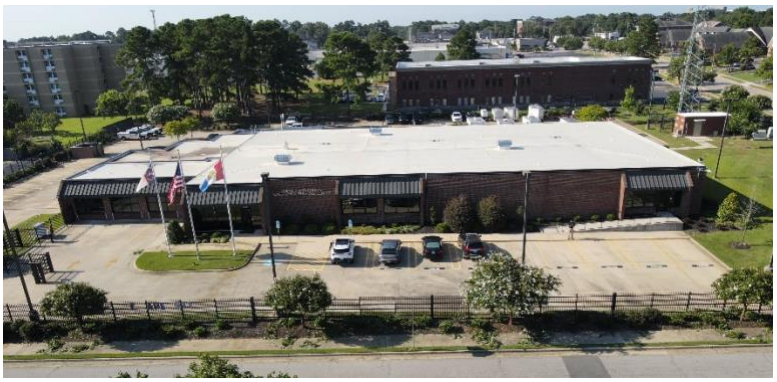
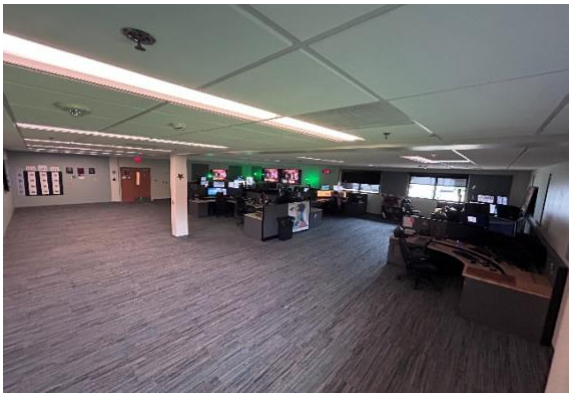
CUMBERLAND COUNTY & CITY OF FAYETTEVILLE
PUBLIC SAFETY ANSWERING POINT (PSAP)
2025 CONSOLIDATION REPORT

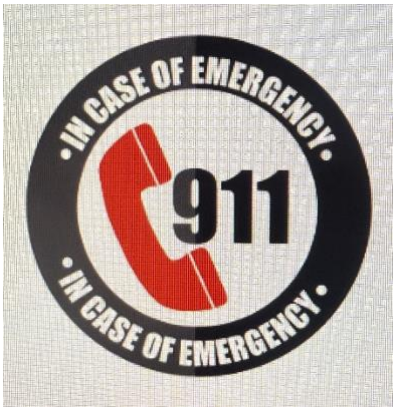


Prepared for
Chairman Kirk de-Viere
Cumberland County
Board of Commissioners
County Manager Clarence Grier

&

Mayor Mitch Colvin
Fayetteville City Council
City Manager Doug Hewitt





Prepared By
Freddy L. Johnson Sr.
Chairman, 2025 PSAP Consolidation Committee

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FOREWORD

It is with great pleasure that I present the culmination of the tireless efforts and dedication of the 2025 Public Safety Agency Heads, Public Safety Answering Point (PSAP) Consolidation Committee. This report serves as a testament to the collective commitment of the committee members towards the consolidation of the City of Fayetteville and the Cumberland County Public Safety Answering Points.

I would like to express my gratitude to all those involved in this important effort, from the committee members and assigned administrative staff member who supported the consolidation vote and effort. The invaluable contributions provided by the Executive Director of the North Carolina 9-1-1 Board, as well as the 2016 City of Fayetteville & Cumberland County, Emergency Communication Center Programming and Planning Study prepared by Mission Critical Partners which are included in tabs "O & P" of this report, have been instrumental in shaping the direction of our consolidation efforts.

As we reflect on the progress made and the challenges faced throughout this consolidation process, it is evident that our Public Safety Agency Heads commitment to enhancing and consolidating our emergency 9-1-1 (PSAP) communications was unwavering. This report aims to capture the broad work undertaken by the committee, highlighting a unanimous recommendation for consolidation support.

I also want to point out that the committee's most recent PSAP consolidation primarily focused on outlining the overall process and structure of consolidation, rather than detailing the specific steps involved. However, the studies conducted back in 2016/17 by Mission Critical Partners include specific details had co-location been suitable for both governments (Tabs "O & P").

The next steps will involve hiring an outside consultant who will be responsible for laying out the required steps, creating a road map, timelines, and coordinating related processes. The recommended center manager will be responsible for coordinating with both managers and the selected consultant to see the process through from beginning to end.

BACKGROUND

Since 2007, there have been three unsuccessful attempts to merge the separate Public Safety Answering Points (PSAPs) of the City of Fayetteville and Cumberland County in one consolidated PSAP. The most recent effort in 2016/2017 faced obstacles primarily stemming from disagreements between the respective governing boards over control of the merged facilities. Despite recognizing the potential benefits of a consolidated PSAP, such as improved efficiency and coordination in emergency response services, the issue of governance has remained a key point of contention. The history of these failed consolidation attempts underscores the importance of establishing clear and mutually agreed-upon governance structures to facilitate successful integration of PSAP operations.

The background of the 2025 PSAP consolidation report involves the establishment of a working group by Kirk deViere, Chairman of the Cumberland County Board of Commissioner, in response to a letter from Fayetteville City Mayor Mitch Colvin. The City of Fayetteville directive dated March 17, 2025, urged the exploration of consolidating 9-1-1 call centers across Cumberland County. The working group is composed of heads of public safety partner agencies, including municipal Fire and Police Chiefs, the Sheriff's Office, representatives from Volunteer Fire Departments, current PSAP managers from both Cumberland County and the City of Fayetteville and Cape Fear Valley EMS. An administrative assistant from Cumberland County was assigned as the note taker for the committee, marking a significant step towards evaluating the feasibility of and implications of PSAP consolidation.

An important milestone took place during the inaugural meeting held on March 31, 2025, at 1 PM in room 565 of the Cumberland County Courthouse. The committee members were warmly welcomed by Commissioner Chairman deViere and Fayetteville Mayor Colvin, who set the tone by articulating the committee's mandate and outlining their expectations while assuring full support. This pivotal meeting laid the groundwork for the collaborative efforts ahead, emphasizing the commitment to enhancing public safety services across Cumberland County.

EXECUTIVE SUMMARY

The City of Fayetteville (COF) and Cumberland County have made several unsuccessful attempts since 2007 to consolidate their Public Safety Answering Points (PSAPs). Despite hiring outside consultants to facilitate the process, each attempt faltered due to disagreements over who would have control -- the city or the county. However, with the advancements in 9-1-1 technology and the growing need to address mental health crisis calls, along with service level improvements, eliminating duplication of efforts, as well as a reduction or elimination of transfers (ring downs) between centers and improving response times, and with the concept of shared services there is a pressing need to better serve our citizens and find a solution for full public safety PSAP consolidation.

The COF using voter approved bond funding is considering either building a new 9-1-1 center or to consolidate operations into the existing state-of-the-art county center at 500 Executive Place. In an effort to explore consolidation and establish a path forward, Cumberland County Board Chairman Kirk deViere and Fayetteville Mayor Mitch Colvin have assembled a working group of key public safety agency heads across Cumberland County. The group's goal is to provide recommendations that will improve emergency response coordination across jurisdictional boundaries, while promoting balanced governance, operational efficiency, and equitable service delivery to all residents and the motoring public of Cumberland County.

