaller, more localized contexts."

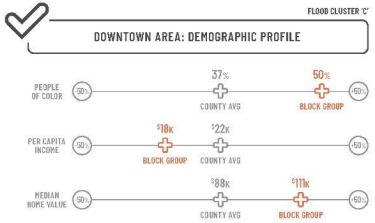
CITY-LEVEL FLOOD DEPTH

There is the prevalence of roadway and railroad rights-of-way inhibiting the natural flow of water during severe flood events throughout Whiteville. These conditions perpetuate flooding by causing greater volumes and velocities of water to travel downstream when infrastructure fails.



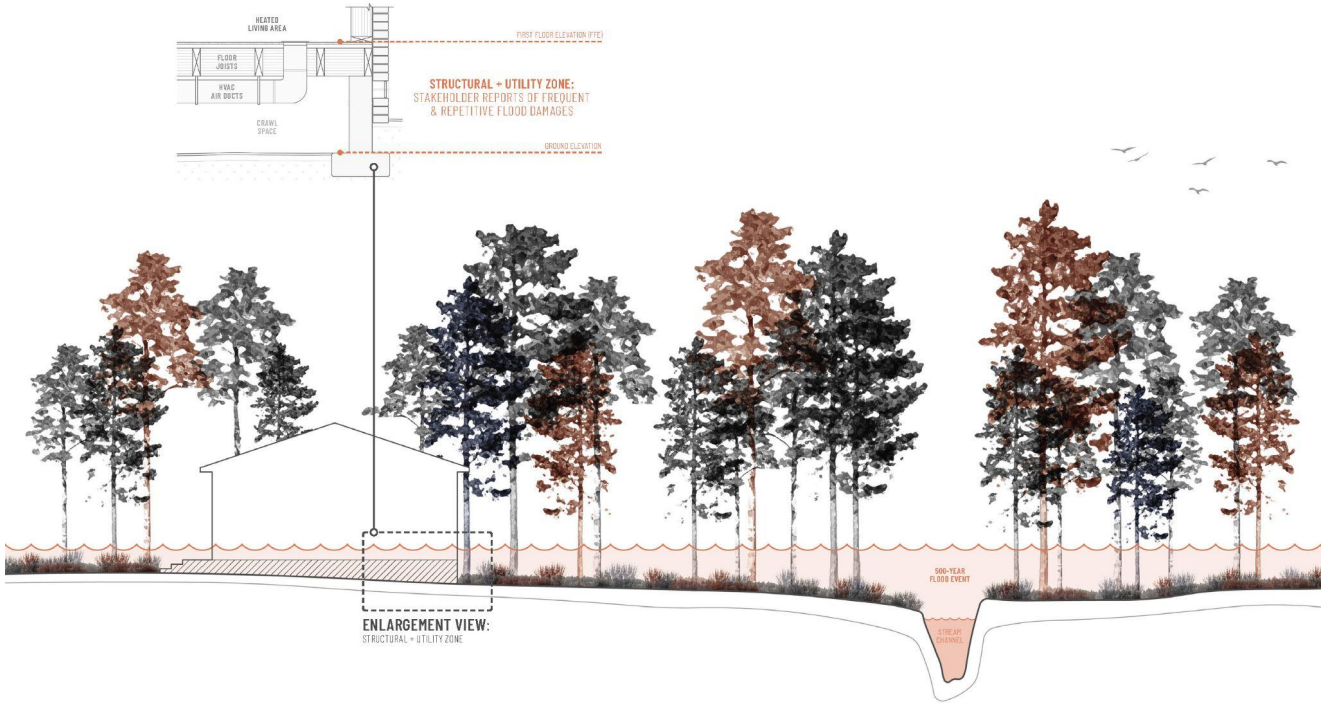






CITY-LEVEL FLOOD CLUSTERS

Two (2) locations with concentrated groupings of buildings intersecting the 500-year floodplain and high levels of associated vulnerabilities, Mollie's Branch and the Downtown Area, were identified for more focused design and planning interventions.



Public Engagement Event: April 2022





FOCUS AREA: MOLLIE'S BRANCH

The need for expanded flood mitigation offerings in the neighborhood surrounding Mollie's Branch was corroborated and reinforced by stakeholders who participated in the first public engagement event. Testimonies expressed commonplace occurrences of flooding that impact homes and roadways.





Washington Street:
Existing Culvert Condition



Williamson Street:
Existing Culvert Condition



Burkhead Street:
Existing Culvert Condition



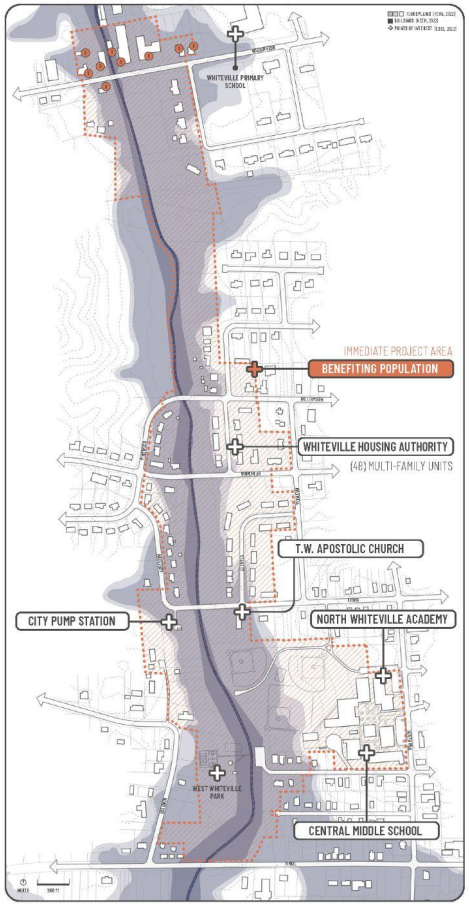
Lewis Street:
Existing Culvert Condition



Mollie's Branch:
Existing Stream Condition

EXISTING CONDITIONS: MOLLIE'S BRANCH

Mollie's Branch is a heavily modified stream channel that has been straightened and entrenched, enabling surrounding development to take place. Now, properties in its floodplain are susceptible to flood damage, and much of the supporting infrastructure is outdated and undersized.



"Populations benefiting from this project are those that would be directly impacted by:
- *+ reductions in the severity of future flood events on their property;*
- *+ reductions in the frequency of roadways being overtopped by floodwaters; and*
- *+ the social and ecological benefits provided by the nature-based improvements.*

These direct, day-to-day benefits are illustrated on the provided map and represent parcels that:
- *+ intersect the anticipated limits-of-work boundary; and*
- *+ are shown to have reductions in water surface elevation during flooding events, based on the results of hydraulic modeling analyses that have been completed."*

Quantity totals of households, public / private entities, and businesses that are anticipated to receive direct benefits from this project include:

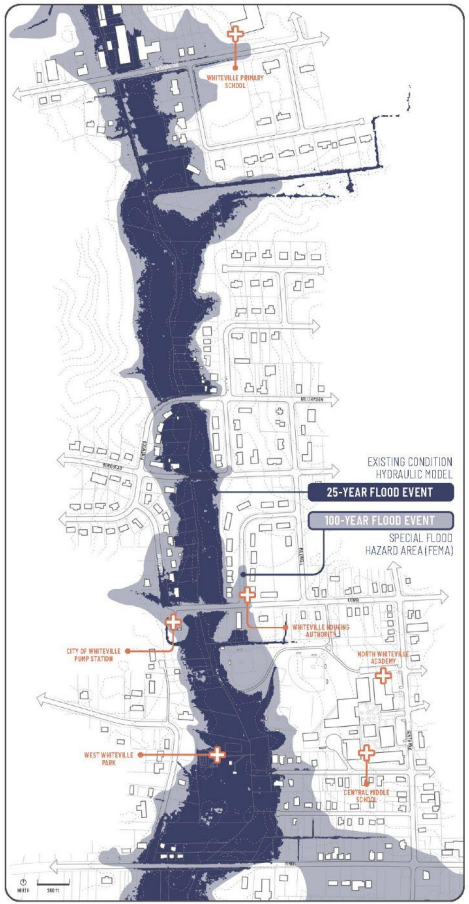
HOUSEHOLDS: 89
- + (41) Single-Family Units
- + (48) Multi-Family Units
  - Whiteville Housing Authority

PUBLIC / PRIVATE ENTITIES: 4
- + Central Middle School
- + North Whiteville Academy
- + T.W. Apostolic Church of Christ
- + City of Whiteville Pump Station

BUSINESSES: 9
- B = Businesses

BENEFITING POPULATION

Approximately forty-one (41) single-family residential units, forty-eight (48) multi-family residential units (Whiteville Housing Authority), nine (9) businesses, and four (4) public/private entities are expected to directly benefit from the proposed flood mitigation project along Mollie's Branch.







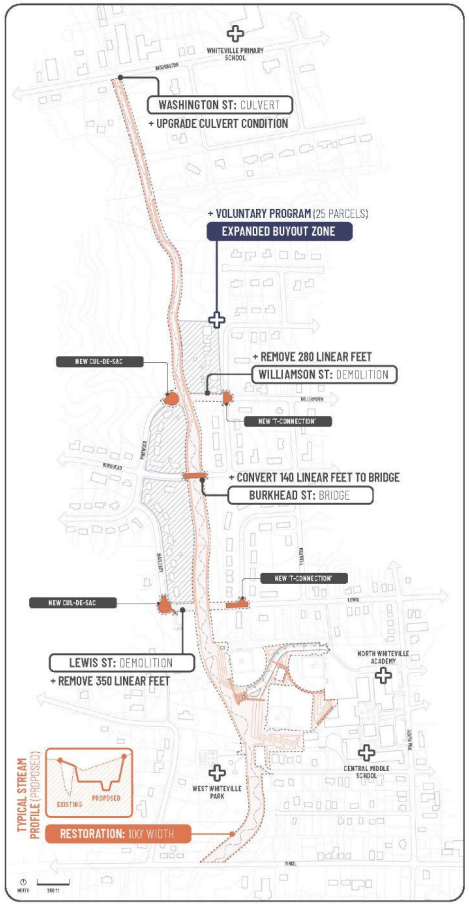
Photos (left): Flooding along U.S. 74 (Washington Street) during Hurricane Florence in September 2018 (image credit: Duke Energy); **(right):** Flooding along Virgil Street during Tropical Storm Hermine in September 2022 (image credit: The News Reporter).



Photo: Flooding near the intersection of Pinewood Drive and Burkhead Street during an unnamed storm event in June 2020 (image credit: The News Reporter).

FLOODING FREQUENCY

Hydraulic analysis indicates that the extent of even a 25-year flood event intersects thirty (30) buildings, and the expected flood height would overtop three (3) of the four roadway crossings in the study area.





Posters (September 2022):
Analysis Findings and Proposed Alternatives



Dialogue (September 2022):
Project Team and Stakeholder Discussions



Push Pin Voting (September 2022):
Method of Stakeholder Feedback

FINAL SCHEMATIC PLAN + PUBLIC PROCESS

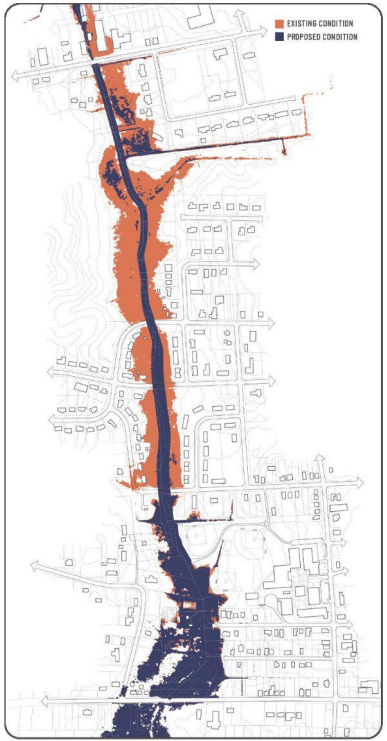
Multiple flood mitigation alternatives were presented to community stakeholders ("Existing Condition," "Scenario A," and "Scenario B"). Elements from each of the alternatives that received the most votes were combined into a single, preferred plan ("Scenario C").



ENLARGEMENT AREA: MIDDLE SCHOOL SITE

Improving underutilized recreational space at the Central Middle School site offers an area of expanded floodplain restoration that can also provide opportunities for educational enrichment to faculty and students.

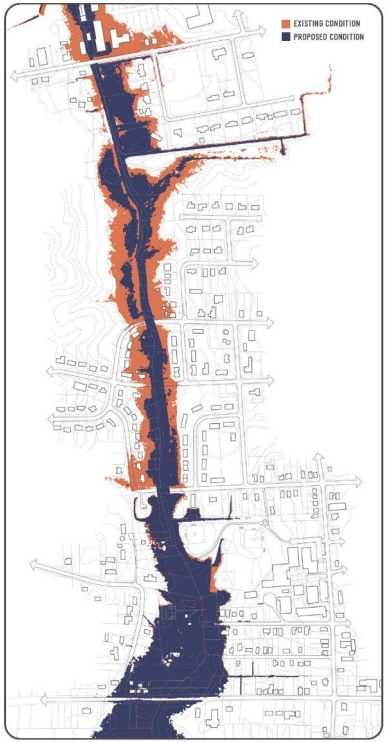
10-YEAR FLOOD EVENT
EXISTING + PROPOSED FLOOD EXTENTS



25-YEAR FLOOD EVENT
EXISTING + PROPOSED FLOOD EXTENTS



100-YEAR FLOOD EVENT
EXISTING + PROPOSED FLOOD EXTENTS



HYDRAULIC MODELING

Hydraulic modeling shows that proposed improvement along Mollie's Branch will result in over two-dozen buildings with reduced flood exposure and at least four (4) road crossing that will no longer overtop during 100-year storms.

$7,999,738
TOTAL BENEFITS

FFE: 67.23

703 WASHINGTON ST

FLOOD EVENT	WSE: EXISTING	WSE: PROPOSED	Δ WSE
10-YR	64.47	62.91	-1.56
25-YR	64.82	63.45	-1.37
50-YR	65.02	63.83	-1.19
100-YR	65.26	64.16	-1.10

FFE: 66.38

711 BRYCE ST

FLOOD EVENT	WSE: EXISTING	WSE: PROPOSED	Δ WSE
10-YR	64.47	62.88	-1.59
25-YR	64.79	63.42	-1.37
50-YR	65.04	63.79	-1.25
100-YR	65.28	64.12	-1.16

FFE: 68.06

705 BRYCE ST

FLOOD EVENT	WSE: EXISTING	WSE: PROPOSED	Δ WSE
10-YR	64.47	62.83	-1.64
25-YR	64.78	63.42	-1.37
50-YR	65.00	63.79	-1.21
100-YR	65.22	64.11	-1.11

FFE: 67.89

701 BOB WHITE LN

FLOOD EVENT	WSE: EXISTING	WSE: PROPOSED	Δ WSE
10-YR	64.39	62.40	-1.99
25-YR	64.69	63.03	-1.66
50-YR	64.89	63.38	-1.51
100-YR	65.10	63.75	-1.35

FFE: 66.42

305 STANLEY ST

FLOOD EVENT	WSE: EXISTING	WSE: PROPOSED	Δ WSE
10-YR	64.05	59.96	-4.09
25-YR	64.24	60.70	-3.54
50-YR	64.36	61.05	-3.31
100-YR	64.48	61.47	-3.01

FFE: 67.03

301 STANLEY ST

FLOOD EVENT	WSE: EXISTING	WSE: PROPOSED	Δ WSE
10-YR	64.05	59.83	-4.22
25-YR	64.23	60.61	-3.62
50-YR	64.35	60.93	-3.42
100-YR	64.46	61.36	-3.10

FFE: 65.34

613 PINEWOOD DR

FLOOD EVENT	WSE: EXISTING	WSE: PROPOSED	Δ WSE
10-YR	62.29	59.62	-2.67
25-YR	62.55	60.32	-2.23
50-YR	62.71	60.64	-2.07
100-YR	62.88	61.08	-1.80

FFE: 65.96

615 PINEWOOD DR

FLOOD EVENT	WSE: EXISTING	WSE: PROPOSED	Δ WSE
10-YR	62.24	59.48	-2.76
25-YR	62.51	60.22	-2.29
50-YR	62.68	60.47	-2.21
100-YR	62.87	61.00	-1.87

FFE: 65.98

617 PINEWOOD DR

FLOOD EVENT	WSE: EXISTING	WSE: PROPOSED	Δ WSE
10-YR	62.19	59.37	-2.82
25-YR	62.44	60.15	-2.29
50-YR	62.59	60.41	-2.18
100-YR	62.76	60.87	-1.89

FFE: 65.53

619 PINEWOOD DR

FLOOD EVENT	WSE: EXISTING	WSE: PROPOSED	Δ WSE
10-YR	62.11	59.27	-2.84
25-YR	62.31	60.05	-2.26
50-YR	62.43	60.27	-2.16
100-YR	62.63	60.71	-1.92

FFE: 66.11

624 BURKHEAD ST

FLOOD EVENT	WSE: EXISTING	WSE: PROPOSED	Δ WSE
10-YR	62.04	59.17	-2.87
25-YR	62.25	60.03	-2.22
50-YR	62.37	60.26	-2.11
100-YR	62.52	60.69	-1.83

FFE: 64.41

620 BURKHEAD ST

FLOOD EVENT	WSE: EXISTING	WSE: PROPOSED	Δ WSE
10-YR	62.04	59.17	-2.87
25-YR	62.25	60.03	-2.22
50-YR	62.31	60.26	-2.05
100-YR	62.51	60.69	-1.82

FFE: 65.12

619 BURKHEAD ST

FLOOD EVENT	WSE: EXISTING	WSE: PROPOSED	Δ WSE
10-YR	61.12	58.70	-2.42
25-YR	61.47	59.51	-1.96
50-YR	61.69	59.63	-2.06
100-YR	61.95	60.05	-1.90

FFE: 64.41

116 MAULTSBY DR

FLOOD EVENT	WSE: EXISTING	WSE: PROPOSED	Δ WSE
10-YR	60.76	58.34	-2.42
25-YR	61.07	59.22	-1.85
50-YR	61.25	59.35	-1.90
100-YR	61.46	59.69	-1.77

FFE: 64.69

114 MAULTSBY DR

FLOOD EVENT	WSE: EXISTING	WSE: PROPOSED	Δ WSE
10-YR	60.73	58.26	-2.47
25-YR	60.99	59.16	-1.83
50-YR	61.17	59.26	-1.91
100-YR	61.30	59.60	-1.70

FFE: 63.26

104 MAULTSBY DR

FLOOD EVENT	WSE: EXISTING	WSE: PROPOSED	Δ WSE
10-YR	60.57	58.12	-2.45
25-YR	60.78	59.00	-1.78
50-YR	60.90	59.06	-1.84
100-YR	61.06	59.39	-1.67

FFE: 62.26

100 MAULTSBY DR

FLOOD EVENT	WSE: EXISTING	WSE: PROPOSED	Δ WSE
10-YR	60.48	58.03	-2.45
25-YR	60.66	58.93	-1.73
50-YR	60.76	59.00	-1.76
100-YR	60.89	59.28	-1.61

FFE: 63.33

601 LEWIS ST

FLOOD EVENT	WSE: EXISTING	WSE: PROPOSED	Δ WSE
10-YR	58.33	57.81	-0.52
25-YR	59.02	58.74	-0.28
50-YR	59.10	58.74	-0.36
100-YR	59.37	58.96	-0.41

FFE: 67.91

606 WASHINGTON ST

FLOOD EVENT	WSE: EXISTING	WSE: PROPOSED	Δ WSE
10-YR	66.22	63.68	-2.54
25-YR	67.01	64.57	-2.44
50-YR	67.82	65.36	-2.46
100-YR	68.14	65.86	-2.28

FFE: 67.91

610 WASHINGTON ST

FLOOD EVENT	WSE: EXISTING	WSE: PROPOSED	Δ WSE
10-YR	66.22	63.68	-2.54
25-YR	67.01	64.57	-2.44
50-YR	67.82	65.36	-2.46
100-YR	68.14	65.86	-2.28

FFE: 68.57

614A-C WASHINGTON ST

FLOOD EVENT	WSE: EXISTING	WSE: PROPOSED	Δ WSE
10-YR	66.34	64.45	-1.89
25-YR	67.08	65.43	-1.65
50-YR	67.86	66.01	-1.85
100-YR	68.18	66.41	-1.77

FFE: 68.15

702 WASHINGTON ST

FLOOD EVENT	WSE: EXISTING	WSE: PROPOSED	Δ WSE
10-YR	66.17	64.18	-1.99
25-YR	66.97	64.82	-2.15
50-YR	67.80	65.33	-2.47
100-YR	68.12	65.80	-2.32

FFE: 70.10

706 WASHINGTON ST

FLOOD EVENT	WSE: EXISTING	WSE: PROPOSED	Δ WSE
10-YR	66.00	63.64	-2.36
25-YR	66.93	64.00	-2.93
50-YR	67.77	64.93	-2.84
100-YR	68.09	65.45	-2.64

15.01 ACRE PROJECT AREA

ECOSYSTEM SERVICES

PROPOSED LAND USE (FEMA DESIGNATIONS)	AREA (ACRES)	VALUE / ACRE / YEAR ($)	PROJECT USEFUL LIFE (YEARS)
"RIPARIAN"	9.79	$37,199	30
"URBAN GREEN SPACE"	1.95	$15,541	30
LIMITS OF DISTURBANCE	15.01	--	--

$5,620,826
TOTAL COSTS

ESTIMATED CONSTRUCTION COSTS

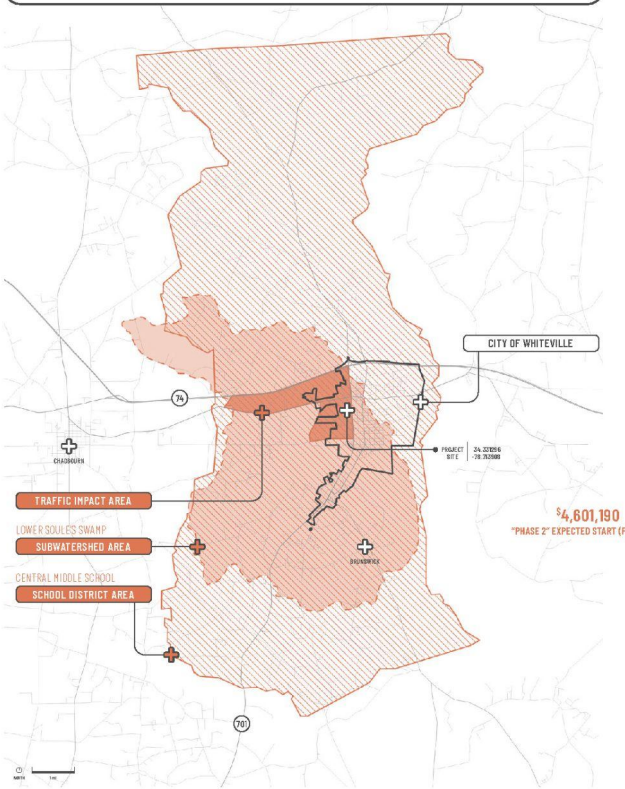
COST ESTIMATE SUMMARY

COST ($)	COST CATEGORY
$255,000	GENERAL REQUIREMENTS
$195,452	EROSION + SEDIMENT CONTROL
$106,092	SITE DEMOLITION
$19,266	CLEAR + GRUB
$487,643	EARTHWORK
$1,036,497	UTILITY RELOCATION
$228,691	ROADWAY REPAIR + RESURFACING
$357,854	WALKWAYS / TRAILS
$4,160	EDUCATIONAL SIGNAGE
$35,106	SITE WALLS + FENCING
$1,320,000	ROADWAY INFRASTRUCTURE
$333,722	PLANTING + STABILIZATION
$448,000	DESIGN / ENGINEERING
--	--
$25,596	ANNUAL MAINTENANCE (30 YEARS)
$246,376	GRANT / PROJECT MANAGEMENT

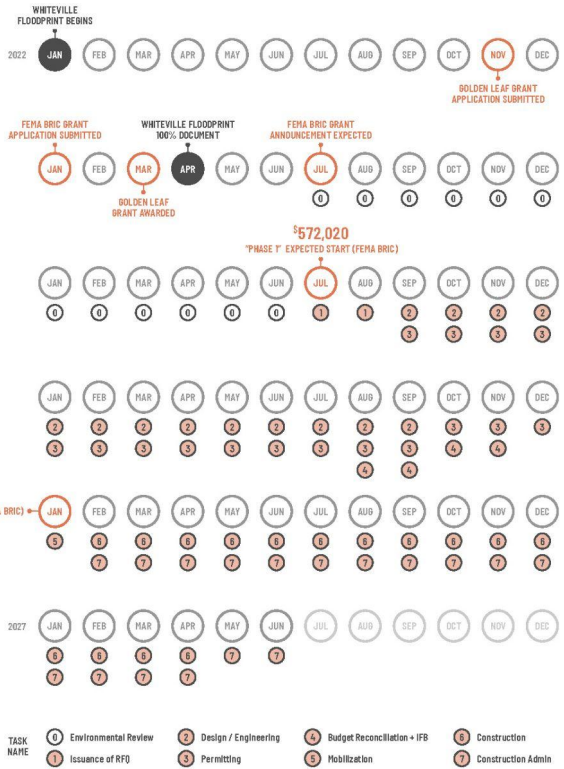
BENEFIT-COST ANALYSIS

This study determined a benefit-cost ratio for this project of 1.42, meaning that the combined monetary value of ecosystem services and flood damage reduction to buildings (from lower water surface elevations) exceed the anticipated cost of construction.

PROJECT IMPACT AREA: CITY-WIDE BENEFITS

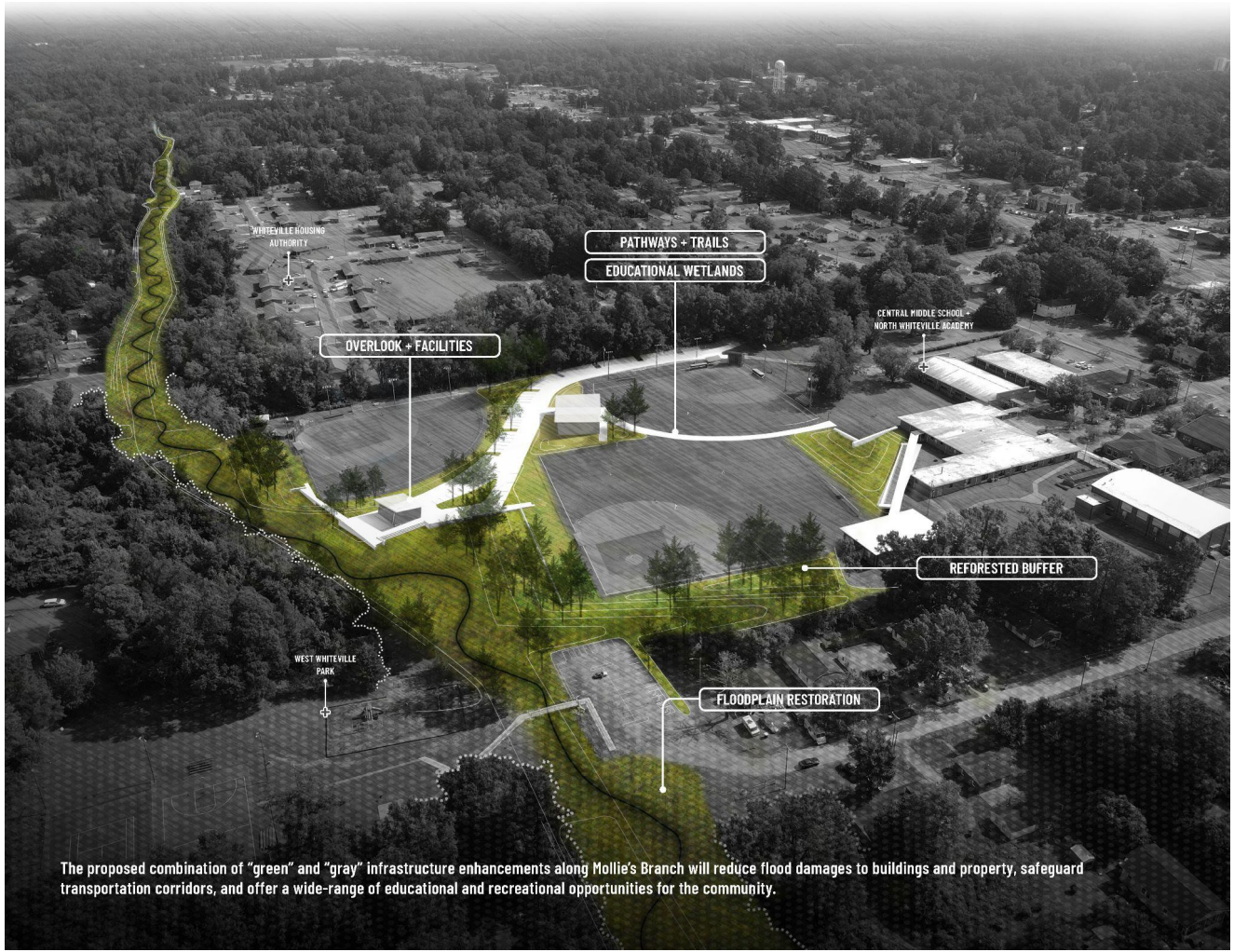


FUNDING + IMPLEMENTATION PLAN: CITY COUNCIL APPROVAL



FUNDING + IMPLEMENTATION

In recognizing this project's city-wide benefits, Whiteville City Council approved the proposed funding and implementation strategy, which leverages a combination of received and pending external sources of grant funds to support the project.



The proposed combination of "green" and "gray" infrastructure enhancements along Mollie's Branch will reduce flood damages to buildings and property, safeguard transportation corridors, and offer a wide-range of educational and recreational opportunities for the community.

ELEVATION ASSESSMENT: METHODS + FEASIBILITY OVERVIEW

Interior Retrofits: "Floating Floor" Elevations. A combination of geospatial analyses, field measurements, and design considerations were used to identify, assess, and develop recommendations for various elevation techniques in Whiteville's downtown core. A summary of associated processes used in this analysis are illustrated and described below.

STEP ONE	IDENTIFY BUILDINGS WITHIN SFHA	*building footprints that intersect the SFHA (100-year floodplain)*
↓		
STEP TWO (A)	SCREEN FOR FFE'S BELOW THE DESIGN FLOOD ELEVATION	*FFE's lower than the BFE (100-year WSE) + 2-feet of freeboard*
↓		
STEP TWO (B)	SCREEN FOR FEASIBLE STRUCTURAL CONDITIONS	*masonry construction + general integrity + slab-on-grade foundation*
↓		
STEP TWO (C)	SCREEN FOR PRELIMINARY COST-EFFECTIVENESS	*exclude buildings with large areas (e.g., sq ft greater than 3,000 sq ft)*
↓		
STEP THREE (A)	FIELD MEASURE FLOOR-TO-CEILING RATIOS	*from floor to lowest upper constraint (e.g., ceiling or roof structure)*
↓		
STEP THREE (B)	ASSESS ADDITIONAL CONSTRUCTION IMPACTS	*e.g., window and door placement or HVAC / utility locations*
↓		
STEP FOUR	DETERMINE HEIGHT BETWEEN DFE + CEILING	*must maintain a minimum of 8-feet clear for permitted living space*

First, the "Select by Location" geoprocessing tool in ArcGIS Pro was used to identify building footprints within Whiteville's Central Business District that intersect the Special Flood Hazard Area (SFHA). Note: While the extents of Hurricane Florence (2018) in Whiteville exceeded the mapped extent of the SFHA (i.e., 100-year floodplain), floodplain ordinances, regulations, and benefit-cost analysis tools are generally geared toward properties within the SFHA, and thus provided the study area extents for this analysis. Within the Whiteville CBD, sixty-two (62) address points were identified as also being within the SFHA and were further assessed.

Second, a series of screening measures were used to ascertain which structures contain potentially suitable conditions for an interior retrofit ("floating floor") technique of elevation.

This type of elevation was prioritized during this phase of analysis because nearly all of the structures within the CBD and SFHA in Whiteville have physical constraints that would make other forms of elevation (e.g., structural lift via hydraulic jacks) either impracticable or cost-prohibitive. This elevation method leaves the structure on its original foundation but abandons the existing slab floor, and then elevates the primary living area via a newly constructed flooring system that is above designed flood heights (the abandoned lower enclosed area can only be used for storage and subfloor access post-construction). Additional information regarding these methods are referenced in the 2015 Addendum to HMA Guidance E.4.1, with greater detail provided in FEMA P-312: "Homeowner's Guide to Retrofitting" (2014), specifically within Section 3.3.1).

Using data from North Carolina Emergency Management (NCEM), the First Floor Elevation (FFE) of each address point (n = 62) was compared against the designated Base Flood Elevation (BFE; or the water surface elevation of a 100-year flood event) plus two-feet (2'-0") of Freeboard (above the BFE) at each property location. The BFE plus two-feet of Freeboard is equal to the Design Flood Elevation (DFE) in Columbus County (NC) and in Whiteville.

Structures with FFE's below the DFE were then further screened for additional structural and cost-effectiveness measures necessary for this technique of elevation to be feasible. These additional measures included, but were not limited to: building material, foundation type, general structural integrity, existing building use, and the

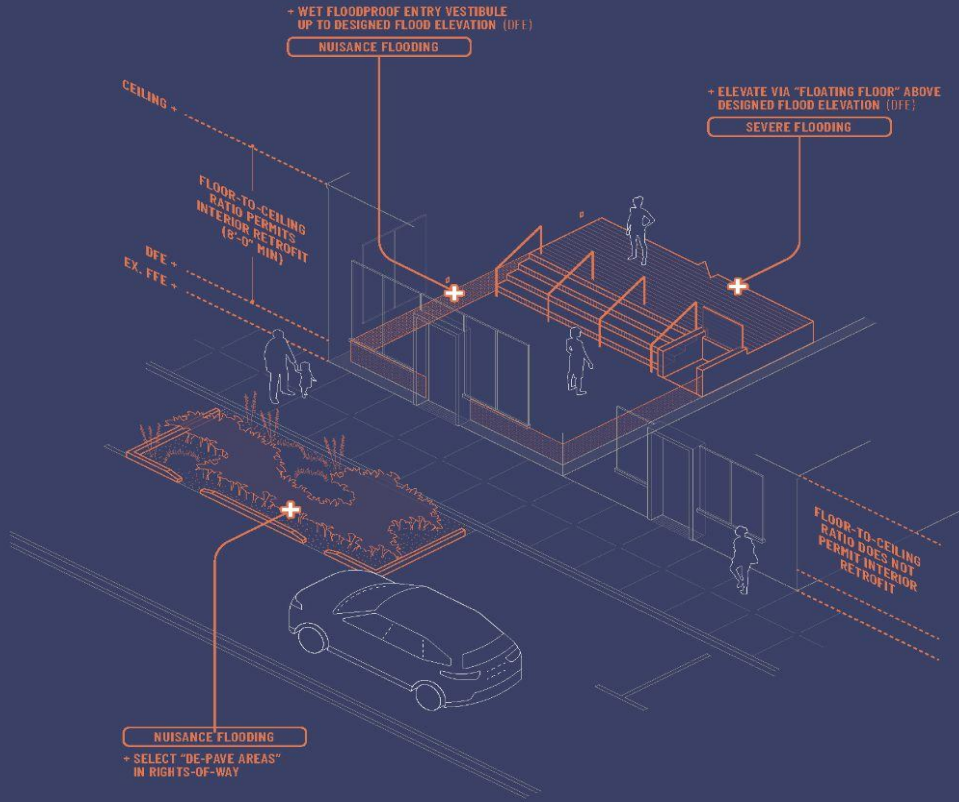
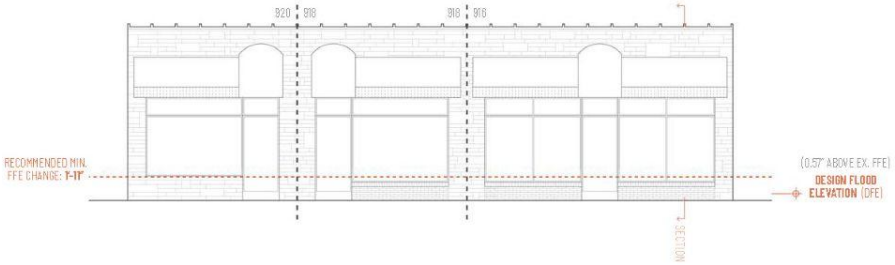
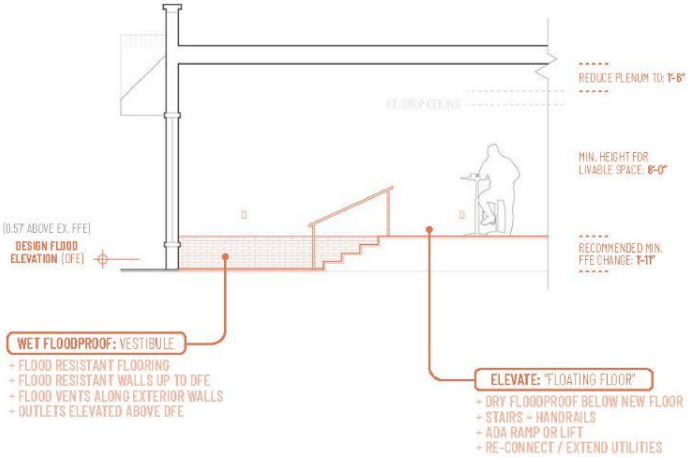
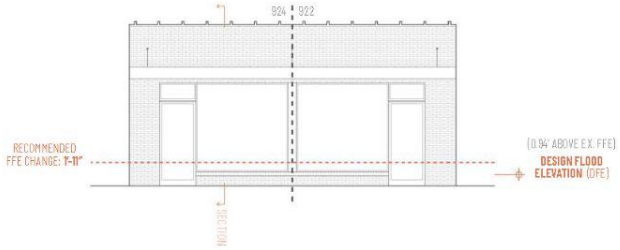
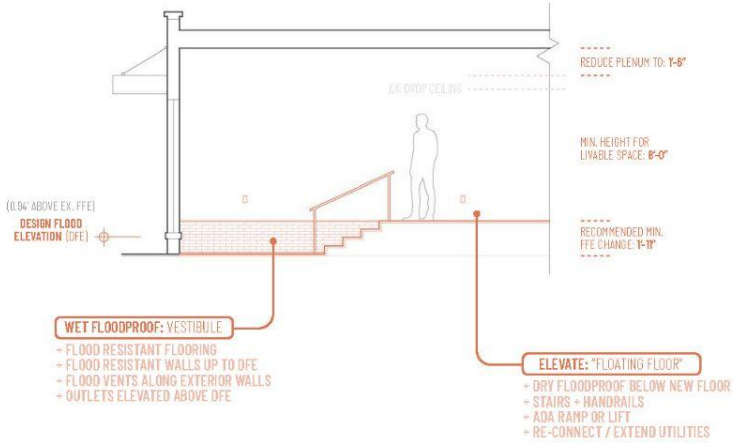


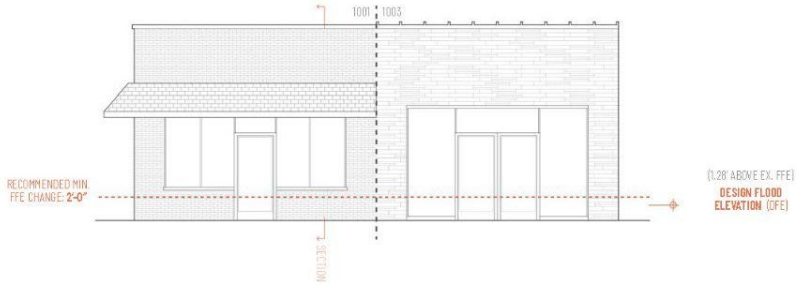
Image. Example of Interior Retrofit via "Floating Floor" Elevation + Example of "De-Pave" Area via Parallel Parking Bulb-Out.

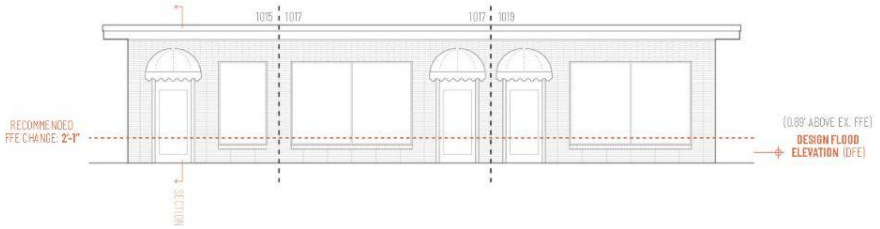

920
918
916
916
RECOMMENDED MIN. FFE CHANGE: 1'-11"
(0.57' ABOVE EX. FFE)
DESIGN FLOOD ELEVATION (DFE)
SECTION

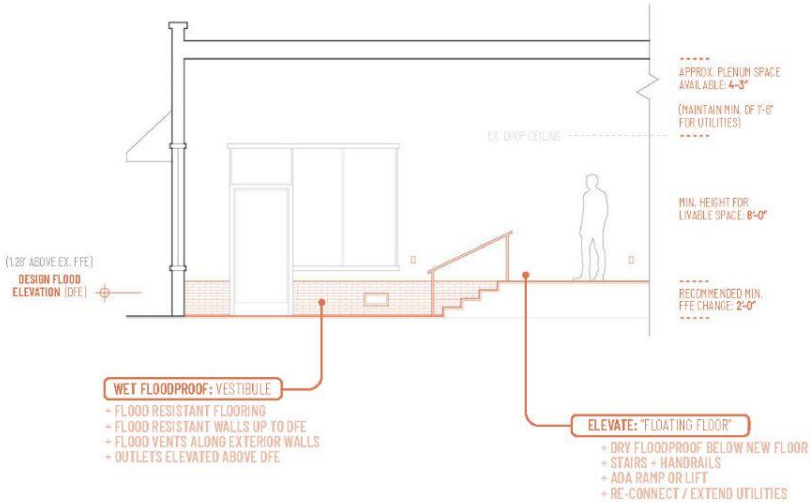

REDUCE PLENUM TO: 1'-6"
EX. DROP CEILING
MIN. HEIGHT FOR LIVABLE SPACE: 8'-0"
(0.57 ABOVE EX. FFE)
DESIGN FLOOD ELEVATION (DFE)
RECOMMENDED MIN. FFE CHANGE: 1'-11"
WET FLOODPROOF: VESTIBULE
+ FLOOD RESISTANT FLOORING
+ FLOOD RESISTANT WALLS UP TO DFE
+ FLOOD VENTS ALONG EXTERIOR WALLS
+ OUTLETS ELEVATED ABOVE DFE
ELEVATE: "FLOATING FLOOR"
+ DRY FLOODPROOF BELOW NEW FLOOR
+ STAIRS + HANDRAILS
+ ADA RAMP OR LIFT
+ RE-CONNECT / EXTEND UTILITIES

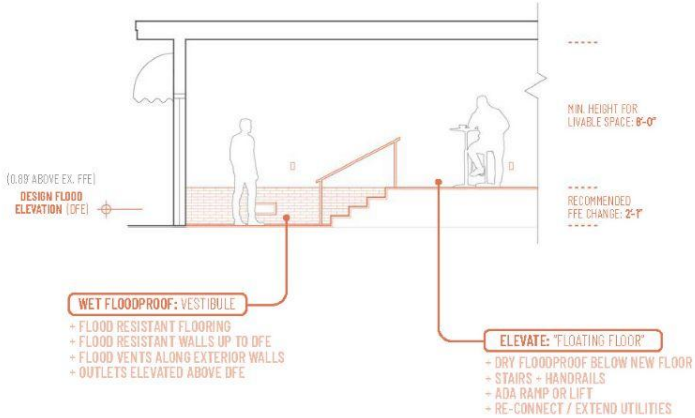

924
922
RECOMMENDED FFE CHANGE: 1'-11"
(0.94' ABOVE EX. FFE)
DESIGN FLOOD ELEVATION (DFE)
SECTION


REDUCE PLENUM TO: 1'-6"
EX. DROP CEILING
MIN. HEIGHT FOR LIVABLE SPACE: 8'-0"
(0.94' ABOVE EX. FFE)
DESIGN FLOOD ELEVATION (DFE)
RECOMMENDED MIN. FFE CHANGE: 1'-11"
WET FLOODPROOF: VESTIBULE
+ FLOOD RESISTANT FLOORING
+ FLOOD RESISTANT WALLS UP TO DFE
+ FLOOD VENTS ALONG EXTERIOR WALLS
+ OUTLETS ELEVATED ABOVE DFE
ELEVATE: "FLOATING FLOOR"
+ DRY FLOODPROOF BELOW NEW FLOOR
+ STAIRS + HANDRAILS
+ ADA RAMP OR LIFT
+ RE-CONNECT / EXTEND UTILITIES


1001
1003
RECOMMENDED MIN. FFE CHANGE: 2'-0"
(1.28' ABOVE EX. FFE)
DESIGN FLOOD ELEVATION (DFE)
SECTION


1015
1017
1017
1019
RECOMMENDED FFE CHANGE: 2'-1"
(0.89' ABOVE EX. FFE)
DESIGN FLOOD ELEVATION (DFE)
SECTION


APPROX. PLENUM SPACE AVAILABLE: 4'-3"
(MAINTAIN MIN. OF 1'-8" FOR UTILITIES)
EX. DROP CEILING
MIN. HEIGHT FOR LIVABLE SPACE: 8'-0"
RECOMMENDED MIN. FFE CHANGE: 2'-0"
(1.28' ABOVE EX. FFE)
DESIGN FLOOD ELEVATION (DFE)
WET FLOODPROOF: VESTIBULE
+ FLOOD RESISTANT FLOORING
+ FLOOD RESISTANT WALLS UP TO DFE
+ FLOOD VENTS ALONG EXTERIOR WALLS
+ OUTLETS ELEVATED ABOVE DFE
ELEVATE: "FLOATING FLOOR"
+ DRY FLOODPROOF BELOW NEW FLOOR
+ STAIRS + HANDRAILS
+ ADA RAMP OR LIFT
+ RE-CONNECT / EXTEND UTILITIES


MIN. HEIGHT FOR LIVABLE SPACE: 8'-0"
RECOMMENDED FFE CHANGE: 2'-1"
(0.89' ABOVE EX. FFE)
DESIGN FLOOD ELEVATION (DFE)
WET FLOODPROOF: VESTIBULE
+ FLOOD RESISTANT FLOORING
+ FLOOD RESISTANT WALLS UP TO DFE
+ FLOOD VENTS ALONG EXTERIOR WALLS
+ OUTLETS ELEVATED ABOVE DFE
ELEVATE: "FLOATING FLOOR"
+ DRY FLOODPROOF BELOW NEW FLOOR
+ STAIRS + HANDRAILS
+ ADA RAMP OR LIFT
+ RE-CONNECT / EXTEND UTILITIES

HAYWOOD COUNTY FLOODPRINT

ACCELERATING RECOVERY & RESILIENCE FOLLOWING TROPICAL STORM FRED

NC STATE COASTAL DYNAMICS DESIGN LAB
www.coastaldynamicsdesignlab.com

project contacts
ANDY FOX | aafox@ncsu.edu
TRAVIS KLONDIKE | tmklondi@ncsu.edu

HAYWOOD COUNTY BOARD OF COMMISSIONERS
REGULAR AGENDA REQUEST

Item Title:
Presentation of the Manager's Recommended Budget for Fiscal Year 2023-2024 - County Manager Bryant Morehead

Board Action Request:

Requested Action Department:
Administration

Presenter:
Will Scarbrough

Background/Justification:
This item is the annual Manager's Recommended Budget presentation for the 2023-2024 Fiscal Year as required by The Local Government and Fiscal Control Act.

Budgetary Impact:

Policy Impact:

Attachments:

HAYWOOD COUNTY BOARD OF COMMISSIONERS
REGULAR AGENDA REQUEST

Item Title:
Request approval of May 1, 2023 regular meeting minutes

Board Action Request:

Requested Action Department:
Administration

Presenter:
Amy Stevens

Background/Justification:

Budgetary Impact:

Policy Impact:

Attachments:
DRAFT MINUTES FOR APPROVAL.pdf

DRAFT MINUTES FOR APPROVAL

HAYWOOD COUNTY BOARD OF COMMISSIONERS
REGULAR AGENDA REQUEST

Item Title:
Request approval of April 2023 Releases, Refunds, and Discoveries

Board Action Request:

Requested Action Department:
Tax Assessor

Presenter:
Amy Stevens

Background/Justification:

Budgetary Impact:

Policy Impact:

Attachments:
Ref Releases Tax Assessor April 2023.pdf

ATTACHMENT

April 2023- Refunds, Releases, Amendments and Discoveries

HAYWOOD COUNTY BOARD OF COMMISSIONERS
REGULAR AGENDA REQUEST

Item Title:
Request approval of April 2023 Tax Collections update and refunds

Board Action Request:

Requested Action Department:
Tax Collections

Presenter:
Amy Stevens

Background/Justification:

Budgetary Impact:

Policy Impact:

Attachments:
Tax Collections Report April 2023.pdf
Tax Coll Ref April 2023.pdf

TAX COLLECTIONS YTD
FY 2022-2023
***Delinquent Property Taxes (other than motor vehicles) Collected as of April 30, 2023**

Tax Year	Real Property Receivable as of June 30, 2022	Payments	Releases, Refunds Write-off, Misc D/C	Real Property Receivable (still due)	Collection Percentage Collections & Credits	Motor Vehicle Receivable as of June 30, 2022	Motor Vehicle Receivable as of April 30, 2023
2022	**$ 47,752,854.43**	**$ (46,263,021.66)**	**(203,298.28)**	**$ 1,286,534.49**	**97.31%**		
2021	$ 768,643.71	$ (375,917.15)	(7,343.06)	$ 385,383.50	49.86%		
2020	$ 296,745.67	$ (95,132.09)	(4,689.98)	$ 196,923.60	33.64%		
2019	200,302.05	(48,357.60)	(4,229.74)	147,714.71	26.25%		
2018	100,767.34	(13,347.19)	(136,641.57)	83,788.70	16.85%		
2017	76,850.56	(9,376.40)	(12.80)	67,461.36	12.22%	195.15	195.15
2016	59,732.73	(5,174.18)	(103.68)	54,454.87	8.84%	158.44	158.44
2015	47,392.75	(4,278.29)	(100.75)	43,013.71	9.24%	95.00	95.00
2014	44,824.02	(2,752.35)	(82.53)	41,989.14	6.32%	579.83	556.93
2013	35,258.14	(2,199.78)	(71.46)	32,986.90	6.44%	37,954.64	37,583.90
2012	46,300.00	(1,795.90)	(44,534.10)	-	100.00%	58,828.99	-
	49,429,671.40	**(46,821,352.59)**	**(401,107.95)**	**2,340,250.98**		**97,812.05**	**38,589.42**

Unaudited numbers subject to change

TAX COLLECTIONS YTD
FY 2022-2023
COLLECTIONS AS OF April 30, 2023

Year	Annual Collection Percentage *(includes collections & credits)*	Total Amount Collected *(payments only)*
2022	***97.31%***	***46,263,021.66***
2021	*97.32%*	*45,302,970.85*
2020	97.52%	39,415,124.58
2019	96.21%	38,420,029.17
2018	96.47%	38,344,996.68
2017	96.18%	37,889,421.60
2016	95.75%	37,245,278.85
2015	95.49%	36,803,813.80
2014	95.89%	34,844,465.08
2013	95.27%	34,451,790.32
2012	95.21%	34,251,018.26
2011	94.57%	33,756,999.29

*Unaudited numbers subject to change

ATTACHMENT

April 2023- Tax Collections Refund Report

HAYWOOD COUNTY BOARD OF COMMISSIONERS
REGULAR AGENDA REQUEST

Item Title:
Request approval of Proclamation Recognizing May 14-20, 2023 as National Police Week

Board Action Request:

Requested Action Department:
Sheriff's Department

Presenter:
Amy Stevens

Background/Justification:
Congress and the President of the United States have designated that there be a National Peace Officer's Memorial Day. The members of the Haywood County Sheriffs Office, Haywood County Police Departments and Highway Patrol serve an essential role in safeguarding the rights and freedom of the citizens of Haywood County. It is important to recognize the duties and responsibilities of law enforcement officers and agencies, and to express appreciation for the contributions made by law enforcement officers. T he Board of County Commissioners of Haywood call upon all citizens to observe May 14-20th, 2023, as National Police Week in Haywood County, with a ceremony honoring our fallen officers on Thursday, May 18th, and publicly salutes the service of law enforcement officers in our community and in communities across the nation.

