

MACON COUNTY  
FIRE PROTECTION STUDY

*2017*

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## Preface

Fire services nationwide and specifically the fire service in Macon County provide a necessary service to the citizens and visitors of the area. The fire system in Macon County should in no way be considered to be in a crisis, but this system, like all organizations, is experiencing challenges that need to be considered and/or addressed to ensure the continued success of the organization while meeting the needs of the customers in a fiscally responsible manner. This study should be considered a proactive approach to managing and maintaining the fire service in Macon County for the future. Most studies convene numerous committees and other input groups to draft such a study. This study was drafted with a different approach. Information was collected from the various participating fire service agencies including both factual information and opinions on certain issues. This information was solicited from the department as a whole and from individual members. Information was also solicited from the general public. All of this information was combined to create a snapshot of the fire service in Macon County. Rather than convening numerous committees to perhaps spend many months debating recommendations that might not be high priority items for governing boards, the author then created several recommendations from the information provided and from industry best practices. This information will then be presented to the governing boards and priorities assigned to any recommendations that are to be pursued. It should be noted that some recommendations may be accomplished in a short period of time and some recommendations could take years to accomplish. There may be more recommendations added as the process continues. The ultimate goal would be a unified emergency service system with all agencies working together to accomplish a common goal. One of the most important things to accomplish, even if no recommendations are pursued and no changes are implemented, is the initiation of the open discussion about planning for the future of the fire service in Macon County. If this study merely initiates that discussion, it has accomplished its goal.

## Executive Summary

### Macon County Government

Macon County is located in the southwestern corner of North Carolina and covers an area of approximately 517 square miles. It borders Clay County to the west, Swain County to the north, Jackson County to the east, and the State of Georgia to the south. There are two municipal governments located in Macon County: the Towns of Franklin and Highlands. In 2010 the U.S. Census estimated the population of Macon County to be 34,100, with a significant seasonal increase in the summer and fall months.

Macon County is divided into three distinctive geographical regions. The county seat is the Town of Franklin which is in the center of the county at an elevation of approximately 2,100 feet. The Town of Highlands is situated to the south along a plateau in the southern Appalachian Mountains at an elevation of approximately 4,400 feet. Normal travel time from Franklin to Highlands is approximately 30 minutes due to terrain and roadway. The Nantahala Community is situated to the west in the Nantahala National Forest at an elevation of approximately 3,100 feet but travel time from Franklin to Nantahala is approximately 45 minutes due to the roadway elevation of 4,100 feet before descending into the Nantahala Community.

Macon County has a County manager form of Government with the manager responsible for day-to-day operations and accountable to elected officials. A five member Board of Commissioners is elected in county-wide elections held every four years.

The current Fiscal Year 2016/2017 budget of Macon County including all funds is \$47,694,248.

### Fire Service Organization

Fire services were originally provided by municipalities in Macon County until 1974 when the first rural fire department (Clarks Chapel) began providing services in their community. As time progressed, more departments originated and began providing services within their respective communities. Macon County is now served by eleven(11) departments, including two(2) municipal departments and nine(9) rural departments. All services were originally all volunteer until the late 1990's when Franklin Fire Department hired the first career employee. Eight(8) of the departments now have at least one(1) career employee to supplement their volunteer

members, with the typical staffing of rural departments during normal business hours and returning to an all-volunteer response after hours.

Funding for the municipal departments was originally through the municipality general fund and rural departments operated from fund raisers until 1985 when a fee system was instituted in Macon County. (Appendix A). In 1999 the funding mechanism was converted to a service fee system authorized in N.C.G.S. 153A "County Fire Service Districts". (Appendix B) Over the years departments have expanded services and locations. Fire departments are now considered an "all hazards" department handling not just fire responses but responses to motor vehicle accidents, rescue situations, hazardous materials incidents and severe weather and disaster responses. Eight(8) of the departments now have at least two facility locations consisting of fire department sub-stations which allow the department to extend its protection class into larger areas or satellite stations that provide logistically for better department responses. Fire departments are independent agencies contracted by Macon County to provide fire protection services within their respective service areas. One department provides their services from three(3) different facilities. Municipalities may provide fire protection services within their respective service areas or may contract for such services. Municipal departments typically have two service areas defined by the NC Office of State Fire Marshal with one area consisting of the municipal limits and the other consisting of the rural area typically surrounding but outside the municipal limits. Macon County collects service fees for all areas of Macon County, including the municipal areas, and dispenses those funds back to the departments. Municipalities do not collect service fees.

## North Carolina General Statutes

Counties and municipalities in North Carolina are not required to furnish(or fund) fire protection services for their citizens, but most do declaring it an essential service best provided by the government. There is no requirement to provide equal service to all properties or citizens within a unit of government and a higher level of service can be provided in some areas and not others. The provision of higher levels of service is often related to funding.

Local Governments usually fund fire protection services through three basic methods: general fund revenues, rural fire protection districts and county service districts. Municipalities typically finance a portion of or all of their fire protection services with general fund revenues whereas counties typically utilize either of the other two methods.

Rural Fire Protection Districts (N.C.G.S. 69) grant counties the authority to establish rural fire protection districts for the purpose of levying a special property tax to fund fire services

provided in each district. Qualified voters of the district then answer the question concerning the levying of the special tax.

County Service Districts (N.C.G.S. 153A) may be established to “finance, provide, or maintain” one or more authorized services, which includes fire, EMS and rescue services. The service district has no independent authority and is established and maintained by the county, under the control of the county Board of Commissioners. The service district tax has no specific maximum tax rate limitation, but may not exceed the general aggregate property tax limit of \$1.50 per \$100 valuation. The district tax when combined with the county’s general property tax rate and any other service district taxes may not exceed \$1.50 per \$100 valuation. Counties may than contract with one or more volunteer or municipal fire departments to furnish at least some of the services. The fire departments are contracting agents of the county and subject to contractual terms. The Board of Commissioners may change service providers, the services provided, and the amount appropriated to fund these services at any time. Macon County established service districts in Macon County in 1999, including areas inside the existing municipalities.

## Insurance Districts

In addition to taxing districts, a county is authorized to establish insurance districts within its unincorporated areas with the approval of the North Carolina Office of State Fire Marshal. Insurance districts indicate the fire protection coverage available to certain properties. This indicates whether those properties may be covered by insurance and at what cost. A department is rated on a scale of 1-10, with a Protection Class(PC) 10 essentially indicating no recognizable fire protection available . To qualify for a PC 9 rating, the boundaries of the district must be no more than six(6) miles from a fire station and the fire department must meet certain basic requirements. Many departments receive a split rating providing a lower rating to properties within 1000 feet of a fire hydrant or in areas within five(5) files of the fire station where the department has proven they can supply a specified amount of water flow to an area along with meeting other more detailed requirements verified through an evaluation process conducted by the N.C. Office of State Fire Marshal. In those particular cases the area from the five(5) mile mark to the six(6) mile mark from a fire station will never receive a rating lower than a PC 9.

## Response Area

Departments may provide services to areas both inside and outside any indicated taxing, service, or insurance districts. Such areas are defined as the department's response area.

## Department Demographics

The current amount budgeted by Macon County for fire protection service is \$3,176,029. The overall fire levy has increased over the last six(6) years by an average of 0.0097 or slightly less than 1% per year.

Fire Dept(Rural)	Budget Amt	Tax Rate	PC
Burningtown	\$191,356	\$0.0867	8B
Clarks Chapel	\$313,886	\$0.0765	4/9
Cowee	\$305,115	\$0.1103	7/9
Cullasaja Gorge	\$248,540	\$0.0537	5/9
Mtn Valley	\$135,273	\$0.1270	9
Nantahala	\$222,941	\$0.0643	8B
Otto	\$304,738	\$0.0650	6/9
Scaly Mtn	\$117,670	\$0.0486	8B
West Macon	\$300,783	\$0.0681	7/9
Fire Dept(Municipal)	Budget Amt	Tax Rate	PC
Franklin	\$667,804	\$0.0445	3 (Municipal) 4/9 (Rural)
Highlands	\$367,923	\$0.0108	4 (Municipal) 5/9 (Rural)



Municipal departments have two(2) insurance districts: one district inside the city limits which is usually in a hydrant area, and a rural district which is usually rated with a water haul evaluation. The most recent estimates by the Macon County Tax Office concerning the division of taxes rural vs. municipal are as follows:

Franklin (rural)	\$349,929	52.4%
Franklin(municipal)	\$317,875	47.6%
Total	\$667,804	
Highlands(rural)	\$188,008	51.1%
Highlands(municipal)	\$179,915	48.9%
Total	\$367,923	

Scaly Mountain also serves an area inside the State of Georgia and they receive funding through Rabun County and/or the City of Sky Valley, Georgia. They have two fire stations with one being in Macon County, NC and one being in Rabun County, GA, both served by the same members.

Burningtown, Cowee, Mountain Valley, West Macon, Scaly Mountain and Nantahala Fire Departments are scheduled for inspections in the fall of 2017 to evaluate them for possible changes to their protection class (PC).

## Individual Department Financial Comparisons

A summary of fire district values and budget estimates from the year the service fee system was implemented compared to present day values is listed below. This comparison is meant in no way to imply improper budgetary growth from the fire departments but is intended to show the increased cost of doing business comparatively over a 17 year period. It is also intended to show the significant change in values that each department is entrusted to protect over the same time period.

### Burningtown/lotla

1999: District Value: \$	99,740,000	Tax Rate: \$0.055	Budget: \$	53,000
2016 District Value: \$	215,253,474	Tax Rate: \$0.0867	Budget: \$	191,356
Percent Change:	116%	58%		261%

### Clarks Chapel

1999: District Value: \$	200,505,500	Tax Rate: \$0.04	Budget: \$	77,000
2016 District Value: \$	411,648,647	Tax Rate: \$0.0765	Budget: \$	313,886
Percent Change:	105%	91%		308%

### Cowee

1999: District Value: \$	102,033,360	Tax Rate: \$0.075	Budget: \$	73,000
2016 District Value: \$	268,872,786	Tax Rate: \$0.1103	Budget: \$	305,115
Percent Change:	163%	47%		317%

### Cullasaja Gorge

1999: District Value: \$	188,363,460	Tax Rate: \$0.050	Budget: \$	90,000
2016 District Value: \$	458,294,048	Tax Rate: \$0.0537	Budget: \$	248,540
Percent Change:	143%	7%		176%

### Franklin

1999: District Value: \$	732,337,000	Tax Rate: \$0.020	Budget: \$	144,000
2016 District Value: \$	1,488,382,517	Tax Rate: \$0.0445	Budget: \$	667,804
Percent Change:	103%	122%		363%

### Highlands

1999: District Value: \$	1,065,953,000	Tax Rate: \$0.02	Budget: \$	209,000
2016 District Value: \$	3,440,870,190	Tax Rate: \$0.0108	Budget: \$	367,923
Percent Change:	223%	(46%)		76%

### Mtn Valley

1999: District Value: \$ 52,711,490	Tax Rate: \$0.075	Budget: \$ 38,000
2016 District Value: \$ 102,717,271	Tax Rate: \$0.127	Budget: \$135,273
Percent Change: 95%	69%	256%

### Nantahala

1999: District Value: \$ 83,263,900	Tax Rate: \$0.075	Budget: \$ 60,000
2016 District Value: \$ 336,800,342	Tax Rate: \$0.0643	Budget: \$222,941
Percent Change: 304%	(14%)	271%

### Otto

1999: District Value: \$ 212,758,120	Tax Rate: \$0.040	Budget: \$ 81,000
2016 District Value: \$ 490,951,022	Tax Rate: \$0.065	Budget: \$304,738
130%	62%	276%

### Scaly Mtn

1999: District Value: \$ 96,357,460	Tax Rate: \$0.070	Budget: \$ 81,000
2016 District Value: \$ 242,762,518	Tax Rate: \$0.0486	Budget: \$117,670
Percent Change: 152%	(31%)	45%

### West Macon

1999: District Value: \$ 171,583,000	Tax Rate: \$0.050	Budget: \$ 83,000
2016 District Value: \$ 438,462,357	Tax Rate: \$0.0681	Budget: \$300,783
Percent Change: 155%	36%	262%

## Fire Marshal's Office

The Macon County Fire Marshal's Office, a division of the Macon County Emergency Services Department, serves as the liaison between the Macon County Board of Commissioners and the independent fire departments. The Fire Marshal's office congregates budget requests from the departments for submission to the Board of Commissioners, inspects the departments annually to ensure they meet PC 9 standards, assist departments with NC Office of State Fire Marshal (OSFM) inspections, and conducts fire inspections. Fire inspections are conducted in conjunction with Macon County Code Enforcement but the inspector is not an employee of that department. Until the late 1990s, the fire inspector was an employee of code enforcement and the Emergency Services Director served as the Fire Marshal. Due to various issues, the fire inspector position was moved to Emergency Services. The Macon County Fire Marshal's Office

conducts fire inspections in the municipalities as well as the rural areas. Neither of the municipalities conducts their own fire inspections. Although this process has been in place for many years, no written MOU can be located to verify any prior agreements.

## **Macon County Fire and Rescue Commission**

The Macon County Fire and Rescue Commission exists after the Macon County Fire Commission and the Macon County Rescue Commission were each dissolved and a new entity was created in 2001 to serve as an advisory group to the Macon County Board of Commissioners and to serve as an avenue for the departments to communicate with each other and share ideas. (Appendix C) The group meets quarterly. Rescue services are provided by the Fire Departments in Macon County as no single purpose rescue squad exists in Macon County.

## **Macon County Firefighter's Association**

The Macon County Firefighter's Association was organized to serve the departments by promoting the welfare of all members, encourage proper training and education, and to maintain a liaison with local, State and Federal agencies. Whereas the Fire and Rescue Commission membership is typically the chief executive officers of a department, membership of the Firefighter's Association was open to all regular active members of the various qualified fire departments affiliated with the Association. The Firefighter's Association dissolved in early 2017 and is in the process of finalizing the dissolution, especially the disbursement of any funds leftover from revenue sources. Individual departments paid an annual membership fee to the Firefighter's Association.

## **North Carolina Forest Service**

The NC Forest Service, a division of the NC Department of Agriculture, is charged by NC GS 106-898 with controlling forest fires on NC or private lands in Macon County. Fires on federal lands are controlled by the United States Forest Service. Fire departments are routinely called into service to respond automatically to such fires and may be tasked with fire control or structure protection from approaching fires. NCGS 106-698 also stipulates that a county should contribute at least 25% of the budget for the NCFs County Rangers budget before any funds appropriated to the department (NC funds) may be expended. In fiscal year 2016/2017 the expenditure from Macon County was \$70,000. Staffing consists of a County Ranger, Assistant County Ranger, and a temporary nine(9) month smoke chaser position during high fire danger

times. Part-time staff are added as needed during peak fire season times as well. Although county staff assists with many other forest management duties, the NCFS resources were included as part of this study due to their fire control responsibilities and the subsequent contributions from Macon County.

## NC Firefighters and Rescue Squad Workers Pension Fund

Eligible members of eligible fire departments and rescue squads in NC may participate in the NC Firefighters and Rescue Squad Workers Pension Fund. NC contributes approximately \$151 per member annually into the fund and member contributions are \$10 per month of eligible service. Upon reaching 20 years of creditable service and the age of 55, members may receive a pension fund benefit which is currently \$170 per month.

## NC State Firefighters Association

The NC State Fire Fighters Association (NCSFA) was established to serve its members and provides several benefits including accident and sickness policies for line of duty injuries or illnesses and accidental death benefits both on and off duty. Members may also access a First Responder Assistance Program which provides many of the same services an Employee Assistance program (EAP) provides to career industrial and governmental employees. Departmental membership is \$20 annually and \$10 per member.

## NC Office of State Fire Marshal Fire-Rescue Grants

N.C.G.S. 58-87-1 established the Volunteer Fire Department Fund to assist fire departments purchase equipment and make capital expenditures. Funds are provided by a tax paid by NC licensed insurance companies and are usually matched dollar-for-dollar up to \$30,000.

N.C.G.S. 58-87-5 established the Volunteer Rescue, EMS Fund to assist rescue organizations purchase equipment and make capital expenditures. Funds are provided by collecting \$0.18 from every vehicle inspection sticker in NC and are usually matched on a dollar-for-dollar basis up to \$25,000.

Many departments in Macon County utilize both of these grant programs.

## Firefighters Relief Fund

The Firefighter's Relief Fund benefit (N.C.G.S. 58-84) was originally designed to financially assist firefighters that may have been injured while volunteering their service to their community. Funding is provided by N.C.G.S. 105-228.5 by a percentage of a tax paid on property coverage. A local Firefighter's Relief Fund Board of Trustees must be established to control the local funds and a Board of Trustee's report must be submitted to the Department of Insurance annually.

In 2014 the NC General Assembly amended N.C.G.S. 58-84-35 to allow additional expenditures of local funds. Funds may be used to provide benefits for NCSFA member line of duty death or injury, member destitution, approved supplemental retirement payments, NC Fire and Rescue Fund pension premiums, workers comp insurance premiums, firefighter physicals, and supplemental education benefits and scholarships.

## Fiscal Impacts

There is a significant financial benefit enjoyed by the citizens of Macon County from a substantially all-volunteer fire system. The benefits from reduced insurance premiums can be significant as indicated by the NC Office of State Fire Marshal (Appendix Q). Providing just two(2) full-time firefighters in the each of the existing fire stations to provide for 24 hour coverage would require at least \$5 million dollars each year just in personnel costs alone.

## Challenges

There are many challenges that the fire service faces nationwide but the following challenges seem to be consistent with the fire service in Macon County and the nation as a whole:

1. Recruiting and retaining competent volunteer members.
2. Managing the increasing numbers of requests for service.
3. Managing the complexity of requests for service and the associated training required to safely and effectively manage such incidents.
4. Maintaining adequate financial stability as the cost of operations increase while remaining fiscally responsible.

5. Balancing an ever increasing workload of administrative processes and procedures along with an increasing number of requests for service.

## Trends

Trends should not be an all-inclusive factor dictating changes in any public safety profession as some trends seem to be prominent and then fade away, but a profession such as the fire service that is founded heavily on tradition and traditional practices must be prepared to confront certain trends and be prepared to strategically address their effects on the service.

Some of the trends that appear most prominently and fairly consistently throughout the nation in the fire service and particularly in Macon County are as follows:

1. Significant scientific and technological advancements
2. Fiscal constraints
3. Emphasis on public education and fire prevention
4. Changing roles of the fire departments.

## The Review Process

The review process consisted of acquiring input from all possible stakeholders including the fire departments, their members, and the general public along with researching studies that have been completed on fire protection systems across North Carolina and other areas. A thorough historical analysis of the system in Macon County was conducted as well to look at areas in which we have excelled and areas in which we have been challenged in the past. Best practices that work well for other areas may or may not work well in Macon County, but in an effort to ensure a degree of validity to this document even practices that were believed to be incompatible with Macon County were thoroughly vetted and considered before any recommendations were made. This process should be about continuous improvement of the system as a whole. The author may make recommendations for improvement but it is ultimately up to the Governing Board of Macon County and the governing boards of the fire departments along with county staff to make the decision to follow any recommendations and make any changes referenced within. Many studies reference being proactive as opposed to being reactive and this is indeed the time to be proactive. Some strategic areas may require policy direction from governing boards and some areas may be more operational and require collaboration between the fire departments that contract with the County and county staff, but the overall goal should be to further the quality improvement process with the fire protection system in Macon County. It is sometimes difficult to review and provide constructive

suggestions for an organization and a system that you have been involved with from its early life stages. Many organizations and individuals will instinctively resort to challenging any recommendations just because of human nature and the effects of change, but the strongest leaders will address those challenges wholeheartedly and use the associated processes to strengthen their organizations and prepare them for the future for the greater good of all involved.

## Key Objectives

The key objectives of this study are as follows:

1. Provide for a comprehensive understanding of the fire protection system needs and challenges for the next 5-7 years
2. Project any major capital building expenses over the next 5-7 years
3. Project major apparatus and equipment purchases over the next 5-7 years
4. Project fire service staffing needs over the next 5-7 years
5. Compare and contrast our organization with fire service industry best practices to provide a basic planning tool.

## Survey Results

Full information from the various surveys can be found in appendixes D-F. The various types of surveys are summarized below:

### A. Departmental Survey

The departmental survey was intended to provide information, opinions, and suggestions from the department as a whole. Departments met with a representative from Macon County Emergency Services and reviewed the information provided on the department's survey form. One form was collected from each department and data was interpreted appropriately. A detailed summary of the submitted information can be found in Appendix D. The summary of information provided is as follows:

1. The majority of departmental budgets are from taxes.
2. Fundraising and other revenue sources vary greatly between departments
3. 73% of the departments have not added any career employees since 2011.
4. There are 349 volunteer fire department members in Macon County.



5. The average number of auxiliary members per department is 2.
6. There are 17 career firefighters in Macon County. (Excluding NCFS)
7. Only 18% of the departments have a firefighter fitness and health program.
8. 54% of the departments require more training annually than the NC OSFM minimum.
9. 82% of the departments offer a member incentive program.
10. There are 22 fire stations in Macon County.
11. Only 14% of the self- contained breathing apparatus (SCBA) is over 10 years old.
12. 39% of the personal protective clothing is over 10 years old.
13. 27% of the departments have a written apparatus replacement plan.
14. 90% of the departments anticipate replacing an engine in the next 5-7 years.
15. 90% of the departments anticipate the need for additional career staff in 5-7 years.
16. 46% of the departments rated recruiting and retaining volunteer staff as more difficult now as opposed to five(5) years ago.
17. 66% of the volunteer members are between the ages of 26 and 55.
18. 90% of the departments have a junior member program.
19. 63% of the departments stated the major reason people leave their department is they cannot commit the time to provide the services required of the members.
20. 30% of the departments have less than 9% of their total budget in reserve funds to cover large unexpected expenses.
21. Medical calls have caused the greatest increase in call volume in the last 5 years.
22. 100% of the departments participate in the NC Firefighters pension program.
23. The three measures the departments indicated Macon County should take in the next 5-7 years to provide better fire protection are as follows:
  - a. Improve communications (63%)
  - b. More oversight and administrative assistance (36%)
  - c. More funding and incentives (tied) (27%)
24. The three things identified as the department's highest priority unmet needs are as follows:
  - a. 24 hour/ increased career staffing (36%)
  - b. Communications (27%)
  - c. Recruitment/retention and improved rating (Tied) (18%)

## B. Member Survey

Fire departments were encouraged to have as many of their members as possible complete a brief member survey. 154 member surveys were collected. Any comments written in along with the full survey results are attached in Appendix E. The summary of information provided is as follows:

1. Members are confident in their department's ability to provide services at or above the levels that are recognized by the industry as sufficient and also predict improvement in the delivery of such services in the future.
2. The biggest challenges faced by volunteers appear to be meeting training requirements and committing the time required to provide the services required of the departments.
3. Opinions were almost evenly split concerning encouragement to remain a volunteer. Almost half indicated more recognition would be helpful and half indicated no more recognition was necessary.
4. The majority indicated that although some minor changes are necessary, overall Macon County is served by a good system.
5. An overwhelming majority indicated that demand for service is increasing and almost half think they can meet the need without changes and about half think changes need to be made or they will not be able to meet future needs.

## C. Public Survey

The general public was asked to answer a few questions concerning their knowledge and opinions of the fire protection system in Macon County. Survey information was collected electronically and in printed format from 347 individuals. Comments are included in the full survey results in Appendix F. Several people included names and/or contact information. Their comments remain but their personal information was excluded from the data for security purposes and anyone that requested to be contacted will be referred to the appropriate agency for follow-up. This particular survey was not designed to create any conflict but to open the discussion into issues that might need to be addressed in the future to ensure the continued success of the fire protection system in Macon County. A summary of the responses is as follows:

1. The majority of the people surveyed know which fire department serves their area.
2. Over half of the people surveyed have never needed any type of service from their local department.
3. An overwhelming majority of the people surveyed rated the services available to them as very good.
4. Another overwhelming majority of people surveyed are satisfied with the financial impact their fire department has on them including the service fee that pays for such services.
5. Over 70% of the people surveyed have not considered volunteering for a local fire department.

## Apparatus Inventory and Review

### Preface

One data set that was gathered for this study was detailed information on various apparatus utilized by fire departments in Macon County. Fire apparatus are often very specialized vehicles with price tags often exceeding \$250,000 each. Apparatus finance costs are the largest annual expenses many departments incur. Except for facility construction, the purchase of a fire apparatus is the largest expenditure incurred by a department.

### Definitions

There are many different types of fire apparatus. For the purposes of this study, all apparatus were reviewed and inventoried, but the following five main types of apparatus were the highest priority due to their importance to the essential basic operations of the department and the significant expense often incurred for acquisition:

#### 1. Engine

Motorized fire apparatus with a primary purpose to delivery water onto a fire either from an internal tank, a pressurized source (hydrant), or a static source (such as a pond, etc). Will carry an assortment of hoses, nozzles, and other equipment necessary for firefighting services. These vehicles may also carry specialty rescue equipment to respond to vehicle accidents, etc. An engine should have a pump rated at not less than 750 GPM at 150 psi net pump pressure and be equipped with a minimum 500 gallon storage tank. An annual service test is required by the NC Office of State Fire Marshal to verify pump capabilities.

## 2. Tanker

Motorized fire apparatus with a primary purpose to deliver large quantities of water to fire scenes often in rural areas where no pressurized or static source is readily available. Rural departments may utilize large portable folding tanks at fire scenes for engines to use as static sources of supply. Tankers are used to transport water from distant sources to these folding tanks or may be directly connected to engines. Many departments utilize vehicles that can function as an engine but also has the capability to transport and dump large quantities of water into portable static sources. Tankers may transport 1,000 to 3,500 gallons of water each. For the purposes of this study, if there was any question as to the primary purpose of such vehicles, they were considered engines for data collection purposes.

## 3. Brush/Wildland

Motorized fire apparatus, smaller than engines and equipped for off-road travel. These vehicles usually are equipped with a small water tank of 300 gallons or less, small capacity pumps, and equipment necessary to fight wildland fires.

## 4. Rescue

Motorized fire apparatus which usually does not have a pump or water tank but is designed to transport specialized rescue equipment necessary for vehicle extrications, water rescues, etc. Some departments may classify these vehicles as "service" trucks which carry additional firefighting equipment and are necessary for ISO rating inspections where a department is not required to have a ladder or aerial truck for full inspection credit for multi-story buildings.

## 5. Ladder/Aerial

Motorized fire apparatus which may or may not have a pump and tank equipped with an aerial device capable of extending normally 75' to 100' in length. Ladder/aerial trucks are required to receive full inspection credit from ISO or other PC inspections when a significant number of buildings are located in the district that are 3 stories or more. Will also carry an assortment of ground ladders and equipment. The ladder truck will have an extension type ladder affixed to the chassis, a platform basket attached to a long boom, or a combination of both.

## Requirements

There are many different reasons departments have different types of apparatus.

### a. Minimal Protection Class 9 requirements (Appendix G)

A recognized fire department in North Carolina is required to have one(1) engine and one(1) tanker for the main station and one(1) additional engine and one(1) additional tanker for each

recognized substation. The tanker should have a minimum capacity of 1,000 gallons or the combined tank capacity of the engine and tanker should total 1,500 gallons or more.

b. Lower Protection Class requirements

Departments that receive a lower PC rating have demonstrated that they have the ability to effectively attack fire in their response areas. To receive the lowest ratings, they may need more than one engine to attack large flow fires. (ex. A fire that requires 2,000 GPM to control might require the response of two(2) engines). If the department serves a rural area and is required to haul water to the fire scenes, they may need more than one tanker. They may require a service truck to transport equipment or a ladder truck to respond to multiple story buildings.

c. Practical requirements

Departments may cover a response area that is largely urban interface area that is susceptible to wildfire and requires a brush truck for adequate responses. The department may conduct water rescues and needs a vehicle to tow a boat or other trailers. They may utilize sedan type cars for firefighter transports to incidents or training. Different response areas may have different vehicle requirements. An engine designed for mainly urban responses may not be effective in rural areas due to road conditions, bridge weight limitations, etc. An engine designed for rural areas with short wheelbases and higher ground clearances may not be able to adequately carry all the equipment necessary for urban fire responses. Each response area may have some different requirements that necessitate specific types of apparatus.

## Inventory

An inventory was conducted of all vehicles and trailers that are utilized to provide fire and rescue services in Macon County. The vehicle inventory of the North Carolina Forest Service was evaluated separately as their equipment is designed for wildland fire response only. The inventory collected data such as department vehicle ID number, VIN, year, make, model, and pump and tank capacity. This data was then applied to various ranking systems to get an overall view of fleet condition and a general idea of apparatus needs in the future. Every ranking system is a little different and an opinion of overall vehicle condition can vary based on different priorities, financial constraints, individual needs, etc. A more detailed examination of each vehicle including looking at maintenance and service histories, considering financial constraints, reviewing what apparatus is required by the department to maintain effective fire protection and what is required to maintain certain protection class ratings would give more

detailed insight into apparatus conditions and assist with future vehicle replacement strategies, but is beyond the scope of this particular study due to the time involved to analyze all of those factors effectively.

Macon County fire departments have an inventory of 104 various vehicles or apparatus. This inventory includes the following:

- 36 Engines
- 15 Tankers
- 14 Brush Trucks
- 11 Rescue Trucks
- 2 Ladders
- 18 Small Vehicles
- 4 Trailers
- 3 ATV/UTV Vehicles
- 1 Boat/Trailer

#### North Carolina Forest Service

The county office of the North Carolina Forest Service (NCFS) is partially funded by the State of North Carolina and partially funded by Macon County. Their vehicles are all brush/wildland fire type vehicles which are also used for other forestry type duties and as such were not included in the other fire protection apparatus inventory. The replacement policy of these vehicles is retirement at 10 years of age or 100,000 miles depending on body condition. The current apparatus fleet is as follows:

2008 Ford F350	Brush	67,308 miles
2004 Ford F350	Brush	97,248 miles
2008 Ford F350	Brush	80,020 miles

One of these vehicles is obviously already past the 10 year replacement date and almost to the 100,000 mile replacement goal. The other two vehicles are almost at the replacement date and at varying areas of mileage replacement goals. The estimate supplied by NCFS for replacement cost is \$55,000 each.

## Minimum Inventory Requirements

No study would be complete without reviewing the bare minimum size of apparatus fleet that is necessary just to maintain the mere existence of the fire protection system in Macon County. Once the minimum fleet size is determined, it is easier to differentiate what apparatus is necessary for logistical purposes (engine in a remote substation), operational purposes (large fire flows requiring more than one engine, heavy concentration of wildfire, etc.), or inspection/specialty purposes to maintain protection classification. (ladder truck, etc.) This study is not intended to determine whether the fleet inventory is adequate, lacking, or excessive. It is intended to reflect the basic assortment of necessary apparatus and review the other available apparatus fleet currently in existence.

To maintain the most basic fire protection system currently in existence in Macon County for PC9 standards requires the following fleet of apparatus:

20 Engines  
19 Tankers  
2 ladders

The tankers can also be engines capable of hauling water and serving a dual purpose but in whatever combination there would need to be 39 total engines and tankers.

The NCFS has 2 full-time career employees and 1 seasonal employee supplemented by part-time fill-in staff as necessary during fire season. Three vehicles are needed to meet their needs.

## NFPA Guidelines

The National Fire Protection Administration (NFPA) provides several recommendations on apparatus specifications, refurbishing, and retirement. Sections 1911 Appendix D and 1912 (Appendix H) specifically relate to apparatus. The NFPA recommends vehicles older than 15 years old and less than 25 years old be considered for refurbishment if they are to continue to serve in a first-out status or the vehicle should be moved to reserve status. Retirement of the vehicle is recommended at 25 years of age. It is assumed that, even though vehicles may be in an overall good condition, advancements have been made in technology, performance and safety that vehicles over 25 years of age cannot be retrofitted with. It is also assumed that even

if certain upgrades and retrofits are implemented, there will still be parts of the apparatus that are over 25 years old and more susceptible for failure. If refurbishment is chosen as an option specific guidance is provide for what should be considered.

For the purpose of this section of this study, the only retirement age that was considered was 25 years. Refurbishment was not reviewed in detail on any apparatus that might have been retrofitted. The only apparatus that were used for the calculations were engine, tanker, brush, rescue or ladder trucks. Retirement dates may not apply well to the other types of apparatus in the inventory. This group of five specific types of vehicles tends to make up the majority of apparatus expenditures. These are traditionally the “required” vehicles for fire protection services from a certification standpoint. This study also did not evaluate the number of required vehicles per department in these categories. If a department needs three engines to cover their calculated fire flows but only has two engines, this section only bases its estimates on the apparatus currently in service by the department.

Replacement cost estimates were obtained from the Houston Galveston Area Council (H-GAC) Cooperative Purchasing Program for a minimally expensive vehicle from each category listed above. The estimated cost for each unequipped apparatus is as follows:

Engine	\$ 240,000
Tanker	\$ 177,000
Brush	\$ 67,000
Rescue	\$ 97,000
Ladder	\$ 593,000



Following are estimates of the number of apparatus that would need to be retired and replaced to maintain the existing inventory of apparatus from now until 2027 in accordance with NFPA guidelines and a total replacement cost estimate:

NFPA Recommended Replacement Schedule

25 Years Old Now	25 Years Old in 2022	25 Years Old in 2027
4 Engines	9 Engines	20 Engines
4 Tankers	6 Tankers	8 Tankers
4 Brush	6 Brush	7 Brush
0 Rescue	2 Rescue	7 Rescue
0 Ladder	0 Ladder	0 Ladder
Cost \$1,936,000	\$3,818,000	\$7,267,000

## Fire Apparatus Manufacturers Association

The Fire Apparatus Manufacturers Association (FAMA) provides replacement consideration guidelines based on items such as age, engine hours, mileage, parts availability, and safety standards. (Appendix I) Apparatus is then assigned a ranking based on those considerations. The inventory for this study again reviewed apparatus data to assign each apparatus a ranking ranging from poor (the worst) to excellent (the best) based on these guidelines. A full study just on apparatus replacement could be conducted in the future to examine this issue more in depth but due to time constraints age was the differentiating factor as most of the apparatus in Macon County have relatively low engine hours and low mileages. It should be noted that a vehicle might be in excellent working condition but might score poorly due to its overall age. Function may not be compromised but certain advancements in technology or safety improvements may not be available. Considering all of the different apparatus types inventoried in Macon County, the following ratings were assigned:

Condition	Percentage
Excellent	10%
Very Good	19%
Good	27%
Fair	23%
Poor	21%

The five main categories of essential firefighting apparatus as considered in the NFPA recommendation were ranked as follows according to FAMA recommendations:

Type	Ranking				
	Excellent	Very Good	Good	Fair	Poor
Engine	0%	16%	40%	22%	22%
Tanker	0%	47%	20%	7%	26%
Brush	7%	14%	36%	7%	36%
Rescue	0%	0%	46%	36%	18%
Ladder	0%	100%	0%	0%	0%

#### Maintenance and Overall Condition

It should be noted that all departments must maintain weekly and/or monthly inspection reports on all apparatus and these records are reviewed and verified during annual inspections of each department by the Macon County Fire Marshal’s Office and by the NC Office of State Fire Marshal when conducting their inspection approximately every five years. (Appendix J) Engines are service tested annually and verified as well to perform as designed. Maintenance is performed in-house or through a variety of local and area service providers. Apparatus is an area of pride for many departments and most go to great lengths to ensure their equipment is

maintained well and performs as necessary. In no instance was any apparatus found to be non-functioning or in disrepair. In some instances it is better to have an outside source look at the overall condition of apparatus for the “snapshot” of current conditions but one benefit the author of this study provides is knowledge of how the overall condition of the apparatus fleet is now compared to 10 or even 20 years ago. The overall apparatus fleet is in a much better condition now than it was several years ago.