A defining characteristic of this 2025 consolidation effort is the commitment to fundamentally transform how Cumberland County responds to mental health crisis 9-1-1 calls. Unlike previous consolidation attempts that focused solely on operational efficiency, this initiative recognizes that effective emergency response in the 21st century requires embedding licensed mental health professionals directly within the PSAP to provide immediate crisis intervention, de-escalation, and appropriate resource deployment. This represents a paradigm shift from traditional emergency response models to a comprehensive, health-centered approach that addresses the full spectrum of community needs.

Key Recommendations Preview:
The committee unanimously recommends full consolidation of both PSAPs into a single entity. Expand the existing Cumberland County facility, establishment of comprehensive mental health crisis response capabilities, and implementation of enhanced joint governance structure to ensure successful long-term operations.

Though the consolidation process is often complex and difficult, it can yield substantial service level improvements, responder safety, employee retention, and potential cost

savings after several years due to capital and other related start-up costs - if implemented correctly. Notably, during the committee's meeting on April 16, 2025, a unanimous decision was made to recommend consolidation as a crucial step forward. This demonstrates a strong consensus and commitment towards fostering greater efficiency and effectiveness within the organization through consolidation.

PUBLIC SAFETY CONSOLIDATION COMMITTEE MEMBERS

##	Cumberland – Fayetteville PSAP Consolidation Committee	Primary Representative	Alternate Representative
01	Cumberland County Fire Chiefs Association	Freddy Johnson – Chair President / Fire Chief fjohnsonsr@stoneypointfire.com	Michael Hill Fire Chief (Ret) FFD / Wade FD Silverrun1@msn.com
02	Cape Fear Valley Emergency Medical Services	Brian Pearce Cape Fear Valley bpearce@capefearvalley.com	Brian Langston Interim EMS Chief blangston@capefearvalley.com
03	Cumberland County Emergency Services Director	Gene Booth Director wbooth@cumberlandcountync.gov	N/A
04	Fayetteville Police Department	Todd Joyce Interim Chief of Police christopherjoyce@fayettevillenc.gov	Lee Hicks Major leehicks@fayettevillenc.gov
05	Fayetteville Fire Department	Kevin Dove – Vice Chair Fire Chief kevindove@fayettevillenc.gov	David Richtmeyer Deputy Fire Chief – Operations davidrichtmeyer@fayettevillenc.gov
06	Hope Mills Police Department	Stephen Dollinger Chief of Police sdollinger@townofhopemills.co	Darwin Brayboy Captain dbrayboy@townofhopemills.com
07	Hope Mills Fire Department	Matthew Cain Fire Chief mbcain@townofhopemills.com	Robert Hurlburt Deputy Fire Chief rhurlburt@townofhopemills.com
08	Cumberland County Sheriff's Office	Sheriff Ennis Wright ewright@ccsonc.com	John Morgan Major - Patrol Commander jmorgan@ccsonc.com
09	Spring Lake Police Department	Errol Jarman Police Chief ejarman@townofspringlake.com	N/A
10	Spring Lake Fire Department Did Not Participate	Jason Williams Fire Chief jwilliams@townofspringlake.com	Jonathan Faircloth Assistant Fire Chief jfaircloth@townofspringlake.com
11	Cumberland County 9-1-1 Associate Member	Adam Johnson 9-1-1 Tele-Communications Mgr. ajohnson@cumberlandcountync.gov	Sheena Evans 9-1-1 Asst. Tele-Communications Mgr. sevans@cumberlandcountync.gov
12	Fayetteville 9-1-1 Associate Member	Lisa Reid 9-1-1 Communications Mgr. lisareid@fayettevillenc.gov	N/A
13	Note Taker Administrative Assistant	Iva Clark Deputy Clerk BOC iclark@cumberlandcountync.gov	N/A

COMMITTEE MEETINGS

The committee convened its inaugural meeting on March 31, 2025, to kick off their important objective. Following that, subsequent meetings were held at various locations. On April 16th, a meeting took place at the county EOC (Emergency Operation Center). The committee gathered again on April 24th, 2025, this time in the Lafayette Room at Fayetteville City Hall. These meetings have allowed the committee members to engage in discussions and collaborate effectively concerning current effective PSAP programs and important matters.

During the April 16 meeting, Ms. Pokey Harris, Executive Director of the North Carolina 9-1-1 Board, and her team shared insightful and positive information regarding the importance of PSAP consolidation. It was emphasized that PSAP consolidation is a key priority for the 9-1-1 Board, with a primary focus on ensuring the safety and well-being of our citizens. There are priority grant opportunities through the 9-1-1 Board to assist with PSAP Consolidation.

The PSAP consolidation committee meeting held on Thursday April 24, 2025, in City Hall proved to be a challenging yet pivotal moment in the ongoing efforts to merge the two PSAPs. The committee found itself in a critical impasse when a discussion arose regarding which entity, the City or the county should have ultimate governance control over the consolidated PSAP. Chairman Johnson, recognizing the risk of allowing this divisive issue to disrupt another consolidation attempt, made the difficult decision to cancel the vote and initiate discussions with Chairman de-Viere and Mayor Colvin.

On June 6, 2025, a productive 3-hour meeting was held in room 564 of the Cumberland County Courthouse, with notable leaders including Chair Kirk deViere, Vice Chair Veronica Jones of the Cumberland County Board of Commissioners, Mayor Mitch Colvin, Mayor Pro-Tem Kathy Jensen of Fayetteville, County Manager Clarence Grier, and City Manager Doug Hewitt along with PSAP Committee Chair Johnson and County Deputy Clerk Iva Clark. The meeting was marked by fruitful discussions and collaborative efforts towards consolidating PSAP services. Chairman Johnson articulated key consolidation recommendations, and a notable proposal to integrate Mental Health Crisis Experts into the dispatch center was introduced by City of Fayetteville representatives and agreed upon by county officials.

Why Consolidate

The primary reason for contemplating consolidation is direct service delivery improvements, which provide numerous benefits and efficiency improvements to emergency response services. By centralizing these critical operations, it helps in streamlining communication processes, enhancing coordination among first responders, and reducing duplication of resources. Consolidation will also lead to quicker response times to emergency calls, as emergency dispatchers can allocate resources more effectively and efficiently. It also promotes standardized training for dispatchers (Tele-Communicators) and ensures a consistent level of service county-wide. Furthermore, merging two PSAPs into one after start-up costs can result in cost savings, improved emergency response outcomes, and an enhanced overall public safety infrastructure.

Consolidation Models

Having established the compelling reasons for consolidation, there are several consolidation models to determine the most effective approach. Consolidation in the Public Safety Answering Point (PSAP) sector refers to the concept of combining two or more PSAPs into a single facility and/or organization, leading to a more technological, streamlined, and efficient system. There are four main models of consolidation: Full, Partial, Co-Location and Hybrid.

Full Consolidation:

Full consolidation merges the City of Fayetteville (COF) and the Cumberland County PSAPs into a single entity. This allows for direct service level improvements, centralized management, standardized procedures and can lead to cost savings and improved resource allocation. By bringing all functions under one roof, full consolidation promotes seamless coordination between different emergency response agencies and achieves the highest level of public safety enhancements.

Partial Consolidation:

Partial consolidation involves merging some functions of our two PSAPs while keeping others separate. This model allows for a degree of customization based on the specific needs of the jurisdictions. It offers a balance between sharing resources and maintaining local control, making it a flexible option to collaborate while preserving some autonomy.

Co-Location

Involves physically placing our two PSAPs in the same building, while maintaining their operational independence. This is an approach to cost efficiencies by sharing physical

space and technology without giving up direct control of actual call taking and dispatching. Jurisdictions that choose to co-locate most of the time evolve into full consolidation.

Hybrid

Typically refers to the co-location with another public safety entity such as a Fire or Police department with a fully consolidated PSAP.