Budgetary Impact:

Policy Impact:

Attachments:
National Police Week Proclamation 2023.pdf

BOARD OF COMMISSIONERS

L. KEVIN ENSLEY, CHAIRMAN
BRANDON C. ROGERS, VICE-CHAIRMAN
TOMMY LONG
JENNIFER BEST
TERRY RAMEY

COUNTY MANAGER
BRYANT MOREHEAD

COUNTY ATTORNEY
FRANK G. QUEEN

PROCLAMATION
RECOGNIZING MAY 14TH THROUGH MAY 20TH, 2023
AS NATIONAL POLICE WEEK

WHEREAS, Congress and the President of the United States have designated that there be a National Peace Officer's Memorial Day; and

WHEREAS, the members of the Haywood County Sheriffs Office, Haywood County Police Departments and Highway Patrol serve an essential role in safeguarding the rights and freedom of the citizens of Haywood County; and

WHEREAS, it is important to recognize the duties and responsibilities of law enforcement officers and agencies, and to express appreciation for the contributions made by law enforcement officers.

NOW, THEREFORE, BE IT RESOLVED that the Board of County Commissioners of Haywood County, North Carolina does hereby call upon all citizens to observe May 14-20th, 2023, as National Police Week in Haywood County, with a ceremony honoring our fallen officers on Thursday, May 18th, and publicly salutes the service of law enforcement officers in our community and in communities across the nation.

Adopted this the 15th day of May, 2023

_____
L. Kevin Ensley, Chairman
Haywood County Board of Commissioners

Attest:

_____
Amy L. Stevens, Clerk to the Board
Haywood County Board of Commissioners

HAYWOOD COUNTY BOARD OF COMMISSIONERS
REGULAR AGENDA REQUEST

Item Title:
Request approval of budget amendment - Public Health, Dental Clinic - $4,500 - to accept and appropriate funds from Delta Dental Foundation, Smiles for Kids grant - to provide every child enrolled in the local public elementary and middle schools with basic dental care tools

Board Action Request:

Requested Action Department:
HHSA - Health

Presenter:
Michelle Haynes

Background/Justification:
Public Health dental clinic was awarded a grant from Delta Dental Foundation as part of the Smiles for Kids Grant Program. These funds will be used to provide every child enrolled in the local public elementary and middle schools with basic dental care tools: 8 elementary schools with current enrollment of 3,097 students and 3 middle schools with current enrollment of 1,418 students.

Budgetary Impact:

Policy Impact:

Attachments:
BUA_Delta_Dental_Grant__4_500_.pdf

HAYWOOD COUNTY
BUDGET ORDINANCE AMENDMENT
FISCAL YEAR 2022-23

PER: _____
JNL: _____

Be it ordained by the Board of Commissioners of Haywood County that the following amendment be made to the budget ordinance for the fiscal year ending June 30, 2023.

Section 1. To amend the General Fund, the expenditures are to be charged as follows:

Department	Account Number	Current Budget	Increase (Decrease)	Amended Budget
115113				
Special Program Material Deltal Dental	115113-523100-23DDF	-	4,500	4,500
				-
				-
				-
				-

This amendment will result in net increase/(decrease) of $4,500 in the expenditures of the General Fund.

To provide the additional revenue for the above amendment, the following revenues will be increased as the money has been received:

Revenue	Account Number	Current Budget	Increase (Decrease)	Amended Budget
110100 Miscellaneous Revenue				
Delta Dental Grant	110100-451890-23DDF	-	4,500	4,500
				-
				-
				-
				-

Section 2. Copies of this budget amendment shall be delivered to the Budget Officer and the Finance Officer for their direction.

Adopted this the _____ day of _____ , 2023.

Chairman
Haywood County Board of Commissioners

ATTEST:

Clerk to the Board

Explanation:
Public Health dental clinic was awarded a grant from Delta Dental Foundation as part of the Smiles for Kids Grant Program. These funds will be used to provide every child enrolled in the local public elementary and middle schools with basic dental care tools: 8 elementary schools with current enrollment of 3,097 students and 3 middle schools with current enrollment of 1,418 students.

DELTA DENTAL FOUNDATION

GRANT AGREEMENT

This Grant Agreement ("Agreement") is made as of February 6, 2023 ("the "Effective Date"), and entered by and between Delta Dental Foundation, with its principal place of business at 4100 Okemos Road, Okemos, Michigan 48864, (hereinafter referred to as "DDF"), and County of Haywood, North Carolina with its principal place of business at 215 N Main Street, Waynesville, North Carolina 28786 (hereinafter referred to as "Grantee") (collectively the "Parties").

WHEREAS, Grantee has submitted a proposal to DDF received on December 6, 2022 (the "Proposal") to fund the Haywood County Health and Human Services Dental Office Operation Fresh Smile described therein (the "Project"); and

WHEREAS, DDF agrees to make a grant to Grantee for $4,500.00 to fund the Project, subject to the terms and conditions set forth herein (the "Grant").

NOW, THEREFORE, the Parties agree to as follows:

1. **Scope of Project**. Grantee shall perform the Project as set forth in the Proposal, a copy which is provided as Attachment A, and which is incorporated by reference herein. Any variations in the Project or the use of Grant funds from that described in the Proposal requires the advance express written approval of DDF.

2. **Project Period.** The Project has been approved for a period of 12 months beginning March 1, 2023 and ending on March 1, 2024 (the "Project Period").

Should Grantee desire to extend the duration of the Project Period, Grantee shall submit a written request to DDF no later than sixty (60) days prior to the Project Period end date. If DDF approves the extension, the Parties shall execute an amendment to this Agreement. An extension of the Project Period will not result in an increase in funding.

3. **Expenditures.** All expenditures of Grant funds by Grantee must be spent within the Project Period and must be consistent with the project budget as set forth in the Proposal (the "Project Budget") and as approved by DDF, a copy of which is attached hereto as Attachment B.

Any deviation from the Project Budget, such as under-spending or overspending Grant funds requires prior written approval of DDF and may require an amendment to this Agreement, at the discretion of DDF. Deviations from the Project Budget are not authorized retroactively.

4. **Records and Reports**. Grantee agrees to keep a record of all receipts and expenditures relating to this Grant and to provide DDF with any requested interim reports in addition to a final written report summarizing the Project ("General Grant Report") promptly, but no later than thirty (30) days following the end of the Project Period. A copy of the report is available online at https://northcarolina.deltadental.com/giving-back/delta-dental-foundation-general-grants/. Grantee report(s) should describe the progress in achieving the purposes of the Grant and include a detailed financial report and project status reports along with any other information reasonably requested by DDF in a format acceptable to DDF. If Grantee's organization obtains any audited financial statements covering any part of the Project Period of this Grant, please provide a copy to DDF

as well. Grantee is required to keep the financial records with respect to this Grant, along with copies of any reports submitted to DDF, for at least four (4) years following the end of the Project Period.

5. **Disbursement Schedule**. DDF will disburse Grant funds according to the following schedule. Some disbursement dates may be contingent on receipt and approval of financial and project status reports.

Amount	On or About
$4,500.00	April 2023

DDF, in its sole discretion, reserves the right to alter the above disbursement schedule at any time and to impose such conditions upon disbursements as it may, in its discretion, deem necessary.

6. **DDF Right to Review and Evaluate**. DDF shall have the right to review and conduct an evaluation of the Project funded by this Grant, which may include one or more visits from DDF personnel to observe the Project, discuss the Project with Grantee's personnel and review financial and other non-patient records and materials connected with the activities funded by this Grant. All financial and other non-patient records relating to the Project shall be made available at Grantee's regular place of business for inspection by DDF, or its designated representative, at reasonable times with advance written notice to Grantee. In the event DDF finds non-compliance by Grantee related to the Project, at the discretion of DDF, Grantee will be given an opportunity to correct any non-compliance issues. If Grantee fails to correct identified non-compliance issues within an agreed upon timeframe, DDF may terminate this Agreement as set forth in Section 13 of this Agreement.

7. **Title to Property Acquired with Grant Funds**. Title to all tangible personal property, fixtures or equipment purchased with DDF funds ("Grant Funded Property"), shall be vested in Grantee. However, DDF shall have a purchase money security interest in the Grant Funded Property until the General Grant Report has been accepted by DDF. Grant Funded Property must be used for carrying out the Project as set forth in the Proposal.

8. **Intellectual Property.** Grantee owns any intellectual property it produces within the scope of this Grant. Grantee agrees that all original material produced pursuant to this Grant will be made available to DDF under a perpetual, irrevocable, royalty-free, nonexclusive, worldwide license to DDF. Grantee assumes the burden and expense of clearing all third-party rights associated with such material, including but not limited to copyrights, trademarks, and rights of privacy and publicity.

9. **DDF's Right to Return of Funds or Property**. Any DDF funds not used by Grantee for the purposes of the Project as approved in the Project Budget remain the property of DDF and shall be promptly returned to DDF at the conclusion of the Project Period. Any DDF funds misused by Grantee shall be repaid to DDF. If Grantee fails to repay any portion of the Grant due, DDF may take possession of the Grant Funded Property. Nothing contained in this paragraph shall limit or prevent DDF from taking legal action to seek repayment of unexpended Grant funds or Grant funds which were not applied in accordance with the terms of this Agreement.

10. **Publicity**. Grantee agrees that DDF may include information about the Grant award for the Project, including the name of the Grantee, a description of the Project and the amount of the Grant on DDF's website and in reports, press releases, documents, presentations, studies, tax returns and other public disclosures. All materials, reports, press releases, documents, presentations, studies, etc., that are generated by the Grantee in connection with the Project shall need to be submitted to DDF for review with a minimum of fifteen (15) business days prior to date of submission for publication and shall make reference to Delta Dental Foundation and include DDF's name and logo as supplied by DDF.

11. **Use of Project Results**. If Grantee desires to publish the results of this Project, DDF shall have a minimum of fifteen (15) business days to review and comment upon the draft publication before submission for final publication. DDF shall have a perpetual, irrevocable, royalty-free, nonexclusive, worldwide license to make, use, reproduce, distribute, display or make derivative works of all or any portion of the project results by any and all means and in any medium or format, now known or later developed.

12. **Releases.** Grantee agrees that he/she shall execute all of the necessary Authorization Waiver and Release form(s) provided by DDF for any and all organizations or individuals whose images will be used as part of the Project.

13. **Termination**. DDF may, in its sole discretion, immediately terminate this Agreement upon written notice to the Grantee. In the event this Agreement is terminated pursuant to this paragraph, DDF shall have no obligation to make any contributions to the Grantee following the effective date of the termination.

14. **Compliance with Laws**. In carrying out the Project, Grantee will comply with all applicable laws, regulations and rules and will not infringe, misappropriate, or violate the intellectual property, privacy, or publicity rights of any third party.

15. **Indemnification**. To the maximum extent permitted by law, Grantee agrees to indemnify and hold DDF and all of its officers, board members and employees harmless from and against all liability, damage or expense (including reasonable attorney's fees) which we may incur as a result of the Grantee's acts or omissions, or those of any of the Grantees employees, consultants, contractors or agents, in connection with the program or any breach by the Grantee of this Agreement.

16. **Authority and Validity.** Each individual executing this Agreement on behalf of Grantee warrants that he has full power and authority to execute this Agreement on behalf of such organization. Grantee further warrants that this Agreement constitutes the valid and binding obligation of Grantee, enforceable in accordance with its terms.

17. **Nondiscrimination.** Grantee affirms that Grantee will not discriminate on the basis of race, color, sex, religion, national origin, age, disability, sexual orientation, gender identity or veteran status either in its employment practices or in its policies and procedures concerning access to services.

18. **No Guarantee of Future Funding.** Allocation of this Grant does not imply any future funding commitment by DDF.

19. **Entire Agreement.** This Grant Agreement and all attachments constitute the entire Agreement between the Parties regarding the Project and supersede all previous related understandings or written form and must be signed by an authorized representative of both DDF and Grantee.

20. **Amendment.** Unless otherwise permitted herein, any alteration in the terms of this Agreement must be in written form and must be signed by an authorized representative of both DDF and Grantee.

21. **Applicable Laws.** The provisions of this Agreement shall be construed and enforced according to the laws of the State of Michigan. Any lawsuit, action or proceeding resulting from, or related to this Agreement, shall be commenced in a court of competent jurisdiction located in Ingham County, Michigan.

22. **Assignment.** Grantee may not assign or delegate obligations under this Agreement, either in whole or in part, without DDF's prior written consent.

23. **No Agency.** The Grantee is solely responsible for all activities supported by the Grant. Nothing in this Agreement creates a partnership, agency, joint venture, employment, or any other type of relationship. The Grantee shall not represent itself as an agent of DDF for any purpose, and no authority to bind DDF in any manner whatsoever.

24. **Survival.** Each party's obligations under Section 4. Records and Reports, Section 10. Publicity, Section 11. Use of Project Results, Section 12. Releases, and Section 15. Indemnification shall survive the expiration or termination of this Agreement and shall remain in full force and effect.

25. **Counterparts and Electronic Signatures.** Except as may be prohibited by applicable law or regulation, this Agreement and any amendment may be signed in counterparts, by facsimile, PDF, or other electronic means, each of which will be deemed an original and all of which when taken together will constitute one agreement.

IN WITNESS WHEREOF, the Parties hereto have executed this Agreement as of the day and year first written above.

County of Haywood, North Carolina

By (signature): _____ Title: _____

Print Name: _____ Date: _____

Delta Dental Foundation

By (signature): _____ Title: _____

Print Name: _____ Date: _____

HAYWOOD COUNTY BOARD OF COMMISSIONERS
REGULAR AGENDA REQUEST

Item Title:
Request approval of budget amendment - Social Services, Maple Leaf Adult Respite - $500 - to accept and appropriate grant funds from Schwab Charitable Foundation to purchase supplies and materials for the recipients to enjoy activities and games.

Board Action Request:

Requested Action Department:
HHSA - Social Services

Presenter:
Michelle Haynes

Background/Justification:
Schwab Charitable Foundation awarded a $500 grant to Maple Leaf Adult Respite. These funds will be used to purchase supplies and materials for Adult Day Care and Adult Day Health recipients to enjoy activities and games.

Budgetary Impact:

Policy Impact:

Attachments:
BUA_Schwab_Foundation_Grant_500.pdf

HAYWOOD COUNTY
BUDGET ORDINANCE AMENDMENT
FISCAL YEAR 2022-23

PER: _____
JNL: _____

Be it ordained by the Board of Commissioners of Haywood County that the following amendment be made to the budget ordinance for the fiscal year ending June 30, 2023.

Section 1. To amend the General Fund, the expenditures are to be charged as follows:

Department	Account Number	Current Budget	Increase (Decrease)	Amended Budget
115401 Adult Day Care				
Special Prog Mtrl - Schwab Chrt Fnd	115401-523100-23SCF	-	500	500
				-
				-
				-
				-

This amendment will result in net increase/(decrease) of $500 in the expenditures of the General Fund.

To provide the additional revenue for the above amendment, the following revenues will be increased as the money has been received:

Revenue	Account Number	Current Budget	Increase (Decrease)	Amended Budget
110100 Miscellaneous Revenue				
Schwab Chrt Fnd Grant	110100-455890-23SCF	-	500	500
				-
				-
				-
				-

Section 2. Copies of this budget amendment shall be delivered to the Budget Officer and the Finance Officer for their direction.

Adopted this the _____ day of _____ , 2023.

_____
Chairman
Haywood County Board of Commissioners

ATTEST:

_____
Clerk to the Board

Explanation:
Maple Leaf Adult Respite was awarded $500 from a Schwab charitable donor. These funds will be used to purchase supplies and materials for Adult Day Care and Adult Day Health recipients to enjoy activities and games.

Grant Eligibility Application for Government Entities

SCHWAB CHARITABLE®

Congratulations! You are receiving this form because one of our donors has recommended a grant to your organization. However, to process this grant recommendation, we need to update some information. Please respond within two business days of receipt of this form. If you cannot, or if you have questions or need assistance, please contact the Giving Specialist noted below.

Schwab Charitable™ is an independent 501(c)(3) public charity with a mission to increase giving in the U.S. with donor-advised funds and philanthropic services that make charitable giving tax-smart, simple, and efficient. We offer tools, guidance, and relationships that empower donors to incorporate charitable planning into their everyday lives and make a bigger difference in the world. For more information about who we are, please visit www.schwabcharitable.org.

We appreciate your help in completing this form and supplying any requested documentation.

Questions or need assistance?

Giving Specialist: _____

Email: _____

Phone: 1-800-746-6216 **ext.** _____

Please reference Grant ID: _____

1. Organization Information

COUNTY OF HAYWOOD

Organization Legal Name

Federal Employer Identification Number (FEIN)

HAYWOOD COUNTY HEALTH AND HUMAN SERVICES AGENCY, MAPLE LEAF ADULT RESPITE

Other names by which donors can search for your organization

2. Contact Information

157 PARAGON PARKWAY, SUITE 300

Physical Address of Business Office *(P.O. box not acceptable)*

CLYDE	NC	28721
City	**State or Province**	**Zip or Postal Code**

Grant Mailing Address *(if different from above)*

City	**State or Province**	**Zip or Postal Code**

(828)452-6620	(828)452-6694
Primary Telephone Number	**Fax Number**

MICHELLE.HAYNES@HAYWOODCOUNTYNC.GOV	
General Email Address	**Web Address**

GAYLA.JONES@HAYWOODCOUNTYNC.GOV

Alternate email for specific grant-related questions

3. Responses Required

A. Return this application with a copy of any letter from the Internal Revenue Service describing your organization's status for federal tax purposes.

B. Is your organization any of the following? *(Check all that apply.)*

- ☐ State government (including the District of Columbia, Puerto Rico, the Virgin Islands, and interstate instrumentalities)
- ☑ Local government and subdivisions
- ☐ Indian tribal governments
- ☐ Instrumentalities

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C. Does your organization have any of the following governmental powers? *(Check all that apply.)*

☐ The power to levy any tax

☐ The power of eminent domain

☐ Police power over any area

For any checked boxes, please provide a supporting statement or documentation.

D. If your organization was formed pursuant to a statute or a constitutional provision, provide a copy of such statute or provision.

E. Provide copies of your organization's founding documents (e.g., charter or other evidence of incorporation, joint powers agreement, or any other document that created or governs the entity).

4. Certification of Compliance (Please read, complete, and sign this section.)

A tax-exempt organization will jeopardize its exemption if it ceases to be operated exclusively for exempt purposes. An organization will be operated exclusively for exempt purposes only if it engages primarily in activities that accomplish the exempt purposes specified in Internal Revenue Code Section 501(c)(3). An organization will not be so regarded if more than an insubstantial part of its activities does not further an exempt purpose. A tax-exempt organization:

- must absolutely refrain from participating in the **political campaigns** of candidates for local, state, or federal office
- must restrict its **lobbying activities** to an insubstantial part of its total activities
- must ensure that its earnings do not **inure** to the benefit of any private shareholder or individual; In addition to loss of the organization's tax-exempt status, activities constituting inurement may result in the imposition of **penalty excise taxes** on individuals benefiting from excess benefit transactions.
- must not operate for the **benefit of private interests** such as those of its founder, the founder's family, its shareholders, or persons controlled by such interests
- must not operate for the primary purpose of conducting a trade or business that is not related to its exempt purpose, such as a school's operation of a factory
- may not provide **commercial-type insurance** as a substantial part of its activities
- may not have purposes or activities that are **illegal** or violate fundamental public policy
- must satisfy **annual filing requirements**

A tax-exempt organization that does not file a required annual return or notice for three consecutive years **automatically loses** its tax-exempt status.

By completing and returning this Grant Eligibility Application, I certify that:

- This organization is a governmental entity as described in Section 170(c)(1) of the Internal Revenue Code and that I am not aware of any revocation or challenge to the organization's tax-exempt status.
- The organization acknowledges that the grant funds from Schwab Charitable® can be used solely for public purposes as that term is used in Section 170(c)(1) of the Internal Revenue Code.
- No donor or related individual or entity will receive any quid pro quo or other benefit as a result of grants from Schwab Charitable®.
- The information contained in this application is correct, complete, and accurate.

✗ _____	04/18/2023
Signature (Please sign in blue or black ink.)	**Today's Date** *(mm/dd/yyyy)*
BRYANT MOREHEAD	COUNTY MANAGER
Print Name	**Title**

5. Delivery Instructions

Completion and return of this form is not a guarantee of receipt of a grant from Schwab Charitable.

STOP! For faster processing, please be sure to deliver any requested documentation with this form.

- **Email:** **Recommended** for fastest processing, you may take a picture of/scan all pages of this form and attach in an email to the Giving Specialist identified at the beginning of this form.
- **Fax:** 1-877-535-3852
- **Mail:** Schwab Charitable, P.O.Box 628298, Orlando, FL 32862

Schwab Charitable is the name used for the combined programs and services of Schwab Charitable Fund™, an independent nonprofit organization. Schwab Charitable Fund has entered into service agreements with certain subsidiaries of The Charles Schwab Corporation.

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(0821-1G68) MKT94445-04 (08/21)

Misti Carver

From: Prashaw, Lauri <Lauri.Prashaw@Schwab.com>
Sent: Friday, January 13, 2023 5:14 PM
To: Misti Carver
Subject: RE: Action requested: A Schwab Charitable grant to Maple Leaf Adult Respite (6396465)
Attachments: GOV GEA.pdf

Importance: High

Charity Name: Maple Leaf Adult Respite
Grant Amount: $500.00
Requested by: Janet & Jeff Harris
Special Purpose: Wherever it is needed most
Grant ID: 6396465

To whom it may concern:

Congratulations! A Schwab Charitable donor has recommended a donation to Maple Leaf Adult Respite in the amount of $500.00 for Wherever it is needed most.

Before processing this request, we need you to complete the attached Grant Eligibility Application (note: a physical signature is required) and return via email. Additionally, please know that all other documentation requested on the Grant Eligibility Application is not required. Please do not put the dash (-) in the FEIN on the form.

For fastest processing, simply reply to this email with a picture and/or scan of the application and required documentation.

Looking for more resources? Find guidance and tools to help support your organization by visiting www.schwabcharitable.org/charities.

With warmest regards,

Lauri Prashaw
Giving Specialist, Operations | Schwab Charitable

Ph 800-746-6216 ext. 53412
9800 Schwab Way | Lone Tree, CO 80124

Charles Schwab & Co., Inc.
NOTICE: All email sent to or from the Charles Schwab corporate email system is subject to archiving, monitoring and/or review by Schwab personnel. Schwab Charitable™ is the name used for the combined programs and services of Schwab Charitable Fund, an independent nonprofit organization. Schwab Charitable Fund has entered into service agreements with certain affiliates of The Charles Schwab Corporation.

Please send ALL transactional instructions securely by fax at 1-877-535-3852. For existing clients or advisors, please use the Message Center on Schwab.com or SchwabAdvisorCenter to send and receive messages and attachments securely. If you have questions, please call 1-800-746-6216 for assistance.

Misti Carver

From: Gayla Jones
Sent: Monday, February 13, 2023 8:31 AM
To: Misti Carver
Cc: Shannon Bradshaw
Subject: FW: Permission to receive funds

I thought I had asked Ira previously but must not have---

Just print this e-mail for your approval for grant checklist.

Have a good week!

From: Bryant Morehead <Bryant.Morehead@haywoodcountync.gov>
Sent: Monday, February 13, 2023 8:26 AM
To: Gayla Jones <Gayla.Jones@haywoodcountync.gov>
Cc: Ira Dove <ira.dove@haywoodcountync.gov>
Subject: RE: Permission to receive funds

Approved.

Bryant Morehead | County Manager| Haywood County | 828-452-6625|Bryant.Morehead@HaywoodCountyNC.gov |

From: Gayla Jones <Gayla.Jones@haywoodcountync.gov>
Sent: Friday, February 10, 2023 3:03 PM
To: Bryant Morehead <Bryant.Morehead@haywoodcountync.gov>
Cc: Ira Dove <ira.dove@haywoodcountync.gov>
Subject: Permission to receive funds

Good afternoon Bryant,
I would like to ask permission for us to accept $500.00 from a couple for Maple Leaf Adult Respite. They are providing it to us from their Charles Schwab account and the paperwork technically says, grant on it. So we would just like to treat it as a grant at this time.

This would be used to purchase activities for the participants at the program.

Thanks,
Gayla

HAYWOOD COUNTY BOARD OF COMMISSIONERS
REGULAR AGENDA REQUEST

Item Title:
Request approval to accept and appropriate grant from NC Emergency Management for TS Fred unmet needs for Center Pigeon Fire Department in the amount of $30,000 and for County Manager to execute all documents

Board Action Request:

Requested Action Department:
Finance

Presenter:
Kristian Owen

Background/Justification:

Budgetary Impact:

Policy Impact:

Attachments:
CP MOA - OSBM.pdf
BUA Center Pigeon FD.pdf

Agreement Name TS Fred Unmet Needs PA Haywood County

This Agreement is hereby entered into by and between the Department of Public Safety (the "AGENCY") and the **Haywood County** (the "RECIPIENT") (referred to collectively as the "Parties"). The RECIPIENT's federal tax identification number is **56-6001524**.

1. EFFECTIVE TERM

This agreement shall be effective starting November 18, 2021 and this agreement shall terminate on June 30, 2024.

2. RECIPIENT'S DUTIES

The RECIPIENT shall provide the services as described below:

The RECIPIENT is authorized to use funds by this agreement for Tropical Storm Fred Relief Unmet Needs as related to Public Assistance, as directed by the State Budget Director, Charles Perusse.

The RECIPIENT's scope of work is a complete and concise scope of goods or services supported by this agreement and directed by the State Budget Director, Charles Perusse. See Attachment A.

The RECIPIENT agrees to use the funds in the amounts allocated for the budget cost items set forth in the RECIPIENT's Budget. RECIPIENT may reallocate and/or redistribute among budgeted items up to 10% in overall budget costs without the express written permission of the AGENCY. RECIPIENT agrees that it will not reallocate and/or redistribute any overall budget costs that will exceed 10% on any annual basis without first obtaining the express authorization of the AGENCY in writing.

The RECIPIENT understands and acknowledges that total funding level available under this agreement will not exceed **$30,000.00**. Attachment A provides scope of work and payment amounts to be paid to RECIPIENT. RECIPIENT agrees to complete all sections of the Quarterly or Periodic Status Report & Accounting (Attachment B) following each quarter, and provide all supporting documentation when the quarterly Accounting is submitted.

Pursuant to N.C.G.S 143C-1-1, the RECIPIENT understands and agrees that agreement funding shall be subject to the availability of appropriated funds. However, in the event of agreement termination due to lack of adequate appropriated funds, the AGENCY will ensure that it will pay for services and goods acquired and obligated on or before the notice of agreement termination.

The RECIPIENT understands and acknowledges required compliance with all statutory provisions outlined in N.C.G.S. 143C-6-23 Use of State funds by non-State and 09 NCAC 03M .0205, Minimum Reporting Requirements for Recipients and Subrecepients.

Directed grants to nonprofit organizations are for nonsectarian, nonreligious purposes only (S.L. 2021-180, Sec. 5.2 (b)5). State funds for any one employee of a nonprofit are capped at $120,000.00 (S.L. 2021-180, Sec. 5.3).

AGENCY'S DUTIES & PAYMENT PROVISIONS

The AGENCY shall ensure that funds allocated and disbursed per State Budget Director, Charles Perusse, comply with the intent and guidance from the Office of State Budget & Management and ensure compliance with related state statutes and financial management standards.

The AGENCY shall pay the RECIPIENT a total not to exceed **$30,000.00**. The RECIPIENT shall complete a "Request for Payment of Appropriation(s) from North Carolina General Fund" for **$30,000.00** and submit to the AGENCY, along with all required documentation. Once the AGENCY is satisfied that the RECIPIENT has provided all the required documentation, the requested distributions can be processed for payment. The distributions of funds will be coded to **2E52-8146**.

3. QUARTERLY STATUS REPORTING

The RECIPIENT agrees to provide quarterly, or 90-day project status reports to be sent electronically from the RECIPIENT to the AGENCY and shall at a minimum include:

a. Period stating beginning balance of the Project Fund.
   i. Total expenses disbursed (aggregate totals) by the following project uses:
      a. Employee Expenses (e.g program related staffing).
      b. Service and Contract expenses (e.g. utilities, telephone, data, lease related expenses).
      c. Goods (e.g. supplies and equipment) expenses.
      d. Administration Expenses (e.g overhead & project management).
      e. Other expenses (e.g. related charges not assigned above and described by recipient).
   ii. Period ending balance of the RECIPIENT funding disbursed pursuant to this agreement.
   iii. A descriptive summary of how the funds were used including outcomes and specific deliverables or accomplishments to date

ATTACHMENT B is a copy of the quarterly status tracking report.

b. Quarterly project status reports shall be emailed to Joe Stanton at Joe.Stanton@ncdps.gov

4. FUNDS MANAGEMENT

The RECIPIENT agrees that funds paid through this contract shall be accounted for in a separate fund and accounting structure within the RECIPIENT's central accounting and grant management system. The RECIPIENT agrees to manage all accounts payable disbursements, check register disbursements and related transactions in a detailed manner that supports fully transparent accounting of all financial transactions associated with this funding allocations described in Section 3 above. Expenditures for travel mileage, meals, lodging and other travel expenses incurred in the performance of this Contract shall be reasonable and supported by documentation. State rates should be used as guidelines. International travel shall not be eligible under this Contract. If eligible, the Recipient and all subrecipients shall: (a) ask the North Carolina Department of Revenue for a refund of all sales and use taxes paid by them in the performance of this Contract, pursuant to N.C.G.S. 105-164.14; and (b) exclude all refundable sales and use taxes from all reportable expenditures before the expenses are entered in their quarterly project status reports.

5. AGREEMENT ADMINISTRATORS

All notices permitted or required to be given by one Party to the other and all questions about the Agreement from one Party to the other shall be addressed and delivered to the other Party's Agreement Administrator. The name, post office address, street address, telephone number, fax number, and email address of the Parties' respective initial Agreement Administrators are set out below. Either Party may change the name, post office address, street address, telephone number, fax number, or email address of its Agreement Administrator by giving timely written notice to the other Party.

For the AGENCY	
IF DELIVERED BY US POSTAL SERVICE	IF DELIVERED BY ANY OTHER MEANS
Joe Stanton, Assistant Director NC Department of Public Safety Emergency Management 4238 Mail Service Center Raleigh, NC 27607-4238 Telephone: 919-218-6325 Email: joe.stanton@ncdps.gov	Joe Stanton, Assistant Director NC Department of Public Safety Emergency Management 1636 Gold Star Drive Raleigh, NC 27607 Telephone: 919-218-6325 Emai: joe.stanton@ncdps.gov

For the RECIPIENT	
IF DELIVERED BY US POSTAL SERVICE	IF DELIVERED BY ANY OTHER MEANS
Bryant Morehead, Haywood County Manager 215 N. Main Street Waynesville, NC 28786 Telephone: 828-452-6625 Cell Phone: 828-558-1565 Email: Bryant.Morehead@haywoodcountync.gov	Bryant Morehead, Haywood County Manager 215 N. Main Street Waynesville, NC 28786 Telephone: 828-452-6625 Cell Phone: 828-558-1565 Email: Bryant.Morehead@haywoodcountync.gov

6. MONITORING AND AUDITING

The RECIPIENT acknowledges and agrees that, from and after the date of execution of this Agreement and for five (5) years following its termination, the books, records, documents and facilities of the RECIPIENT are subject to being audited, inspected and monitored at any time by the AGENCY upon its request (whether in writing or otherwise). The RECIPIENT further agrees to provide AGENCY staff and staff of the Office of State Auditor with access to financial and accounting records to support internal audit, financial reporting and related requirements.

The RECIPIENT acknowledges and agrees that, regarding the grant funds, it will be subject to the audit and reporting requirements prescribed in N.C.G.S. 159-34, Local Government Finance Act – Annual Independent Audit, rules and regulations. Such audit and reporting requirements may vary depending upon the amount and source of grant funding received by the RECIPIENT and are subject to change.

7. TAXES

The RECIPIENT shall be considered to be an independent RECIPIENT and as such shall be responsible for all taxes. The RECIPIENT agrees to provide the AGENCY with the RECIPIENT'S correct taxpayer identification number upon the execution of this Agreement. The RECIPIENT agrees that failure to provide the AGENCY with a correct taxpayer identification number authorizes the AGENCY to withhold any amount due and payable under this Agreement.

8. SITUS

This Agreement shall be governed by the laws of North Carolina and any claim for breach or enforcement of this Agreement shall be filed in State court in Wake County, North Carolina.

9. SUBCONTRACTING AND ASSIGNMENT

The RECIPIENT agrees that by assigning or subcontracting any work related to the contract to a subcontractor or SUB-RECIPIENT, that such entities shall comply with the following:

(a) The RECIPIENT or SUB-RECIPIENT is not relieved of any of the duties and responsibilities of the original contract; and
(b) The SUB-RECIPIENT agrees to abide by the standards contained in this contract and to shall provide all information to allow the RECIPIENT to comply with these standards.

RECIPIENT agrees that all SUB-RECIPIENTS to this agreement shall comply with the following provisions of the North Carolina Administrative Code: "09 NCAC 03M .0203 SUB-RECIPIENT RESPONSIBILITIES."

10. ADVERTISING

RECIPIENT agrees not to use the existence of this contract, the name of the AGENCY, the or the name of the State of North Carolina as part of any commercial advertising, without prior written approval of the AGENCY.

11. COMPLIANCE WITH LAW

The RECIPIENT shall remain an independent RECIPIENT and as such shall be wholly responsible for the scope of work to be performed under this Agreement and for the supervision of his employees and assistants. The RECIPIENT represents that it has, or will secure at its own expense, all personnel required in performing the services under this agreement. Such employees shall not be employees of, or have any individual contractual relationship with the AGENCY. The RECIPIENT shall be responsible for compliance with all laws, ordinances, codes, rules, regulations, licensing requirements and other regulatory matters that are applicable to the conduct of his business and work performance under this Agreement, including those of Federal, State, and local agencies having appropriate jurisdiction.

The Recipient acknowledges and agrees that, in its conduct under this Contract and in connection with any and all expenditures of grant funds made by it, it shall comply with the cost principles enunciated in the Code of Federal Regulations, 2 CFR, Part 200. The Recipient further acknowledges and agrees that, if it grants any of the grant funds awarded hereunder to one or more sub-recipients or sub-sub-recipients, the Recipient shall, by contract, ensure that said cost principles are made applicable to and binding upon any and all such sub-recipients, sub-sub-recipients, etc. in their handling, use and expenditure of the funds awarded to the Recipient hereunder.

12. TERMINATION OF AGREEMENT

This agreement may be terminated by mutual consent upon sixty (60) days written notice to the other party, or as otherwise provided by law. As soon as reasonably possible following termination of this agreement, the amount of any residual unexpended funds shall be transferred to the AGENCY.

13. AMENDMENTS

This Agreement may be amended in writing which documents approval of changes by both the AGENCY and the RECIPIENT.

14. AGREEMENT CLOSE-OUT PROCESS

The RECIPIENT agrees to submit to the AGENCY a complete performance and expenditure status report (final report) within ninety (90) days after expiration of this agreement June 30, 2024:

1) A complete accounting of how the appropriated funds were used;
2) A complete performance status report; and
3) A Certification stating the funds were used for the purpose appropriated (AGENCY will supply template).

The above noted reports shall include RECIPIENT and SUB-RECIPIENT reporting information related to the above noted quantitative results and accomplishments. RECIPIENT and any SUB-RECIPIENTS agree that all program activity results information reported shall be subject to review and authentication as described in Paragraph 7 and RECIPIENT will provide access to work papers, receipts, invoices and reporting records, if requested by the AGENCY, as the AGENCY executes any audit internal audit responsibilities.

RECIPIENT will be deemed noncompliant if its final report is not submitted within the 90-day period stated above. Once the complete final performance and financial status report package has been received and evaluated by the AGENCY, the RECIPIENT will receive official notification of agreement close-out. The letter will inform the RECIPIENT that the AGENCY is officially closing the agreement and retaining all agreement files and related material for a period of five (5) years or until all audit exceptions have been resolved, whichever is longer.

15. AUTHORIZED SIGNATURE WARRANTY

The undersigned represent and warrant that they are authorized to bind their principals to the terms of this agreement. **In Witness Whereof,** the RECIPIENT and the AGENCY have executed this Agreement in duplicate originals, with one original being retained by each party.

HAYWOOD COUNTY

_____

Signature Date

_____

Printed Name Title

NC DEPARTMENT OF PUBLIC SAFETY

_____

Signature Date

_____

Printed Name Title

HAYWOOD COUNTY
CAPITAL PROJECT ORDINANCE
FISCAL YEAR 2022-2023

PER:
JNL: _____

BE IT ORDAINED by the Board of Commissioners of Haywood County that the following amendment be made to the capital project ordinance for the fiscal year ending June 30, 2023.

Section 1. To amend the Grant Fund - County projects, the expenditures are to be charge as follows:

Line Item	Account Number	Current Budget	Increase (Decrease)	Amended Budget
Natural Disaster Fund:				
Professional Services - OTHER	504377-519400-CPFD	-	30,000	30,000
				-
				-

which will result in a net increase of $ 30,000 in the expenditures of the Capital Project Fund.

To provide the additional revenue for the above, the following revenues will be increased as the money has been received:

Revenue	Acct. No.	Current Budget	Increase (Decrease)	Amended Budget
Intergovernmental Revenue:				-
Restricted Intergovernmental Revenue	500050-449302-CPFD	-	30,000	30,000
				-
				-
			30,000	

Section 2. Copies of this amendment shall be delivered to the Budget Officer and the Finance Officer for their direction.

Adopted this the _____ of _____, 2023.

Chairman
Haywood County Board of Commissioners

ATTEST:

_____
Clerk to the Board

Explanation:
To accept and appropriate OSBM Unmet needs grant for
Center Pigeon Fire Department. To be paid on a reimbursement
basis.

HAYWOOD COUNTY BOARD OF COMMISSIONERS
REGULAR AGENDA REQUEST

Item Title:
Request approval to accept and appropriate grant from NC Emergency Management for TS Fred unmet needs for bridge and road repair in the amount not to exceed $445,000 and for County Manager to execute all documents

Board Action Request:

Requested Action Department:
Finance

Presenter:
Kristian Owen

Background/Justification:

Budgetary Impact:

Policy Impact:

Attachments:
BUA Bridges.pdf
Haywood Co - Bridges MOA.pdf

HAYWOOD COUNTY
CAPITAL PROJECT ORDINANCE
FISCAL YEAR 2022-2023

PER:
JNL: _____

BE IT ORDAINED by the Board of Commissioners of Haywood County that the following amendment be made to the capital project ordinance for the fiscal year ending June 30, 2023.

Section 1. To amend the Grant Fund - County projects, the expenditures are to be charge as follows:

Line Item	Account Number	Current Budget	Increase (Decrease)	Amended Budget
Natural Disaster Fund:				
Professional Services - OTHER	504377-519400-BRDG	-	445,000	445,000
				-
				-

which will result in a net increase of $ 445,000 in the expenditures of the Capital Project Fund.

To provide the additional revenue for the above, the following revenues will be increased as the money has been received:

Revenue	Acct. No.	Current Budget	Increase (Decrease)	Amended Budget
Intergovernmental Revenue:				-
Restricted Intergovernmental Revenue	500050-449302-BRDG	-	445,000	445,000
				-
				-
			445,000	

Section 2. Copies of this amendment shall be delivered to the Budget Officer and the Finance Officer for their direction.

Adopted this the _____ of _____, 2023.

Chairman
Haywood County Board of Commissioners

ATTEST:

_____
Clerk to the Board

Explanation:
To accept and appropriate OSBM Unmet needs grant for
bridge and road repair. To be paid on a reimbursement
basis.

Agreement Name TS Fred Unmet Needs PA Haywood County

This Agreement is hereby entered into by and between the Department of Public Safety (the "AGENCY") and the **Haywood County** (the "RECIPIENT") (referred to collectively as the "Parties"). The RECIPIENT's federal tax identification number is **56-6001524**.

1. EFFECTIVE TERM

This agreement shall be effective starting November 18, 2021 and this agreement shall terminate on June 30, 2024.

2. RECIPIENT'S DUTIES

The RECIPIENT shall provide the services as described below:

The RECIPIENT is authorized to use funds by this agreement for Tropical Storm Fred Relief Unmet Needs as related to Public Assistance, as directed by the State Budget Director, Charles Perusse.

The RECIPIENT's scope of work is a complete and concise scope of goods or services supported by this agreement and directed by the State Budget Director, Charles Perusse. See Attachment A.

The RECIPIENT agrees to use the funds in the amounts allocated for the budget cost items set forth in the RECIPIENT's Budget. RECIPIENT may reallocate and/or redistribute among budgeted items up to 10% in overall budget costs without the express written permission of the AGENCY. RECIPIENT agrees that it will not reallocate and/or redistribute any overall budget costs that will exceed 10% on any annual basis without first obtaining the express authorization of the AGENCY in writing.

The RECIPIENT understands and acknowledges that total funding level available under this agreement will not exceed **$445,000.00**. Attachment A provides scope of work and payment amounts to be paid to RECIPIENT. RECIPIENT agrees to complete all sections of the Quarterly or Periodic Status Report & Accounting (Attachment B) following each quarter, and provide all supporting documentation when the quarterly Accounting is submitted.

Pursuant to N.C.G.S 143C-1-1, the RECIPIENT understands and agrees that agreement funding shall be subject to the availability of appropriated funds. However, in the event of agreement termination due to lack of adequate appropriated funds, the AGENCY will ensure that it will pay for services and goods acquired and obligated on or before the notice of agreement termination.

The RECIPIENT understands and acknowledges required compliance with all statutory provisions outlined in N.C.G.S. 143C-6-23 Use of State funds by non-State and 09 NCAC 03M .0205, Minimum Reporting Requirements for Recipients and Subrecepients.

Directed grants to nonprofit organizations are for nonsectarian, nonreligious purposes only (S.L. 2021-180, Sec. 5.2 (b)5). State funds for any one employee of a nonprofit are capped at $120,000.00 (S.L. 2021-180, Sec. 5.3).

AGENCY'S DUTIES & PAYMENT PROVISIONS

The AGENCY shall ensure that funds allocated and disbursed per State Budget Director, Charles Perusse, comply with the intent and guidance from the Office of State Budget & Management and ensure compliance with related state statutes and financial management standards.

The AGENCY shall pay the RECIPIENT a total not to exceed **$445,000.00**. The RECIPIENT shall complete a "Request for Payment of Appropriation(s) from North Carolina General Fund" for **$445,000.00** and submit to the AGENCY, along with all required documentation. Once the AGENCY is satisfied that the RECIPIENT has provided all the required documentation, the requested distributions can be processed for payment. The distributions of funds will be coded to **2E52-8146**.

3. QUARTERLY STATUS REPORTING

The RECIPIENT agrees to provide quarterly, or 90-day project status reports to be sent electronically from the RECIPIENT to the AGENCY and shall at a minimum include:

a. Period stating beginning balance of the Project Fund.
   i. Total expenses disbursed (aggregate totals) by the following project uses:
      a. Employee Expenses (e.g program related staffing).
      b. Service and Contract expenses (e.g. utilities, telephone, data, lease related expenses).
      c. Goods (e.g. supplies and equipment) expenses.
      d. Administration Expenses (e.g overhead & project management).
      e. Other expenses (e.g. related charges not assigned above and described by recipient).
   ii. Period ending balance of the RECIPIENT funding disbursed pursuant to this agreement.
   iii. A descriptive summary of how the funds were used including outcomes and specific deliverables or accomplishments to date

ATTACHMENT B is a copy of the quarterly status tracking report.

b. Quarterly project status reports shall be emailed to Joe Stanton at Joe.Stanton@ncdps.gov

4. FUNDS MANAGEMENT

The RECIPIENT agrees that funds paid through this contract shall be accounted for in a separate fund and accounting structure within the RECIPIENT's central accounting and grant management system. The RECIPIENT agrees to manage all accounts payable disbursements, check register disbursements and related transactions in a detailed manner that supports fully transparent accounting of all financial transactions associated with this funding allocations described in Section 3 above. Expenditures for travel mileage, meals, lodging and other travel expenses incurred in the performance of this Contract shall be reasonable and supported by documentation. State rates should be used as guidelines. International travel shall not be eligible under this Contract. If eligible, the Recipient and all subrecipients shall: (a) ask the North Carolina Department of Revenue for a refund of all sales and use taxes paid by them in the performance of this Contract, pursuant to N.C.G.S. 105-164.14; and (b) exclude all refundable sales and use taxes from all reportable expenditures before the expenses are entered in their quarterly project status reports.

5. AGREEMENT ADMINISTRATORS

All notices permitted or required to be given by one Party to the other and all questions about the Agreement from one Party to the other shall be addressed and delivered to the other Party's Agreement Administrator. The name, post office address, street address, telephone number, fax number, and email address of the Parties' respective initial Agreement Administrators are set out below. Either Party may change the name, post office address, street address, telephone number, fax number, or email address of its Agreement Administrator by giving timely written notice to the other Party.

For the AGENCY	
IF DELIVERED BY US POSTAL SERVICE	IF DELIVERED BY ANY OTHER MEANS
Joe Stanton, Assistant Director NC Department of Public Safety Emergency Management 4238 Mail Service Center Raleigh, NC 27607-4238 Telephone: 919-218-6325 Email: joe.stanton@ncdps.gov	Joe Stanton, Assistant Director NC Department of Public Safety Emergency Management 1636 Gold Star Drive Raleigh, NC 27607 Telephone: 919-218-6325 Emai: joe.stanton@ncdps.gov

For the RECIPIENT	
IF DELIVERED BY US POSTAL SERVICE	IF DELIVERED BY ANY OTHER MEANS
Bryant Morehead, Haywood County Manager 215 N. Main Street Waynesville, NC 28786 Telephone: 828-452-6625 Cell Phone: 828-558-1565 Email: Bryant.Morehead@haywoodcountync.gov	Bryant Morehead, Haywood County Manager 215 N. Main Street Waynesville, NC 28786 Telephone: 828-452-6625 Cell Phone: 828-558-1565 Email: Bryant.Morehead@haywoodcountync.gov

6. MONITORING AND AUDITING

The RECIPIENT acknowledges and agrees that, from and after the date of execution of this Agreement and for five (5) years following its termination, the books, records, documents and facilities of the RECIPIENT are subject to being audited, inspected and monitored at any time by the AGENCY upon its request (whether in writing or otherwise). The RECIPIENT further agrees to provide AGENCY staff and staff of the Office of State Auditor with access to financial and accounting records to support internal audit, financial reporting and related requirements.

The RECIPIENT acknowledges and agrees that, regarding the grant funds, it will be subject to the audit and reporting requirements prescribed in N.C.G.S. 159-34, Local Government Finance Act – Annual Independent Audit, rules and regulations. Such audit and reporting requirements may vary depending upon the amount and source of grant funding received by the RECIPIENT and are subject to change.

7. TAXES

The RECIPIENT shall be considered to be an independent RECIPIENT and as such shall be responsible for all taxes. The RECIPIENT agrees to provide the AGENCY with the RECIPIENT'S correct taxpayer identification number upon the execution of this Agreement. The RECIPIENT agrees that failure to provide the AGENCY with a correct taxpayer identification number authorizes the AGENCY to withhold any amount due and payable under this Agreement.

8. SITUS

This Agreement shall be governed by the laws of North Carolina and any claim for breach or enforcement of this Agreement shall be filed in State court in Wake County, North Carolina.

9. SUBCONTRACTING AND ASSIGNMENT

The RECIPIENT agrees that by assigning or subcontracting any work related to the contract to a subcontractor or SUB-RECIPIENT, that such entities shall comply with the following:

(a) The RECIPIENT or SUB-RECIPIENT is not relieved of any of the duties and responsibilities of the original contract; and
(b) The SUB-RECIPIENT agrees to abide by the standards contained in this contract and to shall provide all information to allow the RECIPIENT to comply with these standards.

RECIPIENT agrees that all SUB-RECIPIENTS to this agreement shall comply with the following provisions of the North Carolina Administrative Code: "09 NCAC 03M .0203 SUB-RECIPIENT RESPONSIBILITIES."

10. ADVERTISING

RECIPIENT agrees not to use the existence of this contract, the name of the AGENCY, the or the name of the State of North Carolina as part of any commercial advertising, without prior written approval of the AGENCY.

11. COMPLIANCE WITH LAW

The RECIPIENT shall remain an independent RECIPIENT and as such shall be wholly responsible for the scope of work to be performed under this Agreement and for the supervision of his employees and assistants. The RECIPIENT represents that it has, or will secure at its own expense, all personnel required in performing the services under this agreement. Such employees shall not be employees of, or have any individual contractual relationship with the AGENCY. The RECIPIENT shall be responsible for compliance with all laws, ordinances, codes, rules, regulations, licensing requirements and other regulatory matters that are applicable to the conduct of his business and work performance under this Agreement, including those of Federal, State, and local agencies having appropriate jurisdiction.

The Recipient acknowledges and agrees that, in its conduct under this Contract and in connection with any and all expenditures of grant funds made by it, it shall comply with the cost principles enunciated in the Code of Federal Regulations, 2 CFR, Part 200. The Recipient further acknowledges and agrees that, if it grants any of the grant funds awarded hereunder to one or more sub-recipients or sub-sub-recipients, the Recipient shall, by contract, ensure that said cost principles are made applicable to and binding upon any and all such sub-recipients, sub-sub-recipients, etc. in their handling, use and expenditure of the funds awarded to the Recipient hereunder.

12. TERMINATION OF AGREEMENT

This agreement may be terminated by mutual consent upon sixty (60) days written notice to the other party, or as otherwise provided by law. As soon as reasonably possible following termination of this agreement, the amount of any residual unexpended funds shall be transferred to the AGENCY.

13. AMENDMENTS

This Agreement may be amended in writing which documents approval of changes by both the AGENCY and the RECIPIENT.

14. AGREEMENT CLOSE-OUT PROCESS

The RECIPIENT agrees to submit to the AGENCY a complete performance and expenditure status report (final report) within ninety (90) days after expiration of this agreement June 30, 2024:

1) A complete accounting of how the appropriated funds were used;
2) A complete performance status report; and
3) A Certification stating the funds were used for the purpose appropriated (AGENCY will supply template).

The above noted reports shall include RECIPIENT and SUB-RECIPIENT reporting information related to the above noted quantitative results and accomplishments. RECIPIENT and any SUB-RECIPIENTS agree that all program activity results information reported shall be subject to review and authentication as described in Paragraph 7 and RECIPIENT will provide access to work papers, receipts, invoices and reporting records, if requested by the AGENCY, as the AGENCY executes any audit internal audit responsibilities.

RECIPIENT will be deemed noncompliant if its final report is not submitted within the 90-day period stated above. Once the complete final performance and financial status report package has been received and evaluated by the AGENCY, the RECIPIENT will receive official notification of agreement close-out. The letter will inform the RECIPIENT that the AGENCY is officially closing the agreement and retaining all agreement files and related material for a period of five (5) years or until all audit exceptions have been resolved, whichever is longer.

15. AUTHORIZED SIGNATURE WARRANTY

The undersigned represent and warrant that they are authorized to bind their principals to the terms of this agreement. **In Witness Whereof,** the RECIPIENT and the AGENCY have executed this Agreement in duplicate originals, with one original being retained by each party.

HAYWOOD COUNTY

_____

Signature Date

_____

Printed Name Title

NC DEPARTMENT OF PUBLIC SAFETY

_____

Signature Date

_____

Printed Name Title

HAYWOOD COUNTY BOARD OF COMMISSIONERS
REGULAR AGENDA REQUEST

Item Title:
Request approval to purchase one KME Sever Side Mount Service Pumper Truck in the amount of $853,000 by Crabtree-Ironduff Fire Department - Captain of Crabtree Ironduff Volunteer Fire Department Chad Moody

Board Action Request:

Requested Action Department:
Finance

Presenter:
Kristian Owen

Background/Justification:

Budgetary Impact:
Financial Analysis: As of June 30, 2022 audited financial statements, Crabtree Ironduff VFD had assets totaling $1,456,125 with $228,234 in long term liabilities. All long term liabilities will be paid down to zero by the time the proposed truck is delivered and debt service payments begins in May of 2025. The VFD board approved financing with Community Leasing Partners, a division of Community First National Bank with a term of 15 years @ 4.41% Interest. Annual debt service totals approximately $86,429.

Policy Impact:

Attachments:
Crabtree Ironduff Specifications 3.24.pdf
Crabtree Ironduff EST18373 (003).pdf
Q08870-1 GAD-1 (003).pdf
Crabtree Ironduff Proposal 3.24.2023.pdf
Crabtree-Ironduff VFD NC 042023-KME (003).pdf
Crabtree Ironduff County Letter.pdf

Crabtree-Ironduff
Fire Department

Custom Side Mount Pumper

March 24, 2023

SAFE INDUSTRIES

DESIGN CLAUSE

These specifications outline the components, installation methods, and operational characteristics KME is agreeing to provide in order to meet the purchaser's requirements. Subject to the terms of the purchase agreement, other construction details not explicitly listed in these specifications will be determined at the discretion of the builder. In the event the purchaser desires a different construction or installation not already described in these specifications, additional charges may apply, and quoted lead time commitments will be adjusted.