## Refurbishment

Several departments have undertaken refurbishment of apparatus, either converting non-fire apparatus into fire service vehicles, such as utilizing a repurposed beverage truck for a rescue or service truck, or retrofitting an older apparatus by remounting an existing tanker body onto a new chassis. Such refurbishes will certainly save monies upfront, but care should be taken to make sure ongoing expenses of the refurbished vehicle do not offset the value of the limited life extension provided by the retrofit or refurbishment. Governing bodies should also consider the long term fiscal considerations when recommending retrofitting/refurbishing versus new purchases. Fire apparatus traditionally has a longer depreciation timeframe than most other capitalized assets for other businesses and as such normal financial modeling may not apply.

## Summary

There may not be an existing replacement standard that meets the functional and fiscal requirements of Macon County but a hybrid model of existing industry recommendations could be crafted to provide at least some guidance for departments and governing bodies to consider when discussing apparatus replacement. Theoretically if apparatus were distributed evenly one engine and one tanker would need to be purchased every year to maintain a first-out fleet (engine and tanker) with an age of no more than 12 years and a second-out fleet (engine and tanker) with an age of no more than 24 years. Fire departments in Macon County spend over \$455,000 annually on debt service for apparatus acquisitions. Although some departments have none, the departments that do have debt service for apparatus acquisitions spend an average of \$56,921 each annually. A significant expenditure and also a significant liability if it is not maintained correctly, the apparatus fleet deserves serious attention from all stakeholders when decisions must be made for refurbishment, retirement or replacement.

## Core Observations and Items for Consideration

### A. Levels of Service

1. The County's current contract for fire protection (Appendix K) with the various fire departments contains the following excerpt concerning levels of performance:

FIRE PROTECTION SERVICES REQUIRED. So long as this Contract remains in effect, the DEPARTMENT will furnish not less than Class 98 fire protection and emergency medical and rescue services that the DEPARTMENT is licensed and/or trained to provide to all property located within the boundaries of district DISTRICT. The DEPARTMENT will

### Recommendation #1 (Policy Change)

Levels of performance of the contracting fire department should be more clearly defined , agreed upon, and integrated into a revised contract. The governing board should establish some meaningful and measurable performance standards that are reasonable and can be achieved by the providers in Macon County and define the process to address any failure to meet those standards. Many agencies will set those standards based on an acceptable amount of time for a first unit to arrive on certain emergency calls adequately staffed to manage the emergency, but no fire department, career or otherwise, can realistically guarantee to meet those demands 100% of the time. The recommendation of this study is to base the performance on the Insurance Service Office (ISO) level of service provided by the department which directly impacts the potential customers in the fire districts financially. Any department that has achieved a protection class(PC) of less than 9 has undergone a detailed examination of their operations by the NC Office of State Fire Marshal to define their ISO level of service including such response times as above. Essentially their performance has been evaluated by an outside party to the County's contract. The departments should be able to clearly see the benefits of achieving a certain ISO level of service within the contractual process, whether that may be a financial incentive or something else, along with any subsequent drawbacks for failing to strive for greater achievements or failing to meet minimum standards.

## 2. Capital Assets

The current County contract was recently revised in early 2014 but does not address what would happen to large capital assets such as buildings and apparatus in the event a contracting fire department was to dissolve in the future. The North Carolina Secretary of State has some general provisions in place, but no such provisions apply specifically for Macon County.

### **Recommendation #2 (Policy Change)**

**Although it is unlikely that a private, non-profit corporation fire department would cease to exist in the future, it is recommended that a clause be included in the County contract that stipulates if the department should dissolve major capital assets such as buildings and large fire apparatus would be immediately transferred to (or through) Macon County Government for the purpose of providing fire protection for the people of Macon County. Taxpayers should not find themselves in the position of having to repurchase fire apparatus and fire stations that have already been paid for.**

## 3. Data Management

There is no centralized record system for all of the contracting private non-profit fire departments in Macon County. There are several software systems in place throughout the county representing several different records management systems. Macon County has made an effort to standardize the budget process but many departments utilize different account types to classify their expenditures. Baseline data on each department such as costs for personnel, operating, and capital has been collected and should continue. Each department also must spend significant time managing their individual records for items such as NC Firefighter's Association, NC Firefighters Pension, etc.

### **Recommendation #3 (Operational)**

**The collection of data and the verification of quality data are essential for planning. A uniform platform for all records management for all contracting fire departments should be established and the County could assist with the associated software support as required. The County should provide more assistance with the**

management of items such as association and pension memberships and other labor intensive data projects as required to not only make sure that particularly volunteer members are covered by all of the services and benefits that might be available to them but to also free up time for the officers, members, and the fire department's administration to do what they do best which is provide high quality fire protection. Members are now expected to be highly proficient providers of emergency services in an ever increasingly complicated world. We are also expecting them to be financial managers, human resource specialists, education providers and administrative support staff. Any assistance to lessen the administrative burdens would certainly be a good faith effort on behalf of Macon County to support the volunteer fire service.

## B. Funding

### 4. Financial Controls

Nine(9) of the fire departments are independent non-profit organizations and two(2) of the fire departments are municipal fire departments. The municipal departments fall under the North Carolina Budget and Fiscal Control Act and as such are audited annually. The other nine(9) departments submit financial documentation annually to Macon County during the budget construction process current as of the date of submission which is usually in early April. There is a NC General Statute that references audits of non-profit organizations accepting public monies.

#### *Part 5. Nonprofit Corporations Receiving Public Funds.*

##### *§ 159 40. Special regulations pertaining to nonprofit corporations receiving public funds.*

- (a) If a city or county grants or appropriates one thousand dollars (\$1,000) or more in any fiscal year to a nonprofit corporation or organization, the city or county may require that the nonprofit corporation or organization have an audit performed for the fiscal year in which the funds are received and may require that the nonprofit corporation or organization file a copy of the audit report with the city or county.*
- (b) Any nonprofit corporation or organization which receives one thousand dollars (\$1,000) or more in State funds shall, at the request of the State Auditor, submit to an audit by the office of the State Auditor for the fiscal year in which such funds were received.*
- (c) Every nonprofit corporation or organization which has an audit performed pursuant to this section shall file a copy of the audit report with the office of the State Auditor.*
- (d) The provisions of this section shall not apply to sheltered workshops or to Adult Development Activity Programs or to private residential facilities for the mentally retarded and developmentally disabled or to Developmental Day Care Centers or to any nonprofit corporation or organization whose sole use of public funds is to provide hospital services or operate as a volunteer fire department, rescue squad, ambulance squad, or which operates as a junior college, college or university duly accredited by the southern regional accrediting association.*
- (e) Repealed by Session Laws 1979, c. 905. (1977, c. 687, s. 1; 1977, 2nd Sess., c. 1195, s. 1; 1979, c. 905.)*

#### **Recommendation #4 (Policy)**

**Macon County has improved their budget process and financial records collection with the volunteer fire departments considerably over the past several years, but a more detailed examination of the financial health of the departments is necessary to maintain accountability of increasingly large sums of public monies spent for fire protection services. Several inconsistencies were noted between what departments indicated their funding sources and percentages were with this study compared to what was submitted with the budget process last year. The budget is an ever changing item that can only be captured at any given moment in time and there are numerous reasons those numbers/percentages could differ from year to year. There is no indication of any inappropriate spending noted from the information supplied, but, in an effort to ensure the public that funds are adequately managed and any potential future problems discouraged, every effort should be used to maintain the integrity of the financial process from all parties involved. Although the intent of the NC General Statute listed above seems fairly clear when first read, some counties in North Carolina have added a section into their contracts for service with fire departments including provisions for compliance with County budgeting procedures and other procedures provided for by State law and the presentation to the County by the department an annual audit and management letter prepared according to generally accepted accounting principles and generally accepted auditing procedures for the preceding fiscal year. The existing contract does provide for review of the financial records but no specificity is indicated and the time required for such reviews on a regular and routine basis is probably not possible with existing staff. At least one county in our region offers to include the departments into the annual county audit process.**

#### **5. Expenditures**

The current contract for services requires the department to notify the Macon County Fire Marshal's office for concurrence when any new operating expense extends beyond the current fiscal year. The excerpt from the contract is as follows:



- B. The DEPARTMENT shall use the funds subject to this Contract in accordance with the annual DEPARTMENT budget. The budget may be amended by the Fire Department Board of Directors within the funds made available by this Contract except that amendments providing for any expenditure that establishes a new operating expense that will extend beyond the current fiscal year shall require the concurrence of the Macon County Fire Marshal's Office.
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#### **Recommendation #5 (Policy)**

Specific guidance should be provided as to what is specifically required to meet the definition of "concurrence". The County occasionally receives requests from financial lending institutions when a department enters into a lending agreement asking if the department is in "good standing". The adoption of recommendation #4 will assist in making that decision but specific guidance should be provided as to what expenditures require such "concurrence" and to whom such requests for "concurrence" are addressed. The expenditures may be approved at the annual budget request presentation to the Board of Commissioners or addressed mid-year as necessary. The baseline information necessary for concurrence could be presentation of a satisfactory audit or other such financial review and evidence that the purchase meets the strategic goals for fire protection of both the county and the department. The concurrence could be required on all purchases extending beyond the current fiscal year. It could be more specific such as requiring concurrence on all apparatus purchases over a specific dollar amount such as \$50,000. It could also be based on the department's current debt to assets ratio utilizing a percentage that is industry specific, or it could be on the department's current debt to income ratio established at a reasonable percentage. Concurrence may require a combination of both evaluations. A fairly new department may have a high debt to asset ratio but can still manage to cover costs with their income, whereas a long established department may have a good debt to asset ratio but could still attempt to undertake an expenditure that their debt to income ratio would not allow enough financial stability to maintain efficient and effective operations. Whatever method is pursued, input from a financial expert will be required to develop a strategy that is effective for all stakeholders involved.

## 6. Purchasing

Over \$3 million dollars are spent on fire protection in Macon County annually and of that amount 30-50% of those funds are spent on operating and capital expenditures. Each department negotiates their best price with their chosen vendor to purchase items as needed.

### **Recommendation #6 (Operational / Policy)**

**There is significant potential for cost savings utilizing some type of group purchasing arrangement. Many local governments utilize some type of program such as through the North Carolina Purchase and Contract program, the Federal GSA program, or the Houston-Galveston Area Council (HGAC) program. These group purchase programs are designed to allow flexibility in acquiring things such as fire apparatus that meets the community's needs without restricting the purchase to a single style and option design, yet still allowing some financial benefit of a group purchasing arrangement. Group purchasing should even be considered for other operational items such as self-contained breathing apparatus, communications equipment and even pump tests and hose tests that are required annually. Some counties even group purchase general liability insurance and workers compensation insurance. Participating in a group purchasing arrangement does have some difficulties particularly when many "smaller" items need to be acquired, such as communications equipment. Service fees are now distributed to departments at the 100% collected amount and most vendors would want to negotiate with one purchaser. One department might need to coordinate the purchase for every other department involved, paying one invoice after collecting monies from every other department. Another option might be for Macon County to facilitate the purchase, distribute the items, and make the arrangements to collect the monies from the departments. The current contract for service does not permit withholding funds from the monthly payments to the departments to accomplish this. There will be some benefit to standardizing certain items across the county from department to department, but great care must be taken when evaluating purchases to make sure the product or service purchased is not weakened to the extent of being ineffective for the department or end-user which would negate any financial benefit obtained. There will also be some reluctance to participate in the program if a department has traditionally used one particular product or service and is very satisfied with their choice and is suddenly asked to change to another option. The operation of such a program should be carefully reviewed and monitored or it will not be successful and could even be detrimental to the delivery of necessary services. To extend the group purchase concept to its fullest extent, the County might even want to explore ways to consolidate debt service on large purchase items such as fire apparatus in an attempt to reduce debt service costs on a larger scale.**

## 7. Distribution of Funds

Fire protection is currently funded through eleven(11) independent service districts established pursuant to NCGS 153A with individual service fee rates assigned to each district. The department submits an annual budget request to the Macon County Board of Commissioners which then goes through its approval process to set a rate for each district. When the conversion was made from a fire fee system to the current service fee system in 1999, the initial service fee for each department was set to a revenue neutral rate compared to the 1998 funding levels and adjusted occasionally on an annual basis since then as different needs arose in different service district areas.

### **Recommendation #7. (Policy)**

**Macon County should explore the option of converting from eleven(11) different service districts for fire protection to one(1) to three(3) service districts in an effort to standardize the fire service fee system across the county. The eleven(11) current districts also include municipal limits. The county currently collects the service fee for the municipal limits and then remits the amounts back to the municipalities. This consolidated district(s) would then contract with fire departments to serve their respective response areas and a funding allocation established for each department. There could still be eleven(11) different response districts retaining the existing community based fire departments. This does NOT imply eliminating or consolidating departments. The only change would be to the funding formula. The allocation could include fixed amounts for each department perhaps for operating, capital and training costs. It could include some variable amounts based on population served, land area covered, and call volumes. It could also include incentives for the obtaining and maintaining of a lower PC rating and the provision of career employees particularly during peak demand hours. This system would eliminate many of the inequities of some property owners who may reside side by side on district lines, receiving varying levels of rated service and paying different service fee rates. Great caution should be used when calculating a revenue neutral allocation as to not hinder the effective delivery of service. Ideally one service fee rate for all of the rural areas of Macon County would be the most equitable for all of Macon County Taxpayers, as a \$200,000 home in Highlands would pay the same for fire protection as a \$200,000 home in Cowee, but Macon County is divided into three geographically distinct regions. (Franklin, Highlands, Nantahala) The provision of**

effective fire protection services within those three regions might necessitate the establishment of not just one(1) but three(3) separate service district areas (Franklin, Highlands, Nantahala) to cover the essential required services. The service district(s) should also not cover the municipal limits. In the current fire protection system, municipalities must request the service fee rate to be established by the Macon County Board of Commissioners who then establish the rate, collect the funds, and remit them back to the respective Towns. By excluding the municipal areas from the County service districts, the Towns can simply adjust their mileage rates to fund the municipal portion of their fire protection area and make their budgetary decisions for fire protection within the municipal limits without the involvement of Macon County. Macon County could still contract with the municipalities to provide service in certain rural areas just as they currently do. If the municipality increases their mileage rate the same as their current fire service fee, the overall impact on the municipal fire portion of the budget would be revenue neutral as would the actual amount paid by the taxpayer for fire protection inside the municipality. They would pay the same amount but it would go directly to the respective Town to be spent, adjusted, etc. as the governing board of the municipality determined. The conversion to this type of allocation system would lessen the burden on the department to prepare and present budget requests and perhaps make it easier to develop long term capital plans but would allow for expansion as growth in the district drives up call volume. Any change such as this will be met with some resistance as people explore the various options and review any effects on their respective organizations and great effort should be placed on answering all questions prior to any conversion. The conversion would also be a lengthy process which would take 12-24 months to complete in order to ensure that all requirements of NCGS 153A are sufficiently addressed and budgetary requirements are effectively considered.

### C. Apparatus

#### 8. Apparatus Replacement and Maintenance

Each fire department currently purchases and owns fire apparatus that they believe are in the best interest of their community and are affordable based on their particular budget. The eleven(11) contracting departments currently own 36 engines, 15 tankers, 14 brush fire response trucks, 11 rescue trucks, 2 ladder trucks and 26 other vehicles. Macon County does not own any of the apparatus. A detailed inventory, inspection, and rating were completed during the data collection process of this study on guidelines from the Fire Apparatus Manufacturers Association.

## **Recommendation #8 (Operational)**

**Macon County should continue to maintain this detailed inventory and coordinate it with budget requests for fire apparatus replacement. Industry standards may need to be adjusted for Macon County specifically but a detailed replacement schedule can be drafted to assist all stakeholders in adequately planning for future capital expenditures. Each department conducts their own annual pump certification testing on their fire apparatus either with in-house personnel or with contracted companies. In reference to recommendation #6, this may be another opportunity for a third party testing organization to be contracted to conduct pump testing for all Macon County apparatus hopefully saving money and having all apparatus evaluated by an outside agency. This could also apply to annual hose testing. Department staff and members might have more time available to continue to provide their quality fire protection and the associated training required to provide such. Time may be the most important asset many departments and personnel are experiencing shortages of. The county should also explore the option of maintenance and repair agreements with one or more local business in an attempt to obtain a group purchasing or member type discount for fire apparatus repairs for the various fire departments.**

### **D. Capital Projects**

#### **9. Fire stations**

The eleven(11) contracting fire departments currently provide fire protection services from twenty(22) fire stations in Macon County. Two(2) are inside municipal limits. Eight(8) are classified as sub stations with apparatus and roster to expand the insurance district to allow residents in remote areas to receive the benefits of a lower PC rating. One(1) is a satellite station that does not extend the insurance district but is used logistically to facilitate adequate departmental responses. 32% of the buildings are over 25 years old. 27% of the buildings are over 30 years old. The NCFS facility is the only government owned facility used for fire protection services and was constructed in 1979. (See Appendix L)

## **Recommendation #9 (Operational)**

**Any emphasis on building new facilities should be directed toward a fire station that would serve what is currently considered a Class 10 or unprotected area, which is an area further than six(6) miles from a recognized fire station or substation. These areas receive fire protection services and pay the same service fee as residents in the district's "protected" area but do not receive the benefit of any insurance premium deduction and in some cases cannot obtain insurance coverage. Emphasis should also be placed on any new facilities extending a department's five mile district which could potentially offer lower protection class benefits to**

those areas. Emphasis on replacement facilities should be placed on facilities that are nearing a 40 year lifespan. The county should also explore options to collectively lower interest rates through some type of debt consolidation or other method preferably without adding debt service to the county.

## E. Staffing

### 10. Volunteer Staffing

Macon County has been fortunate to receive the services of many dedicated and highly competent volunteer members of the fire service throughout the years. Volunteers will remain an integral part of this fire protection system for many years to come. At the time when data for this survey was collected, there were 366 personnel on the rosters of fire departments in Macon County, with an overwhelming 95% of those individuals considered volunteers. As with many volunteer type organizations, it is not just the member who commits to serve. The service affects the entire family unit as well. Duties on other family members not involved in the fire service increase due to requirements placed on the volunteer for service. The NC Office of State Fire Marshal requires a department to maintain an active roster of at least twenty(20) firefighters and requires an additional eight(8) firefighters for each substation. Currently 284 members are required to keep the system operating as it currently exists in Macon County. It is increasingly difficult to recruit and retain volunteers due to career restraints with many individuals either working at professions that don't allow them to leave their duties to respond or may even be out of the county. Other volunteer organizations compete for a limited number of available volunteer hours. Training and response demands have increased dramatically and as more emphasis is placed on a lower PC rating, the training requirements increase even more.

### **Recommendation #10 (Operational)**

**Macon County should place significant emphasis on recruiting and retaining volunteers to keep the system sustainable for many years to come. Junior member programs, if managed correctly, help to significantly increase the future volunteer resource pool. Programs designed for High Schools or Community Colleges which have been attempted in the past should continue to encourage young volunteers. The focus should not be just on future career opportunities but to emphasize the importance of volunteering and the positive impact volunteering has both on the individual, the organization, and the county as a whole.**

Emphasis should be placed on reaching out to future generations of volunteers and asking what would encourage them to volunteer and then adjusting the organizations as needed to meet their expectations as possible. Assistance should be provided to the departments recruiting potential members and retaining the existing members. Over 70% of the people surveyed had not considered volunteering for their local fire department. There are only approximately 25 auxiliary members in Macon County to provide support services as needed. There are many different jobs for many different qualifications of people so there seems to be significant room to recruit additional volunteers if the appropriate efforts are utilized. Many studies have recommended the hiring of someone for recruitment and retention. Those duties can probably be added to another job description but the support for such efforts should be a priority of the appropriate governing boards. Many departments provide some sort of internal incentive program such as a stipend reimbursement type program and those should be highly encouraged. The County should recognize the service of these members to the public. The NC Firefighters Pension Fund is a tangible benefit a volunteer can benefit from and the County should make sure every eligible member is considered to receive this benefit. Other organizations such as the NC State Firefighters Association provide other significant benefits and resources to their members as well. The County should assist the departments in ensuring their volunteer members are eligible to receive any possible benefit from every source possible.

#### 11. Career Staffing

Fire departments in Macon County have started to convert from volunteer departments to combination departments. Many departments have already hired at least one(1) full time career employee to respond to calls and assist with departmental duties at least during normal business hours when many volunteers are out of the district at other professions or cannot respond due to career commitments. Career staffing levels currently are as follow:

Franklin-7	Highlands-2
Clarks Chapel-2	Otto-2
Burningtown-1	Cullasaja-1
West Macon-1	Cowee-1
Scaly Mtn-0	Nantahala-0
Mtn Valley-0	

The trend toward combination departments is a nationwide trend and is not isolated to Macon County.

## **Recommendation #11 (Policy/Operational)**

**Macon County should decide how it wants to proceed with career employees and volunteer fire departments. The declining number of volunteers can be mitigated to some degree with recruitment and retention efforts but it is highly likely that the demand for more career employees will increase. Volunteers will never be replaced but they must be supplemented to effectively manage the levels of service requested of the departments. Conversion to a career only fire service is not a financially feasible option for Macon County as indicated in Appendix M. Fire departments which have traditionally relied on volunteers and a volunteer application process are suddenly required to recruit, hire, and manage one or more career employees and the professional infrastructure to support responsible legal, hiring, and human resource functions may not be in place. If the infrastructure is in place with so few career employees it may not be exercised very often. Career employees that work for a volunteer/combination rural fire department may be lured away to other professions with larger emergency service organizations such as a municipal fire department or an EMS service which can provide better benefits and more career opportunities. It was a consideration many years ago to consider hiring the career firefighters as county employees and although the recruitment and retainage benefits were a draw for potential employees, there were concerns about how the cost of the employees would be covered under the county budget and to whom would the employees answer to directly. There was also concern over two possibly different sets of employee policies that would need to be adhered to by the employee: one for Macon County and one for the department. The county can certainly explore this option again but inevitably the same questions will arise again. One hybrid model of staffing should be considered, especially considering several of the other recommendations, in which each department still hires and retains one or two career personnel (or more as needed) to initiate a response in the communities quickly while the volunteer staff musters, supplemented by a regional crew of firefighters that are employed by the county. Several counties, including Guilford and Cabarrus Counties have already implemented this model. Cleveland County is considering this model based on a similar study conducted in 2016, and this system is similar to the fire system currently in place in Rabun County, Georgia and Oconee County, South Carolina. This "Task Force" could be initiated with two employees assigned to a central work station during identified hours when volunteers are least available. The crew could consist of a Fire Captain and one firefighter highly trained in all aspects of fire service delivery and also capable of assisting fire departments with other tasks such as maintenance, testing and recordkeeping. This crew could also assist with fire inspections, recruitment and retention efforts, and public education efforts. They could**



respond countywide to assist departments on serious incidents and other efforts as requested. They would obviously be of more service for initial attack situations to departments located closer to their home station but could still respond to outlying departments to assist with overhaul and mop-up, returning equipment into service, and hopefully freeing volunteers to return to their jobs and families much more quickly. The initial cost of establishing such a crew including an appropriate response vehicle and equipment is estimated at \$250,000-\$350,000. The annual expense would decrease considerably the second year upon acquisition of the initial equipment. The model could be scaled up over a period of several years adding more employees in phases to increase the availability eventually to 24 hours per day, seven days per week as needed and distributing the employees across the county also as needed. These employees would qualify for the FLSA 7(k) overtime provisions which allow firefighters to work 106 hours in a normal county pay period before earning overtime. This model is NOT a recommendation to replace volunteer staff but is simply designed to supplement their services and hopefully make the system more efficient and effective. The crew would be assigned as a specialty resource for the departments and would fall under the existing command structure of the appropriate fire department. The financial benefit of managing such resources on a regional basis is also attractive as just adding one more career employee at each department would require eleven(11) new employees and adding one new employee at each fire station, satellite station and substation would require twenty(20) new career employees. The effectiveness of the volunteer system cannot be overemphasized and is here to stay for many years to come in Macon County.

#### F. Other Issues

##### 12. Macon County Fire and Rescue Commission

The Macon County Fire and Rescue Commission was formed in 2001 after the dissolution of both the Fire Commission and the Rescue Commission which were two separate entities. It was noted at the time that in most cases the same members were serving on both commissions and meeting at different times. With all rescue services provided by the fire departments (Macon County does not have a separate Rescue Squad entity) it made logistical sense to combine the two bodies. The existing Fire and Rescue Commission has 22 voting members. The Resolution establishing the Fire and Rescue Commission is included in appendix C.

### **Recommendation #12. (Policy)**

**A Fire Chief's Association or other similar type organization should be established to facilitate operational-type discussions between fire department administrations and the Fire and Rescue Commission should be restructured and be empowered by the Board of Commissioners to provide more guidance into critical decisions affecting the fire service in Macon County. The Fire Commission could include a representative from the fire chief's association, fire department members, and members of the general public appointed by the Board of Commissioners. The eleven fire districts could be grouped into areas each electing a representative from their respective areas. Membership could be designed to be representative of all stakeholders without reaching the enormity of the existing Commission structure. The current Commission organization has effectively twenty-two(22) voting members who are selected by the departments themselves but no public voting members. The Commission has been effective throughout the years but the sheer enormity of the organization could hinder future effectiveness. It would seem that dividing out policy and operational functions might facilitate a more effective advisory system for the Board of Commissioners in the future.**

### **13. Incident Management Team**

The 2016 Wildfire season was a historic event for Macon County that resulted in two(2) National level Type I Incident Management Teams assisting fire crews in Macon County. The enormity of the incidents and the complicated nature of such events made it very obvious that a very structured incident management system is instrumental in accomplishing the goals of all parties involved.

### **Recommendation #13**

**Macon County should establish a local Type VI or V Incident Management Team to assist with the management of serious and severe incidents that affect the county. Many county departments including public health and emergency management already practice utilizing ICS principles while managing incidents as do the various fire departments. A cohesive group of select individuals from the various agencies, including the fire departments, that functions and trains regularly together on various types of incidents under the guidance of the Macon County Emergency Operations Plan will better prepare Macon County to respond to the needs of the citizens if they are affected by future disasters or other serious incidents.**

#### 14. Regional training facility

The current live fire training facility at the Southwestern Community College-Public Safety Training Center in Franklin has been evaluated as needing replacement and discussions are underway between Southwestern Community College and Macon County as how to proceed.

##### **Recommendation #14 (Policy)**

**Macon County and Southwestern Community College should reach a consensus as to what type of facility will best serve the needs of the departments and their current and future members. A facility should be chosen that is not just fiscally possible but also fiscally responsible for all parties to undertake. The fire departments should show their support of such a facility by actively and aggressively pursuing training that benefits their customers. The facility should be designed so as to include all aspects of emergency services including EMS and law enforcement in the future. Proper management and maintenance of the facility should be high priority to ensure a long operating life and return on investment. The latest technological advancements in training should be considered when planning the facility to make it as effective as possible and ensure the safety of students and participants. Environmental impacts of the facility and its general impact on the public should also be high priorities.**

#### 15. Fire Inspections

The Macon County Fire Marshal's Office conducts fire inspections throughout Macon County, including the municipalities. No MOU or other type of inter-local agreement was able to be located to officially define what is expected from such an arrangement.

##### **Recommendation #15 (Policy)**

**Even if a prior agreement can be located, it will be due for a review to determine effectiveness. A new agreement should be drafted and approved between both municipalities and Macon County to clarify duties and responsibilities. Many municipalities across the state conduct all or part of the fire inspections within their corporate limits usually with fire department staff. It is unlikely that either municipality in Macon County will want to assume ALL inspections by hiring a NC Level III Fire Inspector, but some mutually agreeable solution could certainly be negotiated if either municipality wants to assume or assist with**

some form of inspection process. The associated fee structure for fire inspections should essentially be abandoned. The fee for routine inspections was dropped to \$5 per inspection several years ago to encourage compliance with fire code and not penalize small businesses unnecessarily. The necessary effort required to bill and collect the \$5 fee probably outweighs the financial benefit from the fees and as such the fee system should be essentially abandoned or completely revised. The current NC Certified Level III Fire Inspector will be eligible for retirement in the next several years. Considering it takes three to five years for an individual to achieve this level of certification, Macon County should take action now to ensure a proper succession takes place with no loss of service in the transition in the future.

#### 16. Collaboration / Certification

Several of the departments in Macon County are also certified as specialty rescue providers. These certifications include specialty areas such as medical responder, swiftwater rescue, and light rescue services (vehicle extrication).

#### **Recommendation #16 (Operational)**

**Macon County should encourage collaboration between the departments, especially when pursuing the delivery of very specialized fire and rescue services. Several departments expressed interest in pursuing a medium rescue certification or a dive team certification. There are times even the best planned joint efforts fail, but in some instances it is not practical or financially feasible for a single department to staff and finance such a specialty resource. It might not be practical for swiftwater rescue equipment to respond to Nantahala from Highlands, but such collaboration should be encouraged and supported where possible.**

Several departments indicated they met the capabilities of certification for specialty rescue through the N.C. Association of Rescue and EMS, (Appendix N) but not all were listed as being active according to documentation supplied by NCAREMS. Some requirements have recently changed at the state level and any intent to pursue those certifications must now be altered. Departments that are capable of being certified at a certain level should make sure they go through the application and certification process to be officially recognized by NCAREMS especially to be eligible for Rescue Grant funding. The capabilities may be the same but the recognition was just not completed for one reason or another. Special attention should be paid to any pending changes to certification requirements at the state level (or beyond). Standards for recognition not feasible for departments in our area to obtain should not be allowed to be implemented without local input.

## 17. Communications

Communications issues were a priority mentioned numerous times throughout the survey process. Appendix O contains a map with the areas indicated by the departments as experiencing some form of communication issue layered over GPS points indicating fire department responses in 2015/2016. Macon County has initiated a process to upgrade the emergency communications system over a period of 18-24 months appropriating \$400,000 this fiscal year and requested to appropriate another \$400,000 next fiscal year for a capital project. A FEMA Assistance to Firefighters Grant has also been applied for which would total a little over \$1,000,000 if awarded in mid to late 2017. A draft request for proposals for upgrades is under review and several departments have been field testing some digital equipment to ensure that any commitment to a system upgrade is the appropriate system for Macon County.

### **Recommendation #17 (Operational)**

**Macon County should include the additional \$400,000 allotment to the capital project in the 2017/2018 budget. If the FEMA AFG grant is successful and awarded to Macon County, \$1.8 million dollars will be available to update a 30 year old system which is in great need. Any change to a communication system is a challenge and everyone involved should be aware of the enormous complexity of this project and the challenges that will ultimately come with it. All stakeholders should be prepared to extend outside their comfort zones to examine all possible options to improving communications as a whole. Although many urban areas can guarantee a very high percentage of coverage for emergency communications, the topography of Macon County may never allow those standards to be equivalently reached here. A system must be designed and implemented that meets the greatest needs of the end-user while remaining financially feasible. Once established, the system cannot be abandoned financially for another 30 years but must be nurtured and maintained as needed to maintain the health and success of the system.**

## 18. Consolidation

Entire studies have been conducted on the topic of consolidation itself. This study very briefly looked at various issues concerning consolidation of numerous smaller volunteer departments into a lesser number of larger departments or even one single department or Macon County Government. This issue usually sparks very emphatic opinions one way or another but this study would be incomplete if this option was not explored.

## **Recommendation #18 (Operational)**

Consolidation does **NOT** appear to be a viable option for Macon County at this time. Appendix P contains more information concerning any benefits or drawbacks from any type of consolidation, but it seems that there are other ways to achieve the desired results. Any future consolidations would probably be initiated by the fire departments themselves and not as a directive from Macon County barring some catastrophic event such as a financial failure, etc. The community based fire protection system appears to be the best option for Macon County at this time.

## **Conclusion**

Macon County continues to be served well by the system in place today. Demands for service are increasing, financial impacts continue to be difficult, and regulations and requirements seem to be endless. This study should open the discussion into the future of the fire protection system in Macon County. Everyone will not agree on all aspects, changes, or recommendations that may come from these discussions, but everyone in Macon County that resides here or passes through its borders should be confident that every effort possible from all involved parties has been extended to make sure they are made available the best service possible.

# WEEKLY BULLETIN OF LOCAL LEGISLATION

## The General Assembly of North Carolina

A LEGISLATIVE SERVICE OF THE INSTITUTE OF GOVERNMENT / STATE LEGISLATIVE BUILDING  
 P.O. BOX 7294, RALEIGH, N.C.  
 27611 TEL. 733-2484  
 733-2485

<u>BILL NUMBER</u>	<u>MACON</u> <u>SHORT TITLE</u>	<u>LATEST ACTION ON BILL</u>	<u>DATE OF LATEST ACTION</u>
H0430	MACON EMERGENCY VEHICLES-RED LIGHTS	R-RATIFIED CH. 0231	5-23-81
H0602*	MACON FIRE PROTECTION FEES	S-PASSED 3RD READING	5-23-81

H 602 Macon fire protection fees  
 Introducer: Enloe

MACON

*"To authorize Macon County to impose fees for fire protection based on the value of improvements to real property." Amends GS 153A-233 with respect to Macon County only so as to allow county to establish fire districts and within districts to impose annual fire protection fees of \$4 for every \$7,000 of assessed value for improvements up to \$35,000, and \$2.50 for each \$5,000 thereafter (total fee not to exceed \$77.50). Fees are to be added to ad valorem taxes and collected in same manner as such taxes. Fees may be used only for fire protection and are not to constitute liens on property.*

H 602 Macon/Graham fire protection fees (introduced April 15)  
 Amendment adopted in Senate 5/23/85 extends provisions of bill authorizing establishment of fire districts and assessment of annual fire protection fees to Graham County (original bill applied only to Macon County).