RECOMMENDATIONS

Primary Recommendation: Full Consolidation

It is the committee's recommendation for a full consolidation that merges the City of Fayetteville (COF) and the Cumberland County PSAPs into a single entity.

As a result of the PSAP Committee members unanimous decision to recommend consolidation as a critical measure for the future, it underscores the shared vision of all our Public Safety Agency Heads of enhancing operational efficiencies and boosting our public safety effectiveness through PSAP consolidation.

1. Operational Recommendations
    - Facility and Expansion
        - It is recommended to consolidate the outgrown COF PSAP operations into the existing state-of-the-art Cumberland County Public Safety Answering Point at 500 Executive Place. To accommodate future growth and ensure scalability, there should be a planned expansion of the center by an additional 6000 square feet. This expansion will provide the necessary space and resources to meet the increasing demands placed on PSAP centers, thereby future proofing our operations for years to come. The city and county should determine an equitable cost sharing for the expansion as well as future operational cost. This committee would recommend a 50-50 split but understand both organizations' staff and elected officials should make the final determination.

- Leadership Structure
  - *It's recommended that Ms. Lisa Reid, the respected City of Fayetteville 9-1-1 Center Manager, be entrusted with the role of overseeing the consolidation process and assuming the responsibilities of the consolidated center manager.* Ms. Reid brings to the table a wealth of experience, with over 30 years of invaluable expertise in emergency communications management and a deep-rooted understanding of the intricacies of 9-1-1 center operations. The selection of Ms. Reid as the consolidated center manager is not only a testament to her professional background but also a strategic move to work with both managers to ensure seamless integration and smooth transition from the beginning to the end during the consolidation phases.
  - *Note: In the event that Ms. Reid does not accept the position of consolidated center manager, it is essential to acknowledge the importance of promptly filling the role with a qualified professional. The position should be advertised to attract candidates who demonstrate strong communication skills and a proven ability to work collaboratively between both governments.*

2. Mental Health Crisis Integration

To address mental health crisis 911 calls more effectively here in Cumberland County, it is recommended to embed trained mental health professionals directly within our consolidated PSAP following an integrated model that combines Durham HEART's proven framework with enhanced capabilities from California's Alternative Crisis Response system, customized through partnerships with Behavioral Alliance, Cape Fear Valley Health System, Cumberland County Schools, Cumberland County Health Department, and Cumberland County Department of Social Services.

Evidence-Based Benefits

Research from Harvard Kennedy School's Government Performance Lab identifies three key benefits: providing capacity support for 911 call takers by handling high-intensity behavioral health calls; improving call outcomes through immediate de-escalation and resource connections; and right-sizing emergency response resources by resolving appropriate calls telephonically without dispatching responders. Durham's program achieves 70% crisis call diversion with 99% responder safety, while Austin's program resolves 80-85% of calls without police involvement.

Integrated Crisis Response Framework

Crisis Call Diversion: Licensed mental health clinicians embedded directly in the PSAP provide immediate intervention for suicide threats and mental health crises, working alongside telecommunicators with full CAD system access for real-time crisis counseling and resource coordination. Health Department specialists provide substance abuse consultation while DSS liaisons coordinate child welfare and adult protective services concerns.

Mobile Crisis Teams: Unarmed three-person teams (clinician, peer support specialist, EMT) respond to non-violent behavioral health calls, with enhanced Psychiatric Mobile Response Teams handling complex psychiatric emergencies. Specialized teams include Health Department nurses for medical-behavioral situations and DSS specialists for family crisis response and vulnerable adult situations.

Co-Response Integration: Mental health clinicians paired with Crisis Intervention Team-trained officers handle higher-risk calls involving potential violence or weapons, including specialized School Threat Assessment and Response Teams for educational settings. Health Department and DSS specialists coordinate when medical or protective services concerns are present.

Crisis Treatment Options: Partnerships provide crisis residential treatment, psychiatric urgent care alternatives to emergency departments, and 23-hour observation capabilities. Health Department coordinates medical detoxification services while DSS provides emergency shelter and housing resources, giving mobile teams comprehensive "somewhere to go" options.

Care Navigation: Follow-up within 48 hours connects individuals with ongoing community services, enhanced with extended case management and crisis prevention planning. Health Department coordinates medical care and substance abuse treatment while DSS provides benefits navigation, housing support, and family services coordination.

Implementation Approach

Foundation Phase: Begin with embedded mental health clinicians in the PSAP during peak hours, providing immediate crisis intervention and establishing

baseline operations with comprehensive staff training for all telecommunicators. Integrate Health Department and DSS consultation protocols.

Expansion Phase: Deploy mobile crisis response teams with extended embedded PSAP clinician coverage, launch school-based crisis response capabilities, and establish community partnerships for enhanced services. Add Health Department and DSS specialists to mobile response capabilities.

Integration Phase: Add specialized psychiatric response teams, co-response capabilities with law enforcement, and crisis facility partnerships for comprehensive treatment options. Implement multi-agency specialized teams for family crisis, vulnerable adults, and substance abuse emergencies.

Full Implementation: Complete system integration with care navigation services, specialized population teams, and comprehensive data tracking for continuous quality improvement. Achieve full coordination across mental health, medical, and social service domains.

Partnership Framework

Behavioral Alliance serves as the primary clinical partner providing licensed staff, supervision, and protocol development. Cape Fear Valley Health System provides psychiatric consultation and medical oversight. Cumberland County Schools enables specialized educational crisis response. Cumberland County Health Department provides substance abuse services, medical consultation, and public health coordination. Cumberland County Department of Social Services coordinates child welfare, adult protective services, benefits navigation, and family support services. Multi-stakeholder governance ensures community ownership and sustainable operations across all service domains.

Expected Outcomes

This phased approach allows Cumberland County to build expertise gradually while demonstrating measurable improvements at each stage. The integrated model provides comprehensive crisis response addressing mental health calls across the full spectrum from immediate phone intervention through long-term care coordination, while simultaneously addressing underlying health, social, and

economic factors that contribute to crisis situations. This holistic approach positions Cumberland County as a national leader in comprehensive community crisis response, ensuring individuals receive appropriate mental health intervention while connecting them to medical care, social services, and community resources that address root causes and prevent future crises, all while maintaining traditional emergency response capabilities.

3. Technology Modernization

    - It is recommended that we prioritize the incorporation of the latest technology, such as Digital Dispatch, into our PSAP consolidation efforts. By adopting advanced technologies, we can streamline operations and improve efficiency, ultimately freeing up Tele-Communicators to focus on more critical communications tasks. This will not only enhance our overall response capabilities but also ensure that our resources are utilized optimally.

4. Governance and Staffing Recommendations

    - Communications Advisory Board
        - The PSAP consolidation committee highly suggests the formation of a Communications Advisory Board which will encompass key stakeholders such as Public Safety agency heads from Fire and Police departments from Fayetteville (COF), Hope Mills and Spring Lake. Additionally, the board will include representation from the 14 Volunteer Fire districts through two (2) volunteer chiefs, the President of the Cumberland County Fire Chiefs Association (CCFCA), the county Sheriff, and the Cape Fear Valley Hospitals EMS Chief. To ensure seamless communications and coordination, it is further recommended that the COF Council and the Cumberland County Board of Commissioners each appoint a council and commissioner member, respectively, to serve on the advisory board, acting as direct liaisons between the board and their respective governing bodies.
    - Telecommunicator Compensation and Job Security
        - In the process of PSAP consolidation the committee unanimously agreed that there would be no job losses or reduction in the quality of current programs and dispatch accreditations. However, it became apparent that the county must address the issue of telecommunicator salaries to ensure parity with the salaries offered

by the City of Fayetteville. This adjustment is essential to retain our top talent and provide equitable compensation for the vital services provided by our dedicated telecommunicators.