VEHICLE TRANSPORTATION - DEALER PROVIDED

Transportation for the completed vehicle from KME Fire Apparatus in Nesquehoning, PA to the end user shall be provided by the sales representative.

PROPOSED BY - SAFE INDUSTRIES

Safe Industries is pleased to offer the proposed vehicle to meet the intent of the fire department specifications.

KME Fire Apparatus is a leading manufacturer in custom and commercial fire fighting vehicles.

Questions or concerns pertaining to this proposal can be answered by contacting the following KME representative:

Safe Industries
5031 Hwy. 153
Easley, SC 29642
Fax (864) 845-7176

Cameron Marler
cmarler@safeindustries.com
Cell (864) 245-7937

PROPOSED SERVICE BY - SAFE INDUSTRIES

Safe Industries is proud to offer over 100 years of combined experience in the fire service and apparatus industry.

We offer a twenty-four hour service commitment with three(3) service technicians on call and five(5) service vehicles available.

Our certifications include EVT, Hale, Waterous, Darley, Akron, and Bendix brakes.

We can perform all pump tests at your location with the Draft Commander 3000 mobile pump test trailer, to eliminate removing your apparatus from your department. In case of an emergency we can UN hook from the test and have the apparatus in operation in less than 5 minutes.

Safe Industries is fully insured with Workman's Compensation.

Contact:
Safe Industries
5031 Hwy. 153
Easley, SC 29642
Phone:864-845-7175
Fax: 864-845-7176

PROPRIETARY PARTS

It is the intention of the Purchaser for all bidder's to furnish the apparatus with major parts commonly used by the heavy-duty truck manufacturers and open market vendors where as replacement parts are more readily available and at reduced cost. The use of proprietary parts such as but not limited to axles, suspensions, engines, transmissions, frontal air bags, electronic controls, multiplexing systems, seats, pumps, gauges, foam systems, etc., may not be acceptable by the purchaser.

FAIR ETHICAL & LEGAL COMPETITION

In order to ensure fair, ethical, and legal competition, neither original equipment manufacturer (OEM) nor parent company of the OEM shall have ever been fined or convicted of price fixing, bid rigging, or collusion in any domestic or international fire apparatus market.

There will be no exceptions.

MATERIAL & WORKMANSHIP

All equipment furnished shall be guaranteed to be new and of current manufacture, to meet all requirements of these specifications.

All workmanship shall be of high quality and accomplished in a professional manner so as to insure a functional apparatus with a pleasing, aesthetic appearance.

CONTRACT ADMINISTRATOR

The successful bidder shall designate a contract administrator to provide a single point interface between the purchaser and the contractor on all matters concerning the contract.

APPROVAL DRAWING

A detailed drawing of the apparatus shall be provided to the purchaser for approval before construction begins. A copy of this drawing shall also be provided to the manufacturer's representative. Upon purchaser's approval, the finalized drawing shall become a part of the total contract.

The drawing shall show, but is not limited to, such items as the chassis make and model, major components, location of lights, sirens, all compartment locations and dimensions, special suctions, discharges, etc. The drawing shall be a visual interpretation of the apparatus as it is to be supplied.

DIGITAL PICTURES

KME will provide, on a weekly or as requested basis, from the time the chassis arrives/begins and construction of the body compartments begins, "digital" color photos of each phase of construction.

The digital photos shall be e-mailed or otherwise provided to the fire department.

The above specified digital photos shall include, but not be limited to: bare chassis (as it arrives from chassis factory), modifications to the chassis, installation of the fire pump and its related valves and piping (prior to being enclosed inside the fire pump cavity), water tank and foam tank (prior to their installation inside the apparatus body), fabricated apparatus body components (prior to their being assembled), assembly of the pump compartment fabrications, assembly of the compartmented body fabrications, installation of the water and foam tanks, interior compartment shelving arrangement, hose bed arrangement, and assembly of the fire pump control panel.

In addition to the specified photo shots, the purchaser shall have the right to request certain views of other features and accessories, during their manufacture and installation.

DELIVERY

Delivery of the apparatus to the customer shall remain the bidder's responsibility.

On initial delivery of the fire apparatus, a qualified and responsible representative of the contractor shall demonstrate the apparatus and provide initial instruction to representatives of the customer regarding the operation, care, and maintenance of the apparatus and equipment supplied.

VEHICLE FLUID PLATE

As required by NFPA-1901, the contractor shall affix a permanent plate in the driver's compartment specifying the quantity and type of the following fluids used in the vehicle:

A permanent plate in the driving compartment shall specify the quantity and type of the following fluids used in the vehicle:

- Engine oil
- Engine coolant
- Chassis transmission fluid
- Pump transmission lubrication fluid
- Pump primer fluid
- Drive axle(s) lubrication fluid
- Air-conditioning refrigerant
- Air-conditioning lubrication oil
- Power steering fluid
- Cab tilt mechanism
- Transfer case fluid
- Equipment rack fluid
- Air compressor system lubricant
- Generator system lubricant
- Aerial systems

EXACT BLUEPRINT WITH BID

A scale drawing of the specific apparatus being proposed shall be submitted WITH THE BID.

Drawings of similar units or demo units shall not be permitted.

Bidders should be clear that this provision is requiring a SCALE drawing of the truck which is actually being bid.

The drawing shall be done at the manufacturer's facility by the manufacturer's engineering department in order to guarantee the accuracy of the drawing.

Failure to comply with this requirement shall be grounds for rejection of the bid!

FAMA MEMBERSHIP

The apparatus manufacturer must be a current member of the Fire Apparatus Manufacturer's Association (FAMA).

MANUFACTURED IN UNITED STATES

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.

AMP DRAW REPORT

The bidder shall provide with their bid proposal and at the time of delivery, an itemized print out of the expected amp draw of the entire vehicle's electrical system.

A written load analysis, which shall include the following:

- The rating of the alternator.
- The minimum continuous load of each component that is specified per: Applicable NFPA-1901.
- Additional loads that, when added to the minimum continuous load, determine the total connected load.
- Each individual intermittent load.

All of the above listed items shall be provided by the bidder per the applicable NFPA-1901.

COOPERATIVE PURCHASING

The Manufacturer shall be pleased to allow other public agencies to use the purchase agreement resulting from this invitation to bid unless the bidder expressly notes on the proposal form that prices are not available for tag-on.

The condition of such use by other agencies shall be that any such agency must make and pursue contact, purchase order/contract, and all contractual remedies with the successful bidder.

Such tag-ons shall be done so that the original purchasing agency has no responsibility for performance by either the manufacturer or the agency using the contract.

PRODUCTION LEVEL ELECTRICAL DRAWINGS

KME shall provide production level harness drawings for the specific unit to be built.

VEHICLE DATA PLATE DESCRIPTION

The following safety signs shall be provided in the cab:

- A label displaying the maximum number of personnel the vehicle is designed to carry shall be visible to the driver.
- “Occupants will be seated and belted when apparatus is in motion” signs shall be visible from each seat.
- “Do Not Move Apparatus When Light Is On” sign adjacent to the warning light indicating a hazard if the apparatus is moved (as described in subsequent section).
- A label displaying the height, length, and GVWR of the vehicle shall be visible to driver.
- This label shall indicate that the fire department will revise the dimension if vehicle height changes while vehicle is in service.

The following information shall be on labels affixed to the vehicle:

Fluid Data:

- Engine Oil
- Engine Coolant
- Chassis Transmission Fluid
- Pump Transmission Lubrication Fluid
- Pump Primer Fluid (if applicable)
- Drive Axle(s) Lubrication Fluid
- Air Conditioning Refrigerant
- Air Conditioning Lubrication Oil
- Power Steering Fluid
- Cab Tilt Mechanism Fluid
- Transfer Case Fluid (if applicable)
- Equipment Rack Fluid (if applicable)
- Air Compressor System Lubricant
- Generator System Lubricant (if applicable)
- Front Tire Cold Pressure
- Rear Tire Cold Pressure
- Aerial Hydraulic Fluid (if applicable)
- Maximum Tire Speed Rating

Chassis Data:

- Chassis Manufacturer
- Production Number
- Year Built
- Month Manufactured
- Vehicle Identification Number

Manufacturers weight certification:

- Gross Vehicle (or Combination) Weight Rating (GVWR or GCWR)
- Gross Axle Weight Rating, Front
- Gross Axle Weight Rating, Rear

INSPECTION TRIP (1)

The successful bidder shall provide one (1) factory inspection trip to the apparatus manufacturer's facility.

Transportation, meals, lodging, and other requisite expenses shall be the bidder's responsibility.

ACCOMMODATIONS FOR FIVE (5)

Accommodations shall be for five (5) Fire Department representatives per trip.

The factory visits shall occur at the following stages of production of the apparatus:

TRIP ONE (1) AT FINAL COMPLETION

Final inspection upon completion.

AIR TRANSPORTATION (GREATER THAN 300 MILES)

Travel arrangements greater than 300 miles from the manufacturing facility shall be via commercial airline transportation.

Crabtree-Ironduff Fire Department maintains the right to inspect the apparatus, within normal business hours, at any other point during construction.

Expenses incurred during non-specified inspection visits shall be the responsibility of Crabtree-Ironduff Fire Department.

During inspection visits, Crabtree-Ironduff Fire Department reserves the right to conduct actual performance tests to evaluate completed portions of the unit.

Testing shall be accomplished with the assistance and resources of the contractor.

COMPLETION INFORMATION

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

- Owners name and address Apparatus manufacturer, model and serial number
- Chassis make, model and serial number
- Front tire size and total rated capacity in pounds
- Rear tire size and total rated capacity in pounds
- Chassis weight distribution in pounds with water and manufacturer mounted equipment, front and rear
- Engine make, model, serial number, rated horsepower, rated speed and governed speed
- Type of fuels and fuel tank capacity
- Electrical system voltage and alternator output in amps.
- Battery make, model and total capacity in cold crank amps (CCA)
- Transmission make, model, and serial number. If so equipped chassis transmission PTO(s) make, model and gear ratio
- Pump make, model, rated capacity in gallons per minute (liters per minute where applicable) and serial number
- Pump transmission make, model, serial number and gear ratio
- Auxiliary pump make, model, rated capacity in gallons per minute (liters per minute where applicable) and serial number
- Water tank certified capacity in gallons or liters
- Paint manufacturer and paint number(s)
- Company name and signature of responsible company representative
- Certification of slip resistance of all stepping, standing and walking surfaces.

If the apparatus has a fire pump or an industrial supply pump, the pump manufacturer's certification of suction capability.

If the apparatus has a fire pump or an industrial supply pump, a copy of the apparatus manufacturer's approval for stationary pumping applications.

If the apparatus has a fire pump or an industrial supply pump, the engine manufacturers certified brake horsepower curve for the engine furnished, showing the maximum governed speed.

If the apparatus has a fire pump or an industrial supply pump, the pump manufacturers certification of hydrostatic test.

If the apparatus has a fire pump or an industrial supply pump, the third party certification of inspection and test for the fire pump (if applicable).

If the apparatus has an aerial device the third party certification of inspection and test for the aerial device.

If the apparatus has an aerial device, all the technical information required for inspections to comply with NFPA 1911, Standards for Testing Fire Department Aerial Devices.

If the apparatus has a fixed line voltage power source, the certification of the test for the fixed power source (if applicable).

If the apparatus is equipped with an air system, test results of the air quality, the SCBA fill station, and the air system installation.

Weight documents from certified scale - showing actual loading on the front axle, rear axle(s) and overall vehicle (with the water tank full but without personnel, equipment and hose) shall be supplied with the complete vehicle to determine compliance with NFPA-1901.

Written load analysis and results of electrical performance tests.

COMPLETION INFORMATION, CONT'D.

If the apparatus is equipped with a water tank, the certification of water tank capacity by the tank manufacturer.

FMVSS REQUIREMENT

The chassis shall be certified by the apparatus manufacturer as conforming to all applicable Federal Motor Vehicle Safety Standards in effect at the date of contract.

This shall be attested to by the attachment of a FMVSS certification label on the vehicle by the contractor who shall be recognized as the responsible final manufacturer.

RECORDS

The successful bidder shall be responsible for preparing and maintaining a record file of parts and assemblies used to manufacture the apparatus.

These records shall be maintained in the factory of the bidder for a minimum of twenty (20) years.

File shall contain copies of any and all reported deficiencies, all replacement parts required to maintain the apparatus, and original purchase documents including specifications, contract, invoices, incomplete chassis certificates, quality control reports and final delivery acceptance documents.

Crabtree-Ironduff Fire Department shall have access to any and all documents contained in this file upon official written request.

GENERAL CONSTRUCTION

The complete apparatus, assemblies, subassemblies, component parts, etc., shall be designed and constructed with the due consideration to the nature and distribution of the load to be sustained and to the general character of the service to which the apparatus is to be subject.

All parts of the apparatus shall be designed with a factor of safety, which is equal to or greater than that which is considered standard and acceptable for this class of equipment in fire fighting service.

All parts of the apparatus shall be strong enough to withstand general service under full load.

The apparatus shall be so designed that the various parts and readily accessible for lubrication, inspection, adjustment and repair.

Bidder's specifications must meet minimum requirements of N.F.P.A. Pamphlet #1901 and all State and Federal Department of Transportation vehicle regulations at time of sale of unit.

The apparatus shall be designed and constructed, and the equipment so mounted, with due consideration to distribution of the load between front and rear axles that all specified equipment, including a full complement of specified ground ladders, full water tank, loose equipment, and firefighters shall be carried without overloading or injuring the apparatus.

PRODUCT LIABILITY

Each bidder shall supply proof of product liability and facility insurance equal to or exceeding $30,000,000.00.

This shall be provided as part of the proposal. There will be no exceptions.

PAINT CERTIFICATION

The finish paint shall be certified by the apparatus manufacturer as conforming to all applicable Commercial Vehicle Paint Standards in effect at the date of contract.

This shall be attested to by the attachment of a Sikkens certification.

PRICES & PAYMENTS

The bid price will be F.O.B. Destination, on a delivered and accepted basis at the Fire Department.

Total price on KME's proposal sheet will include all items listed in these specifications.

KME has computed pricing less federal and state taxes. It is understood that any applicable taxes will be added to the proposed prices, unless the purchaser furnishes appropriate tax-exempt forms.

!!! CRITICAL OVERALL HEIGHT REQUIREMENT!!! - "NO

!!! CRITICAL OVERALL LENGTH REQUIREMENT!!! - "NO

GENERAL INFORMATION - NFPA 1901

The proposed apparatus will be constructed to withstand the severe and continuous use encountered during emergency fire fighting services. The apparatus will be of the latest type, carefully designed and constructed with due consideration to the nature and distribution of the load to be sustained.

This proposal details the general design criteria of cab and chassis components, aerial device (if applicable), fire pump and related components (if applicable), water tank (if applicable), fire body, electrical components, painting, and equipment.

All items of these proposal specifications will conform to the fullest extent possible with the National Fire Protection Association Pamphlet No. 1901, latest edition, except as noted in the Statement-of-Exceptions.

KME will furnish satisfactory evidence of our ability to construct, supply service parts and technical assistance for the apparatus specified.

NFPA TREADPLATE CERTIFICATION

All stepping, standing, and walking surfaces on the body shall meet NFPA #1901 anti-slip standards.

Aluminum tread plate utilized for stepping, standing, and walking surfaces shall be NFPA embossed compliant.

Upon request by the purchaser, the manufacturer shall supply proof of compliance with this requirement.

VERTICAL TREAD PLATE - NON-EMBOSSED

The following vertical surfaces on the vehicle (if applicable) shall have non-embossed tread plate:

To include but not limited to:

- Rear of cab overlay
- Rear body overlay
- Front of body overlay
- Front pump house panel
- Custom cab step well
- Fender overlay
- Fender compartment doors
- Interior cab trim
- Upper body walkway walls
- Rescue body interior (walk-In/walk through)

"PUMPER FIRE APPARATUS" NFPA 2016 CHAPTERS

The unit shall be designed to conform fully to the "Pumper Fire Apparatus" requirements as stated in the NFPA 1901 Standard (2016 Revision), which shall include the following required chapters as stated in this revision:

- Chapter 1 Administration
- Chapter 2 Referenced Publications
- Chapter 3 Definitions
- Chapter 4 General Requirements
- Chapter 5 Pumper Fire Apparatus
- Chapter 12 Chassis and Vehicle Components
- Chapter 13 Low Voltage Electrical Systems and Warning Devices
- Chapter 14 Driving and Crew Areas
- Chapter 15 Body, Compartments and Equipment Mounting
- Chapter 16 Fire Pumps and Associated Equipment
- Chapter 18 Water Tanks

SAFETY SIGNS (NFPA REQUIRED)

Safety sign(s) shall be located on the vehicle at the rear step, and at any cross walkway(s), to warn personnel that riding in or on these areas while the vehicle is in motion is prohibited.

THIRD PARTY TESTING

If required by the specific chapters of NFPA-1901, the proposed unit shall be tested and certified by independent third party inspectors.

All test work for fire pumps outlined in NFPA 1901, Edition shall be conducted.

The third party inspectors shall provide the manufacturer a complete written examination and test report for each inspection performed at the manufacturer's facility.

This report specifies the points of inspection and results of such examinations and tests.

The inspectors performing the test work on the units are certified to Level II in the required NDT methods, under the requirements outlined in ASNT document CP-189.

The actual person(s) performing the inspection shall present for review proof of Level II Certification in the required NDT methods.

The apparatus manufacturer shall designate, in writing, who is qualified to witness and certify these test results.

Prior to submittal to the automotive fire apparatus manufacturer, the final Report shall be reviewed by the Supervisor of Fire Equipment Services and a Registered Professional Engineer, both of whom are directly involved with the aerial device certification program.

When the unit successfully meets all the requirements outlined in NFPA 1901, current edition, the third party inspector shall issue a Certificate of Automotive Fire Apparatus Examination and Test stating the unit's compliance with NFPA- 1901.

SEVERE SERVICE CAB - BASE, 100" - S2020

The cab shall be a custom tilt style, built specifically for fire service.

The cab shall be a cab over engine design, with integral tilt mechanism and engine access from inside the cab.

The cab interior shall be the "Open-Space" design with no wall, window or vertical support posts between the front and rear crew areas to allow direct communication, better visibility and air circulation in the cab.

CAB MATERIAL

The cab shall be fabricated from 5052-H 32 aluminum alloy, utilizing the minimum material thickness as follows:

- Cab side panels 0.125 thick (1/8")
- Cab roof 0.125 thick (1/8")
- Forward cab front sheet 0.125 thick (1/8")
- Interior cab panels 0.125 thick (1/8")
- Other panels 0.125 thick (1/8")
- Cab doors 0.1875 thick (3/16")
- Engine enclosure side panels 0.250 thick (1/4")

Cab, sub-frame shall be a welded assembly, fabricated of 6063 structural aluminum alloy. This frame shall extend the full length and width of the cab and be secured to the chassis frame through two (2) rear, urethane, self centering load cushions, two (2) forward pivot brackets, and two (2) cab locks. The cab shall be of entirely welded construction.

The front cab wall shall be of double wall type construction, featuring an inner and outer panel. {No Exceptions}

CRASH TESTING

To ensure the safety of the cab occupants and cab integrity, proof of third party testing shall be provided.

The cab shall be certified for SAEJ2422 side impact, SAEJ2420 with ECER29 cab front impact, and ECER29 cab roof strength.

Furthermore, proof of testing and certification shall be provided that the cab, in accordance to SAE J2420 was front impact tested at 2.1 times the standard energy required in SAE J2420, thus exceeding the NFPA requirement.

This test shall be performed with no support immediately behind the cab, thus providing an authentic test result.

CAB LENGTH

Minimum Cab Dimensions:

• Overall width	100"
• Inside width of ceiling	92"
• Front area floor to ceiling	59-3/4"
• Top of front seat to ceiling	42" (depending upon seat type)
• Seat back to steering wheel	21-1/4" (depending upon seat type)
• Inside width (door to engine enclosure)	27-1/2" (driver's side, at the floor)
• Inside width (door to engine enclosure)	24" (officer's side, at the floor)
• Crew seat area width	92"
• Front cab floor to top of engine enclosure	27”
• Front cab floor to top of center dash	34-3/4”
• Outer crew seat risers to rear wall	49-1/2"
• Centerline axle to rear wall	67-1/2"

Glass Area Dimensions:

• Windshield (Contour)	3,422 sq. in.
• Side door window, retractable	625 sq. in. each
• Side fixed crew windows	550 sq. in. each

CAB ROOF

Cab Entry Door Height Dimensions:

- Forward door opening 76" high
- Rear door opening 86" high

The roof will be a split level design with radius edges for an aesthetic, streamline appearance. The roof shall be constructed with the same material as the main structure and be internally reinforced using framing which shall span the entire width and length of the cab for maximum structural integrity. This shall allow the roof to support personnel and roof mounted equipment without the need for additional reinforcement. The cab roof over the rear crew area shall be raised ten (10) inches higher than the front driver and officer area. The front face of the raised roof section shall be sloped at a 45 degree angle, creating a streamlined interface with the standard, lower, forward roof section. This design shall allow for additional interior height in the rear crew area. The rear crew area doors shall be "Vista-Style", extending full height to the radius edge of the raised roof.

Approximate dimensions:

- Crew area floor to ceiling 64"
- Top of crew seat to ceiling 45" (depending upon seat type)

TREAD PLATE OVERLAY ON CAB ROOF

A bright finish tread plate overlay shall be placed on the cab roof.

This overlay shall be placed on the raised roof section, or if a flat roof cab is being utilized, from the area of the “B” post area-rearward, and extending back to the end of the cab roof.

This tread plate overlay shall be sealed with caulking around the edges to prevent moisture from entering the area between the cab roof and the overlay.

CAB ROOF DRIP RAIL

For enhanced protection from inclement weather, an integral drip rail shall be furnished on each side of the cab roof. The drip rail shall extend the full length of the cab roof.

BATTERY ACCESS DOORS

The battery access door(s) shall be 1/8" tread plate, drop down doors with thumb latches at each side rear cab step well.

CAST ANTI-SLIP ENTRY STEPS

Each of the forward entrance steps shall be a minimum of 8-1/2" deep with the floor board recessed a minimum of 5" to avoid "shin knocking".

Each step shall be a bolt-in cast aluminum step.

The cab steps risers shall be overlaid with bright finish tread plate.

Each of the rear entrance steps shall be a minimum of 8-1/2" deep.

An intermediate step shall be provided between the lower entrance step and the crew area floor for ease of entry and egress.

Each upper section of the steps and respective step risers shall be constructed as an integral part of the cab construction and shall be overlaid with bright finish tread plate.

CAB DOORS

Four (4) side-opening doors shall be provided. The cab doors shall be totally constructed of aluminum with an extruded aluminum frame and an aluminum outer door skin. Doors shall be full height from the step to the cab roof extrusion and enclose the step area when the doors are closed. The rearward cab doors shall have a radius cutout allowing the door opening to protrude forward over the cab wheel well, while providing full access to the rear crew area. There shall be a heavy duty, piano type, stainless steel hinge on each door with a minimum pin diameter of 3/8". Hinges shall be slotted for ease of horizontal and vertical adjustment. There shall be a cab door seal and the doors shall close flush with the side of the cab. A heavy duty 6" wide belting material shall be utilized to prevent the cab doors from opening greater than 90 degrees.

CAB DOOR INSULATION

A 1/4" insulation panel shall be installed in each cab door. This insulation panel shall provide an additional acoustical barrier as well as help with heating/cooling properties of the apparatus.

CAB DOOR LATCHES

Heavy-duty, bright finish cast paddle latches shall be provided on the interior and exterior of each cab door.

Door latch mechanisms which utilize spring steel clamps shall not be considered due to their tendency to both rust and break.

The interior door latch cables/rods are to be designed to reduce adjustment or possible wear at the adjustment turnbuckles.

KEY MODEL #751

The specified door lock cylinder/s shall be equipped with #751 key/s.

ELECTRIC WINDOWS

Each side cab door shall have a tinted retractable window. The window track shall be designed into the door frame extrusion, which shall be extruded with a track groove to house a window track and seal. The window shall be capable of being removed from an access slot designed in the bottom of the door frame.

All side cab doors shall be equipped with electrically operated windows. Power window controls for all doors shall be provided on the driver's lower wing dash panel. The officer side power window control shall be on the officer's lower wing dash panel.

The control for each rear door shall be a rocker type, automotive style switch located on the inside door panel within easy reach.

FULL HEIGHT INTERIOR DOOR PANELS - TEXTURED BLACK

The cab door interior panels shall be covered with an aluminum panel, full height. The panel shall be 1/8" aluminum and painted textured black and shall be designed to allow easy access to the inner door.

DIAMOND GRADE CHEVRONS INTERIOR OF CAB DOORS

Four (4) Diamond Grade chevron reflective signs shall be installed on the lowest portion of the inner door panels.

There will be one (1) on each door. These chevrons shall cover at least 96^2 in.

WINDSHIELD

A two piece, symmetrical, safety glass windshield shall be provided on the cab for the driver and officer providing a clear viewing area.

The windshields shall be full width to the center of the front cab support for each side and provide the occupants with a panoramic view.

To provide enhanced peripheral vision on each side of the cab, the windshield and cab structure shall be designed with radius corners, which provide a minimum of 8" of glass area, measured from the glass face to the side edge near the door post.

The windshield shall consist of three (3) layers; the outer light, the middle safety laminate and the inner light.

The thick outer light layer shall provide superior chip resistance, the middle safety laminate layer shall prevent the windshield glass pieces from detaching in the event of breakage and the inner light shall provide yet another chip resistant layer.

The windshield will be a contour design with 3244 sq. in. of area for improved visibility and style.

The windshield glass shall be designed so it can be used on either the driver or officer side.

Single piece windshields that utilize epoxy or that are bonded to the cab structure shall not be acceptable.

WINDSHIELD WIPERS & WASHERS

Dual, electric operated, pantographic type windshield wipers shall be provided.

One (1) electric drive motor shall be provided for each wiper.

Wipers shall have "HI/LO" and "INTERMITTENT" operating speeds. "HI/LO" speeds shall be controlled by a steering column control, within the turn signal control stem.

"INTERMITTENT" operation shall be controlled by a twist switch within the control on the steering column.

The wipers shall be of the self-parking type.

Windshield washers shall be electric operated wet-arm type with a 1/2 gallon washer fluid reservoir, mounted behind a hinged access door in the officer side front cab step well area. The fluid level shall be visible through a cutout in the access door. This door shall be secured with two thumb latches.

The washer control shall be integral with the intermittent wiper control switch.

There shall be individual removable panels on the front face of the cab for access to the wiper motor assemblies.

Windshield wipers shall survive testing in excess of 3 million cycles in accordance with section 6.2 of SAE J198 “Windshield Wiper Systems – Trucks, Buses and Multipurpose Vehicles”.

The bidder shall certify that the wiper system design has been “Third party tested” and that the wiper system has met this criteria.

DELETE SIDE VIEWING WINDOWS

The windows provided on each side of the cab behind the forward cab doors shall be deleted.

DARK TINT WINDOWS

The windshield and the forward cab door glass shall be provided with standard DOT, green automotive tint.

If provided, the side cab windows to the rear of the front doors, the rear cab door windows, and any rear viewing windows shall be equipped with a dark, automotive tint.

CAB GRAB RAILS EXTERIOR

Hansen 1-1/4" diameter x 28" long, knurled, bright anodized aluminum handrails shall be provided.

There will be one (1) at each cab door entrance.

Each grab rail shall have white LED lights that shall be wired to the DOT marker lights and interlocked to illuminate when the parking brake is applied.

Grab rail stanchions shall be chrome plated and offset when necessary to prevent "hand-pinching" when opening or closing the doors.

Formed rubber gaskets shall be provided between each stanchion base and the cab surface.

CAB GRAB HANDLES, INTERIOR

Grab rails shall be provided to assist in entry and exiting of the cab. Each grab rail shall be a cast aluminum "D" style handle that shall have a black powder coat finish and shall be located in the following locations:

- One (1) 11" long, horizontally mounted on each front cab door on the interior door panel
- One (1) 11" long, horizontally mounted on each rear cab door on the interior door panel

INTERIOR GRAB RAILS - REAR CREW DOORS-BLACK

One (1), horizontally mounted, on each rear cab door, located at the same height as the window in the lowered position.

FRONT CAB GRILLE

A square mirror finished stainless steel grille shall be installed to allow for maximum air flow to the charge air cooler and the radiator. The top of the grille will have a flat area for the manufacturers emblem.

A four (4) inch wide solid band shall extend across the middle of the grill for lettering or lighting options.

SIDE CAB GRILLES

Two (2) rectangle, mirror finished stainless steel air inlets/outlets shall be provided horizontally above the wheel well opening, one on each side of the cab.

The grilles shall be equipped with a mesh screen to serve as a secondary ember separator.

The design shall permit proper ducting of air through the engine compartment and cooling system.

This system shall be such that particles larger than .039 inches (1 mm) in diameter cannot reach the air filter element.

CAB EXTERIOR REAR WALL

A bright finish tread plate overlay shall be provided over the entire exterior rear cab wall.

The tread plate overlay shall be sealed with caulking around the edges to prevent moisture from getting between the cab and the overlay.

CAB WHEEL WELL LINERS - ALUMINUM

The front cab, wheel wells shall be equipped with fully removable bolt-in aluminum inner wheel well liners.

The liners shall extend full depth into the truck frame.

The completely washable wheel well liners shall be designed to protect the cab substructure, inner panels, and other miscellaneous installed components from road salts, debris, dirt accumulation and corrosion.

STAINLESS STEEL CAB FENDERETTES

The cab wheel well openings shall be trimmed with replaceable, bolt-in, polished stainless steel fenderettes.

The fenderettes shall be secured to the cab with stainless steel threaded fasteners along the internal perimeter of the wheel well.

Dissimilar metal tape and black vinyl trim molding shall be used where the cab and fender meet.

FRONT MUD FLAPS

Heavy duty, black rubber type mud flaps shall be provided behind the front wheels.

CAB MIRRORS

Two (2) Retrac 613305 mirrors shall be furnished, one on each front cab door.

Each mirror shall have a 14-1/2 x 8 flat glass, upper head and a 4-1/2 x 8 convex lower head, mounted in a one piece, chrome plated housing.

Each head will be electrically heated and motorized with controls on the driver's lower wing panel.

The upper, flat glass portion as well as the lower convex section shall be electrically controlled from the drivers seating position.

The stainless steel, loop mounting bar shall be installed on the forward portion of each front door in front of the side windows, with an upper and lower mounting bracket.

MIRROR CONTROL

In addition to the switches on the driver's lower wing panel, the mirror position and heat (if applicable) controls shall be programmed into the multiplex control screen.

DOOR WIDTH

Cab Entry Door Width Dimensions:

- Forward door opening 37" wide
- Rear door opening 37" wide

Cab Entry Step Dimensions:

- Forward door recessed step 29 3/4" wide x 8-1/2" deep
- Rear door recessed step 25 3/4" wide x 8-1/2" deep

INTERIOR TRIM

The cab interior shall be constructed to create an ergonomically designed interior to be user friendly and functional for the driver and officer.

All interior upholstery panels shall be gray in color.

The upholstered cab overhead and side wall portions shall utilize Durawear upholstery with padding underneath to provide additional insulation.

INTERIOR REAR WALL

The interior rear wall of the cab shall be covered with gray Durawear for durability and shall match the other upholstered areas of the cab.

CAB FLOORING

The floor of the driver’s compartment and the floor of the crew area shall be lined with Baryfol vinyl composite flooring to comply with NFPA noise and heat requirements.

ACOUSTICAL INSULATION

One (1) inch thick acoustical insulation shall be provided on the cab roof, rear and side walls of the cab.

This material shall be fitted between the cab structural members and secured with adhesive to provide an insulation barrier for noise and heat.

ENGINE ENCLOSURE MATERIAL

The forward portion of the engine enclosure shall be covered with a Durawear material formed overlay to match the balance of the cab interior. To allow maximum "elbow room" for the driver and officer, the forward portion of the engine enclosure shall feature a contour shape. The engine enclosure shall not significantly obstruct the driver's vision in any direction. The enclosure shall be an integral part of the cab structure, which shall be constructed from material providing adequate strength to support radio, map boxes, etc. The engine enclosure shall be insulated to protect from heat and sound. The noise insulation shall keep the DBA level within the limits stated in the current NFPA series 1901 pamphlet.

ENGINE ENCLOSURE ACCESS

A composite, hinged access door shall be provided in the top rearward portion of the engine enclosure. The door shall allow access to the engine oil, transmission fluid, power steering fluid level dipsticks. The access door shall be provided with a flush mounted latch. The underside of the access door shall be insulated.

HD SOUNDPROOFING/ INSULATION PACKAGE UNDER ENGINE

The underside of the engine enclosure shall be overlaid with Milcut, MilShield insulation. MilShield can withstand temperatures up to 1300°F. To ensure a clean, smooth surface, this material shall have a heavy aluminum foil covering and shall be retained by aluminum panels fastened to the cab structure as needed. Any gaps in this insulation barrier shall be sealed with 3M #425 aluminized high temperature tape.

HD SOUNDPROOFING/INSULATION BETWEEN UPHOLSTERY

To further reduce the noise and heat levels inside the cab, 1/4" foam upholstery material shall be installed on all interior surfaces of the engine enclosure, below the upholstery material.

ENGINE ENCLOSURE MOUNTING PANEL

A 3/16" thickness brushed aluminum panel with 1" radius corners shall be provided and installed on the engine enclosure.

The engine enclosure mounting panel shall cover the entire top of the doghouse excluding the opening to access the engine compartment.

The panel shall also be painted with black textured paint to match the interior of the cab.

The panel shall include four (4) 1" high spacers raising the panel above the enclosure outline.

SUN VISORS

To provide maximum protection for the driver and officer, two (2) dark polycarbonate sun visors shall be mounted in the cab overhead on each side.

OVERHEAD PANEL, FABRICATED CENTER THREE WING PANEL

An overhead console with a center three piece removeable panel assembly shall be provided on the cab roof between the driver and officer to permit installation of the multiplex smaller sized control screens and other components as space allows.

The overhead console shall be painted to match the interior of the cab.

The overhead console shall not obstruct the driver's vision through the officer's side window.

SEAT AND SEAT BELT ANCHOR TESTING

Each seat belt anchor shall be tested to withstand 3,000lbs of pull on both the lap and shoulder belt in accordance with FMVSS 210 section 4.2.

Each seat mounting position shall be tested to withstand 20G's of force in accordance with FMVSS 207 section 4.2(c).

Both tests shall be performed and verified at a third party testing and evaluation center.

STORAGE COMPARTMENTS UNDER FRONT SEATS

There shall be a compartment provided under each front seat.

Each compartment shall be accessible from the front of the seat riser when the door is opened.

BOSTROM DRIVER'S SEAT

The driver's seat shall be a H. O. Bostrom Sierra 500 Series EX8 high, back bucket ABTS LH seat.

The seat shall have a tapered, ergonomic, contoured, extended seat cushion with bolster support.

The seat shall have an eight inch, before and after adjustment, as well as a 2 inch height adjustment, a front of seat tilt, a rear of seat tilt, and a reclining seat back.

All seat movements shall be electrically controlled from a control panel on the forward, lower, edge of the seat.

The seat shall be equipped with a red, integrated, 3-point shoulder harness with a lap belt, and an automatic Dual Retractor anti-binding webbing guide built into the seat assembly with RiteHite Seat Belt customized, fit Adjustment.

BOSTROM OFFICER'S SEAT

The officer's seat shall be a H. O. Bostrom Tanker 550, ABTS RH series fixed base SCBA seat. The seat shall have a tapered, ergonomic contoured, extended seat cushion with bolster support. The seat shall include a SCBA storage area with integral, contoured headrest and tapered side cushions with built in SCBA strap storage hooks. The seat shall be equipped with a red integrated 3-point shoulder harness with lap belt and an automatic Dual Retractor with anti-binding webbing guide built into the seat assembly with RiteHite Seat Belt customized fit Adjustment.

SECUREALL SCBA BRACKET

The officer's seat shall include a H. O. BOSTROM Secure All SCBA Locking System.

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

The center guide fork shall keep the tank in-place for a safe and comfortable fit in seat cavity.

Fire fighters shall simply push the SCBA unit against the pivot arm to engage the patented, auto-locking system.

Once the lock is engaged, the top clamp shall surround the top of the SCBA tank for a secure fit in all directions.

The standard 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.

BOSTROM FORWARD FACING SEAT(S), CENTER

Two (2) center inboard forward facing crew seats shall be H. O. Bostrom Tanker 550, ABTS series SCBA seats. Each seat shall have a tapered, ergonomic contoured, extended seat cushion with bolster support.

Each seat shall include an SCBA storage area with integral, contoured headrest and tapered side cushions with built-in SCBA strap storage hooks.

Each seat shall be equipped with a red in color integrated 3-point shoulder harness with lap belt and an automatic Dual Retractor with anti-binding webbing guide built into the seat assembly with RiteHite™ Seat Belt customized fit Adjustment.

SECUREALL SCBA BRACKET

Each center forward facing seat shall include an H. O. BOSTROM Secure All™ SCBA Locking System. The bracket system shall be free of straps and clamps that may interfere with auxiliary equipment on SCBA units. The center guide fork shall keep the tank in-place for a safe and comfortable fit in seat cavity. Firefighters shall simply push the SCBA unit against the pivot arm to engage the patented auto-locking system. Once the lock is engaged, the top clamp shall surround the top of the SCBA tank for a secure fit in all directions.

The standard 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.

FORWARD FACING SEAT/S, CENTER

The two (2) forward facing crew seats shall have a flip-up style seat with Fold and Hold feature.

SEAT BASE

The center, forward facing seats shall be mounted on an aluminum riser that shall be mounted in the center of the cab.

The riser shall match the interior of the cab and shall have individually painted compartment doors with latches to provide additional storage space in the cab.

3 POSITION SEAT BASE

The rear forward facing seats shall be mounted to a seat base that is made for 3 seats and the seats shall be spread apart as far as possible on top of the seat base.

BOSTROM SEATING MATERIAL

The seats shall be upholstered with heavy duty black Durawear material as provided by Bostrom.

SEAT ADJUSTMENT NOTICE

If equipped, adjustable seats may be limited by outside factors such as optional installed equipment (ie. ems compartments, battery chargers, SCBA cylinder brackets) and seat placement.

VEHICLE DATA RECORDER

A Class 1 Vehicle Data Recorder (VDR) system shall be provided.

The system shall include an NFPA compliant, "Black Box" with reporting software that shall be capable of data storage to coincide with the NFPA requirements.

Data storage capabilities shall include interfaces with the following systems:

- Display module (Master Optical Warning Device)
- VDR, date time stamp
- Max Vehicle speed (MPH)
- Vehicle acceleration / deceleration (MPH/Sec.)
- Engine Speed (RPM)
- ABS event
- Data password protected
- Data sampled once per second, in 48-hour loop
- Data sampled min by min for 100 engine hours
- Throttle position (% of Throttle)
- Data software
- PC / Mac Compatible
- Data summary reports

The VDR data shall be downloadable by USB cable to a computer using either Microsoft or Apple operating systems.

SEAT BELT WARNING SYSTEM

The apparatus shall be equipped with a Class 1, seat belt warning system.

The system shall consist of a seat belt module and shall display the seating positions through the main, UltraView screen.

FOUR (4) SEATING POSITIONS

Seat belt and seat cushion sensors shall be provided on the four (4) specified seating positions.

EXTERNAL CAB DRIVER SIDE EMS COMPARTMENT

An externally accessible storage compartment shall be mounted in the cab in lieu of the driver's side rearward facing crew seat.

The compartment shall be approximately 23 7/8" deep x 41 3/4 " high x 22 3/4" wide.

The door opening shall be approximately 35 7/8" high x 20" wide.

The compartment shall be constructed of aluminum and painted to match the interior color of the cab.

Lastly, it shall be equipped with a hinged flush mount door hinged at the front of the compartment and an internal access door that is latched and painted.

The exterior door shall be held in the open position by a gas shock, stay arm.

DRIVER SIDE EMS COMPARTMENT INTERIOR W/ MULTISPEC GRAY MARBLE STONE

The interior of the compartments shall be finish painted with Multispec GRAY Marble Stone scuff resistant paint to provide a protective application over all of the compartment interior surfaces.

DRIVER SIDE EMS COMPARTMENT LIGHTING

The EMS compartment shall be equipped with A ROM V4 LED interior track light(s).

The lighting shall be wired to automatically activate when the compartment door is open and the master battery switch is in the "on" position.

EXTERNAL CAB OFFICER SIDE EMS COMPARTMENT

An externally accessible storage compartment shall be mounted in the cab in lieu of the officer's side rearward facing crew seat.

The compartment shall be approximately 23 7/8" deep x 41 3/4" high x 22 3/4" wide.

The door opening shall be approximately 35 7/8" high x 20" wide.

The compartment shall be constructed of aluminum and painted to match the interior color of the cab.

Lastly, it shall be equipped with a hinged flush mount door hinged at the front of the compartment with a painted finish and an internal access door, latched and painted.

The exterior door shall be held in the open position by a gas shock stay arm.

OFFICER SIDE EMS COMPARTMENT INTERIOR W/ MULTISPEC, GRAY MARBLE STONE

The interior of the compartments shall be finish painted with Multispec GRAY Marble Stone, scuff resistant paint to provide a protective application over all of the compartment interior surfaces.

OFFICER SIDE EMS COMPARTMENT LIGHTING

The EMS compartment shall be equipped with A ROM V4, LED interior track light(s).

The lighting shall be wired to automatically activate when the compartment door is open and the master battery switch is in the "on" position.

DRIVER SIDE EMS COMPARTMENT ADJUSTABLE SHELF

An adjustable shelf shall be provided in the EMS compartment. The shelf shall be constructed from 3/16" brush aluminum mounted to uni-strut tracking material.

OFFICER SIDE EMS COMPARTMENT ADJUSTABLE SHELF

An adjustable shelf shall be provided in the EMS compartment. The shelf shall be constructed from 3/16" brush aluminum mounted to uni-strut tracking material.

DRINK HOLDER - DRIVER AND OFFICER

A single drink holder shall be installed on each side of the engine enclosure, convenient to the driver and the officer.

DRINK HOLDER MOUNTED AFTER FINAL

The drink holders shall be loose at final inspection and FD will advise where they are to be mounted in cab.

COMPUTER TERMINAL IN FRONT OF OFFICER

There shall be a flat working surface area in front of the officer.

HEATER/DEFROSTER & ACCESSORIES

A climate-control system shall be provided for total cab environmental comfort as well as provide heat, cooling and defrost capabilities to various areas in the cab.

The system shall consist of a single evaporator unit, mounted in the center overhead of the cab.

The ceiling mounted external evaporator/heater unit shall include the following:

- Heavy-duty, high output blower.
- High efficiency coil that includes "rifled" tubing and oversized header tubes for maximum refrigerant distribution.
- Four (4) 2" diameter, adjustable louvers; two (2) each side of the cab overhead, facing the driver and officer seat positions.
- Six (6) larger louvers evenly spaced, forward of the overhead assembly, facing the windshield.
- Multi-vent defroster louvers positioned above the windshield will provide adequate airflow for windshield defrost.
- Four (4) lower vents shall be provided, one (1) below the driver and officer seat positions and one (1) under each outboard rear facing crew seat.
- • Twelve (12) vents shall be provided on the HVAC unit for crew comfort.
- Damper controls shall be pneumatically operated to provide air discharge to the windshield, front overhead air discharge louvers as required.
- An adjustable electric water valve to control the amount of heat.
- Housing shall be fully insulated and enclosed.
- BTU: 53,500 A/C
- BTU: 69,300 Heat
- CFM: 680 Heat as mounted in the cab
- CFM: 680 A/C as mounted in the cab

The ceiling mounted evaporator unit/s shall be designed with an ergonomically designed cover to provide maximum headroom and a pleasing appearance with a crinkle coat texture and include a deep well condensate collection pan, which shall be drained by a gravity system into the rear corners of the engine compartment utilizing stainless steel drain poles.

Evaporator units shall be mounted on the cab roof, enclosed by aluminum panels painted white. The evaporator louvers and controls shall penetrate the cab roof into occupant compartments to the least extent practicable. Evaporator units shall be mounted on the cab ceiling, enclosed by a black painted aluminum cover.

A serviceable foam intake filter shall be installed on the rear of the evaporator.

All defrost/heating systems will be plumbed with one (1) seasonal shut-off valve mounted in the officer side wheel well area.

A 12-volt roof top dual condenser shall be mounted on the cab roof. The condenser shall be designed with high performance, long life fan assemblies with sealed housings and shaft. The condenser and coil design shall include rifled tubing for maximum efficiency. Each coil shall be painted black. The condenser unit must include a receiver drier with a high and low pressure switch. The wire harness shall include necessary wiring for the clutch circuit as well as a separate power relay circuit.

Mounting design shall enable easy servicing of all components and unit replacement if necessary.

The system shall utilize one (1) Valeo TM-31 HD engine mounted compressor driven by a Poly “V” serpentine belt installed in accordance with the manufacturer's requirements. The system shall use R134a refrigerant. The air conditioner lines shall be EATON GH001 EverCool SAE J2064 Type E hose secured using EATON E-Z Clip system components.

HEATER/DEFROSTER & ACCESSORIES, CONT'D.

Air conditioning hoses shall be #10 hose for discharge and #12 hose for suction with steel hose and end fittings provided at the compressor. The heater hose installation shall not incorporate a copper tube manifold.

The air conditioning system shall be configured to only operate when the vehicle's engine is running. The blowers, in both evaporators, shall be in operation whenever the air conditioning system is activated.

Heater-defroster shall have a three-speed electric fan with illuminated controls. The controls system shall actuate the air-distribution system with air cylinders, which are to be separated from the air brake system by an 85-90 psi pressure protection valve.

The 12-volt system for the air conditioners shall have first priority to be load managed.

The heater/defroster unit shall clear the windshield in half-the-time required by SAE standards.

PAINT ROOF MOUNTED CONDENSER

The roof mounted, air conditioning, condenser housing(s) shall be painted to match the cab roof color.

HVAC CONTROLS

HVAC controls shall be provided on the driver's overhead wing panel, consisting of a mode selector control, front fan speed, rear fan speed, air conditioning on/off and temperature range selection.

The controls shall be clearly labeled, adequately backlit.

The multiplex system control screen shall also contain all controls for the cab HVAC control system.

CAB TILT SYSTEM

A hydraulic cab lift system shall be provided, consisting of an electric-powered hydraulic pump, fluid reservoir, dual lift cylinders, remote cab lift controls and all necessary hoses and valves.

The cab tilt mechanism shall be custom designed for ease of maintenance and consist of two (2) hydraulic cylinders connect to the cab and the frame assembly.

Hydraulic lines shall be rated at 20,000 PSI burst pressure.

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

Hydraulic cylinders shall be detachable to allow removal of the engine for major service.

A remote cable operated mechanical cylinder stay bar and release shall be provided to insure a positive lock in the tilted position.

The two (2) rear cab latches shall be of the hydraulic pressure release, automatic re-latching type and provide an automatic positive lock when the cab is lowered.

The tilt pump shall be electric over hydraulic type, with a pressure rating of not less than 4,000 PSI. Additionally, the cab tilt device shall be both electrically and hydraulically interlocked to prevent inadvertent activation of the cab tilt system.

- A "CAB NOT LATCHED" indicator shall be provided in the cab dash-warning cluster.
- A dual switch control system shall be provided for the cab tilt, located on the passenger side of the vehicle or on the optional tether control. System shall consist of two (2) position toggle switch along with a rubber covered push button momentary switch, which must be activated for the cab to raise or lower.

MANUAL CAB TILT

An auxiliary, manual cab, lift backup system shall be furnished inside the passenger side of the pump enclosure or front compartment for use in the event of total electrical shutdown.

The removable handle shall be provided as loose equipment.

MOUNT JACK HANDLE

Mount the jack handle near the auxiliary pump in the pump house.

PARKING BRAKE/CAB TILT INTERLOCK

The cab tilt control shall be equipped with an interlock.

This shall disable the cab tilt system in the event the parking brake is not applied.

FRAME ASSEMBLY

The chassis frame shall be assembled in its entirety at the manufacturer's facility. This will prevent any split responsibility in warranty or service.

The frame shall consist of two (2) channels fastened together by cross members.

All structural fasteners used in the frame shall be Grade 8 hardware. Hardened steel washers shall be used under all bolt heads and nuts to avoid stress concentrations. Top flange shall be free of bolt heads. All spring hangers shall be machined steel castings. Frame assemblies that are welded or assembled with “Huck” type fasteners are not acceptable.”

Each main frame rail shall be 10-1/4" x 4" x 3/8", fabricated from Domex™ 110,000 PSI minimum yield steel, with a minimum section modulus of 18.396 cu in and a resisting bending moment (RBM) of 2,023,560 inch pounds. Frames are built for the specific apparatus under construction so that no unnecessary holes or modifications are made to the frame assembly.

A full length inner frame liner 9.44" X 3.63" X 3/8" shall be installed. Total section modulus of each rail, with liner, shall be 33.56 cu in and the total resisting bending moment (RBM) shall be a minimum of 3,691,050 in-lbs, per rail.

The chassis frame assembly, consisting of frame rails, cross members, axles and steering gear(s), shall be finish painted before installation of any electrical wiring, fuel system components, or air system components. All components or brackets fastened to the frame rails shall be cleaned, primed and painted prior to being attached to the frame rails.

FRONT BUMPER

A 12" high, 101" wide, two (2) ribbed, bright finish, stainless steel, front bumper shall be provided.

The bumper shall be a wrapped design to match the contour of the front cab sheet.

FRONT BUMPER EXTENSION

The bumper shall be extended 20" with a polished aluminum, tread plate, gravel shield enclosing the top and ends.

FRONT BUMPER FRAME WORK

The bumper will be provided with frame work similar to that of cross-lays in the front bumper, in order to allow the center storage to extend over to the driver side. The officer side frame rail extension will remain as standard as the driver side will be altered.

CENTER WELL

One (1) storage well constructed of 1/8" aluminum shall be installed in the gravel shield. This storage well shall be center mounted between the chassis frame rails. The bottom of the storage well shall have a minimum of four (4) drain holes.
The well will extend out toward the driver side of the bumper up to the recessed air horns.

ONE (1) HINGED, LATCHED, TREAD PLATE COVER

One (1) hinged, latched, aluminum, tread plate cover shall be installed on the storage well located in the center of the bumper extension.

CENTER WELL - GENERAL STORAGE

The center storage well shall be utilized for general storage of tools or equipment.

The well shall be a large as space allows.

HOSE WELL OFFICER SIDE OF BUMPER EXTENSION

One (1) storage well constructed of 1/8" aluminum (will/shall) be installed in the gravel shield. This storage well (will/shall) be located on the officer side of the bumper extension. The bottom of the storage well (will/shall) have a minimum of four (4) drain holes.

ONE (1) HINGED, LATCHED, TREAD PLATE COVER

One (1) hinged, latched, aluminum, tread plate cover shall be installed on the storage well located in the officer side of the bumper extension.

TREAD PLATE COVER NOTCHED FOR PRE-CONNECT

The tread plate hose well cover shall have a notch cut out to allow pre-connection of suction/discharge hose.

OFFICER WELL - HOSE CAPACITY

The officer storage well shall have the desired capacity of:

OFFICER WELL - 100 FEET OF 1-3/4" HOSE

100' of 1 3/4" hose

TOW HOOKS

Two (2) chrome plated, tow hooks shall be provided and mounted below the front bumper.

They will be attached directly to the bumper support structure.

The tow hooks shall be fastened with grade 8 bolts and nuts.

STEERTEK FRONT AXLE

The Steertek NXT front axle beam shall be rated to carry 22,000 lbs. and consist of a fabricated box cross section construction with 100ksi plate and a continuous beam architecture to minimize stress points for added durability.

The axle shall incorporate a removable kingpin feature for ease of kingpin serviceability. The knuckles shall allow for compatibility with disc brakes mounted at the 12 o'clock position and with drum brakes, and allow for wheel cut up to 45 degrees. They shall also utilize premium kingpin bushings and seals to provide enhanced protection from the elements to improve bushing life. Oil seals with viewing window shall be provided.