<u>BILL NUMBER</u>	<u>SHORT TITLE</u>	<u>LATEST ACTION ON BILL</u>	<u>DATE OF LATEST ACTION</u>
H0602*	MACON FIRE PROTECTION FEES	S-PASSED 3RD READING	5-23-81

## Appendix B

### REPORT ON PROPOSED FIRE SERVICE DISTRICTS

Pursuant to G.S. 153A-302©

April 26, 1999

1. A map of the proposed districts is available as an attachment to this report. (1)
2. The proposed districts meet the standards as established by G.S. 153A-302(a). The evidence of meeting these standards are as follows:
  - a. The resident population of the county's fire service districts is 28,000. The population density average is 1.84 occupants per home.
  - b. The appraised value of property subject to taxation in the individual districts is available as an attachment to this report. (2)
  - c. The present ad valorem tax rate of the county is \$0.43 per \$100 evaluation. There is a fire fee (3) system for the five mile fire department insurance districts, of which a copy is attached, that will be eliminated. Special appropriations to each department were made on a year-to-year basis from the General Fund, for a total last year of \$238,000.
  - d. The ability of the proposed districts to sustain the additional taxes necessary to provide the services planned is shown in the attachments indicating proposed tax rates. (4)
3. There is a demonstrable need for these services based on the fact that eleven(11) fire departments have already been established and their five mile districts and response areas approved by previous Board's of Commissioners. Eleven fire departments cover the geographical layout of Macon County with no overlap of service areas. Residents and visitors of Macon County have a need for fire protection.
4. It is impractical to provide the services on a county-wide basis due to the geographical layout of the county and the expense that would be incurred if full-time paid staff members were used instead of volunteers. (11 stations X 8 personnel X \$30,000 = \$2.6 million in salaries alone)
5. It is economically feasible to provide the proposed services as shown in the attachment indicating the comparison between the fire fee system and the fire service district tax. (5)
6. A plan for providing the service is evidenced in the contracts between Macon County and the eleven(11) fire departments currently serving Macon County. The Macon County Fire Marshal's office is available to answer any specific questions about plans for service.





RESOLUTION OF THE BOARD OF COMMISSIONERS FOR  
THE COUNTY OF MACON PROVIDING FOR THE DISSOLUTION OF THE MACON  
COUNTY FIRE COMMISSION AND THE MACON COUNTY RESCUE COMMISSION  
AND PROVIDING FOR THE ESTABLISHMENT OF THE MACON COUNTY FIRE AND  
RESCUE COMMISSION

Whereas, G.S. 153A-233 empowers a Board of County Commissioners to provide for the organization, equipment, maintenance and government of fire and rescue departments, within the political boundaries of the County; and

Whereas, the Board of County Commissioners of Macon County has determined, after due consideration, that it is for the best interest of and is necessary for the protection of the citizens of said County and their property:

A. That fire and rescue departments be available throughout the incorporated areas of the County, so as to provide protection for public and private buildings, as well as other real and personal property of the citizens of Macon County in the rural areas of the County;

B. To establish an effective fire and rescue organization to supplement the Macon County Emergency Services Management Agency, and to work under its guidance; and

C. In general, to provide for a more adequate and efficient system for the protection of life and property of the citizens and visitors of Macon County with a trained body of personnel; and

Whereas, at its April, 1979 Regular Meeting and at its March, 1987 Regular Meeting, the Board of Commissioners of Macon County adopted a Resolution establishing and amending a Resolution establishing the Macon County Fire Commission; and

Whereas, at its April, 1989 Regular Meeting, the Board of Commissioners of Macon County adopted a Resolution establishing the Macon County Rescue Commission;

NOW THEREFORE, BE IT RESOLVED BY THE BOARD OF COUNTY COMMISSIONERS FOR THE COUNTY OF MACON that the Resolutions of the Board of Commissioners of the County of Macon heretofore adopted at its regular meetings on April 1979, April 1989, and March 1987 establishing and amending the Macon County Fire Commission and the Macon County Rescue Commission be hereby amended by deleting the same in full and replacing them with the following:

CREATION OF THE MACON COUNTY FIRE AND RESCUE COMMISSION

SECTION 1 - MEMBERSHIP

The Macon County Fire and Rescue Commission shall be composed of the following members:

A. One(1) member of the board of Commissioners of Macon County to be appointed by said Board, who shall serve as the liaison between the Fire and Rescue Commission and the Board of Commissioners.

B. Two(2) representatives of each recognized fire and rescue department within the County. The chief of each department shall appoint that departments representatives and may designate himself as a representative.

- C. The President of the Macon County Firefighters Association, ex officio.
- D. The Chief Investigator-Coordinator of the Fire Investigation Support Team, ex officio.
- E. The Fire Marshal / Emergency Management Coordinator, ex officio.
- F. The County Forest Ranger, ex officio.
- G. One(1) representative of the Macon County Sheriff's Department. The Sheriff shall appoint, in writing, himself or another officer of his choosing.
- H. One(1) representative of each non-recognized fire and rescue department operating in Macon County. The Chief thereof shall appoint, in writing, himself or another member of his choosing for the position.
- I. The Administrative Assistant of the Emergency Management Agency.

## SECTION II- ORGANIZATION

- A. As soon as practical after the adoption of this resolution, The Board of Commissioners of Macon County shall designate its new member of the Fire and Rescue Commission.
- B. The Chairperson of the Commission shall be nominated and elected by a majority of the voting membership of the Macon County Fire and Rescue Commission. The Chairperson must be a representative from a voting department. An election will be held during the first meeting of each new year, usually in January.
- C. The Emergency Management Coordinator shall serve as the Vice-Chairperson and shall coordinate with the chairperson to accomplish the goals of the Commission.
- D. The Administrative Assistant of the Emergency Management Agency shall serve as Secretary of the Macon County Fire and Rescue Commission and shall record the attendance and business of all meetings.
- E. The Commission shall meet as often as necessary to accomplish its purposes but shall meet no less often than quarterly. Special meetings may be called by the Chairperson or the vice-Chairperson by giving forty-eight(48) hours notice to each member as to the date, time and place thereof.
- F. Any member who shall fail to attend three (3) consecutive meetings shall lose all rights of membership and the appointing organization shall provide for a new representative. The Macon County Board of Commissioners shall, at all times, be advised of any changes in membership by giving of written notice thereof to the Macon County Manager.

### SECTION III. - DUTIES AND RESPONSIBILITIES

- A. Review the provisions and requirements of this Resolution for the purpose of recommending to the Board of County Commissioners, those amendments or changes which the Commission may deem advisable.
- B. Adopt such rules and regulations as the Commission shall deem necessary to carry out the provisions of this Resolution, subject, however to the approval of the Board of Commissioners for the County of Macon.
- C. Establish and / or cooperate in the establishment of adequate fire and rescue departments in Macon County to provide protection for all public and private property in Macon County and its citizens and visitors, in all areas of the County.
- D. Establish and cooperate in the establishment of improved and more efficient methods for the protection of life and property in rural Macon County and assist in providing a trained body of firefighters and rescue personnel to cooperate with the fire and rescue departments in the incorporated areas of Macon County in cases of emergency.
- E. From time to time, to review and in cooperation with the Fire Marshal, recommend to the Macon County Board of Commissioners suggestions for changes in policy or rules governing fire protection in Macon County, including the requirements for certified fire departments, the training of personnel, the funding of fire service districts, and the establishment and location of district boundaries for new departments.
- F. From time to time, to review and, in cooperation with the Emergency Management Coordinator, recommend to the Macon County Board of Commissioners suggestions for changes in policy or rules governing rescue services in Macon County, including the requirements for certified rescue departments, the training of personnel, and the establishment and location of district boundaries for new departments.
- G. To establish and coordinate a fire prevention program, education, training activities, and, in general, to develop and improve fire fighting, rescue, and fire prevention activities throughout the County.
- H. Investigate and review conditions of all Districts, whether existing or newly established, to insure that all properties throughout the County subject to assessment may enjoy the same level of protection and that the level thereof is adequate and beneficial to the persons and property within the County.
- I. To appoint such committees from amongst its membership, or from volunteers acting under its leadership and supervision, so as to accomplish the purposes of this Resolution, including but not limited to:
  - 1. Equipment Requirement Committee

2. Rules and Regulations Committee
3. Rescue Services Committee

K. Ensure proper investigation of fires are conducted and provide or arrange for such to occur.

#### SECTION IV - Certification of Departments

A. The Commission shall, subject to the approval of the Board of Commissioners for the County of Macon, adopt such rules, regulations, and minimum standards as it shall deem advisable for the certification of fire and rescue departments within the County of Macon.

B. In addition to meeting the standards adopted by the Fire and Rescue Commission, before certification, a fire and rescue department must:

1. Be incorporated under the laws of the State of North Carolina, as a non-profit organization.
2. Have an active membership and duly elected officers so as to adequately provide fire and rescue protection.
3. Provide all members with appropriate identification indicating their official position with the department. No one other than an active or associate member of the Department in good standing shall have this identification in his or her possession.
4. have adequate equipment and maintain same in good condition and operative at all times.
5. Have in effect such liability insurance on both its personnel and equipment as shall be sufficient to hold Macon County harmless from any liability for damages or claims resulting from the activities of its members or from the operation of its equipment. Must also carry Workman's Compensation Insurance on its active members.
6. Have in effect an on-going and organized training program, so as to educate its membership in effective and approved rescue and fire fighting techniques and in safety to themselves and the public.
7. Participate in an approved mutual aid agreement which, among other things, shall provide that the district of any department answering a call not be left unprotected.
8. Have in effect satisfactory chains of command and responsibility.
9. Have effective methods of adequate and accurate record keeping and filing of all reports.
10. Have an approved budgetary and accounting procedure.

C. All applications for certification shall be made to the Commission, and, upon application, the Commission shall make arrangements for immediate inspection of the Fire and Rescue Department's equipment, personnel, organization, and methods of operation and shall thereafter file a written report to the Board of Commissioners with a copy to the Department, indicating its approval or disapproval, in which event, the report shall contain a detailed explanation of all areas of deficiency.

D. When a fire and rescue department has met all requirements of the Insurance Services Office of North Carolina, for providing fire protection to a designated area, and has met all requirements of this Resolution, the Department shall be certified and the fire district shall be designated as a "recognized fire protection district" by the Board of Commissioners. The boundaries so approved shall be in compliance with the requirements of the Insurance Services Office of North Carolina

for such districts.

E. The Fire and Rescue Commission shall conduct or cause to be conducted inspections of each Fire and Rescue Department which shall become certified under this resolution. There shall be at least one(1) annual inspection with such additional inspections as the Commission shall deem necessary. The Commission shall determine whether certified departments are continuing to meet the minimum standards for certification and shall report their findings, at least annually, to the Board of Commissioners.

F. Any Department found deficient shall be given a written warning of all areas of deficiency. Should all deficiencies not be corrected within thirty (30) days after receipt of notice, the Department may lose its certification. Appeal from a decision of the Fire and Rescue Commission shall be to the Board of Commissioners for the County of Macon, by filing written notice of appeal with the County Manager, within thirty(30) days after written notice of decertification has been given to the Department.

#### SECTION V- AREA OF PROTECTION

The various fire and rescue districts in Macon County shall be determined by mutual consent of the affected fire and rescue departments, subject to approval by the Board of Commissioners after recommendation by the Fire and Rescue Commission and pursuant to all stipulations of N.C.G.S Chapter 153A Article 16 "County Service District Act". If the boundaries cannot be determined by mutual consent, the districts will be set in accordance with N.C.G.S. Chapter 153A Article 16 "County Service District Act" by the Board of Commissioners after recommendation of the Fire and Rescue Commission.

#### SECTION VI- FINANCIAL ASPECTS

A. Each fire and rescue department shall prepare an annual budget providing for the receipt and expenditure of all income and revenue. A copy of the budget shall be presented to the Emergency Services Director no later than April 1 of each year.

B. Only a certified fire and rescue department within a recognized district shall be entitled to service fees levied by Macon County within any fire and rescue protection district.

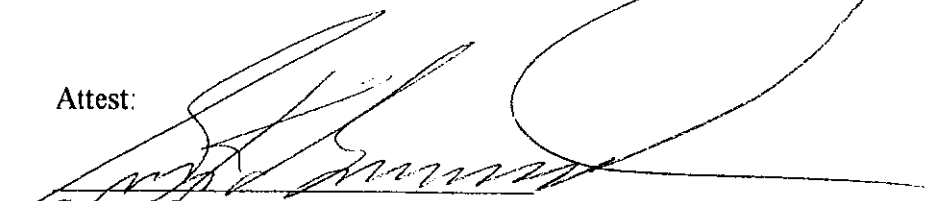
C. An accounting therefor of funds delivered to the fire and rescue department from Macon County shall be presented to the Emergency Services Director within six(6) months of the end of the departments fiscal year. The County will not sign any financial notices or other financial related documents such as grant requests for any department until they have submitted such an accounting therefor to the County for the previous fiscal year.

Upon motion by Commissioner \_\_\_\_\_, and approved \_\_\_\_\_, the foregoing resolution was adopted by the Macon County Board of Commissioners at its regular meeting held on the \_\_\_\_\_ day of \_\_\_\_\_.

This the 21~~st~~ day of July 01,

Harold P. Carlin  
Chairman,  
Macon County Board of Commissioners

Attest:

  
County Manager  
Ex Officio Clerk to the Board  
of County Commissioners

# Appendix D



## Macon County Fire Study Questionnaire 2017

1. What share(%) of your budgeted revenue is from taxes?  
0-80% **(2)** 81-90% **(4)** 91-95% **(2)** 96-98% **(1)** 99-100% **(2)**

Fundraisers?

- 0% **(2)** 1% **(0)** 2% **(3)** 3% **(1)** 4% **(0)** 5% **(1)** 5% or more **(4)**

Other?

- 0% **(4)** 1% **(1)** 2% **(0)** 3% **(0)** 4% **(0)** 5% **(1)** 5% or more **(5)**

2. Has your department had an increase in total funded firefighter positions or full-time equivalents (FTE) since 2011?

Yes **(3)** No **(8)**

How many firefighter positions of FTE were gained county-wide? **(7)**

Per Dept:

Franklin **(4)**

Highlands **(1)**

Clarks Chapel **(1)**

Otto **(1)**

Burningtown\_\_\_\_\_

Cullasaja\_\_\_\_\_

West Macon\_\_\_\_\_

Cowee\_\_\_\_\_

Scaly Mtn\_\_\_\_\_

Nantahala\_\_\_\_\_

Mtn Valley\_\_\_\_\_

3. Total number of full-time career firefighters in 2016? **(17)**

Per Dept:

Franklin <b>(7)</b>	Highlands <b>(2)</b>	Clarks Chapel <b>(2)</b>	Otto <b>(2)</b>
Burningtown <b>(1)</b>	Cullasaja <b>(1)</b>	West Macon <b>(1)</b>	Cowee <b>(1)</b>
Scaly Mtn <b>(0)</b>	Nantahala <b>(0)</b>	Mtn Valley <b>(0)</b>	

4. How many hours per day / days of week are covered by full-time career firefighters?

24/7	<b>(1)</b>
8/5	<b>(5)</b>
12/5	<b>(2)</b>

5. How many active volunteer firefighters are currently on the roster county-wide? **(349)**

Per Dept:

Franklin <b>(30)</b>	Highlands <b>(27)</b>	Clarks Chapel <b>(28)</b>	Otto <b>(32)</b>
Burningtown <b>(30)</b>	Cullasaja <b>(37)</b>	West Macon <b>(34)</b>	Cowee <b>(45)</b>
Scaly Mtn <b>(22)</b>	Nantahala <b>(37)</b>	Mtn Valley <b>(27)</b>	

6. How many support or auxiliary members county-wide? **(25)**

Per Dept:

Franklin <b>(0)</b>	Highlands <b>(0)</b>	Clarks Chapel <b>(0)</b>	Otto <b>(0)</b>
Burningtown <b>(5)</b>	Cullasaja <b>(0)</b>	West Macon <b>(4)</b>	Cowee <b>(10)</b>
Scaly Mtn <b>(6)</b>	Nantahala <b>(0)</b>	Mtn Valley <b>(0)</b>	



7. Does your department have a program to maintain basic firefighter fitness and health?

Yes **(18%)**

No **(82%)**

8. Does the program include a firefighter physical examination for all firefighters?

Yes **(100%)**

No **(0%)**

9. How often? New firefighters only **(0%)**

Annually **(100%)**

Longer **(0%)**

10. Does the program include a fitness assessment for all firefighters?

Yes **(100%)**

No **(0%)**

11. How often? New firefighters only **(50%)**

Annually **(50%)**

12. How many hours of training do you require for firefighters each year?

36 hours **(46%)**

37-50 hours **(9%)**

51-79 hours **(27%)**

80-100 hours **(18%)**

13. Do you offer a pay for call or other incentive program?

Yes **(82%)**

No **(18%)**

14. Describe the incentive program:

Payment per call **(77%)**

Payment for activity **(11%)**

Combination of per call and activity **(11%)**

15. Stations over 35 years old: **(27%)**

16. Stations 26-35 years old **(5%)**

17. Stations 10-25 years old: **(32%)**

18. Stations less than 10 years old: **(36%)**

19. Do you have any significant issues that you are aware of with your current facilities that may require repairs over \$5000 in the next 2-5 years?

Yes **(55%)**

No **(45%)**

20. What are the issues?

Staff space/ Crew Quarters **(33%)**

Foundation **(17%)**

Floor Covering **(17%)**

Structural issues due to aging **(50%)**

21. What do you foresee as your building construction needs in the next 5-7 years?

New main station **(75%)**

Expand main **(25%)**

22. What percentage of your firefighters have a portable radio?

0-50% **(1)**

51-75% **(3)**

76-90% **(1)**

100% **(6)**

23. How many self-contained breathing apparatus (SCBA) do fire departments have county-wide?  
**(249)**

Average number of SCBA per department? **(22)**

24. What percentage of the SCBA are 10 years old or older? **(14%)**

25. What percentage of your emergency responders are equipped with personal protective clothing?

91-95% **(1)** 100% **(10)**

26. What percentage of the personal protective clothing county-wide is at least 10 years old?  
**(39%)**

27. Do you have reserve personal protective clothing sufficient to equip at least 10% of your emergency responders?

Yes **(73%)**

No **(27%)**

28. Does your department have laundering facilities or provide for cleaning of contaminated personal protective clothing?

Yes **(55%)**

No **(45%)**

29. Do you conduct annual pump certification testing in-house or do you contract someone to provide that service?

In-House **(27%)**

Contract **(73%)**

30. Do you conduct annual hose testing in-house or do you contract someone to provide that service?

In-House **(45%)**

Contract **(55%)**

31. Do you conduct regular ladder testing in-house or do you contract someone to provide that service?

In-House **(27%)**

Contract **(73%)**

32. Does your department have a written plan for apparatus replacement on a regular schedule?

Yes **(27%)**

No **(73%)**

33. What do you foresee as your major apparatus purchase or replacement in the next 5-7 years?

Engine **(10)**

Tanker **(6)**

Brush Truck **(2)**

Ladder Truck **(0)**

Service Truck **(1)**

34. Do you anticipate the need for any additional paid staff in the next 5-7 years?

Yes **(90%)**

No **(10%)**

35. Please rate your experience in recruiting and retaining competent **volunteer** staff now as opposed to five(5) years ago:

Harder to recruit and retain **(46%)**

About the same effort to recruit and retain **(36%)**

Easier to recruit and retain **(18%)**

36. Please rate your experience (if applicable) in recruiting and retaining competent **career** staff now as opposed to five(5) years ago:

- Harder to recruit and retain **(33%)**
- About the same effort to recruit and retain **(33%)**
- Easier to recruit and retain **(33%)**

37. Please categorize your volunteer members(%):

- 16-25 YOA **(20%)**
- 26-55 YOA **(66%)**
- 55 YOA+ **(14%)**

38. Do you have a junior member program?

- Yes **(90%)**
- No **(10%)**

39. What is the major reason people leave the department?

- Cannot meet the department training requirements **(0%)**
- Cannot meet NC OSFM training requirements **(18%)**
- Cannot commit the time to provide the services required of the members **(63%)**
- Conflicts within the organization (Management changes, etc) **(0%)**
- Difficulty dealing with stressful incidents **(0%)**
- Move out of district **(9%)**
- Go to a larger department with better benefits **(9%)**

40. In what area are you having the most communication difficulties?

- Mobile radio usage between members **(0%)**
- Mobile radio usage between members and dispatch **(9%)**
- Portable radio usage between members **(0%)**
- Portable radio usage between members and dispatch **(63%)**
- Receiving pages on a pager **(28%)**
- Receiving pages on a portable radio **(0%)**

41. What is the annual debt service (loan payments) for capital equipment such as SCBA, vehicles, etc?

Total **(\$452,528)**

Average **(\$56,566)**

---

42. Do you anticipate an increase or decrease in your annual debt service (loan payments) for capital equipment in the next twelve months?

Increase **(0%)**

Decrease **(18%)**

No Change **(72%)**

43. Total decrease **(\$35,619)**

Average decrease **(\$3,238)**

44. What is the annual debt service (loan payments) for buildings and land?

Total **(\$389,706)**

Average **(\$48,713)**

45. Do you anticipate an increase or decrease in your annual debt service (loan payments) for buildings and land in the next 2-5 years?

Increase **(27%)**

Decrease **(9%)**

No Change **(63%)**

46. Estimate of net increase to annual debt service for buildings and land in next 2-5 years

Average **(\$16,500)**

47. What amount of reserve funds do you have available to cover large unexpected expenses, such as an apparatus failure? (unreserved fund balance, indicated as a % of your total budget)

0-8% **(30%)**

9-20% **(40%)**

21-50% **(20%)**

Greater than 50% **(10%)**

48. What has caused the greatest increase in your call volume in the last 5 years?

More fire calls **(18%)**

More medical calls **(73%)**

More rescue calls **(9%)**

49. How many specialty calls have departments responded to in the last 12 months?

A. Searches for lost persons **(40)**

B. Swiftwater rescue **(8)**

C. Rope rescue **(0)**

D. Medium vehicle rescue with extrication **(37)**

E. Heavy vehicle rescue with extrication **(0)**

F. Hazardous materials response **(22)**

G. Dive rescue **(1)**

50. How many times has your department participated in training through the local community college during the past 12 months?

0-1 **(0%)**

2-4 **(0%)**

More than 4 **(100%)**

51. How many of your members attended training at a community college in another county during the past 12 months?

5-10 **(63%)**

10-15 **(9%)**

More than 15 **(9%)**

52. Who pays for the monthly NC Firefighters Retirement contribution for each member?

- Member **(0%)**
- Department **(100%)**
- Our department does **NOT** participate **(0%)**

53. What measures should Macon County Government take in the next 5-7 years to provide better fire protection to residents?

- Improve communications **(63%)**
- More oversight/administrative assistance **(36%)**
- Improve funding **(27%)**
- Incentives **(27%)**
- Improved staffing **(18%)**
- Improved training facilities with quality instructors **(18%)**
- Assist maintaining volunteers **(9%)**
- More EMS support **(9%)**
- More hydrant areas **(9%)**

54. What would you identify as your department's highest unmet need at this time?

- 24 hour staffing **(36%)**
- Communications **(27%)**
- Improved PC rating **(18%)**
- Recruitment/retention **(18%)**
- New Fire station **(9%)**
- Apparatus needs **(9%)**
- Education assistance **(9%)**
- Review of district lines **(9%)**

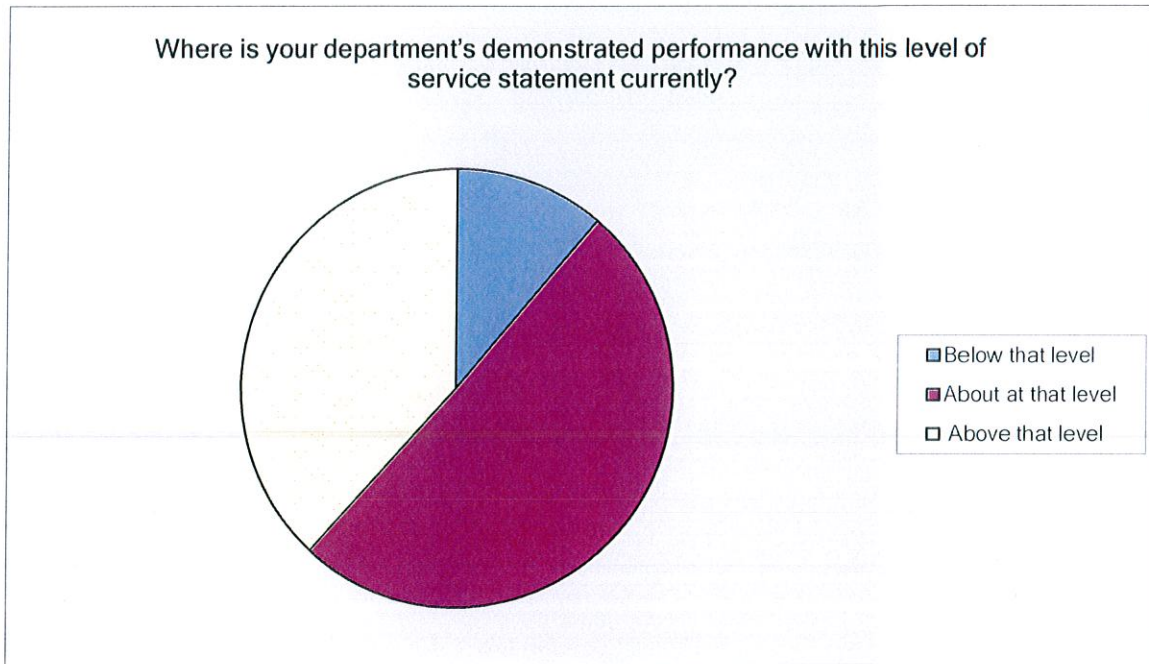


Appendix E

Macon County Fire Study - Member Questionnaire

Where is your department's demonstrated performance with this level of service statement currently?

Answer Options	Response Percent	Response Count
Below that level	11.2%	17
About at that level	50.7%	77
Above that level	38.2%	58
<i>answered question</i>		152
<i>skipped question</i>		2

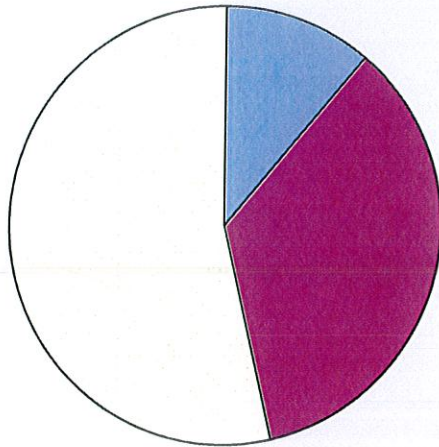


## Macon County Fire Study - Member Questionnaire

Where would you forecast your department's performance against the same level of service statement in 5-7 years?

Answer Options	Response Percent	Response Count
Below that level	11.1%	17
About at that level	35.3%	54
Above that level	53.6%	82
	<i>answered question</i>	153
	<i>skipped question</i>	1

Where would you forecast your department's performance against the same level of service statement in 5-7 years?



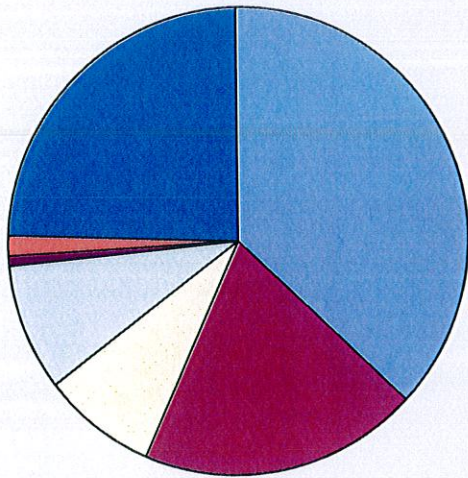
- Below that level
- About at that level
- Above that level

## Macon County Fire Study - Member Questionnaire

What is the biggest challenge you face as a volunteer firefighter?

Answer Options	Response Percent	Response Count
Training requirements and the time involved to complete	37.2%	55
Committing the time to provide the services required of	19.6%	29
Committing the time to ensure all administrative activities	8.1%	12
Conflicts within the organization	8.8%	13
Difficulty dealing with stressful incidents	0.7%	1
I am a career firefighter and this does not apply.	1.4%	2
No challenges. I would not change anything.	24.3%	36
<i>answered question</i>		148
<i>skipped question</i>		6

What is the biggest challenge you face as a volunteer firefighter?

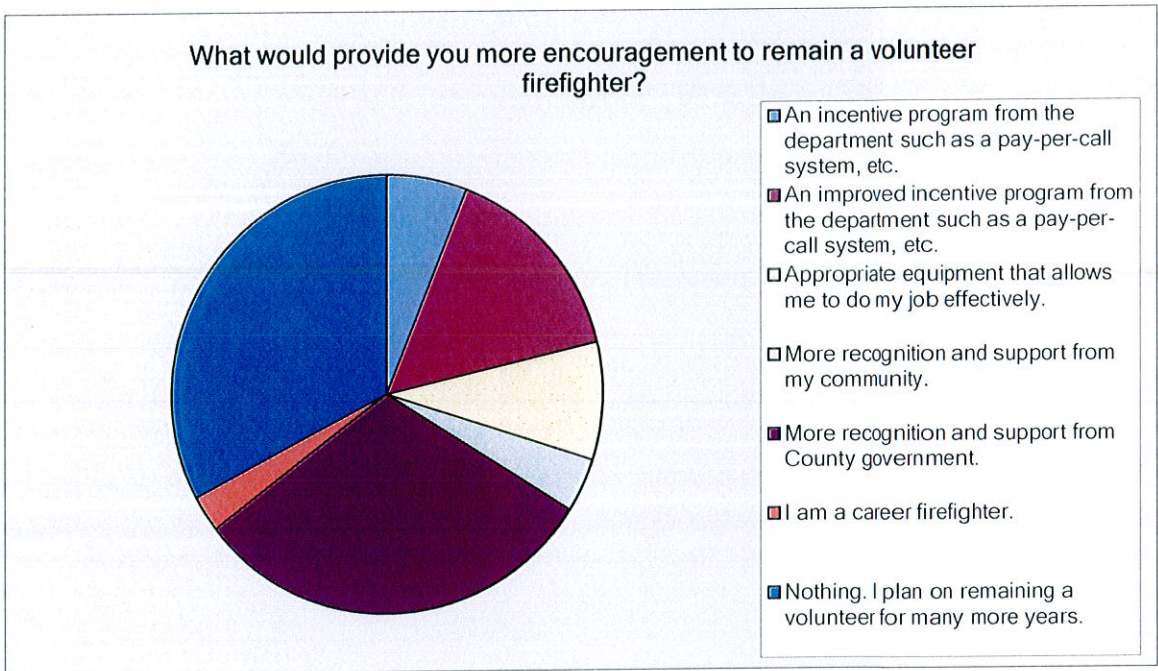


- Training requirements and the time involved to complete training.
- Committing the time to provide the services required of my department
- Committing the time to ensure all administrative activities are completed for my department.
- Conflicts within the organization
- Difficulty dealing with stressful incidents
- I am a career firefighter and this does not apply.
- No challenges. I would not change anything.

# Macon County Fire Study - Member Questionnaire

## What would provide you more encouragement to remain a volunteer firefighter?

Answer Options	Response Percent	Response Count
An incentive program from the department such as a pay-	6.0%	9
An improved incentive program from the department	15.3%	23
Appropriate equipment that allows me to do my job	8.7%	13
More recognition and support from my community.	4.0%	6
More recognition and support from County government.	30.7%	46
I am a career firefighter.	2.7%	4
Nothing. I plan on remaining a volunteer for many more	32.7%	49
<i>answered question</i>		150
<i>skipped question</i>		4

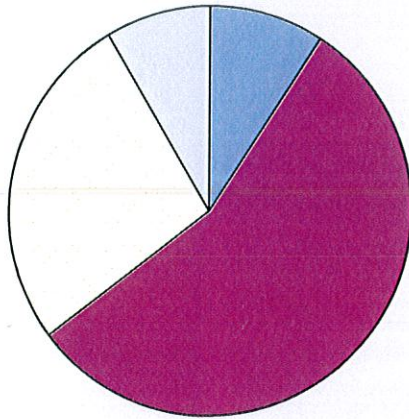


## Macon County Fire Study - Member Questionnaire

Describe any changes in general you think need to be made to the fire protection system in Macon County to prepare us for the challenges of the future.

Answer Options	Response Percent	Response Count
I think the system will work fine the way it is. I wouldn't	9.2%	14
I think the system needs some minor changes, but	55.6%	85
I think there are some major issues that need attention to	26.8%	41
I think the system needs a major overhaul.	8.5%	13
<i>answered question</i>		153
<i>skipped question</i>		1

Describe any changes in general you think need to be made to the fire protection system in Macon County to prepare us for the challenges of the future.



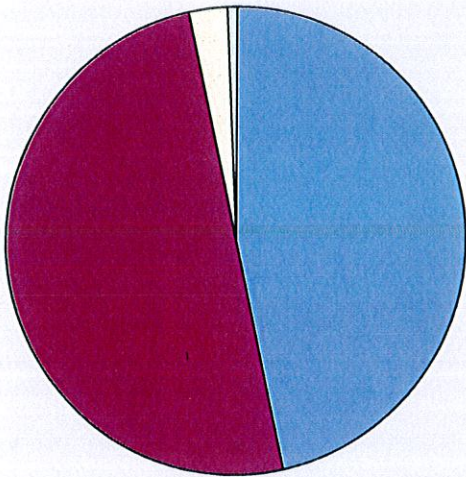
- I think the system will work fine the way it is. I wouldn't change anything
- I think the system needs some minor changes, but overall we have a good system
- I think there are some major issues that need attention to ensure we continue to be successful in the future.
- I think the system needs a major overhaul.

## Macon County Fire Study - Member Questionnaire

Describe the demands for service placed on fire departments.

Answer Options	Response Percent	Response Count
The demands for service are increasing but we are	46.7%	70
The demands for service are increasing and unless we	50.0%	75
We cannot effectively meet our demands for service	2.7%	4
The demands for service are decreasing.	0.7%	1
<i>answered question</i>		150
<i>skipped question</i>		4

Describe the demands for service placed on fire departments.