5. Future Planning Recommendations

    - Backup Center Development

        - It is crucial to address the importance of establishing a backup PSAP center to ensure continuity of emergency response services in case the primary center experiences any unforeseen downtime. The committee strongly recommends the construction of a backup center that mirrors the capabilities of our primary center, accommodating seamless operations transfer in times of need. To facilitate cost-sharing and efficiency, it is advised that both governments collaborate in building and maintaining the backup center. This facility should be strategically located, possibly co-located with a new fire station or another government building, and equipped to meet all necessary standards and requirements of a backup PSAP. The scope of work with the PSAP integrator should include planning and modeling for this future backup PSAP.

IMPLEMENTATION AND NEXT STEPS

To ensure successful implementation of these recommendations, it is recommended to engage a consultant who will play a crucial role in outlining timelines and strategies for the successful consolidation/implementation of changes within our Public Safety Answering Points (PSAPs). The consultant should work closely with the recommended center manager to coordinate between both management teams throughout the implementation process.

Priority should be given to pursuing NC 9-1-1 Board grant opportunities that support PSAP consolidation efforts. The phased approach for mental health crisis integration should begin immediately upon consolidation approval, starting with Crisis Call Diversion capabilities.

CONSOLIDATED RECOMMENDATIONS SUMMARY

Based on the unanimous vote of the PSAP Consolidation Committee and extensive analysis of operational models, the following recommendations provide a comprehensive roadmap for successfully consolidating the City of Fayetteville and Cumberland County Public Safety Answering Points:

Core Consolidation Decision

- **Full Consolidation Model**: Merge COF and Cumberland County PSAPs into a single integrated entity at the state-of-the-art Cumberland County facility at 500 Executive Place

Facility and Infrastructure

- **Facility Expansion**: Plan 6,000 square feet expansion to accommodate consolidated operations and future growth
- **Cost Sharing**: Establish equitable 50-50 cost sharing agreement between city and county for expansion and ongoing operational costs (subject to final determination by elected officials)
- **Backup Center Planning**: Include backup PSAP planning and modeling in consultant scope of work for future resilience

Leadership and Management

- **Joint Governance Structure:** Adopt Interlocal Agreement with leadership role rotating
- **Consolidated Center Manager**: Recommend Ms. Lisa Reid as consolidated center manager, with provision for qualified alternative if unavailable
- **Communications Advisory Board**: Establish board including public safety agency heads, volunteer fire representatives, Sheriff, EMS Chief, and elected official liaisons from both governments

Mental Health Crisis Integration

- **Phased Implementation**: Deploy Durham HEART model through four phases:
  - **Phase 1**: Crisis Call Diversion (embedded mental health clinicians)
  - **Phase 2**: Community Response Teams (unarmed crisis response)
  - **Phase 3**: Co-Response Teams (mental health + law enforcement partnerships)
  - **Phase 4**: Care Navigation (48-hour follow-up and community connections)

Workforce and Compensation

- **No Job Losses**: Guarantee no job losses during consolidation process
- **Salary Parity**: Establish telecommunicator salary parity between jurisdictions
- **Program Continuity**: Maintain all current dispatch accreditations and agency programs

Technology and Operations

- **Technology Modernization**: Prioritize Digital Dispatch and advanced technologies to improve efficiency
- **Standardized Training**: Implement consistent training protocols across all staff
- **Service Level Improvements**: Focus on reducing transfer times, improving response coordination, and eliminating duplication

Implementation Support

- **Professional Consultant**: Engage qualified consultant to develop detailed implementation timeline, strategies, and coordination processes
- **Grant Opportunities**: Pursue NC 9-1-1 Board priority grant funding for PSAP consolidation
- **Continuous Evaluation**: Establish metrics and review processes to measure consolidation success

Next Steps

Upon both elected bodies concurrence, the committee recommends immediate engagement of a professional consultant to begin detailed planning, with Ms. Reid (or selected alternative) coordinating between both management teams and the consultant throughout the implementation process. This comprehensive approach ensures Cumberland County achieves the service delivery improvements, operational efficiencies, and cost savings that full PSAP consolidation can provide while maintaining the highest standards of emergency response for all residents.

TAB A

LETTER NOT AVAILABLE

TAB B

BOARD OF COMMISSIONERS

March 24, 2025

Dear Mayor Colvin:

Thank you for your letter dated March 17, 2025, regarding the City Council's directive to explore consolidating 911 call centers across Cumberland County. I appreciate your leadership on this important public safety initiative and share your commitment to improving emergency response services for our residents.

In response to your letter and following careful consideration of previous Public Safety Task Force recommendations and draft agreements, I have established a working group to create a pathway for the consolidation of a joint Public Safety Answering Point (PSAP) to serve Cumberland County and its municipalities. As you noted, this is our community's fourth attempt to establish a joint 911 communications center, and I agree that now is the time to move forward decisively.

I have sent formal invitations to key public safety partners throughout the county to participate in this working group. The initial meeting is scheduled for March 31, 2025, at 12:30 PM in Room 564 of the Cumberland County Courthouse. I have appointed the Chief of the Cumberland County Fire Chiefs Association to serve as Chairman of this working group.

The working group membership includes representatives from all major stakeholders:

- Fayetteville Fire and Police Chiefs
- Spring Lake Fire and Police Chiefs
- Hope Mills Fire and Police Chiefs
- Cumberland County Sheriff (or designated representative)
- Cape Fear Valley EMS Representative
- Cumberland County Emergency Management Director

I have instructed the group to provide recommendations that enhance emergency response coordination across jurisdictional boundaries while ensuring balanced governance, operational efficiency, and equitable service to all residents of Cumberland County.

I welcome your participation in this initial meeting and encourage close collaboration between city and county staff. Together, we can develop a consolidated 911 communications system that improves response times, increases responder safety, and better serves our entire community. This initiative also provides an opportunity in the future to better integrate behavioral health services as part of the joint communication center, further improving our community's response to crisis situations.

BOARD OF COMMISSIONERS

Thank you again for your leadership and partnership in this important initiative. I look forward to our continued cooperation as we work to enhance public safety services throughout Cumberland County.

Sincerely,

Kirk J. deViere, Chairman
Cumberland County Board of Commissioners

CC: Cumberland County Board of Commissioners
Fayetteville City Council
Douglass Hewett, City Manager
Clarence Grier, County Manager

Judge E. Maurice Braswell Cumberland County Courthouse
P.O. Box 1829 | Fayetteville, NC 28302-1829 | Phone: 910-678-7771 | Fax: 910-678-7770

cumberlandcountync.gov

TAB C

CUMBERLAND COUNTY NORTH CAROLINA

Public Safety Answering Point (PSAP) Consolidation Committee

AGENDA

Monday March 31, 2025

1230 PM

Meeting Location:

Cumberland County Courthouse Room 564

PSAP Consolidation Committee

1. Welcome

Board of Commissioner Chairman Kirk deViere

Fayetteville Mayor Mitch Colvin

2. Committee Chairmans Comments & Call to Order

3. *Introductions & Committee Members Comments*

4. Committee Charge & Timetables

- Build consensus, Research, discuss and provide general direction for operational models, Timelines, and methods of PSAP implementation via Consultant)

5. Why Consolidate

- To provide the highest quality Emergency 9-1-1 Service for our residents/citizens
- *Efficiency – Reduced transfers of 9-1-1 calls and call processing time, leading to higher efficiency and lower possibilities of technological or human error*
- *Increased situational awareness and general safety, greater interoperability and information sharing, which improves response times*
- *Standardization of service levels by combining best practices for standard operating procedures, processes, protocols, and training*
- *Increased cost efficiency by sharing resources, eliminating or reducing duplicated costs, and leveraging economies of scale*

- *Expanded applicant pools through reduced competition between PSAPs within the hiring process*
- *Staffing increase with consolidation allows for more staff available to cover shift opening, major incidents, or peak times.*
- *Provides the right public safety resources to the right location, with correct information and in the shortest amount of time*
- *Supported by NC 9-1-1 Board*

6. WHY NOT CONSOLIDATE

Write down ALL your CONCERNS and submit them VIA Email to (Admin Assistant/Note Taker) for Consolidation and presentation at our next meeting for committee deliberations.