The suspension shall consist of multi-leaf parabolic springs rated at 22,000 lbs with double wrapped front eye that are packaged within an integrated clamp group that allows for ease of OEM assembly on to the axle beam and reduced part count. The clamp group bolts are tightened on the top of the clamp group opposed to the traditional U-bolt on the bottom making it easier to access with a torque wrench for servicing. The spring shall also include a lower shock attachment with an upturned eye. The springs will contain threaded pin bushings to allow simplification of spring alignment as well as long service life and improved ride quality. The suspension and spring geometry will be optimized to provide improved bump steer and Ackermann. Two ZF Sachs twin-tube shocks shall be provided with the front suspension assembly. The shocks shall be specially developed for parabolic leaf springs with a digressive characteristic curve using a patented piston system. The shocks shall feature multi-stage piston and base valves. The combination of valves shall achieve the desired damping characteristics that are ideal for the application.

Meritor EX-225 H, 17" disc brakes shall be provided for the front axle.

The front brakes shall be full air actuated with automatic, slack adjustment.

STEERING SYSTEM

A dual power steering system shall be provided utilizing a Sheppard model #M110 main steering gear on the driver side of the chassis and a Sheppard model #M90 steering gear on the officer side of the chassis.

The power steering gear on the officer side of the chassis shall increase performance in turning the officer side wheel assembly, reducing loads and forces on the main gear and components.

The steering system shall be designed to maximize the turning capabilities of the front axle no matter the rating and tire size.

The use of a power assist cylinder on the officer side of the chassis is NOT ACCEPTABLE on front axles of this capacity.

The system shall be designed utilizing an engine driven hydraulic pump, with a maximum operating pressure of 2000 PSI.

Steering system components shall be mounted in accordance with the steering gear manufacturer's instructions.

STEERING COLUMN

The steering column shall be a “Douglas Autotech” tilt and telescope column.

A lever mounted on the side of the column shall control the tilt and telescope features.

The steering shaft from the column to the miter box shall have a rubber boot to cover the shaft slip and a second rubber boot to seal the passage hole in the floor.

There shall be a ergonomically designed, self-canceling lever, that shall control the following functions:

- Left and right turn signals
- High beam activation
- Two speed with intermittent windshield wiper control
- Windshield washer control

18" STEERING WHEEL

The steering wheel shall be a four (4) spoke, vinyl padded, minimum 18" diameter, with a center hub mounted horn button.

SMART WHEEL CONTROLS ON STEERING WHEEL

The steering wheel shall be equipped with "Smart Wheel" multiplexed control pods.

The "Smart Wheel" shall be designed so that the driver's hands never need to leave the steering wheel once the engine is running and the parking brake is released.

The "Smart Wheel" steering wheel shall include ten (10) multiplexed switches that control the following functions:

- Air Horn
- Q2B (If Equipped)
- Q2B Brake (If Equipped)
- Master Warning Switch
- Mic (Push to talk)
- Siren (If selected siren is compatible)
- Auxiliary Braking
- High Idle
- Throttle Up - High Idle Function
- Throttle Down - High Idle Function

The functions shall be multiplexed through a clock spring circuit board. Collector rings switch wiring is not acceptable!

In addition to the Smart Wheel switches the electric horn switch shall be located in the center of the steering wheel.

MERITOR REAR AXLE

Rear axle shall be a single, Meritor RS-26-185 with a capacity of 27,000 lbs.

(Minimum). Axle shall be a single reduction axle with hypoid gearing and oil-lubricated wheel bearings.

Oil seals shall be provided as standard equipment.

REAR BRAKES

Brakes shall be "S" Cam, 16-1/2" x 8 5/8" size, and shall be full air actuated with automatic, slack adjusters.

VEHICLE TOP SPEED NFPA STATEMENT

The rear axle/s (will/shall) be geared for a vehicle top speed in accordance with NFPA sections 4.15.2 and 4.15.3.

Units with GVWR over 26,000 pounds (will/shall) be limited to 68 mph. If the combined tank capacity is over 1250 gallons of foam and water or the GVWR is over 50,000 pounds, the vehicle top speed (will/shall) be limited to 60 mph or the fire service rating of the tires, whichever is lower.

TIRE CHAINS

The vehicles rear drive axle shall be equipped with an On-Spot, 6 strand tire chain system.

The system shall utilize the existing vehicle air compressor system.

A switch shall be provided in the drivers console area to control the activation of the chains.

The switch shall have a safety feature, which does not allow for inadvertent activation.

LEAF SPRING REAR SUSPENSION

The rear suspension shall be a mechanical leaf type, variable rate with a 27,000 lb. rating. The main spring assembly shall consist of 11 leaves with the main spring measuring 60.5" L x 3" W, 1 pad/spacer and 2 radius rod leaves for 14 total leaves.

Location of the suspension will be maintained with a single or double radius leaf" via a durable maintenance free rubber "pin" type bushing. The axle rating shall be designed to match or exceed the rear axle weight rating.

FRONT WHEELS

The front wheels shall be 22.5" x 12.25" ten stud, hub piloted, polished aluminum disc type.

FRONT WHEELS, LUG AND HUB TRIM (ALUMINUM WHEELS)

The front wheels shall be provided with bright, nut covers and hub caps.

GOODYEAR FRONT TIRES

The front tires shall be Goodyear 425/65R22.5, "20 Ply", tubeless, radial Armor Max MSA, on/off road tread.

The tires shall be fire service rated up to 22,800 lbs and shall have a top speed of 68 mph when inflated to 120 psi.

REAR WHEELS

The single, rear axle wheels shall be 22.5" x 8.25" ten stud, hub piloted, polished aluminum disc type.

REAR WHEELS

The single, rear axle aluminum disc wheels shall be provided with bright, nut covers and hub caps.

GOODYEAR REAR TIRES

The rear tires shall be Goodyear 12R22.5, "16 Ply", tubeless, radial, G282 MSD, traction tread.

The tires shall be fire service rated up to 29,020 lbs and shall have a top speed of 75 mph when inflated to 120 psi.

TIRE PRESSURE MONITORING

Each tire shall be equipped with an LED tire alert pressure management system (Vecsafe equal) that shall monitor tire pressure. A chrome plated brass sensor shall be provided on the valve stem of each tire.

The sensor shall calibrate to the tire pressure when installed on the valve stem for pressures between 20 and 120 psi.

The sensor shall activate an integral battery operated LED when the pressure of that tire drops 8 psi.

AIR BRAKE SYSTEM

A dual circuit, air operated braking system, meeting the design and performance requirements of FMVSS -121 and the operating test requirements of NFPA 1901 current edition shall be installed.

The air system shall provide a rapid air build-up feature and low-pressure protection valve with light and buzzer, designed to meet the requirements of NFPA 1901, current edition.

ABS SYSTEM

An Anti-Skid Braking System (ABS) shall be provided to improve braking control and reduce stopping distance. This braking system shall be fitted to all of the axles. All electrical connections shall be environmentally sealed, water, weatherproof, and vibration resistant.

The system shall constantly monitor wheel behavior during braking. Sensors on each wheel shall transmit wheel speed data to an electronic processor which shall sense approaching wheel lock causing instant brake pressure modulation up to 5 times per second in order to prevent wheel lockup. Each wheel shall be individually controlled.

To improve service trouble shooting, provisions in the system for an optional diagnostic tester shall be provided. The system shall test itself each time the vehicle is started. A dash-mounted light shall go out once the vehicle has attained 4 mph after successful ABS start-up. A warning light shall signal malfunction to the operator. The system shall consist of a wheel mounted toothed ring, sensor, sensor clip, electronic control unit and solenoid control valve. The sensor clip shall hold the sensor in close proximity to the toothed ring.

The system shall also control application of the auxiliary engine exhaust or drive line brakes to prevent wheel lock.

AIR RESERVOIRS

There shall be a minimum of three (3) air reservoirs installed in conformance with best automotive practices.

An additional 1127 cu. in. air reservoir shall be provided for an air manifold.

Reservoir capacity total shall be a minimum of 5820 cubic inches.

A pressure protection valve shall be installed to prevent the use of air horns or other air operated devices should the air system pressure drop below 80 psi (552 kPa).

The air reservoirs shall be color coded to match the air lines for easy identification, maintenance, and troubleshooting.

The reservoirs shall be painted the following colors:

- Wet Tank Black
- Primary Tank Green
- Secondary Tank Blue
- Auxiliary Tank(s) Yellow

AUTOMATIC MOISTURE EJECTORS - ALL TANKS

There shall be Haldex automatic moisture ejectors on all air tanks.

1/4 TURN DRAIN VALVES SIDE OF BODY

For ease of daily maintenance, each air system reservoir shall be equipped with a brass 1/4 turn drain valve.

The brass, quarter turn, air tank drains shall be remotely mounted to the side of the body on a labeled panel just forward of rear wheel for ease of maintenance.

HEATED AIR DRYER

A Bendix AD-IS heated air dryer system shall be furnished. The function of the AD-IS dryer reservoir module (DRM) is to provide an integrated vehicle air dryer, secondary reservoir, purge reservoir, governor, and a number of the charging valve components in a module. The DRM dryer module includes an integrated solution air dryer (AD-IS), a reservoir including a separate purge reservoir section, a governor, and four pressure protection valves which have been designed as an integrated, air supply system.

The function of the AD-IS air dryer is to collect and remove air system contaminants in solid, liquid and vapor form before they enter the brake system. It provides clean, dry air to the components of the brake system which increases the life of the system and reduces maintenance costs. Daily, manual, draining of the reservoirs is eliminated. The function of the pressure protection valves is to both control the order in which the components receive air from the AD-IS air dryer, as well as to protect each reservoir from a pressure loss in the other reservoir or a pressure loss in an air accessory.

An automatic, moisture ejector on the primary or wet tank shall also be furnished.

COLOR CODED BRAKE LINES

The entire chassis air system shall be plumbed utilizing reinforced, Synflex air lines, which shall be equipped with quick release type fittings.

All of the airlines shall be color coded to correspond with an air system schematic and shall be adequately protected from heat and chafing.

WABCO AIR COMPRESSOR

Air compressor shall be a Wabco brand, with a minimum of 18.7 cubic feet per minute capacity on L9 X15 models and 25.9 cubic feet per minute on X12 models.

Air brake system shall be the quick build up type.

The air compressor discharge line shall be stainless steel braid reinforced Teflon hose.

The chassis air system shall meet NFPA 1901, latest edition for rapid air pressure build-up within sixty (60) seconds from a completely discharged air system.

This 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 sixty (60) seconds build-up time.

BRAKE TREADLE VALVE

A Bendix dual brake treadle valve shall be mounted on the floor in front of the driver.

The brake control shall be positioned to provide unobstructed access and comfort for the driver.

PARKING BRAKE CONTROL

Parking brake shall be of the spring-actuated type, mounted on the rear axle brake chambers. A red, indicator light shall be provided in the driver dash panel that shall illuminate when the parking brake is applied.

The parking brake will be equipped with all-wheel lock-up.

The parking brake control shall be mounted on the driver lower wing panel.

KUSSMAUL AUTO AIR EJECT INLET W/ WP KIT

A Kussmaul Auto Air Eject #091-28 inlet shall be provided. The Air Eject shall be mounted using a Kussmaul Weatherproof Adapter Kit #091-28AK.

WHITE COVER FOR KUSSMAUL AIR-EJECT RECEPTACLE

The Kussmaul air-eject connection shall be equipped with a White weatherproof cover.

AIR EJECT

The air eject shall be located in the area directly adjacent to the driver's side cab door, above the side air grille in a pre determined location by KME.

CUMMINS Z12 500HP ENGINE

Engine shall be a Cummins, Model X12 500, diesel, turbo-charged, per the following specifications.:

- Max. Horsepower 500 HP @ 1700 RPM
- Governed Speed 2000 RPM
- Peak Torque 1695 lb. ft. @ 1000 RPM
- Cylinders Six (6)
- Operating Cycles Four (4)
- Bore Stroke 5.2 x 5.67 in.
- Displacement 720 cu. in.
- Compression Ratio 16.8:1
- Governor Type Limiting Speed

Engine oil filters shall be engine manufacturers branded or approved equal.

Engine oil filters shall be accessible for ease of service and replacement.

ENGINE IQA CERTIFICATION - X12

The Cummins X12 engine shall be certified by Cummins Power Systems for installation in the manufacturer's custom chassis.

SECONDARY BRAKING

An engine compression brake shall be furnished for increased braking capabilities.

Controls shall be as provided by the engine manufacturer and shall be activated by releasing the throttle pedal to the idle position.

The engine compression brake shall have dash mounted control switches to turn the brake on or off as well as to control the operational level of the brake.

The engine brake shall be wired in such a manner so as to illuminate the chassis brake lights when the engine brake is engaged and operating.

The engine brake shall be interlocked with the PTO operation and shall automatically disengage any time the apparatus is operating with the PTO active.

ENGINE AIR CLEANER

An engine air cleaner shall be provided. The air cleaner shall include a dry type element and shall be installed in accordance with the engine manufacturer's recommendations.

The air cleaner shall be located to the rear of the engine, with streamline air pipes and hump hose connections from the inlet to the air cleaner and from the air cleaner to the turbo.

The air cleaner shall be easily accessible when the cab is tilted.

The air cleaner shall be plumbed to the air intake system that shall include a self sealing connection between the cab and air cleaner assembly to allow the cab to be tilted.

To draw fresh clean air, the intake for the air cleaner shall be on the side of the cab on the driver's side.

The inlet shall be a minimum of 41" above the ground to allow the vehicle to navigate through water without any part of the air intake system being below the frame rail, preventing any type of water intake. There will be no exceptions.

EMBER SEPARATOR

An ember separator shall be installed in the chassis air intake system.

The ember separator housing must be easily accessible when the cab is tilted.

ACCELERATOR PEDAL - FLOOR MOUNT

A floor mount accelerator pedal shall be installed on the floor in front of the driver.

The pedal shall be positioned for comfort with ample space for fire boots and adequate clearance from the brake pedal control.

REMOTE THROTTLE & INTERLOCK HARNESS

An apparatus interface wiring harness for the engine shall be supplied with the chassis. If applicable, separate circuits shall be included for pump controls, “Pump Engaged” and “OK to Pump” indicator lights, open compartment ground, start signal, park brake ground, ignition signal, master power, customer ignition, air horn solenoid switch, high idle switch and high idle indication light.

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

COOLING SYSTEM

Radiator shall be brass with bolted steel top and bottom tanks. The cooling system shall be designed for a maximum of fifteen (15) PSI operation. There shall be a sight glass in the radiator to check the coolant level without removing the radiator cap. The core construction shall be tube and fin with three (3) tube rows, 273 total core tubes, and fourteen (14) fins per inch. Extended life engine coolant shall provide anti-freeze protection to -30° F. The mixture shall be per the engine manufacture's specifications. Core area be a minimum of 1375 square inches (39 H x 35.25W).

COOLING SYSTEM CRITERIA

The engine cooling system shall be certified by the engine manufacturer to meet cooling index requirements for a minimum ambient temperature or 110-degrees Fahrenheit.

TRANSMISSION COOLER

A shell and tube transmission oil cooler shall be provided using engine coolant to control the transmission oil temperature.

The cooler shall have an aluminum shell and copper tubes.

The cooler shall be assembled using pressed in rubber tube sheets to mechanically create a reliable seal between the coolant and the oil.

No brazed, soldered, or welded connections shall be used to separate the coolant from the oil.

RADIATOR CROSS MEMBER

The radiator installation shall include a radiator cross member for additional strength and durability.

This cross member shall be designed so the angle of approach is not affected.

CHARGED AIR COOLER (FRONT MOUNT)

The charge air cooler shall be constructed of aluminum with cast aluminum side tanks.

The cooler shall have a frontal core size of 957 square inches, seven (7) fins per inch, and forty eight (48) core tubes.

The charge air cooler shall be mounted directly ahead of the radiator and to the radiator headers.

Rubber isolators shall be used at the mounting points to reduce transmission of vibrations.

The connections between the engine and charged air cooler, shall be made using high temperature silicone hoses rated for use in temperature up to 500°F, and heavy duty constant tension T-Bolt spring hose clamps.

ENGINE FAN

The engine cooling system shall incorporate a heavy-duty fan, installed on the engine and include a shroud.

The fan shall be equipped with an air-operated clutch fan, which shall activate at a pre-determined temperature range.

Recirculation shields shall be installed to ensure that air which has passed through the radiator is not drawn through it again.

HEATER AND COOLANT HOSES/PIPING

All coolant piping shall be powder coated steel tubing and formed hose barbs.

All engine enclosed connections between coolant pipes shall be made using silicone hoses rated from -60F to+500F.

The connections will use constant torque hose clamps. Continental Blue Xtreme blue heater hoses shall be furnished for the heater system.

LOW COOLANT INDICATOR

A low engine coolant indicator light located in the dash instrument panel shall be provided. An audible alarm shall be provided to warn of the low coolant condition.

ALLISON EVS 4000 TRANSMISSION

An Allison World Transmission, Model 4000 EVS electronically controlled, automatic transmission shall be provided.

Transmission specifications shall be as follows:

- Max. Gross Input Power 600 HP
- Max. Gross Input Torque 1850 lb. ft.
- Input Speed (Range) 1700- 2300 RPM
- Direct Gear (Pumping) 4th (Lock-up)

Transmission installation shall be in accordance with the transmission manufacturer's specification.

The transmission shall be readily and easily removable for repairs or replacement.

One (1) PTO opening shall be provided on both the left and right side of the converter housing (positions one (1) o'clock and eight (8) o'clock).

SIX (6) SPEED AUTOMATIC TRANSMISSION - 4000 SERIES

The transmission shall be calibrated for six (6) forward gears and one (1) reverse gear.

Each gear shall have the following ratios:

- First 3.51:1
- Second 1.91:1
- Third 1.43:1
- Fourth 1.00:1
- Fifth 0.74:1
- Sixth 0.64:1
- Reverse -4.80:1

ALLISON TRANSMISSIONS TOUCH PAD SHIFTER

An illuminated, touch-pad type, shift control shall be mounted in the cab on the driver's lower wing panel.

Shift control shall be approved by the transmission manufacturer.

TRANSMISSION OIL LEVEL SENSOR

The transmission shall be equipped with the oil level sensor (OLS); this sensor shall allow the operator to obtain an indication of the fluid level from the shift selector.

The sensor display shall provide the following checks, correct fluid level, low fluid level and high fluid level.

ALLISON PARK TO NEUTRAL

The transmission, upon application of the parking brake, shall automatically shift into neutral.

ALLISON PRESELECT PROGRAMMING

The transmission shall have Allison Pre select enabled to automatically downshift when the secondary engine brake is active.

PRESELECT PROGRAMMED FOR 2ND GEAR

The transmission shall be programmed to automatically downshift to 2nd gear.

This feature shall be enabled/disabled with the main on/off switch for the engine brake.

TES 295 SYNTHETIC TRANSMISSION FLUID 4000 EVS

TES 295 transmission fluid shall be utilized to fill the 4000 EVS transmission.

TRANSMISSION LOCK-UP

The automatic transmission furnished in the chassis shall have a lock-up assembly which brings the transmission to direct drive and prevents the transmission from shifting gears while in the pumping mode.

A positive braking system shall be provided to prevent vehicle movement during pumping operations.

The air brakes furnished must satisfy this requirement.

DRIVE LINES

Drive lines shall be Dana (Spicer) 1810 heavy duty series or equal, with "glide coat" splines on all slip shafts.

The manufacturer shall utilize an electronic type balancing machine to statically and dynamically balance all drive shafts.

The manufacturer shall provide proof of compliance with all drive shaft manufacturer's standards and specifications. {No Exceptions}

Where applicable, the universal joints shall be the half loop style joints.

DEF TANK

A five (5) gallon diesel exhaust fluid (DEF) tank shall be provided and installed. The tank shall be mounted in the area of the battery box and shall be accessible through a door in the crew area step well.

The tank shall include an internal heater that will be fed by engine coolant directly from the engine block to ensure it is always kept at the proper temperature per EPA requirements. The tank shall include a temperature sensor to control the flow of the engine coolant from the heater valve to the DEF tank.

A DEF fluid level sensor shall be provided with the DEF tank and connected to the level gauge on the dashboard.

DIESEL EXHAUST FLUID LEVEL GAUGE

Diesel Exhaust Fluid level (E-1/2-F); low fuel level warning @ 1/8 tank

EXHAUST SYSTEM

The exhaust system shall be installed in accordance with the engine manufacturer's requirements and meet all Environmental Protection Agency and State noise level requirements.

Exhaust system components shall be securely mounted and easily removable.

The diesel particulate filter/muffler shall be fabricated from stainless steel and of a size compatible with the engine exhaust discharge.

Exhaust tubing shall be a minimum of 16 gauge stainless steel from the turbocharger on the engine to the inlet of the diesel particulate filter. Any flexible exhaust tubing shall be HDT stainless steel type.

To minimize heat build-up, exhaust tubing within the engine compartment shall be wrapped with an insulating material. Exhaust shall be wrapped from the turbocharger to the entrance of the muffler. Material shall be held in place with worm gear type clamps.

An exhaust diffuser shall be provided to reduce the temperature of the exhaust as it exits the tailpipe.

If the electrical system is hardwired or V-Mux multiplex, separate "regeneration" enable and prohibit switches shall be provided under the dash board on the driver's side. Each switch shall be provided with a spring loaded protective cover and shall be clearly marked as to function. If the electrical system is Class-1 ES-key, the regeneration switches shall be incorporated into the ultra-view screen.

The vehicle shall be equipped with SCR technology that uses a urea based diesel exhaust fluid (DEF) and a catalytic converter to significantly reduce oxides of nitrogen (NOx) emissions.

The SCR system shall reduce levels of NOx (oxides of nitrogen emitted from engines) by injecting small quantities of diesel exhaust fluid (DEF) into the exhaust upstream of a catalyst, where it vaporizes and decomposes to form ammonia and carbon dioxide.

TAILPIPE

The exhaust tailpipe extending from the SCR catalyst to the side of the vehicle shall be constructed from 16-gauge stainless steel tubing.

The exhaust discharge shall be on the officer side of the apparatus forward of the rear axle.

FUEL TANK

Fuel tank shall be a minimum of fifty (50) gallon capacity. It shall have a minimum fuel filler neck of 2" ID and 1/4 turn fill cap. A 1/2" minimum diameter drain plug shall be provided. The tank shall be fabricated from hot rolled, pickled and oiled steel. Provisions for an additional feed line and fuel level float shall be provided for future use.

The fuel tank shall be installed behind the rear wheels between the frame rails. The fuel tank shall meet all FHWA 393.67 requirements including a fill capacity of 95% of tank volume. The fuel tank shall be able to withstand a longitudinal acceleration of -23.0g at 0.166 seconds, in accordance to SAE J211 standards using a channel frequency class 600 filter. Testing shall be performed at and verified by a third party testing and evaluation center.

STAINLESS STEEL FUEL TANK STRAPS

The straps supporting the diesel fuel tank shall be made of Type 304L stainless steel with grade 8, zinc coated steel hardware.

There will be no exceptions.

FUEL TANK MOUNTING STRAP ISOLATION MATERIAL

The fuel tank mounting straps shall utilize dense rubber between the straps and the fuel tank to prevent chaffing.

FUEL LINES

Fuel lines shall be an Aeroquip FC332 AQP Series fiber reinforced hose. The lines shall be sized to meet engine manufacture's requirements, and shall be carefully routed and secured along the inside of the frame rails.

DUAL FUEL LINE SHUT-OFF VALVES

A fuel line shut-off valve shall be provided on both the inlet and outlet side of the primary fuel filter to allow for easy removal of the filter.

The valves shall be labeled "Fuel Shut-Off".

No reserve feature shall be included in the tank.

FUEL-WATER SEPARATOR

A fuel filter/water separator shall be provided in the fuel system.

A "water in fuel" indicator shall be provided on the information center.

FUEL POCKET

A fuel fill shall be provided in the driver side rear wheel well area.

The fender storage door for driver side rear shall be large enough to cover the fuel fill in addition to the two cylinder fender storage. There shall not be a Signature 4 door installed.

A tethered cap shall be provided as part of the assembly.

A label indicating "Ultra Low Sulfur Diesel Fuel Only" shall be provided adjacent to the fuel fill.

CHASSIS ELECTRICAL SYSTEM

All electrical wiring in the chassis shall be GXL cross link insulated type. Wiring is to be color coded and include function codes every three (3) inches on both sides. Wiring harnesses shall be routed in protective, heat resistant loom, securely and neatly installed. Two (2) power distribution centers shall be provided in central locations for greater accessibility. The power distribution centers shall contain thermal automatic reset breakers, power control relays, flashers, diode modules, daytime driving light module, and engine and transmission data links. All breakers and relays shall have a capacity substantially greater than the expected load on the related circuit, 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. The second shall control center to overhead switching and interior operations. Each module is single function coded and labeled to aid in troubleshooting. The centers will 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.

12 VOLT ELECTRICAL SYSTEM TESTING

The apparatus low voltage electrical system shall be tested and certified by the manufacturer. The certification shall be provided with the apparatus. All tests shall be performed with the air temperature between 0°F and 100°F.

The following three (3) tests shall be performed in order. Before each test, the batteries shall be fully charged.

The engine shall be started and kept running until the engine and engine compartment temperatures are stabilized at normal operating temperatures and the battery system is fully charged. The engine shall be shut off and the minimum continuous electrical load shall be activated for 10 minutes. All electrical loads shall be turned off prior to attempting to restart the engine. The battery system shall then be capable of restarting the engine. Failure to restart the engine shall be considered a test failure.

The minimum continuous electrical load shall be activated with the engine running at idle speed. The engine temperature shall be stabilized at normal operating temperature. The battery system shall be tested to detect the presence of battery discharge current. The detection of battery discharge current shall be considered a test failure.

The total continuous electrical load shall be activated with the engine running up to the engine manufacturers governed speed. The test duration shall be a minimum of 2 hours. Activation of the load management system shall be permitted during this test. However, an alarm sounded due to excessive battery discharge, as detected by the system, or a system voltage of fewer than 11.7 volts DC for a 12-volt system, for more than 120 seconds, shall be considered a test failure.

Following completion of the preceding tests, the engine shall be shut off. The total continuous electrical load shall be activated and shall continue to be applied until the excessive battery discharge alarm is activated.

The battery voltage shall be measured at the battery terminals. With the load still applied, a reading of fewer than 11.7 volts shall be considered a test failure. The battery system shall then be able to restart the engine.

12 VOLT ELECTRICAL SYSTEM TESTING, CONT'D.

At the time of delivery, documentation shall be provided with the following information:

- Documentation of the electrical system performance test
- A written load analysis of the following;
- Nameplate rating of the alternator
- Alternator rating at idle while meeting the minimum continuous electrical load
- Each component load comprising the minimum continuous electrical load.
- Additional loads that, when added to the minimum continuous load, determine the total connected load.
- Each individual intermittent load.

CHASSIS WIRING INSTALLATION

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. 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).

The covering of harnesses shall be moisture resistant loom with a minimum rating of 289° Fahrenheit and a flammability rating of VW-1 as defined in UL62. The covering of jacketed cable shall have a minimum rating of 289° Fahrenheit.

All circuits shall conform to SAEJ2202. All circuits must be provided with low voltage over current protective devices.

All exposed electrical connections will be coated with “Z-Guard” to prevent corrosion.

DIRECT BATTERY GROUNDING STRAP

Direct grounding straps shall be mounted to the following areas; frame to cab, frame to body and frame to pump enclosure.

All exposed electrical connections shall be coated with "Z-Guard 8000" to prevent corrosion.

EMI/RFI PROTECTION

The apparatus shall incorporate the latest designs in the electrical system with state of the art components to insure that radiated and conducted electromagnetic interference (EMI) and radio frequency interference (RFI) emissions are suppressed at the source.

EMI/RFI susceptibility is controlled by utilizing components that are fully protected and wiring that utilizes shielding and loop back grounds where required. The apparatus shall be bonded through wire braided ground straps. Relays and solenoids that are suspect to generating spurious electromagnetic radiation are diode protected to prevent transient voltage spikes.

In order to fully prevent the radio frequency interference the purchaser may be requested to provide a listing of the type, power output, and frequencies of all radio and bio medical equipment that is proposed to be used on the apparatus.

SEQUENCER

A sequencer shall be provided that automatically activates and deactivates vehicle loads in a preset sequence thereby protecting the alternator from power surges. This sequencer operation shall allow a gradual increase or decrease in alternator output, rather than loading or dumping the entire 12 volt load to prolong the life of the alternator.

Emergency light sequencing shall operate in conjunction with the emergency master light switch. When the emergency master switch is activated, the emergency lights shall be activated one by one at half second intervals. Sequenced emergency light switch indicators shall flash while waiting for activation.

When the emergency master switch is deactivated, the sequencer shall deactivate the warning light loads in the reverse order.

MULTIPLEX CONTROL PUMP SHIFT SWITCH

The pump shift control shall be a Mil Spec toggle switch with mechanical detents mounted in a fully backlit panel that shall have indicators for “Pump Engage” and “Ok To Pump”.

The mode of the transfer case shall be controlled by remotely mounted air solenoids which shall be activated and monitored through the chassis control logic of the multiplex system.

MULTIPLEX ELECTRICAL SYSTEM

A multiplex electrical management system shall be utilized on the chassis for all functions applicable.

The system shall consist of the following components:

A computer interface used to not only program the multiplex system but also serve as a factory direct gateway into the vehicle from any authorized service facility.

A Universal System Manager (USM), which acts as the main controlling component of the multiplexing system shall be provided and factory programmed to DOT, NFPA, SAE, the manufacturer and {Company} specifications. The programming shall be done by the manufacturer's engineering department.

The ES-Key system installation shall comply with SAE J551 requirements regarding Electromagnetic and Radio Frequency interference (EMI, RFI), as well as utilize components and wiring practices that insure the system is protected against corrosion, excessive temperatures, water, excessive physical, and vibration damage by any equipment installed on the vehicle at the time of delivery.

A series of Multiplexing Input/Output Modules shall be installed. The Input/Output modules shall permit the multiplexing system to reduce the amount of wiring and components used as compared to non-multiplexed apparatus. These modules shall vary in I/O configuration, be waterproof allowing installation outside of enclosed areas and shall possess individual output internal circuit protection. The modules shall also have three status indicators visible from a service persons vantage point that shall indicate the status of the module. In the event a load requires more than 7.5 AMPS of operating current, the module shall activate a simple relay circuit integral to any of the 3 dillblox assemblies installed in the cab.

Diagnostic software shall be provided to download data from the on board ES-KEY system. This software shall have the ability to view system input/output (I/O) information, and include a connection from a computer to the vehicle.

INTER-LOCK MODULE FOR MULTIPLEX SYSTEM

A multiplex module, which is the interface between the multiplexing system and the pump system shall be provided.

This module shall serve as the interface between the operator, engine, transmission and pumping system.

The module shall be installed in the driver's side dash. There shall be a pump diagnostic view in the UltraView screen that shall indicate to service personnel the interlock state of the apparatus.

In the event of a multiplexing error involving pump operation, an override can be activated to ensure reliable pumping operations at ALL times.

The multiplex system shall be able to provide automatic and/or manual activation of engine “Fast Idle”, to maintain adequate alternator output and thus, chassis voltage.

There will be no exceptions.

ALTERNATOR

There shall be a Delco Remy Model 55SI, 430 amp brushless, serpentine belt, driven alternator.

The brushless design of the 55SI transfers magnetic fields between the rotor and stator air-gap without brushes.

The alternator installation shall be designed to provide maximum output at engine idle speed, by using Remote Sense in order to meet the minimum continuous electrical load of the apparatus as required.

The alternator shall carry a 3 Year/Unlimited Mile warranty.

BATTERIES

Six (6) Exide #SX31XHD, anchor bonded maintenance free batteries shall be provided.

These batteries shall be wired in parallel to the master disconnect switch.

Each battery shall be rated at 950 CCA at 0 F and shall have a reserve capacity of 180 minutes.

Wiring for the batteries shall be 4/0 welding type, dual path starting cables per SAEJ541.

BATTERY STORAGE, STEEL

Batteries shall be securely mounted in fixed 3/16” GR50 steel trays located on each side of the chassis frame.

Complete access shall be provided when the cab is fully tilted.

Batteries shall be mounted on non-corrosive matting material.

The battery tray shall be able to withstand a longitudinal acceleration of -46.5g at 0.246 seconds in accordance to SAE J211 standards using a channel frequency class 600 filter.

Testing shall be performed at and verified by a third party testing and evaluation center.

COLE HERSEE BATTERY JUMPER STUDS

A set of Cole Hersee battery jumper studs, model #46210-02 (red) and #46210-03 (black) shall be provided to allow the battery system to be jump started or charged from an external source.

The studs shall be located on the back wall of the drivers step well.

Each stud shall be equipped with both a rubber protector cap and a 2” square non-conductive plate to prevent accidental shorting.

BATTERY DISCONNECT SWITCH

The chassis batteries shall be wired in parallel to a single 12 volt electrical system, controlled through a heavy duty master disconnect switch.

The master disconnect switch shall be located within easy access of the driver upon entering or exiting the cab.

KUSSMAUL SHORELINE INLET

One (1) Kussmaul "Super" Auto Eject automatic, 120 volt, 20 amp shoreline disconnect shall be provided for the on board, 110 volt battery charging systems.

The disconnect shall be equipped with a NEMA 5-20 P male receptacle, which shall automatically eject the shoreline when the vehicle starter is energized.

The mating connector shall be included with the auto eject and shall be provided as loose equipment.

A label shall be provided indicating voltage and amperage ratings.

KUSSMAUL SHORELINE INLET COVER

The Kussmaul auto-eject connection shall be equipped with a Red weatherproof cover.

SHORELINE INLET LOCATION

The shoreline receptacle shall be located in the area directly adjacent to the driver's side cab door in a pre determined location by KME.

SHORELINE INLET LABEL

A shoreline power receptacle information plate shall be permanently affixed at or near the power inlet. The plate shall indicate the following:

- Type of Line Voltage
- Current Rating in Amps Power Inlet Type (DC or AC).

KUSSMAUL BATTERY CHARGER

A Kussmaul model # 091-187-12, "Auto Charge 1200" high output, fully automatic battery charger shall be provided for maintaining the vehicle battery system.

Unique electronic sensing circuits sense the true battery voltage while eliminating the need for external sense wires.

Output current shall be 40 amperes @ 12 volt DC.

KUSSMAUL BATTERY CHARGER STATUS CENTER

A Kussmaul Super Auto Eject Deluxe Cover With Bar Graph Display shall be provided.

BLUE SEA #4365 ACCESSORY PANEL

A Blue Sea model 4365 accessory panel will be provided. The accessory panel shall include one (1) 12-volt power port, Two (2) dual USB charging ports, along with a power switch with built in circuit breaker.

The accessory panel shall be mounted in the center dash panel.

POWER POINT FOR OFFICER SIDE EMS COMPARTMENT

The officers side EMS compartment shall be equipped with a Blue Sea 5025 power point with power and ground connections conveniently positioned in the upper area inside the compartment, connected directly to the chassis batteries.

POWER POINT FOR DRIVER SIDE EMS COMPARTMENT

The drivers side EMS compartment shall be equipped with a Blue Sea 5025 power point with power and ground connections conveniently positioned in the upper area inside the compartment, connected directly to the chassis batteries.

120 VOLT 5-20R RECEPTACLE REAR CREW AREA WIRED TO SHOR

A 120 volt 5-20 R household type receptacle(s) shall be located in the rear crew area of the cab as directed. The receptacle(s) shall be wired into the shoreline receptacle to provide a 120-volt power source for fire department equipment.
The receptacle shall be located under the forward facing rear seats centered on the rear wall of the seat base.

POWER AND GROUND STUD FOR ACCESSORIES IN DASH

One (1) dedicated circuit; 12 volt, 40 Amp, power and ground on 3/8 stud and fused at battery shall be provided in the cab dash.

The circuit shall be for future installation of radios or accessories.

BLUE SEA FUSE BLOCK - 12 CIRCUIT BEHIND OFFICER SEAT

A Blue Sea 5026B, 12 circuit fuse block, shall be installed behind the officers seat.

This block has a maximum amperage of 60 amps per block and 30 amps per circuit and shall be connected to battery power.

USB POWER POINT - REAR FACING SEATING AREA

Two (2) Blue Sea 1045 power points with two (2) USB ports each shall be installed in the rear of the cab on the back of the engine enclosure in a housing designed to surface mount the power point.

One power point shall be installed on each side of the rear side of the engine enclosure near the rear facing seat base.

Each power point shall be rated for 4.8 amps total.

FOUR (4) WHELEN 6" ROUND WHITE/RED LED INTERIOR LIGHTS

Four (4) Whelen # 60CREGCS, 6" round, interior LED combination red/white dome lights shall be furnished in the cab, with two (2) in the forward section and two (2) in the rear crew section.

Each dome light shall have individual switches to control the red or white LEDs.

Each dome light shall also activate when the respective, adjacent cab door is opened.

CAB INTERIOR DOME LIGHTS DEFAULT RED

The cab interior dome lights shall default to red when the cab doors are opened.

ENGINE COMPARTMENT WORK LIGHTS - TECNIQ LED

Two (2) Tecniq model #E18 LED lights shall be provided inside the engine enclosure that will provide 800 lumens each.

Each light shall have their own independent switch incorporated into the light head.

CAB INSTRUMENTS AND CONTROLS

Where standard features are controlled through physical switches they will be indicated as such in the appropriate part of this specification. All optional features that are controllable from the cab will be controllable through the display screen.

The dash consoles shall be custom formed overlaid aluminum housings to create an ergonomically designed interior that will be user friendly and functional for the driver and officer.

The cab instruments and controls will be labeled with international symbols and located in the following zones:

- **Driver Gauge Left:** Located to the left of the instrument panel, this zone houses the ignition, engine start, and fast idle switches.
- **Driver Gauge Right:** Located to the right of the instrument panel, this zone houses power take-off and ladder power switches when those features are specified.
- **Driver Knee Left:** Located at the driver's left knee area, this zone is the standard location for pump controls, and for the Engine Emergency Shut-Down when specified.
- **Driver Knee Right:** Located at the driver's right knee area, this zone houses optional chassis related switches such as the Fuel Priming Pump, Engine Fan Override, and ATC Disable.
- **Driver Lower Wing:** Located on the engine tunnel and angled toward the driver, this zone houses the majority of the controls that the driver may need to access while operating. Within the easiest reach of the driver are the park brake, transmission shift, Vehicle Information Display, and any optional retarder controls. Standard switching in this zone includes power window controls, hazard flasher, headlights, marker lights, and mirror adjustment. Also located in this zone will be switching for any optional features that are more likely to be used while driving such as auxiliary brakes, siren brake, drive axle locks, and automatic tire chains.
- **Center Lower:** Located on the engine tunnel between the driver and officer and parallel to the cab front, this zone houses the standard 12 volt sockets and USB chargers. It will also house any optional communications devices that are more likely to be accessed while driving such as an arrowhead controller or a stereo radio.
- **Driver Overhead:** Located in the overhead console directly above and facing the driver, this zone houses tactile switches (when specified) for control of emergency devices such as warning lights, scene lights, dump chute valves, and other emergency related items. If not specified these controls are available through the Vehicle Information Center.
- **Driver Overhead Wing:** Located in the overhead console and angled toward the driver, this zone houses the heating and air conditioning tactile switches provided as standard.
- **Center Overhead:** Located overhead between the driver and officer and parallel to the cab front, this zone houses any communications devices such as siren heads or two-way radios that cannot be fit in the Officer Lower Wing: Located on the engine tunnel and angled toward the officer, this zone houses optional feature switching as specified for control by the officer.
- **Officer Overhead Wing:** Located in the overhead console and angled toward the officer, this zone is houses optional switching or gauges that cannot be located in other zones and that is intended solely for use by the officer.
- **Officer Overhead:** Located in the overhead console directly above and facing the officer, this zone houses optional larger communications equipment that cannot be located in other zones, and that is practical for use solely by the officer.

Exact locations of each switch or control will be dictated by the Dash Layout document created during the design process and will adhere to these guidelines unless otherwise specified.

CAB DASH PANELS

The apparatus cab shall be outfitted with backlit gradient dash and overhead panels. These gradient panels shall be utilized across the entire front of the cab dash and include the instrument cluster and brow panels. The panels shall be constructed from 3mm aluminum composite panels with second surface screen printed 15 mil Bayfol UV-1 polycarbonate graphic overlays, to provide scratch and UV protection. A carbon-graphite shaded graphic overlay shall be provided.

STANDARD #MATM RADIO ANTENNA INSTALLED

A antenna mounting base(s) model #MATM with 17' of coaxial cable shall be provided and installed on the lower cab roof, behind the light bar.

The attached antenna wire(s) shall be run to the right side cab dash area.

The Fire Department is responsible to have the correct antenna whip installed once the apparatus is delivered.

ANTENNA TERMINATION

The antenna shall terminate behind the officer seat.

FAST IDLE CONTROL FOR ALL ELECTRONIC ENGINES

A fast idle for the electronic controlled engine shall be provided.

The fast idle shall be controlled by switches located on the smart wheel.

An electronic interlock system shall prevent the fast idle from operating unless the transmission is in "Neutral" and the parking brake is fully engaged.

If the fast idle control is used in conjunction with a specified engine/transmission driven component or accessory, the fast idle control shall be properly interlocked with the engagement of the specified component or accessory.

CONTROL SWITCHING THROUGH MULTIPLEX TOUCHSCREEN

Switching for the emergency and auxiliary systems shall be performed through the multiplex control screen.

Switching shall programmed through various menus that are accessible from the display buttons.

HOSE BED WORK LIGHT - SWITCH

The hose bed work light shall have a protected 12-volt switch at the rear body panel.

The switch will be labeled "HOSE BED WORK LIGHTS."

CONTROL SWITCHED IN CAB FOR LIGHT ABOVE WINDSHIELD

A single control switch shall be provided in the cab control system (or optional mechanical switch) to activate the HiViz, FireTech, LED brow light.

CONTROL SWITCH IN CAB FOR REAR OF BODY LIGHTS

Controls shall be provided in the cab control system (or optional mechanical switch) to turn the rear of body lights on and off.

CONTROL SWITCH ON PUMP PANEL FOR REAR OF BODY LIGHTS

A switch shall be provided on the pump panel to turn the rear of body lights on and off.

CONTROL SWITCH IN CAB FOR DRIVER SIDE OF BODY LIGHTS

Controls shall be provided in the cab control system (or optional mechanical switch) to turn the driver side of body lights on and off.

CONTROL SWITCH ON PUMP PANEL FOR DRIVER SIDE OF BODY LIGHTS

A switch shall be provided on the pump panel to turn the driver side of body lights on and off.

CONTROL SWITCH IN CAB FOR OFFICER SIDE OF BODY LIGHTS

Controls shall be provided in the cab control system (or optional mechanical switch) to turn the officer side of body lights on and off.

CONTROL SWITCH ON PUMP PANEL FOR OFFICER SIDE OF BODY LIGHTS

A switch shall be provided on the pump panel to turn the officer side of body lights on and off.

ADDITIONAL SWITCHES - DRIVER OVERHEAD

Nine switches shall be provided in the driver overhead zone.

DRIVER'S DASHBOARD PANEL

The main instrument panel shall be centered in front of the driver and shall be mechanically fastened to the main dash assembly. The panel shall contain the primary gauges, an instrument warning light cluster and the ignition and engine start switches.

Each gauge shall be designed with an integral red warning light with a pre-programmed warning point. Gauges monitoring drive-train component status shall be of the direct data bus type capable of displaying information broadcast on the J 1939 data-link.

Each gauge warning indicator shall be capable of activating an audible alarm inside the dashboard.

Additional auxiliary control switches and instruments (if applicable) shall be located within the center or overhead panel located near the driver's position.

DRIVER DASH LCD VIRTUAL DISPLAY

The main instrument panel shall be centered in front of the driver and shall have a hinged bottom with two ¼ turn latches at the top. The driver panel and all other cab interior dash and overhead panels will be an anti-glare surface.

Contained within this panel will be virtual driver display via a 12.3” LCD screen including but not limited to displaying all gauges and instrument warning light cluster functions The upper left side of the driver dash panel shall also include an ignition-on switch, fast idle switch and a round engine start button which shall include a lighted indicator on the perimeter to light up when engine is ready to start and turning off when the engine is started.

The driver LCD virtual display shall include:

- 12.3” Color TFT Display
- Stand Alone Architecture
- Automatic Adjustment for Light Conditions
- 3 x BNC Analog Video Input
- Fully Programmable Features w/Graphical HMI:CGI Studio
- Two Year Warranty

The primary gauge display shall consist of:

- Vehicle speedometer, (0-80 mph)
- Engine tachometer, (0-3000 rpm)
- Engine oil pressure, (0-100 psi); low oil warning
- Engine coolant temperature (100-250 °F); high engine temp warning
- Transmission oil temperature (100-350 °F); high transmission fluid temp warning
- Vehicle battery voltage (0-18 VDC); low voltage warning
- Front air system gauge (0-150 psi); low air pressure warning at 65 psi
- Rear air system gauge (0-150 psi); low air pressure warning at 65 psi
- Fuel level (E - 1/2 - F); low fuel level warning
- Diesel Exhaust Fluid (DEF) Level (E-1/2-F)
- Air cleaner restriction gauge (0-40), warning at 25"
- Engine hours as maintained by the engine ECU

Additional auxiliary control switches and instruments (if applicable) shall be located within the dash panel and overhead panel located near the driver's position.

INDICATOR CLUSTER

This display, also contained in the Driver Dash Virtual Display Module, includes the system control unit that collects data from the vehicle data bus (J1939), analog sensors, and switches throughout the vehicle. This data shall be presented using simulated gauges and telltales.

On the Road displays include:

- Odometer, trip information, fuel economy information; all gauge data, and virtually any other data available on the vehicle that the display has access to, either through the data bus or via analog inputs.

The displays that can be accessed when the parking brake is set include:

- "Right And Left Directional" arrows (green in color)
- "Hi Beam" indicator (blue in color)
- "Battery ON" indicator (green in color)
- "Parking Brake ON" indicator (red in color)
- "Check Transmission" indicator (amber in color)
- "Cab Not Latched" indicator (red in color)
- "Stop Engine" indicator (red in color)
- "Check Engine" indicator (amber in color)
- "ABS Warning" indicator (yellow in color)
- "Low Coolant Level" (yellow in color)
- "Water In Fuel" indicator (amber in color)
- "DPF Regeneration" (amber in color)
- "Exhaust High Temperature" (amber in color)
- "Engine Diagnostic Fault" (amber in color)
- "Retarder On" (green in color)

Listed below are indicators that may be included, depending upon the vehicle configuration:

- "Wait To Start" indicator (amber in color)
- "Exhaust System Fault" (amber in color)
- "Topps System Fault" (amber in color)
- "PTO Engaged" (green in color)
- "Ok to Pump" (green in color)
- "Auto Traction Control" (amber in color)

ADDITIONAL SWITCHES - DRIVER LOWER WING

Three switches shall be provided in the driver lower wing zone.

ENGINE COMPRESSION BRAKE CONTROLS

Engine brake controls shall be provided on the dash within easy reach of the driver.

PUMP SHIFT CONTROL

The pump shift control and pump engaged indicator light shall be mounted in the driver's lower wing panel.

CLASS-1 ES-KEY ULTRAVIEW 780 DISPLAY

A 7 inch full color display shall located on the driver's lower wing panel. The display shall provide key information and control within easy sight and reach.

The screen shall be programmed with the following features:

- Chassis Instrument Display
- Back-up camera
- Seat Occupant Display
- Compartment open display
- HVAC Controls
- Power Mirror Controls
- DPF Filter Regeneration Controls
- Warning light controls
- Scene light controls
- Horn selector switch options
- Gauge back-light dimming
- Rocker switch back-light dimming
- Display screen dimming with day/night feature
- Multiplex system diagnostics
- Generator Controls

ASA VOYAGER CAMERA SYSTEM

An ASA Voyager rear vision camera model # VCMS155 shall be provided to allow the driver to visually see the rear of the apparatus while in the cab.

The rear vision camera shall be mounted on the rear of the apparatus and shall be wired to automatically activate when the chassis transmission is placed in reverse.

CAMERA SYSTEM

The video output from the camera(s) shall be displayed on the Ultraview, display panel.

CAB STEP LIGHTS, TECNIQ EON 3 LED

Four (4) polished, stainless steel, TecNiq Eon, 3-LED, horizontal surface mounted chassis step lights shall be provided and controlled with marker light actuation.

Step lights shall be located to properly illuminate all chassis access steps and walkway areas and shall include a mounting gasket to provide a watertight seal.

M6 LED TURN ABOVE HEADLIGHTS W/ M6 LED

Two (2) Whelen M6* super LED light heads shall be provided, one (1) in each side dual light module, above the headlights, in matching chrome plated bezels.

Each light head shall be equipped with red LEDs and a CLEAR lens.

The lights noted above shall be provided in addition to the NFPA required, minimum optical warning light package and will be activated by the master warning light control. They will be wired through the load management system to prevent excessive amperage draw.

The NFPA required, Zone "A" lower warning lights shall be incorporated into each side dual light module noted above.

Two (2) Whelen M6T arrow shaped, amber LED turn signals shall be provided in chrome plated housings, mounted one (1) each side between the windshield and the dual light modules.

DUAL HEADLIGHTS LED FIRETECH HIVIZ

Two (2) dual, Firetech HiViz LED headlight modules with a bright finish bezel shall be furnished, one (1) each side, on the front of the cab. Each head light module shall incorporate an individual LED low beam and a LED high beam headlight. High beam actuation shall be controlled on the turn signal lever.

DAYTIME RUNNING LIGHTS

The chassis head lights shall have integrated circuitry to actuate the low beam headlights whenever the chassis engine is running.

The daytime running lights shall be interlocked with the parking brake.

FIRETECH LED FRONT BROW LIGHT

One (1) HiViz LEDs "FireTech" Scene light, model FT-B-80-ML-B shall be provided. The light instrument shall be low in profile with a mounting bracket allowing installation at the top edge of the windshield. The housing shall be made of a extruded 6061 aluminum; 82.75" wide and less than 3" tall. Additionally, the bar shall meet CISPR25 EMI requirements. The light shall operate on 12v DC, generate 31,680 lumens and draw 26 amps. Mounting shall be possible in any direction while still meeting NFPA 1901 compliance requirements. The housing color shall be BLACK.

NFPA COMPLIANT WARNING LIGHT PACKAGE

The following warning light package shall include all of the minimum warning light and actuation requirements for the current revision of the NFPA 1901 Fire Apparatus Standard.

The lighting as specified shall meet the requirements for both "Clearing Right of Way" and "Blocking Right of Way" which includes disabling all white warning lights when the apparatus is in "Blocking Right of Way" mode.

WARNING LIGHT FLASH PATTERN - NFPA FLASH PATTERN

All of the perimeter warning lights shall be set to a default NFPA compliant flash pattern as provided by the light manufacturer.

LIGHT PACKAGE ACTUATION/CONTROLS

The entire warning light package shall be actuated with a single warning light switch located on the cab switch panel. The wiring for the warning light package shall engage all of the lights required for "Clearing Right of Way" mode when the vehicle parking brake is not engaged. An automatic control system shall be provided to switch the warning lights to the "Blocking Right of Way" mode when the vehicle parking brake is engaged.

LIGHT PACKAGE NFPA CERTIFICATION

The warning light system(s) specified above shall not exceed a combined total amperage draw of 45 AMPS with all lights activated in either the "Clearing Right of Way" or the "Blocking Right of Way"

The warning light system(s) shall be certified by the light system manufacturer(s), to meet all of the requirements in the current revision of the NFPA 1901 Fire Apparatus Standard as noted in the General Requirements section of these specifications.

The NFPA required "Certificate of Compliance" shall be provided with the completed apparatus.

Any large truck as defined by NFPA shall have the lower zone warning lights mounted no higher than 62" to the optical center of the warning light from ground level. {No Exceptions}

WHELEN FREEDOM SERIES IV 72” LIGHT BAR

A Whelen # F4N7QLED "Edge Freedom Series IV", 72" cab roof warning light bar shall be furnished and rigidly mounted on top of the cab roof.

The light bar shall be equipped with the following:

- Clear Lenses
- Two Front Corner Red Linear LEDs
- Ten Red Forward Facing Linear LEDs
- Two White Forward Facing Linear LEDs
- Two Red End Linear LEDs.

If equipped, the forward facing white lights shall be automatically disabled for the "Blocking Right of Way" mode.

UPPER ZONE C WHELEN M9 SUPER LEDS

Two (2) Whelen, M9* super LED light heads shall be furnished and mounted one (1) on each side on the upper rear face of the body, facing rear.

UPPER ZONE C WARNING LIGHT LENS - CLEAR

The upper zone C warning lights shall include red LEDs and a clear lens if available from the manufacturer. If a clear lens is unavailable, a red lens shall be included.

UPPER ZONE C WARNING LIGHT BEZEL - CHROME

The upper zone C warning lights shall include a chrome bezel if available from the manufacturer. If a chrome bezel is unavailable, a black bezel shall be included.

UPPER ZONE B/D FRONT WHELEN M9 SUPER LEDS

Two (2) Whelen, M9*, super LED light heads shall be furnished and mounted one (1) on each side on the upper side face, towards the front of the body, facing to each side of the unit.