- The demands for service are increasing but we are capable of meeting those demands.
- The demands for service are increasing and unless we make some changes we may not be able to meet future demands.
- We cannot effectively meet our demands for service currently.
- The demands for service are decreasing.

## Macon County Fire Study - Member Questionnaire

Please describe one particular issue or challenge that you would like brought to our attention, and indicate any possible solutions to the challenge.

Answer Options	Response Count
	111
<i>answered question</i>	111
<i>skipped question</i>	43

Number	Response Text
1	Better Jr program
2	Training
3	If you run more calls, and train more, gear should be given to those instead of people who never show up to train or respond to calls
4	Radio communications?
5	Accountability
6	Less special treatment to ones who dont deserve it
7	The speed at which some firemen come to calls
8	Juniors get pagers to get used to listening to calls whether they drive or not
9	Keep encouraging young people to serve
10	Why will the county not support a new fire tower to train firemen in this county? With a 23.5 million surplus there is no reason our commissioners should not dedicate the money
11	Communication problems - A lot of the time, my pager goes off, but there is nothing but static afterwards. Need stronger communication systems
12	The communication system with radios. Having proper training equipment ready and in use for us to use anytime
13	Communication and more attention to radio maintenance
14	Better paging system
15	More physical readiness training
16	I have no issues with the Dept
17	Daytime response could be better county wide. District lines revamped
18	Turning weekend classes into a week of nights for scheduling conflicts
19	Keeping paid personnel due to lack of insurance provided by the county and benefits
20	Communications - radios and pagers. Specific to equipment and systems in use
21	I have no issue with anything
22	I am a new volunteer firefighter and so far the only problem i have had is old, wore out gear ( pants, jackets, gloves, boots)
23	Communications
24	The paid firefighters need better benefits. It would help to have these firefighters be county employees. It would be easier to retain this people
25	Not enough support and recognition from the county to the depts. The county does not completely understand and appreciate what they have and this will start to hurt the fire service participation in the future
26	Radio communications
27	Communication among departments; incentives for junior members; Retaining quality fire personnel
28	Staffing, volunteer retirement improved
29	Radio system, and funding from the county Gov. As demand for our service increased we will not be able to keep up with call without funding for adequate equipment
30	Recruitment/retention
31	Communication, organization
32	Being able to communicate is crucial and our schooling having no teachers at CCFR
33	Better retirement like Ga
34	Better retirement like Georgia has
35	Macon County should fund more paid FF to ensure 24 hr staffing
36	More staffing. 24 hour staffing. Better volunteer retirement and benefits. Tax revenue should also be based off ISO rating so there is incentive to improve. Tax revenue based off call volume as well. Radio systems improved. Live in programs, and academy for training.
37	Under staffed. Need 24 hour staffing, better volunteer benefits, and better volunteer retirement.
38	I was with Mountain Valley for 1 1/2 years. Training is inconsistent. Joined Burningtown the end of November. Training is consistent. Our Pt. calls have increased. Members do have challenges in participation due to work schedules. Volunteers are necessary. Also crosstraining in duties. If someone that has a position isnt there for a bit. Someone else can lighten the load. We are here to serve our community to the best of our abilities. Burningtown has a good team. Suggestion - inquire for estimates from a few vendors when buying any equipment or gear. Communication is necessary also. Tower connections. pagers and radios skip out during communications. missed directions, missed orders. Someone to communicate to reports. Reporters come on scene. We dont have time to do scene and talk to them. Trucks to be inspected, the funds to inspect them. Funds to service the trucks
39	Radio communications in the Scaly Mtn area
40	Radio and pagers
41	Radio communication difficulties have been an issue in several instances. Improvement in signal would be greatly appreciated

42 Time needed to respond to calls difficult for volunteers to make with work and other  
43 commitments. Personally several employers do not allow their employees to leave to respond  
to calls. Possibly communicate with the community to raise awareness of the importance of  
response from work, especially in rural areas  
44 Communication system overhaul  
Signals for communication. (Towers) Need more effective signal. Better radio communication.  
Getting all members emergency texts to phones. ( Many people have tried signing up but have  
not received any texts...)  
Better radio communication in our area of county. this would mean more, better placed  
repeaters.

45 Getting all members who want emergency runs texted to phones, signed up. we have asked  
numerous times to add people, and it hasnt happened  
46 NC pension fund, raise the retirement amount, and if you put more that 20 years you earn  
more retirement  
47 Our medical calls are increasing in volume and the number of medical responders responding  
to calls have decreased. We are encouraging folks to go to medical responder/first  
responder/EMT- Basic class

48 We are very short handed during the day. Hire a person to cover the district during the day  
49 Radio communications. More pre-fire planning with simulated response (including mutual aid)  
More truck squad operations  
50 Better communications : maybe more towers or better equipment. County put pressure on  
state for better pension for volunteers  
51 Radio Communications (different frequency)  
52 Let local fire depts continue the way they are

53 Radio communication: New radio system that works in the great majority of the district area  
54 Better communication with radios. fix the dead spots. Better retirement system  
More support from county government for adequate training facilities for fire dept operations.  
Possible increase in budget for more paid personnel to help with increase in calls and  
55 improving coverage for the district  
Recruitment of new (younger) members. Would love to see a program established in schools  
to encourage, inform teens benefits of serving their community for them pay-per-call may be  
56 needed  
57 More inter-department training, Move to plain language for radio traffic, Raise importance of  
58 seat belt use in responding vehicles  
Recruiting new members to meet staffing requirements  
When multiple agencies are involved in a call, (search rescue, etc) ALL involved agencies  
need to come together at the end of the call to "debrief" to recognize areas we need to  
59 improve on  
60 Recruitment - Find better way to recruit youth and older  
61 Better list of assets and resources throughout county. The resources list is out of date. Depts.  
need to try to specialize in training. Instead of being pro in every category  
62 Treat all fire departments equally and fund equally and have the districts so they can serve their  
communities rather than set district to favor one department.  
63 We have tried for years to increase our district but can't because franklin things that they don't  
have enough money

Improved training facility. Burn building at Southwest Community College. An updated facility  
will not only serve the firefighters of our county but also surrounding counties and perhaps  
even states. The closest facility that has stayed current with best training practices and  
facilities is in Asheville. As we learned with the wild fires this past fall, fire does not  
discriminate based on geography or economy. It is potentially devastating no matter where it  
occurs or the size of the check book. The firefighters of our county dedicate their time and  
lives in service to our community. We don't want much, just the best opportunity to  
successfully serve. A large part of that is having the proper facility in which to train. I  
appreciate this is a budgetary issue and will require a commitment from the leaders and  
citizens of our county. But, the safety of its citizens is the primary concern of any government.  
This facility would be a cornerstone of fulfilling that responsibility for decades to come.  
64 Recruitment of future volunteers  
65 It is time for the County to take the departments over. The paid firemen should be county  
employees. Tax money is being wasted.  
66 Keeping the community and firefighters in a closely knit association and using the budget  
67 wisely with more volunteers and less full time paid  
68 Uneven support for all fire departments within county.  
69 Staffing, with increased call volume and less volunteers we need to work on getting more paid  
staff at each dept.  
70 Corruption by the officers in regards to how officers within the local fire departments treat  
records, members and state requirements. The county needs to take over fire and rescue  
protection services and run it like a business and not a family gathering of sorts.  
71 We need support from the County and Emergency management, Tired of getting stabbed in  
the back....  
72 Incentive program will ruin the attitude of firemen. They county needs to support the Fire  
depts. Need a 3 man truck at franklin 24/7 and atleast one person 24 hr a day at all other  
stations.  
73 The boundry lines for each district need improving, 1 dept should not need to travel through  
another depts district  
74 Favoritism



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County wide Paid FD would be a better system and more unified.  
Radio system sucks, but its the best around were told by maintenance..... Hopefully this problem will be fixed before a fireman gets hurt or killed. STAND BEHIND YOUR FIRE DEPARTMENTS

County needs to support us more! Fix the radio system before someone dies. And leave fire districts where they are, departments cant handel the districts they have now why give them more. County wants to go a county wide fire dept, sounds like a communist move.  
HIGHER MORE CAREER.

I would like to see an improved radio system for the county fire service. There have been multiple incidents where I have been unable to contact dispatch.  
A better radio system. What we have now really suck's.

The biggest challenge I see is incorporation of the combination of career staff and volunteers within a dept. Each can have their own agendas and that doesn't always mesh. Its easy now for a volunteeer to ignore a call if its at an inconvenient time to just say "oh the paid guy can get that." I've also noticed that when it comes time for training, you don't usually see the career guys there because they already have their training time in. So it can be hard to develop those relationships between career and volunteers if they are each doing their own thing. I don't believe there is a simple solution because this day in age and call volume its necessary to have career staff. It primarily comes down to leadership fostering those relationships between the two and also the personal attitudes of each and recognizing that they all need to work together.

Would more district be nice, yes. But we can barely have enough people to keep the district we have now. We need more Career firefighters, volunteeers in today society are not what they used to be.

Franklin a full staffed station 24/7 with a minimum of a three man crew to provided support to outer departments. They always come in full support, and we always need them  
Better communication throughout emergency services

The county needs to help in recruiting and retaining volunteeer fireman. Younger ones. Maybe property tax breaks, new fire houses with proper training and exercise facilities, more recognition, Some places have a firefighter course at their high school. Ive been a firefighter in this county for 33 years.

Our district is so small that we have a difficult time making our budget if the districts in our county one all be given a equal portion of the tax base then each department would fair better than they do now

Our district is so small that our tax base can't provide a budget that supports the needs for trucks and equipment that we need.,  
my chief and his officers may never admit it but our department needs help now or we won't be here long

Hey I love my department and have been a member for almost 15 years but I see things changing and can admit where most can't that some big changes need to be made if we're going to continue with our individual departments. I honestly don't know that a county wide fire department may not be the best option (if done correctly).

I think my department is the best in the county but I understand that some are not and everyone could benefit from a more cooperative effort but I don't wanna see a county wide fire department

these are just honest answers and I hope no one from department can see them but I sometimes privately question our leadership and often wonder about our sense of direction  
WHY DOES COWEE HAVE THE HIGHEST TAX RATE? WHY DO WE NEED A NEW SUB-STATION AT THE EDGE OF THE DISTRICT THAT IS AS BIG AS THE MAIN STATION? WHY ARE WE NOT ALLOWED TO VOTE ON SUCH MATTERS? WHY CANT WE SEE WHERE THE MONEY GOES, AS WITH ALL OTHER COUNTY DEPTS. POSSIBLE SOLUTIONS. 1. HAVE A THREE PERSON BOARD OF DIRECTORS ELECTED BY DISTRICTS VOTERS, MEMBERS OF DEPT. CAN NOT BE ON THE BOARD. 2. HAVE A FULL TIME DEPT. IN FRANKILN AND USE CURRENT DEPTS. AS SUB-STATIONS. 3. HAVE SAME TAX RATE COUNTYWIDE.

The fire taxes are not equitable between the districts. Franklin and Highlands city residents pay less than 50% of the district tax and county residents pay 50%+ but have no control over the two fire districts. This county money should be used to help improve the adjacent districts.  
Radio Problems, Not having good coverage because of dead spots.  
we need better communications. Our communications need major improvement  
That we have one of the smallest district in the county. With a small budget. That hard to get things you need to serve our district like a new mini pumper. Plus it hard to watch other fire department go by or fire house to a call that should be yours. Let work together to make this work and service our community.

I believe two of the biggest issues currently are the variances of required training from one department to the next and communications (or the lack thereof). Some departments have strict policies regarding the amount of training required before a firefighter can perform interior activities while others have no policies and allow their officers to choose who to use for interior firefighting on a case by case basis. As far as radio communications, I believe the county is on the right track in identifying problem areas, but much more can and should be done. I believe that each of the "private" departmental channels should be repeatered and made into tac channels for operations in those areas. I also think that assignment of a tac channel for each incident should be made during initial dispatch to help alleviate unnecessary radio traffic on the primary fire channel. I also think that county-wide radio and communications policies should be put in place and enforced.

97

The main thing needing overhauled in Macon Countys Emergency Services is our radio communications. They are in need of a complete change and have been for some time. It poses a big danger to us as Emergency Workers when no one is able to hear us, and we can't hear them.

98

We need to make becoming a fire fighter more appealing somehow, we currently are having trouble recruiting new members willing to put forth the efforts required. Also need to address the radio communication in Macon county, its very poor at best, I think we need to upgrade our radio equipment, as communication is key!

99

I did not answer question #4, because my response wasn't listed....Support from within the department hierarchy itself would encourage me to remain a firefighter. It is also discouraging to witness the amount of \$\$\$ waste from frivolous activities and lack of care / maintenance. Lack of support from government agencies and the population. Need for improvement of sub-structure within county, district, and state.

100

101

We really need the burn building in the county to receive proper training. It may be easier to recruit volunteers if there were some incentives such as tax breaks, etc

102

103

Would like to see more training between fire department, and EMS.

Getting the county em director out of FD budgeting allocations. Each fire department is a independent contractor for the county to provide a service to the county. Their fire tax money is allocated to them to do what they see fit to best fulfil requirements of providing fire services to their district. Give them their budgeted monies and let them independently spend how they see fit. This would do away with alot of burden trying to please members, community tax payers AND the county.

104

A new tower system. Something that will work. Rather it's be new repeater towers or new towers in general. Not being able to hear on the radio is my only complaint

105

106

Franklin is under funded for the amount of call volume they have.

Radio Communication. Our handhelds are generally useless in our district. If we are heard dispatch is only able to copy static. We find ourself running back to the truck to use the mobiles.

107

There needs to be more paid positions. More of the department's should be covered 24 hours by at least 2 people on each shiftworking rotating 24 hour shifts

108

Our district is too small to provide effective revenues. Our main fire station is inside the Franklin Fire District and their trucks actually pass our fire station on the way to calls.

109

I think Macon County should have more involvement in operations and expenditures. Fds should report to a mixed governing board of commissioners and fire commission reps. instead of Boards of Directors.

110

issue: not enough professional, qualified leaders within my organization  
solution: chop off the head of the snake

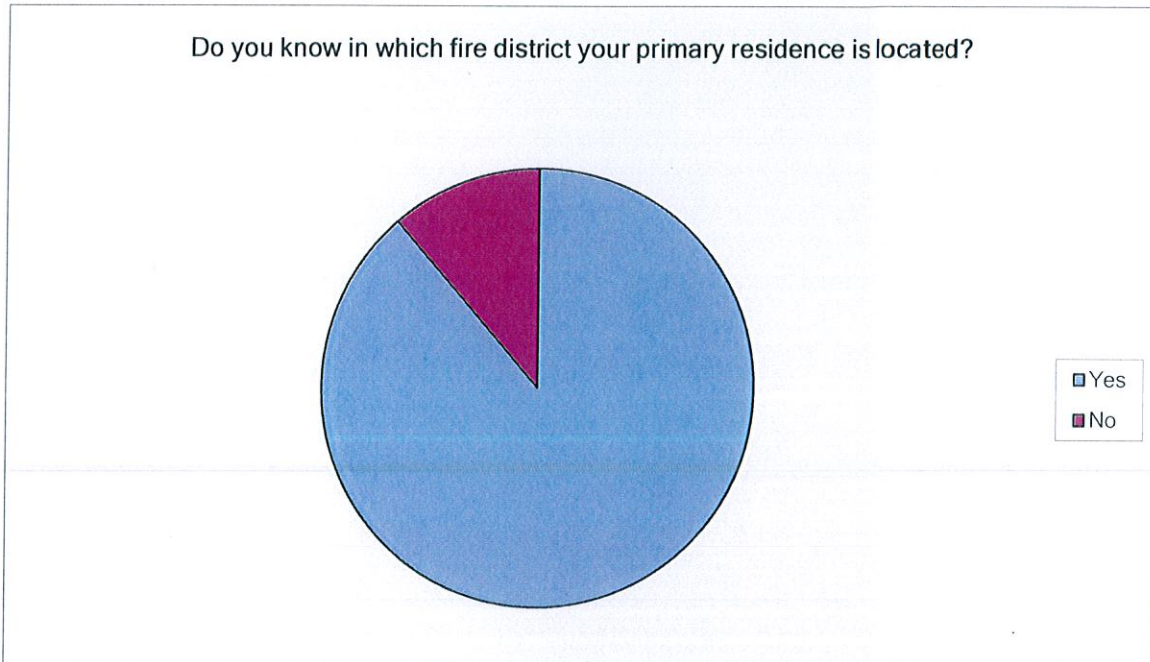
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Appendix F

Macon County Fire Study - Public Questionnaire

Do you know in which fire district your primary residence is located?

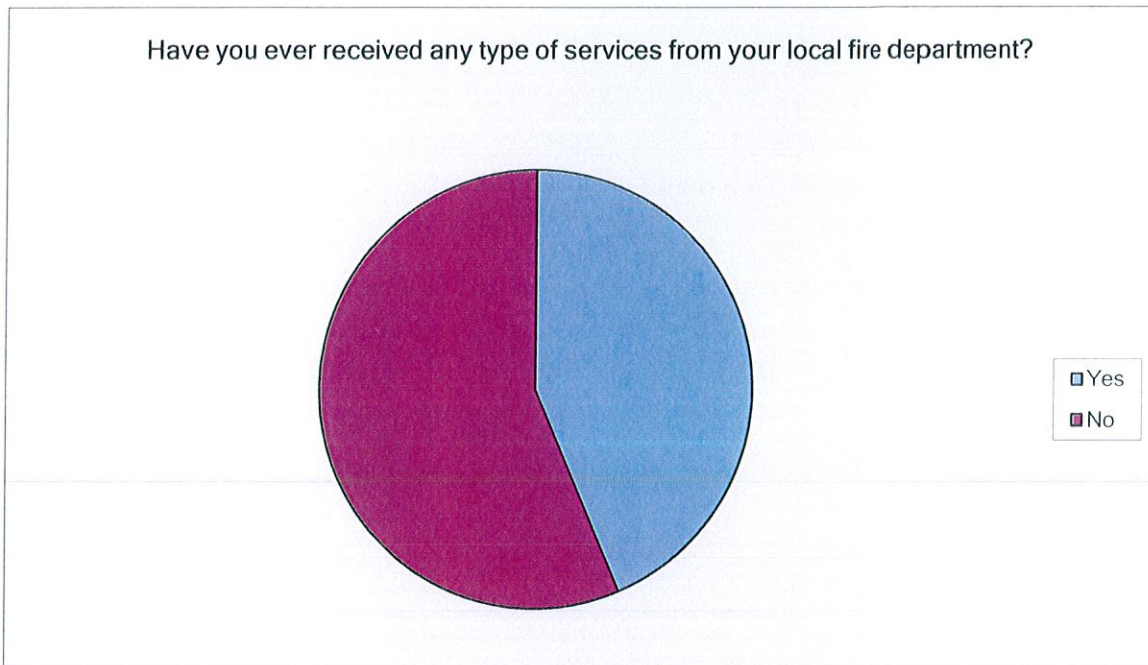
Answer Options	Response Percent	Response Count
Yes	88.7%	321
No	11.3%	41
<i>answered question</i>		362
<i>skipped question</i>		0



# Macon County Fire Study - Public Questionnaire

Have you ever received any type of services from your local fire department?

Answer Options	Response Percent	Response Count
Yes	43.6%	157
No	56.4%	203
<i>answered question</i>		360
<i>skipped question</i>		2

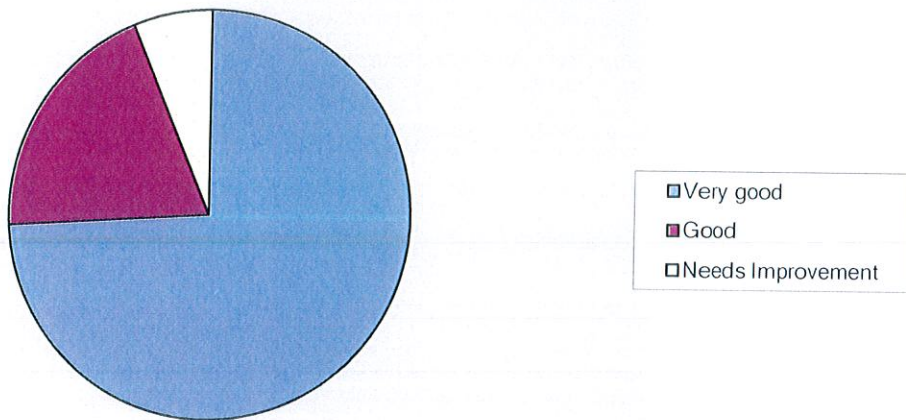


## Macon County Fire Study - Public Questionnaire

How would you rate the levels of service either provided directly to you or that you are aware of that your local fire department makes available to your area.

Answer Options	Response Percent	Response Count
Very good	74.1%	257
Good	19.6%	68
Needs Improvement	6.3%	22
	<i>answered question</i>	347
	<i>skipped question</i>	15

How would you rate the levels of service either provided directly to you or that you are aware of that your local fire department makes available to your area.

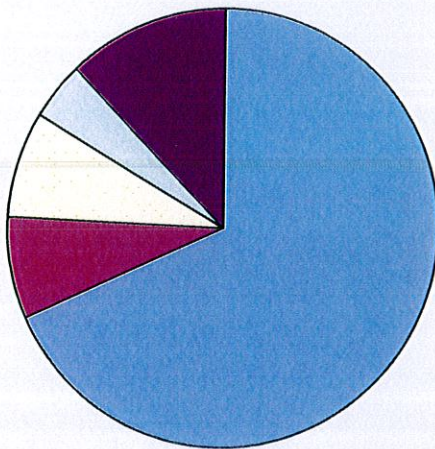


## Macon County Fire Study - Public Questionnaire

How would you rate the financial impact your local fire department has on you.

Answer Options	Response Percent	Response Count
I am satisfied with my service and the service tax fee that I would pay a higher service tax fee to get better service.	68.3%	237
I am not satisfied with the service I get for the service tax	7.5%	26
I save enough money on my insurance premiums to	7.8%	27
I am getting a bargain and probably should be paying	4.3%	15
	12.1%	42
<i>answered question</i>		347
<i>skipped question</i>		15

How would you rate the financial impact your local fire department has on you.

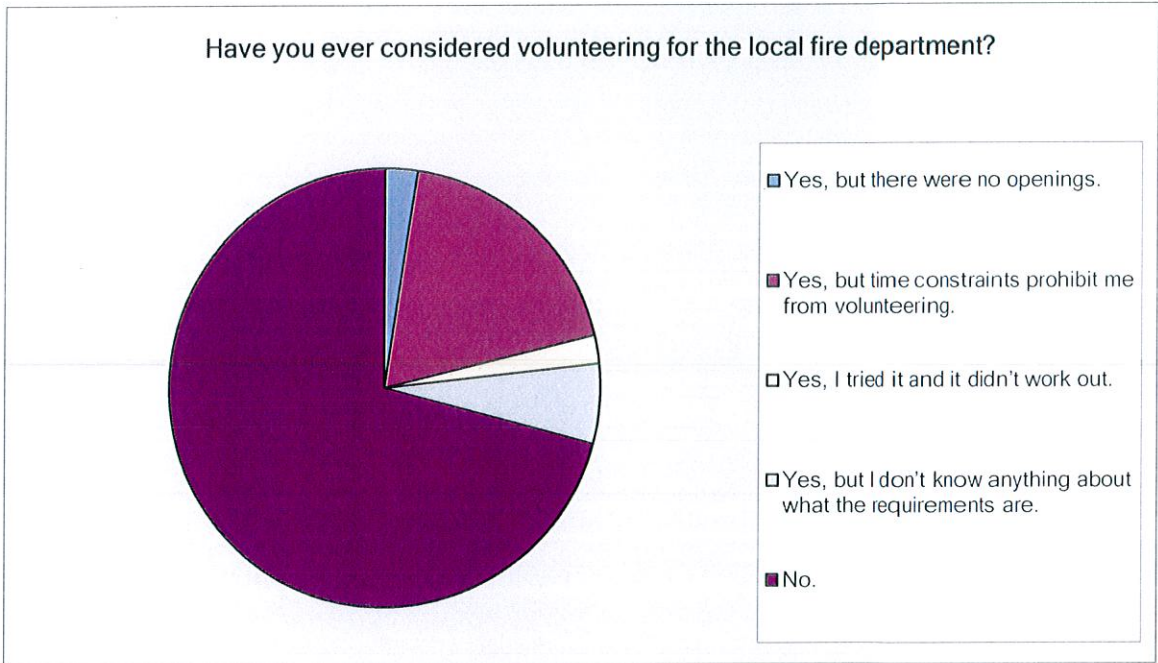


- I am satisfied with my service and the service tax fee that pays for it.
- I would pay a higher service tax fee to get better service.
- I am not satisfied with the service I get for the service tax fee I pay.
- I save enough money on my insurance premiums to make up for the service tax fee I pay.
- I am getting a bargain and probably should be paying more for the services available to me.

# Macon County Fire Study - Public Questionnaire

Have you ever considered volunteering for the local fire department?

Answer Options	Response Percent	Response Count
Yes, but there were no openings.	2.4%	8
Yes, but time constraints prohibit me from volunteering.	18.8%	64
Yes, I tried it and it didn't work out.	2.1%	7
Yes, but I don't know anything about what the	5.9%	20
No.	70.9%	241
<i>answered question</i>		340
<i>skipped question</i>		22



# Macon County Fire Study - Public Questionnaire

Please describe one particular issue or challenge that you would like brought to our attention, and indicate any possible solutions to the challenge.

Answer Options

Response Count

133

*answered question*  
*skipped question*

133  
229

Number	Response Text
1	Would like to see the fire Homeowners Insurance rates decreased for citizens who live in the area of the fire station. have been told this is something being "worked on" with the state. Guidelines, having water hydrants in place, is a requirement and fire stations are working on installing them
2	Not sure if firetrucks can get in my driveway and all the way up to my house and the apartment behind my house. Driveway is partly paved but is narrow. I would like an experienced fireman to inspect to see if trucks can get up to my house and the apartment.
3	Would like Scaly Mtn. Fire Rescue to be staffed 24/7 by at least one person. I would volunteer to man the telephone for a shift or two.
4	Come and taken care of my mom and husband several times - Always very patient, polite and efficient
5	I am not getting a service that i can see, feel, or hear. I am never made aware of them or their services. also I live in a mobile home park with narrow streets. My driveway will hold two vehicles but i dont know about a big firetruck
6	There is nothing i know about
7	VERY ROUGH DIRT ROAD COULD SLOW TRUCKS
8	We are so happy are building a substation on Mason Branch Rd
9	We have not had any use for Fire Dept. ( Thank God! )
10	Scaly Mtn Fire Department is great! Lower insurance rates (different Cat.)
11	No cell phone service for immediate life threatening emergencies for citizens. More safety issues for all
12	Macon County EMS should endeavor to help any way it can to better the fire code for insurance purposes, so that all homeowners would get a lower premium on their homeowner policies
13	more independent control for the fire depts away from state and county
14	more staffing: lack of interest from new volunteer and growing call volume makes man power iffy. Provide more staffing
15	I have no issues
16	would like to see another junior fire, ems, and police explorer program to help recruit career program
17	The inability of county government to fund a training facility when other counties seem to support their fire dept without any issues
18	more funding for the departments so they can have better equipment so they can better serve the community they are serving
19	Better knowledge of local depts
20	their job. would love to see paid fireman so someone is at the fire station



- Paid personnel be county employees for better accountability and better use of their time.
- Chiefs should be held more accountable by the county.
- Background checks should be mandatory on each member that applies
- Random drug and alcohol should be performed on chief and members
- Sexual harassment classes should be mandatory yearly and be instructed by an outside agency
- EVD should be mandatory if driving department vehicles

21  
22  
23

wasteful spending tax payer money  
Need more full-time firefighters. Departments need more support from County.

What a joke, the fire department answers to no one. I attempted to go to a Cowee Fire department board meeting and voice my views a year or two ago and was almost laughed at. The board is made up of the people that spend the money. I think it might have had one community member. The community should have a much bigger say in things. It is our money. The commissioners need to get a hold of what it going on. Just how many fire stations does one community need. Franklin Fire department only has one station and does an amazing job. I lived in that area prior to moving to Cowee. Please do something. Many people are concerned and we know you don't want to upset the fire department. My personal view is please do upset them and take control.

24  
25

It seems that the county has a lot of outdated equipment, such as ambulances and command post, maybe the county could look into getting grants to purchase new items.

There are to many hidden agendas in the local fire service. Chief's and member's are not friendly to members unless they feel like you would never bring corruption to light. The county needs to take over the county fire service and eliminate the non profit fire organizations.

26  
27

The possibility of me being moved to another fire district that would raise my taxes. I suggest you involve the community and get our opinions. You cant trust the buddy system.

28  
29

Would like to see more Career firefighter at the Franklin station.

Very pleased with services that City of Sky Valley residents have received. No complaints. Thank you for your good services.

Scaly Fire Dept is the BEST!!! They are our neighbors and care about us. We see them on hazardous roads, at wreck scenes, looking for missing hikers as well as putting out fires. When we see them, we feel comfort in the fact that they are their while others sleep and, most of all they are well trained for just about any emergency.

30  
31  
32  
33

We are so BLESSED and....if all of the NC units are as good as Scaly Mt we are in great hands.

I will drop by and pick up 3 vials of life

No issue or challenge

None

34

A great vol FD but I checked "needs improvement" because we need at least one paid member (driver) on duty at all times.

Need to have one person physically present at the fire station 24/7.

Solution: quit wasting money on frills and instead spend it on the basics, fire, police, roads, schools, not on fairs, pioneer days, pickin' on the square, etc. All the frills are nice, but you are feeding the pigs before you feed the people.

35

36 caution light ,and street light at hale ridge road and 106  
37 I think they need better communications radios etc  
I would like to continue to support the dept. They are serving a critical  
38 need in our area and we all need to support the department.  
I know of none. The Scaly Mtn. Dept . Does a great job. We are only here  
39 part time, vacation property.  
40 n/a  
41 totally satisfied with our wonderful department in sky valley thank you  
what you do  
Which Franklin FD came about another mile out. They usually pass by  
before the department I pay my fire tax. Funny cause the Chief wants a  
42 bigger fire district but cant cover the area, I want the Franklin FD  
I had not heard of a discussion of the need for a greater service fee. If it  
helps accomplish things truly needed, we would entertain hearing about  
an increased fee. We are happy now and although we have had no fire,  
we did need 911 service call (and to hospital) and the service and  
promptness was fabulous! Could not have asked for more than we  
43 received.  
44 None come to mind.

Even though I live on a State Maintained road, I have seen many roads in  
our community that are very narrow and have trees and tree limbs that  
make getting a fire truck or ambulance to a home. As for a solution, it  
maybe up to the property owners on these streets to come together and  
formulate a plan to address this issue. I know that damage can occur to  
45 the emergency vehicles and repairs can be costly.  
46 Don't have enough background information to offer suggestions  
The city fire dept travels way to fast through town, it endangers folks  
driving when they see a large fire truck barreling down on them from town  
47 hill. They get right on top on a car, it scares people  
48 None  
We need to be able to show certification on the dry hydrant on our street.  
We know for a fact the SV/SM fire departments test it every year. If we  
could show it is certified, it would make us an ISO pc5 rather than a pc9!  
We have stood and talked with the firemen as they tested it but have  
49 never been able to get anyone to show it is certified.  
I don't have a challenge. I DO appreciate the fire department sharing the  
50 gym with the community!  
51 OUR FIRE DEPARTMENT IS WONDERFUL!  
52 No concerns.  
We like that the station is nearby, but would like to have another salaried  
53 member stationed there?  
None come to mind. We are just thankful for the dedicated volunteers  
54 who protect our homes and businesses.  
i have no issues..i think our volunteers do a SUPERIOR job!! The few  
times that i've needed emergency care, they have been at our house  
55 within 10 minutes!

56 Because of our elderly population we need a paid "responder" available.  
57 None  
Our fire personnel and the facility are top notch. The medical service they  
58 provide to our elderly population is vital.  
Great volunteers. Their outstanding service is greatly appreciated in the  
59 community. I help as I can but not on a regular basis.  
60 none

The volunteer nature of the fire department is, more than any other service including schools and police (professional, full time personnel) the interface between our local government and our people. It's very special.

61 Perhaps I feel it more not having seen this elsewhere.  
62 Keep up the great work..thank you to all the volunteers  
Sorry, no issues, but I'd like to express my appreciation for the fitness center that you have made available to us as local residents. It's a wonderful help to us.

63  
64 None  
That our Fire Service personnel do not get enough credit. Possibly highlight a person per month. Thank you all for your service.

65  
66 Have all first responders trained and equipped to carry narcan.  
I cannot think of anything that needs improvement. I recently had a need for the 1st responders, they arrived quickly and were very professional. We are lucky to have so many wonderful caring people volunteering their time to protect our lives and property.

67  
68 A full time ems crew and ambulance needs to be stationed in Scaly mt. I would like to see more funds come available to help pay for additional firefighting and EMS training, as well as additional equipment for both. Many member volunteers work outside the district. It would be good if they could have some paid firefighters so someone would always be in the district and available for emergencies. That could be critical for saving lives and property. I also think the members should receive some compensation for every call they respond to. They are giving their time, their gas, wear and tear on their cars and missing work at times, in addition to time spent on the constant trainings.. just my 2 cents.. They do a good job overall.

70  
71 Great firefighter  
Better understanding of local and state laws that cover livestock, and other farming issues that they encounter in the rural areas...

72 I would like Highlands to add more fire hydrants.  
Sherwood Forest Rd belongs to the city , there are no hydrants servicing that area.

73 Sounds like firefighters are becoming fewer and harder to keep, thankful the Town has a department that is staffed 24/7 they usually beat other fire departments. Maybe the county should see what they are doing, obviously there doing something right. Also believe the county needs to support the firefighters more.... Reading the paper sounds like Mr. Cabe has a grudge against the Town. Maybe the Town saw things some didnt see....

74 County put there egos to the side and support our fire personnel. Need a new Emergency manager that involves the comunity during wildfires and dangerous times then, one that sounds like a dictator.

75 Fire departments not funded equally. Clarks Chapel department is encroached upon by two other departments that takes tax dollars away from the community. Franklin Fire dept. should be reduced in area and the money divided to county departments.

76 The fire depts. do not have to answer to anyone about how they are spending our tax dollars. All other county depts. have people they answer to. The fire depts. get county funding from taxes but they don't have to answer about how they are spending those dollars.

77 Give Franklin back their former chief and quit wasting the taxpayers money.

78  
79 None.