7. Additional Considerations / Future Committee Discussions

- ✓ ***Recommend a Governance Concept or Structure / Model***
- ✓ Maintain ALL Operations (*Scope of Services*) **& All Employees w/Benefits**
- ✓ Solid or permanent Intergovernmental Agreements / Contracts
- ✓ Joint Governance addressing responsibilities and cost sharing
- ✓ Back Up PSAP Center Recommendations (Lisa / Adam)
- ✓ Recommendation for name or name change for Consolidated PSAP
- ✓ Continuous sharing information (full transparency) with all partner agencies throughout the transition process and beyond

- ✓ Joint PSAP Implementation and migration plan to transition from two to one consolidated PSAP (Consultant)
- ✓ Employees & pathway for existing PSAP employees to the new consolidated PSAP & related Administrative Functions (Consultant)
- ✓ Future Staffing Requirements (Consultant)
- ✓ Additional or new Technology Needs (Consultant) must be compatible with newly proposed joint CAD and support programs
- ✓ 9-1-1 Center / Building Modifications and or additions (Consultant)

8. Closing Statement

- ❖ Importance of discretion in discussing our proceedings publicly to avoid misconceptions or misinterpretations.

9. Adjournment

10. Next Meeting Date, Time and Location

Tentatively Scheduled for Friday April 4th or Monday April 7th with a time TBD @ the Cumberland County EOC, 500 Executive Place –

Gmail

Freddy Johnson <spfd1301@gmail.com>

Public Safety Awareness Notes

2 messages

Iva Clark <iclark@cumberlandcountync.gov>
To: Freddy Johnson <spfd1301@gmail.com>

Tue, Apr 8, 2025 at 11:53 AM

Good morning, Chief Johnson,

I hope you are well. Below are the notes that I have complied from the Public Safety Awareness meeting on March 31, 2025. I have not received any additional information from the other members of the committee, but I stand ready to add/remove anything you see that needs to be changed. Please review and let me know what you think.

I am copying the notes in the body of this email as the County does not allow me to share my notes for security reasons.

Public Safety Answering Point Consolidation Committee

Meeting Notes

On Monday, March 31, 2025, the Public Safety Answering Point Consolidation Committee met at the Cumberland County Courthouse.

-

Primary / Alternate Committee Members Present:

Freddy L. Johnson Sr.	CCFCA
Brian Pearce	Cape Fear Valley
Gene Booth	CC Emergency Services
Todd Joyce	Fayetteville Police Department
Errol Jarman	Spring Lake Police Department
John Morgan	CC Sheriff's Office
David Richmeyer	Fayetteville Fire Department
Matthew Cain	Hope Mills Fire Department
Robert Hurlburt	Hope Mills Fire Department – Alternate
Steven Dollinger	Hope Mills Police Department
Iva Clark	Committee Administrative Assistant

Associate Members Present:

Adam Johnson	CC 9-1-1 Tele-Communications Manager

Shenna Evans	CC 9-1-1 Assistant Tele-Communications Manager - Alternate
Lisa Reid	Fayetteville 9-1-1 Communications Manager

Others Present:

Kirk deViere	Chairman CC BOC
Henry Tyson	CC Fire Commissioner
Mitch Covin	Fayetteville Mayor
Derrick Thompson	Fayetteville City Council
Adam Lindsay	Fayetteville Assistant City Manager
Brian Langston	Cape Fear Valley – EMS
Chancer McLaughlin	Hope Mills Town Manager
Robert Hurlburt	Hope Mills Fire Department
Robbie Grady	Captain Hope Mills Police Department
Timothy Daniels	Captain NC State Highway Patrol – Troop B-1 Fayetteville

Members Absent:

Jason Williams	Spring Lake Fire Department

-

Kirk J. deViere, Chairman to the Cumberland County Board of Commissioners welcomed everyone and shared his desire to allow the subject matter experts to determine best practices going forward towards consolidation.

Mitch Colvin, Mayor, City of Fayetteville, brought greetings and advised that City Council is trusting the members of this committee to lead us through this process by providing thoughtful insight and guidance for next steps.

Henry Tyson, Fire Commissioner expressed gratitude for willingness to complete this consolidation and offered support from the County.

-

Notes:

Meeting called to order at 12:43 pm.

Chief Johnson requested open mindedness from all parties involved. Introductions were made of the individuals listed above. Chief Johnson mentioned that a consultant would be brought in for transparency and that bonds would be restricted to Public Safety.

- Members advised committee to keep in mind what brought us here and what the citizens will be told.
- Trouble with protecting Paramedics and EMT's that are in dangerous situations while doing their jobs. He expressed the need for additional safety precautions for first responders.
- The level of service is currently good however, partnership is needed for consolidation to increase levels of service.
- Members desire to move forward being uniformed and in compliance with policy and procedures.
- There concerns for staff with longevity and the effects consolidation would have on new/younger staff. We must take care of our employees.
- Staffing shortages is a major issue and needs to be addressed more sooner than later.
- Authority may be an issue of contention if not properly addressed.
- Consolidation must be the first step to determine how to move forward.
- Past meetings have been filled with Fear of Change and Fear of Loss of Power.

- How does consolidating jobs look? How will that work with the current issues that exist now.
- Past issues of decision being made without input from us has caused there to be issues of trust amongst decision makers.
- Fayetteville-Cumberland County Parks and Recreation has been successful thus far, could possibly be used as a guide on how to consolidate.

-

Consensus:

- Consolidation is good.
- All want the same thing but there may be different methods of consolidation
- We have more questions that must be hammered out to determine best course of action.
- Looking forward to next meeting to see what other questions/concerns can be addressed and how we will answer questions above.

-

Items to be Discussed at Next Meeting:

- What is the specific scope & purpose of the committee?
- What is the specific schedule/timeline?
- How will the outcome be measured? Consensus vote? Who are the voting members?
- Who speaks to the media on behalf of the committee?
- Who will consultant be and how will they be selected?
- Will we be a part of the Consultant decision making process?
- Authority? Who has it and where does it come from?
- How will staffing issues be addressed?
- Will staff be a part of plan?
- Will jobs be consolidated? What will that look like?
- Paramedic/EMT Protection
- Who will run it?
- 20 to 30 years down the road how does this look?
- Shot Spotter & LPR's future involvement in consolidation?
- Who will handle calls and how will currents calls be affected?
- Fay-Cumberland Parks & Recreation model to be used in consolidation?
- Possible Name Change?
- Shot Spotter & LPR's
- Will calls be combined versus just police or just fire?

Meeting adjourned at 1:27 p.m.

Next meeting is scheduled for Wednesday, April 16, 2025, at 3:00 p.m. Meeting will be held at Emergency Services Center, 500 Executive Place, Fayetteville, NC 28305.