UPPER ZONE B/D FRONT WARNING LIGHT LENS - CLEAR

The upper zone B/D front warning lights shall include red LEDs and a clear lens if available from the manufacturer. If a clear lens is unavailable, a red lens shall be included.

UPPER ZONE B/D FRONT WARNING LIGHT BEZEL - CHROME

The upper zone B/D front warning lights shall include a chrome bezel if available from the manufacturer. If a chrome bezel is unavailable, a black bezel shall be included.

UPPER ZONE B/D REAR WHELEN M9 SUPER LEDS

Two (2) Whelen, M9*, super LED light heads shall be furnished and mounted one (1) on each side on the upper side face, towards the rear of the body, facing to each side of the unit.

The lights shall be installed with a chrome plated mounting flange.

UPPER ZONE B/D REAR WARNING LIGHT LENS - CLEAR

The upper zone B/D rear warning lights shall include red LEDs and a clear lens if available from the manufacturer. If a clear lens is unavailable, a red lens shall be included.

UPPER ZONE B/D REAR WARNING LIGHT BEZEL - CHROME

The upper zone B/D rear warning lights shall include a chrome bezel if available from the manufacturer. If a chrome bezel is unavailable, a black bezel shall be included.

LOWER ZONE A MOUNTING

The lower Zone A warning lights shall be mounted in the custom chassis headlight bezels.

LOWER ZONE A WHELEN M6 SUPER LEDS

Two (2) Whelen, M6* super LED light heads shall be provided and installed one (1) each side.

LOWER ZONE A WARNING LIGHT LENS - CLEAR

The lower zone A warning lights shall include red LEDs and a clear lens if available from the manufacturer. If a clear lens is unavailable, a red lens shall be included.

LOWER ZONE A WARNING LIGHT BEZEL - CHROME

The lower zone A warning lights shall include red LEDs and a chrome bezel if available from the manufacturer. If a chrome bezel is unavailable, a black bezel shall be included.

LOWER ZONE C WHELEN M6 SUPER LEDS

Two (2) Whelen M6* super LED light heads shall be provided and installed with one (1) on each side directly below the DOT stop, tail, turn and backup lights.

LOWER ZONE C WARNING LIGHT LENS - CLEAR

The lower zone C warning lights shall include red LEDs and a clear lens if available from the manufacturer. If a clear lens is unavailable, a red lens shall be included.

LOWER ZONE B/D FRONT MOUNTING

The lower Zone B/D warning lights shall be mounted on the sides of the custom chassis front bumper.

LOWER ZONE B/D FRONT WHELEN M6 SUPER LEDS

Two (2) Whelen, M6* super LED light heads shall be provided and installed with one (1) on each side.

LOWER ZONE B/D FRONT WARNING LIGHT LENS - CLEAR

The lower zone B/D front warning lights shall include red LEDs and a clear lens if available from the manufacturer. If a clear lens is unavailable, a red lens shall be included.

LOWER ZONE B/D FRONT WARNING LIGHT BEZEL - CHROME

The lower zone B/D front warning lights shall include a chrome bezel if available from the manufacturer. If a chrome bezel is unavailable, a black bezel shall be included.

LOWER ZONE B/D MID WHELEN M6 SUPER LEDS

Two (2) Whelen M6* super LED light heads shall be provided and installed with one (1) on each side.

LOWER ZONE B/D MID WARNING LIGHT LENS - CLEAR

The lower zone B/D mid warning lights shall include red LEDs and a clear lens if available from the manufacturer. If a clear lens is unavailable, a red lens shall be included.

LOWER ZONE B/D MID WARNING LIGHT BEZEL - CHROME

The lower zone B/D mid warning lights shall include a chrome bezel if available from the manufacturer. If a chrome bezel is unavailable, a black bezel shall be included.

LOWER ZONE B/D REAR WHELEN M6 SUPER LEDS

Two (2) Whelen M6* super LED light heads shall be provided and installed with one (1) on each side.

LOWER ZONE B/D REAR WARNING LIGHT LENS - CLEAR

The lower zone B/D rear warning lights shall include red LEDs and a clear lens if available from the manufacturer. If a clear lens is unavailable, a red lens shall be included.

LOWER ZONE B/D REAR WARNING LIGHT BEZEL - CHROME

The lower zone B/D rear warning lights shall include a chrome bezel if available from the manufacturer. If a chrome bezel is unavailable, a black bezel shall be included.

FIRETECH LED GROUND LIGHTS

One (1) HIVIZ AQX LED ground light shall be provided under each side cab door entrance step, four (4) total.

The ground lights shall turn on automatically with each respective door jamb switch and also by a master ground light switch in the warning light switch console.

Each light shall illuminate an area at a minimum 30" outward from the edge of the vehicle.

FIRETECH LED GROUND LIGHTS BELOW PUMP PANEL

One (1) HIVIZ AQX LED ground light shall be provided under the driver side pump panel running board, one (1). The officer side running board has a floating hose well. The officer side ground light will be a ROM LED stripe light.

FIRETECH LED GROUND LIGHTS REAR BODY CORNERS

One (1) HIVIZ AQX LED ground light shall be provided under each rear body corner, two (2) total.

The lights shall be positioned to illuminate the ground under the rear tailboard.

CAB AND BODY GROUND LIGHTS ACTIVATE WITH MASTER SWITCH

The ground lights shall be activated by a master ground light switch in the cab and shall be wired through the load management system.

CAB AND BODY GROUND LIGHTS ACTIVATION TURN SIGNALS

The driver's side ground lights are to turn on with the driver's side turn signal.

The officer's side ground lights are to turn on with the officer's side turn signal.

CHASSIS DIAGNOSTICS SYSTEM

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

The diagnostic system shall include the following:

- A single port to monitor the engine, transmission and ABS system and diagnostics of the roll sensor (if applicable)
- Engine diagnostic switch (blink codes)
- ABS diagnostic switch (blink codes)
- Allison Transmission Codes (through touch pad shifter)

VOLTAGE MONITORING SYSTEM - 12 VOLT

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

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

INDICATOR LIGHT AND ALARM PROVE-OUT SYSTEM

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

ELECTRICAL HARNESS INSTALLATION - 12 VOLT

To ensure dependability, all 12-volt wiring harnesses installed by the manufacturer shall conform to the following specifications:

- SAE J 1128 - Low tension primary cable
- SAE J 1292 - Automobile, truck, truck-tractor, trailer and motor coach wiring
- SAE J 163 - Low tension wiring and cable terminals and splice clips
- SAE J 2202 - Heavy duty wiring systems for on-highway trucks
- NFPA 1901 - Standard for automotive fire apparatus
- FMVSS 302 - Flammability of interior materials for passenger cars, multipurpose passenger vehicles, trucks and buses
- SAE J 1939 - Serial communications protocol
- SAE J 2030 - Heavy-duty electrical connector performance standard
- SAE J 2223 - Connections for on board vehicle electrical wiring harnesses
- NEC - National Electrical Code
- SAE J 561 - Electrical terminals - Eyelet and spade type
- SAE J 928 - Electrical terminals - Pin and receptacle type A.

For increased reliability and harness integrity, harnesses shall be routed throughout the cab and chassis in a manner which allows the harnessing to be laid into its mounting location. Routing of harnessing which requires pulling of wires through tubes is never allowed at the manufacturer.

Wiring shall be run in loom or conduit where exposed, and have grommets or other edge protection where wires pass through metal. Wire colors shall be integral to each wire insulator and run the entire length of each wire. Harnessing containing multiple wires and uses a single wire color for all wires shall not be allowed. Function and number codes shall be continuously imprinted on all wiring harness conductors at 3.00" intervals. All wiring installed between the cab and into doors shall be protected by a wire conduit to protect the wiring. Exterior exposed wire connectors shall be positive locking, and environmentally sealed to withstand elements such as temperature extremes, moisture and automotive fluids. Electrical wiring and equipment shall be installed utilizing the following guidelines:

- All holes made in the roof shall be caulked with silicon. {No Exceptions} Large fender washers, liberally caulked, shall be used when fastening equipment to the underside of the cab roof.
- Any electrical component that is installed in an exposed area shall be mounted in a manner that shall not allow moisture to accumulate in it. Exposed area shall be defined as any location outside of the cab or body.
- For low cost of ownership, electrical components designed to be removed for maintenance shall be quickly accessible. For ease of use, a coil of wire shall be provided behind the appliance to allow them to be pulled away from the mounting area for inspection and service work.
- Corrosion preventative compound shall be applied to non-waterproof electrical connectors located outside of the cab or body. All non-waterproof connections shall require this compound in the plug to prevent corrosion and for easy separation of the plug.
- Any lights containing non-waterproof sockets in a weather-exposed area shall have corrosion preventative compound added to the socket terminal area.
- All electrical terminals in exposed areas shall have protective coating applied completely over the metal portion of the terminal.
- Rubber coated metal clamps shall be used to support wire harnessing and battery cables routed along the chassis frame rails.
- Heat shields shall be used to protect harnessing in areas where high temperatures exist. Harnessing passing near the engine exhaust shall be protected by a heat shield.
- Cab and crew cab harnessing shall not be routed through enclosed metal tubing. Dedicated wire routing channels shall be used to protect harnessing therefore improving the overall integrity of the vehicle electrical system. The design of the cab shall allow for easy routing of additional wiring and easy access to existing wiring.
- All standard wiring entering or exiting the cab shall be routed through sealed bulkhead connectors to protect against water intrusion into the cab.

ELECTRICAL HARNESS INSTALLATION - 12 VOLT, CONT'D.

All 12-volt battery cables and battery cable harnessing installed by the apparatus manufacturer shall conform to the following requirements:

- SAE J 1127 - Battery Cable
- SAE J 561 - Electrical terminals, eyelets and spade type
- SAE J 562 - Nonmetallic loom
- SAE J 836 A - Automotive metallurgical joining
- SAE J 1292 - Automotive truck, truck-tractor, trailer and motor coach wiring
- NFPA 1901 - Standard for automotive fire apparatus.

Battery cables and battery cable harnessing shall be installed utilizing the following guidelines:

- Splices shall not be allowed on battery cables or battery cable harnesses.
- For ease of identification and simplified use, battery cables shall be color coded. All positive battery cables shall be marked red in color. All negative battery cables shall be black in color.
- For ease of identification, all positive battery cable isolated studs throughout the cab and chassis shall be red in color.
- For increased reliability and reduced maintenance, all electrical buss bars located on the exterior of the apparatus shall be coated to prevent corrosion.
- An operational test shall be conducted to ensure that any equipment that is permanently attached to the electrical system is properly connected and in working order.

BODY ELECTRICAL SYSTEM

All electrical lines in the body shall be protected by automatic circuit breakers, conveniently located to permit ease of service.

Flashers, heavy solenoids and other major electrical controls shall be located in a central area near the circuit breakers.

All lines shall be color and function coded every 3", easy to identify, oversized for the intended loads and installed in accordance with a detailed diagram.

A complete wiring diagram shall be supplied with the apparatus.

Wiring shall be carefully protected from weather elements and snagging. Heavy duty loom shall be used for the entire length.

Grommets shall be utilized where wiring passes through panels.

In order to minimize the risk of heat damage, wires run in the engine compartment area shall be carefully installed and suitably protected by the installation of heat resistant shielded loom.

All electrical equipment shall be installed to conform to the latest federal standards as outlined in NFPA 1901.

POWER DISTRIBUTION MODULES FOR CLASS ONE ES-KEY

Class 1 Power distribution modules shall be provided in strategic areas of the chassis to allow body harnesses to interface to multiplex system.

The Remote Power Modules (RPM) provide a method of controlling loads on the vehicle, outside the cab, without running individual wires from each switch to the load.

This electronic module distributes and controls power to various devices on the vehicle as commanded by the control system inside the cab.

The RPM is connected to the Electrical System Controller via the J1939 datalink.

Each module receives power from a power cable, protected by a fusible link to the main battery circuit.

The power distribution modules shall be mounted in a location to provide complete access for service or trouble shooting.

DOOR OPEN INDICATOR W/ INTEGRAL AUDIBLE ALARM

An indicator light with an audible alarm, shall be functionally located in the cab to signal when an unsafe condition is present such as an open cab door or body compartment door, an extended ladder rack, a deployed stabilizer, an extended light tower or any other device which is opened, extended or deployed which may cause damage to the apparatus if it is moved.

This light shall be activated through the parking brake switch to signal when the parking brake is released.

TECNIQ LED DUNNAGE AREA LIGHTING

Two (2) stainless steel, TecNiq Eon 3-LED horizontal surface mounted lights shall be provided in the dunnage area to provide adequate illumination of this area.

These lights shall be switched in the same manner as the step lights.

COMPARTMENT LIGHT ACTIVATION

Compartment lighting shall be switched either from an integral switch as provided by the roll up door manufacturer or a magnetic proximity switch if it is a KME manufactured door.

ROM LED COMPARTMENT LIGHTS

QTY: 7

Each individual, equipment storage compartment shall be equipped with the ROM LED V4 lights on the forward and rear edge of each body door opening. The lights shall be mounted in an anodized aluminum track provided by ROM either as a stand alone unit or an integrated part of the roll up shutter door track. The lights shall be designed and manufactured to be water proof meeting the IPX7 industry standard and shall include a streamline optic lens and a fixed lumen output across 9-16vdc. Each LED module shall be of interlocking design and shall be able to be serviced/replaced without the removal of light assembly or shutter door. {No Exceptions}

DOT MARKER LIGHTS FORWARD OF CAB DOOR

Amber LED DOT marker lights with reflector shall be provided and mounted forward of the front cab door, one (1) each side.

MARKER/TURN LIGHTS AT EACH SIDE OF BODY

Red, LED marker lights with integral reflectors shall be provided at the lower side rear, having one (1) on each side.

Yellow, LED side marker and turn lights shall be provided on the apparatus lower side, forward of rear axle that puts one (1) on each side, if the apparatus is 30' long or longer.

DOT MARKER LIGHTS AT REAR OF BODY

Red, LED clearance lights shall be provided on the apparatus rear upper having one (1) on each side at the outermost practical location.

Red, LED, 3-lamp identification bar will be provided on the apparatus rear center.

DOT AMBER REFLECTORS AT SIDE OF BODY

Yellow reflectors shall be provided on the apparatus body lower side, as far forward and low as practical with one (1) on each side if the apparatus is 30' long or longer.

DOT RED REFLECTORS AT REAR OF BODY

Red reflectors shall be provided on the apparatus rear with one (1) on each side at the outermost practical location.

TECNIQ #L10 LED LICENSE PLATE LIGHT

One (1) Tecniq model #L10 LED license plate light shall be provided above the mounting position of the license plate. The license plate shall be located on the driver's side rear of body.

The light shall be clear in color and shall have a chrome finish.

WHELEN #M6 LED BRAKE, REVERSE, & TURN W/ QUAD HOUSING

Two (2) Whelen M6 series, 4-5/16" x 6-3/4", LED red combination tail and stop lights, shall be mounted one each side at the rear of the body.

Two (2) Whelen M6 series, 4-5/16" x 6-3/4", LED amber arrow turn signal lights, shall be mounted one each side, on a vertical plane with the tail/stop lights.

Two (2) Whelen M6 series, 4-5/16" x 6-3/4", LED white back-up lights, shall be mounted, one each side on a vertical plane with the turn/tail/stop signals.

These lights shall activate when the transmission is placed in reverse gear.

Two (2) Whelen M6FCV4 mounting flanges, installed one (1) on each side, shall be provided to mount the lights described above in one common mounting flange.

The fourth opening shall be for the lower rear warning lights.

The lights shall be mounted in order, from top to bottom, as described above.

BODY STEP LIGHTS, TECNIQ EON 3 LED

Two (2) polished, stainless steel, TecNiq Eon 3-LED, horizontal surface, mounted body step lights shall be provided and controlled with marker light actuation.

Step lights shall be located to properly illuminate all body access steps and walkway areas and shall include a mounting gasket to provide a watertight seal.

PUMP ENCLOSURE WORK LIGHTS - TECNIQ LED

Two (2) Tecniq, model #E18 lights shall be provided inside the pump enclosure, providing 800 lumens each.

Each light shall have their own independent switch incorporated into the light head.

WHELEN #PELCC HOSE BED LIGHTS-FRONT WALL

Two (2) Whelen model PELCC, chrome plated, surface mounted lights shall be mounted in the hose bed on the front wall to illuminate the hose bed area.

HIVIZ GUARDIAN ELITE SCENE LIGHTS ON REAR OF BODY

Two (2) Firetech HiViz Guardian Elite FT-GESM, LED scene lights shall be provided, (1) one on each side of the rear body panel in a chrome plated flange.

Each light shall be 11” wide by 9” high by 3” deep, draw 10 amps, and produce 10,491 lumens.

The scene lights shall be wired through the load management system.

HIVIZ GUARDIAN ELITE SCENE LIGHTS ON DRIVER SIDE OF BODY

Two (2) Firetech HiViz Guardian Elite FT-GESM, LED scene lights shall be provided.

The scene lights shall be installed, one rearward and one forward, on the driver side of the body in a chrome plated flange.

Each light shall be 11” wide by 9” high by 3” deep, draw 10 amps, and produce 10,491 lumens.

The scene lights shall be wired through the load management system.

HIVIZ GUARDIAN ELITE SCENE LIGHTS ON OFFICER SIDE OF BODY

Two (2) Firetech HiViz Guardian Elite FT-GESM, LED scene lights shall be provided.

The scene lights shall be installed, one rearward and one forward, on the officer side of the body in a chrome plated flange.

Each light shall be 11” wide by 9” high by 3” deep, draw 10 amps, and produce 10,491 lumens.

The scene lights shall be wired through the load management system.

REAR SCENE LIGHTS TO BE ACTIVATED BY REVERSE LIGHT

In addition to the cab mounted switch for the rear scene lights, the rear scene lights shall illuminate when the transmission is placed in reverse gear and the apparatus is operating as an emergency vehicle (Primary Warning switch on).

DOT HORN

A single electric horn activated by the steering wheel horn button shall be furnished.

BACK-UP ALARM

A Code 3, model # CA360C, 107dBA back-up alarm, shall be provided and installed at the rear of the apparatus under the tailboard.

The back-up alarm shall activate automatically when the transmission is placed in reverse gear and the ignition is "on."

DUAL CHROME AIR HORNS

Two (2) chrome plated, Hadley air horns shall be at the front of the vehicle.

The air horns shall be mounted in full compliance with NFPA-1901.

The supply lines shall be dual 1/4" lines with equal distance from each horn.

DUAL AIR HORNS

Both air horns shall be recessed in the driver side of the front bumper.

AIR HORN CONTROL, DRIVER SIDE

The air horn(s) shall be controlled by a pull chain/cable for the driver.

AIR HORN CONTROL, OFFICER SIDE

The air horn(s) shall be controlled by a pull chain/cable for the officer.

WHELEN ELECTRONIC SIREN

One (1) Whelen # 295SLSA1, 100 watt electronic siren shall be provided featuring: bottom mount control head in cab, "Si-Test" self diagnostic feature, six (6) function siren, radio repeat, and public address.

The electronic siren and speaker shall meet the NFPA required SAE certification to ensure compatibility between the siren and speaker.

WHELEN SP123BMC SPEAKER

One (1) Whelen, model # SP123BMC with chrome plated ABS outer flange, siren speakers shall be provided, recessed in the front bumper and wired to the electronic siren.

FEDERAL Q2B MECHANICAL SIREN

One (1) Federal Model #Q2B mechanical siren shall be provided to provide audible warning.

SIREN LOCATION

The Q2B siren shall be pedestal mounted on top of the extended bumper on the driver's side.

The siren shall be equipped with a Federal model #P, chrome housing and pedestal.

ELECTRO/MECHANICAL SIREN BRAKE CONTROL, DASH MOUNTED

A dash mounted push button switch shall be provided for the driver to control the brake on the electro/mechanical siren.

ELECTRO/MECHANICAL SIREN CONTROL, FLOOR MOUNTED

A floor mounted foot switch shall be provided for the driver to activate the electro/mechanical siren.

WEATHER BAND AM/FM/WX/CD STEREO

A Weather Band/AM/FM, CD, MP3, Satellite ready player with a wireless remote shall be installed in the cab overhead panel as space allows.

The speakers shall be located as follows:

(2) 6 inch mounted in the Front of the cab
(2) 6 inch mounted in the Rear of the cab

A heavy duty flexible base antenna shall be provided on the cab.

WATEROUS CSU-C20-1500 SINGLE STAGE PUMP

- WATEROUS CSU-C20
- 1500 G.P.M.
- SINGLE-STAGE

The pump shall be of single-stage construction and shall comply with all applicable requirements of the latest standards for automotive fire apparatus of the National Fire Protection Association, NFPA-1901 and shall have a rated capacity of 1500 gpm. The pump must deliver the percentage of rated capacity at the pressure listed below:

- 100% of rated capacity at 150 P.S.I. net pump pressure
- 100% of rated capacity at 165 P.S.I. net pump pressure
- 70% of rated capacity at 200 P.S.I. net pump pressure
- 50% of rated capacity at 250 P.S.I. net pump pressure.

The pump shall be free from objectionable pulsation and vibration under all normal operating conditions.

The pump body shall be close-grained gray iron and must be horizontally split in two sections for easy removal of the impeller shaft assembly, and designed for complete servicing from the bottom of the truck without disturbing setting of the pump in the chassis or apparatus piping which is connected to the pump. Pump body halves shall be bolted together on a single horizontal face to minimize chance of leakage and facilitate reassemble. Discharge manifold shall be cast as an integral part of the pump body assembly and shall provide at least three full 3-1/2 inch openings for ultimate flexibility in providing various discharge outlets for maximum efficiency, and shall be located as follows: one outlet on the right side of the pump body, one outlet on the left side of the pump body, and one outlet on top of the pump discharge manifold.

The Impeller shaft shall be heat-treated stainless steel, ground at all critical areas, and polished under the packing. An exclusive two-piece impeller shaft shall allow separation of the transmission from the pump without disassembling either component. This simplifies repair procedures, resulting in less down time.

The impeller shall be bronze, accurately balanced (mechanically and hydraulically), of mixed flow design with reverse flow labyrinth-type wear rings that resist water bypass and loss of efficiency due to wear. The impeller shall have flame plated hubs to assure maximum pump life and efficiency despite the presence of abrasive particles, such as fine sand, in the water being pumped. Wear rings shall be bronze, and shall be easily replaceable to restore original pump efficiency and eliminate the need for replacing the entire pump casing due to wear.

Three deep-groove, anti-friction ball bearings shall be located outside the pumping chamber, which shall give support and proper alignment to the impeller shaft assembly. The bearings shall be oil or grease lubricated, completely separated from the water being pumped, and shall be protected by seal housings, finger rings and oil seals.

WATEROUS PUMP PACKING

Stuffing boxes be equipped with two-piece glands to permit adjustment or replacement of packing without disturbing the pump.

Lantern rings located at the inner end of the stuffing boxes the all ring can be removed without removal of the lantern rings.

Water shall be fed into the stuffing box lantern rings for proper lubrication and cooling when the pump is operating.

PUMP RATIO

The pump ratio shall be selected by the apparatus manufacturer to give maximum performance with the engine and transmission selected.

The manufacturer shall supply at time of delivery copies of the pump manufacturer's certification of hydrostatic testing, the engine manufacturer's current certified brake horsepower curve.

PUMP MOUNTS - MID-SHIP PUMPS

Extra heavy duty pump mounting brackets shall be furnished.

These shall be bolted to the frame rails in such a position to perfectly align the pump so that the angular velocity of the drive line joints shall be the same on each end of the drive shaft.

This shall assure full capacity performance with a minimum of vibration. Mounting hardware shall utilize Grade 8 bolts.

WATEROUS "C20" PUMP DRIVE UNIT

The pump transmission shall be all aluminum "C20" model, rigidly attached to the pump body assembly and be of latest design incorporating a high strength involute tooth-form Hy-Vo chain drive.

The driven sprockets shall be capable of operating at high speeds to provide smooth, quiet transfer of power.

The shift engagement shall be accomplished by a free-sliding collar and shall incorporate an internal locking mechanism to insure that the collar shall be maintained in ROAD or PUMP position.

PUMP SHIFT MANUAL OVERRIDE

An emergency manual pump shift control shall be furnished on the left side pump panel which may be utilized if the air shift control does not operate. A transmission, manual lock-up switch shall be furnished in the cab to ensure positive lock-up of the transmission.

WATEROUS PUMP SHIFT INDICATOR LIGHTS

The pump shift assembly shall incorporate an indicating light system which shall warn the operator if the shift to PUMP has not been completed and indicate when it has been completed.

In accordance with NFPA 1901, a complete set of indicating lights is standard. These lights indicate when the shift has been complete to PUMP and OK TO PUMP.

WATEROUS ANODE BLOCKS – TWO (2) TOTAL

Two (2) Waterous zinc anode blocks shall be provided and located on the suction side of the pump to protect the pump from corrosion.

The Anodes shall be painted Safety Yellow for identification purposes.

AUXILIARY ENGINE COOLER

An auxiliary cooler or heat exchanger shall be installed in the engine compartment between the engine and the chassis radiator.

The cooler shall permit the use of water from the pump for cooling the engine.

The cooling shall be done without mixing engine and pump water.

FIRE RESEARCH "IN CONTROL" TGA-400

The apparatus shall be equipped with a Fire Research InControl series TGA400 pressure governor and monitoring display kit shall be installed. The kit shall include a control module, intake pressure sensor, discharge pressure sensor, and cables. The control module case shall be waterproof and have dimensions not to exceed 5 1/2" high by 10 1/2" wide by 2" deep. The control knob shall be 2" in diameter with no mechanical stops, have a serrated grip, and a red idle push button in the center. It shall not extend more than 1 3/4" from the front of the control module. Inputs for monitored information shall be from a J1939 databus or independent sensors. Outputs for engine control shall be on the J1939 databus or engine specific wiring.

The following continuous displays shall be provided:

- Pump discharge; shown with four daylight bright LED digits more than 1/2" high.
- Pump Intake; shown with four daylight bright LED digits more than 1/2" high.
- Pressure / RPM setting; shown on a dot matrix message display.
- Pressure and RPM operating mode LEDs.
- Throttle ready LED.
- Engine RPM; shown with four daylight bright LED digits more than 1/2" high.
- Check engine and stop engine warning LEDs.
- Oil pressure; shown on a dual color (green/red) LED bar graph display.
- Engine coolant temperature; shown on a dual color (green/red) LED bar graph display.
- Transmission Temperature: shown on a dual color (green/red) LED bar graph display.
- Battery voltage; shown on a dual color (green/red) LED bar graph display.
- The dot-matrix message display shall show diagnostic and warning messages as they occur. It shall show monitored apparatus information, stored data, and program options when selected by the operator. All LED intensity shall be automatically adjusted for day and night time operation.

The program shall store the accumulated operating hours for the pump and engine to be displayed with the push of a button. It shall monitor inputs and support audible and visual warning alarms for the following conditions:

- High Battery Voltage
- Low Battery Voltage (Engine Off)
- Low Battery Voltage (Engine Running)
- High Transmission Temperature
- Low Engine Oil Pressure
- High Engine Coolant Temperature
- Out of Water (visual alarm only)
- No Engine Response (visual alarm only)

The program features shall be accessed via push buttons and a control knob located on the front of the control panel. There shall be a USB port located at the rear of the control module to upload future firmware enhancements.

Inputs to the control panel from the pump discharge and intake pressure sensors shall be electrical. The discharge pressure display shall show pressures from 0 to 600 psi. The intake pressure display shall show pressures from -30 in. Hg to 600 psi.

The governor shall operate in two control modes, pressure and RPM. No discharge pressure or engine RPM variation shall occur when switching between modes. A throttle ready LED shall light when the interlock signal is recognized. The governor shall start in pressure mode and set the engine RPM to idle. In pressure mode the governor shall automatically regulate the discharge pressure at the level set by the operator. In RPM mode the governor shall maintain the engine RPM at the level set by the operator except in the event of a discharge pressure increase. The governor shall limit a discharge pressure increase in RPM mode to a maximum of 30 psi. Other safety features shall include recognition of no water conditions with an automatic programmed response and a push button to return the engine to idle. The pressure governor, monitoring, and master pressure display shall be programmed to interface with a specific engine.

AKRON STYLE #59 INTAKE RELIEF VALVE

A 300 psi adjustable Akron Brass model 59 intake relief valve system shall be plumbed on the suction side of the pump to comply fully with NFPA-1901 requirements.

Excess pressures shall be plumbed to discharge water under the pump enclosure away from the pump operator.

TRIDENT "MANUAL" AIR PRIMING SYSTEM

The priming pump will be a Trident air primer system.

A push in primer handle will open the priming valve and prime the pump.

ROTARY MASTER DRAIN VALVE

A rotary type, 12 port, master drain valve shall be provided and controlled at the lower portion of the side pump panel.

The valve shall be located in pump compartment lower than the main body and connected in such a manner as to allow complete water drainage of the pump body and all required accessories.

Water shall be drained below the apparatus body and away from the pump operator.

DRAINS/BLEEDER "INNOVATIVE CONTROLS" LIFT UP AT ALL 1-1/2” OR LARGER

All lines shall drain through the master drain valve or shall be equipped with individual drain valves, easily accessible, and labeled.

One (1) individual "Innovative Control" lift up drain valve shall be furnished for each 1-1/2" or larger discharge port and each 2-1/2" gated auxiliary suction.

Drain/bleeder valves shall be located at the bottom of the side pump module panels. All drains and bleeders shall discharge below the running boards.

SYNFLEX SUCTION, DISCHARGE, PRESSURE AND CONTROL LINES

Small lines within the pump enclosure shall be constructed from Synflex hose.

Uses include but are not limited to such lines as priming control, gauge lines, drain lines, air control valves, pump shift, supplemental cooling, foam flush, and air bleeder valves.

SUCTION INLETS - 6” INLETS

Two (2) 6" N.S.T. suction inlets shall be provided, one on the driver side and one on the officer side pump panel.

A removable strainer shall be installed on each inlet.

SHORT NECK MAIN PUMP SUCTION INLETS

The main pump suction inlets shall be furnished with a short suction end, terminating with only the suction threads protruding through the side panel to minimize the distance an exterior appliance protrudes beyond the pump panel.

BEHIND PANEL MOUNT

All side gated inlet valves shall be recess mounted behind the side pump panels or body panels. There will be no exceptions.

6" NST INTAKE CAP – DRIVER SIDE

A 6" NST chrome plated long handle pressure vented cap shall be installed on driver side intake.

6" NST INTAKE CAP – OFFICER SIDE

A 6" NST chrome plated long handle pressure vented cap shall be installed on officer side intake.

2-1/2" DRIVER SIDE AUXILIARY SECONDARY SUCTION INLET REAR OF MAIN INLET

One (1) 2-1/2" auxiliary suction shall be provided at the driver side pump panel, to the rear of the main inlet (if space and other components allow).

The 2-1/2" auxiliary suction shall terminate with a removable strainer, chrome plated 2-1/2" NST female swivel with a chrome plated plug and retaining chain.

2-1/2" AKRON #8800 S.S. BALL VALVE, DRIVER SIDE AUXILIARY SUCTION

An Akron Brass 2 1/2" Generation II Swing-Out Valve shall be provided for the driver's side rear auxiliary suction.

The valve shall have an all brass body with flow optimizing stainless steel ball and dual polymer seats.

SWING CONTROL AT VALVE, DRIVER SIDE AUXILIARY SUCTION

A 1/4 turn swing control handle shall be provided on the driver side rear auxiliary suction valve.

2-1/2" OFFICER SIDE AUXILIARY SECONDARY SUCTION INLET REAR OF MAIN INLET

One (1) 2-1/2" auxiliary suction shall be provided at the officer side pump panel, to the rear of the main inlet (if space and other components allow).

The 2-1/2" auxiliary suction shall terminate with a removable strainer, chrome plated 2-1/2" NST female swivel with a chrome plated plug and retaining chain.

2-1/2" AKRON #8800 S.S. BALL VALVE, OFFICER SIDE AUXILIARY SUCTION

An Akron Brass 2 1/2" Generation II Swing-Out Valve shall be provided for the officer's side auxiliary suction.

The valve shall have an all brass body with flow optimizing, stainless steel ball and dual polymer seats.

SWING CONTROL AT VALVE, OFFICER SIDE AUXILIARY SUCTION

A 1/4 turn swing control handle shall be provided on the officer side auxiliary suction valve.

TANK TO PUMP

One (1) 4" tank to pump line shall be piped through the front bulkhead of the tank with a 90 degree elbow down into the tank sump.

This line shall be plumbed directly into the rear of the pump suction manifold for maximum efficiency.

A check valve shall be provided to prevent accidental pressurization of the water tank through the pump connection.

Connection from the valve to the tank shall be made by using a non-collapsible flexible rubber hose.

3" AKRON #8800 SERIES - S.S. BALL, VALVE, TANK TO PUMP

An Akron Brass 3" Generation II Swing-Out Valve shall be provided between the pump suction manifold and the water tank.

The valve shall have an all brass body with flow optimizing, stainless steel ball and dual polymer seats.

3" PUSH/PULL CONTROL FOR TANK TO PUMP

A push/pull control handle shall be located on the operator's panel with function plate.

TANK FILL LINE 2" FROM PUMP

One (1) 2" gated full flow pump to tank refill line controlled at the pump panel shall be provided. A deflector shield inside the tank shall be furnished. Tank fill plumbing shall utilize 2" high pressure hose for tank connection to accommodate flexing between components. There will be no exceptions.

2" AKRON #8800 SERIES - S.S. BALL VALVE, TANK FILL

An Akron Brass 2" Generation II Swing-Out Valve shall be provided between the pump discharge manifold and the water tank.

The valve shall have an all brass body with flow optimizing, stainless steel ball, and dual polymer seats.

PUSH/PULL CONTROL FOR TANK FILL

A push/pull control handle shall be located on the operator's panel with function plate.

DRIVER SIDE MAIN DISCHARGE #1

A discharge shall be provided and located at the driver's side pump panel.

The driver's side discharges # 1 shall terminate with NST threads, through the left panel above the main pump intake.

The main pump discharge shall be plumbed directly from the pump discharge manifold utilizing direct connect discharge valve flanges.

2-1/2" AKRON #8800 SERIES - S.S. BALL, VALVE DRIVER SIDE DISCHARGE #1

An Akron Brass 2 1/2" Generation II Swing-Out Valve shall be provided for the driver's side #1 discharge.

The valve shall have an all brass body with flow optimizing stainless steel ball and dual polymer seats.

DRIVER SIDE DISCHARGE #1 - 2-1/2" STRAIGHT NST & 30-DEGREE NST ELBOW

The discharge valve shall be equipped with a straight 2 1/2" NST adapter that shall be equipped with a 2 1/2" NST, 30-degree, chrome plated elbow.

2-1/2" NST PRESSURE VENTED CAP - DRIVER SIDE DISCHARGE #1

A 2 1/2 " NST, chrome plated pressure vented cap shall be installed on driver's side #1 discharge.

PUSH/PULL CONTROL FOR DRIVER SIDE DISCHARGE #1

The driver's side # 1 discharge valve shall be controlled by a push/pull handle located on the operator's panel.

INNOVATIVE CONTROLS LIQUID FILLED 2-1/2" PRESSURE GAUGE - DRIVER SIDE DISCHARGE #1

The driver's side # 1 discharge shall be equipped with a 2.5" Innovative Controls pressure gauge.

The gauge shall have a rugged, corrosion free stainless steel case and clear scratch resistant molded crystals with captive, O-ring seals to ensure distortion free viewing and seal the gauge.

The gauge shall be filled with glycerin to dampen shock and vibration, lubricate the internal mechanisms, prevent lens condensation and ensure proper operation from -40F to +160F.

The gauge shall exceed ANSI B40.1 Grade A requirements with an accuracy of +/- 1.5% full scale and include a size appropriate phosphorous, bronze, bourdon tube with a reinforced lap joint and large tube base to increase the tube life and gauge accuracy.

A polished chrome-plated stainless steel bezel shall be provided to prevent corrosion and protect the lens and gauge case.

The gauge shall have black graphics on a white background.

DRIVER SIDE MAIN DISCHARGE #2

A discharge shall be provided and located at the driver's side pump panel.

The driver's side discharges # 2 shall terminate with NST threads, through the left panel above the main pump intake.

The main pump discharge shall be plumbed directly from the pump discharge manifold utilizing direct connect discharge valve flanges.

2-1/2" AKRON #8800 SERIES - S.S. BALL, VALVE DRIVER SIDE DISCHARGE #2

An Akron Brass 2 1/2" Generation II Swing-Out Valve shall be provided for the driver's side #2 discharge.

The valve shall have an all brass body with flow optimizing stainless steel ball and dual polymer seats.

DRIVER SIDE DISCHARGE #2 - 2-1/2" STRAIGHT NST & 30-DEGREE NST ELBOW

The discharge valve shall be equipped with a straight 2 1/2" NST adapter that shall be equipped with a 2 1/2" NST, 30-degree, chrome plated elbow.

2-1/2" NST PRESSURE VENTED CAP - DRIVER SIDE DISCHARGE #2

A 2 1/2" NST, chrome plated, pressure vented cap shall be installed on driver's side # 2 discharge.

PUSH/PULL CONTROL FOR DRIVER SIDE DISCHARGE #2

The driver's side # 2 discharge valve shall be controlled by a push/pull handle located on the operator's panel.

INNOVATIVE CONTROLS LIQUID FILLED 2-1/2" PRESSURE GAUGE - DRIVER SIDE DISCHARGE #2

The driver's side # 2 discharge shall be equipped with a 2.5", Innovative Controls pressure gauge.

The gauge shall have a rugged, corrosion free, stainless steel case and clear, scratch resistant, molded crystals with captive, O-ring seals to ensure distortion free viewing and seal the gauge.

The gauge shall be filled with glycerin to dampen shock and vibration, lubricate the internal mechanisms, prevent lens condensation, and ensure proper operation from -40F to +160F.

The gauge shall exceed ANSI B40.1 Grade A requirements with an accuracy of +/- 1.5% full scale and include a size appropriate phosphorous, bronze bourdon tube with a reinforced lap joint and large tube base to increase the tube life and gauge accuracy.

A polished, chrome-plated, stainless steel bezel shall be provided to prevent corrosion and protect the lens and gauge case.

The gauge shall have black graphics on a white background.

OFFICER SIDE MAIN DISCHARGE #1

A discharge shall be provided and located at the officer's side pump panel.

The officer's side discharges #1 shall terminate with NST threads, through the officer's side panel above the main pump intake.

The main pump discharge shall be plumbed directly from the pump discharge manifold utilizing direct connect discharge valve flanges.

2-1/2" AKRON #8800 SERIES - S.S. BALL, VALVE, OFFICER SIDE DISCHARGE #1

An Akron Brass, 2 1/2" Generation II, Swing-Out Valve shall be provided for the officer's side #1 discharge.

The valve shall have an all brass body with flow optimizing, stainless steel ball, and dual polymer seats.

OFFICER SIDE DISCHARGE #1 - 2-1/2" STRAIGHT NST & 30-DEGREE NST ELBOW

The discharge valve shall be equipped with a straight, 2 1/2" NST adapter that shall be equipped with a 2 1/2" NST, 30-degree, chrome plated elbow.

2-1/2" NST PRESSURE VENTED CAP - OFFICER SIDE DISCHARGE #1

A 2 1/2" NST, chrome plated, pressure vented cap shall be installed on officer's side # 1 discharge.

PUSH/PULL CONTROL FOR OFFICER SIDE DISCHARGE #1

The officer's side, # 1 discharge valve shall be controlled by a push/pull handle located on the operator's panel.

INNOVATIVE CONTROLS LIQUID FILLED 2-1/2" PRESSURE GAUGE - OFFICER SIDE DISCHARGE #1

The officer's side, # 1 discharge shall be equipped with a 2.5", Innovative Controls pressure gauge.

The gauge shall have a rugged, corrosion free, stainless steel case and clear, scratch resistant, molded crystals with captive, O-ring seals to ensure distortion free viewing and seal the gauge.

The gauge shall be filled with glycerin to dampen shock and vibration, lubricate the internal mechanisms, prevent lens condensation and ensure proper operation from -40F to +160F.

The gauge shall exceed ANSI B40.1 Grade A requirements with an accuracy of +/- 1.5% full scale and include a size appropriate phosphorous, bronze bourdon tube with a reinforced lap joint and large tube base to increase the tube life and gauge accuracy.

A polished, chrome-plated, stainless steel bezel shall be provided to prevent corrosion and protect the lens and gauge case.

The gauge shall have black graphics on a white background.

OFFICER SIDE MAIN DISCHARGE #2

A discharge shall be provided and located at the officer's side pump panel.

The officer's side discharges #2 shall terminate with NST threads, through the officer's side panel above the main pump intake.

The main pump discharge shall be plumbed directly from the pump discharge manifold utilizing direct connect discharge valve flanges.

3" AKRON #8800 SERIES - S.S. BALL, VALVE OFFICER SIDE DISCHARGE #2

An Akron Brass, 3" Generation II, Swing-Out Valve shall be provided for the officer's side #2 discharge.

The valve shall have an all brass body with flow optimizing, stainless steel ball, and dual polymer seats.

OFFICER SIDE DISCHARGE #2 - 3" STRAIGHT NST ADAPTER

The discharge valve shall be equipped with a straight, 3" NST adapter.

3" NSTF X 5" STORZ KOCHEK SKE-R 30° ADAPTER WITH CAP

A 3" NSTF X 5" Storz Kochek, SKE-R 30 adapter with cap shall be provided on the officer's side #2 discharge.

PUSH/PULL CONTROL FOR OFFICER SIDE DISCHARGE #2

The officer's side, #2 discharge valve shall be controlled by a push/pull handle located on the operator's panel.

INNOVATIVE CONTROLS LIQUID FILLED 2-1/2" PRESSURE GAUGE - OFFICER SIDE DISCHARGE #2

The officer's side, #2 discharge shall be equipped with a 2.5", Innovative Controls, pressure gauge.

The gauge shall have a rugged, corrosion free, stainless steel case and clear, scratch resistant, molded crystals with captive, O-ring seals to ensure distortion free viewing and seal the gauge.

The gauge shall be filled with glycerin to dampen shock and vibration, lubricate the internal mechanisms, prevent lens condensation, and ensure proper operation from -40F to +160F.

The gauge shall exceed ANSI B40.1 Grade A requirements with an accuracy of +/- 1.5% full scale and include a size appropriate phosphorous, bronze bourdon tube with a reinforced lap joint and large tube base to increase the tube life and gauge accuracy.

A polished, chrome-plated, stainless steel bezel shall be provided to prevent corrosion and protect the lens and gauge case.

The gauge shall have black graphics on a white background.

DRIVER SIDE HOSE BED DISCHARGE

A 2 1/2" rear hose bed discharge shall be plumbed to the upper front body panel, extending into the front of the hose bed.

DRIVER SIDE HOSE BED DISCHARGE TERMINATE AT FLOOR LEVEL FRONT HOSE BED

The rear hose bed discharge shall terminate just above the hosebed floor, in the driver side front of the hose bed.

2-1/2" NST MALE THREADS ON DRIVER SIDE HOSE BED DISCHARGE

The driver side hose bed discharge pipe shall be equipped with a chrome 2 1/2" NSTM thread adapter.

DRIVER SIDE HOSE BED DISCHARGE, PLUMBING, 2-1/2" STAINLESS STEEL PIPING

The driver side hose bed discharge shall be plumbed utilizing 2 1/2" schedule 10 stainless steel piping, 45 degree elbows and a limited number of 90 degree sweep elbows in an assembly from the pump to the rear of the vehicle.

A minimum of one (1) grooved pipe coupling shall be furnished in this assembly to allow for flex and serviceability.

2-1/2" AKRON #8800 SERIES - S.S. BALL, VALVE DRIVER SIDE HOSE BED DISCHARGE

An Akron Brass 2 1/2" Generation II Swing-Out Valve shall be provided for the driver's side hose bed rear discharge. The valve shall have an all brass body with flow optimizing stainless steel ball and dual polymer seats.

PUSH/PULL CONTROL FOR DRIVER SIDE HOSE BED DISCHARGE

The driver side hose bed discharge valve shall be controlled by a push/pull handle located on the operator's panel.

INNOVATIVE CONTROLS LIQUID FILLED 2-1/2" PRESSURE GAUGE - DRIVER SIDE HOSE BED DISCHARGE

The driver's side hose bed discharge shall be equipped with a 2.5" Innovative Controls pressure gauge.

The gauge shall have a rugged corrosion free stainless steel case and clear scratch resistant molded crystals with captive O-ring seals to ensure distortion free viewing and seal the gauge.

The gauge shall be filled with glycerin to dampen shock and vibration, lubricate the internal mechanisms, prevent lens condensation and ensure proper operation from -40F to +160F.

The gauge shall exceed ANSI B40.1 Grade A requirements with an accuracy of +/- 1.5% full scale and include a size appropriate phosphorous bronze bourdon tube with a reinforced lap joint and large tube base to increase the tube life and gauge accuracy.

A polished chrome-plated stainless steel bezel shall be provided to prevent corrosion and protect the lens and gauge case.

The gauge shall have black graphics on a white background.

FRONT DISCHARGE

A 2 1/2" front #1 discharge shall be plumbed to the front bumper of the vehicle.

2-1/2" NST CHICKSAN SWIVEL AT TOP OFFICER SIDE FRONT BUMPER

The front #1 discharge shall terminate on the top officer's side of the front bumper extension gravel shield with a chrome 2 1/2" NST chicksan swivel adapter.

FRONT DISCHARGE, PLUMBING, 2-1/2" STAINLESS STEEL PIPING

The front #1 discharge shall be plumbed utilizing 2 1/2" schedule 10 stainless steel piping, flexible hosing, 45 degree elbows, and a limited number of 90 degree sweep elbows in an assembly from the pump to the front of the vehicle.

A minimum of one (1) grooved pipe coupling shall be furnished in this assembly to allow for flex and serviceability.

Automatic discharge drains shall be provided at all low points in the plumbing.

2-1/2" AKRON #8800 SERIES - S.S. BALL, VALVE FRONT DISCHARGE

An Akron Brass 2 1/2" Generation II Swing-Out Valve shall be provided for the front #1 discharge.

The valve shall have an all brass body with flow optimizing stainless steel ball and dual polymer seat.

PUSH/PULL CONTROL FOR FRONT DISCHARGE

The front #1 discharge valve shall be controlled by a push/pull handle located on the operator's panel.

INNOVATIVE CONTROLS LIQUID FILLED 2-1/2" PRESSURE GAUGE - FRONT DISCHARGE

The front #1 discharge shall be equipped with a 2.5" Innovative Controls pressure gauge.

The gauge shall have a rugged corrosion free stainless steel case and clear scratch resistant molded crystals with captive O-ring seals to ensure distortion free viewing and seal the gauge.

The gauge shall be filled with glycerin to dampen shock and vibration, lubricate the internal mechanisms, prevent lens condensation and ensure proper operation from -40F to +160F.

The gauge shall exceed ANSI B40.1 Grade A requirements with an accuracy of +/- 1.5% full scale and include a size appropriate phosphorous bronze bourdon tube with a reinforced lap joint and large tube base to increase the tube life and gauge accuracy.

A polished chrome-plated stainless steel bezel shall be provided to prevent corrosion and protect the lens and gauge case.

The gauge shall have black graphics on a white background.

CROSSLAY #1

A crosslay hose bed shall be provided and plumbed from the pump in a transverse design, located above the pump enclosure for quick attack deployment. The crosslay hose bed flooring shall be designed to be removable and constructed from brushed finish, perforated aluminum material.

CROSSLAY #1 CAPACITY - 200 FEET OF 1-3/4" HOSE

Crosslay #1 shall be designed to have a minimum total capacity of 3.5 cubic feet as required by NFPA -1901 to accommodate a minimum of 200 feet of 1-3/4" fire hose.

CROSSLAY #1 DESIGN - DOUBLE STACK HOSE DESIGN

Crosslay #1 hose bed shall be designed to accommodate the fire hose in a double stack configuration.

1-1/2" NST CHICKSAN SWIVEL - CROSSLAY #1

The crosslay discharge shall terminate below the hosebed floor with a 1 1/2" NSTM chicksan swivel adapter.

The crosslay hose bed floor shall be slotted to allow the swivel to extend up through the floor, allowing the pre-connected hose to be pulled off either side of the apparatus without kinking the hose at the coupling connection.

CROSSLAY #1, PLUMBING, 2" STAINLESS STEEL PIPING

The crosslay #1 discharge shall be plumbed utilizing 2" schedule 10 stainless steel piping and/or flexible hose, 45 degree elbows and a limited number of 90 degree sweep elbows in an assembly from the pump to crosslay hose bed.

A minimum of one (1) grooved pipe coupling shall be furnished in this assembly, if necessary, to allow for flex and serviceability.

2" AKRON #8800 SERIES - S.S. BALL, VALVE CROSSLAY #1

An Akron Brass 2" Generation II Swing-Out Valve shall be provided for the crosslay #1 discharge.

The valve shall have an all brass body with flow optimizing stainless steel ball and dual polymer seats.

PUSH/PULL CONTROL CROSSLAY #1

The crosslay #1 discharge valve shall be controlled by a push/pull handle located on the operator's panel.

INNOVATIVE CONTROLS LIQUID FILLED 2-1/2" PRESSURE GAUGE – CROSSLAY #1

The crosslay #1 discharge shall be equipped with a 2.5" Innovative Controls pressure gauge.

The gauge shall have a rugged corrosion free stainless steel case and clear scratch resistant molded crystals with captive O-ring seals to ensure distortion free viewing and seal the gauge.

The gauge shall be filled with glycerin to dampen shock and vibration, lubricate the internal mechanisms, prevent lens condensation and ensure proper operation from -40F to +160F.

The gauge shall exceed ANSI B40.1 Grade A requirements with an accuracy of +/- 1.5% full scale and include a size appropriate phosphorous bronze bourdon tube with a reinforced lap joint and large tube base to increase the tube life and gauge accuracy.

A polished chrome-plated stainless steel bezel shall be provided to prevent corrosion and protect the lens and gauge case. The gauge shall have black graphics on a white background.

CROSSLAY #2

A crosslay hose bed shall be provided and plumbed from the pump in a transverse design, located above the pump enclosure for quick attack deployment. The crosslay hose bed flooring shall be designed to be removable, constructed from brushed finish, perforated aluminum material.

CROSSLAY #2 CAPACITY - 200 FEET OF 1-3/4" HOSE

Crosslay #2 shall be designed to have a minimum total capacity of 3.5 cubic feet as required by NFPA -1901 to accommodate a minimum of 200 feet of 1-3/4" fire hose.

CROSSLAY #2 - DOUBLE STACK HOSE DESIGN

Crosslay #2 hose bed shall be designed to accommodate the fire hose in a double stack configuration.

1-1/2" NST CHICKSAN SWIVEL - CROSSLAY #2

The crosslay discharge shall terminate below the hose bed floor with a 1 1/2" NSTM chicksan swivel adapter. The crosslay hose bed floor shall be slotted to allow the swivel to extend up through the floor, allowing the pre-connected hose to be pulled off either side of the apparatus without kinking the hose at the coupling connection.

CROSSLAY #2, PLUMBING, 2" STAINLESS STEEL PIPING

The crosslay #2 discharge shall be plumbed utilizing 2" schedule 10 stainless steel piping and/or flexible hose, 45 degree elbows and a limited number of 90 degree sweep elbows in an assembly from the pump to crosslay hose bed.

A minimum of one (1) grooved pipe coupling shall be furnished in this assembly, if necessary, to allow for flex and serviceability.

2" AKRON #8800 SERIES - S.S. BALL, VALVE CROSSLAY #2

An Akron Brass 2" Generation II Swing-Out Valve shall be provided for the crosslay #2 discharge.

The valve shall have an all brass body with flow optimizing stainless steel ball and dual polymer seats.

PUSH/PULL CONTROL CROSSLAY #2

The crosslay #2 discharge valve shall be controlled by a push/pull handle located on the operator's panel.

INNOVATIVE CONTROLS LIQUID FILLED 2-1/2" PRESSURE GAUGE – CROSSLAY #2

The crosslay #2 discharge shall be equipped with a 2.5" Innovative Controls pressure gauge.

The gauge shall have a rugged corrosion free stainless steel case and clear scratch resistant molded crystals with captive O-ring seals to ensure distortion free viewing and seal the gauge.

The gauge shall be filled with glycerin to dampen shock and vibration, lubricate the internal mechanisms, prevent lens condensation and ensure proper operation from -40F to +160F.

The gauge shall exceed ANSI B40.1 Grade A requirements with an accuracy of +/- 1.5% full scale and include a size appropriate phosphorous bronze bourdon tube with a reinforced lap joint and large tube base to increase the tube life and gauge accuracy.