80

seems like fire departments are short staffed, why don't we have more paid fireman

81

Seem volunteer departments are having a harder time keeping firefighters, maybe look at more career firefighters one particular issue is that our local fire personal is not appreciated nearly enough. a possible solution would be recognition for jobs performed, and/or pay for performance where possible

82

No challenges, but wonder if level of service would be even better with additional paid firefighter positions.

83

It seems ridiculous to have so many different departments. I think there should be more control over the departments and their operations and financial control. There have been instances that the fire department vehicle has been used for personal errands. There is no reason for one department to be building another (third) building. I think all of the departments need to have more accountability with the integrity of the people (paid and non-paid), to be allowed to spend my tax dollars. There are certainly issues of professionalism that should be addressed, especially by the biggest department in town. Fire trucks do not need to go to a ball game out of their district to satisfy the need of the individual "working". Fire trucks do not need to attend a manager's dog birthday party, out of their district and miss a call for a child in need of their services. The town should be ashamed at some of their decision's/practice's within the last year. If a person can't pass an exam to be certified to operate the equipment properly then they do not need to attempt to do so. There needs to be unity within all departments and forego the "click" or the "in crowd". Being on a department is a commitment that requires time, effort, and support from family and friends and coworkers. A person that will take time to do the types of things required to be done by a fireman is a rare breed when they are there for the right reasons. A little support, accountability, and professionalism needs to be spread throughout all departments, some more than others. I will continue to pray and support the firemen of our county. I do not feel compelled to support them financially when I think there has been a misuse or negligently used funds. There needs to be more accountability with personnel, use of funds, and management of same.

84

Several years ago a homeowner in Nantahala Highland Estates donated a cellular tower to the local volunteer fire department at their request. The cell tower is still on site but has not been erected. The area has very poor cell service. Erecting and activating the tower would provide a significant upgrade to all type of emergency communication systems in the Topton area.

85

Can't really think of anything. My house is about 20 min from my assigned station so it will probably be gone by the time a truck arrives if I ever had a fire. That's just living in the mountains. Can't really do anything about it. question 5 i am too old, ems response time

86

87

I don't understand why I am so close to one fire department but have to wait for one to come all the way from town makes not sense at all when I can see the other department why cant we be served by the closest fire department that would make more sense than having to wait on one to travel past the other department to get to me when I need help

88

89 It seems I pay an awful lot in taxes for never needing the services but I always see the big red trucks in the parade and big fancy buildings being built so I guess that's all that matters, right?

I work with some guys that are members of the fire department and have much respect for them as they do a job I can not do but I hear them talking sometimes and have always wondered who oversees them? Do they have to answer to the county manager or commissioners or who? They're always talking about buying a truck or building a new station. is this what my taxes pay for?

90 As a resident of northern Macon County, are the two new fire departments in my area really necessary? They're huge and must have cost a fortune!!

91 I live all the way out by the airport and just figured out that the Franklin city fire department is my fire department. this can't be right.

92 N/A

93 I have a very steep paved driveway. During the winter, it might be near to impossible to get to my house.

94 I reside in the Patton community and believe that is the Franklin Fire area, I understand the Town of Franklin controls this department. Am I receiving city services? Why does the Town of Franklin control what happens out here in Patton?

95 More paid full time staff.

96 Question #5 does not have an answer for someone who has considered volunteering and did.

97 I don't deal with my fire department enough to know any issues or challenges they may have. I would like to see a community meeting every quarter to know there issues.

98 None

99 very pleased

100 i pay much higher taxes than my neighbor for fire departments and we live in 2 separate fire station district

101

Need additional fulltime paid personnel in all departments. County needs to provide more support, with personnel, equipment, facilities,,training, etc. Help to educate the public about function of volunteers. Many people do not understand that departments are served with volunteers.

102 I don't know of any issues that need to be addressed.

103 I thank all our department are great I go to all of them to help support all them so do not do away with them

104 There needs to be more uniformity between departments as far as tax rates and services provided for those rates. For example, why does Cowee need such a high tax and three stations to provide a class 7 rating when Cullasaja has a similar size district, with a much lower tax rate, a single station, and has a class 5 rating? Both are rural departments without hydrants. What is the extra money going for in Cowee? Unneeded stations and equipment?

105 I personally feel better knowing there are several fire departments around the county that can provide service in various communities. It is scary thinking a home owner in Burningtown would need to wait for assistance from Fanklim to get help. The volunteer fire departments are closer to the people they serve so they can immediately provide assistance whereas think Franklin has to be there to set up command before anyone can do anything could be disaster. A house could be burnt to the ground before Franklin could reach them. Grateful for the community departments .

106 Please do not do away with them

107 Our community volunteer fire departments do a great job and I'm proud to have them in our county. I don't see that any changes need to be made. I love having a volunteer fire department so close to my house and the fact people can volunteer if they wish. I don't think there needs to be changes.

108 I have heard talk that Macon County commissioners may be pursuing a county wide fire department. If you care about the citizens, fire departments and firemen, you won't pursue it. I have lived in Clarks Chapel my whole life and I love how the community comes together and our fire department is a huge part of that. On any given day you can drive by and see 5 to 10 volunteers present everyday, they truly enjoy their time there and enjoy serving their community. Macon County is still small, if you take that small town feel and wrip apart our volunteer fire departments, then you are just as greedy as any other politician. You want to save a few bucks? That is not the answer. Wouldn't it cost us more? I would state annually it would be around 3 to 4 million more a year. I am very upset that Jimmy Tate would even allow this to be an option, he should know first hand the importance of volunteers and volunteer fire fighters. Maybe you all have a chip on your shoulders because Cowee Fire Department has took advantage of you and their community, making our commissioners look incompetent.... so you're going to take it out on the rest of the fire departments. Realistically, why did you approve cowee for another substation? For their less than 200 calls a year?

109 I live in clarks chapel and I'm really proud of our fireman. They are always willing to help out. I have lived in other states where the county run the departments and that was a real disaster. Everytime I turned around they was raising our county tax to give money for the departments. I love how Macon county does things here in putting that in the hands of the community departments. What I also found out the friendliness also left. The people we had as fireman at our department was not community oriented. I hope Macon county never tries to pursue a county wide department.

110 We donate to the Nantahala fire district annually through our homeowners association. Are reports published as to what happens to the donated funds? Maybe they could be posted on a website.

111 We have the highest tax rate of any community (Cowee). They just built a huge new station on the road the chief lives on. Please don't let my taxes go up to pay for this!!!

112 I am thankful for the brave workers and volunteers who serve in our fire departments. It astounds me when I hear about the training they undergo. They are local heros.

113 None, we love our Franklin and Macon County emergency first responders!

114

I would like to see each Fire Station to have an Ambulance (Basic EMT ) to assist the county during times when there are no ACLS Trucks available due to being all out on calls. Each Fire and Rescue Ambulance could be used when multiple patients in a mass causality incident happen, EMS is backed up on calls and basic Transport is needed from hospital to home or hospital to nursing home or non emergency transport to other facilities. To pay for these the county could charge for basic service inline with state charges for basic transport + millage if needed. Also a 2 cent tax could also support the extra trucks , supplies, training, maintenance, fuel. West Macon already has an ambulance in station and I feel that it has been a great benefit to the county. As our county grows over the next 10 to 20 years EMS call will only climb. Adding basic EMT Ambulance can lessen the load on EMS. I hope you consider this suggestion.

115

1) It is almost impossible to get into the Otto Fire Department as a volunteer. Seems like the old guard has it blocked. 2) Nor can "just any resident" get on their governing board. And they answer ONLY to this board. I'd prefer all fire departments answer to our County Commissioners. They are good guys, and I think they'd do anything to keep us all safe, but I do think they could be a little more "inclusive", esp to the newer Otto residents.

116

The commissioners do not give enough money to local departments. Look at surrounding counties and what they have compared to Macon. The commissioners need to think more about the Counties people and services instead of reelection.

117

Can't think of a thing. I'm in the Cullasaja fire distric and they are amazing!

118

I think that an increase in tax would allow more funding to provide 24 hour coverage in the areas with higher call volumes. Others talk about a lack of members and participation and i feel that volunteer or paid we deserve the same training and service as larger urban areas. If this means more money yearly to insure better service,training and response then i say its a win win.

119

120

Quite frankly, no concerns. I guess I should be better informed.

121

I dont really have any issues in my district

122

I am satisfied with our resident fire department

123

I live in Holly Springs. I am unaware of the location of the nearest fire hydrant or other water source equivalent to a fire hydrant.

124

125

More public education from the fire department and emergency services  
Cannot think of any.

I'm not a fireman so I'm not going to pretend I know how to do their job better. We appreciate these dedicated professionals greatly and thank them. Since you are asking I would recommend that every fire department (if they don't already) should take the appropriate steps to ensure their financial records are adequately monitored and audited. I'd recommend taking a minimum of 3 members of leadership from every fire department in the county and each year assign them to conduct an audit of the financial records of a fire department that is NOT their own. This will keep anyone from claiming a department or Board is failing to appropriately audit their "own" books.

126

127 We need more dedicated volunteers which I hear from other local volunteer fireman/women that they need more volunteers! So a good public campaign getting the message out and educating the public about the benefits of volunteering for a fire dept., requirements, how to get involved, etc.

128 It scares me that if I can't get a phone signal or get a text to go through to someone I can't get help. I was without power and finally got a text to go through only to get a notification of some sort that it wasn't to be done....so I didn't know if any one could help me. Gosh what if the my house was on fire. I was scared to death with all the fires recently. We need multiple ways to communicate help is needed. Also I pray we have audible fire evacuation alarms...and education brochures sent to homes what the tones mean. I am not in Franklin much because of work...but I will be checking into it.

129 Acls trained, paid medic per station.

130 Otto VFD needs an ambulance at their station for quicker response. The dept itself is very fast and satisfactory in response and attention.

131 The county and town interference in the local VFDs is the main problem, so I do not expect you to do anything about it.

132 I live over 4 miles from my fire department

133 I think there should be more oversight over the financial situations of the fire departments. I think there is a lack of control.



# Appendix G

## REQUIREMENTS TO MEET THE 9S RATING FOR INITIAL CERTIFICATION/RE-INSPECTION OF FIRE DEPARTMENTS IN NORTH CAROLINA

Pursuant to G. S. 58-2-40, and G. S. 58-36-10 (3), the Insurance Commissioner authorized the standard known as Administrative Procedures Code Section .0500, **Initial Certification/Re-Inspection of Fire Departments**. The result of this action was the development of requirements by which all fire departments will be certified with a 9S rating (effective 1987) for insurance grading purposes. This provides for the eligibility of the department's personnel to participate in the Fireman's Pension Fund and the Firemen's Death Benefit Act and the fire department's participation in the Firemen's Relief Fund. The "S" attached to the 9 classification designates that fire department as having met the current, minimum standards for a rated class 9 or split 9 fire department in North Carolina, (Ref.: G.S. 86-25; G.S. 58-84-1; G.S. 143-166-1).

The following are minimum requirements which a fire department must meet in order to meet and/or retain the 9S classification:

### **Fire Department Organization**

1. The fire department shall be incorporated under Chapter 55A of the General Statutes of North Carolina or be operated by a city, county or sanitary district as a division of that governmental unit.
2. If the fire department is incorporated, it shall operate under a contract with either a city, county or sanitary district or an combination thereof
3. The board of county commissioners shall establish and define the area of responsibility outside of a given municipality. A map and description of the insurance fire district shall be approved by the Office of State Fire Marshal (OSFM) of the North Carolina Department of Insurance. Changes in the insurance district boundaries shall be noted on an appropriate map and be approved by the Office of State Fire Marshal.

### **Personnel**

- A. A fire department shall have a minimum of 20 personnel with 18 designated as firefighters and 2 as traffic personnel **or** show through documentation that averages of 12 firefighters have responded to each of the previous 20 structure fires.
- B. All certified firefighters shall be a minimum of 18 years of age. **Junior firefighters or firefighters under the age of 18 will not count toward the required minimum needed 20 personnel.**
- C. Initial certification of a new fire district shall require the 20 personnel roster.

- D. Substation: If the 20-personnel option (as described in Section A above) is used, 8 additional personnel shall be added to the roster for each substation. If the average responding personnel is used by the main station, 4 additional personnel shall be required for each substation.
- E. Each fire department shall assure the response of at least four members and one engine to all fires and fire alarms in structures. The chief may be one of the four responding members. Response of a fire department, as primary first alarm department, to a fire or fire alarm in a structure within its established fire insurance district with less than the minimum required engine or manpower shall be considered by the OSFM to be a Non-Response. Any department determined by the OSFM to have two or more "Non-Response" records shall be placed by the OSFM on probation for a period of 12 months. A fire department on probation shall submit quarterly to the OSFM inspector all fire and fire alarm in structure response records for the next 12 consecutive calendar months that show there have been no additional "non-responses" within that 12 month period. If the fire department fails to submit the quarterly report, the insurance district for the fire department shall be designated a "Class 10" by the OSFM.

### **Training**

1. All members shall comply with the training requirements set forth in G.S. 58-86-25, which states that fire departments shall provide four hours of monthly training, for a total of 48 hours per year. Each firefighter shall attend at least 36 hours of training in each calendar year.
2. ***The chief officer of each fire department shall within one year of appointment complete a class on basic management of fire department operations and records approved by the North Carolina Fire Commission for chief officer.***

### **Alarm and Communications**

1. Communications must be reliable for reporting of emergencies, notifying firefighters and dispatching apparatus.
2. The system must have a telephone listing for fire emergencies that reaches a location that can receive calls and dispatch apparatus and personnel 24 hours per day.
3. The fire station shall be equipped with a siren and/or each listed firefighter shall be equipped with a pager capable of being toned by the central communications center.

### **Records and Documents**

A copy of the following documents should be on file in the Office of State Fire Marshal. If one is not on file, the inspector will obtain it at the time of inspection:

1. **Charter (Articles of Incorporation)** - indicates that the fire department is chartered as a nonprofit corporation under G.S. 55A through the Secretary of State's Office. If a municipal department operates under municipal government, they will not have a separate charter.
2. **Contract with County** - this is an agreement between the Governing body and the county which gives the fire department the authority to provide fire protection in an area outside of the municipality. If the fire district operates in more than one county, a contract must be obtained from those counties.
3. **Verification by city/town** - if the fire department is chartered as a part of municipal government, there should be written verification of that recognition.

4. **Map and Description** - a hand drawn map and written description or a GIS computer generated map of its initial or revised fire district. For Rural Districts a maximum distance of five road miles (9S), or 6 road miles (9E) from the fire station applies. For Municipal Districts a maximum distance of five road miles from the fire station(s) applies. The district's approved boundary must be indicated on the map.
5. **Designation of Insurance District** - a Designation form, resolution or other verification that the county commissioners have approved the boundaries of the insurance district.
6. **Incident Reporting** - *Whenever the fire department responds to a fire, a chief of that department shall complete or cause to be completed a fire incident report on the current version of the National Fire Incident Reporting System (NFIRS). Refer to [www.nfirs.fema.gov](http://www.nfirs.fema.gov).*
7. **Roster of Active Firefighters** - this document should show the name, and designation as firefighter or traffic control personnel.
8. **Service Test on Pumper** - the service test on the "first out" pumper must be complete and accurate and have been run within 12 months prior to the fire department inspection. The test should be run the full 40 minutes, form filled out and signed.
9. **Certified Weight Tickets** - weight tickets, with weigh master signature completed within 12 months prior to the fire department inspection, from a certified scale showing the gross (full) weight of the "first out" pumper and tanker are required. It is also recommended that all vehicles be periodically weighed.
10. **Protective Clothing Form** - if the required sets of protective clothing are not available for inspection, a notarized statement indicating the quantity and type of clothing and signed by the chief may be submitted.

The following documents will be reviewed by the inspector on the inspection site but are not needed for Office of State Fire Marshal files.

1. **Alarm Log** - records showing the date, time, location, type of alarm and names of responding firefighters.
2. **Training** - this record should indicate that each firefighter whose name appears on the roster has had a minimum of 36 hours of training per year. (GS 58-86-2) effective 12/01/2013
3. **Inventory of Equipment** - this list should include equipment carried on the "first out" pumper and tanker. It is recommended that an inventory of equipment be kept on all department vehicles.
4. **Apparatus Check Off List** - thorough records should be kept on all apparatus inspections performed on "first out" pumper and tanker. Inspection forms for the previous 12 months will be reviewed and should include items such as lights, brakes, steering, tires, siren, etc.

## Apparatus

### A. Pumper (Minimum Requirements)

1. Pumper shall be certified by Underwriters Laboratories, Inc. or National Bureau of Fire Underwriters.
2. Pumper shall be constructed in accordance with NFPA 1901, Standard for Automotive Fire Apparatus.
3. Pumper shall be equipped with a GVW (gross vehicle weight) plate from the manufacturer attached to the vehicle. The vehicle shall not be loaded beyond the specified limits; nor shall the vehicle be modified in a manner that would invalidate this certification..
4. Pump shall be rated at not less than 750 gpm at 150 psi net pump pressure.
5. Pumper shall be equipped with a minimum 500 gallon tank.
6. A complete and accurate service test shall be performed annually; if the pumper has been purchased within the previous twelve months, the UL certificate will meet this requirement.
7. Two, 150-foot, 1 1/2-inch pre-connected hose lines with fog nozzles attached.
8. One booster reel or three pre-connected hose lines.
9. Two, 10-foot sections suction hose - size necessary to flow the capacity of pumper.
10. Four, OSHA-approved self-contained breathing apparatus in proper working condition.
11. OSHA approved (at the time of purchase) protective clothing including helmet, coat, pants, boots, gloves and hoods for all firefighters and reflective clothing and helmet for traffic control personnel.
12. One, 12-foot or 14-foot roof ladder.
13. One, 24-foot or 35-foot extension ladder.
14. One, axe.
15. One, claw tool (Haligan Tool can replace claw tool and crowbar).
16. One, crowbar (Haligan Tool can replace crow bar and claw tool).
17. One, pike pole, minimum of 8 feet
18. Two, rechargeable portable hand lights suitable hazard conditions. Chargers must be mounted on truck.
19. 100 feet of rope, minimum of ½ inch.
20. Two, shovels.
21. Two, 20 pound, class B-C portable extinguishers.
22. One, first aid kit
23. One, bolt cutter, 14 inches or longer.

B. Tanker (Minimum Requirements)

1. Tanker shall be equipped with a minimum of 1000 gallons capacity or enough to equal 1500 gallons total for pumper and tanker.
2. Tanker shall be equipped with necessary hose for filling tank and hose for transferring water to the pumper.
3. When fully loaded, the tanker shall not exceed the GVW limits as posted on the Gross Vehicle Weight plate located on the vehicle; nor shall the vehicle be modified in a manner that would invalidate this certification.
4. Tanker shall be properly baffled in accordance with the National Fire Protection Association Standard 1901 – Standard for Automotive Fire Apparatus which is available from the National Fire Protection Association.

**Fire Station Building**

Building shall be provided with suitable heating for all weather protection of required pumper and tanker.

**Inspection**

Personnel from the Inspections Division of the Office of State Fire Marshal of the North Carolina Department of Insurance shall conduct a field inspection to determine whether the initial certification requirements have been met. Re-inspections on all fire departments, insurance class 9 or split 9, will be conducted on a 5-year schedule.

For more information contact,

by mail:

North Carolina Department of Insurance  
Office of State Fire Marshal  
Mail Service Center 1202  
Raleigh, North Carolina 27699-1202

or visit:

North Carolina Department of Insurance  
Office of State Fire Marshal  
322 Chapanoke Road, Suite 200  
Raleigh, North Carolina 27611

Telephone number: (919) 661-5880

# **NORTH CAROLINA DEPARTMENT OF INSURANCE**

## **Fire Insurance District Mapping Requirements**

1. Boundaries defining the area of responsibility shall be established by a County Board of Commissioners for areas outside of municipalities pursuant to G.S. 153A-233.
2. The Fire Department shall provide the OSFM with a hand drawn map and written description or a GIS computer generated map of its initial or revised district.
  - Individual district maps must be consistent within county (either GIS generated or hand-drawn).
3. District boundaries must be clearly defined. (A point on every road where the district line crosses).
4. Scale must be identified on map.
5. Roads should be identified by legible state road numbers or name.
6. Fire stations location must be plainly marked.
7. If a portion of the fire insurance district extends into another county, the district boundaries at the county line must be compatible.

**NOTE: THE RESPONSIBILITY OF PREPARING AND SUBMITTING A MAP LIES WITH THE COUNTY FIRE MARSHAL OR FIRE CHIEF. THE APPROVAL OF THAT MAP LIES WITH THE DEPARTMENT OF INSURANCE WHOSE STAFF WILL DRAW MAPS ONLY IN UNUSUAL CIRCUMSTANCES.**

# **FIRE PROTECTION DEFINITIONS**

1. **Response District**

The area which a fire department responds to and provides protection, may not be a "Legal District", this could simply be a gentlemen's agreement, not registered, and not recorded. No Limit. Can be made legal by presenting to "County".

2. **Insurance District (G.S. 153A-233)**

**THIS IS WHAT 9S REQUIRES**

An area outside corporate limits with boundaries approved by the County Board of Commissioners for fire insurance grading purposes. Cannot overlap and cannot extend more than 6 miles from the station. An "insurance district" is not supported by either a referendum type fire tax (G.S. 69-25) or a special service district tax (G.S. 153A-300).

3. **Rural Fire Protection District (G.S. 69-25)**

An area outside corporate limits with boundaries designed by petition of 35% of the resident free-holders in which a fire tax not to exceed .15 per \$100 valuation has been authorized by the resident qualified voters within the district.

4. **Fire Service District (G.S. 153A-300)**

An area outside corporate limits with boundaries approved by the County Board of Commissioners in which a fire tax is levied without referendum for fire protection services. Such district or districts may include territory within corporate limits if approved by resolution of the municipal governing body.

## **SIX MILE INSURANCE DISTRICT**

To extend its insurance district to six miles, each fire department shall apply and meet the following criteria:

- (1) The fire department shall provide the OSFM with a hand drawn map and written description or a GIS computer generated map of its fire district.
- (2) The map and written description shall be presented to the County Commissioners for their approval, as set forth in G.S. 153A-233.
- (3) The department applying to extend its insurance district to six miles shall enter into a written automatic aid contract with the adjoining districts specifying that "an apparatus capable of transporting" a minimum of 1000 gallons of water shall be dispatched simultaneously with the department whose district the incident is occurring within.
- (4) The County shall establish automatic aid protocols. These protocols shall be maintained at the county communication center and shall be used on all alarms involving reported structure fires.



# **STANDARDS AND POLICIES**

The NCFRS shall be used by the OSFM when the OSFM inspects fire departments for the purpose of determining Fire Insurance District Ratings Classifications. Each fire department shall assure the response of at least four members and one engine to all fires and fire alarms in structures. The chief may be one of the four responding members. Response of a fire department, as primary first alarm department, to a fire or fire alarm in a structure within its established fire insurance district with less than the minimum required engine or manpower shall be considered by the OSFM to be a Non-Response. Any department determined by the OSFM to have two or more "Non-Response" records shall be deemed Non-Compliant by the OSFM for a period of 12 months. A fire department deemed Non-Compliant shall submit quarterly to their assigned OSFM inspector copies of all structure fire and fire alarm response records for the next 12 consecutive calendar months to verify there have been no additional "non-responses". If the fire department fails to submit the quarterly report, or there are additional instances of "non-response", the insurance district shall be designated a "Class 10" by the OSFM.

After evaluation of data collected during an NCFRS inspection, if the results of the inspection indicate that a fire department's ratings classification must be reduced, OSFM shall notify the city or county manager or fire department chief or county fire marshal in writing of the reduction in ratings classification. The notification shall include:

- (1) Hydrant flow tests and hauled water evaluations.
- (2) Ratings classification details.
- (3) Recommendations for improvement.

If the city or county manager or fire department chief or county fire marshal fails to acknowledge receipt with 30 days after receipt of the notification, the OSFM shall reduce the ratings classification of the fire department.

If the city or county manager or fire department chief or county fire marshal acknowledges receipt of the notification to the OSFM within 30 days after receipt of the notification and advises the OSFM that the fire department wants to retain its ratings classification, the city or county manager or fire department chief or county fire marshal shall consult with the individual who conducted the NCFERS inspection and develop a plan to correct the deficiencies that caused the reduction in ratings classification.

Within 90 days after the consultation, the city or county manager or fire department chief or county fire marshal shall submit the plan to the OSFM which shall determine whether the plan is satisfactory to cover the deficiencies. The OSFM shall notify the city or county manager or fire department chief or county fire marshal in writing when the OSFM approves the plan.

The fire department shall have one year after the receipt of the approval to complete the plan to correct the deficiencies that caused the reduction in ratings classification.

The sharing or borrowing of equipment between or among fire departments or between or among stations within a fire department, the falsifying of documents, or engaging in any other act of misrepresentation, for the purpose of falsely satisfying the apparatus/equipment grading score of a NCFERS inspection is prohibited.

There are many different types of forms for reporting inspections, maintenance, and tests that could be used in connection with a fire apparatus preventive maintenance program. Resources for forms other than those shown in this annex are the local or state fire apparatus mechanics association, apparatus manufacturers, or the Apparatus Maintenance Section of the International Association of Fire Chiefs.

#### Annex D Guidelines for First-Line and Reserve Fire Apparatus

*This annex is not a part of the requirements of this NFPA document but is included for informational purposes only.*

**D.1 General.** To maximize fire fighter capabilities and minimize risk of injuries, it is important that fire apparatus be equipped with the latest safety features and operating capabilities. In the last 10 to 15 years, much progress has been made in upgrading functional capabilities and improving the safety features of fire apparatus. Apparatus manufactured prior to 1991 usually included only a few of the safety upgrades required by the 1991 and subsequent editions of the NFPA fire department apparatus standards or the equivalent Underwriters' Laboratories of Canada (ULC) standards. Because the changes, upgrades, and fine tuning to NFPA 1901, *Standard for Automotive Fire Apparatus*, since 1991 have been truly significant, especially in the area of safety, fire departments should seriously consider the value (or risk) to fire fighters of keeping pre-1991 fire apparatus in first-line service.

The 1991 edition of the NFPA fire department apparatus standards included, among other provisions, requirements for fully enclosed driving and riding areas, auxiliary braking systems, reflective striping, improved warning lights, and prohibition of roof-mounted audible warning devices. The minimum tip load for an aerial ladder was set at 250 lb (114 kg), and other requirements, such as a minimum rail height, were added to make the aerial ladder safer for fire fighters to use. The 1991 editions have been recognized as the benchmark from which improved and safer fire apparatus have evolved. It is recommended that only apparatus that were designed and manufactured to meet the 1991 or later editions of the NFPA fire apparatus standards, or apparatus that have been refurbished in accordance with NFPA 1912, *Standard for Fire Apparatus Refurbishing*, to meet the 1991 or later editions of the NFPA fire apparatus standards, be permitted to operate in first-line service. This will ensure that, while the apparatus might not totally comply with the current edition of the automotive fire apparatus standards, many of the improvements and upgrades required by the standards since 1991 are available to the fire fighters who use the apparatus.

It is recommended that apparatus manufactured prior to 1991 that is less than 25 years old, that has been properly maintained, and that is still in serviceable condition should be placed in reserve status and upgraded to incorporate as many features as possible of the post-1991 fire apparatus (see Section D.3). Apparatus that was not manufactured to the applicable NFPA fire apparatus standards or that is over 25 years old should be replaced.

**D.2 How the Standards Have Changed.** It is a generally accepted fact that fire apparatus, like all types of mechanical devices, have a finite life. The length of that life depends on many factors, including vehicle mileage and engine hours, quality of the preventative maintenance program, quality of the driver training program, whether the fire apparatus was

used within the design parameters, whether the apparatus was manufactured on a custom or commercial chassis, quality of workmanship by the original manufacturer, quality of the components used, and availability of replacement parts, to name a few. In the fire service, there are fire apparatus with 8 to 10 years of service that are simply worn out. There are also fire apparatus that were manufactured with quality components, that have had excellent maintenance, and that have responded to a minimum number of incidents that are still in serviceable condition after 20 years. Most would agree that the care of fire apparatus while being used and the quality and timeliness of maintenance are perhaps the most significant factors in determining how well a fire apparatus ages.

Prior to 1991, the single fire department apparatus standard was NFPA 1901. It was basically a "reactive standard." If something worked well in field use for a few years, it might have been suggested for inclusion in NFPA 1901. It was a very basic standard. In the late 1980s, the Technical Committee on Fire Department Apparatus decided to become proactive and to greatly enhance the value of the standard for the fire service. Task groups were appointed to develop reasonable requirements for the various components that made up a fire apparatus, and a safety task group was charged with looking at issues across the board that would improve the safety of fire fighters who use the apparatus.

The completely revised 1991 edition of NFPA fire department apparatus standards was the result of these efforts and the full committee's strong desire to make the automotive fire apparatus standards not only more safety oriented but also more user friendly. In 1991, four standards were issued: NFPA 1901, *Standard for Pumper Fire Apparatus*; NFPA 1902, *Standard for Initial Attack Fire Apparatus*; NFPA 1903, *Standard for Mobile Water Supply Fire Apparatus*; and NFPA 1904, *Standard for Aerial Ladder and Elevating Platform Fire Apparatus*.

Contained within the 1991 editions of the fire department apparatus standards were requirements for such items as increased battery capacity to ensure starting under most conditions, intersection lights for increased visibility, removal of all roof-mounted audible warning devices to reduce hearing problems, a flashing light in the cab to warn if a cab or body door is open, a backup alarm, an automatic transmission to make it easier to drive (unless the purchaser has a specific reason for a manual transmission), fully enclosed riding areas with reduced noise (dBA) levels to keep crew members safe and informed, seats and seat belts for all crew members riding on the apparatus, fail-safe door handles so the sleeve of a coat does not inadvertently catch a handle and open a door, and signs requiring everyone to be seated and belted.

In the pump area, the standard specified that 3 in. (75 mm) or larger valves be "slow close," that caps on intakes and discharge outlets be tested to 500 psi (3400 kPa), that an intake relief valve be provided to help manage incoming pressure, that 30-degree sweep elbows be provided on the discharges to eliminate hose kinking, and that all 3 in. (75 mm) and larger discharges be eliminated from the pump panel to reduce the possibility of injuries to the pump operator.

Fire apparatus equipped with electronic or electric engine throttle controls were required to include an interlock system to prevent engine speed advancement, unless the chassis transmission is in neutral with the parking brake engaged or unless the parking brake is engaged, the fire pump is engaged, and the chassis transmission is in the correct pumping gear.

In the body area, the minimum step surface size and load-carrying capabilities were increased, handrails were required

to be slip resistant, and reflective striping was required on all four sides of the apparatus. Electrical system requirements for line voltage systems were added to include the use of listed components that were grounded.

Many requirements were added to increase the operating capabilities of all aerial devices. For aerial ladders, the minimum design strength of the rungs was increased, a height requirement for the handrails was specified, a minimum load-carrying requirement for folding steps was specified, and the aerial ladder had to have a minimum carrying capacity of 250 lb (114 kg) at the tip when the aerial ladder is at zero degrees elevation and maximum extension. Where a water tower is equipped with a ladder, the same requirements that applied to an aerial ladder were required of the ladder on the water tower.

The carrying capacity of elevating platforms at zero degrees elevation and maximum extension was raised to 750 lb (340 kg). Elevating platforms were also required to have handrails, breathing air available in the platform (with low-air warning capability) for at least two fire fighters, and a water curtain cooling system under the platform.

All aerial devices had to be capable of supporting a static load of one and one-half times their rated capacity in any position. A requirement for a stabilizer movement alarm and reflective striping with warning lights was added. Interlocks to prevent inadvertent movement to an unsupported side and to prevent raising the aerial device prior to the stabilizers being deployed were specified. One hundred percent nondestructive tests (NDT) became a requirement. All these requirements were included in the 1991 editions of the NFPA fire department apparatus standards.

In 1996, the four fire department apparatus standards (NFPA 1901, NFPA 1902, NFPA 1903, and NFPA 1904) were recombined into a single standard that was designated as NFPA 1901, *Standard for Automotive Fire Apparatus*. This edition further enhanced the safety and operating characteristics of all the apparatus.

The 1999 edition included chapters on quints and mobile foam apparatus, further defined slip resistance of stepping and walking surfaces, required better mounting of equipment in the driving and crew compartments, required predelivery testing of foam systems, and specified that fill stations for breathing air cylinders be designed to totally contain a rupturing cylinder.

The 2003 edition continued to refine the requirements in the driving and crew riding areas with increased head height requirements at seating positions and additional requirements for storage of SCBAs in seat backs, both aimed at reducing fire fighter injuries. The test protocol for slip resistance of standing and walking surfaces was better defined. There was a general cleanup of the requirements throughout the document to enhance the operational usefulness of the apparatus.

**D.3 Upgrading Fire Apparatus.** Any apparatus, whether in first-line or reserve service, should be upgraded in accordance with NFPA 1912 as necessary to ensure that the following features are included as a minimum:

- (1) Fully enclosed seating is provided for all members riding on the fire apparatus.
- (2) Warning lights meet or exceed the current standard.
- (3) Reflective striping meets or exceeds the current standard.
- (4) Slip resistance of walking surfaces and handrails meets the current standard.
- (5) A low voltage electrical system load manager is installed if the total connected load exceeds the alternator output.
- (6) The alternator output is capable of meeting the total continuous load on the low voltage electrical system.
- (7) Where the gross vehicle weight rating (GVWR) is 36,000 lb (16,000 kg) or more, an auxiliary braking system is installed and operating correctly.
- (8) Ground and step lighting meets or exceeds the current standard.
- (9) Noise levels in the driving and crew compartment(s) meet the current standard, or appropriate hearing protection is provided.
- (10) All horns and sirens are relocated to a position as low and as far forward as possible.
- (11) Seat belts are available for every seat and are new or in serviceable condition.
- (12) Signs are present stating no riding on open areas.
- (13) A pump shift indicator system is present and working properly for vehicles equipped with an automatic chassis transmission.
- (14) For vehicles equipped with electronic or electric engine throttle controls, an interlock system is present and working properly to prevent engine speed advancement at the operator's panel, unless the chassis transmission is in neutral with the parking brake engaged; or unless the parking brake is engaged, the fire pump is engaged, and the chassis transmission is in pumping gear.
- (15) All loose equipment in the driving and crew areas is securely mounted to prevent its movement in case of an accident.