Very Respectfully,

Iva M. Clark, MBA

Deputy Clerk to the Board

Cumberland County Board of Commissioners

PO Box 1829

Fayetteville, NC 28302-1829

Office: (910) 678-7772

Website: https://www.cumberlandcountync.gov/

Iva Clark <iclark@cumberlandcountync.gov> Mon, Jun 2, 2025 at 2:09 F
To: Freddy Johnson <spfd1301@gmail.com>
Cc: "Freddy Johnson (SPF)" <fjohnsonsr@stoneypointfire.com>

Good afternoon, Chief Johnson,

For the notes from 3-31-25 PSAP Committee Meeting, I sent them initially in an email to you

That email is below.

I am working to find the copy I sent to the committee. I hope to have that to you soon.

Very Respectfully,

Iva M. Clark, MBA

Deputy Clerk to the Board

Cumberland County Board of Commissioners

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[Quoted text hidden]

Public Safety Answering Point Consolidation Committee

Meeting Notes

On Monday, March 31, 2025, the Public Safety Answering Point Consolidation Committee met at the Cumberland County Courthouse.

Primary / Alternate Committee Members Present:

Freddy L. Johnson Sr.	CCFCA
Brian Pearce	Cape Fear Valley
Gene Booth	CC Emergency Services
Todd Joyce	Fayetteville Police Department
Errol Jarman	Spring Lake Police Department
John Morgan	CC Sheriff's Office
David Richmeyer	Fayetteville Fire Department
Matthew Cain	Hope Mills Fire Department
Robert Hurlburt	Hope Mills Fire Department – Alternate
Steven Dollinger	Hope Mills Police Department
Iva Clark	Committee Administrative Assistant

Associate Members Present:

Adam Johnson	CC 9-1-1 Tele-Communications Manager
Shenna Evans Alternate	CC 9-1-1 Assistant Tele-Communications Manager -
Lisa Reid	Fayetteville 9-1-1 Communications Manager

Others Present:

Kirk deViere	Chairman CC BOC
Henry Tyson	CC Fire Commissioner
Mitch Covin	Fayetteville Mayor
Derrick Thompson	Fayetteville City Council
Adam Lindsay	Fayetteville Assistant City Manager
Brian Langston	Cape Fear Valley – EMS
Chancer McLaughlin	Hope Mills Town Manager
Robert Hurlburt	Hope Mills Fire Department
Robbie Grady	Captain Hope Mills Police Department
Timothy Daniels Fayetteville	Captain NC State Highway Patrol – Troop B-1

Members Absent:

Jason Williams	Spring Lake Fire Department

Kirk J. deViere, Chairman to the Cumberland County Board of Commissioners welcomed everyone and shared his desire to allow the subject matter experts to determine best practices going forward towards consolidation.

Mitch Colvin, Mayor, City of Fayetteville, brought greetings and advised that City Council is trusting the members of this committee to lead us through this process by providing thoughtful insight and guidance for next steps.

Henry Tyson, Fire Commissioner expressed gratitude for willingness to complete this consolidation and offered support from the County.

Notes:

Meeting called to order at 12:43 pm.

Chief Johnson requested open mindedness from all parties involved. Introductions were made of the individuals listed above. Chief Johnson mentioned that a consultant would be brought in for transparency and that bonds would be restricted to Public Safety.

- Members advised committee to keep in mind what brought us here and what the citizens will be told.
- Trouble with protecting Paramedics and EMT's that are in dangerous situations while doing their jobs. He expressed the need for additional safety precautions for first responders.
- The level of service is currently good however, partnership is needed for consolidation to increase levels of service.
- Members desire to move forward being uniformed and in compliance with policy and procedures.
- There concerns for staff with longevity and the effects consolidation would have on new/younger staff. We must take care of our employees.
- Staffing shortages is a major issue and needs to be addressed more sooner than later.
- Authority may be an issue of contention if not properly addressed.
- Consolidation must be the first step to determine how to move forward.
- Past meetings have been filled with Fear of Change and Fear of Loss of Power.
- How does consolidating jobs look? How will that work with the current issues that exist now.
- Past issues of decision being made without input from us has caused there to be issues of trust amongst decision makers.
- Fayetteville-Cumberland County Parks and Recreation has been successful thus far, could possibly be used as a guide on how to consolidate.

Consensus:

- Consolidation is good.
- All want the same thing but there may be different methods of consolidation
- We have more questions that must be hammered out to determine best course of action.
- Looking forward to next meeting to see what other questions/concerns can be addressed and how we will answer questions above.

Items to be Discussed at Next Meeting:

- What is the specific scope & purpose of the committee?
- What is the specific schedule/timeline?
- How will the outcome be measured? Consensus vote? Who are the voting members?
- Who speaks to the media on behalf of the committee?
- Who will consultant be and how will they be selected?
- Will we be a part of the Consultant decision making process?
- Authority? Who has it and where does it come from?
- How will staffing issues be addressed?
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- Possible Name Change?
- Shot Spotter & LPR's
- Will calls be combined versus just police or just fire?

Meeting adjourned at 1:27 p.m.

Next meeting is scheduled for Wednesday, April 16, 2025, at 3:00 p.m. Meeting will be held at Emergency Services Center, 500 Executive Place, Fayetteville, NC 28305.

March 31, 2025

##	Cumberland – Fayetteville Public Safety PSAP Consolidation Committee	Primary Representative	Alternate Representative
01	Cumberland County Fire Chiefs Association	Freddy Johnson – Chair President / Fire Chief (910) 476-1301 fjohnsonsr@stoneypointfire.com	Michael Hill Fire Chief (Ret) FFD / Wade Community (910) 818-3793 Silverrun1@msn.com
02	Cape Fear Valley Emergency Medical Services	Brian Pearce Cape Fear Valley (910) 615-5618 bpearce@capefearvalley.com	Brian Langston Cape Fear Valley EMS (910) 615-7546 blangston@capefearvalley.com
03	Cumberland County Emergency Services Director	Gene Booth Director (910) 850-8166 wbooth@cumberlandcountync.gov	Adam Johnson 9-1-1 Tele-Communications Manager (910) 677-5523 ajohnson@cumberlandcountync.gov
04	Fayetteville Police Department	Todd Joyce Interim Chief of Police (910) 263-0485 christopherjoyce@fayettevillenc.gov	Lee Hicks Major (910) 723-5978 leehicks@fayettevillenc.gov
05	Fayetteville Fire Department	Kevin Dove – Vice Chair Fire Chief (910) 728-5955 kevindove@fayettevillenc.gov	David Richtmeyer Deputy Fire Chief – Operations (910) 624-5042 davidrichtmeyer@fayettevillenc.gov
06	Hope Mills Police Department	Stephen Dollinger Chief of Police (910) 733-0518 sdollinger@townofhopemills.co	Darwin Brayboy Captain (910) 674-7097 dbrayboy@townofhopemills.com
07	Hope Mills Fire Department	Matthew Cain Fire Chief (910) 308-9046 mbcain@townofhopemills.com	Robert Hurlburt Deputy Fire Chief (910) 309-3398 rhurlburt@townofhopemills.com
08	Cumberland County Sheriff's Office	Sheriff Ennis Wright (910) 323-1500 ewright@ccsonc.com	John Morgan Major - Patrol Commander (910) 494-5470 jmorgan@ccsonc.com
09	Spring Lake Police Department	Errol Jarman Police Chief (910) 436-0350 ejarman@townofspringlake.com	
10	Spring Lake Fire Department	Jason Williams Fire Chief (910) 263-1320 jwilliams@townofspringlake.com	Jonathan Faircloth Assistant Fire Chief (910) 818-8455 jfaircloth@townofspringlake.com
01	Cumberland County 9-1-1 Associate Member	Adam Johnson 9-1-1 Tele-Communications Manager (910) 677-5523 ajohnson@cumberlandcountync.gov	Sheena Evans 9-1-1 Asst. Tele-Communications Manager (910) 678-7714 sevans@cumberlandcountync.gov
02	Fayetteville 9-1-1 Associate Member	Lisa Reid 9-1-1 Communications Manager (910) 433-1914 lisareid@fayettevillenc.gov	
03	Note Taker Administrative Assistant	Iva Clark Deputy Clerk BOC (910) 678-7772 iclark@cumberlandcountync.gov	