A polished chrome-plated stainless steel bezel shall be provided to prevent corrosion and protect the lens and gauge case. The gauge shall have black graphics on a white background.

LOWERED CROSSLAYS

The crosslay hose bed floor will be approximately 42" above the side running board and no more than 66" above ground level.

VINYL CROSS LAY COVER

A vinyl cross lay cover shall be provided. It shall be securely fastened at the front with snaps and Velcro at the rear, with straps to secure each end flap.

CROSSLAY COVER BLACK IN COLOR

The crosslay cover shall be black in color.

BOOSTER REEL DISCHARGE

A 1 1/2" booster reel discharge shall be plumbed from the pump to the booster reel.

BOOSTER REEL DISCHARGE, PLUMBING, 1" HOSE

The booster reel discharge shall be plumbed from the valve to the hose reel utilizing 1" hose. The end of the hose connected to the hose reel shall be equipped with a swivel end for ease in hose replacement.

1-1/2" AKRON #8800 SERIES - S.S. BALL, VALVE BOOSTER REEL DISCHARGE

A 1 1/2" Akron, #8800 series, full flow, stainless steel ball valve shall be provided for the booster reel #1 discharge.

PUSH/PULL CONTROL FOR BOOSTER REEL DISCHARGE

The booster reel discharge valve shall be controlled by a push/pull handle located on the operator's panel.

BOOSTER REEL DISCHARGE - PAINTED STEEL

One (1) painted steel electric rewind booster reel shall be furnished.

The reel shall be equipped with a one(1) inch 90 full flow swivel joint and an adjustable brake for freewheeling, drag or full lock operation.

Color shall be graphite.

BOOSTER REEL LOCATED ABOVE PUMP ENCLOSURE – OFFICER SIDE

The booster reel #1 shall be mounted above the pump enclosure towards the officer side of the unit.

BOOSTER REEL REWIND EACH SIDE PUMP PANEL

Booster reel rewind shall be controlled by a pump panel mounted push button on each side panel.

The booster reel circuit shall be equipped with a shielded toggle switch to act as a booster reel disconnect to avoid accidental actuation of the booster reel rewind buttons.

BOOSTER REEL #1 HOSE, 200 FEET OF 1" HOSE

Each booster reel shall be equipped with 200' of 1" booster hose in 100' sections.

Each length shall be fitted with NST couplings.

BOOSTER HOSE

The booster hose shall be Reel-Lite poly booster hose.

TWO (2) BOOSTER REEL HOSE ROLLERS - DS & OS BLANK

Two (2) horizontal hose rollers of polished stainless steel and guide spools shall be placed one (1) on each side panel.

SIDE MOUNT PUMP MODULE

The pump module shall be a self-supported structure mounted independently from the body and chassis cab.

The design must allow normal frame deflection without imposing stress on the pump module structure or side running boards. The pump module shall be securely mounted to the chassis frame rails.

PUMP MODULE MATERIAL

The pump module shall be a welded frame work utilizing structural aluminum components properly braced to withstand the rigors of chassis frame flex.

SIDE MOUNT DUNNAGE AREA

A dunnage area shall be provided above the pump enclosure for equipment mounting and storage. This area shall be furnished with a removable 3/16" tread plate floor and shall be enclosed on the sides.

NOTE: The size of this storage area may vary when top mounted crosslays, booster reel(s), etc., are specified and located in this area.

RUNNING BOARD STEPS

The driver and officer running board steps shall be fabricated of 3/16" tread plate.

The outside edge on each step shall be fabricated with a double break, return flange.

The steps shall be rigidly reinforced with a heavy duty support structure.

The running boards shall not form any part of the compartment design, and shall be bolted into place with a minimum 1/2" clearance gap between any panel to facilitate water runoff.

STORAGE WELL IN OFFICERS SIDE RUNNING BOARD (FLOATING)

A floating storage well, constructed of 1/8" aluminum, shall be recessed into the officer’s side running board.

The storage well shall measure 9" deep x 9" wide x as long as possible between the running board support members.

Drain holes shall be located in the bottom corners to allow water to drain from the storage well.

The front and rear bottom corners of the well shall have an angled face to help the well slide up if it strikes an object.

The entire well shall be a "floating" style that can easily shift up if an object is struck.

TWO (2) LEVER STYLE STRAPS ON OFFICER'S STORAGE WELL

The officer's side running board hose well shall be furnished with lever style straps with 2" webbing to secure the hose stored in the well.

The straps shall be attached to each side of the hose well with stainless steel footman loops.

OFFICER'S SIDE WELL - HOSE CAPACITY

The officer's side storage well shall have the desired capacity of:

OFFICER'S SIDE WELL - 50 FEET OF 5" LDH HOSE

50' of 5" LDH hose

SIDE MOUNT PUMP PANEL

The pump operator's control panel shall be located on the driver side of the apparatus.

The pump enclosure side panels shall be completely removable and designed for easy access and servicing.

SIDE MOUNT PANELS - BLACK LINE-X COATED

The left side operator's panel, gauge panel, right side pump panel, and right side access door shall be fabricated from 1/8" aluminum.

It will also be coated with black Line-X material. The Line-X material shall provide a heavy duty textured finish.

VERTICALLY HINGED GAUGE PANEL - SIDE MOUNT

A full width, vertically hinged gauge access panel shall be provided at the operator's position.

Chrome plated positive locks shall be provided along with chain holders to prevent the front of the gauge panel from coming in contact with other panels when open.

OFFICER SIDE VERTICALLY HINGED PUMP ACCESS DOOR

The officer's side pump panel shall be split and vertically hinged to provide complete access to the pump and plumbing on the officer's side of the pump enclosure.

The panels shall be equipped with stainless steel hinges and secured with push type locks to hold the panels closed.

The drains located on the officer's side panel shall be fastened to the lower panel, which shall be stationary.

PANEL FASTENERS

Stainless steel machine screws and lock washers shall be used to hold these panels in position.

The panels shall be easily removable to provide complete access to the pump for major service.

CAPS AND ADAPTERS SAFETY TETHER - BALL CHAIN

All applicable discharge and suction caps, plugs and adapters shall be equipped with chrome plated ball chain and secured to the vehicle.

PUMP PANEL DISCHARGE/SUCTION TRIM PLATES

A high polished trim plate shall be provided around each discharge port and suction inlet opening to allow accessibility to the respective valve for service and repairs.

DISCHARGE GAUGE TRIM BEZELS

Each individual discharge gauge shall be installed into a decorative chrome-plated mounting bezel that incorporates valve-identifying verbiage and color labels, unless manufacturer supplied otherwise.

IDENTIFICATION PLATES

Color coded identification tags shall be provided for all gauges, controls, connections, switches, inlets and outlets.

PUMP OPERATOR'S PANEL, FULL WIDTH LIGHT SHIELD/STEP

The pump operator’s panel shall be equipped with a light shield/step that shall be full width of the control panel, and shall be positioned to cover the lights and prevent glare.

The light shield shall be fabricated from tread plate, which shall also serve as a step.

The step shall be a minimum of 8" deep X the width of the pump panel.

(Note: On apparatus with lowered style crosslays, the light shield shall be from the back of the crosslays to the rear of the pump house).

The light shield shall be equipped with the following lights:

TECNIQ 6" LED LIGHTS - LIGHT SHIELD/STEP

Four (4) TecNiq 6" long LED lights.

One (1) light under the operator's panel light shield shall be actuated when fire pump is engaged in addition to the pump engaged light.

OFFICER SIDE PUMP PANEL, FULL WIDTH LIGHT SHIELD/STEP

The officer side pump panel shall be equipped with a light shield/step that shall be full width of the panel, and shall be positioned to cover the lights and prevent glare.

The light shield shall be fabricated from tread plate, which shall also serve as a step.

The step shall be a minimum of 8" deep X the width of the pump panel.

The light shield shall be equipped with the following lights:

TECNIQ 6" LED LIGHTS - LIGHT SHIELD/STEP

Four (4) TecNiq 6" long LED lights.

The lights shall be switched with the operator panel lights.

AIR HORN CONTROL BUTTON ON PUMP PANEL

Pump panel air horn actuation button labeled "EVACUATION" in white letters with a red background.

PUMP PRESSURE & VACUUM TEST PORTS AT PANEL

The pump panel shall be equipped with Vacuum Pressure test plugs to allow for test equipment to monitor pump pressure and vacuum levels.

Chrome plugs and labels shall be provided for the test ports.

PUMP CERTIFICATION - 750 GPM & UP

The pump shall be third party performance tested to meet the requirements of NFPA-1901. There will be no exceptions.

1000 GALLON WATER TANK

The water tank shall have a capacity of 1000 gallons, constructed from Poly material.

WATER TANK CAPACITY

Water tank capacity may be reduced due to weight restrictions.

WATER TANK FILL TOWER

The tank shall have a combination vent and manual fill tower.

The fill tower shall be constructed of 1/2" PT3 polypropylene and shall be a minimum dimension of 12" x 12" outer perimeter.

The fill tower shall be blue in color indicating that it is a water-only fill tower.

The tower shall have a 1/4" thick removable polypropylene screen and a PT3 polypropylene hinged cover.

The capacity of the tank shall be engraved on the top of the fill tower lid. Inside the fill tower there shall be a combination vent/overflow pipe.

The vent overflow shall be a minimum of schedule 40 polypropylene pipe with a minimum I.D. of that is designed to run through the tank, and shall be piped to discharge water behind the rear wheels as required in NFPA 1901 so as to not interfere with rear tire traction.

WATER TANK OVERFLOW/VENT PIPE

The fill tower shall be fitted with an integral 4" I.D. schedule 40 P.V.C. combination overflow/vent pipe running from the fill tower through the tank to a 4" coupling flush mounted into the bottom of the tank to allow water to overflow behind the chassis rear axle.

WATER TANK DRAIN PLUG

A 3" drain plug shall be provided.

INNOVATIVE CONTROLS WATER TANK LEVEL GAUGE

An Innovative Controls model #3030358, Ultra-Bright LED water level monitor shall be provided on the pump operator's panel.

The level gauge shall contain ten (10) high intensity LEDs on the display in a vertical pattern allowing the full, 3/4, 1/2, 1/4 and refill levels to be easily distinguished at a glance.

The display shall use a two-dimensional, two-element lens to refract the light from the LEDs to provide full 180 visibility for the level indications.

WATER TANK LEVEL GAUGE PRESSURE TRANSDUCER

The gauge shall use a pressure transducer #3030376-01 installed near the bottom of the water tank to determine the correct volume in the tank.

INNOVATIVE CONTROLS WATER TANK LEVEL GAUGE REMOTE RELAY

An Innovated Controls model #3030735, remote relay module shall be furnished to provide outputs for large indicator lights on the side of the vehicle.

WHELEN LARGE WATER TANK LEVEL GAUGE

A large light water level gauge system shall be provided on both sides of the body. Each side shall have a Whelen model PSTANK2, LED strip light mounted on the body as directed. Each light shall be surface mounted.

The strip light shall be mounted as to indicate the following water levels:

- Green LED cluster Full tank
- Blue LED cluster 3/4 tank
- Amber LED cluster 1/2 tank
- Red LED cluster 1/4 tank

The red LEDs shall burn steady to indicate 1/4 tank and shall start to flash when the water level drops below 1/4 tank. To prevent distraction to drivers, this tank level gauge shall be wired to display only when the park brake is engaged.

APPARATUS BODY GENERAL DESCRIPTION

The body side and compartment assemblies shall be designed and assembled to provide maximum strength and durability under all operating conditions. Special attention shall be taken to minimize corrosion on all fabricated parts and structural members of the body. All bolt-on components shall be provided with a dissimilar metals isolation barrier to prevent electric corrosion.

The body design shall also incorporate removable panels to access spring hangers, rear body mounts and fuel tank sending units. The body assembly shall be an all-welded configuration. The body shall be completely isolated from the cab and pump module structure.

Dimensions used in this specification shall be the general outer dimension taken from a typical line diagram of the apparatus. These dimensions shall not take into account items like material thickness, access panels, doors, and other installed options.

BODY SUB FRAME - ALUMINUM

The body sub structure shall be an all welded configuration utilizing a combination of 3" x 1-1/2" 6061-T6 thick walled structural tubing and 6061 structural channel.

This structure shall be designed to totally support the full length and width of the body and shall be welded to the body side compartments by use of reinforcement plates to incorporate the compartments into an integral part of the body weldment.

The sub structure shall be bolted to the sides of the chassis frame at four (4) points.

The two (2) forward mounting points shall utilize a spring mount to help isolate the body from chassis deflection.

This design shall provide storage capacity in each side compartment for a minimum of 500 lbs of equipment, and a minimum of 1000 lbs of equipment in the rear step compartment.

100" WIDE BODY, 29"/14" DEEP SIDE COMPARTMENTS

The fire body shall be 100" wide to provide the maximum amount of usable hose bed and compartment space. The side body compartments shall be 29" deep in any full depth areas and 14" deep in any split depth areas.

SWEEP-OUT COMPARTMENTS

Compartment floors shall be welded to the compartment walls and have a sweep out design for easy cleaning.

Compartments with hinged doors shall have the door opening flanges bend down to produce the sweep-out design.

Compartments with roll-up style doors shall have the external floor flange stepped down to produce a sealing surface for the roll-up doors below the compartment floor.

The sweep out design shall also permit easy cleaning.

FASTENERS

All exterior fasteners shall be stainless steel screws.

NOTE: The use of aluminum pop rivets or self tapping screws as a trim fastener shall not be acceptable.

COMPARTMENT LOUVERS

Ventilation between compartments to atmosphere shall be provided and located to avoid water entry into compartments.

ACCESS PANELS

Removable access panels shall be provided (if applicable) to access fuel tank sender, electrical junction compartment and rear body mounts.

Protective panels shall be located in the rear compartments providing access to the lights and associated wiring.

The covers shall also serve as protective covers to prevent inadvertent damage to lights or wiring from tools or equipment located in the compartment.

BODY MATERIAL: 3/16" ALUMINUM

All compartment panels and body side sheets shall be fabricated entirely of 3/16" aluminum (5052-H32). Each side compartment assembly shall be both plug welded and stitch welded to ensure proper weld penetration on all panels, while avoiding the possible warping caused by a full seam weld.

The side compartments shall be welded on a fixture to ensure true body dimensions of all door openings. The side compartments and body side panels are then set into a body squaring fixture where the super structure is installed and the entire body is aligned to be completely symmetrical. The super structure is then welded to the compartment side panels and the reinforcement plates are inserted, allowing the compartment panels to become an integral component of the body support structure.

A full seam weld shall not be used due to the applied heat which shall distort sheet metal and remove the protective coating from the perimeter of the welded area. All seams shall be caulked prior to the paint being finished to ensure proper compartment sealing.

64" WIDE FENDER - CUSTOM

The body fender shall be 64" long, this shall allow for the suspension and related components to be contained within the fender, preventing any intrusion into the body compartment storage area. Bodies with notches in the front and/or rear compartment for suspension components are not acceptable. There will be no exceptions.

DRIVER FORWARD FENDER - TRIPLE STORAGE SLOT

A storage compartment shall be inserted into the fender to provide a storage area for three (3) customer supplied SCBA cylinders (or fire extinguishers of similar size).

The storage area shall be sized as tall and wide as possible in the fender (minimum of 14" wide x 15" tall with an angled floor by fender radius), and shall be 26" deep.

The compartment shall have a non-abrasive lined cradle storage area for each of the three (3) devices.

This storage compartment shall provide a minimum of 2.3 cubic feet of storage space.

DRIVER REARWARD FENDER - DOUBLE STORAGE SLOT

A storage compartment shall be inserted into the fender to provide a storage area for two (2) customer supplied SCBA cylinders (or fire extinguishers of similar size).

The storage area shall be sized as tall and wide as possible in the fender (minimum of 15" wide x 7-3/4" tall), and shall be 26" deep.

The compartment shall have a non-abrasive lined cradle storage area for each of the devices.

This storage compartment shall provide a minimum of 1.6 cubic feet of storage space.

OFFICER FORWARD FENDER - TRIPLE STORAGE SLOT

A storage compartment shall be inserted into the fender to provide a storage area for three (3) customer supplied SCBA cylinders (or fire extinguishers of similar size).

The storage area shall be sized as tall and wide as possible in the fender (minimum of 14" wide x 15" tall with an angled floor by fender radius), and shall be 26" deep.

The compartment shall have a non-abrasive lined cradle storage area for each of the three (3) devices.

This storage compartment shall provide a minimum of 2.3 cubic feet of storage space.

OFFICER REARWARD FENDER - SLIDE OUT ABSORBENT BIN

A slide out absorbent bin shall be installed in this fender position.

The storage bin shall be constructed of smooth aluminum.

The bin shall be installed on sliding locking tracks that allow the bin to extend out of the body fender for dumping/filling.

There shall be a hinged lid on top of the storage bin to add material to the bin, and a spring loaded valve at the bottom to dispense material out of the bin.

Absorbent bins that are built into the fender and do not provide a means for sliding the bin out for loading and dispensing shall not be acceptable due to the difficulty in loading/unloading.

FENDER STORAGE COMPARTMENTS - PAINTED DOORS

The fender storage area(s) shall be enclosed by a hinged door fabricated from the same material as the primary body construction, and painted the primary body color.

The back side of the door shall have a section of Nylatron installed to protect the door surface from the items stored in the compartment.

Each door shall be tied into the compartment door ajar/do not move apparatus warning system.

Each fender storage compartment door will be equipped with 3M model #1333 rubber “D” style door seal.

There will be no exceptions.

DRIVER SIDE FULL HEIGHT/FULL DEPTH COMPARTMENTS

L1 - One full height/full depth compartment shall be provided forward of the rear wheels. The compartment dimensions shall be 49" wide x 68" tall.

L2 - One high sided compartment shall be provided above the rear wheels. The compartment dimensions shall be 64" wide x 35-5/8" high.

L3 - One full height/full depth compartment shall be provided behind the rear wheels. The compartment dimensions shall be 56" wide x 68" tall. All compartments will be full depth.

OFFICER SIDE FULL HEIGHT/FULL DEPTH COMPARTMENTS

R1 - One full height/full depth compartment shall be provided forward of the rear wheels. The compartment dimensions shall be 49" wide x 68" tall.

R2 - One high sided compartment shall be provided above the rear wheels. The compartment dimensions shall be 64" wide x 35-5/8" high.

R3 - One full height/full depth compartment shall be provided behind the rear wheels. The compartment dimensions shall be 56" wide x 68" tall.

All compartments will be full depth.

REAR STEP COMPARTMENT - FULL WIDTH, REDUCED HEIGHT

An equipment storage compartment shall be provided on the rear of the body, located at the rear step area. The rear step compartment shall be 42" wide x 30" high x 29" deep. The rear step compartment shall provide approximately 21 cubic feet of storage space.

REAR STEP COMPARTMENT - FULL SIDE WALLS

The rear step compartment shall have full side panels which will isolate the storage area from the side body compartments.

REAR STEP COMPARTMENT - ROLLUP DOOR

The rear step compartment shall be equipped with a roll up style door.

REAR BODY DOOR FINISH - PAINTED

The rear body door shall have a painted finish to match the rest of the body doors.

ROLL-UP DOORS

Roll-up doors shall be provided on all compartments.

The roll-up doors shall be constructed from aluminum extruded slats which shall have a flexible seal between each slat for proper sealing of the door.

A synthetic rubber seal shall be provided at each side, top and bottom edge of the door to prevent entry of dirt into the compartment.

The door shall be equipped with a lift bar style latch mechanism which shall latch at the bottom of the door mounting extrusion.

The roll-up door assembly shall be furnished with a spring-loaded, counter balance assembly to assist in door actuation.

All running board and high side compartments shall be equipped with roll-up doors.

ROBINSON ROLL-UP DOORS, PAINTED FINISH

QTY: 6
The roll-up doors shall be made of Robinson (ROM) brand. The doors shall be painted to match the required color of the fire department.

PAINTED ROLLUP DOORS - PAINTED CURTAIN ONLY

QTY: 6
The doors shall be painted to match the required color of the fire department.

PROTECTION PANELS FOR ROLL-UP DOORS

A protection panels shall be provided at the top of the body exterior compartments fitted with roll-up doors.

The panels shall be installed below the roll-up area to prevent possible damage to the roll-up door by misplaced equipment.

Each protection panel shall be as offered from the door manufacturer.

REAR COMPARTMENT DOOR MANUFACTURER - ROM

The rear compartment door brand shall be ROM.

ROLLUP PROTECTION PANELS ON BODY DOORS

Seven (7) rollup door protection panels shall be installed.

COMPARTMENT TOPS

Compartment ceilings shall be a fully welded design as part of the body construction process.

Compartment designs that do not have a welded in ceiling shall not be acceptable.

There will be no exceptions.

REAR BODY PANEL

The rear body panel shall extend the full width between the body side compartments.

This panel shall be full height from the rear step to the hose bed floor.

No part of the rear panel shall be attached to the booster tank.

The rear body panel material shall be tread plate as standard.

If Chevron striping is specified for the rear of the body then smooth aluminum shall be utilized.

TREAD PLATE OVERLAY, FRONT OF SIDE COMPARTMENTS (NON-WRAP AROUND)

The front face of the side compartments, next to the driver and officer pump panels shall be overlaid with full height tread plate protection panels.

The overlays shall cover the front face of the compartments only, they shall not wrap around to the door opening.

BODY RUB RAILS, C-CHANNEL - ALUMINUM EXTRUSION

Sacrificial extruded aluminum C-Channel style, rub rails shall be mounted at the base of the body, extending outward from the body. The rub rails shall extend the full length of the main body.

ALUMINUM WHEEL WELL LINERS

The body wheel wells shall be provided with fully removable bolt-in aluminum fender liners. The wheel well liners shall extend from the outer wheel well body panel into the truck frame. The completely washable wheel well liners shall be designed to protect the front and rear compartments and main body supports from road salts, dirt accumulation and corrosion.

POLISHED STAINLESS STEEL FENDERETTES

The rear fenders shall be equipped with easily replaceable bolt-in polished stainless steel fenderettes. The fenderettes shall be equipped with a rubber gasket molding between the body panel and the fender.

REAR MUD FLAPS

Heavy duty mud flaps shall be provided behind the rear wheels.

EXTENDED REAR STEP – 12” D X 100” W - TAPERED ENDS

The extended rear step shall be 12" deep and extend beyond the body compartments. The step shall be 100” wide and have tapered corners, approximately 3” x 3” chamfer, for improved clearance. The step shall be fabricated from 3/16" tread plate and shall be rigidly reinforced. The rear edge of the step shall be designed to accommodate the rear clearance lights. The rear step overlay shall be bolted in place with an approximate 1/2" clearance gap between the step and rear body panel.

INTERMEDIATE REAR STEP, 8" X 42" BOLT-ON

A eight (8) inch deep, bolt on intermediate rear step, fabricated from 3/16" tread plate, shall be installed. The step shall be approximately 8" deep x 42" wide.

TWO (2) VERTICAL RAILS ON REAR

Two (2) vertical rails shall be mounted on the rear edge of the beavertails, one (1) each side.

ONE (1) HANDRAIL, BELOW HOSE BED LEVEL

One (1) horizontal, full width handrail shall be installed on the rear, below the level of the hose bed.

HANDRAIL ABOVE PUMP PANEL, EACH SIDE

Two (2) horizontal handrails shall be mounted above each pump panel, (1) each side.

GRAB RAILS, HANSEN KNURLED ALUM. LIGHTED - NO INSERT

All hand rails shall be Hansen 1-1/4" outer diameter, knurled bright anodized aluminum extrusion, designed to meet NFPA 1901 requirements.

Each grab rail shall have white LED lights that shall wired to the DOT marker lights and interlocked to illuminate when the parking brake is applied.

Molded gaskets shall be installed between the handrail stanchion castings and body surfaces to prevent electrolytic reaction between dissimilar metals and to protect paint.

Grab rails shall be provided at the following specified locations. Additional grab rails shall be provided adjacent to any additional steps specified to comply with NFPA 1901.

INNOVATIVE CONTROLS LIGHTED STEP(S), BODY FRONT, DRIVER SIDE

Innovative Controls large lighted folding step(s), with a textured chrome plate finish, shall be provided on driver side body front to provide NFPA compliant access (maximum 18” height between steps) to an upper horizontal walking surface (compartment cap, dunnage area, fabricated step, or upper body compartments).

INNOVATIVE CONTROLS LIGHTED STEP(S), BODY FRONT, OFFICER SIDE

Innovative Controls large lighted folding step(s), with a textured chrome plate finish, shall be provided on officer side body front to provide NFPA compliant access (maximum 18” height between steps) to an upper horizontal walking surface (compartment cap, dunnage area, fabricated step, or upper body compartments).

INNOVATIVE CONTROLS LIGHTED FOLDING STEP(S), BODY REAR, DRIVER SIDE

Innovative Controls large lighted folding step(s), with a textured chrome plate finish, shall be provided on driver side body rear to provide NFPA compliant access (maximum 18” height between steps) to an upper horizontal walking surface (compartment cap, dunnage area, fabricated step, or upper body compartments).

INNOVATIVE CONTROLS LIGHTED FOLDING STEP(S), BODY REAR, OFFICER SIDE

Innovative Controls large lighted folding step(s), with a textured chrome plate finish, shall be provided on officer side body rear to provide NFPA compliant access (maximum 18” height between steps) to an upper horizontal walking surface (compartment cap, dunnage area, fabricated step, or upper body compartments).

PAINTED REAR TOW EYES, BELOW BODY

Two (2) painted tow eyes shall be furnished on the rear of the vehicle. The tow eyes shall be made from plate steel and shall be bolted directly to the chassis frame rails with grade 8 bolts. The tow eyes will extend below the body. The tow eyes shall be smooth and free from sharp edges. They will have a minimum eyelet hole of 2-1/2". The tow eyes shall be painted.

STANDARD BED - WIDE STYLE BED (94" WIDE)

The hose bed shall be located directly above the booster tank and be free from all sharp objects such as bolts, nuts, and so on, in avoidance of damage to the fire hose. For added strength, the hose bed side walls shall be approximately 3" thick, providing a mounting surface for devices such as warning and scene lights. The inner hose bed side walls shall be brushed aluminum panels, which will help prevent damage to painted surfaces when the hose is deployed. The front wall shall be flanged inward 2" with a 1" downward return, providing additional rigidity to the front wall.

CUSTOMER SPECIFIED HOSEBED CAPACITY

The hose bed shall be designed with enough storage capacity to carry the following customer specified hose load:

- 1000’ of 5” Hose
- 400’ of 2.5” Hose

HOSEBED FLOORING - ALUMINUM SLATS

Flooring is to be constructed from extruded aluminum and have proper spaces for ventilation purposes. The flooring shall be smooth and free from sharp edges to avoid any hose damage. The hose bed floor shall be removable, providing access to the inner body framework.

TWO (2) - 1/4" ADJUSTABLE HOSEBED PARTITIONS

Two (2) fully adjustable 1/4" aluminum hose bed partitions shall be provided. The partition shall be easily adjustable by channels, located at the front and rear of the hose bed. The partition shall be removable for access to the booster tank.

HOSEBED COVER - VINYL WITH VELCRO

A hose bed cover shall be provided and installed. The cover shall be made from heavy-duty vinyl coated polyester fabric. The cover shall be sewn with ultraviolet resistant thread and have 2" wide nylon webbing sewn around the perimeter to provide additional strength. The cover shall be secured to the top front body flange with Velcro and quarter turn fasteners. The top side body flange should also be secured with Velcro. A weighted flap shall be furnished on the rear of the cover with two (2) bungee cords.

VINYL MATERIAL COLOR - BLACK

The vinyl material shall be black in color.

LADDER STORAGE-THROUGH POLY WATER TANK

The ground ladders shall be stored horizontally within a sleeve in the water tank.

THROUGH POLY WATER TANK - LADDER STORAGE TWO (2) SECTION

The ground ladders shall be stored horizontally within a sleeve in the water tank. A hinged access door shall be provided on the enclosure that ties into the "Do Not Move Apparatus" warning system.

LADDER STORAGE TUNNEL, FRONT DEFLECTOR

The ladder storage area shall be provided with a black vinyl coated polyester deflector at the forward opening to deflect road debris from entering the ladder storage area.

BACK BOARD STORAGE SLOT WITHIN LADDER STORAGE

The ladder storage area shall be designed to accommodate storage for a backboard, the storage slot shall be sized 18" tall x 2" wide x 74" long to accommodate a standard size backboard.

The storage area shall have composite material on the bottom surface to protect the backboard.

ALCO-LITE PEL-24 24' 2-SECTION EXTENSION LADDER

Alco-Lite model PEL-24; 24', aluminum, two (2) section extension ladder shall be provided.

ALCO-LITE PRL-14 14' ROOF LADDER W/FOLDING HOOKS

Alco-Lite model PRL-14; 14', aluminum, straight roof ladder with folding hooks shall be provided.

ALCO-LITE FL-10 10' FOLDING ATTIC LADDER

Alco-Lite model FL-10; 10', folding, aluminum, attic ladder shall be provided.

PIKE POLE TUBES

Two (2) pike pole tubes shall be provided.

Each holder shall be accessible from the rear of the apparatus.

Each pike pole holder shall be labeled to indicate the pike pole length.

LOCATION PIKE POLE TUBES - IN TANK LADDER COMPARTMENT

The pike pole tubes shall be mounted in the through tank ladder storage compartment.

SUCTION HOSE STORAGE BUILT INTO BODY (BEHIND ROLLUP DOORS)

The suction hoses shall be located beneath the hose bed. There will be one (1) on the driver side and one (1) on the officer side. The hose storage area shall be accessed from the rear of the apparatus.

Note: On bodies with roll up style doors, the storage area shall be behind the roll of the door and will not affect usable compartment space. On bodies with hinged style doors, the storage area shall be in the top corner of the compartment.

A vertically hinged smooth aluminum, finish painted to match the body, access door with thumb type latches, shall be provided on the compartments. The door shall be provided with a door switch that ties into the "Do Not Move Apparatus" warning system.

SUCTION HOSE TROUGHS - TWO

Two (2) aluminum adjustable hose trough(s) shall be provided to accommodate the suction hoses. Two (2) hose holders shall be furnished on each trough.

TWO (2) 13 SECTIONS OF 6" LIGHTWEIGHT SUCTION HOSE

Two (2) 13 foot sections of six (6) inch PVC lightweight suction hose shall be furnished (Kochek or Firequip Maxi-Flex). Suction hoses shall be for suction use only. They should not be used on pressurized hydrants or for relay pumping. Couplings shall include a long handle with a female swivel on one end and a rocker lug male on the other. All threads shall be six (6) inch N.S.T.

6" NST, KOCHEK LOW LEVEL STRAINER W/ MOUNTING BRACKET

A 6" N.S.T. Kochek LL60 low level type strainer(s) with integral jet siphon shall be provided and attached to the suction hose. A Kochek LLMB compartment mounting bracket shall also be provided to store the strainer(s) when not in use.

SINGLE SIDED PAC TRAC -7000 – BETWEEN FORWARD FACING SEATS

Aluminum Pac Trac #7000 channel material for tool and equipment mounting shall be provided in the noted quantity of high side compartment(s), approximately 50" wide x 29" high. All installation hardware shall be stainless steel.

MISCELLANEOUS EQUIPMENT

The following equipment shall be mounted as specified or as loose equipment provided with the completed apparatus at the time of delivery:

ROAD SAFETY KITS

A road safety kit shall be furnished with the following equipment:

- 2 1/2 lb. B-C fire extinguisher
- Triangle safety reflectors.

WHEEL CHOCKS

Two (2) ZICO #SAC-44 folding wheel chocks shall be mounted forward of the rear wheels on the driver side below the side running board compartments.

ADDITIONAL ITEMS SHIPPED WITH VEHICLE

1 - Bag of assorted stainless steel nuts and bolts

GENERAL PAINT DESCRIPTION

The apparatus body shall be painted with Sikkens paint product. The paint process shall meet or exceed current state regulations concerning paint operations. Pollution control shall include measures to protect the atmosphere, water, and soil. Contractor shall, upon demand, provide evidence that the manufacturing facility is in compliance with State EPA rules and regulations.

The exterior shall have no mounted components prior to painting to assure full coverage of metal treatments and paint to the exterior surfaces of the body. Any vertically or horizontally hinged smooth-plate compartment doors shall be painted separately to assure proper paint coverage on body, door jambs and door edges.

Paint process shall feature Sikkens high solid LV products and be performed in the following steps:

- Corrosion Prevention - all aluminum surfaces shall be pre-treated with the Alodine 5700 conversion coating to provide superior corrosion resistance and excellent adhesion of the base coat.
- Sikkens Sealer/Primer LV - acrylic urethane sealer/primer shall be applied to guarantee excellent gloss hold-out, chip resistance and a uniform base color.
- Sikkens High Solid LVBT650 (Base coat) - a lead-free, chromate-free high solid acrylic urethane base coat shall be applied, providing excellent coverage and durability. A minimum of two (2) coats shall be applied.
- Sikkens High Solid LVBT650 (Clear coat) - high solid LV clear coat shall be applied as the final step in order to ensure full gloss and color retention and durability. A minimum of two (2) coats shall be applied.

Any location where the material is penetrated after painting, for the purpose of mounting steps, hand rails, doors, lights, or other specified components shall be treated at the point of penetration with a corrosion inhibiting pre-treatment (ECK Corrosion Control). The pre-treatment shall be applied to the aluminum sheet metal or aluminum extrusions in all locations where the aluminum has been penetrated. All hardware used in mounting steps, hand rails, doors, lights, or other specified components shall be individually treated with the corrosion inhibiting pre-treatment.

After the paint process is complete, the gloss rating of the unit shall be tested with a 20 degree gloss meter. Coating thickness shall be measured with a digital MIL gauge and the orange peel with a digital wave scan device.

GENERAL PRIMER & PREP DESCRIPTION

All exposed welds shall be ground smooth for final finishing of areas to be painted.

The compartments and doors are totally degreased and phosphatized.

After final body work is completed, grinding (36 and 80 grit), and finish sanding shall be used in preparation for priming.

GENERAL FINISH PAINT DESCRIPTION

The body shall be finish sanded and prepared for final paint.

Upon completion of final preparation, the body shall be painted utilizing the highest quality, state of the art, low V.O.C., polyurethane base paint.

Finish paint shall be applied in multiple coats to ensure proper paint coverage with a high gloss finish.

FINISH PAINT & PREP

The applicable areas of the cab shall be finish sanded and prepared for final paint.

Upon completion of final preparation, the cab shall be painted utilizing the highest quality, state of the art, low V.O.C., polyurethane base paint.

Finish paint shall be applied in multiple coats to ensure proper paint coverage with a high gloss finish.

CAB PRIMER & PREP

The cab primer shall be a two (2) stage process.

First stage shall be a coating with a two part component, self etching, and corrosion resistant primer to chemically bond the surface of the metal for increased adhesion.

Second stage shall be multiple coats of a catalyzed, two component, polyurethane primer applied for leveling of small imperfections and top coat sealing.

CUSTOM CAB UNDERSIDE - UNPAINTED

The exposed areas under the cab shall be cleaned and unpainted.

INSIDE/UNDERSIDE BODY -UNPAINTED

The inside and underside areas of the complete body assembly shall be cleaned and un-painted prior to the installation of the body on the chassis or torque box.

CAB BUFFING & FINISH

The exposed exterior finish of the cab shall be buffed and detailed.

CAB INTERIOR PAINT

The interior metal surfaces of the cab shall be finish painted with a textured black paint.

BODY BUFFING & FINISH

The visible and exposed areas of the body shall be buffed and detailed.

COMPARTMENT INTERIOR FINISH

The interior of the compartments shall be finish painted with Multispec #7251 Gray Stone scuff resistant paint to provide a protective application over all of the compartment interior surfaces.

FENDER COMPARTMENT INTERIOR

The interior of the fender storage compartments (if fender compartments are specified) shall be finish painted job color.

CAB PAINT SCHEME - N/A

The cab exterior shall be finish painted with Sikkens paint system, single color, to match purchaser's furnished paint code.

PUMPHOUSE & PLUMBING PAINT

The pump enclosure and pump/plumbing within the pump enclosure shall be painted black.

SINGLE COLOR BODY PAINT SCHEME - RED

The body paint finish shall be Sikkens paint system in a single color to match customer furnished paint codes and requirements.

PINT OF TOUCH-UP PAINT

One (1) pint of each exterior color paint for touch-up purposes shall be supplied when the apparatus is delivered to the end user.

FINALIZATION & DETAILING

Prior to delivery the vehicle, the interior and exterior be cleaned and detailed.

The finalization process detailing shall include installation of NFPA required labels, checking fluid levels, sealing and caulking required areas of the cab and body, rust proofing, paint touch-up, etc.

FRAME RAIL FINISH

The chassis frame rails, suspension, axles, and drivelines (with the exception of any PTO drivelines which shall be safety yellow) shall be painted black with a polyurethane base paint prior to installation of any air lines or electric systems to ensure proper serviceability.

LETTERING SIZE ON FRONT BUMPER

Lettering provided on the front bumper shall be sized as practicable to the area available for application.

LETTERING ON FRONT BUMPER - ENGINE 16

Scotch-Lite without drop shadow lettering shall be provided on the front bumper per the fire department requirements.

The design of the lettering on the front bumper shall be designed to fit in the applicable space available.

LETTERING FONT ON FRONT BUMPER

The lettering shall be designed and cut with a Times New Roman type font:

"TIMES NEW ROMAN TYPE FONT"

LETTERING ON FRONT CAB DOORS

Gold leaf, "Real Gold" vinyl, with drop shadow lettering shall be provided on the cab driver's and officer's doors per the fire department requirements.

The design of the lettering on the cab doors shall be designed to fit in the 496 sq. inches available.

3" LETTERING ON FRONT CAB DOORS

Lettering provided on the driver's and officer's cab doors shall be 3" high.

FRONT CAB DOOR TEXT LINE 1 - CRABTREE IRONDUFF

FRONT CAB DOOR TEXT LINE 2 - VOL. FIRE DEPT.

FRONT CAB DOOR LETTERING TOP LINE ARCED

LETTERING ON REAR CAB DOORS

Gold leaf, "Real Gold" vinyl, with drop shadow lettering shall be provided on the cab driver's and officer's doors per the fire department requirements.

The design of the lettering on the cab doors shall be designed to fit in the 496 sq. inches available.

3" LETTERING ON REAR CAB DOOR

Lettering provided on the front of cab shall be 3" high.

REAR CAB DOOR TEXT LINE 1 - ENGINE 16

LETTERING ON REAR BODY

Scotch-Lite without drop shadow lettering shall be provided on the rear body panel per the fire department requirements.

The design of the lettering on the rear of the body shall be designed to fit in the 167 sq. inches available.

3" LETTERING ON REAR BODY

Lettering provided on the rear body panel shall be 3" high.

REAR BODY TEXT LINE 1 - E16

REAR BODY TEXT LINE 2 - IN GOD WE TRUST

COFFIN COMPARTMENT LETTERING

Gold leaf, "Real Gold" vinyl, with drop shadow lettering shall be provided on the coffin compartment per the fire department requirements.

The design of the lettering on the coffin compartment shall be designed to fit in the 2500 sq. inches available.

12" LETTERING ON COFFIN COMPARTMENT

Lettering provided on the coffin compartment shall be 12" high.

COFFIN TEXT LINE 1 - CRABTREE-IRONDUFF

SCOTCH-LITE STRIPE

A four (4) inch high "Scotch-Lite" stripe shall be provided.

The stripe shall be applied on a minimum of 60 percent of each side of the unit, 60 percent on the rear of the unit and 40 percent on the front of the unit.

The Scotch-Lite stripe layout shall be determined by the Fire Department.

WHITE SCOTCH-LITE

The Scotch-Lite shall be white in color.

REAR CHEVRON STRIPING

REAR CHEVRON STRIPING

ENTIRE REAR

The entire rear of the truck shall be covered with alternating strips of reflective striping.

6" FULL REAR SCOTCH-LITE DIAMOND GRADE CHEVRON

The striping shall be 6" Diamond Grade Scotch-Lite.

RED & FLUORESCENT YELLOW GREEN DIAMOND

The Diamond Grade Scotch-Lite shall be Red and Fluorescent Yellow Green in color.

-

KME WARRANTY, STARTING ON IN-SERVICE DATE

Warranty coverage by KME will begin when the customer places the unit in service. This date may not exceed 60 days from the date of delivery to the customer.

The Customer must email kmeservice@kmefire.com within 60 days of delivery, or the warranty start date will default to the original delivery date.

GENERAL ONE (1) YEAR WARRANTY

Purchaser shall receive a General One (1) Year or 24,000 Miles limited warranty in accordance with, and subject to, warranty certificate RFW0001. The warranty certificate is incorporated by reference into this proposal, and included with this proposal or available upon request.

REGULATED EMISSIONS SYSTEMS FIVE (5) YEARS OR CARB

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

ELECTRICAL ONE (1) YEAR WARRANTY

Purchaser shall receive a Electrical One (1) Year or 18,000 Miles limited warranty in accordance with, and subject to, warranty certificate RFW0201. The warranty certificate is incorporated by reference into this proposal, and included with this proposal or available upon request.

FRAME ASSEMBLY STRUCTURAL TWENTY (20) YEAR WARRANTY

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

FRAME RAIL CORROSION (PAINTED) THREE (3) YEAR WARRANTY

Purchaser shall receive a Frame Rail Corrosion (Painted) Three (3) Years or 48,000 Miles limited warranty in accordance with, and subject to, warranty certificate RFW0310. The warranty certificate is incorporated by reference into this proposal, and included with this proposal or available upon request.

BODY STRUCTURE (ALUMINUM) FIFTEEN (15) YEAR WARRANTY

Purchaser shall receive a Body Structure (Aluminum) Fifteen(15) Years or 100,000 Miles limited warranty in accordance with, and subject to, warranty certificate RFW0503. The warranty certificate is incorporated by reference into this proposal, and included with this proposal or available upon request.

PAINT AND FINISH (EXTERIOR CLEAR COATED) WARRANTY

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

PLUMBING AND PIPING (STAINLESS STEEL) WARRANTY

Purchaser shall receive a Plumbing and Piping (Stainless Steel) Ten (10) Years or 100,000 Miles limited warranty in accordance with, and subject to, warranty certificate RFW0800. The warranty certificate is incorporated by reference into this proposal, and included with this proposal or available upon request.

5 YEAR CUMMINS BASE WARRANTY

The proposed unit will be equipped with a Fire Service rated engine, which will come furnished with a five (5) year Engine Manufacturer's warranty. A copy of the manufacturer's warranty will be supplied to define additional details of the warranty provisions.

5 YEAR ALLISON EVS TRANSMISSION WARRANTY

The proposed Allison transmission will be provided with a five (5) year warranty. A copy of the Allison transmission warranty will be supplied to the purchaser to define additional details of the warranty provisions.

3 YEAR COOLING SYSTEM WARRANTY - CUSTOM

Kovatch Mobile Equipment (KME) warrants all Cooling System Equipment components used in the construction of KME Fire Apparatus against defects and workmanship provided the apparatus is used in a normal and reasonable manner. This warranty is extended only to the original user-purchaser for a period of three (3) years from the date of delivery/acceptance to the original user-purchaser, whichever occurs first.

This warranty applies to both purchased and fabricated, manufacturer supplied coolant system components and is not provided in lieu of any Vendor provided warranties. All coolant system components provided by the engine manufacturer are covered by the engine manufacturer’s warranty only.

SHEPPARD STEERING GEAR STANDARD - WARRANTY

The proposed Sheppard steering gear will be warranted for a period of three (3) years from the first date of service or 150,000 miles (241,401 kilometers), whichever occurs first. The product will be free from defects in material and workmanship under normal use in applications approved in advance by Sheppard.

5 YEAR MERITOR 180 SERIES TANDEM AXLE REAR

The Meritor axle/s shall be provided with a five (5) year warranty. The first two (2) years shall be parts and labor; the remaining three (3) years shall be parts only. Wheel seals, gaskets and wheel bearings shall be covered for one year. A copy of Meritor's warranty shall be supplied to define additional details of the warranty provisions. Vehicles that operate full or part-time outside the United States and Canada shall have a one (1) year, parts only warranty.

5 YEAR LETTERING WARRANTY

The apparatus manufacturer will provide a five (5) year warranty against defects in material and workmanship for all graphics processes. Any valid claims must be made in writing within 15 days of the determination of any defects to the manufacturer's fire apparatus. The manufacturer will at its option make any necessary repairs either at a local authorized service center or at the factory if required. The manufacturer will make the final decision as to where the repairs are to be made and any transportation cost is the owner's responsibility. The manufacturer will at its option, repair or replace any verified defects in workmanship or materials at no cost to the owner provided all the requirements of this warranty have been met.

The manufacturer will not be liable to the original purchaser or anyone else for consequential, incidental, special or direct damages, including, but not limited to, any claims for loss of profits, downtime, loss of use or inconvenience. THE COMPANY MAKES NO OTHER WARRANTY, EXPRESSED OF IMPLIED, AND SPECIFICALLY, DISCLAIMS ANY IMPLIED WARRANTY INCLUDING THE WARRANTY OF MERCHANTABILITY.

The manufacturer continually strives to improve its products and therefore, reserves the right to make improvements or changes without incurring any obligations to make such changes or additions to equipment previously sold.

1 YEAR BRIGHTWORK WARRANTY

KME Fire Apparatus (KME) warrants all bright finish components used in the construction of KME Fire Apparatus against defects and workmanship provided the apparatus is used in a normal and reasonable manner. This warranty is extended only to the original user-purchaser for a period of one (1) year from the date of delivery/acceptance to the original user-purchaser, whichever occurs first.

The expressed warranty excludes corrosion or degradation of bright finished components caused by damage to the component.

FRONT SUSPENSION - STEERTEK - 5 YEAR WARRANTY

The Hendrickson Steertek NXT front axle shall be provided with a five (5) year parts and labor warranty and shall include the axle and kingpin assembly, the steering arm assembly, and the upper and lower steering knuckle assembly.

The warranty for the integrated suspension components shall be two (2) years or two hundred fifty thousand (250,000) miles, whichever occurs first.

The integrated suspension components covered under this two year warranty are limited to:

- Front Frame Hanger Assemblies
- Rear Shackle Assemblies
- Jounce Stop Assemblies
- Rear Frame Hanger Assemblies
- Shock Absorbers
- Shock Absorber Brackets
- Leaf Spring Assemblies

A copy of the Hendrickson Steertek NXT Warranty shall be provided to define additional details of the warranty provisions.

LEAF SPRING - 1 YEAR WARRANTY

KME hereby warrants to the original Buyer, that leaf spring products installed will be free of defects in material and workmanship for one (1) year. The “Warranty Period” commences on the date the original Buyer takes delivery of the product from the manufacturer.

LIFETIME POLY TANK WARRANTY - ALL TANKS

The proposed water tank will be warranted by the water tank manufacturer for the "Lifetime" of the unit. A copy of the manufacturer's warranty will be supplied to define additional details of the warranty provisions.

WATEROUS 7 YEAR PUMP WARRANTY PARTS ONLY

Waterous warrants, to the original Buyer only, that products manufactured by Waterous shall be free from defects in material and workmanship under normal use and service for a period of seven (7) years from the date the product is first placed in service or seven and one-half (7 1/2) years from the date of shipment by Waterous, whichever period shall be the first to expire; provided the buyer notifies Waterous, in writing, of the defect in said product within the warranty period, and said product is found by Waterous to be nonconforming with the aforesaid warranty.

CLASS 1 - PRODUCT WARRANTY

Class 1 warrants that any equipment of our own manufacture (or manufactured for us pursuant to our specifications) found to have defects in material or workmanship during normal use and service, will be repaired or replaced (at our opinion) free of charge, provided that written notice of such defect is received by us within two (2) years, (three 3 years on liquid filled gauges) after initial shipment.

AKRON - 5 YEAR LIMITED WARRANTY

The limited warranty set forth here against defective materials or workmanship for a period of five (5) years will be given by Akron Brass Co. with respect to Akron Brass Co. products purchased and used in the United States and Canada respectively. All Akron valves are warranted for 10 years.

AKRON - 5 YEAR LIMITED WARRANTY

The limited warranty set forth here against defective materials or workmanship for a period of five (5) years will be given by Akron Brass Co. with respect to Akron Brass Co. products purchased and used in the United States and Canada respectively. All Akron valves are warranted for 10 years.

CLASS 1 - ELECTRICAL PRODUCT WARRANTY

Class 1 warrants that any equipment of our own manufacture (or manufactured for us pursuant to our specifications) found to have defects in material or workmanship during normal use and service, will be repaired or replaced (at our option) free of charge, provided that written notice of such defect is received by us within two years (three for liquid-filled gauges) after initial shipment.

All equipment requiring repair or replacement under this warranty will be returned prepaid to Class 1. Such returned equipment will be examined by us and, if found to be defective as a result of materials failure or workmanship, will be repaired or replaced at no charge.

BOSTROM SEATING 5 YEAR WARRANTY

H.O. Bostrom will warrant each new seat manufactured, to be free from defects in materials and workmanship when delivered to the original purchaser for a period of five (5) years.

Labor to remove or reinstall and transportation of defective items will not be covered by, or any allowance made for the said cost under this warranty.

CORROSION TREATMENT

Upon apparatus completion, underside of the apparatus, from the pump enclosure-back, shall have anti corrosion film applied to help inhibit rust and the corrosion process. The semi-firm wax film shall be applied by air spray method. The film shall be applied as a minimum to the following areas: body substructure, underside of all body compartments, running board supports and rear step supports. No film shall be applied directly to the exhaust system or wheel wells.

NOTE: The film shall remain semi-firm to promote self-sealing. The film may leave a light tinted color to those areas treated.

Quote

Date	Quote #
3/19/2023	EST18373

Safe Industries

Safe Industries
5031 Highway 153
Easley SC 29642
United States
(864) 845-7175

Bill To	Ship To
Tyrell Mehaffey Crabtree-Ironduff Volunteer Fire Department 99 Susie Noland Rd Clyde NC 28721 United States	Tyrell Mehaffey Crabtree-Ironduff Volunteer Fire Department 99 Susie Noland Rd Clyde NC 28721 United States

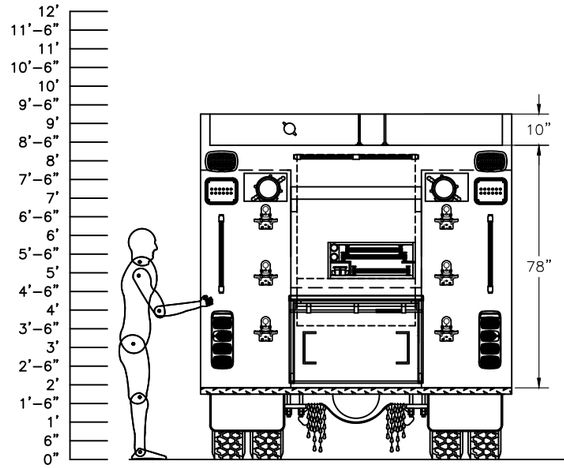
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4/18/2023	Brian Ross	Net 30	

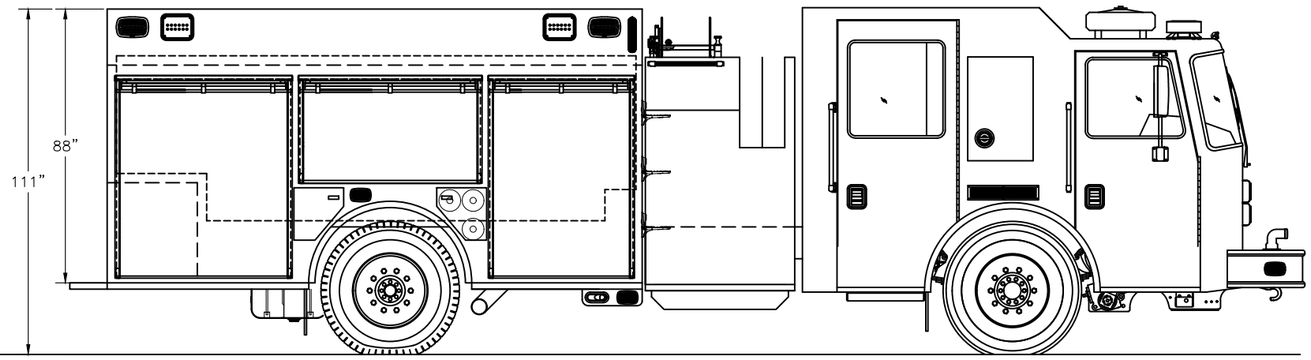
Quantity	Units	Item	Description	Comments	Price	Extended
2	Ea	79820001	Akron - Revolution Piston Intake Valve, w/ 30 Degree Swivel Elbow Inlet, w/ 5“ Storz & 6” LH inlet		1,850.00	3,700.00

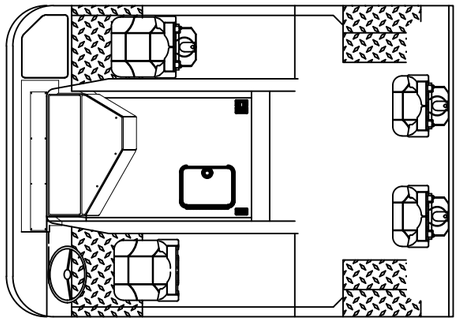
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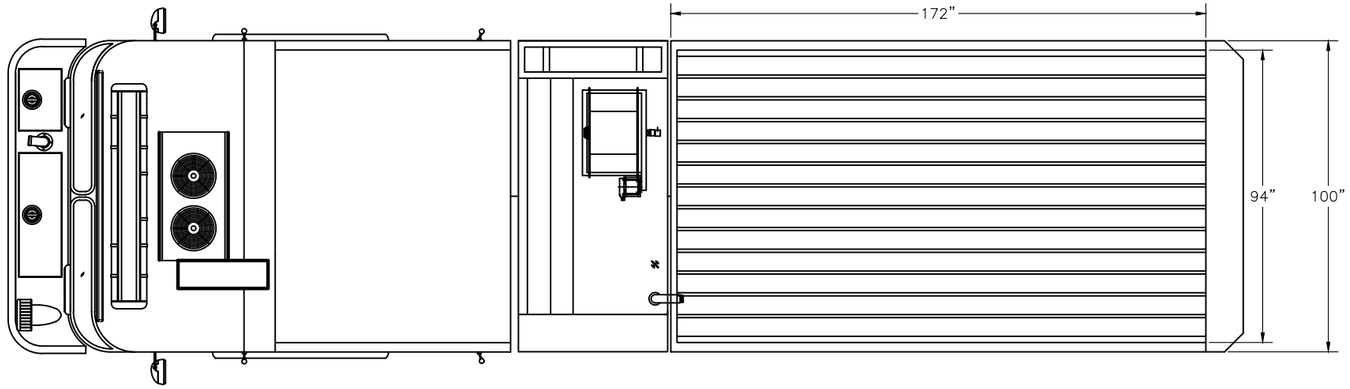
Please note quoted prices are subject to change after expiration date. Quoted prices expire 30 days from issue date.