**D.4 Proper Maintenance of Fire Apparatus.** In addition to needed upgrades to older fire apparatus, it is imperative that all fire apparatus be checked and maintained regularly to ensure that they will be reliable and safe to use. The manufacturer's instructions should always be followed when maintaining the fire apparatus. Special attention should be paid to ensure that the following conditions exist, as they are particularly critical to maintaining a reliable unit:

- (1) Engine belts, fuel lines, and filters have been replaced in accordance with the manufacturers' maintenance schedule(s).
- (2) Brakes, brake lines, and wheel seals have been replaced or serviced in accordance with the manufacturers' maintenance schedule.
- (3) Tires and suspension are in serviceable condition, and tires are not more than 7 years old.
- (4) The radiator has been serviced in accordance with the manufacturer's maintenance schedule and all cooling system hose are new or in serviceable condition.
- (5) The alternator output meets its rating.
- (6) A complete weight analysis shows the fire apparatus is not over individual axle or total gross vehicle weight ratings.
- (7) The fire pump meets or exceeds its original pump rating.
- (8) The water tank and baffles are not corroded or distorted.
- (9) If equipped with an aerial device, a complete test to original specifications has been conducted and certified by a certified testing laboratory.
- (10) If so equipped, the generator and line voltage accessories have been tested and meet the current standard.

**D.5 Refurbishing or Replacing Fire Apparatus.** Fire department administrators and fire chiefs should exercise special care when evaluating the cost of refurbishing or updating an apparatus versus the cost of a new fire apparatus. Apparatus

that are refurbished should comply with the requirements of NFPA 1912. A thorough cost-benefit analysis of the value of upgrading or refurbishing a fire apparatus should be conducted. In many instances, it will be found that refurbishing costs will greatly exceed the current value of similar apparatus. Experience has also shown that refurbishing a fire apparatus that is over 20 years old, other than to paint or repair the apparatus, is a very poor investment.

Some factors to consider and evaluate when considering whether to refurbish or replace a fire apparatus include the following:

- (1) What is the true condition of the existing apparatus? Has it been in a major accident, or has something else happened to it that would make spending significant money on it ill advised?
- (2) Does the current apparatus meet the program needs of the area it is serving? Is it designed for the way the fire department operates today and is expected to operate into the foreseeable future, or is the apparatus functionally obsolete? Can it carry everything that is needed to do the job without being overloaded?
- (3) If the apparatus is refurbished, will it provide the level of safety and operational capability of a new fire apparatus? Remember, in many cases, refurbishing does not mean increasing the GVWR, so it is not possible to add a larger water tank or additional foam agent tanks or to carry massive amounts of additional equipment. Enclosing personnel riding areas might add enough weight to the chassis that existing equipment loads need to be reduced to avoid overloading the chassis. An aerial ladder that does not have a 250 lb (114 kg) tip load rating at zero degrees elevation and maximum extension cannot be made stronger.
- (4) What is the anticipated cost per year to operate the apparatus if it were refurbished, and what would the cost per year be for a new apparatus? Do not forget insurance costs, downtime costs, maintenance costs, depreciation, reliability, and the safety of the users and the public. At what rate are those costs rising each year? Are parts still readily available for all the components on the apparatus? A refurbished 15-year-old apparatus still has 15-year-old parts in it. How long could the fire department operate without the apparatus if it suddenly needed major repairs?
- (5) Is there a current trade-in value that will be gone tomorrow? Most apparatus over 12 years old have little trade-in value. Are there creative financing plans or leasing options that can provide a new fire apparatus for little more than the cost of refurbishing or maintaining an older apparatus?

**D.6 Conclusion.** A fire apparatus is an emergency vehicle that must be relied on to transport fire fighters safely to and from an incident and to operate reliably and properly to support the mission of the fire department. A piece of fire apparatus

that breaks down at any time during an emergency operation not only compromises the success of the operation but might jeopardize the safety of the fire fighters relying on that apparatus to support their role in the operation. An old, worn out, or poorly maintained fire apparatus has no role in providing emergency services to a community.

## Annex E Informational References

**E.1 Referenced Publications.** The documents or portions thereof listed in this annex are referenced within the informational sections of this standard and are not part of the requirements of this document unless also listed in Chapter 2 for other reasons.

**E.1.1 NFPA Publications.** National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02169-7471.

NFPA 11, *Standard for Low-, Medium-, and High-Expansion Foam*, 2005 edition.

NFPA 1002, *Standard for Fire Apparatus Driver/Operator Professional Qualifications*, 2003 edition.

NFPA 1150, *Standard on Foam Chemicals for Fires in Class A Fuels*, 2004 edition.

NFPA 1901, *Standard for Automotive Fire Apparatus*, 2003 edition.

NFPA 1912, *Standard for Fire Apparatus Refurbishing*, 2006 edition.

NFPA 1961, *Standard on Fire Hose*, 2007 edition.

NFPA 1962, *Standard for the Inspection, Care, and Use of Fire Hose, Couplings, and Nozzles and the Service Testing of Fire Hose*, 2003 edition.

**E.1.2 Other Publications.**

**E.1.2.1 American Association of Motor Vehicle Administrators Publications.** American Association of Motor Vehicle Administrators, P.O. Box 79702, Baltimore, MD 21279-0702.

*Vehicle Inspection Handbook, Passenger Vehicles & Light Trucks*, 1999.

*Vehicle Inspection Handbook, Trucks, Buses, & Trailers*, 1999.

**E.1.2.2 ASME Publications.** American Society of Mechanical Engineers, Three Park Avenue, New York, NY 10016-5990.

ASME B40.100, *Pressure Gauges and Gauge Attachments*, 2005.

**E.1.2.3 U.S. Government Publications.** U.S. Government Printing Office, Washington, DC 20402.

Title 29, Code of Federal Regulations, Section 1910.177, "Servicing multi-piece and single piece rim wheels" Mar. 7, 1996.

**E.2 Informational References. (Reserved)**

**E.3 References for Extracts in Informational Sections.**

NFPA 1901, *Standard for Automotive Fire Apparatus*, 2003 edition.

## Appendix I

### FAMA Apparatus/Vehicle Replacement Consideration Guidelines

#### Excellent Condition (E)

- Less than five years old
- Fewer than 800 engine hours
- Fewer than 25,000 miles
- No known mechanical defects
- Very short downtime and very few operating expenses
- Excellent parts availability
- Very good resale value
- Meets all present NFPA 1911 edition safety standards

#### Very Good Condition (VG)

- More than five but less than ten years old
- More than 800 but fewer than 1600 engine hours
- More than 25,000 but fewer than 50,000 miles
- No known mechanical or suspension defects present
- Low downtime and above average operating costs
- Good parts availability
- Good resale value
- Meets NFPA 1911 safety standards

#### Good Condition (G)

- More than ten but less than 15 years old
- Some rust or damage to the body or cab
- More than 1,600 but less than 2400 engine hours
- Some existing mechanical or suspension repairs necessary
- Downtime and operational costs are beginning to increase
- Parts are still available but getting difficult to find
- Resale value decreasing
- Meets all NFPA 1911 safety standards

#### Fair Condition (F)

- More than 15 but less than 20 years old
- Rust, corrosion, or body damage apparent on body or cab
- More than 2,400 engine hours
- More than 75,000 but fewer than 100,000 miles
- Existing mechanical or suspension repairs necessary
- Downtime is increasing and operational costs are above historical average
- Parts become harder to find and/or obsolete
- Very little resale value
- Does not meet NFPA 1911 safety standards

#### Poor Condition (P)

- More than 20 years old
- Rust, corrosion, or damage to the body of the cab impacting use of the apparatus
- More than 2,400 engine hours or 100,000 miles
- Existing mechanical or suspension problems affecting operation of the apparatus
- Downtime is exceeding in-service availability
- Operational costs are exceeding the resale value
- Parts are obsolete
- Does not meet NFPA 1911 safety standards

# Appendix J

## FIRE DEPARTMENT WEEKLY CHECK-OFF LIST

Month of \_\_\_\_\_

Truck # \_\_\_\_\_

	1 <sup>ST</sup> WK	2 <sup>ND</sup> WK	3 <sup>RD</sup> WK	4 <sup>TH</sup> WK	5 <sup>TH</sup> WK
Radiator Level					
Fan Belts					
Oil Level					
Check Battery					
Tires					
Ignition					
Does Engine Misfire					
Road Test / Transmission					
Clutch Working Properly					
Brakes					
Steering					
Windshield Wipers					
Fuel					
Siren					
Horn					
Radio Check					
All Lights					
Pump Shift					
Water Level					
Relief Valve					
Transfer Valve					
Check Gauges					
Check Primer & Oil					
Valves Movable					
Initial & Date Inspected					

Remarks:



Appendix K

STATE OF NORTH CAROLINA  
COUNTY OF MACON

**CERTIFICATE OF FINANCE OFFICER:**

This instrument has been pre-audited in the manner required by the Local Government Budget and Fiscal Control Act.

This the 27<sup>th</sup> day of January, 2014.

  
Macon County Finance Officer

**CONTRACT FOR FIRE PROTECTION**

THIS CONTRACT, made and entered into this 21<sup>st</sup> day of January, 2014, by and between the CULLASAJA GORGE FIRE AND RESCUE, INC., a North Carolina non-profit corporation (hereinafter "DEPARTMENT"), with principal offices located at 104 River Rd, Franklin, Macon County, North Carolina, and the COUNTY OF MACON, a political subdivision for the State of North Carolina (hereinafter "COUNTY").

**WITNESSETH:**

WHEREAS, Fire Protection Service Districts have been duly and properly created, defined and established in the COUNTY pursuant to the provision of Article 16 of Chapter 153A of the North Carolina General Statutes in order to provide fire protection services to areas encompassed by such districts; and

WHEREAS, the General Assembly of North Carolina did enact into law an act to authorize automatic aid agreement and mutual assistance between fire departments whereby full authority may be exercised for fire departments to send fire fighters and apparatus beyond the territorial limits which they normally serve, said act having been codified as N.C. Gen. Stat. 58-83-1;

WHEREAS, pursuant to N.C. Gen. Stat. 153A-233, 153A-301 and 153A-305, the COUNTY may provide fire protection services in defined service districts by contract with one or more municipal and/or one or more incorporated volunteer fire departments; and

WHEREAS, the COUNTY is authorized under the provisions of N.C. Gen. Stat. 153A-305 and 153A-307 to levy property taxes within defined service districts, in addition to those levied throughout the county and in such amount as allowed by applicable law, in order to finance, provide

or maintain for the DISTRICT, known as Cullasaja District as shown upon the Fire District Map approved by the Macon County Board of Commissioners at its Regular Meeting held on February 11, 2008, a copy of which is attached hereto as Exhibit B and as further shown on Exhibit B-1 attached hereto, services provided therein in addition to or to a greater extent than those financed, provided or maintained for the entire county; and

WHEREAS, the COUNTY has heretofore furnished fire protection services in said DISTRICT, to the extent of the taxes collected pursuant to statutory authorization, by contracting with the DEPARTMENT to furnish fire protection in said DISTRICT; and

WHEREAS, said DISTRICT is currently served by the DEPARTMENT; and

WHEREAS, the Board of County Commissioners, in accordance with the provision of N.C. Gen. Stat. 159A-14, must set a special tax rate based on an annual budget estimate setting forth the monetary requirements for providing fire protection services that year in said DISTRICT and keep and administer said monies in a separate and special revenue fund (hereinafter "Revenue Fund") to be used only for furnishing fire protection services within said DISTRICT; and

WHEREAS, the Board of County Commissioners, also acting pursuant to N.C. Gen. Stat. 159-14A, must adopt an annual budget ordinance appropriating tax monies levied and collected from the fire protection service districts and authorize transfers and expenditures from the Revenue Fund only for fire protection services in the respective fire districts as specified in contracts with fire departments; and

WHEREAS, Chapter 159 of the North Carolina General Statutes provides that the County Budget Ordinance may be in any form that the Board of County Commissioners deems most efficient in enabling it to make the fiscal policy decisions embodied therein and provides for a fund for each special service district whose taxes are collected by the COUNTY; and

WHEREAS, pursuant to N.C. Gen. Stat. 153A-13, 153A-233 and 153A-305, both the DEPARTMENT and the COUNTY desire to enter into a continuing contract to provide fire protection services in said DISTRICT and to have such contract supersede and take the place of any contracts previously executed;

NOW THEREFORE, for and in consideration of mutual promises and agreements herein contained and the mutual benefits to be derived therefrom and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the DEPARTMENT and the COUNTY do hereby promise and agree as follows:

1. PAYMENT OF TAXES TO THE DEPARTMENT. So long as this Contract remains in effect, the COUNTY agrees to make funds available to the DEPARTMENT from the proceeds of the special fire protection service district tax levied and collected from within the DISTRICT known as Cullasaja District as shown upon the Fire District Map approved by the Macon County Board of Commissioners at its Regular Meeting held on February 11, 2008, a copy of which is attached hereto as Exhibit B and as further shown on Exhibit B-1

attached hereto. The amount of such service tax levy shall be determined by the Board of the County Commissioners from year to year. Payments will be made on a monthly basis issued by the 15<sup>th</sup> day of the following month provided this Contract remains in effect.

2. FIRE PROTECTION SERVICES REQUIRED. So long as this Contract remains in effect, the DEPARTMENT will furnish not less than Class 9S fire protection and emergency medical and rescue services that the DEPARTMENT is licensed and/or trained to provide to all property located within the boundaries of district DISTRICT. The DEPARTMENT will also provide emergency preparedness/protective measures when the COUNTY is exposed to a hazard as defined in 42 U.S.C. 519a. Nothing in the Contract shall be construed to prevent the DEPARTMENT from providing Mutual Aid Assistance to any other Fire Department within the discretion of the Chief or Officer in Charge. The DEPARTMENT will respond and provide automatic aid for structure fires in neighboring districts which have been established. When responding in an automatic capacity, the DEPARTMENT will dispatch a piece of fire apparatus capable of carrying a minimum of 1,000 gallons of water at approximately the same time as the Department in which district the incident occurs. "Fire Protection" shall specifically include the provision of such emergency medical, and rescue services that the DEPARTMENT is licensed or trained to provide in order to protect the persons within said DISTRICT from injury or death. Nothing shall be construed to prevent the DEPARTMENT from providing Fire Service or Mutual Aid Assistance so long as the DEPARTMENT continues to provide service to said DISTRICT at a level no less than the DEPARTMENT's current insurance rating as determined by the North Carolina Department of Insurance. Further, the DEPARTMENT may furnish Fire Service to areas not within the boundaries of any Fire District on an equipment and personnel basis within the discretion of the Chief or Officer in Charge.

3. LIMITATIONS ON USE OF FIRE SERVICE DISTRICT TAX. Funds paid by the COUNTY to the DEPARTMENT shall be used for one or more of the following purposes and for no other purposes:

- A. Purchase and maintenance of equipment;
- B. Purchase, construction and repair of fire stations;
- C. Amortization of loans incurred for purchase, construction or repair of equipment of fire stations;
- D. Operations of the DEPARTMENT;
- E. Casualty or life insurance upon DEPARTMENT members; and
- F. Workers Compensation Insurance premiums.

Funds paid by the COUNTY pursuant to this Contract shall be expended only as allowed by applicable federal, state and local laws, rules, orders and regulations.

4. ANNUAL BUDGET AND FINANCIAL RECORDKEEPING REQUIRED.

- A. The DEPARTMENT shall prepare an annual budget, for the fiscal year beginning July 1 of each year, providing for the receipt and expenditure of funds received from

the COUNTY, the DEPARTMENT shall host at least one meeting in which the general public may attend and review the proposed budget and make comment or inform the residents of their community through newsletter or other form of information distribution of their budgetary needs and subsequent request of the COUNTY. The COUNTY encourages the DEPARTMENT to have at least one person from said DISTRICT who is not an active member of the DEPARTMENT to serve as a Board member.

- B. The DEPARTMENT shall use the funds subject to this Contract in accordance with the annual DEPARTMENT budget. The budget may be amended by the Fire Department Board of Directors within the funds made available by this Contract except that amendments providing for any expenditure that establishes a new operating expense that will extend beyond the current fiscal year shall require the concurrence of the Macon County Fire Marshal's Office.
- C. The COUNTY may inspect the financial books and records of the DEPARTMENT at reasonable times during regular business hours of the COUNTY. The DEPARTMENT agrees that it will supply such financial books and records of the DEPARTMENT at reasonable times during regular business hours of the COUNTY. The DEPARTMENT agrees that it will supply such financial records, information or verification as may reasonably be requested by the COUNTY. The DEPARTMENT shall maintain a written accounting system which provides adequate documentation of all its receipts and disbursements including, but not limited to, those related to the funds subject to this Contract. The DEPARTMENT shall also provide an annual report of revenues and expenditures from the previous calendar year certified by the DEPARTMENT's President and Treasurer.
- D. Copies of the budget and certified annual report of revenues and expenditures shall be filed with the Macon County Fire Marshal by the third Friday in April preceding the beginning of the fiscal year.
- E. In the event that the COUNTY's review of the financial records of the DEPARTMENT reveals any deficiencies or irregularities in the financial operations of the DEPARTMENT, or reportable and/or material issues(s) with regard to compliance of generally accepted accounting principles, the COUNTY shall give written notice thereof to the Fire Chief, the Chairperson of the Board or Chief Executive Officer, and at least two (2) lesser officer of the DEPARTMENT. Within ten (10) calendar days of said notice, the DEPARTMENT shall provide to the COUNTY a written statement that contains an explanation of each such issue and an action plan (with implementation timetable) for resolving each such issue, and shall provide periodic reports to the COUNTY on progress made in resolution of each issue. Resolution shall be made within thirty (30) days of Notice. If this Contract shall terminate before such correction, the DEPARTMENT shall have no further interest in or claim upon such funds. The DEPARTMENT shall be legally liable to the COUNTY for any funds expended in violation of the terms of this Contract.

- F. Should the DEPARTMENT fail to submit to the COUNTY the information required in this Paragraph 4 within the time periods outlined in Sub-paragraphs 4B - E of this Contract, the COUNTY shall suspend all funds immediately until the information is delivered as set forth above, except that the Macon County Fire Marshal may grant a reasonable submittal extension if the DEPARTMENT is unable to deliver the information for reasons beyond the control of the DEPARTMENT.
5. ADDITIONAL RECORD KEEPING REQUIREMENTS. The DEPARTMENT will maintain accurate written records regarding personnel training, infection control, Articles of Incorporation, by-laws, fire district map and description, insurance district resolution, contracts with counties and municipal governments, engine/pumper service test, certified weight tickets for all apparatus, alarm log, meeting minutes, equipment inventory and apparatus inspection forms, which may be inspected at any time by or on behalf of the COUNTY.
6. ROSTER REQUIRED. The DEPARTMENT shall submit a copy of the roster sent to the office of the State Fire Marshal, to the Macon County Fire Marshal by June 1 of each year. The roster must have a minimum of twenty (20) personnel with eight (8) additional personnel for each substation.
7. REPORT OF RURAL FIRE CONDITIONS REQUIRED. The DEPARTMENT shall submit a Report of Rural Fire Conditions on the form provided by the Office of the State Fire Marshal, to the Macon County Fire Marshal by October 1 of each calendar year.
8. CALL LIST INFORMATION REQUIRED. The DEPARTMENT shall provide a list of information including DEPARTMENT mailing address, phone number, fax number, e-mail address, radio call number for all personnel, line officers, board officers, medical certifications, firefighter certifications and contact numbers for all personnel and an apparatus list to the Macon County Fire Marshal by January 31 of each calendar year.
9. TERMS OF CONTRACT. This Contract shall become effective as of the date set out in Paragraph 14 of this Agreement, subject to the continued legal existence of said DISTRICT and the DEPARTMENT, and shall continue from fiscal year to fiscal year unless sooner terminated by either party in accordance with Paragraph 10 of this Contract.
10. TERMINATION OF CONTRACT. Either party may terminate this Contract upon giving the other party at least eight (8) months advance written notice. The COUNTY may, in its discretion, immediately terminate this Contract in the event that the DEPARTMENT does not timely correct deficiencies as provided in Paragraphs 4 and 12 or correct any other material breach of this Contract within a reasonable time after notice of such breach. From and after the effective date of any termination of this Contract the DEPARTMENT shall have no further obligations, including the provision of Fire Services in said DISTRICT, under this Contract and shall have no further right to receive any Fire Protection Taxes collected by the COUNTY within the Fire Protection District.

11. WORKER'S COMPENSATION INSURANCE. The DEPARTMENT will be responsible for payment of workers compensation insurance premiums.
12. OPERATIONS DEFICIENCIES. The DEPARTMENT shall provide notice to the Macon County Fire Marshal of any facility, equipment or operations deficiencies (collectively "Operations Deficiency") which have surfaced as a result of any inspections conducted by any agency, such as the North Carolina Department of Insurance or the Insurance Services Office. The COUNTY may, in its discretion, withhold all funds payable to the DEPARTMENT pursuant to this Contract as long as the North Carolina Department of Insurance, the Insurance Services Office or the COUNTY holds the DEPARTMENT to be in Operations Deficiency. The COUNTY, in its discretion, has the right to terminate this Contract immediately if the DEPARTMENT fails to remedy any Operations Deficiency within a reasonable time, in no case later than eight (8) months from the date the DEPARTMENT was made aware of the Operations Deficiency(s). If this Contract shall terminate without such Operations Deficiencies being corrected, the DEPARTMENT shall have no further interest in or claim upon the funds withheld.
13. AMENDMENT TO CONTRACT. This Contract may only be amended by written agreement of the parties.
14. EFFECTIVE DATE. This Contract shall become effective as of the date on which the last party executes this Contract.
15. APPROVAL BY DEPARTMENT. The DEPARTMENT represents by the execution of this document by its President that this instrument has been duly approved by the DEPARTMENT.
16. SEVERABILITY. If any clause, paragraph, or part of this Contract is determined to be void or unenforceable by a Court of competent jurisdiction, the remainder of this Contract shall remain in full force and effect.
17. INDEPENDENT CONTRACTOR. The DEPARTMENT understands and agrees that, in entering into this agreement and providing services, it is acting as an independent contractor; neither the DEPARTMENT nor its employees, members or personnel shall be deemed or construed to be employees of the COUNTY.
18. INDEMNITY AGREEMENT. The DEPARTMENT shall indemnify and save the COUNTY harmless from any and all liability and expenses including attorney's fees, court costs and other costs incurred by COUNTY which are caused by the negligence of the DEPARTMENT, its agents, members, employees and personnel, to the extent of the DEPARTMENT's insurance coverage. For this reason, the DEPARTMENT shall procure all insurance coverages stated in paragraphs 1, 2, 6 and 7 of Exhibit A, attached (paragraphs 3, 4 and 5 are optional), and shall cause the COUNTY to be named as an "Additional Insured" for liability coverage on all policies procured.

19. ASSIGNMENT. This Contract may not be transferred or assigned by the DEPARTMENT without the prior written consent of the COUNTY.
20. PRIOR CONTRACTS TERMINATED. All prior Contracts for fire protection entered between the DEPARTMENT and the COUNTY shall be deemed terminated as of the effective date of this Contract and this Contract shall be deemed to supersede any prior Contracts or other agreements.
21. NO WAIVER. Failure of the COUNTY to enforce any of the provisions of this CONTRACT at any time, or to request performance by the DEPARTMENT pursuant to any of the provisions of this Contract at any time shall in no way be construed as a waiver of such provisions, nor in any way affect the validity of this Contract, or any part thereof, or the right of the COUNTY to enforce each and every provision.
22. COMPLIANCE WITH LAWS, RULES and REGULATIONS. The DEPARTMENT shall comply with all applicable federal, state and local laws, rules, and regulations. Failure to do so will be grounds for immediate termination of this Contract.
23. MINIMUM PERFORMANCE STANDARDS. The following minimum performance standards are agreed to by the COUNTY and the DEPARTMENT and are a part of this contract:
  - A. DISPATCHING PROTOCOLS: Each DEPARTMENT shall comply with the COUNTY dispatching protocols.
  - B. PERSONNEL (ON SCENE): Each Fire Department should have an adopted standard operating guideline that addresses the appropriate number of firefighters needed on all type fire calls. A current, valid copy of the Fire DEPARTMENT's guideline should be kept on file with the Macon County Fire Marshal's Office. Each Fire Department should have the goal of placing sufficient personnel on the scene when making initial attack on all structure fire calls or when responding to other emergency situations.
  - C. TRAINING: Each Fire Department shall meet the minimum standard training requirements set forth by the State of North Carolina and the COUNTY where applicable for providing Fire and Rescue services.
  - D. FIRE INVESTIGATIONS: The Fire Department officer in charge at all fire scenes shall attempt to determine the origin and cause of every fire. When the officer in charge can not determine the origin and cause of the fire or if the cause is suspected to be incendiary in nature, the officer in charge shall request a representative from the Macon County Fire Investigation Support Team, the Macon County Fire Marshal's Office and/or the appropriate law enforcement agency to assist.

- E. RECORDS: Each Fire Department shall keep all records on site or easily accessible for at least five (5) years.
  - F. MEDICAL FIRST RESPONDER: Each Fire Department may choose to participate in the County Medical First Responder Program. Participation is fully voluntary. However, each Fire Department which participates in the program shall conform to the Macon County First Responder policies and procedures.
  - G. EMERGENCY DISASTER RESPONSE: Each Fire Department shall follow the Macon County Emergency Operations Plan when responding to an emergency disaster.
  - H. STATE OF EMERGENCY: The COUNTY may request the Fire Departments to assist with other life saving and property protection measures as necessary during a State of Emergency. All operations shall be in accordance with the Macon County Emergency Operations Plan and Macon County Emergency Management Ordinance.
24. FEES FOR SERVICE. A service fee may be charged for false and frivolous residential or business fire alarm calls as follows: The first such alarm is free; the second such alarm will result in a letter being sent from the DEPARTMENT to the property owner requesting they correct the problem within ten (10) days; and such calls thereafter, within a twelve month period, may result in the DEPARTMENT charging the property owner a service fee. The DEPARTMENT may attempt to file a claim with an individual, insurance carrier, or other responsible party for reimbursement for consumable supplies or damaged equipment resulting from a hazardous materials incident when such expenses would place an undesirable financial burden upon the DEPARTMENT. The DEPARTMENT shall furnish other fire, rescue, medical or other such emergency protection action that they are trained and/or certified to provide without charge to all persons and property located in said DISTRICT in an efficient manner. This provision shall not prohibit the DEPARTMENT from entering into contracts with the Federal, State or local governments or utility companies for the provision of emergency protection services not inconsistent with the DEPARTMENT's duties under this Contract for a fee.
25. GOVERNING LAW. Unless otherwise specified, this Contract shall be governed by the laws of the State of North Carolina. All litigation arising out of this Contract shall be brought in the General Court of Justice in the County of Macon, North Carolina.
26. HEADINGS. The subject headings of the paragraphs are included for purposes of convenience only and shall not affect the construction or interpretation of any of its provisions. This Contract shall be deemed to have been drafted by both parties and no purposes of interpretation shall be made to the contrary.
27. NOTICES. All notices which may be required by this Contract or any rule of law shall be effective when deposited in an official depository of the United States Postal Service or when received by hand-delivery as follows:



## EXHIBIT A

### INSURANCE REQUIREMENTS

The DEPARTMENT shall take out and maintain during the term of the Contract, the following insurance coverages:

1. Comprehensive Automobile Liability Insurance providing limits of liability at least in the amount of \$1,000,000 combined single limits. Coverage shall be provided with a symbol "1" for liability. The policy shall also name volunteers and employees as insureds. The fellow member exclusion shall be removed. Automobile Collision and Comprehensive Insurance written on agreed value basis for all emergency vehicles except private passenger types. The agreed value shall be for the approximate replacement cost of the vehicles.
2. Comprehensive General Liability Insurance including coverage for personal injury, property damage, contractual liability, products and completed operations coverage, and pollution liability for emergency operations and training operations away from premises. Coverage shall be provided for intentional bodily injury and property damage. Policy shall include coverage medical malpractice, not limited to bodily injury and including the failures to render medical services. Policy is to include coverage for failure to respond. Coverage shall also be provided for watercraft if any are owned. The limits shall be \$1,000,000 combined single limits per occurrence and \$2,000,000 aggregate limit.
3. An Umbrella policy shall be provided with limits of \$1,000,000 per occurrence and \$1,000,000 aggregate.
4. Directors & Officers coverage shall be provided with limits of \$1,000,000 per occurrence and \$2,000,000 aggregate. Coverage shall be included for Civil Rights violations and Employment Related Practices.
5. DEPARTMENT shall maintain Property Insurance under a "special cause of loss" form. The policy shall be written on a replacement cost basis with a guaranteed replacement cost endorsement on the building(s). All portable equipment shall be insured on a replacement cost basis with a guaranteed replacement cost endorsement attached.
6. The DEPARTMENT shall name the COUNTY as an additional insured for liability purposes only on all policies. The DEPARTMENT shall furnish the COUNTY with Certificates of Insurance annually.
7. Because the DEPARTMENT is receiving tax dollars or grant funds from the COUNTY, the DEPARTMENT shall maintain a Blanket Fidelity Bond in the amount of at least \$100,000.

NORTH CAROLINA  
MACON COUNTY

I, Amanda B. Peek, Notary Public for Macon County, North Carolina, certify that Linda H. Henry, personally came before me this day and acknowledged that he (or she) is Corporate Secretary for Cullasaja Gorge Fire and Rescue, Inc., a North Carolina non-profit corporation, and that by authority duly given and as the act of the corporation, the foregoing instrument was signed in its name by its President, sealed with its corporate seal, and attested by himself (or herself) as its secretary foregoing on behalf of the corporation.

Witness my hand and official seal, this the 31 day of January, 2014.



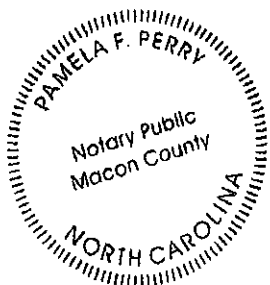
Amanda B. Peek  
Amanda B. Peek, Notary Public  
Printed Name of Notary  
My Commission Expires: 9-24-16

NORTH CAROLINA  
MACON COUNTY

I, Pamela F. Perry, Notary Public for Macon County, North Carolina, certify that Kevin Corbin and Mike Decker, personally appeared before me this day and acknowledged that they are the Chairman of the Macon County Board of Commissioners and the Deputy Clerk to the Macon County Board of Commissioners for Macon County, North Carolina, and that by authority duly given and as the act of Macon County, North Carolina, the foregoing instrument was signed by such Chairman of the Macon County Board of Commissioners, sealed with its corporate seal and attested by such Clerk to the Macon County Board of Commissioners.

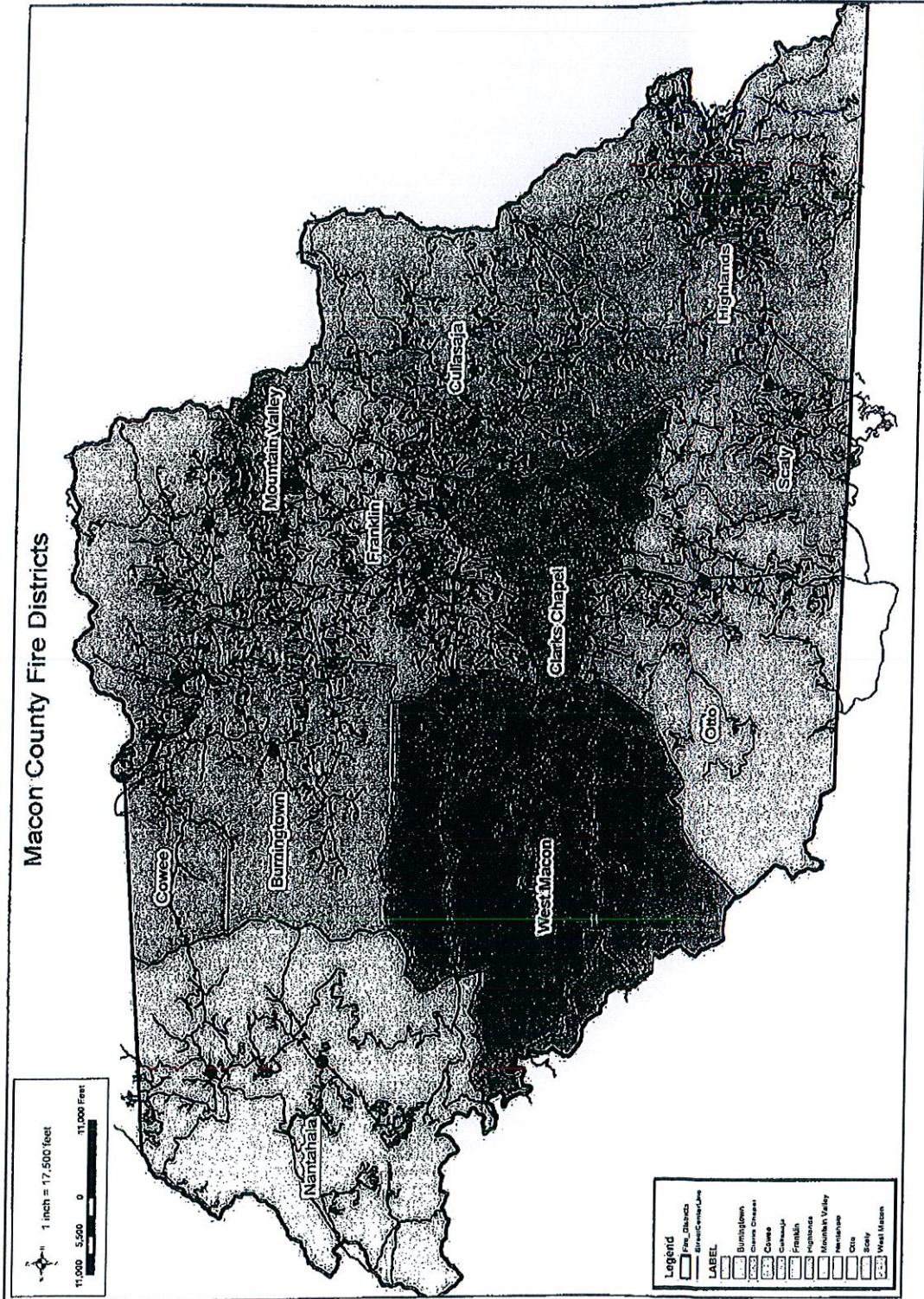
Witness my hand and official seal, this the 22 day of January, 2014.