PSAP Consolidation Committee Meeting Attendance – 03/31/2025 CC Courthouse Room 564

Primary / Alternate Committee Members Present:

Freddy L. Johnson Sr.	CCFCA
Brian Pearce	Cape Fear Valley
Gene Booth	CC Emergency Services
Todd Joyce	Fayetteville Police Department
Errol Jarman	Spring Lake Police Department
John Morgan	CC Sheriff's Office
David Richmeyer	Fayetteville Fire Department
Matthew Cain	Hope Mills Fire Department
Robert Hurlburt	Hope Mills Fire Department – Alternate
Steven Dollinger	Hope Mills Police Department
Iva Clark	Committee Administrative Assistant

Associate Members Present:

Adam Johnson	CC 9-1-1 Tele-Communications Manager
Shenna Evans	CC 9-1-1 Assistant Tele-Communications Manager - Alternate
Lisa Reid	Fayetteville 9-1-1 Communications Manager

Others Present:

Kirk deViere	Chairman CC BOC
Henry Tyson	CC Fire Commissioner
Mitch Covin	Fayetteville Mayor
Derrick Thompson	Fayetteville City Council
Adam Lindsay	Fayetteville Assistant City Manager
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Robert Hurlburt	Hope Mills Fire Department
Robbie Grady	Captain Hope Mills Police Department
Timothy Daniels	Captain NC State Highway Patrol – Troop B-1 Fayetteville

Members Absent:

Jason Williams	Spring Lake Fire Department

March 31, 2025

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03	Note Taker Administrative Assistant	Iva Clark Deputy Clerk BOC (910) 678-7772 iclark@cumberlandcountync.gov	

TAB D

Gmail

Freddy Johnson <spfd1301@gmail.com>

Agenda Items for 911 PSAP Consolidation Meeting 4/4/25

4 messages

David Richtmeyer <DavidRichtmeyer@fayettevillenc.gov> Wed, Apr 2, 2025 at 2:07 PM
To: "iclark@cumberlandcountync.gov" <iclark@cumberlandcountync.gov>, "Freddy Johnson (spfd1301@gmail.com)" <spfd1301@gmail.com>
Cc: Kevin Dove <KevinDove@fayettevillenc.gov>, Christopher Joyce <ChristopherJoyce@fayettevillenc.gov>, "Laura B. Smith" <LauraSmith@fayettevillenc.gov>, Adam Lindsay <AdamLindsay@fayettevillenc.gov>, Lisa Reid <LisaReid@fayettevillenc.gov>, David Richtmeyer <DavidRichtmeyer@fayettevillenc.gov>

Good afternoon Ms. Clark,

Per item #6 on the March 31st agenda and verbal direction from Chairman Johnson, we'd like to submit the following items to be placed on the agenda to be addressed at the next meeting:

- What is the specific scope & purpose of the committee?
- What is the specific schedule/timeline?
- How will the outcome be measured? Consensus vote? Who are the voting members?
- Who speaks to the media on behalf of the committee?

Will the meeting minutes and next agenda be shared with committee members ahead of the Friday meeting?

Thanks for your help!

FAYETTEVILLE NC
AMERICA'S CAN DO CITY

David E. Richtmeyer, CFO
Deputy Fire Chief, Operations
Fire Department
632 Langdon St. | Fayetteville, NC 28301
910-433-1729
davidrichtmeyer@fayettevillenc.gov
www.FayettevilleNC.gov

Iva Clark <iclark@cumberlandcountync.gov> Wed, Apr 2, 2025 at 2:59 PM
To: David Richtmeyer <DavidRichtmeyer@fayettevillenc.gov>, "Freddy Johnson (spfd1301@gmail.com)" <spfd1301@gmail.com>
Cc: Kevin Dove <KevinDove@fayettevillenc.gov>, Christopher Joyce <ChristopherJoyce@fayettevillenc.gov>, "Laura B. Smith" <LauraSmith@fayettevillenc.gov>, Adam Lindsay <AdamLindsay@fayettevillenc.gov>, Lisa Reid <LisaReid@fayettevillenc.gov>

Good afternoon, Mr. Richtmeyer,

Thank you for this information. I am currently in the process of creating the notes for the agenda. Once I finish my meeting with the commissioners, I will compile everything and get it out to everyone.

Very Respectfully,

Iva M. Clark, MBA

Deputy Clerk to the Board

Cumberland County Board of Commissioners

PO Box 1829

Fayetteville, NC 28302-1829

Office: (910) 678-7772

Website: https://www.cumberlandcountync.gov/

From: David Richtmeyer <DavidRichtmeyer@FayettevilleNC.gov>
Sent: Wednesday, April 2, 2025 2:08 PM
To: Iva Clark <iclark@cumberlandcountync.gov>; Freddy Johnson (spfd1301@gmail.com) <spfd1301@gmail.com>
Cc: Kevin Dove <KevinDove@FayettevilleNC.gov>; Christopher Joyce <ChristopherJoyce@FayettevilleNC.gov>; Laura B. Smith <LauraSmith@FayettevilleNC.Gov>; Adam Lindsay <AdamLindsay@FayettevilleNC.gov>; Lisa Reid <LisaReid@FayettevilleNC.gov>; David Richtmeyer <DavidRichtmeyer@FayettevilleNC.gov>
Subject: Agenda Items for 911 PSAP Consolidation Meeting 4/4/25

[Quoted text hidden]

Freddy Johnson <spfd1301@gmail.com> Wed, Apr 2, 2025 at 4:01 PM
To: David Richtmeyer <DavidRichtmeyer@fayettevillenc.gov>
Cc: "iclark@cumberlandcountync.gov" <iclark@cumberlandcountync.gov>, Kevin Dove <KevinDove@fayettevillenc.gov>, Christopher Joyce <ChristopherJoyce@fayettevillenc.gov>, "Laura B. Smith" <LauraSmith@fayettevillenc.gov>, Adam Lindsay <AdamLindsay@fayettevillenc.gov>, Lisa Reid <LisaReid@fayettevillenc.gov>, David Richtmeyer <DavidRichtmeyer@fayettevillenc.gov>

Mrs. Clark, I can help out and address Chief Richtmeyer's request for agenda items inclusion.

The PSAP Consolidation Committee comprised of public safety agency heads has the following specific scope and purpose

(1) - Foster consensus among the public safety heads (2) - Recommend whether a PSAP merger should occur or not (3) - Recommend a model of what a consolidated PSAP would look like -

I was asked by Chairman deViere to report findings no later than the end of the month May but earlier if possible.

The outcome of the committee's decision on a PSAP merger will be measured through a consensus vote based on a democratic basis, with primary voting members being the agency heads, on line 1 through 10 on the PSAP Consolidation Committee Roster that was attached to the initial meeting agenda.