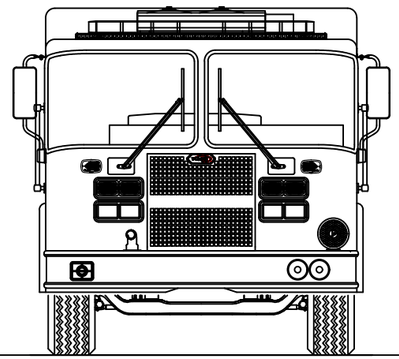
EST18373

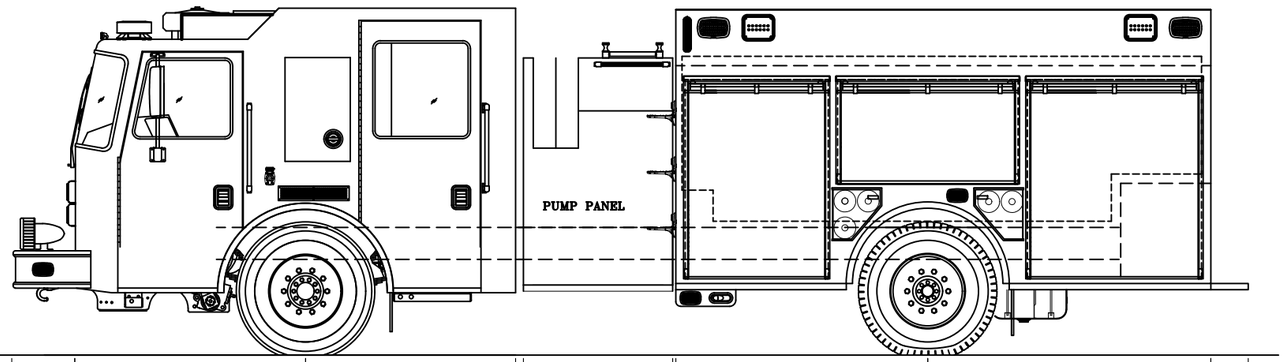


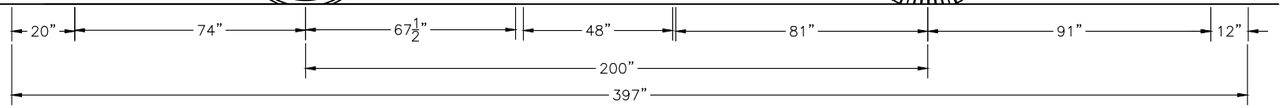












CAB: SEVERE SERVICE LFD 10" RR
ENGINE & TRANS: CUMMINS X12 500 HP/ALLISON 4000 EVS
AXLES: 22,000# FRONT STEERTEK/27,000# REAR
PUMP: WATEROUS CSU-C20 1500 GPM SINGLE STAGE PUMP
WATER TANK: 1000 GALLONS POLY
BODY TYPE: LONG 3/16" ALUMINUM
FOAM SYSTEM: N/A

THIS DRAWING IS A GENERAL CONFIGURATION AND MAY NOT NECESSARILY REFLECT ALL CONTRACTUAL REQUIREMENTS. CONTRACT SPECIFICATIONS SHALL PREVAIL OVER DRAWING.

CUSTOMER APPROVAL:

NAME:

TITLE:

DATE:

SYM	DATE	REVISION DESCRIPTION	APP'D

SALES ENGINEER : TBD

DIMENSIONS ARE APPROXIMATE & MAY VARY DUE TO BUILD ADJUSTMENTS

SCALE	DWG SIZE	DRAWN BY	DATE
NONE	B	MJH	3/17/2023
		APPROVED BY	

CUSTOM PUMPER

CRABTREE FD, NC

QUOTE # 8870-1

KME
ONE INDUSTRIAL COMPLEX – NESQUEHONING, PA 18240

SAFE INDUSTRIES

Official Proposal for Crabtree-Ironduff Fire Department

All Source Enterprises LLC. DBA Safe Industries herewith submits a specification of a KME Apparatus On March 24, 2023 in response to the specification request and in compliance with the description and specifications outlined in the meetings held with Crabtree-Ironduff Fire Department for:

Package:	One (1) KME Severe Side Mount Service Pumper, Four (4) Person Cab, with a Cummins X12 500HP Engine, a Waterous CSU 1500 GPM Pump, a 1000 Gallon Water Tank, Full Height Full Depth Compartments with ROM Roll Up Doors, Wide Hose Bed, Ladder and Pike Pole Storage Through the Water Tank, Suction Hose Built in to Body Behind Roll Up Doors	$835,900.00
•	Prior to Delivery of the Apparatus, Safe Industries Will Perform a Bumper to Bumper Inspection and Pump Test at No Cost to the Customer.	Included
•	During the First Year of the Truck's Warranty Period, Safe Industries Will Provide Warranty Inspections at 120 and 330 Days After Delivery at No Charge to the Customer.	Included
•	Final Inspection Air Travel, Meals and Expenses for Five (5) Department Personnel	Included
•	Loose Equipment as Specified on EST18373	$3,700.00
•	Shelving Contingency Funds	$10,000.00
Total of Package:		**$849,600.00**

Performance Bond Option:

- A Performance Bond Can be Provided Priced at $4.00 per One Thousand Dollars of the Contract Total ($849,600.00)
- Total for a 100% Performance Bond Provided on the Proposed Package Price as Listed Above: $4,000.00

Total of "Package" with a 100% Performance Bond Option as Described Above: $853,000.00

Prepayment Options:

- Total with 100% Prepay Discount in the amount of ($30,000.00) and 100% Performance Bond **$823,000.00**

***Please note that 100% of contract total must be received within15 days of contract signing in order to receive the prepay discount. Prepayment discount will be applied to the final invoice. ***

Final Pricing Shall be Subject to Surcharges Incurred on the Materials and Products Required to Build and Provide your Products. Final Invoices will Include a Line Item Labeled "Surcharge" Along with the Applicable Surcharge Amount. This is not a Negotiable Discussion with Safe Industries as we are Passing Through Costs Required to Build and Provide your Products.

Bidding Organization Name: All Source Enterprises LLC. DBA Safe Industries
Bidding Organization Address: 5031 Hwy 153
Easley, SC 29642

Signature of Bidder's Representative: Csmarler
Name: Cameron Marler
Title: Apparatus Sales Representative
Phone: (864) 245-7937
Email: cmarler@safeindustries.com

Delivery is to be made to the Customer subject to all clauses of the attached contract, within approximately 750 calendar days from receipt of the signed and accepted sales contract by the Manufacturer, KME Fire Apparatus. Safe Industries (the Company) shall not be held liable for any delay, failure to make delivery due to, war, fire, labor disputes, acts of God, governmental regulations, supplier issues beyond KME's reasonable control, breakdown of machinery, or any other causes or circumstances beyond the reasonable control of the Company which prevent or hinder the Company's manufacture and/or delivery of the Apparatus. Any changes after order submittal, including those made during a pre-construction conference, may void any penalty clauses or require that delivery and penalty be re-negotiated in good faith by both parties. The Bidder's right to withdraw this proposal, if not accepted within thirty (30) days from the above date is hereby acknowledged. The above price is good for 30 days.

COMMUNITY LEASING PARTNERS

Phone: 877.525.1776
Fax: 888.777.7875
Cell: 724.331.4982
215 S. Seth Child Road
Manhattan, KS 66502
www.clpusa.net

April 20, 2023

Customer Name: **Crabtree-Ironduff Volunteer Fire Department, NC**

Equipment: One (1) KME Custom Pumper Truck
Sales Representative: SAFE Industries, Cameron Marler

Community Leasing Partners, a Division of *Community First National Bank*, is pleased to present the following financing options for your review and consideration.

Option 1

Total Cost:	$	853,000.00	Payment Frequency:	Annual
Down Payment:	$	-	First Payment:	May 2025
Amount Financed:	**$**	**853,000.00**		

Term in Years: 15 (14-payments)
Payment: $86,429.16
Interest Rate: 4.41%

Option 2

Total Cost:	$	853,000.00	Payment Frequency:	Annual
Down Payment:	$	-	First Payment:	May 2025
Amount Financed:	**$**	**853,000.00**		

Term in Years: 15 (15-payments)
Payment: $83,363.61
Interest Rate: 4.58%

ESCROW STRUCTURE

Escrow Funding Date: May 20, 2023

Date Available	Total Available	Disbursement
May 9, 2025	$853,000.00	Final Delivery
Total:	$853,000.00	

- Interest Earnings in the escrow account have been estimated and used to reduce borrowing cost incurred by the Lessee.
- Premature disbursements or delay in funding to the escrow may result in shortage of funds needed to fulfill vendor payments.
- **THERE ARE NO DOCUMENTATION OR CLOSING FEES ASSOCIATED WITH THIS PROPOSAL.**
- Interest rates are fixed for terms up to 10 years. For terms greater than 10 years, upon receipt of the 7th payment, at sole discretion of the Lessor, the remaining payments can be adjusted based on an index determined at contract issuance and then will remain fixed for the remaining term.
- The quoted interest rate is valid for 10-days from the date of the proposal. To lock in the interest rate, a credit submission would be required, and a credit approval attained within the same 10-day period. This financing is to be executed & funded within 30 days of the date of the proposal or Lessor reserves the right to adjust the interest rate. The proposal is subject to credit review and approval and mutually acceptable documentation.
- This proposal has been prepared assuming the lessee is bank qualified and that the proposed lease qualifies for Federal Income Tax Exempt Status for the Lessor under Section 103 of the IRS Code.

Thank you for allowing Community Leasing Partners the opportunity to provide this proposal. If you have any questions regarding the options presented, need additional options, or would like to proceed with a financing, please contact me at 1-877-525-1776.

Respectively,

Dave Fike
Director-Business Development
davefike@clpusa.net

BOARD OF COMMISSIONERS

L. KEVIN ENSLEY, CHAIRMAN
BRANDON C. ROGERS, VICE-CHAIRMAN
TOMMY LONG
JENNIFER BEST
TERRY RAMEY

COUNTY MANAGER
BRYANT MOREHEAD

COUNTY ATTORNEY
FRANK G. QUEEN

The undersigned official of Haywood County (hereinafter referred to as "County) pursuant to section 147(f) of the Internal Revenue Code of 1986, as amended (the "code), hereby approves the entering into by Crabtree-Ironduff Volunteer Fire Department, Inc of an Agreement in an aggregate principal amount not to exceed $853,000.00 to finance equipment consisting of one (1) New KME Custom Pumper Truck which will be located at the firehouse of the Crabtree-Ironduff Volunteer Fire Department, Inc. **This approval does not in any way constitute any financial involvement or obligation of the County.**

Furthermore, this document acknowledges that for consideration, the receipt and sufficiency of which are hereby acknowledged, the Crabtree-Ironduff Volunteer Fire Department, Inc. has provided firefighting and other services for the County for many years and Crabtree-Ironduff Volunteer Fire Department, Inc. hereby agrees to meet the requirement to continue to provide firefighting and other services for the County.

Dated as of _____

Crabtree-Ironduff Volunteer Fire Department, Inc.

_____

John Best, Board Chairman

Haywood County

_____

L. Kevin Ensley, Chairman Board of County Commissioners

HAYWOOD COUNTY BOARD OF COMMISSIONERS
REGULAR AGENDA REQUEST

Item Title:
Request to execute Memorandum of Agreement with NC Office of State Budget and Management for a Flood Warning Notification project in the amount of $1,000,000 and to award the Water Level Sensor Gauge Bid to Distinctive AFWS Designs, Inc in the amount of $197,965.00 and approval for County Manager to execute related contract documents - Emergency Services Director Travis Donaldson

Board Action Request:

Requested Action Department:
EMS/EM

Presenter:
Zack Koonce

Background/Justification:
Haywood County was previously awarded funds for the Flood Warning Notification project under the Emergency Management Disaster Relief and Mitigation Grant. To fit the needs of the project County staff has worked with NCEM and the project will now be moved under the Tropical Strom Fred Unmet Needs PA Haywood County program.

Haywood County advertised for Water Level Sensor Gauge on January 3, 2023. The bid called for the installation of water level sensor gauges at nine (9) high priority locations and two (2) rain gauges at additional locations that meet the needs and desires of this Agency. Sites will require hardware installation and services for water level monitoring. The required services shall include, but not limited to, initial site evaluations, hardware installation, data logger configurations, telecommunication services for data to be received at the North Carolina Emergency Management, Emergency Operations Center (NCEM EOC) data center and configuring each site in the Contrail software system.

This advertisement for bids was open for 30 days and the County received 1 bid on February 2, 2023:
Distinctive AFWS Designs, INC in the amount of 197,965.00

Due to only receiving the one bid this was advertised again for 7 days on March 8, 2023 and the County received no additional bids.

Budgetary Impact:

Funding will be reimbursable from NCEM under the Tropical Strom Fred Unmet Needs Public Assistance funds Grant.

Policy Impact:

NA

Attachments:

BID TABULATION.pdf
Distinctive AFWS Design, Inc..pdf
BUA River Gauges and Siren System.pdf
Haywood_Co_Sirens-Gauges_Project_MOA.pdf

RFB #03012023 WATER LEVEL SENSOR GAUGES
Date: MARCH 8, 2023 3:00 pm **Bid Tabulation**
4th Floor Finance
Bid: Haywood County

		Company Name	Company Name	Company Name	Comapany Name
		DISTINCTIVE AFWS DESIGNS, INC			
WATER LEVEL SENSOR GAUGES FOR RIVERS AND RAIN	WATER LEVEL SENSOR GAUGE PACKAGE COST	$171,315.00			
	RAIN GAUGE PACKAGE COST	$26,650.00			
	5% BID BOND OR CHECK	BOND FOR $11,000.00			
	1 ORIGINAL & 1 COPY OF BID	YES			
	WARRANTY STATEMENT	YES			
	ANTI-COLLUSION AFFIDAVIT	YES			
	IRAN DIVESTMENT ACT CERTIFICATION	YES			
	E-VERIFY AFFIDAVIT	YES			
	TOTAL:	$197,965.00	$0.00	$0.00	$0.00

COPY

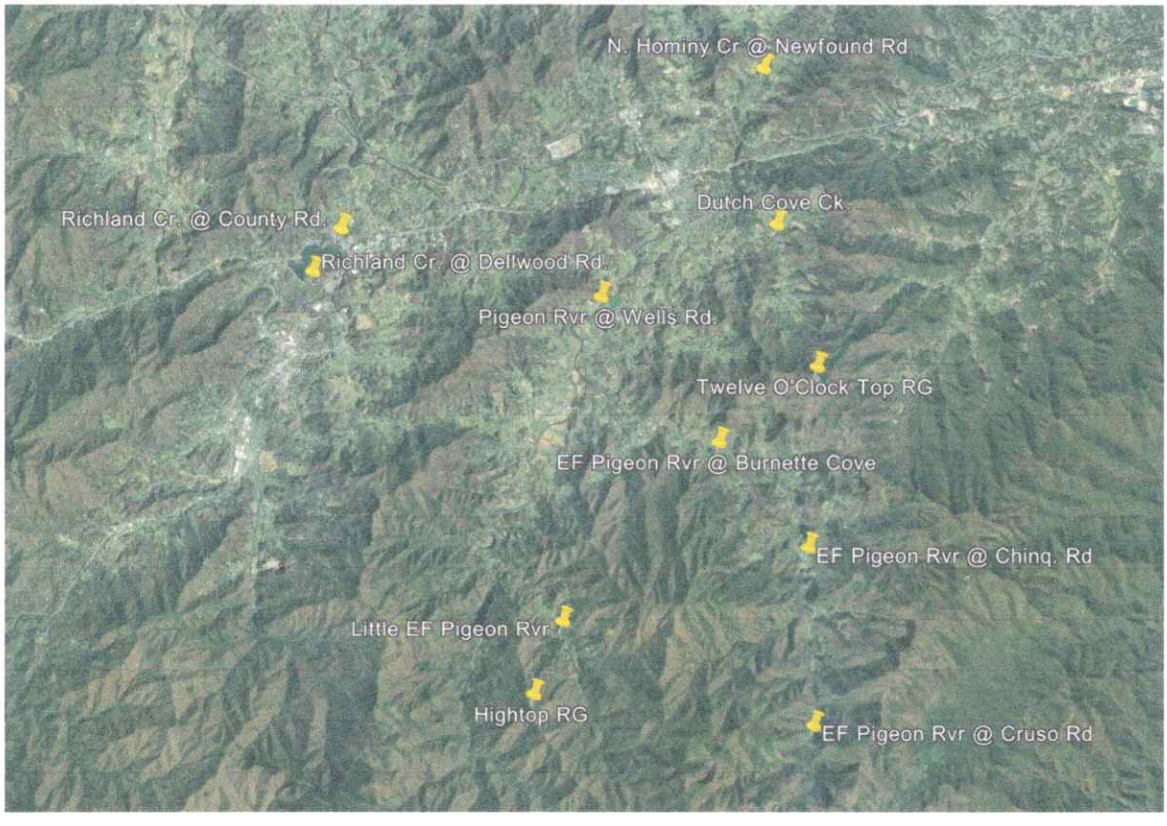
REQUEST FOR BIDS
Bid # 01032023
FOR
WATER LEVEL SENSOR GAUGES

Due: Thursday, February 2, 2023 at 3:00 PM

PROPOSAL

To: Kristi Hill
Finance Department
Haywood County
215 North Main Street
Waynesville, NC 28786

Submitted By: Distinctive AFWS Designs, Inc.
10 Poplar Ridge Drive
Leicester, NC 28748
(828) 683-1566



DISTINCTIVE AFWS DESIGNS, INC.
10 Poplar Ridge Dr. Leicester, NC 28748
(828) 683-1566
www.distinctiveafwsdesigns.com

February 2, 2023

PROPOSAL for:

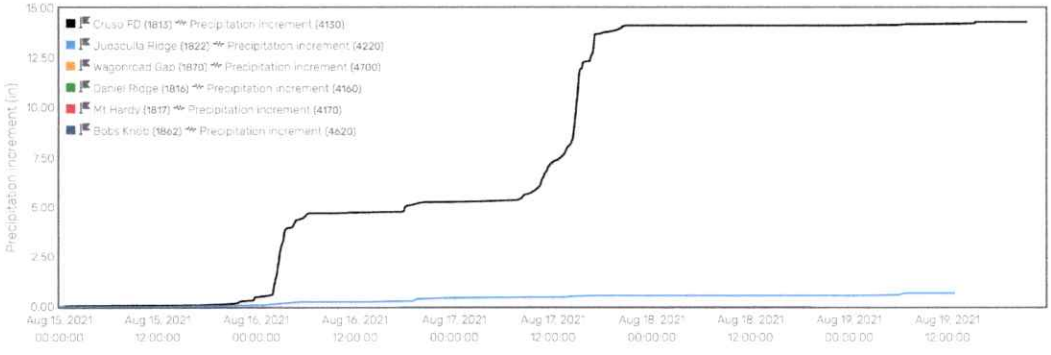
Haywood County RFB #01032023

Water Level Sensor Gauges

INTRODUCTION

Like many Western North Carolina (WNC) counties, Haywood County has experienced major flooding events. Oftentimes, these floods are triggered by heavy rainfall produced by remnants of Hurricanes and/or Tropical Storms that reach the western part of the State. Such was the case in 2004 (twice, from Hurricanes Frances and Ivan) and again in 2021 from Tropical Storm Fred. These events have created a need for increased attention to rainfall and water level monitoring in the county. While no flood warning system can stop or prevent flooding from happening, a reliable, well-designed, high-quality system can reduce the potential for damages, injuries, and loss of life. These goals are accomplished by detecting (measuring), recognizing threats (analysis), and notifying emergency responders and the public of the impending threat in a timely manner.

The first flood warning system gauges were installed in WNC by the National Weather Service in the mid-1980s. Along the Haywood County borders with Transylvania and Jackson counties, four rain gauges, more than a quarter of those initially installed, were installed to monitor those heavy rains that the devasting storms could produce. Then in the late 1980s, additional gauges were added to the network, both specifically in Haywood County and other counties of WNC. Unfortunately, over the years, many of the gauges have suffered from inadequate maintenance, thus resulting in unreliable data or no data at all. Such was the case when Tropical Storm Fred dumped its flood-producing rains on the southeastern portions of Haywood County in August 2021. As shown in the graph below, one of the six rain gauges in the flood impacted basins showed over 14 inches and another showed less than one-half inch. The other four gauges were out of service and not reporting.



"NO DATA IS BETTER THAN BAD DATA"

A reliable system begins with its design. Installing precipitation and water level sensors is easy but does not ensure the desired outcome of reducing the risks or impacts associated with flooding. Knowing where the hazard threats are and who is most likely to be affected by them is paramount when providing these crucial warnings. Being aware of the magnitude of potential threats is critical to any system design. Of course, the quality of the equipment deployed and the resilience of its installation will also impact the operational performance provided by the equipment. All components of the warning system must function in concert to save lives.



Soco Gap Rain Gauge (1985)

Gauge type, placement, and communication method must first be identified based on proven knowledge and experience. Simply putting dots on a map is not adequate for ensuring a sustainable and reliable network of gauges. Distinctive AFWS Designs, Inc. (DDi) has the knowledge, experience, and requisite skills to ensure a flood warning system, second to none, is installed and made operational for Haywood County that provides the necessary data in a timely and reliable manner.

ORGANIZATION CAPABILITIES

At Distinctive AFWS Designs, Inc. we believe that "No Data Is Better Than Bad Data" when it comes to flood warning systems that protect your community. Since 1991, DDi has specialized in the design of reliable flood warning systems that innovate to serve our clients' unique needs. We provide more than your cut-and-dry gauge and software combination.

We highly value preparation, cohesive integration, dependability, routine maintenance, and quality emergency response plans that keep you abreast of dangerous hydro-meteorological activity in your area. In short, we're the cutting-edge experts you need to provide lifesaving and damage-reducing flood warning systems for you and your community. DDi has been working with an array of flood warning technologies for over 30 years. We've also worked with most all the hardware and software vendors implementing client solutions that are reliable and cost effective. However, DDi does not manufacture equipment and will provide unbiased and independent professional guidance and services based on your needs.

We believe the key aspect of a successful automated flood warning system (AFWS) is the integration of multiple components designed to work together like a strong chain of links. This "chain" must include more than your standard water level gauging stations, computer software, and alarms. It should also include reliable data, stakeholder and public participation, quality response plans, and ongoing quality oversight and maintenance of all these components—all of which are services DDi offers above and beyond the standard hydro-meteorological gauging systems.

Our company tag line, "No Data Is Better Than Bad Data," is the beginning of everything we do. Data quality and reliability are paramount to ensuring the success of any system and we believe that this

success begins with the initial system design and continues with quality, ongoing system maintenance until the system needs upgrading.



DDi has helped two clients achieve the National Hydrologic Warning Council's Operational Excellence Awards for their systems: Harris County Flood Control District of Houston, TX (2015) and Charlotte/Mecklenburg Flood Information and Notification System of Charlotte, NC (2009).

Our staff has over 50 years of combined experience helping clients build and operate gauging stations and networks based on their needs rather than because of an affiliation with a particular vendor. As a system integrator with vast experiences working not only in the flood warning market, but also with advanced instrumentation and Command & Control systems, you can rely on us to provide reliable, unbiased guidance for your system. DDi staff have a long history of working with the National Hydrologic Warning Council, from serving on the board of directors to leading the ALERT2 Protocol Technical Working Group.

Our experiences working with ALERT, ALERT2, ModBus, Binary, Pseudo-Binary, and several other protocols through GOES, Cellular, Satellite, and Terrestrial media enables us to provide the best solution for your needs. We have provided services in several locations involving multiple outdoor warning sirens and their automation.

For this project, company principal David Haynes will serve as the project manager. He brings 40+ years of experience working with flood warning systems. His first involvement in Western North Carolina was in 1986. He was involved with installing the second wave of National Weather Service funded automated rain gauges in WNC. Since then, other gauges have been installed, with many of them failing to receive the maintenance necessary for their continued, reliable operation.

In addition to having served as a Director on the National Hydrologic Warning Council (NHWC) Board of Directors, David has also served as the Chairman of the Standards and Guidance Committee for the NHWC. Currently, he is serving as the Chairman of the ALERT2 Technical Working Group, leading a group of volunteers in the development and maintenance of a nationally recognized protocol for communicating flood warning data from gauging stations to computer systems that supply end users with said data.

Contact information for Distinctive AFWS Designs, Inc. and David is:

David L. Haynes, President
Distinctive AFWS Designs, Inc.
10 Poplar Ridge Dr.
Leicester, NC 28748-9742
(828) 683-1566 – Office
david.haynes@distinctiveafwsdesigns.com

Any questions regarding this Proposal or technical issues as to what would be best for the Haywood County Flood Warning System may be directed to David via the contact information above.

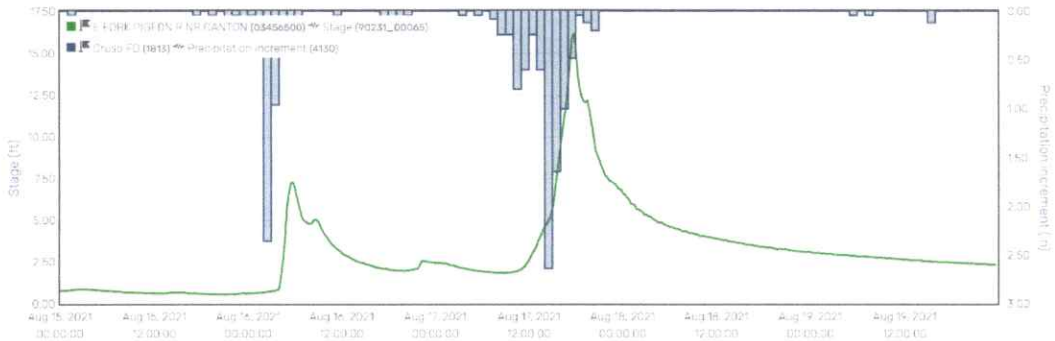
PROJECT DESCRIPTION



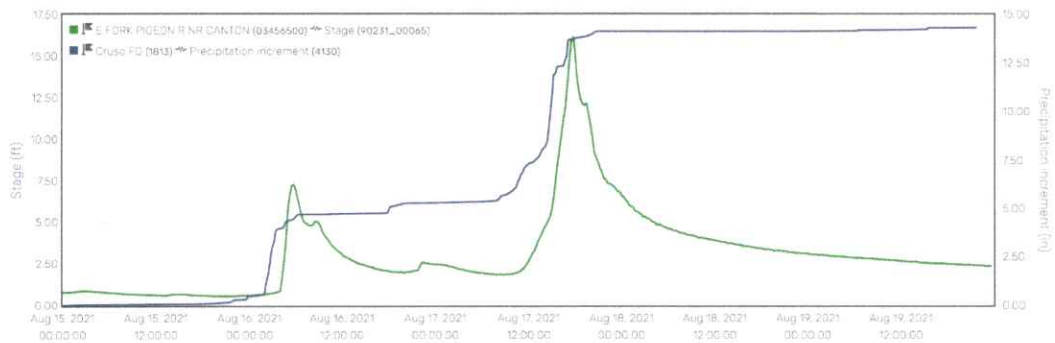
There are two aspects of a flood warning system that have been requested and that are therefore proposed herein: first, notification of public officials and emergency responders that a potential flood threat has been detected in a certain area, and second, automated warnings to the general public (e.g., Outdoor Warning Sirens).

Precipitation and water level measuring instrumentation will be installed in identified key locations to monitor present conditions. These measurements will be locally evaluated, and determinations will be made as to whether a measurement is being reported in real-time. Typically, rainfall is reported as it happens (with some restrictions depending on the resolution desired and the protocol used for reporting). Water levels are generally reported on a timed basis (e.g., hourly, after a certain number of minutes, etc.) and/or any time the measured level has changed by more than a user-defined amount since the last reported measurement. The local gauge station equipment, where appropriate, will also evaluate the measurements to determine if automated warnings need to be issued and if so, whether to issue activation triggers to applicable warning devices. The graphs below show how these two types of measurements interface to provide a picture of conditions in a flood warning system. Either rain or water level elevation, or both in concert, may be used to make determinations regarding when and where to issue warnings.

Hourly Incremental Rainfall & Water Level



Accumulated Rainfall & Water Level



The intricate details about how the gauges report their data to the NC FIMAN network will need to be further discussed before any equipment is ordered and physical implementation begins. The RFB calls for utilizing ALERT2 or GOES to transmit data to the NC FIMAN network. It further states in Attachment A (table of New River Gauge Sites) that each site should report via "GEOS Satellite" (assume GOES was intended). Typical GOES reports are delivered hourly, with some limited random reporting being allowed. For a basin as flashy as those in Haywood County, hourly reports are inadequate for flood warning purposes. It then also states these reports should be made by radio. For most systems, that would mean using VHF terrestrial radios or cellular. The State currently has no way to receive ALERT2 data reports via its VHF radio network as currently operated in WNC. Unfortunately, there may be inadequate cell coverage at some of the gauge locations necessary for the successful operation of the system. Utilization of ALERT, ALERT2, or another protocol will need to fit the method of communications as well as provide reliable data throughput to the network and the warning devices. DDi has extensive experience with all these protocols and methods of communications and is amply qualified to guide the County in what will best serve their needs.

Methodologies for communicating with Outdoor Warning Devices, such as sirens, vary based on the manufacturer, the proximity to the warning device, and the requirements for activation verification. These factors should be taken into account when considering proposals for this portion of the system. There are no known circumstances where gauging stations are "transmitting tones to nearby warning sirens" as implied by the RFB. However, DDi has successfully designed, installed, operated, and maintained numerous systems where nearby warning sirens are reliably triggered by a gauging station.

PROJECT REQUIREMENTS

The following list outlines some of the aspects of the project that must be considered in more detail before moving forward with designs and installations. Carefully considering these qualities of the system in advance will lead to smoother progress moving forward and a more resilient system as a whole.

a. Gauge Placement – Is there adequate openness and infrastructure to allow the stations to operate as intended and survive a significant event? Will the gauge be able to communicate (radio path/cellular signal) with its intended targets (Siren, NC FIMAN, etc.)? Can the station be accessed regularly for necessary maintenance once installation is completed? Will the gauge equipment be secure from vandalism or theft?

b. Gauging Station Communications Methodology – The RFB for this project specifies the use of radios to transmit data to the NC FIMAN network. The NC FIMAN system in Western North Carolina uses two primary means for sending gauge data to the main computer servers in Raleigh. Most prevalent is the use of VHF radios operating on 169.500 MHz at the gauges using the ALERT protocol. These reports are then received by one or more of several repeaters that forward the data to one of three mountain receiver locations (JoAnna Bald, Cowee Bald, Grandmother Mountain). The mountain top receivers are linked via a cellular TCP/IP connection to the computer servers in Raleigh. More recently, some systems have begun utilizing cellular modems at each

gauging station that are then able to direct connect (via Internet, TCP/IP protocol) to the computer servers. So, do all the tentative gauge locations have a reliable VHF radio path to an existing NC FIMAN repeater and/or receiver location? Or do all the desired gauging locations have adequate cellular coverage to support their reliable operations during an event? The answers to these questions will dictate what other options may need to be investigated and implemented. (Note: The legacy ALERT protocol cannot operate without the potential for over-the-air data transmission conflicts, as called for in the RFB.) If the VHF radio option is the selected choice for the stations, then an FCC license will have to be applied for by the County.

c. Siren Communication Interface – How the gauging stations communicate with the Outdoor Warning Sirens will be highly dependent upon the make and model of the installed siren. Ensuring cross compatibility between these two different pieces of equipment should be factored into the Proposal evaluations and subsequent awards. Activation of warning sirens by "transmitting tones to nearby warning sirens" must be more clearly established. The proximity between the gauging station and the warning device will impact the method used to interface between them. It is also vitally important to define the rules for when the warning devices are to be activated and how those activations will be verified as being successfully triggered. There must also be automated monitoring of the system components for operational readiness with appropriate notifications issued when failures are detected. Nothing could be worse than the system failing to function at a crucial time due to a failure in a component that occurred weeks before the event without any notice. Without knowing the answers to these questions, the best option for building the interface between gauges and warning sirens is most likely through the utilization of spread spectrum radios.



Pond 4 Siren - Santa Clara Pueblo, NM

d. Gauge-to-Siren Relationship – The RFB states that "the system needs to have the capability to activate warning sirens automatically…". There is no predefined relationship that governs which gauge or gauges control each siren. If the intent is to have all the sirens activated on a single trigger, the choice of trigger is extremely important in ensuring the timely activation of the sirens. Making sure the selected siren vendor can support these types of activations will be paramount to implementing the desired functionality.

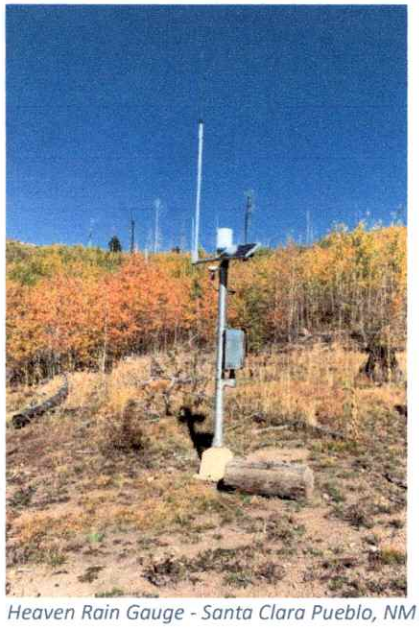
Proposed Scope – As evidenced by our qualifications, DDi possesses the requisite skills and experience necessary to guide and provide Haywood County with a reliable flood warning system. We hereby propose the following steps for accomplishing this important endeavor.

a. Prior to ordering the first piece of equipment, our staff will meet with the County emergency management team to visit and review each of the eleven proposed gauging locations for suitability as described above. We will also conduct theoretical radio path analyses from each gauge to a known reception point.

b. If the siren vendor has not been selected, we will also assist you in ensuring that the selected vendor is able to provide equipment that is fully compatible with the proposed flood warning equipment.

c. Determinations will be made for the best means of interfacing the gauge(s) with the sirens by meeting with County staff to develop a full understanding of the specific goals for this portion of the project. Development of some of the basic rules for activations will be started, leaving Emergency Management staff with follow-on work to be performed to ensure that all the requirements will be addressed in the final system.

d. Once all the wrinkles and unknowns have been ironed out, specific individual components will be ordered for the gauge installations. Knowing the exact location of the gauge to be installed will ensure that the optimal equipment is utilized for each site. One such unknown is whether the stream/water level gauges will also be equipped with precipitation measuring sensors. Further, will specific gauges be associated with individual sirens?

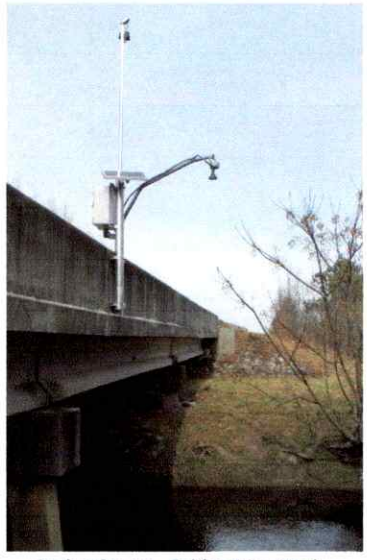


Heaven Rain Gauge - Santa Clara Pueblo, NM

e. Precipitation gauge – A gauge of this type will consist of a 12-inch funnel assembly and 1-mm tipping bucket (if 0.01-inch resolution is required, then an 8-inch funnel assembly and 0.01 inch tipping bucket can be supplied), a datalogger and sensor interface for monitoring the rainfall measurements and processing them for reporting and sending said report to the modem. The modem would be connected to a VHF radio system (includes transmitter and antenna system). If a cellular modem (and antenna system) is chosen, it would be configured to communicate directly via TCP/IP with the receiving server. The station will be equipped with a battery system for operating under normal conditions for at least 14 days without any solar charging. The battery will be charged with an appropriately sized solar panel to maintain proper operations. All the components will

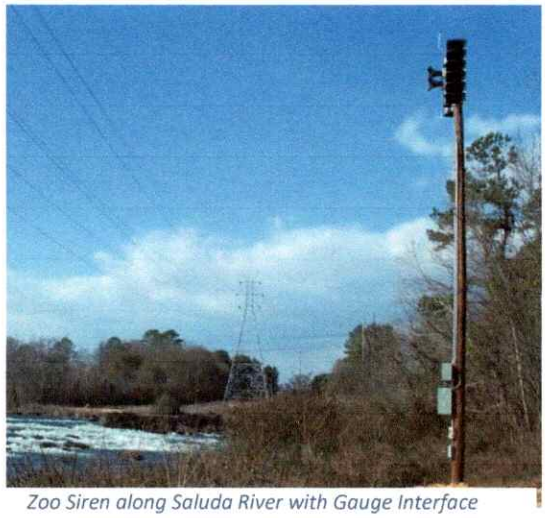
be mounted in a secure enclosure to lessen damage from vandalism and prevent unnecessary exposure to the weather. This enclosure will be mounted such as to withstand the impacts of a significant event.

f. Steam/Water level gauge – This type of gauge would utilize the same components as the precipitation gauge described above minus the funnel assembly and the tipping bucket, unless a need for precipitation monitoring is identified at any of the river gauges. Additionally, the station would be equipped with a water level monitoring sensor. Where feasible, the use of a radar sensor is recommended. Otherwise, sites will have to be visited and assessed for the best-suited instrument. Most likely, this instrument would be a submersible pressure transducer buried in conduit. Determination of the action (trigger) thresholds for each water level station will need to be performed. These trigger points could be specific elevations and/or rate-of-rise values. The County will need to be involved in this determination process.



Radar Gauge - Bridge Mounted

g. Outdoor Warning Siren Interface – The RFB implies that producing a radio signal of tones should be the mechanism by which the sirens are activated. The expense of equipping each triggering gauge with the ability to produce such a signal would be huge. Until the rules for activations are established (such as which gauge or gauges will be responsible for generating triggers), it is not reasonable to define the activation interface with absolute certainty. Our past experiences have shown that, in properly designed systems, it is best to equip the siren with equipment compatible with that of the gauging stations so that they can communicate directly with each other. As with any lifesaving system, the room for potential points of failure should be minimized, leaving the automated process to operate effectively and simply with sustained reliability. For this reason, we are initially proposing the use of Spread Spectrum radio links between three gauges and three sirens, with the assumption that there is an adequate radio path between them to allow them to operate reliably.



Zoo Siren along Saluda River with Gauge Interface Columbia, SC.

WARRANTY

DDi is an integrator of products to meet the client's needs. For this project, products from several different vendors will be utilized. The table below shows the majority of the vendors from which products will be obtained and the period of their warranty.

Supplier	Part Number	Warranty Period
Ameresco Solar	Solar Panels	10 years
Campbell Scientific	DataLogger	3 years
Campbell Scientific	Modems & Radios	1 Year
HyQuest Solutions	Tipping Bucket	1 year
Ritron	VHF Radio	1 year
PowerSonic	Batteries	18 months

Ameresco Solar

16. WARRANTY. Seller warrants that Services are performed in a workmanlike manner and that each Product: (1) is free of all liens and title encumbrances, (2) is free from defects in design, material and workmanship, (3) conforms to applicable specifications, drawings, samples or other descriptions referenced on the face of this Purchase Order, and (4) is suitable for the purpose for which intended if such purposes were made known to Seller. Seller's obligations under this warranty is limited to, at Ameresco's option: (1) performing the Services to Ameresco's satisfaction, or (2) repairing or replacing non conforming or unsuitable Products within 30 days of notice of such condition, or (3) crediting or refunding Ameresco the purchase price for such Products or Service. All expenses associated with the return to Seller of such Products and the delivery to Ameresco of repaired or replacement Products shall be borne by Seller.

The above warranties shall survive any delivery, acceptance, payment, termination, or expiration of this Purchase Order and shall run to Ameresco, its successors, assigns, customers, and users of its products. If at any time during the warranty period Seller receives from Ameresco written notice of any failure to comply with the warranty set forth above, Seller shall promptly correct such noncompliance and remedy any damage to other parts of the work or any other property resulting from such noncompliance.

Campbell Scientific DataLogger

The data logger is warranted by Campbell Scientific to be free from defects in materials and workmanship under normal use and service, from the date of shipment, for:

- Standard: Three years against defects in materials and workmanship.
- Extended (optional): An additional four years, bringing the total to seven years.

See Product Details on the Ordering Information pages at www.campbellsci.com.

Refer to www.campbellsci.com/terms#warranty for more information.

CAMPBELL SCIENTIFIC EXPRESSLY DISCLAIMS AND EXCLUDES ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Campbell Scientific hereby disclaims, to the fullest extent allowed by applicable law, any and all warranties and conditions with respect to the Products, whether express, implied or statutory, other than those expressly provided herein.

HyQuest Solutions

HyQuest Solutions America / KISTERS Group (formerly Hydrological Services America/KISTERS group) located at 3550 23rd. Ave S. Suite 5, Lake Worth Beach, Florida, is pleased to offer a comprehensive two (2) year warranty for all products and componentry that are designed and manufactured by HyQuest Solutions Pty Ltd. For all other products and componentry that are purchased from independent manufacturers or suppliers and distributed by HyQuest Solutions America / KISTERS Group, our company will provide the warranty period and conditions for these products that are provided by these independent organizations, generally one (1) year. Attempts by the customer to repair the product without firstly seeking authorization from HyQuest Solutions America / KISTERS Group will cause the warranty to be voided. HyQuest Solutions America / KISTERS Group reserves the right to request any defective product to be returned for inspection to determine if product warranty is applicable.

Please contact HyQuest Solutions America / KISTERS Group if you require a warranty service.

Ritron

RITRON, INC. LIMITED WARRANTY

WHAT THIS WARRANTY COVERS

RITRON, INC. ("RITRON") provides the following warranty against defects in material and/or workmanship for the following products:

WHAT IS COVERED	FOR HOW LONG	WHAT RITRON WILL DO
RITRON DTX + Series RITRON DTXLs Series Ritron DTX HP Series	1 year parts * 1 year labor * * *After date of purchase*	During the first year after purchase, **RITRON** will refund your purchase price or repair or replace the defective product, at **RITRON's** option, parts and labor included at no charge to you.

PowerSonic

Power-Sonic Corporation (Power-Sonic) warrants its products against defective workmanship and materials for the term defined below by product series and application. The period is defined by the date of manufacture based on the date code on the battery.

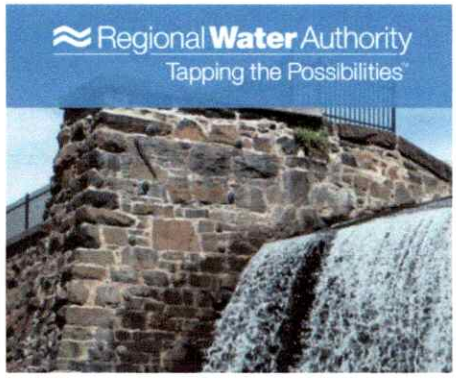
REFERENCES

Following are three references for services provided to other clients for similar work:

Jeff Linder, Director, Hydrologic Operations
Harris County Flood Control District
9900 Northwest Freeway
Houston, TX 77092
(346) 286-4165
jeffrey.lindner@hcfcd.org



Nicole Smith, Natural Resources Analyst
Regional Water Authority
90 Sargent Drive
New Haven, CT 06511
(203) 401-6731
nsmith@rwater.com



Shellon Holloway, Engineer
Prince George's County
Department of the Environment
1801 McCormick Drive, Suite 500
Largo, MD 20774
(301) 883-5932
sahollway@pg.co.md.us

Prince George's County
DEPARTMENT OF THE
ENVIRONMENT

COSTS

Given the many yet-to-be-determined details about this system, compiling exact costs can be difficult. Typically, industry estimates are significantly under or over the actual cost of building the system, but that is where our many years of experience comes into play. DDi has successfully built enough of these systems that most of the guesswork is removed, allowing us to be somewhat flexible in our offering while also producing a relatively accurate cost. As a reminder, our intent is not to sell you miscellaneous parts and pieces, but rather a completely integrated system that will be reliable and effective in your efforts to reduce property damage, injury, and loss of life.

The table below shows the costs associated with providing a **reliable flood warning system** for Haywood County, based on our understanding of the RFB and what will be required of us to get you to that point.

Item #	Qty	Description	Unit Cost	Extended Cost
1	2	Precipitation Gauge	$13,325.00	$26,650.00
2	9	Stream Gauge (Radar)	$14,525.00	$130,725.00
3	6	Siren Interface (3 Gauges & 3 Sirens)	$6,765.00	$40,590.00
			Sub-TOTAL:	$197,965.00
4	1	NC Sales Tax	7%	$13,857.55
			Bid Total:	$211,822.55

The Total Cost figure can change based on the quantities needed for each line item. Should the overall scope or requirements of the RFB change, we would be happy to sit down with you to negotiate fair and equitable cost adjustments for those modifications.

CLOSING

Distinctive AFWS Designs, Inc. is pleased to submit this Proposal and is confident that, once all the facts are considered, you will agree that we are the overwhelming vendor of choice to partner with Haywood County to develop this flood warning system. If you have any questions or require additional information do not hesitate to contact us.

Appendix A – EXCEPTION FORM

Section Number	Explanation
Entire RFB	Understanding the intent & purpose of RFB fully, we take NO Exceptions to those.

Signature

February 2, 2023
Date

David L. Haynes
Print Name

President
Title

Distinctive AFWS Designs, Inc.
Company

10 Poplar Ridge Dr., Leicester, NC 28748
Address

david.haynes@distinctiveafwsdesigns.com
E-mail

(828) 683-1566
Telephone

BID FORM

BID NO.

I, (We), the undersigned after reading and fully understanding the terms, conditions and specifications of Request for Bids No. 01032023 agree to furnish a firm fixed price (excluding tax).

ITEM NO.	DESCRIPTION	COST
1.	**Water level sensor gauge package** includes Siren Interfaces	$ 171,315.00
2.	**Rain gauge package**	$ 26,650.00
3.	**Subtotal**	$ 197,965.00
4.	**Any Applicable Taxes**	$ 13,857.55
	Total	$ 211,822.55

COMPANY NAME: Distinctive AFWS Designs, Inc.

ADDRESS: 10 Poplar Ridge Drive

CITY: Leicester **STATE:** NC **ZIP CODE:** 28748

TELEPHONE: (828) 683-1566 **FAX:** N/A

EMAIL ADDRESS: david.haynes@distinctiveafwsdesigns.com

PRINT NAME: David L. Haynes

AUTHORIZED SIGNATURE:

ANTI-COLLUSION AFFIDAVIT

HAYWOOD COUNTY
NORTH CAROLINA

David L. Haynes, being first duly sworn deposes and says that:

1. (S)he is the President of Distinctive AFWS Designs, Inc. (the company submitting the attached proposal);

2. (S)he is fully informed respecting the preparation and contents of the attached bid and of all pertinent circumstances respecting such bid;

3. Such bid is genuine and is not collusive or sham;

4. Neither the said bidder nor any of its officers, partners, owners, agents, representatives, employees or parties in interest, including this affiant, has in any way colluded, conspired, connived or agreed, directly or indirectly, with any other bidder, firm or person to submit collusive or sham bid in connection with the contract for which the attached bid has been submitted or to refrain from bidding in connection with such contract, or has in any manner, directly or indirectly, sought by agreement or collusion or communication or conference with any other bidder, firm or person to fix the price or prices in the attached bid or of any other bidder, or, to fix any overhead, profit, or cost element of the bid price of any other bidder to secure through collusion, conspiracy, connivance or unlawful agreement any advantage against the County of Haywood, or any person interested in the proposed contract; and

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

David L. Haynes (SEAL)

David L. Haynes, President (TITLE)

Subscribed and sworn to before me, this 1st day of February, 2023.

Notary Public M. Kyle Carver
M. KYLE CARVER

6/7/27 My Commission expires

Haywood County
215 N. Main Street
Waynesville, NC 28786

E-VERIFY AFFIDAVIT

****

The State of North Carolina recently passed HB 786 (S.L. 2013-418) enacting NCGS 160A-20.1(b) which prohibits governmental units from doing business with contractors/companies who do not comply with E-Verify. The law also applies to a contractor's subcontractors.

Article 2 of Chapter 64 of the NCGS requires an employer that transacts business in the State of North Carolina and employs 25 or more employees in the State of North Carolina to verify the work authorization of its employees through the federal E-Verify program.

In accordance with the NCGS, Haywood County requires all contractors/companies who do business with Haywood County to comply with the E-Verify requirements as evidenced by submission of this affidavit for formal bids.

****

I, David L. Haynes (the individual attesting below), being duly authorized by and on behalf of Distinctive AFWS Designs, Inc. (the entity bidding on project/contracting with county, hereinafter "Employer") after first being duly sworn hereby swears or affirms as follows:

1. Employer understands that E-Verify is the federal E-Verify program operated by the United States Department of Homeland Security and other federal agencies, or any successor or equivalent program used to verify the work authorization of newly hired employees pursuant to federal law in accordance with NCGS §64-25(5).

2. Employer understands that **Employers Must Use E-Verify**. Each employer, after hiring an employee to work in the United States, shall verify the work authorization of the employee through E-Verify in accordance with NCGS§64-26(a).

3. Employer is a person, business entity, or other organization that transacts business in the State of North Carolina and that employs 25 or more employees in North Carolina. (mark Yes or No)

a. YES ____, or b. NO XX

4. Employer's subcontractors comply with E-Verify, and Employer will ensure compliance with E-Verify by any subcontractors subsequently hired by Employer.

This 1 day of February, 2023

Signature of Affiant
Print or Type Name: David L. Haynes

State of NC County of Buncombe

Signed and sworn to (or affirmed) before me, this the 1

day of February, 2023.

My Commission Expires:

4/7/27

Notary Public

M. Kyle Carver

(Affix Official Notarial Seal)

Haywood County
215 N. Main Street
Waynesville, NC 28786

IRAN
DIVESTMENT ACT
CERTIFICATION

****

Name of Company: Distinctive AFWS Designs, Inc.

10 Poplar Ridge Dr., Leicester, NC 28748

IRAN DIVESTMENT ACT CERTIFICATION
REQUIRED BY N.C.G.S. 143C-6A-5(a)

As of the date listed below, the entity listed above is not listed on the Final Divestment List created by the State Treasurer pursuant to N.C.G.S. 143-6A-4.

The undersigned hereby certifies that he or she is authorized by the entity listed above to make the foregoing statement.