(OFFICIAL SEAL)



Pamela F. Perry  
Pamela F. Perry, Notary Public  
Printed Name of Notary  
My Commission Expires: 8-17-2014

EXHIBIT B





### Appendix L

Printed: 25 FEB 2017 - by SYS  
CARD 1 OF 1

Macon County NC Property Record Card / APPR

Parcel : 6586-46-6573      Description      IOTLA RD NC FOREST SERVICE BLDG      Tax Districts  
F01 FRANKLIN

----- OWNER INFORMATION -----	----- PROPERTY FACTORS -----
ACCT: 22793      STATE OF NORTH CAROLINA	Topography      Utilities
GEN DEL	R ROLLING      E ELECTRIC
FRANKLIN, NC 28734	W WATER
	S SEPTIC
	View              Streets/Road
	S PVD STAT.

----- MISCELLANEOUS INFORMATION -----	----- ENTRANCE INFORMATION -----
Township      : FRANKLIN	Date      Type      Source      Appr.
Address       : 543 IOTLA CHURCH RD	09/08/14   15   Estimate   TAA
Zoning        :	11/26/12   0   Estimate   JEB
Nbrhood      : 01046 IOTLA CHURCH	08/07/06   8   Estimate   TAA
Map   Rte     : 6586.00	09/15/05   8   Estimate   JEB
Class         : EX EXEMPT	02/13/03   8   Estimate   TAA

Remarks:  
No Remarks on file

--- LAND DATA ---

# MTH TYPE	SIZE	UNIT PRICE	%ADJ	APPR	DEFER
1 A 0504 COMM RURAL	1.25	50,000		62,500	0
Total Acres : 1.25				Land Totals	62,500      0

--- OUTBUILDINGS ---

BLDG#	TYPE	MTH	DESCRIPTION	REMARKS	WIDTH	LENGTH	AREA	GRD	BU
1	61	O	STG, FR UTILITY		10	12	120	D	1
2	61	P	STG, FR UTILITY		0	0			
3	26	O	GARAGE, UNFIN		16	24	384	D	1

Printed: 25 FEB 2017 - by SYS

Macon County NC Property Record Card / APPR

CARD 1 OF 1

Parcel : 6586-46-6573 IOTLA RD NC FOREST SERVICE BLDG

Nb

Owner : 22793 STATE OF NORTH CAROLINA

Addr:

----- BUILDING DESCRIPTION -----

```

VAL METHOD          : C
USE CODE           : C26 OFFICE TYPICAL
STYLE              :
NBR STORIES        : 1.0
WALL HEIGHT        : 8
FOUNDATION         :
EXTERIOR WALL      : FRAME
YR BUILT / EFF     : 1979 / 1989
CONDITION          : A AVERAGE
GRADE              : C
DESIGN FACTOR      :
ROOF TYPE          :
ROOF COVER         :
BSMT AREA / VALUE : 912 UNFINISHED
ATTIC AREA         : NO ATTIC
INTERIOR FLOOR     :
INTERIOR WALL      :
ROOMS / BDRMS     : /
FULL / HALF BATHS : 0 / 0  ADDL FIX: 0
FIREPLACE TYPE/CNT:
FIREPLACE OPENINGS: 0  CHIMNEY(S): 0
AIR COND PCT      :
SPRINKLER PCT     :
HEATING TYPE      : N NONE
HEATING FUEL      : N NONE
OTHER FEATURES    :
% COMPLETE        : 100
DESCRIPTION        : 1/S FR TYP OFFICE/B
REMARKS           :
    
```

Heated Sq Ft : 864

----- BUILDING SECTION DETAIL -----

LN	TYPE	DESCRIPTION	AREA	VALUE	#ST	P%	F%
1	C26	OFFICE TYPICAL	864	73,697	1.0		
2	COP	COMM OPEN PORCH	144	2,943	1.0		
3	CPA	COMM PATIO	112	491	1.0		

----- BUILDING COMPUTATION -----

```

RCN          105660

PHYS DEPR    27
FUNC DEPR
ECON DEPR
% COMPLETE   100

RCNLD        77,130
    
```

LAST PICTURE DATE :

End of Page 2

## Appendix M

### Career Fire Service Evaluation

Macon County has been served well for many years with a volunteer fire service and is slowly transitioning to a combination fire service (volunteer departments supplemented with a few key career staff members, mostly volunteer). If Macon County were to consider transitioning to a career fire service for the rural areas outside municipal limits, the following assumptions are for consideration:

1. Due to geographical considerations and without volunteer support, a full career response crew would have to be situated in each of the three distinct geographical areas. (Franklin, Highlands, Nantahala) Any career assistance from neighboring stations would be at least 20 to 30 minutes away so it is assumed a career crew of at least four(4) firefighters would need to be stationed in each of those areas 24/7. ( Estimated at \$57,000 per employee including benefits X 12 employees per shift X 3 shifts=\$2,052,000)
2. Due to the remoteness of other communities, a career employee would need to be stationed at least at every other main fire department station in Macon County 24/7. (Estimated at \$57,000 per employee including benefits X 8 employees per shift X 3 shifts=\$1,368,000)
3. Span of control would require at least one chief officer and at least one administrative assistant to manage the system 40 hours per week. (Estimated at \$71,000 including benefits + \$37,000 including benefits = \$108,000)
4. A task force or centrally located response squad with two supplemental firefighters 24/7 would be required to reasonably meet the most basic requirements of a structure fire response. (Estimated at \$57,000 per employee including benefits X 2 employees per shift X 3 shifts=\$342,000)
5. Coverage by part-staff will be required for employee vacancies due to vacations or sickness in order to maintain minimum staffing. (Estimated \$65,000)
6. The initial expense for PPE/Uniforms/Communications Equipment for the minimum number of full time employees is also a significant expenditure. (Estimated \$4000 X 61 employees=\$244,000)
7. Maintaining the existing fire service geographical locations with main stations, substations, and satellite stations at the most basic level would require 20 engines and 19 tankers. This does not take into consideration any wildland, command, service, or other type vehicles that might be necessary for efficient operations. (Estimated \$250,000 X 20 + \$175,000 X 19 = \$8,325,000)

The response to structure fires for these calculations assumes a minimum of eight(8) people. (1 Incident e Commander, 2 interior firefighters, 2 rescue firefighters, 1 engineer, 2 tanker operators) Realistically 12 or more people are required for an efficient fire attack and those 12 people must arrive in a timely fashion which may not be possible with this model. The entire fire service area would also have to be inspected by the NC Office of State Fire Marshal and there is no guarantee that this level of staffing would maintain the protection class ratings currently existing in Macon County. With all of these

uncertainties, an estimated annual expenditure of at least \$3,935,000 for personnel and start-up costs estimated at \$8,325,000 for apparatus not including small equipment, operating costs, or facility costs, it is essentially financially unfeasible for Macon County to consider a career fire service for Macon County.





# Macon County

Jimmy Teem  
 Macon County Fire Marshal  
 104 East Main Street  
 Franklin, NC 28734  
 (828) 349-2068 / Fax: (828) 349-2078  
 email: jteem@maconnc.org

Derek Roland  
 Macon County Manager  
 5 West Main Street  
 Franklin, NC 28734

Fire Department / Rescue / EMS	Chief / Captain	Address	City / State / Zip	Phone No.	Fax No.	Email Address	FD
Burningtown-Iotla Volunteer Fire & Rescue,	Kenneth N Mccaskill	30 Daves Creek Road	Franklin, NC 28734	(828) 524-7061		knmccask@gmail.com	05
Clarks Chapel Fire and Rescue Department,	Matt G Mason	270 Fulcher Road	Franklin, NC 28734	(828) 526-8953	(828) 369-1399	mmason1301@gmail.com	05
Cowee Volunteer Fire/rescue, Inc	Dustin L Pendergrass	1309 Ruby Mine Rd	Franklin, NC 28734	(828) 369-7611	(828) 349-0839	coweefiredept@yahoo.com	05
Cullasaja Gorge Fire and Rescue, Inc.	Paul Corbin	104 River RD	Franklin, NC 28734	(828) 526-8953	(828) 369-6685	pcorbinems@yahoo.com	05
Franklin Fire And Rescue Department	Kevin K Rohrer	49 Maple Street	Franklin, NC 28734	(828) 524-2332		krohrer@franklinnc.com	05
Highlands Fire & Rescue	S. Ryan Gearhart	P.O. Box 460	Highlands, NC 28741-0460	(828) 526-3645	(828) 787-1632	highfirescue@frontier.com	05
Macon County E.M.S.	Warren Cabe	104 East Main Street	Franklin, NC 28734				05
Mountain/Valley Volunteer Fire & Rescue, Inc.	Nicholas J McCall	1940 Coon Creek Rd	Franklin, NC 28734	(828) 342-9278		nmccall3305@gmail.com	05
Nantahala Volunteer Fire and Rescue, Inc.	David Moore	19036 Wayah Road	Topton, NC 28781	(828) 321-5061		drmoores@ncdot.gov	05
Otto Volunteer Fire and Rescue, Inc.	Terry Rholetter	60 Firehouse Road	Otto, NC 28763	(828) 524-3473		trholetter@gmail.com	05
Sky Valley - Scaly Mountain Volunteer Fire	Tommy E James	P.O. Box 278	Scaly Mountain, NC 28775	(828) 342-0019	(828) 391-9308	chief@svsrmvfr.org	05
West Macon Fire and Rescue, Inc.	Josh Randall	564 Charles Nolen Road	Franklin, NC 28734	(828) 349-2067	(828) 524-1829	jrandall@maconnc.org	05

**Resources***Closed squads are excluded*

Area Cnty	Name	Comm/Center Phn	Base Phone	E-mail		
15 056	CLARKS CHAPEL FIRE & RESCUE	828 524-8113	828 524-8113	CCFD1300@GMAIL.COM		
Title	Name	E-mail address	Mobile	Pager	Residence	Business
Chief	MASON, MATTHEW G.					
Secretary	SMITH, CLINTON JAMES	19echo95@gmail.com, csmith@denverfd.com				
105 - Medical Responder Unit						

Area Cnty	Name	Comm/Center Phn	Base Phone	E-mail		
15 056	CULLASAJA GORGE FIRE & RESCUE	828 369-9116	828 369-5010	cullasajafiredept@yahoo.com		
Title	Name	E-mail address	Mobile	Pager	Residence	Business
Chief	CORBIN, PAUL ALEXANDER	pcorbinems@yahoo.com	828 371- 2240		828 787- 2047	828 369- 5010
Secretary	HENRY, ROBERT W.	cullasajafiredept@yahoo.com	828 371- 0340		828 371- 0340	828 369- 5010
105 - Medical Responder Unit		117 - Water Rescue - Swiftwater Rescue				
108 - Medium Rescue Provider						

Area Cnty	Name	Comm/Center Phn	Base Phone	E-mail		
15 056	FRANKLIN FIRE & RESCUE	828 369-3393	828 524-2332			
Title	Name	E-mail address	Mobile	Pager	Residence	Business
Chief	ROHRER, KEVIN KEITH					
Secretary	DAY, GREGORY LYNN	grday1@gmail.com	828 371-8974		828 524-2326	
105 - Medical Responder Unit						

Area Cnty	Name	Comm/Center Phn	Base Phone	E-mail		
15 056	HIGHLANDS FIRE & RESCUE	828 526-4131	828 526-3645	highfirerescue@frontier.com		
Title	Name	E-mail address	Mobile	Pager	Residence	Business
Chief	GEARHART, STEVEN RYAN	highfirerescue@frontier.com				
106 - Ambulance EMS Provider						

Area Cnty	Name	Comm/Center Phn	Base Phone	E-mail		
15 056	MACON COUNTY EMS	828 524-2020	828 349-2066	tdoster@maconnc.org		
Title	Name	E-mail address	Mobile	Pager	Residence	Business
Chief	DOSTER, JEFFREY TODD	tdoster@maconnc.org	828 371-1473			828 349-2548

Secretary JAMISON, KIMBERLY H. kjamison@maconnc.org

No services listed for squad X0783

Area Cnty	Name	Comm/Center Phn	Base Phone	E-mail			
15 056	NANTAHALA VOL. FIRE & RESCUE	828 524-2020	828 321-4749	PATRICKGRAHAM559@YAHOO.COM			
Title	Name	E-mail address		Mobile	Pager	Residence	Business
Chief	MOORE, DAVID	drmoore1432@gmail.com					
Secretary	MOORE , JENNIFER QUEEN	drmoore1432@gmail.com					
105 - Medical Responder Unit				107 - Light Rescue Provider			

## Resources

Area	Cnty	Name	Comm/Center Phn	Base Phone	E-mail	
15	056	OTTO FIRE & RESCUE	828 524-2020	828 524-3473	ottofirerescue@yahoo.com	
Title	Name	E-mail address	Mobile	Pager	Residence	Business
Chief	RHOLETTER, TERRY					
Secretary	TALLENT, KAREN					
105 - Medical Responder Unit			107 - Light Rescue Provider			

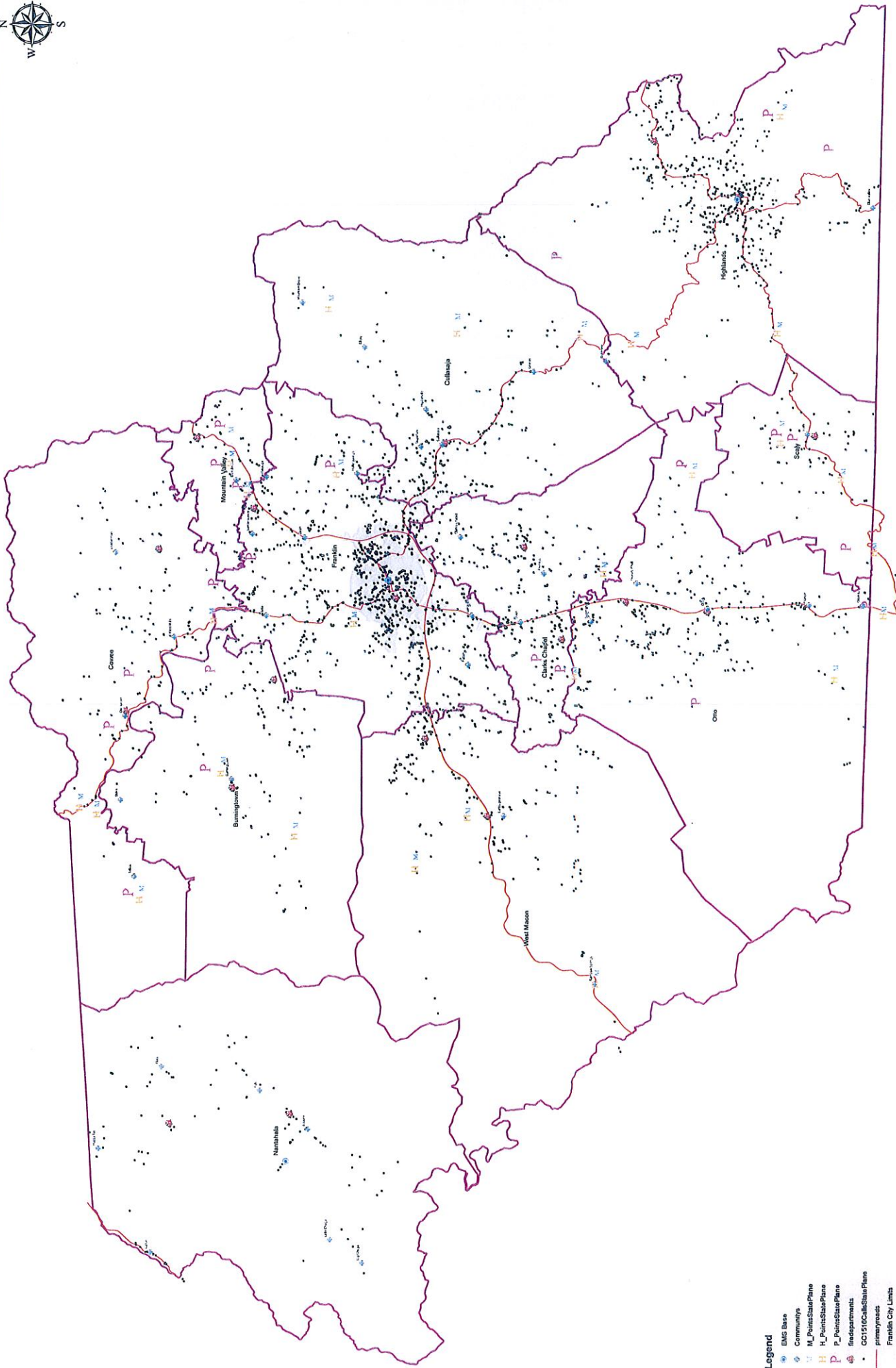
Area	Cnty	Name	Comm/Center Phn	Base Phone	E-mail	
15	056	SKY VALLEY - SCALY MTN VF&R DEPT. INC		825 526-9032	secretary@svsmvfr.org	
Title	Name	E-mail address	Mobile	Pager	Residence	Business
Chief	JAMES JR., TOM E.				828 526-5697	828 526-9032
Secretary	SHERBURN, CATHERINE L.	kay.sherburn@svsmvfr.org			828 526-5113	828 526-9032
105 - Medical Responder Unit						

Area	Cnty	Name	Comm/Center Phn	Base Phone	E-mail	
15	056	WEST MACON FIRE & RESCUE	828 349-2062	828 524-5925	westmacon@yahoo.com	
Title	Name	E-mail address	Mobile	Pager	Residence	Business
Chief	RANDALL, JOSHUA LEVI	westmacon@yahoo.com	828 421-2185			
Secretary	RANDALL, NINA	prentisscog@dnet.net	828 421-9294		828 524-7120	828 369-3885
106 - Ambulance EMS Provider						

End of results: 2017-03-01

# Appendix O

## 2017 VFD Radio Test



- Legend**
- BMS Base
  - Community
  - M\_PointsStatePlane
  - H\_PointsStatePlane
  - P\_PointsStatePlane
  - Firedepartments
  - GC1510CallsStatePlane
  - primaryroads
  - Franklin City Limits
  - HighlandCityLimits
  - Fire\_Districts

## Appendix P

## Appendix P

### Consolidation Evaluation

No effective fire study would be complete without exploring the option of consolidation. Many governmental jurisdictions across the nation have had some form of discussion concerning consolidation of fire protection services. Many fire studies focus on the single topic of consolidation as it is such a complicated subject. A good many of those have probably had very mixed results with either consolidation discussions or the actual consolidation itself. Macon County currently has eleven(11) distinct and different fire departments serving eleven(11) distinct and different areas.

Macon County is so geographically diverse with the Franklin/Highlands/Nantahala areas which would make it fairly difficult to craft a county-wide consolidated volunteer or almost all volunteer department that would sufficiently meet the needs of all involved. Rabun County, Georgia operates such a fire protection system with one county fire department staffed by volunteers and a few select career employees, specifically a fire chief, assistant fire chief, and a few career firefighters. Instead of separate fire departments, the county is divided into response areas for different stations of the single fire department (Rabun County) and each station has its own leadership and members. The members from one station have the ability to function from another station if they happen to be in that particular area. The topography of Rabun County is probably more conducive to the single district concept than Macon County's topography. The process of consolidation into one district under the auspices of either one non-profit agency or even Macon County itself would not be an easy process as all pertinent available resources and any accompanying financial instruments such as apparatus, facilities, equipment, volunteers, and career employees from eleven(11) different agencies with eleven(11) different administrative branches would have to be consolidated under one managing umbrella.

There could obviously be some economies of scale by funding one large organization instead of numerous smaller organizations but many of those economies of scale, such as group purchasing, could be obtained without such consolidation and without the concerns of a single large organization meeting the needs of the consumer.

One significant factor that could be determined to either be a benefit or a detriment from consolidation would be the required number of firefighters. North Carolina requires a recognized fire department to have 20 members and 8 additional members for each recognized substation. When two fire department substations currently under construction are officially recognized by NC OSFM later this year, a minimum of 284 firefighters will be required to keep all departments function status quo in Macon County per NC Standards. Under one consolidated district with one main department and numerous substations instead of numerous departments, the minimum number of firefighters required per NC Standards would be reduced to 100. It would probably be much easier to recruit, train and retain 100 members as opposed to 284 members. It would most certainly be less expensive to outfit and equip

100 members as opposed to 284 members. It is also highly unlikely that 100 members could provide the same level of service pursuant to increasing call volumes as could be 284 members. Many departments will attest that as few as 33% or less of their members are available at any one time to potentially respond to emergencies due to other careers, family constraints, etc. Although many arguments could be made that it is better to have a smaller number of more competent, energetic, involved members as opposed to having a larger pool of lesser involved members, it would seem that it is just not practical to attempt to provide the services required in Macon County with such a small potential pool of firefighters.

A more practical consolidation discussion to pursue might be some form of regional consolidation. Two adjoining fire departments could consolidate into one slightly larger department to eliminate some duplication of efforts, possibly gain some economies of scale, and slightly decrease the required number of firefighters without compromising service delivery. Many departments were initiated through their local community organizations and community specific efforts. A regional consolidation could retain some of the “community” aspects of each department and their efforts to provide for “their community” without completely losing that factor as in a total consolidation, but there will still be strong community sentiment that “their” fire department should not go away. That sentiment often has driven the volunteer fire service throughout the years and it should be carefully nourished as the “community” ultimately is the end user of the system and provides financing for such a system to exist. It would seem logical that there appear to be better ways to nurture and manage the fire protection system as it currently exists without pursuing consolidation. Any drive toward consolidation, including a regional consolidation between two departments, would probably be initiated by the departments themselves if one were to ever find themselves in a position to be unable to support their department due to financial difficulties, lack of members, or oppressive call volumes. More involvement by Macon County could possibly assist departments in making sure some of those difficulties are addressed and the potential for such a consolidation requirement is much less. In the event a department did experience difficulties, more early involvement could better prepare all stakeholders to manage the situations in the future.

Appendix Q

## How does improving your grade affect your citizens?

This chart compares annual insurance premiums for a new wood frame home valued at \$100,000.00 with smoke detectors. This report was provided by an actual agent in Wake County.

<b>ISO CLASS</b>	<b>AGENT 1</b>	<b>AGENT 2</b>	<b>AGENT 3</b>
10	\$470.00	\$514.00	\$585.00
9S	\$376.00	\$411.00	\$469.00
8	\$353.00	\$384.00	\$438.00
7	\$318.00	\$347.00	\$394.00
6	\$259.00	\$283.00	\$320.00
5	\$259.00	\$283.00	\$320.00
4	\$259.00	\$283.00	\$320.00
3	\$259.00	\$283.00	\$320.00
2	\$259.00	\$283.00	\$320.00
1	\$259.00	\$283.00	\$320.00



North Carolina Office of State Fire Marshal

# North Carolina Response Rating Schedule

Handouts



# Utilizing Cell Phone for Dispatch

North Carolina Fire Departments that utilize cell phone and e-mail communication for dispatch cannot be given credit in the North Carolina Response Rating System (NCRRS). Reliable absolute communication between the communication center and the emergency response agency is paramount.

This memorandum applies to fire departments that are trying to rely on e-mail and text phone messages or calls for dispatch service. County and City 911 centers responsible for the dispatch of department members to a particular incident should be following the recommendations of NFPA 1221, titled, "*Installation, Maintenance, and Use of Emergency Services Communications Systems*". This standard outlines recommended time goals and percentages from call receipt times to notification of fire units. The NFPA standard recommends a maximum elapsed time of 60 seconds 80% of the time and 106 seconds 95% of the time. These standards clearly cannot be met by fire departments or other emergency responders attempting to receive dispatches through inherent and stated limitations of cell phone texting and e-mail.

There are hundreds of internet/phone service providers and the "terms of service" of just of few major ISP's illustrates the problem with reliance on e-mail/cell phone messaging for an emergency response agency. Verizon states it "does not warrant that the service or equipment provided will perform at a particular speed, bandwidth or data throughput rate, or will be uninterrupted, error-free, and secure". AT & T acknowledges in its terms of services "speeds may vary and are not guaranteed" and U.S. Cellular "does not guarantee delivery, timeliness, or that messaging services will be available at all times". Alltel states "in the event you have an urgent or emergency message that you are trying to send, Alltel strongly recommends that you also send the message through another service".

It is known that a number of counties and cities are providing cell phone texting dispatch of fire and emergency calls directly to cellular phone carriers from their 911 dispatch centers, therefore requiring hundreds of individual e-mails to be sent per emergency call. As a result, major problems occur within the counties cellular phone carriers. Many carriers can only be reached through internet e-mail, with no other means of backup connection, no prioritization of the emergency message and no confirmation of the emergency message being delivered or received by the emergency response agency. In society today, many of us depend on cell phones for communication, both personally and professionally. There are a number of families who no longer have a hard wired phone in their home today because cell phones are easy to use, economical, and in most cases have become what we depend on. However, for the protection of life and property, relying only on these methods of communications is dangerous at best and supported by an infrastructure that is not designed to provide emergency notification. Dangerous and legal issues may occur when members of the emergency response agency start to depend on text messages or e-mail for dispatch and discontinue the use of radio paging systems which county or city 911 centers have established to notify responders of life safety and public need.

**This is a reminder that cell phone and e-mails should not be used for dispatching any emergency response.**

# North Carolina General Statutes

Rural Fire Protection District	GS 69-25	Fire Service Districts	GS 153A-300
Fire Insurance Districts	GS 153A-233	Fire Department Training	GS 58-86-2
Incident Reporting	GS 58-79-45		

## **GS 58-86-25 Eligible Firefighters**

Eligible firefighters must attend **36 hours of training sessions** in each calendar year. Each eligible fire department shall annually determine and report the names of those firemen firefighters meeting the eligibility qualifications of this section Article to its respective governing body, which upon determination of the validity and accuracy of the qualification shall promptly certify the list to the North Carolina State Firemen's Association. The Firemen's Association shall provide a list of those persons meeting the eligibility requirements of this section Article to the State Treasurer by January 31 of each year. For the purposes of the preceding sentence, the governing body of a fire department operated: by a county is the county board of commissioners; by a city is the city council; by a sanitary district is the sanitary district board; by a corporation, whether profit or nonprofit, is the corporation's board of directors; and by any other entity is that group designated by the board. An "eligible firefighter" may not also qualify as an "eligible rescue squad worker" in order to receive double benefits available under this Article.

*Approved: July 18, 2013 Effective: December 1, 2013*

## **GS 58-86-2 Training Sessions Defined**

"Training sessions" for eligible firefighters means sessions in which attendance will result in the preparation of, or knowledge gained by, the member in the area of fire prevention, fire suppression, or protection of life and property. Such drill or training sessions held by the eligible fire department to meet the requirements of this Article shall be held for the purpose of providing a learning or preparation experience for the members.

## **GS 58-79-45 Fire Incident Reports**

(a) Whenever a fire department responds to a fire, the chief of that department shall complete or cause to be completed a fire incident report, which report shall be on a form prescribed by the Department of Insurance. When such report is made without fraud, bad faith, or actual malice, the person making the report is not subject to liability for libel or slander.

(b) The fire department shall forward a copy of the completed form to the fire marshal of the county in which the fire occurred. If there is no fire marshal in that county, the fire department shall forward a copy of the report to the county commissioners. The fire department shall retain the original of the report. The fire department and the fire marshal or county commissioners to whom reports are sent shall retain the reports for a period of five years.

(c) At the request of any person, the county fire marshal or county commissioners shall provide such person, for a reasonable copying charge, a certified copy of the report.

# North Carolina 9S Requirements

## Apparatus

### A. Pumper (Minimum Requirements)

1. Pumper shall be certified by Underwriters Laboratories, Inc. or National Bureau of Fire Underwriters.
2. Pumper shall be constructed in accordance with NFPA 1901, Standard for Automotive Fire Apparatus.
3. Pumper shall be equipped with a GVW (gross vehicle weight) plate from the manufacturer attached to the vehicle. The vehicle shall not be loaded beyond the specified limits; nor shall the vehicle be modified in a manner that would invalidate this certification.
4. Pump shall be rated at not less than 750 gpm at 150 psi net pump pressure.
5. Pumper shall be equipped with a minimum 500 gallon tank.
6. A complete and accurate service test shall be performed annually; if the pumper has been purchased within the previous twelve months, the UL certificate will meet this requirement.
7. Two, 150-foot, 1 1/2-inch pre-connected hose lines with fog nozzles attached.
8. One booster reel or three pre-connected hose lines.
9. Two, 10-foot sections suction hose - size necessary to flow the capacity of pumper.
10. Four, OSHA-approved self-contained breathing apparatus in proper working condition.
11. OSHA approved (at the time of purchase) protective clothing including helmet, coat, pants, boots, gloves and hoods for all firefighters and reflective clothing and helmet for traffic control personnel.
12. One, 12-foot or 14-foot roof ladder.
13. One, 24-foot or 35-foot extension ladder.
14. One, axe.
15. One, claw tool (Haligan Tool can replace claw tool and crowbar).
16. One, crowbar (Haligan Tool can replace crow bar and claw tool).
17. One, pike pole, minimum of 8 feet
18. Two, rechargeable portable hand lights suitable hazard conditions. Chargers must be mounted on truck.
19. 100 feet of rope, minimum of ½ inch.
20. Two, shovels.
21. Two, 20 pound, class B-C portable extinguishers.
22. One, first aid kit
23. One, bolt cutter, 14 inches or longer.

# North Carolina 9S Requirements

## B. Tanker (Minimum Requirements)

1. Tanker shall be equipped with a minimum of 1000 gallons capacity or enough to equal 1500 gallons total for pumper and tanker.
2. Tanker shall be equipped with necessary hose for filling tank and hose for transferring water to the pumper.
3. When fully loaded, the tanker shall not exceed the GVW limits as posted on the Gross Vehicle Weight plate located on the vehicle; nor shall the vehicle be modified in a manner that would invalidate this certification.
4. Tanker shall be properly baffled in accordance with the National Fire Protection Association Standard 1901 – Standard for Automotive Fire Apparatus which is available from the National Fire Protection Association.

## **Electronic Records**

The department must have a policy in place ensuring documentation cannot be tampered with or edited by unauthorized personnel

The department must have a policy describing the method in which they back up the documentation

## Summary of Credit

<b>Emergency Communication</b>	<b>Points</b>
Emergency Reporting	3
Telecommunicators	4
Dispatch Circuits	3
<b>Total Emergency Communication Points</b>	<b>10</b>

<b>Fire Department</b>	<b>Points</b>
Engine Company	6
Reserve Engine Company	0.5
Pump Capacity	3
Ladder / Service Company	4
Reserve Ladder / Service Company	0.5
Deployment Analysis	10
Personnel	15
Training	9
Operational Consideration's (SOP/SOG, ICS)	2
<b>Total Fire Department Points</b>	<b>50</b>

<b>Water Supply</b>	<b>Points</b>
Supply System	30
Hydrant Size, Type and Installation	3
Hydrant Inspection & Condition	7
<b>Total Water Supply Points</b>	<b>40</b>

<b>Community Risk Reduction</b>	<b>Points</b>
Fire Prevention Code Adoption & Enforcement	2.5
Public Fire Education	2.5
Fire Investigations	1.1
<b>Total Community Risk Points</b>	<b>5.5</b>

**Total Points: 105.5**

# Residential Flows

For 1- and 2-family dwellings not exceeding 2 stories in height, the following Needed Fire Flows shall be used:

DISTANCE BETWEEN BUILDINGS	NEEDED FIRE FLOW
More than 30 feet	500 gpm
21 – 30 feet	750 gpm
11 – 20 feet	1,000 gpm
0 – 10 feet	1,500 gpm

For 1- and 2-family dwellings with an effective area greater than 4,800 square feet, calculate the Needed Fire Flow using the Needed Fire Flow formula.

## Calculation of Needed Fire Flow (NFF):

When a wood shingle roof covering on the building being considered, or on exposed buildings, can contribute to spreading fires, add 500 gpm to the Needed Fire Flow.

The Needed Fire Flow shall be rounded off to the nearest 250 gpm if less than 2,500 gpm and to the nearest 500 gpm if greater than 2,500 gpm.