Signature

February 1, 2023
Date

David L. Haynes
Printed Name

President
Title

Bond Number: BB330125

Bid Bond

CONTRACTOR:
(Name, legal status and address)

DISTINCTIVE AFWS DESIGNS INC
10 POPLAR RIDGE DRIVE, Leicester, NC 28748
(828) 683-1566

SURETY:
(Name, legal status and principal place of business)

Jet Insurance Company
11440 Carmel Commons Blvd Ste 207 Charlotte, NC 28226
8004381162

OWNER:
(Name, legal status and address)

Haywood County
215 North Main Street
Waynesville **NC** **28786**

BOND AMOUNT:
Not to Exceed: **Eleven Thousand** (**$11,000.00**) Dollars

PROJECT:
(Name, location or address, and Project number, if any)

Water Level Sensor Gauges

The Contractor and Surety are bound to the Owner in the amount set forth above, for the payment of which the Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, as provided herein. The conditions of this Bond are such that if the Owner accepts the bid of the Contractor within the time specified in the bid documents, or within such time period as may be agreed to by the Owner and Contractor, and the Contractor either (1) enters into a contract with the Owner in accordance with the terms of such bid, and gives such bond or bonds as may be specified in the bidding or Contract Documents, with a surety admitted in the jurisdiction of the Project and otherwise acceptable to the Owner, for the faithful performance of such Contract and for the prompt payment of labor and material furnished in the prosecution thereof; or (2) pays to the Owner the difference, not to exceed the amount of this Bond, between the amount specified in said bid and such larger amount for which the Owner may in good faith contract with another party to perform the work covered by said bid, then this obligation shall be null and void, otherwise to remain in full force and effect. The Surety hereby waives any notice of an agreement between the Owner and Contractor to extend the time in which the Owner may accept the bid. Waiver of notice by the Surety shall not apply to any extension exceeding sixty (60) days in the aggregate beyond the time for acceptance of bids specified in the bid documents, and the Owner and Contractor shall obtain the Surety's consent for an extension beyond sixty (60) days.

If this Bond is issued in connection with a subcontractor's bid to a Contractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

When this Bond has been furnished to comply with a statutory or other legal requirement in the location of the Project, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

Signed and sealed this **30th** day of **January** **2023**

DISTINCTIVE AFWS DESIGNS INC

(Witness) Sandra R. Haynes

(Principal) David L. Haynes *(Seal)*

President
(Title)

(Witness) **Nick Brady**

(Surety) **Jet Insurance Company** *(Seal)*

David Gonsalves

Attorney In Fact
(Title)

JET INSURANCE COMPANY CORPORATE SEAL NORTH CAROLINA

By arrangement with the American Institute of Architects, the National Association of Surety Bond Producers (NASBP) (www.nasbp.org) makes this form document available to its members, affiliates, and associates in Microsoft Word format for use in the regular course of surety business. NASBP vouches that the original text of this document conforms exactly to the text in AIA Document A310-2010, Bid Bond. Subsequent modifications may be made to the original text of this document by users, so careful review of its wording and consultation with an attorney are encouraged before its completion, execution or acceptance.

1

Bond Number: BB330125

JET INSURANCE COMPANY

POWER OF ATTORNEY

NOW ALL BY THESE PRESENTS: That **JET INSURANCE COMPANY**, a corporation organized and existing under the laws of the State of North Carolina, having its principal office in Charlotte North Carolina does hereby constitute and appoint

Name	Limit of Liability per Bond
David Gonsalves	**$11,000.00**

its true and lawful Attorney(s)-in-fact to execute, seal and deliver for and on its behalf as surety, any and all bonds, undertakings, contracts of indemnity, recognizances and other writings obligatory in the nature thereof, which are or may be allowed, required or permitted by law, statute, rule regulation, contract or otherwise, provided that the liability of such shall not exceed the limit stated above.

The execution of such instrument(s) in pursuance of these presents, shall be as binding upon **JET INSURANCE COMPANY** as fully and amply, to all intents and purposes, as if the same had been duly executed and acknowledged by its regularly elected officers at the principal office.

The Power of Attorney is executed and may be certified so, and may be revoked, pursuant to and by authority of the following resolutions adopted by the Board of Directors of **JET INSURANCE COMPANY** by unanimous written consent dated August 24, 2022, of which the following is a true excerpt

RESOLVED that the President, or any Vice President, acting with any Secretary or Assistant Secretary, shall have power and authority to appoint Attorney(s)-in-fact, and to authorize them to execute on behalf of the Company, attach the Seal of the Company thereto and deliver, bonds, undertakings, contracts of indemnity, recognizances and other writings obligatory in the nature thereof; to prescribe their respective duties and the respective limits of their authority; and to revoke, at any time, any such Attorney-in-fact and revoke the authority given.

Further, this Power of Attorney is signed and sealed by facsimile pursuant to resolution of the Board of Directors of the Company adopted by unanimous written consent dated August 24, 2022, of which the following is a true excerpt:

RESOLVED that the signature of any authorized officer and the Seal of the Company may be affixed by facsimile to any Power of Attorney or certification thereof authorizing the execution on behalf of the Company and delivery of any bond, undertaking, contract of indemnity, recognizance and other writings obligatory in the nature thereof, and such signature and seal when so used shall have the same force and effect as though manually affixed.

IN WITNESS WHEREOF, **JET INSURANCE COMPANY** has caused this instrument to be signed and its corporate seal to be affixed by its authorized officer, this 24th day of August, 2022.

JET INSURANCE COMPANY

Spencer Siino, President

Richard Popp, Secretary

STATE OF SOUTH CAROLINA
County of Lancaster

On this 24th day of August, 2022 before me came the individuals who executed the preceding instrument, to me personally known, and being by me duly sworn, said that each is the herein described and authorized officer of Jet Insurance Company; that the seal affixed to said instrument is the Corporate Seal of said Company; that the Corporate Seal and each signature were duly affixed by order of the Board of Directors of said Company.

Sara C. Holt
Notary Public, State of South Carolina
County of Lancaster
My Commission Expires 05/17/2023

IN WITNESS WHEREOF, I have hereunto set my hand at Jet Insurance Company offices the day and year above written.

Sara C. Holt
Notary Public, State of South Carolina
My Commission Expires May 17, 2023

I, Richard Popp, Secretary of **JET INSURANCE COMPANY**, do hereby certify that the above and foregoing is a true and correct copy of a Power of Attorney executed by **JET INSURANCE COMPANY**, which is still in full force and effect.

IN WITNESS WHEREOF, I have thereunto set my hand and attached the seal of said Company this 30th day of January, 2023.

Richard Popp, Secretary

HAYWOOD COUNTY
CAPITAL PROJECT ORDINANCE
FISCAL YEAR 2022-2023

PER:
JNL: _____

BE IT ORDAINED by the Board of Commissioners of Haywood County that the following amendment be made to the capital project ordinance for the fiscal year ending June 30, 2023.

Section 1. To amend the Grant Fund - County projects, the expenditures are to be charge as follows:

Line Item	Account Number	Current Budget	Increase (Decrease)	Amended Budget
Natural Disaster Fund:				
Professional Services - OTHER	504377-519400-RVGA	-	1,000,000	1,000,000
				-
				-

which will result in a net increase of $ 1,000,000 in the expenditures of the Capital Project Fund.

To provide the additional revenue for the above, the following revenues will be increased as the money has been received:

Revenue	Acct. No.	Current Budget	Increase (Decrease)	Amended Budget
Intergovernmental Revenue:				-
Restricted Intergovernmental Revenue	500050-449302-RVGA	-	1,000,000	1,000,000
				-
				-
			1,000,000	

Section 2. Copies of this amendment shall be delivered to the Budget Officer and the Finance Officer for their direction.

Adopted this the _____ of _____, 2023.

Chairman
Haywood County Board of Commissioners

ATTEST:

_____
Clerk to the Board

Explanation:
To accept and appropriate OSBM Unmet needs grant for
river gauges and siren system. To be paid on a reimbursement
basis.

Agreement Name TS Fred Unmet Needs PA Haywood County

This Agreement is hereby entered into by and between the Department of Public Safety (the "AGENCY") and the **Haywood County** (the "RECIPIENT") (referred to collectively as the "Parties"). The RECIPIENT's federal tax identification number is **56-6001524**.

1. EFFECTIVE TERM

This agreement shall be effective starting November 18, 2021 and this agreement shall terminate on June 30, 2024.

2. RECIPIENT'S DUTIES

The RECIPIENT shall provide the services as described below:

The RECIPIENT is authorized to use funds by this agreement for Tropical Storm Fred Relief Unmet Needs as related to Public Assistance, as directed by the State Budget Director, Charles Perusse.

The RECIPIENT's scope of work is a complete and concise scope of goods or services supported by this agreement and directed by the State Budget Director, Charles Perusse. See Attachment A.

The RECIPIENT agrees to use the funds in the amounts allocated for the budget cost items set forth in the RECIPIENT's Budget. RECIPIENT may reallocate and/or redistribute among budgeted items up to 10% in overall budget costs without the express written permission of the AGENCY. RECIPIENT agrees that it will not reallocate and/or redistribute any overall budget costs that will exceed 10% on any annual basis without first obtaining the express authorization of the AGENCY in writing.

The RECIPIENT understands and acknowledges that total funding level available under this agreement will not exceed **$1,000,000.00**. Attachment A provides scope of work and payment amounts to be paid to RECIPIENT. RECIPIENT agrees to complete all sections of the Quarterly or Periodic Status Report & Accounting (Attachment B) following each quarter, and provide all supporting documentation when the quarterly Accounting is submitted.

Pursuant to N.C.G.S 143C-1-1, the RECIPIENT understands and agrees that agreement funding shall be subject to the availability of appropriated funds. However, in the event of agreement termination due to lack of adequate appropriated funds, the AGENCY will ensure that it will pay for services and goods acquired and obligated on or before the notice of agreement termination.

The RECIPIENT understands and acknowledges required compliance with all statutory provisions outlined in N.C.G.S. 143C-6-23 Use of State funds by non-State and 09 NCAC 03M .0205, Minimum Reporting Requirements for Recipients and Subrecepients.

Directed grants to nonprofit organizations are for nonsectarian, nonreligious purposes only (S.L. 2021-180, Sec. 5.2 (b)5). State funds for any one employee of a nonprofit are capped at $120,000.00 (S.L. 2021-180, Sec. 5.3).

AGENCY'S DUTIES & PAYMENT PROVISIONS

The AGENCY shall ensure that funds allocated and disbursed per State Budget Director, Charles Perusse, comply with the intent and guidance from the Office of State Budget & Management and ensure compliance with related state statutes and financial management standards.

The AGENCY shall pay the RECIPIENT a total not to exceed **$1,000,000.00**. The RECIPIENT shall complete a "Request for Payment of Appropriation(s) from North Carolina General Fund" for **$1,000,000.00** and submit to the AGENCY, along with all required documentation. Once the AGENCY is satisfied that the RECIPIENT has provided all the required documentation, the requested distributions can be processed for payment. The distributions of funds will be coded to **2E52-8145**.

3. QUARTERLY STATUS REPORTING

The RECIPIENT agrees to provide quarterly, or 90-day project status reports to be sent electronically from the RECIPIENT to the AGENCY and shall at a minimum include:

a. Period stating beginning balance of the Project Fund.
   i. Total expenses disbursed (aggregate totals) by the following project uses:
      a. Employee Expenses (e.g program related staffing).
      b. Service and Contract expenses (e.g. utilities, telephone, data, lease related expenses).
      c. Goods (e.g. supplies and equipment) expenses.
      d. Administration Expenses (e.g overhead & project management).
      e. Other expenses (e.g. related charges not assigned above and described by recipient).
   ii. Period ending balance of the RECIPIENT funding disbursed pursuant to this agreement.
   iii. A descriptive summary of how the funds were used including outcomes and specific deliverables or accomplishments to date

ATTACHMENT B is a copy of the quarterly status tracking report.

b. Quarterly project status reports shall be emailed to Joe Stanton at Joe.Stanton@ncdps.gov

4. FUNDS MANAGEMENT

The RECIPIENT agrees that funds paid through this contract shall be accounted for in a separate fund and accounting structure within the RECIPIENT's central accounting and grant management system. The RECIPIENT agrees to manage all accounts payable disbursements, check register disbursements and related transactions in a detailed manner that supports fully transparent accounting of all financial transactions associated with this funding allocations described in Section 3 above. Expenditures for travel mileage, meals, lodging and other travel expenses incurred in the performance of this Contract shall be reasonable and supported by documentation. State rates should be used as guidelines. International travel shall not be eligible under this Contract. If eligible, the Recipient and all subrecipients shall: (a) ask the North Carolina Department of Revenue for a refund of all sales and use taxes paid by them in the performance of this Contract, pursuant to N.C.G.S. 105-164.14; and (b) exclude all refundable sales and use taxes from all reportable expenditures before the expenses are entered in their quarterly project status reports.

5. AGREEMENT ADMINISTRATORS

All notices permitted or required to be given by one Party to the other and all questions about the Agreement from one Party to the other shall be addressed and delivered to the other Party's Agreement Administrator. The name, post office address, street address, telephone number, fax number, and email address of the Parties' respective initial Agreement Administrators are set out below. Either Party may change the name, post office address, street address, telephone number, fax number, or email address of its Agreement Administrator by giving timely written notice to the other Party.

For the AGENCY	
IF DELIVERED BY US POSTAL SERVICE	IF DELIVERED BY ANY OTHER MEANS
Joe Stanton, Assistant Director NC Department of Public Safety Emergency Management 4238 Mail Service Center Raleigh, NC 27607-4238 Telephone: 919-218-6325 Email: joe.stanton@ncdps.gov	Joe Stanton, Assistant Director NC Department of Public Safety Emergency Management 1636 Gold Star Drive Raleigh, NC 27607 Telephone: 919-218-6325 Emai: joe.stanton@ncdps.gov

For the RECIPIENT	
IF DELIVERED BY US POSTAL SERVICE	IF DELIVERED BY ANY OTHER MEANS
Bryant Morehead, Haywood County Manager 215 N. Main Street Waynesville, NC 28786 Telephone: 828-452-6625 Cell Phone: 828-558-1565 Email: Bryant.morehead@haywoodcountync.gov	Bryant Morehead, Haywood County Manager 215 N. Main Street Waynesville, NC 28786 Telephone: 828-452-6625 Cell Phone: 828-558-1565 Email: Bryant.morehead@haywoodcountync.gov

6. MONITORING AND AUDITING

The RECIPIENT acknowledges and agrees that, from and after the date of execution of this Agreement and for five (5) years following its termination, the books, records, documents and facilities of the RECIPIENT are subject to being audited, inspected and monitored at any time by the AGENCY upon its request (whether in writing or otherwise). The RECIPIENT further agrees to provide AGENCY staff and staff of the Office of State Auditor with access to financial and accounting records to support internal audit, financial reporting and related requirements.

The RECIPIENT acknowledges and agrees that, regarding the grant funds, it will be subject to the audit and reporting requirements prescribed in N.C.G.S. 159-34, Local Government Finance Act – Annual Independent Audit, rules and regulations. Such audit and reporting requirements may vary depending upon the amount and source of grant funding received by the RECIPIENT and are subject to change.

7. TAXES

The RECIPIENT shall be considered to be an independent RECIPIENT and as such shall be responsible for all taxes. The RECIPIENT agrees to provide the AGENCY with the RECIPIENT'S correct taxpayer identification number upon the execution of this Agreement. The RECIPIENT agrees that failure to provide the AGENCY with a correct taxpayer identification number authorizes the AGENCY to withhold any amount due and payable under this Agreement.

8. SITUS

This Agreement shall be governed by the laws of North Carolina and any claim for breach or enforcement of this Agreement shall be filed in State court in Wake County, North Carolina.

9. SUBCONTRACTING AND ASSIGNMENT

The RECIPIENT agrees that by assigning or subcontracting any work related to the contract to a subcontractor or SUB-RECIPIENT, that such entities shall comply with the following:

(a) The RECIPIENT or SUB-RECIPIENT is not relieved of any of the duties and responsibilities of the original contract; and
(b) The SUB-RECIPIENT agrees to abide by the standards contained in this contract and to shall provide all information to allow the RECIPIENT to comply with these standards.

RECIPIENT agrees that all SUB-RECIPIENTS to this agreement shall comply with the following provisions of the North Carolina Administrative Code: "09 NCAC 03M .0203 SUB-RECIPIENT RESPONSIBILITIES."

10. ADVERTISING

RECIPIENT agrees not to use the existence of this contract, the name of the AGENCY, the or the name of the State of North Carolina as part of any commercial advertising, without prior written approval of the AGENCY.

11. COMPLIANCE WITH LAW

The RECIPIENT shall remain an independent RECIPIENT and as such shall be wholly responsible for the scope of work to be performed under this Agreement and for the supervision of his employees and assistants. The RECIPIENT represents that it has, or will secure at its own expense, all personnel required in performing the services under this agreement. Such employees shall not be employees of, or have any individual contractual relationship with the AGENCY. The RECIPIENT shall be responsible for compliance with all laws, ordinances, codes, rules, regulations, licensing requirements and other regulatory matters that are applicable to the conduct of his business and work performance under this Agreement, including those of Federal, State, and local agencies having appropriate jurisdiction.

The Recipient acknowledges and agrees that, in its conduct under this Contract and in connection with any and all expenditures of grant funds made by it, it shall comply with the cost principles enunciated in the Code of Federal Regulations, 2 CFR, Part 200. The Recipient further acknowledges and agrees that, if it grants any of the grant funds awarded hereunder to one or more sub-recipients or sub-sub-recipients, the Recipient shall, by contract, ensure that said cost principles are made applicable to and binding upon any and all such sub-recipients, sub-sub-recipients, etc. in their handling, use and expenditure of the funds awarded to the Recipient hereunder.

12. TERMINATION OF AGREEMENT

This agreement may be terminated by mutual consent upon sixty (60) days written notice to the other party, or as otherwise provided by law. As soon as reasonably possible following termination of this agreement, the amount of any residual unexpended funds shall be transferred to the AGENCY.

13. AMENDMENTS

This Agreement may be amended in writing which documents approval of changes by both the AGENCY and the RECIPIENT.

14. AGREEMENT CLOSE-OUT PROCESS

The RECIPIENT agrees to submit to the AGENCY a complete performance and expenditure status report (final report) within ninety (90) days after expiration of this agreement June 30, 2024:

1) A complete accounting of how the appropriated funds were used;
2) A complete performance status report; and
3) A Certification stating the funds were used for the purpose appropriated (AGENCY will supply template).

The above noted reports shall include RECIPIENT and SUB-RECIPIENT reporting information related to the above noted quantitative results and accomplishments. RECIPIENT and any SUB-RECIPIENTS agree that all program activity results information reported shall be subject to review and authentication as described in Paragraph 7 and RECIPIENT will provide access to work papers, receipts, invoices and reporting records, if requested by the AGENCY, as the AGENCY executes any audit internal audit responsibilities.

RECIPIENT will be deemed noncompliant if its final report is not submitted within the 90-day period stated above. Once the complete final performance and financial status report package has been received and evaluated by the AGENCY, the RECIPIENT will receive official notification of agreement close-out. The letter will inform the RECIPIENT that the AGENCY is officially closing the agreement and retaining all agreement files and related material for a period of five (5) years or until all audit exceptions have been resolved, whichever is longer.

15. AUTHORIZED SIGNATURE WARRANTY

The undersigned represent and warrant that they are authorized to bind their principals to the terms of this agreement. **In Witness Whereof,** the RECIPIENT and the AGENCY have executed this Agreement in duplicate originals, with one original being retained by each party.

HAYWOOD COUNTY

_____

Signature Date

_____

Printed Name Title

NC DEPARTMENT OF PUBLIC SAFETY

_____

Signature Date

_____

Printed Name Title

HAYWOOD COUNTY BOARD OF COMMISSIONERS
REGULAR AGENDA REQUEST

Item Title:
Request approval to accept the bid in the amount of $24,900 for electrical cleanup, electrical demolition for all unused equipment, installation of new distribution panels, and connections for a new uninterrupted power supply (UPS) by Latham Electric, Inc and approval for the County Manager to execute all documents related to the Backup 911 renovation project- Haywood County Facilities Director Tim Sisk

Board Action Request:

Requested Action Department:
Facilities and Maintenance

Presenter:
Tim Sisk

Background/Justification:
The renovation of the backup 911 center has shown a need to clean up a great deal of the electrical system in our Annex one space to ensure longevity for this project. This is the first step in creating solid infrastructure.

Budgetary Impact:
Budget amendment in the March 6th meeting appropriated funding for this project

Policy Impact:

Attachments:
two electrical estimates and one solicitation rejection.pdf

STARTEK ELECTRIC, INC.

20407 GREAT SMOKY MTN. EXPRESSWAY
WAYNESVILLE, NC 28786
828-456-3386

ESTIMATE

Date	Estimate #
1/13/23	3333

Name/Address
HAYWOOD COUNTY FACILITY & MAINTENANCE 215 NORTH MAIN STREET WAYNESVILLE, N.C. 28786

Project

Item	Description	Qty.	Cost	Total
	HAYWOOD COUNTY PROVIDE ELECTRICAL WORK AS FOLLOWS FOR ELECTRICAL RENOVATION TO LOWER FLOOR OF OLD COURT HOUSE. SCOPE OF WORK AS FOLLOWS. (SEE ATTACHED PICTURE) 1. INTENTION OF THIS WORK IS TO CLEAN UP OLD ELECTRIOCAL DISTRIBUTION PANELS AND WIRING LEAVING FROM 600 AMP SIEMENS PANEL AND PROVIDEING ELECTRICAL BRANCH CIRCUITS IN OLD 911 CENTER. 2. CLEAN UP AND REMOVE OLD ELECTRICAL EQUIPMENT AND/OR BRANCH CIRCUITS THAT ARE NO LONGER IN USE. 3. DEMO OLD TRANSFER SWITCH WITH ASSOCIATED WIRING NO LONGER IN USE. 4. PROVIDE NEW 400 AMP DISTRIBUTION PANEL WITH BREAKERS TO REPLACE OLD PANELS IN THIS AREA. ALSO PROVIDE NEW PANEL IN 911 CENTER TO PROVIDE CIRCUITS TO THIS AREA. 5. CLEAN UP / DEMO OLD WIRING THAT IS THROUGH OUT THIS AREA THAT IS NO LONGER USED.			
LOT PRICE	ESTIMATE AS PER ABOVE Sales Tax		35,600.00 7.00%	35,600.00 0.00
		TOTAL		$35,600.00

Fax # 828-456-5516

Invoice/Proposal

Latham Electric, Inc.

Residential ϟ Commercial
24 Hour Service ϟ Serving Western North Carolina
Unlimited License

Charles Latham
(828) 627-0462

104 GREEN HILL DRIVE
CLYDE, NORTH CAROLINA 28721

SUBMITTED TO	PHONE	DATE
ELECTRICAL CONTRACT		4/13/23
STREET	JOB NAME	
	OLD 911 BUILDING.	
CITY, STATE & ZIP CODE	JOB LOCATION	

We hereby submit specifications and estimates for:

	PRICE
FURNISH AND INSTALL 300 AMP MAIN LUG PANEL FROM EXISTING BREAKER. DEMO WHAT IS BEING FED NOW FROM THIS BREAKER, SUBFEED NEW MAIN LUG 200 AMP PANEL NEXT TO 300AMP PANEL AND FEED REMAINING BRANCH CIRCUITS FROM HERE. INSTALL NEW 1" EMT TO OLD RADIO ROOM ON SECOND FLOOR, INSTALL FEEDER TO NEW UPS AND FEED NEW 125 AMP 30 CIRCUIT MAIN LUG PANEL. ALL 911 TO BE FED FROM THIS PANEL.	
MATERIAL	$ 4900.00
LABOR	$ 20,000.00
TOTAL	$ 24,900.00

Unless otherwise agreed, We Propose hereby to furnish materials and labor – complete in accordance with the above specifications for the sum of:

_____ dollars ($ _____)

Payment to be made as follows:

_____

_____

All material is guaranteed to be as specified. All work to be completed in a workmanlike manner according to standard practices. Any alteration or deviation from above specifications involving extra costs will be executed only upon written orders, and will become an extra charge over and above the estimate. All agreement contingent upon strikes, accidents or delays beyond our control. Owner to carry fire, tornado and other necessary insurance. Our workmen's compensation insurance covers our employees.

Authorized Signature _____

Note: This proposal may be withdrawn by us if not accepted within _____ days.

Acceptance of Proposal - The above prices, specifications and conditions are satisfactory and are hereby accepted. You are authorized to do the work as specified. Payment will be made as outlined above.

Tim Sisk

From: Lowell Ball <luvtotravl@gmail.com>
Sent: Wednesday, April 19, 2023 4:57 PM
To: Tim Sisk
Subject: Re: Bid solicitation

CAUTION: This email originated from outside of the Haywood County network. Do not click links, open attachments, or respond unless you recognize the sender and know the content is safe.

Good afternoon Tim. As much as we would like to bid, with our current workload, we cannot at this time. Please keep us in mind for future projects.

Sincerely,
Lowell Ball

On Wed, Apr 19, 2023, 11:51 AM Tim Sisk <tim.sisk@haywoodcountync.gov> wrote:

> Lowell,
>
> I would like to solicit a bid for some electrical work at our Historic Courthouse Annex 1 facility. The work consists of quite a bit of electrical clean up work, electrical demolition, new distribution panels, etc. This will require an onsite visit to facilitate a good scope of work. Let me know what works for you.
>
> Thanks in advance
>
> Tim Sisk
>
> Facilities Director
>
> Haywood County

HAYWOOD COUNTY BOARD OF COMMISSIONERS
REGULAR AGENDA REQUEST

Item Title:
Request approval of additional repairs to Daikin HVAC system at our Paragon Parkway facility - Facilities and Maintenance Director Tim Sisk

Board Action Request:
Request approval to engage Hoffman Mechanical Solutions to make the additional repairs as identified during the recent work being performed and provide approval to the County Manager to execute all documents related to this project.

Requested Action Department:
Facilities and Maintenance

Presenter:
Tim Sisk

Background/Justification:
Hoffman Mechanical Solutions is the company currently contracted to make the Daikin repairs. The attached list represents additional findings during their work.

Budgetary Impact:
Line item transfer within Facilities FY 23 budget will cover these needs.

Policy Impact:
This contract falls under the sole source resolution previously approved by the Board for this project.

Attachments:
HAYWOOD ADDITIONAL REPAIRS BJH050523-1.pdf

AL Mech Contractor #22137, GA Mech Contractor #CN211360, NC Mech Lic #28275, SC Mech Contractor #M113953,
SC Gen Contractor #G120314, TN Mech License #71199, VA Contractor License #2705164248
P.O. Box 77319 Greensboro, NC 27417
24 Hour Service 855-761-HVAC(4822) Fax 855-327-4830

QUOTE

Customer:	HAYWOOD COUNTY DSS	Date:	5/5/2023
Site Name:	HAYWOOD COUNTY DSS	Quote #:	BJH050523-1
Site Address:	157 Paragon Parkway, Clyde, NC 28721		
Quote Contact:	ShawnWaite	Ref. WO Number:	
Equipment Tag:	CU13/CU10/CU6	Model #:	REYQ72PBYD
Manufacturer:	Daikin	Serial #:	

Scope of work to be performed: North Carolina taxes are excluded in price and will be added to invoice.

Price is to recover refrigerant from CU 13 and replace both inverter compressors. Check old compressors for acid. Replace fan board on slave unit. Replace bad discharge transducer. Pressure test system, If test holds pull vacuum on system overnight. Return the next day and recharge the system with new refrigerant. Run system and check for proper operation. Recover refrigerant from CU 10. Replace master inverter compressor. Check old compressor for acid. Pressure test system, If test holds pull vacuum on system overnight. Return the next day and recharge the system with new refrigerant. Run system and check for proper operation. Close the main valves on CU 6 master unit. Recover refrigerant from master unit Replace the broken suction transducer. Pressure test system and if test holds pull vacuum on system. recharge the unit with new refrigerant. Open the valves and check for proper operation. If acid is found we will ad suction and liquid driers in the system. Driers will have to be removed after system is cleaned and is not included in this quote. There will be an additional charge for removing driers.

The Hoffman Mechanical Solutions, Inc. price for this work is: **$ 25,957.64**

All applicable NC taxes are excluded in price and will be added at time of invoice.

Proposal expires if not accepted by Customer within thirty (30) days from the date of the proposal. Prices are at all times subject to escalation. Hoffman Mechanical Solutions, Inc.'s normal working hours are from 8am to 5pm, Monday through Friday. Any work requested to be performed after normal working hours are subject to additional costs. On-site safety training and drug testing are not included in quote unless noted. Parts only quotes do not include taxes or freight unless noted. They will be added to the invoice.

Payment terms shall be net 30 days. An additional 3.0% convenience fee will be added to the total amount due for any payments received via credit card.

As a condition of this Proposal, all work performed by Hoffman Mechanical Solutions, Inc. shall be only in accordance with the Terms and Conditions, attached and incorporated herein by reference. In the event any terms of any other purchase order or project contract documents conflict with or add to the attached Terms and Conditions, those other terms are rejected by Hoffman Mechanical Solutions, Inc. Furthermore, this Proposal is contingent upon final approval of the Hoffman Credit Department and may be rescinded in the Company's sole discretion.

For North Carolina Only – See NCDOR Form E-589CI for Capital Improvements.

Quote Prepared By: Bill Harris

Authorized By: _____

Customer P.O. _____

Date: _____

E-mail signed quote and purchase order documents to Service@Hoffmech.com. Include quote number.

"Hoffman" shall mean Hoffman Mechanical Solutions, Inc. and its officers, employees and agents. "Customer" shall mean the person or entity entering into this Agreement to purchase services and/or goods.

1. Controlling Terms & Conditions: This Agreement, upon Customer's acceptance, is limited to the terms and conditions stated herein, despite any additional or conflicting terms and conditions contained in any purchase order, any other document presented by Customer, or any contract document between Customer and any third-party (i.e., owner, other contractor, etc.), all of which additional or conflicting terms are hereby rejected by Hoffman. No waiver of, or modification to, these Terms and Conditions shall be valid unless made in writing and signed by an authorized representative of Hoffman. Hoffman salespeople are not authorized to waive or modify any Terms and Conditions. The terms of any written proposal / quote made by Hoffman ("proposal") and these Terms and Conditions shall constitute the entire agreement of the parties.

2. Acceptance: Any Hoffman proposal expires if not accepted by Customer within thirty (30) days from the date of the proposal. Prices are at all times subject to escalation. Typographical and clerical errors in quotations, orders and acknowledgments are subject to correction. Customer is deemed to have accepted any Hoffman proposal, including these Terms and Conditions, when Customer either (a) receives and retains an acknowledgement from Hoffman without written objection within ten (10) days, (b) accepts delivery of all or any part of the goods ordered, (c) provides to Hoffman delivery dates, shipping instructions, or other instructions evidencing acceptance, or (d) otherwise executes or assents to any proposal or these Terms and Conditions. If Customer accepts any proposal, Customer's order shall be deemed acceptance of the proposal subject solely to Hoffman's terms and conditions. If Customer's order is expressly conditioned upon Hoffman's acceptance or assent to terms and/or conditions other than those stated herein, return or acknowledgment of such order by Hoffman with Hoffman's Terms and Conditions attached or referenced serves as Hoffman's notice of objection to, and rejection of, Customer's terms and as Hoffman's counteroffer to provide goods or services in accordance with the Hoffman proposal and Hoffman's Terms and Conditions. If thereafter Customer does not object to Hoffman within ten (10) days by written notice to Legal@hoffman-hoffman.com, Hoffman's counteroffer will be deemed accepted by Customer. Customer's acceptance of all or any part of any goods ordered will constitute Customer's acceptance of Hoffman's proposal subject to Hoffman's Terms and Conditions.

3. Additional Services / Materials: As work progresses, there may be a need for additional services or goods, which could not be anticipated at the time this Agreement was entered. Hoffman shall notify Customer of the description and price for such additional work or material. If Customer authorizes Hoffman to proceed with the additional work or materials, the contract price and dates of completion shall be mutually agreed upon and adjusted accordingly, or Hoffman shall not be responsible for the extra work.

4. Terms of Payment / Taxes: Payment is due net thirty (30) days from the date of each Hoffman invoice to Customer. Interest at the rate of 1 1/2% per month (or the highest interest rate allowed by applicable law, if lower) may be charged after the 30-day period until payment is received. Hoffman accepts credit card payments. If Customer chooses to pay by credit card, Customer is subject to an additional convenience fee of 3.0% of the total amount paid by credit card. Customer shall pay all costs of collection incurred by Hoffman including, but not limited to, reasonable attorneys' fees, collection fees and court costs. Hoffman may suspend all further services and transactions (regardless of their status) without liability if Customer's account is more than thirty (30) days past due or if Customer's credit, in the sole judgment of Hoffman, is impaired at any time. Partial invoices may be submitted for any portion of completed work and/or delivered materials. While risk of loss passes to Customer, Seller will have a purchase-money security interest in all goods (including any accessories and substitutions) purchased under this Agreement to secure payment in full of all amounts due Hoffman, and the underlying proposal, together with these Terms and Conditions, form a security agreement (as defined by the UCC.) Customer shall keep all goods purchased under this Agreement free of all taxes and encumbrances, shall not remove said goods from their original installation point and shall not assign or transfer any interest in said goods until all payments due Hoffman have been made. The purchase-money security interest granted herein attaches upon Hoffman's acceptance or acknowledgment of this Agreement and Customer's receipt of said goods, but prior to installation. Customer will have no rights to set off against any amounts which become payable to Hoffman under this Agreement or otherwise. Customer is responsible to pay in full for the services and/or goods provided by Hoffman regardless of whether such goods or services are funded for Customer pursuant to any extraneous contract and/or by an applicable project owner or contractor. Notwithstanding any Customer form or document to the contrary, Hoffman shall not release any rights to make a lien and/or bond claim, or other claim for damages, in connection with its work or anticipated work (including the sale of goods and/or services) until Hoffman has obtained payment in full for such work and any damages. Unless otherwise agreed by Hoffman in writing, Customer shall pay to Hoffman, in addition to the contract price, all sales, use, excise, privilege or other taxes imposed by any local, state or federal taxing authority payable in connection with the services and/or goods furnished hereunder.

5. Shipments / Claims: All shipments of goods are at Customer's risk, f.o.b. factory, or if shipped from another location, f.o.b. point of shipment, with charges either allowed, added to invoice, or collected as noted. Any claims for damage or shortage or loss in transit must be filed by Customer against the applicable carrier.

6. Warranties: Upon condition that Hoffman receives payment in full for all amounts owed, Hoffman (a) extends to Customer the manufacturer's warranty (a copy of which is available upon request) on any goods purchased, and said manufacturer's warranty is in lieu of any warranties contained in any applicable project contracts, conditions, plans, or specifications, and (b) warrants that the labor it provides will be performed in a workmanlike manner in accordance with industry standards. No claim for defective workmanship under this warranty may by brought unless Customer provides Hoffman with written notice of such defect within ninety (90) days from the date such services are performed. HOFFMAN MAKES NO OTHER WARRANTIES, EXPRESS OR IMPLIED, AS TO ANY MATTER WHATSOEVER, INCLUDING, WITHOUT LIMITATION, IMPLIED WARRANTIES OF DESIGN, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Hoffman does not commit that the equipment sold will effectively control, eliminate, kill or prevent the spread of COVID-19 or other mold, bacteria, virus, or pathogen, and Hoffman expressly disclaims that the product is fit for this purpose. Hoffman shall have no liability or duty to defend or hold harmless Customer or any other third-party with respect to any claim, injury, loss or damage arising from or in connection with COVID-19.

7. Limitation of Remedy and Liability: To the extent Hoffman is liable to Customer under any legal theory, HOFFMAN'S MAXIMUM LIABILITY (HOWEVER ARISING) SHALL NOT EXCEED ONE HALF (.5) TIMES THE AMOUNT ACTUALLY PAID HOFFMAN UNDER THIS AGREEMENT FOR ANY GOODS AND/OR SERVICES WHICH ARE THE CAUSE OF ANY LOSS OR DAMAGE TO CUSTOMER. HOFFMAN SHALL HAVE NO LIABILITY TO CUSTOMER OR TO ANY THIRD PARTY FOR ANY INCIDENTAL, CONSEQUENTIAL, INDIRECT, SPECIAL, PUNITIVE, EXEMPLARY OR LIQUIDATED DAMAGES OR LOSSES, INCLUDING BUT NOT LIMITED TO, LOSS OF USE, INCOME, PROFIT OR PRODUCTION, LOST DATA, SPOILAGE, DELAY, OR INCREASED COST OF OPERATION. SAID EXCLUSIONS APPLY EVEN IF HOFFMAN HAS BEEN ADVISED OF SUCH POSSIBLE DAMAGES OR IF SUCH POSSIBLE DAMAGES WERE REASONABLY FORESEEABLE. In addition to the foregoing, Hoffman's liability shall be further limited to only that proportion of the loss or damage suffered by Customer, which is directly caused by, and the fault of, Hoffman. Hoffman shall have no responsibility for misuse of any system or goods by the Customer or third parties, for the negligence of Customer or third parties, for the design of the system, or for obsolescence, failure of, or damage to equipment caused by power interruptions, low voltage, burned out fuses, single phasing, phase reversal, low water pressure, vandalism or other deficiencies or causes beyond Hoffman's control. Customer acknowledges that Hoffman is not responsible for the design of goods or services purchased and did not participate in any project planning or design in connection with such goods or services. Under no event shall Hoffman owe any duty or have any obligation whatsoever to any customer or client of Customer or to any other third party.

8. Indemnification / Insurance: To the fullest extent permitted by law, Customer shall indemnify, hold harmless and defend Hoffman and its officers, employees and agents from and against all claims, demands, liabilities, suits, judgments, awards, or expenses of any kind (including reasonable attorneys' fees and costs incurred defending such claims or demands, regardless of whether they result in legal action or are prosecuted to final judgment or award), which result or arise from Customer's purchase, installation, or use of goods or services provided by Hoffman, including all claims that goods sold or guidance provided by Hoffman or its employees contributed to or failed to prevent or control the spread of COVID-19 or other mold, bacteria, virus, or pathogen. To the fullest extent permitted by law, the obligations of defense and indemnification set forth herein shall be binding upon Customer no matter what the nature of the claim asserted may be (whether it be for negligence, warranty, strict liability, or otherwise) and shall be binding even if Hoffman is alleged or proven to have acted negligently; provided, however, that Customer shall have no obligation to provide indemnification to Hoffman if the claim asserted arises in negligence and is finally adjudicated to have arisen solely from the negligence of Hoffman. Customer shall also indemnify and hold harmless Hoffman from all liability for taxes owing in connection with Customer's purchase of goods or services. The obligations and rights to indemnity herein shall not negate, abridge or reduce other such rights or obligations under law. This Agreement does not require Customer to indemnify Hoffman for Hoffman's own negligent or intentional acts or omissions to the extent that doing so would violate applicable law. Customer and Hoffman jointly authorize and request any court or arbitrator considering the enforceability of this paragraph to re-write this paragraph so that it requires Customer to defend, indemnify, and hold Hoffman harmless to the fullest extent permitted by applicable law. Upon written request of Customer, Hoffman shall be required to name Customer as an additional insured to only the coverage types listed on Hoffman's standard Certificate of Insurance (available upon request). In no event does Hoffman waive any rights of subrogation.

9. Claims Resolution / Governing Law: Unless Hoffman elects otherwise, all claims and disputes between Customer and Hoffman arising out of or relating to performance of any agreement or breach thereof must be decided by binding arbitration in accordance with the Construction Industry Arbitration rules of the American Arbitration Association (AAA). Demand for Arbitration must be filed in the regional office of the AAA closest to Greensboro, North Carolina, and the filing party must serve such Notice upon the other party in accordance with AAA rules. The procedural and substantive law of the State of North Carolina must apply in and to all arbitration proceedings, and Greensboro, North Carolina, is designated as the sole and exclusive venue for such proceedings. Any award arising from such proceedings shall be final and binding upon the parties and enforceable in accordance with the Federal Arbitration Act. Hoffman and Customer agree that their transactions involve interstate commerce. This Agreement shall be governed by and construed solely in accordance with the laws of the State of North Carolina, without regard to principles of conflicts of laws. Hoffman shall have the sole and exclusive right, at Hoffman's sole and absolute discretion, to waive the arbitration provision and to elect to litigate any claim or dispute in a court of appropriate jurisdiction. Unless Hoffman elects another court of appropriate jurisdiction in Hoffman's sole and absolute discretion, the state courts located in Greensboro, Guilford County, North Carolina, shall be the sole and exclusive forum for any litigation between Hoffman and Customer. Customer consents to the jurisdiction of the state and federal courts located in Greensboro, Guilford County, North Carolina.

10. Delays / Penalties / Force Majeure: Delivery dates are approximate and not guaranteed. In no event and under no circumstances whatsoever, will Hoffman be liable for any damages or expenses caused by any failure or delay in making delivery of goods or in performing services hereunder. No penalty clause or liquidated damages of any kind (for delays or otherwise) apply to Hoffman unless pre-approved in writing by a Hoffman officer. Furthermore, in no event and under no circumstances whatsoever, will Hoffman be liable under this Agreement for any event of force majeure, including but not limited to, acts of God, riot, war, terrorism, inclement weather, labor strikes, material shortages, pandemic, and other causes beyond Hoffman's reasonable control.

11. Customer Responsibility: Customer shall provide Hoffman's personnel with a safe work environment in which to perform their services under this Agreement and provide Hoffman personnel with required utilities (water, electricity, compressed air, etc.) and reasonable access to Customer's facilities (elevators, receiving dock, etc.). Customer shall provide adequate service access space and shall remove any stock, fixtures, partitions, etc. necessary to perform the service. Customer shall promptly notify Hoffman of any unusual operating conditions.

12. Hazards: Hoffman is not responsible for the identification, detection, abatement, encapsulation or removal of hazardous substances, such as (without limitation) asbestos, products or materials containing asbestos, mold, fungi, mildew, or bacteria. In the event Hoffman encounters any such hazardous substance or condition in the course of its actions under this Agreement, Hoffman may suspend its work and remove its employees from the subject project, until any such hazardous substance or condition no longer exists. Hoffman shall receive an extension of time to complete its work and additional compensation for delays encountered as a result of any such situation. At all times now and in the future, Hoffman takes no responsibility for and makes no representations or warranties concerning any existing or future hazardous substance or condition (i.e., mold) or the remedy or prevention thereof. Furthermore, Customer has a duty to alert Hoffman of any known or likely potential hazards at any project site where Hoffman's representatives and affiliates may be present in connection with this Agreement.

13. Refrigerant: Customer shall be responsible for any expense in connection with the modification, removal, replacement or disposal of any refrigerant, as required by law.

14. Termination: Hoffman may terminate any of its obligations under this Agreement, if Customer fails to pay amounts owing to Hoffman when due, fails to perform or comply with any material provision of this Agreement, or otherwise breaches this Agreement, if such failure or breach is not cured within ten (10) business days after receipt of written notice from Hoffman. Upon termination by either Party, Customer shall be liable to Hoffman for all goods (including any goods specially ordered, but not delivered) and services provided and all damages and losses sustained by Hoffman, including lost profits.

15. Equal Employment Opportunity / Affirmative Action Clause: Hoffman and Customer shall abide by the requirements of 41 CFR 60-1.4(a), 60-300.5(a) and 60-741.5(a). These regulations prohibit discrimination against qualified individuals based on their status as protected veterans or individuals with disabilities and prohibit discrimination against all individuals based on their race, color, religion, sex, sexual orientation, gender identity or national origin. Moreover, these regulations require that covered prime contractors and subcontractors take affirmative action to employ and advance in employment individuals without regard to race, color, religion, sex, sexual orientation, gender identity, national origin, disability or veteran status.

16. Government Contracts: If Customer's purchase of goods or services is in any way connected to any federal, state, or local government project, which implicates or utilizes any Small, Minority or Disadvantaged Business incentives or qualifications (or other similar laws or regulations), Customer represents and certifies to Hoffman that Customer is performing a commercially useful function on such project. Currently, Hoffman does not comply with Executive Order 14042 Task Force Guidance as issued September 24, 2021 ("Guidance"). Any Hoffman bid/proposal is contingent upon Customer's waiver of the requirements contained in the Guidance, when applicable.

17. Trust Funds: Customer agrees that all funds Customer receives that result from the labor, materials, and/or equipment furnished by Hoffman will be considered "Trust Funds." Customer will hold all Trust Funds in trust for the sole and exclusive benefit of Hoffman. Customer will segregate Trust Funds from other funds. Customer will account for all Trust Funds and deliver all Trust Funds to Hoffman. Customer will not use Trust Funds for any purpose other than paying Hoffman.

HAYWOOD COUNTY BOARD OF COMMISSIONERS
REGULAR AGENDA REQUEST

Item Title:
Request approval to award bid to Jacky Jones Chrysler Dodge Jeep Ram as the lowest responsible responsive bidder for the purchase of ten 2023 Dodge Chargers police package in the amount of $387,000 and authorize the County Manager to execute all necessary documents - Assistant County Manager Kris Boyd

Board Action Request:
Award Bid to Jacky Jones for ten 2023 Dodge Chargers police package in the amount of $387,000 and authorize the County Manager to execute all necessary documents

Requested Action Department:
Sheriff's Department

Presenter:
Kris Boyd

Background/Justification:
A Request For Bids was advertised and received for ten 2023 Dodge Chargers police package with Jacky Jones CDJR being the lowest responsive responsible bidder.

Budgetary Impact:
$387,000 from fund balance.

Policy Impact:

Attachments:
BUA Chargers.pdf

HAYWOOD COUNTY
BUDGET ORDINANCE AMENDMENT
FISCAL YEAR 2022-2023

PER:
JNL: _____

BE IT ORDAINED by the Board of Commissioners of Haywood County that the following amendment be made to the budget ordinance for the fiscal year ending June 30, 2023.

Section 1. To amend the General Fund, the expenditures are to be charged as follows:

Department	Account Number	Current Budget	Increase (Decrease)	Amended Budget
				-
Public Safety:				-
C/O Motor Vehicles	114310-554000	353,570	387,000	740,570
				-
				-
				-
				-
				-

which will result in a net increase (decrease) of $ 387,000 in the expenditures of the General Fund.

To provide the additional revenue for the above, the following revenues will be increased as the money has been received:

Revenue	Acct. No.	Current Budget	Increase (Decrease)	Amended Budget
Other Financing Sources:				-
Appropriation of Fund Balance	110110-499991	9,303,691	387,000	9,690,691
				-
		-		-
		-		-

Section 2. Copies of this budget amendment shall be delivered to the Budget Officer and the Finance Officer for their direction.

Adopted this the _____ of _____ 2023.

Chairman
Haywood County Board of Commissioners

ATTEST:

Clerk to the Board

Explanation:
To appropriate fund balance to purchase 10) 2023 Dodge
Chargers that are currently available.

HAYWOOD COUNTY BOARD OF COMMISSIONERS
REGULAR AGENDA REQUEST

Item Title:
Request approval of Consolidated Fee Schedule - Management Analyst Will Scarbrough

Board Action Request:

Requested Action Department:
Administration

Presenter:
Will Scarbrough

Background/Justification:
The Consolidated Fee Schedule was distributed to the county Commissioners for review and was presented during the May 15th Board of County Commissioners meeting. It is requested that the County Commissioners approve the Consolidated Fee Schedule so that it can be enacted on July 1st, 2023 at the beginning of Fiscal Year 2024.

Budgetary Impact:

Policy Impact:

Attachments:

HAYWOOD COUNTY BOARD OF COMMISSIONERS
REGULAR AGENDA REQUEST

Item Title:
Request approval of appointment of one position by vote to the Haywood Community College Board of Trustees

Board Action Request:

Requested Action Department:
Administration

Presenter:
Amy Stevens

Background/Justification:
The Board of County Commissioners conducted a special meeting to interview and review the credentials of two candidates for a single position on the Haywood Community College Board of Trustees. The Commissioners will now vote to appoint one candidate to fill the vacancy. The appointee will be serving a four year term to begin July 1, 2023.

Budgetary Impact:

Policy Impact:

Attachments:
E. Brown redacted.pdf
D. Wingate redacted.pdf

APPLICATION FOR APPOINTMENT TO:

Haywood Community College Board of Trustees
Board or Commission Name

NAME: Dr. Ed Brown, III DATE: March 25, 2023

MAILING ADDRESS: [redacted] ION: [redacted]

EMAIL ADDRESS: N/A

EMPLOYER: -Retired-

PHONE: N/A

COUNTY BOARDS OR COMMITTEES PRESENTLY SERVING ON:

-See Attached-

BUSINESS AND CIVIC EXPERIENCE: -See Attached-

REASON(S) WHY YOU WOULD LIKE TO SERVE ON THIS BOARD/COMMITTEE:

-See Attached-

For the purpose of diversity and balance on the County's Boards and Commissions, please complete the following:

Race White Sex MALE I am a resident of the City Clyde, North Carolina

I have been a resident of Haywood County for 25 years.

Felony Convictions -None-

Return this form to:

Clerk to the Board of Commissioners
215 N. Main Street
Waynesville, NC 28786
Phone (828) 452-6625 FAX (828) 452-6715

Dr. Ed Brown, III

Signature of Applicant

I understand that this application will be retained in accordance with the schedule set forth by the State Archives Division.

Haywood County does not discriminate on the basis of race, color, religion, sex, age, national origin, handicap, or disability in admission or access to or treatment or employment, in its services, programs, and activities in compliance with applicable federal and state laws.

FOR OFFICE USE ONLY

Appointed:	Appointed:	Appointed:
Term:	Term:	Term:
Beginning:	Beginning:	Beginning:
Expiring:	Expiring:	Expiring:

- COUNTY BOARDS PRESENTLY -
SERVING ON

The Juvenile Crime Prevention Council (JCPC)

- A member for over 20 years
- Allocations CHAIR, many years

- BUSINESS AND CIVIC EXPERIENCE -

- Guardian Ad Litem (21 years, 80 children)
- District Court Mediator Including all Childrens ISSUES AND DIVORCE
- Founding Board Member, New Covenant Church Pre-K Program
- Church LAY Leader, 4 years, Longs Chapel Methodist Church
- 2 years President, Haywood Regional Medical Center Volunteers
- 12 years, TRUSTEE, Haywood Regional Medical Center
- 3 years, Haywood County Big Brothers / Big Sisters Board of Directors
- Founding CHAIR AND 7 year Board Member, HAYWOOD CHRISTIAN ACADEMY
- Substitute Teacher, 7 years, PISGAH High School
- 21 year Member WAYNESVILLE ROTARY Foundation Board member, Paul Harris Fellow

-OVER-

- Haywood Community College Foundation Board of Directors, Finance Committee
- A former 13 year, MASTER'S Degree Thesis Advisor Nova Southeastern University Ft. Lauderdale Florida
- A former 3 year, TRUSTEE, University of Sarasota
- A former 3 year, Board of Adjustments / Appeals Member Indian Rocks Beach, Florida
- A former Elementary School Teacher, Special Education Supervisor District Level Administrator for the 20th Largest School District in The United States, Pinellas County, Florida.

- WHY I Would Like To Serve HAYWOOD COMMUNITY COLLEGE AS A TRUSTEE

I have worked with students, their families and the Community in almost every possible way for the past 55 years. Because of these many years of experience, my intense desire to help others, and my goal of helping to Keep Haywood Community College a learning gem in Western North Carolina, I would like to offer myself to Haywood County as a Community College Trustee.

"To Those Who Much Has Been Given, Much Will Be Required."

I have been blessed with much, and I truly want to be able to share my knowledge and experience with the College in any way possible.

APPLICATION FOR APPOINTMENT TO:

Haywood Community College Board of Trustees

Board or Commission Name

NAME: Danny Wingate DATE 03/14/2023

MAILING ADDRESS: PHONE:

EMAIL ADDRESS:

EMPLOYER:

PHONE:

COUNTY BOARDS OR COMMITTEES PRESENTLY SERVING ON:

Haywood Community College Board of Trustees

BUSINESS AND CIVIC EXPERIENCE: Rotary member, Haywood Vocational Opportunities Chairman, Mountain Projects Treasurer, Haywood Council on Aging, Town of Waynesville Planning Board, Haywood Advancement Board

President and general manager of Haywood Builders Supply

REASON(S) WHY YOU WOULD LIKE TO SERVE ON THIS BOARD/COMMITTEE:

To continue to help the current BOT improve the College to better serve the needs of Haywood County.

For the purpose of diversity and balance on the County's Boards and Commissions, please complete the following:

Race W Sex M I am a resident of the City Waynesville

I have been a resident of Haywood County for 71 years.

Felony Convictions N/A

Danny Wingate

Signature of Applicant

Completed Board Applications will be retained in accordance with the schedule set forth by the State Archives Division.

Return this form to:

Clerk to the Board of Commissioners
215 N. Main Street
Waynesville, NC 28786
Phone (828) 452-6625 FAX (828) 452-6715

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