### NEEDED FIRE FLOW

Date: \_\_\_\_\_ Fire Flow Number: \_\_\_\_\_

Community: \_\_\_\_\_

County: \_\_\_\_\_

Address: \_\_\_\_\_

Nearest Cross Street \_\_\_\_\_

Occupancy \_\_\_\_\_ Height/Stories \_\_\_\_\_ Const. Class \_\_\_\_\_

Effective Area \*\* \_\_\_\_\_ sq. ft. From Construction Table (c) \_\_\_\_\_ gpm **310**

Occupancy (Building) Combustibility Class \_\_\_\_\_ Occupancy Factor (O) \_\_\_\_\_ **320**

**310** \_\_\_\_\_ X **320** \_\_\_\_\_ = \_\_\_\_\_ gpm

**Needed Fire Flow (NFF) = \_\_\_\_\_ gpm**

# Apparatus & Equipment Sheet

Apparatus Unit Number: \_\_\_\_\_

Unit Type: Engine: \_\_\_\_\_ Tanker: \_\_\_\_\_ Ladder: \_\_\_\_\_ Service: \_\_\_\_\_ Brush: \_\_\_\_\_ Other: \_\_\_\_\_

VIN #: \_\_\_\_\_

Insured By: \_\_\_\_\_ Policy #: \_\_\_\_\_

Make and Model (example - Freightliner FL80): \_\_\_\_\_

Manufacturer (example - E-One): \_\_\_\_\_

Year Manufactured: \_\_\_\_\_ Tank Capacity: \_\_\_\_\_

Pump GPM: \_\_\_\_\_ Baffled Tank: Yes / No Quick Dump: Jet Assist: \_\_\_\_\_ Gravity Dump: \_\_\_\_\_

Rated GVW: \_\_\_\_\_ Loaded Weight: \_\_\_\_\_ Four Wheel Drive: Yes  
No

3 Most Recent Pump Service Test Dates: \_\_\_\_/\_\_\_\_/\_\_\_\_ \_\_\_\_/\_\_\_\_/\_\_\_\_ \_\_\_\_/\_\_\_\_/\_\_\_\_

Attack Hose Carried: \_\_\_\_\_ Feet of 2" or 2½", \_\_\_\_\_ Feet of 1½", \_\_\_\_\_ Feet of 1¾"

Supply Hose Carried: \_\_\_\_\_ Feet of 2½" or 3", \_\_\_\_\_ Feet of 4", \_\_\_\_\_ Feet of 5"

All hose up to 3" is tested at \_\_\_\_\_ PSI Large Diameter Hose (4" & 5") is tested at \_\_\_\_\_ PSI

3 Most Recent Hose Test Dates: \_\_\_\_/\_\_\_\_/\_\_\_\_ \_\_\_\_/\_\_\_\_/\_\_\_\_ \_\_\_\_/\_\_\_\_/\_\_\_\_

Engine Company	Needed	Carried	Ladder / Service Company	Needed	Carr
Booster Tank (300 gallon minimum)	300		SCBA (30 minute minimum)	4	
15' of Soft Suction hose <u>or</u> 20' of Hard Suction Hose	1		SCBA extra cylinders	4	
2 -- 1½", 1¾" or 2" 200' Preconnected attack lines	400'		Salvage Covers: minimum size of 12' x 14'	6	
Master Stream Appliance (1,000 GPM)	1		Electrical Generator: 3,000 Watt	1	
2½" Playpipe with shutoff and 1", 1 1/8", and 1¼"	1		Portable Floodlight: 500 Watt each	3	
2½" Playpipe with fog nozzle with shutoff	1		Smoke Ejector or PPV fan: 5,000 CFM	1	
1½" or 1¾" Combination Fog Nozzle with shutoff	2		Portable Thermal Cutting unit	1	
SCBA (30 minute minimum)	4		Power Saw (chain saw or circular saw)	1	
SCBA extra cylinders	4		Hand Lights, Rechargeable, suitable for hazard areas	4	
Salvage Covers: minimum size of 12' x 14'	2		Pike Pole or Plaster Hook 3' or 4'	2	
Hand Lights, Rechargeable, suitable for hazard areas	2		Pike Pole or Plaster Hook 6' or longer	4	
Hose Clamp	1		Mounted Radio	1	
Hydrant Hose Gate (2½")	1		Portable Radio	1	
Gated Wye (2½" x 1½" x 1½")	1		24' Extension Ladder or longer	1	
Mounted Radio	1		16' Roof Ladder or longer	1	
Portable Radio	1		10' Attic Ladder or longer	1	
12' to 16' Roof Ladder	1		14' Combination Ladder or longer	1	
24' Extension Ladder or larger	1		<b>Additional equipment for Ladder companies</b>		
<b>Additional 9S equipment (for first out Engines only)</b>			16' Roof Ladder or longer	1	
Rope (100' minimum of ½" minimum diameter)	100'		35' Extension Ladder or longer	1	
Axes	1		Elevated Stream Device	1	
Bolt Cutters: (14" or longer handles)	1		Large Spray Nozzle: 1,000 GPM	1	
Claw Tool: (Haligan tool can replace claw tool)	1				
Crow Bar: (Haligan tool can replace crow bar)	1				
First Aid Kit	1				
Pike Pole (8' minimum length)	1				
Shovels	2				
Fire Extinguishers: minimum of 20 lbs. each, class B-C	2				
Booster Line <u>or</u> 3 <sup>rd</sup> 200' Preconnected attack line	200'				



Complete a sheet for all apparatus  
**EQUIPMENT CARRIED**  
**ENGINE COMPANY**

Booster Tank (300 gallon minimum)	300
15' of soft suction <u>or</u> 20' of hard suction	1
1 ½, 1 ¾ or 2" hose carried (2-200' preconnect)	400'
Master stream appliance (1,000 gpm)	1
2 ½ playpipe with shutoff and 1", 1-1/8, and 1 ¼ tips	1
2 ½ playpipe with fog nozzle with shutoff	1
1 ½ or 1 ¾ combination fog nozzle with shutoff	2
SCBA (30 minute minimum)	4
SCBA extra cylinders	4
Salvage cover (minimum size of 12' x 14')	2
Hand lights, Rechargeable, suitable for hazard areas	2
Hose clamp	1
Hydrant hose gate (2 ½)	1
Gated wye (2 ½ x 1 ½ x 1 ½)	1
Mounted Radio	1
Portable Radio	1
12' to 16' roof ladder	1
24' extension ladder or larger	1
<b>Additional 9S equipment (for first out engines only)</b>	
Rope (1/2" minimum)	100'
Axes	1
Bolt cutters (14" or longer)	1
Claw tool (Halgan tool can replace claw tool)	1
Crow bar (Halgan tool can replace crow bar)	1
First aid kit	1
Pike pole (8' minimum)	1
Shovels	2
Fire extinguishers (20 lbs. class B-C)	2
Booster Line or 3 <sup>rd</sup> preconnect	1

# NORTH CAROLINA OFFICE OF STATE FIRE MARSHAL

## Engine Equipment Equivalencies

Item	Needed	Equivalency
Booster Tank	300 gals.	300 gallons or larger
15' of soft suction <u>or</u> 20' of hard suction hose.	15' / 20'	15' of soft suction <u>or</u> 20' of hard suction hose. Departments that are not covered with 85% hydrants must carry 20' of hard suction
Heavy Stream Appliance (1,000 gpm)	1	A mounted, elevated, or portable appliance is acceptable.
2 ½" playpipe with fog nozzle with shutoff	1	200 gpm nozzles. 1¾" combination vari-nozzle tip nozzles with a 2½" adapter.
Spare SCBA Cylinders (30-minute minimum)	4	4 @ 30 minute or longer duration. Portable air cascade or air filling station is <u>not</u> deemed equivalent
Salvage Covers 12' x 14'	2	12' x 14', minimum size, canvas or rip-stop plastic
Electric Handlights	2	Rechargeable handlights rated for hazardous conditions
Hose Clamp	1	2½", 3" or LDH hose clamp
Hydrant Hose Gate (2½")	1	4-way valve, LDH manifold, trimese
Gated wye 2½" x 1½" x 1½"	1	Water thief, 2½" gated wye with 1½" reducers
24' extension ladder	1	28', 30', or 35' extension ladder



**NORTH CAROLINA OFFICE OF STATE FIRE MARSHAL**

**Service Equipment / Ladder Equipment Equivalencies**

<b>Item</b>	<b>Needed</b>	<b>Equivalency</b>
Spare SCBA Cylinders (30-minute minimum)	4	4 @ 30 minute or longer duration. Portable air cascade or air filling station is <u>not</u> deemed equivalent
Salvage Covers (minimum size 12' x 14')	6	12' x 14' minimum canvas or rip-stop plastic
Electric Generator (3000-watt)	1	PTO driven inverter – prorated based upon its capacity, Mini-generator floodlight -- prorated based upon its capacity or Mini-generator ventilation fan -- prorated based upon its capacity.
Portable Floodlight (500-watt)	3	Tri-pod floodlight or Mini-generator floodlight.
Smoke Ejector or PPV Fan (5,000 cfm)	1	Positive pressure ventilation (PPV) fan or Mini-generator ventilation fan.
Portable thermal cutting unit	1	Hydraulic or pneumatic cutting tool, Oxyacetylene Cutting Unit, Circular saw with composite blade or Thermal Imaging device.
Power saw (chain saw or circular saw)	1	Chain saw with carbide tip cutting teeth, Circular saw with composite blade, or Thermal Imaging device.
Handlights, rechargeable, suitable for hazardous areas	4	Handlights, rechargeable, suitable for hazardous areas

## Structure Fire Response:

List each of your fire apparatus below "LIST ALL APPARATUS GROUPED BY FIRE STATION". Record your working structure fire calls that took place **in the last 12 months**. The department must list a minimum of 5 structure fires even if they have to go back more than 12 months. List the number of responding firefighting personnel and place an "x" below all the apparatus that responded on first alarm. Your list should only include your department's structure fire calls in your district and not automatic or mutual aid calls to other districts. Only include on-call personnel if the personnel respond on 1<sup>st</sup> alarm to the fire scene or to a station to get apparatus and then respond to the fire scene. **Do not include** on-call or on-duty personnel who stand by or wait at the station until needed.

Please only include AA Firefighters under the AA column.

#	Date 00/00/00	Time 24 hr. Format	Number of Firefighters On-duty	Number of Firefighters On-Call	Number of Firefighters AA & Apparatus	Responding Apparatus: (List each apparatus by station and place an "x" in the appropriate row when it responded.) LIST ALL APPARATUS GROUPED BY FIRE STATIONS HERE														
						Eng. 1	Eng. 2	Lad. 1	Eng. 3	Eng. 4	Eng. 5									
Ex	12/13/13	22:35	4	6	2- Eng. 22	X		X		X										
1																				
2																				
3																				
4																				
5																				
6																				
7																				
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14																				
15																				
16																				
17																				
18																				
19																				
20																				

**On-Duty:** refers to individuals that have a set documented schedule and an observable attendance record with the fire department. These personnel are located at a designated fire station location and their main duty is to respond on emergency calls. (Most often paid personnel)

**On-Call:** refers to individuals that are alerted and respond to emergency calls from locations other than the fire station. These may include personnel, who are located at the fire stations, but have no set documented schedule and with observable attendance. (Most often these personnel are paid on call or volunteers)

# TRAINING

## Subject and Hours

- Facilities Training – 18 hours per member per year
- Company training – 16 hours per member per month
- Officers Training – 12 hours per officer per year
- Hazardous Materials Training – 6 hours per member per year
- Driver and operator training – 12 hours per driver per year
- New driver and operator training – 60 hours per new driver
- Recruit training – 240 hours per recruit

### Annual Training Hours Requirement for Maximum Credit

Active Personnel	Facilities	Company	Haz-Mat	Driver	Officer	Total Hours
Firefighter	18	192	6			216
Firefighter / Driver	18	192	6	12		228
Officer	18	192	6		12	228
Officer / Driver	18	192	6	12	12	240

# PRE-INCIDENT SURVEY

Building Name: \_\_\_\_\_ Survey #: \_\_\_\_\_

Street Address: \_\_\_\_\_

City, State, Zip: \_\_\_\_\_

Primary Use: \_\_\_\_\_ Construction Type: \_\_\_\_\_

Possible Entry: \_\_\_\_\_

Possible Occupancy: A.M. \_\_\_\_\_ P.M. \_\_\_\_\_

Known Handicapped Personnel: \_\_\_\_\_

## NOTIFY IN CASE OF EMERGENCY

Name: \_\_\_\_\_ Name: \_\_\_\_\_

Phone: \_\_\_\_\_ Phone: \_\_\_\_\_

## BUILDING CONSTRUCTION

Roof Type: \_\_\_\_\_ Floor Construction: \_\_\_\_\_

Roof Construction: \_\_\_\_\_

Basement Construction Type: \_\_\_\_\_ Height of Basement: \_\_\_\_\_

Number of Stories: \_\_\_\_\_ Height of Each Story: \_\_\_\_\_

Length: \_\_\_\_\_ Width: \_\_\_\_\_ Height: \_\_\_\_\_

Attic Area: \_\_\_\_\_ Size: L \_\_\_\_\_ X W \_\_\_\_\_ X H \_\_\_\_\_

## UTILITY TYPES

Gas: \_\_\_\_\_ Type: \_\_\_\_\_

Gas Shut Off Valve Location: \_\_\_\_\_

Electric: \_\_\_\_\_ Phase: \_\_\_\_\_

Panel Location: \_\_\_\_\_

Alarm Location: \_\_\_\_\_

## EXPOSURES

North: \_\_\_\_\_ FT. West: \_\_\_\_\_ FT. South: \_\_\_\_\_ FT. East: \_\_\_\_\_

Type: \_\_\_\_\_ Type: \_\_\_\_\_ Type: \_\_\_\_\_ Type: \_\_\_\_\_

## SUPPRESSION CRITERIA

Needed Fire Flow: \_\_\_\_\_ Total Water Supply: \_\_\_\_\_

Fuel Load: \_\_\_\_\_ Rate of Flow: \_\_\_\_\_

**HYDRANT LOCATIONS**

- (1) \_\_\_\_\_ Flow: \_\_\_\_\_ Unit: \_\_\_\_\_
- (2) \_\_\_\_\_ Flow: \_\_\_\_\_ Unit: \_\_\_\_\_
- (3) \_\_\_\_\_ Flow: \_\_\_\_\_ Unit: \_\_\_\_\_
- (4) \_\_\_\_\_ Flow: \_\_\_\_\_ Unit: \_\_\_\_\_

**OTHER WATER RESOURCES**

- (1) \_\_\_\_\_
- (2) \_\_\_\_\_
- (3) \_\_\_\_\_

**SPECIAL RESOURCES**

- (1) \_\_\_\_\_
- (2) \_\_\_\_\_
- (3) \_\_\_\_\_

**MUTUAL AID**

- (1) \_\_\_\_\_ Assignment: \_\_\_\_\_
- (2) \_\_\_\_\_ Assignment: \_\_\_\_\_
- (3) \_\_\_\_\_ Assignment: \_\_\_\_\_

**STAGING AREA**

Primary: \_\_\_\_\_  
Secondary: \_\_\_\_\_

**MISCELLANEOUS INFORMATION**

Sprinkler Connection: \_\_\_\_\_  
Standpipe Connection: \_\_\_\_\_



# Training Credit Equivalents

<u>Category</u>	<u>Point</u>
Training Facility & Use -----	3.15
Company -----	2.25
Officer Certification -----	0.54
Officer Training -----	0.54
Pre-Fire Planning -----	1.08
Recruit -----	0.45
New Driver/Operator -----	0.45
Established Driver/Operator -----	0.45
Hazardous Materials -----	<u>0.09</u>
	9.00

# Hydrant Inspection/Testing

## Data Requirements

1. Hydrant identification number
2. Hydrant location, use street names, numbers and intersections as needed
3. Which service level/pressure zone serves the hydrant
4. Number and size of outlets on hydrant

## Inspection/testing Requirements

1. Remove caps , check treads for damage and ease of operation
2. Lubricate, as needed, per manufacturers recommendations
3. With one or more caps removed from hydrant, open valve stem and free flow hydrant, check for any obvious restrictions or contaminants, close valve stem
4. Install a suitable pressure gauge to one hydrant outlet
5. Open valve stem fully, pressurize hydrant, record static pressure reading from gauge
6. Check valve stem ease of operation, check hydrant for any water leaks while under pressure
7. Close valve stem fully, remove pressure gauge, check for adequate barrel drainage or check for a vacuum with a gauge if possible
8. Provide for an obstructed and obvious view of hydrant from roadway (cut grass, remove debris, etc. as needed)
9. Paint per local protocols/requirements, as needed

# HYDRANT INSPECTION

## Frequency:

Inspections include pressure tested, flushed, caps lubricated, etc. Department must document the inspection Department will provide 3 most recent years of hydrant inspection records

Frequency of Inspection	Points
1 year	30
2 years	20
3 years	10
4 years	5
5 years or more	No Credit

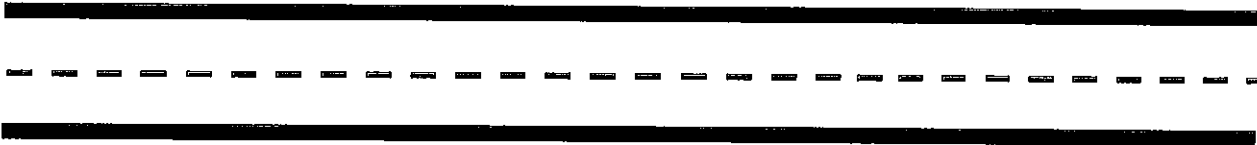
## Condition:

Standard condition (no leaks, open easily, good ground clearance, not damaged in any way, conspicuous and well located for use by an Engine)

# HYDRANT FLOW TESTING INSPECTION

Frequency of Flow Testing	Points	Points w/ Marking Program
5 year	40	50
6 years	30	37.5
7 years	20	25
8 years	10	12.5
9 years	5	6.25
10 years or more	No Credit	No Credit

To obtain credit for Fire Flow Testing a 2 hydrant test must be conducted.



**Static and  
Residual Hydrant**



**Flow Hydrant**

# AGREEMENT TO USE WATER SUPPLY

I, \_\_\_\_\_, owner of the water supply point number  
\_\_\_\_\_ (designated by fire department) do hereby give  
\_\_\_\_\_ Fire Department and their mutual aid companies  
permission to use this water source for any and all emergencies deemed necessary by the chief  
officer in charge of such emergency.

\_\_\_\_\_  
Signature of Property Owner

\_\_\_\_\_  
Chief of the Department

\_\_\_\_\_  
Date

(Obtain from Owner of Water Source)

# VERIFICATION OF ENGINEER

I, \_\_\_\_\_ have inspected water supply point number \_\_\_\_\_ (designated by fire department) and find that this source of water is accessible all times of the year. I also find this source to contain approximately \_\_\_\_\_ gallons of water and replenishable according to the water table of this area and case history.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Title

\_\_\_\_\_  
Date

(Obtain from Soil Conservation Service or Certified Engineer)

# DEMONSTRATION OF STATIC WATER POINT

I have inspected the static water point at \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

and hereby certify that on \_\_\_\_\_ (date) using engine \_\_\_\_\_  
\_\_\_\_\_ as a supply Engine, \_\_\_\_\_ GPM was produced  
for a period of \_\_\_\_\_ minutes.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Title

\_\_\_\_\_  
Date

\_\_\_\_\_  
Company Officer in Charge

## **NC DOT POLICY FOR ERECTION OF FIRE DEPARTMENT WATER POINT LOCATION SIGNS**

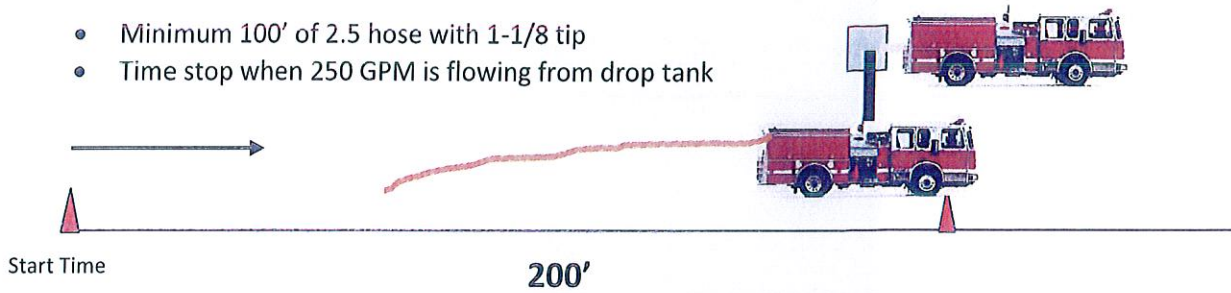
1. All requests for signing shall be directed to the appropriate Division Engineer.
2. The party requesting the signing shall bear all costs for fabrication, erection, and maintenance. The erection and maintenance of signs will be the responsibility of parties other than the Division of Highways.
3. The design, number, and location of the signs shall be determined by the Division of Highways.
4. Signs shall be reflective with a white legend on a blue background.
5. Signs shall be placed at the highway right-of-way line.
6. No signs shall be erected on interstate or controlled access highways.
7. The Division of Highways reserves the right to remove any signs which have not been properly maintained or which hamper road maintenance.
8. Blue raised reflective pavement markers or post-mounted blue reflectors may also accompany water point location signs if used in accordance with the policy for marking of fire hydrant locations.



# WATER HAUL GRADE TESTING EVALUATION AREAS

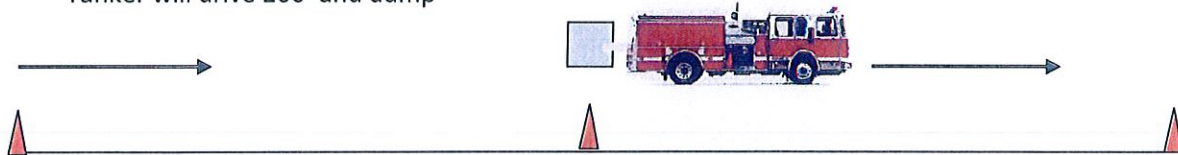
## Fire Site Set Up

- Minimum 100' of 2.5 hose with 1-1/8 tip
- Time stop when 250 GPM is flowing from drop tank



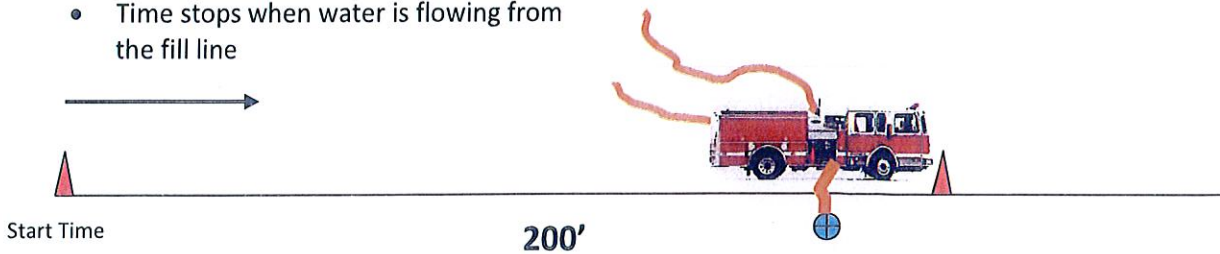
## Tanker Dump

- Tanker will drive 200' and dump

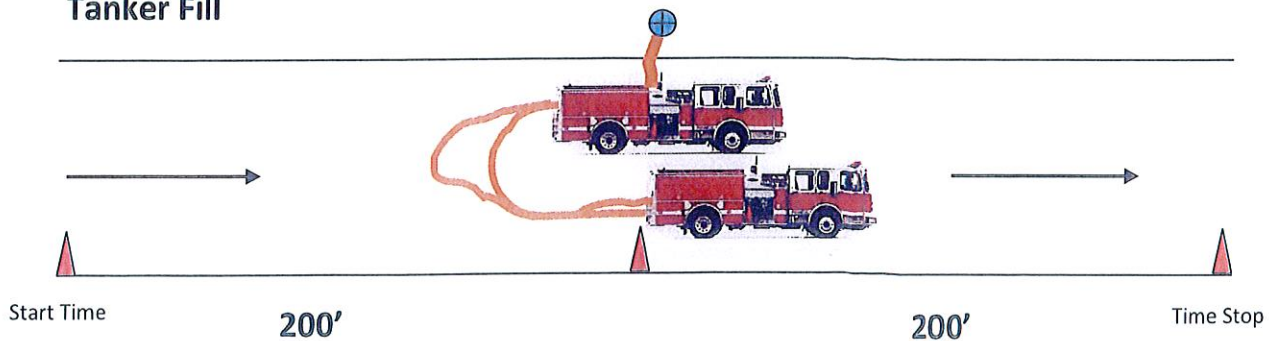


## File Site Set Up

- Time stops when water is flowing from the fill line



## Tanker Fill



# Map Requirements for Rating Inspection

## Required Information

- Maps must have a scale printed on the map and 1"= 1,200' is the preferred scale
- The fire stations
- Road base and names
- Hydrants and water points
- Fire district response line
- Five mile district line

## Desired information if the local GIS department can provide

- Total road miles in the district within the five mile district
- Total road miles within 1-1/2 mile from each station
- Total road miles within 2-1/2 miles from each station

## Appendix S

FD Name	Burningtown		Clerks Chapel		Covace		Cullasaja		Franklin		Highlands		Mtn Valley		Nantahala	
	Population Served	Land Area (Sq. Miles)	Population Served	Land Area (Sq. Miles)	Population Served	Land Area (Sq. Miles)	Population Served	Land Area (Sq. Miles)	Population Served	Land Area (Sq. Miles)	Population Served	Land Area (Sq. Miles)	Population Served	Land Area (Sq. Miles)	Population Served	Land Area (Sq. Miles)
	3107	5798	3623	16854	3623	12437	3623	12437	3623	16854	3623	12437	3623	12437	1357	2879
	43	23	50	40	51	69	51	69	51	40	51	69	51	69	8	74
	1280	2515	1493	8240	2797	5548	2797	5548	2797	8240	2797	5548	2797	5548	566	1216
	\$181,506	\$305,936	\$288,115	\$643,454	\$239,090	\$361,023	\$288,115	\$643,454	\$239,090	\$643,454	\$239,090	\$361,023	\$288,115	\$643,454	\$126,733	\$210,391
	\$215,253,474	\$411,648,647	\$268,872,786	\$458,294,048	\$1,488,382,517	\$3,440,870,190	\$268,872,786	\$458,294,048	\$1,488,382,517	\$3,440,870,190	\$268,872,786	\$458,294,048	\$1,488,382,517	\$3,440,870,190	\$102,717,271	\$336,800,342
	\$0.0867	\$0.0765	\$0.1103	\$0.0445	\$0.0537	\$0.1103	\$0.0867	\$0.0765	\$0.1103	\$0.0445	\$0.0537	\$0.1103	\$0.0867	\$0.0765	\$0.1270	\$0.0643
<b>COST PROFILE</b>																
Personal Services	\$49,820	\$109,656	36%	\$61,322	21%	\$85,965	38%	\$478,139	74%	\$192,500	53%	\$9,600	8%	\$49,860	24%	\$49,860
Operating Costs	\$75,150	\$113,341	37%	\$124,100	43%	\$112,100	47%	\$146,975	23%	\$210,500	58%	\$77,300	61%	\$96,440	46%	\$96,440
Capital Costs	\$18,900	\$15,000	5%	\$0	0%	\$468,000	196%	\$0	0%	\$32,000	3%	\$10,000	8%	\$0	0%	\$0
Loan Payments	\$47,256	\$57,939	19%	\$95,288	33%	\$50,838	21%	\$177,615	28%	\$0	0%	\$0	0%	\$51,937	41%	\$63,000
Contingency	\$200	\$10,000	3%	\$7,205	3%	\$0	0%	\$0	0%	\$0	0%	\$0	0%	\$5,000	4%	\$20,000
Total Expenditures	\$191,606	\$305,936		\$288,115		\$720,903		\$834,729		\$413,000		\$153,837		\$229,300		\$229,300
Revenue required from other sources(****)	\$10,300	\$0	0%	\$481,813	67%	\$191,275	23%	\$51,977	13%	\$27,104	18%	\$18,909	8%	\$18,909		\$18,909
Cost per Capita	\$58	\$53		\$80		\$66		\$38		\$29		\$93		\$73		\$73
Cost per Response	\$722.33	\$676.85		\$993.50		\$532.49		\$288.54		\$575.79		\$874.02		\$1,450.97		\$1,450.97
<b>SERVICE PROFILE</b>																
Number of Stations	2(1)	2	3(1)**	1	1	2	2	2	2	2	2	2	2	2	2	2
FTE	1	2	1	1	1	7	7	7	7	7	7	7	7	7	7	7
PTC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Volunteers	30	28	45	37	30	27	37	30	27	37	30	27	37	30	27	37
Engines	3	4	5	3	3	3	3	3	3	3	3	3	3	3	3	3
Tankers	1	0	2	1	1	1	1	1	1	1	1	1	1	1	1	1
Brush	3	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1
Rescue	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Other	1	0	6	4	4	3	3	3	3	3	3	3	3	3	3	3
Number of FD Responses, 2016	251	452	290	449	290	627	2330	1906	627	145	145	145	145	145	145	145
Number of FD Responses, 2015	177	378	215	380	215	628	137	137	137	137	137	137	137	137	137	137
Increased(Decrease) from previous year	44.81%	19.55%	34.88%	18.16%	34.88%	18.16%	17.00%	17.00%	17.00%	17.00%	17.00%	17.00%	17.00%	17.00%	17.00%	17.00%
Number of Fire Responses	41	114	60	90	60	279%	268	14.1%	91	14.5%	39	28.5%	25	25.8%	25	25.8%
Number of Structure Fires	15	64	16.9%	23	10.7%	33	8.7%	35	5.6%	21	15.3%	5	5.2%	5	5.2%	5
Number of Fire Alarms	2	14	3.7%	8	2.1%	122	6.4%	103	16.4%	8	5.8%	8	5.8%	2	2.1%	2
Number of Calls in District	158	309	81.7%	170	79.1%	373	85.0%	1767	92.7%	575	91.6%	90	65.7%	95	97.9%	95
Number of Calls Out of District	19	69	18%	45	21%	57	15%	139	7%	53	8%	47	36%	2	2%	2
District Responses per 1,000 population	50.85	53.29	46.92	89.15	46.92	104.84	46.23	66.32	33.00	66.32	33.00	66.32	33.00	66.32	33.00	66.32
District Responses per Sq. Mile	3.57	13.43	3.40	6.33	3.40	14.18	8.33	11.25	1.28	11.25	1.28	11.25	1.28	11.25	1.28	11.25

\*\*Burningtown/Toita has a substation under construction to be completed this spring.  
 \*\*Covace has a substation under construction to be completed in 2017.  
 \*\*\*Sky Valley/Scaly Mtn Budget does not reflect budget from Sky Valley or Rabun County for fire protection in Georgia.  
 \*\*\*\*Responses to Georgia area for Scaly Mtn are classified as "Out of District" in the 9-1-1 CAD System  
 \*\*\*\*\*Revenue from other sources may be grants, fundraisers, fund balance, etc.

Appendix S

	Otto	Scaly Mtn(****)	West Macon	Total
<b>DEMOGRAPHICS</b>				
Population Served	7514	1860	5364	
Land Area (Sq Miles)	65	18	78	
Number of Structures	1343	770	2207	
FD Estimated Service Fees	\$324,637	\$114,620	\$282,600	\$3,077,905
FD District Value	\$490,951,022	\$242,762,518	\$438,462,357	
FD Service Fee Per \$100	\$0.0661	\$0.0486	\$0.0681	
<b>COST PROFILE</b>				
Personal Services	\$95,408	\$12,900	82,100	25%
Operating Costs	\$131,920	\$71,025	113,500	40%
Capital Costs	\$16,000	\$0	0	0%
Loan Payments	\$81,309	\$111,998	67,000	22%
Contingency	\$0	\$0	25,000	9%
Total Expenditures	\$324,637	\$195,923	282,600	
Revenue Required from other sources(*****)	\$0	\$81,309	41%	\$0
Cost per Capita	\$43	\$62	\$53	
Cost per Response	\$739.48	\$790.48	\$741.73	
<b>SERVICE PROFILE</b>				
Number of Stations	2	1	2	
FTE	2	0	1	17
PTE	0	0	0	0
Volunteers	32	22	34	349
Engines	2	2	3	
Tankers	3	1	1	
Brush	2	1	1	
Rescue	1	1	3	
Other	4	2	2	104
Number of FD Responses, 2015	439	145	381	5554
Number of FD Responses, 2015 Increase(Decrease) from previous year	374	128	317	4737
Number of Fire Responses	17,388%	13,388%	20,19%	17,25%
Number of Structure Fires	106	47	70	22.1%
Number of Fire Alarms	27	21	25	8.2%
Number of Calls in District	10	8	39	12.3%
Number of Calls Out of District	317	72	271	85.5%
District Responses per 1,000 population	57	56	46	15%
District Responses per Sq Mile	42.19	38.71	50.52	
	4.88	4.00	3.47	

\*Burningtown/Octa has a substation under construction to be completed this spring

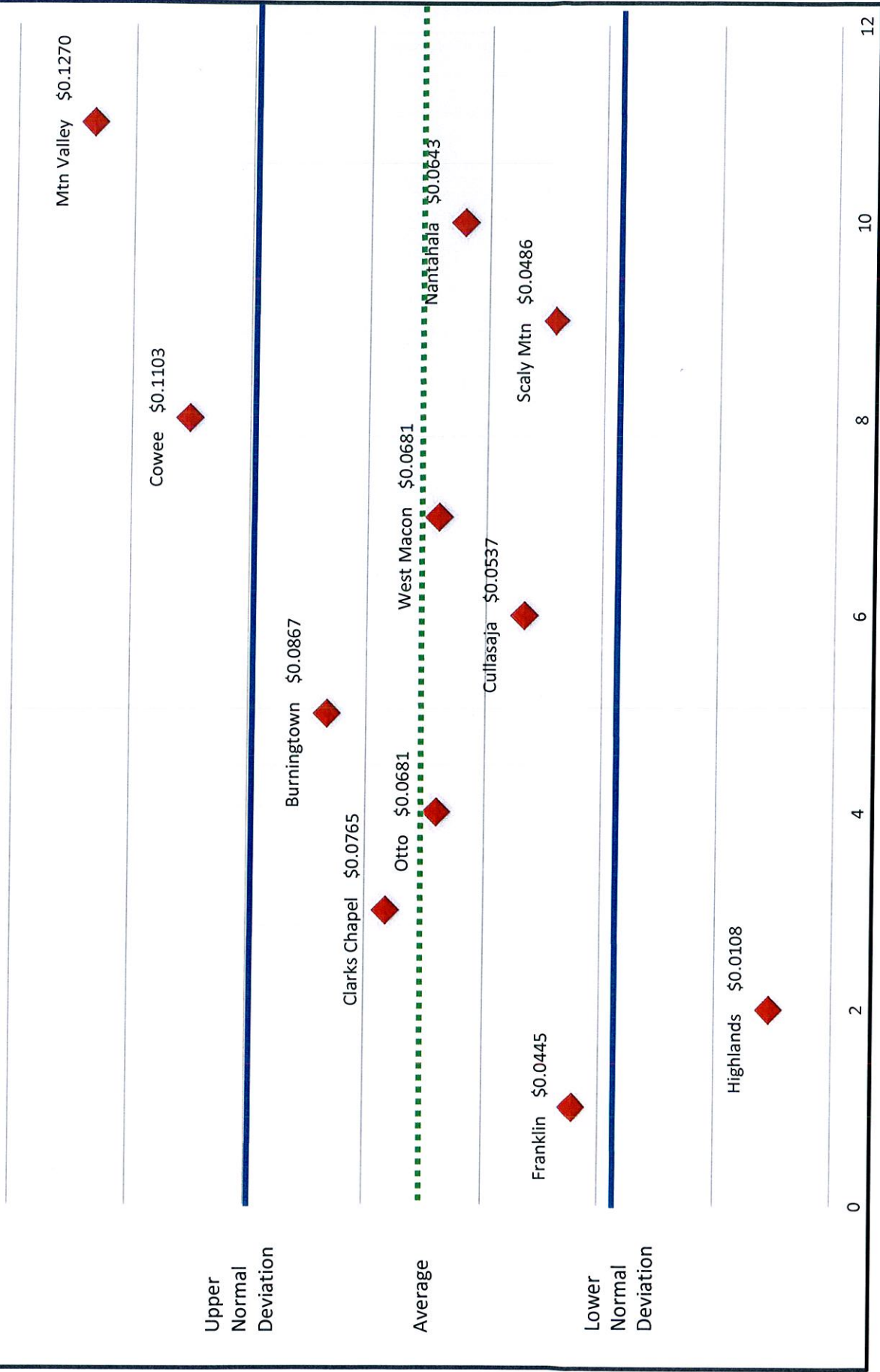
\*\*Coweeta has a substation under construction to be completed in 2017.

\*\*Sky Valley/Scaly Mtn budget does not reflect budget from Sky Valley or Rabun County for fire protection in Georgia.

\*\*\*Responses to Georgia area for Scaly Mtn are classified as "Out of District" in the 9-1-1 CAD System

\*\*\*\*Revenue from other sources may be grants, fundraisers, fund balance, etc.

# FD Rate Comparison



Upper Normal Deviation

Average

Lower Normal Deviation

0 2 4 6 8 10 12