Regarding media communications, I would suggest that any spokesperson or representative speaking on behalf of the committee to the media should be directed by the two governing bodies (City/County) for guidance and authorization. (I received no guidance on media communications)

During our committee meeting specific concerns were raised and recorded. We will address those issues that fall within our overall scope of work, and for full transparency / accountability list ALL submitted concerns in our final report so our governing boards are aware.

Freddy L. Johnson Sr., CFO, CFI
Fire Chief
Stoney Point Fire Department Inc.
Stations 13 & 19
7221 Stoney Point Road
Fayetteville, North Carolina 28306-8005
Phone: (910) 424-0694
Fax: (910) 425-2795
Cell: (910) 476-1301
Web Page: stoneypointfirerescue.com

[Quoted text hidden]

Freddy Johnson <spfd1301@gmail.com> Thu, Apr 3, 2025 at 8:45 AM
To: CCFCA-ES Gene Booth <wbooth@cumberlandcountync.gov>
Cc: kirk@kirkdeviere.com

Sent from my iPhone

Begin forwarded message:

> **From:** Freddy Johnson <spfd1301@gmail.com>
> **Date:** April 2, 2025 at 4:01:00 PM EDT
> **To:** David Richtmeyer <davidrichtmeyer@fayettevillenc.gov>
> **Cc:** iclark@cumberlandcountync.gov, Kevin Dove <KevinDove@fayettevillenc.gov>, Christopher Joyce <ChristopherJoyce@fayettevillenc.gov>, "Laura B. Smith" <LauraSmith@fayettevillenc.gov>, Adam Lindsay <adamlindsay@fayettevillenc.gov>, Lisa Reid <LisaReid@fayettevillenc.gov>, David Richtmeyer <davidrichtmeyer@fayettevillenc.gov>
> **Subject: Re: Agenda Items for 911 PSAP Consolidation Meeting 4/4/25**
>
> [Quoted text hidden]
> [Quoted text hidden]
> [Quoted text hidden]

[Quoted text hidden]

TAB E

CUMBERLAND COUNTY NORTH CAROLINA

Public Safety Answering Point (PSAP) Consolidation Committee

AGENDA

Wednesday April 16, 2025

1500 PM

Meeting Location:

Cumberland County Emergency Operation Center
500 Executive Place

PSAP Consolidation Committee

1. Welcome – Committee Chair

2. Restate Committee Focus -

- Build and foster consensus amongst public safety agency heads ,
- Recommend whether PSAP merger should or should not occur -
- Recommend a model or best practice models for our governing boards considerations

3. *Introduction of Executive Director Ms. Pokey Harris North Carolina 9-1-1 Board*

Overall Consolidation Discussion and Statewide Trends – 9-1-1 Board

Consolidation Pros and Cons and Benefits

4. Old Business

- March 31, 2025, Meeting Notes Review & Items to be discussed
- Media Issues ? Anyone have a media request - ?

5. New Business

- Input from agency heads

6. Adjournment

7. Next Meeting Date, Time and Location

Short Time - Tentatively schedule weekly as agreed upon by primary committee members

Public Safety Answering Point Consolidation Committee

Meeting Notes – Update

On Monday, April 16, 2025, the Public Safety Answering Point Consolidation Committee met at the Cumberland County Emergency Services Center.

Primary / Alternate Committee Members Present:

Freddy L. Johnson Sr.	CCFCA
Brian Langston	Cape Fear Valley EMS – Alternate
Gene Booth	CC Emergency Services
Todd Joyce	Fayetteville Police Department
Errol Jarman	Spring Lake Police Department
Roberto Reyes	CC Sheriff's Office - Alternate
Kevin Dove	Fayetteville Fire Department
David Richtmeyer	Fayetteville Fire Department - Alternate
Matthew Cain	Hope Mills Fire Department
Robert Hurlburt	Hope Mills Fire Department – Alternate
Derwin Brayboy	Hope Mills Police Department - Alternate
Mike Hill	Fayetteville / Wade Community FD - Alternate
Iva Clark	Committee Administrative Assistant

Associate Members Present:

Adam Johnson	CC 9-1-1 Tele-Communications Manager
Shenna Evans	CC 9-1-1 Assistant Tele-Communications Manager - Alternate
Lisa Reid	Fayetteville 9-1-1 Communications Manager

Others Present:

Adam Lindsay	Fayetteville Assistant City Manager
Lee Westbrook	Cape Fear Valley EMS

Notes:

Chief Johnson called the meeting to order at 3:06 pm and welcomed everyone to the meeting. Chief Johnson introduced Ms. Pokey Harris, North Carolina 911 Director, to the committee and opened the floor for her to provide comments on consolidation.

Pokey Harris provided the following information on consolidation:

1. The consolidation process is vital to the success of the emergency services.
2. Consolidation is a lengthy process but very rewarding once completed and operational.
3. Consolidation has worked for other counties in North Carolina and could be the best decision for Cumberland County.
4. Agreement between entities may be needed but can help navigate the process and make transition smother.
5. Governance can be an issue if structure is not implemented from start.
6. It is very important to recognize and honor the work of telecommunicators and support the fact that they hold lives in their hands every day.
7. Citizens are the primary focus for everyone.
8. One option is to renovate the EOC and use it as a Backup facility
9. 911 Board will support efforts to consolidate and Grant funding can be used if funding is available.
10. It is important to have centers in place to support when disaster strikes (Hurricane Helene).
11. 911 Board will assist where needed for EMS. Whatever the highest statutory distribution to be given if funding is available. The committee should check to see how much funding Cumberland County can receive and apply for funding.

Kristin (I did not get her last name) provided the following information on Counties that have consolidated:

The Committee voted unanimously to consolidate 911 services for Cumberland County.

The Committee also decided to meet Bi-weekly for now and may change to a different schedule after needs are assessed.

Next Meeting Discussions:

1. Barriers with communication of who took the call.
2. Operational view for consolidation and timeframe for all entities.
3. Timeline for consolidation
4. Other items may be added as needed

Meeting adjourned at 4:36 pm

The next meeting is scheduled for April 24, 2025, at 1:00 pm. The meeting will be held in the Lafayette Room of City Hall (Fayetteville)

1. Gates and Perquimans Counties consolidated their 911 systems. It was challenging at first but has since proven to be beneficial for both counties.
2. MOU was completed between both Counties.
3. MOU or Interlocal Agreements may be needed to complete consolidation.
4. Watauga and Boone Counties consolidated their 911 systems as well.
5. Consolidations take time and do not happen overnight. Phases I, II, etc. will be a part of the MOU or Interlocal Agreement.
6. Grant programs may be used for consolidation.
7. Must keep in mind that each County is different, and our consolidation will be different from other Counties.

Other Important Items Discussed:

1. The committee requested review studies/models done from previous years.
2. The city of Fayetteville has secured a bond for $60 million dollars, with 30 being for facility. If possible, the committee should opt for a new facility and use EOC as a backup facility.
3. Backup facilities would have been a huge benefit during the Tornadoes that hit occurred in 2011.
4. Interlocal agreement was in place during the building of EOC.
5. Grant cycle happens every year if there is funding.

What Happens Next:

1. Chief Johnson will contact Chairman deViere to discuss timeline for consolidation.
2. The committee will review examples of consolidation from other counties to discuss what may or may not benefit Cumberland County.
3. The committee will discuss the decision to consolidate at the next meeting and determine course going forward.

Actions Taken:

Chief Dove made a motion to consolidate the 911 services and to notify appropriate governing bodies of decision to consolidate.

Chief Todd- 2nd the motion to consolidate

There was no further discussion on the motion

TAB F

CUMBERLAND COUNTY NORTH CAROLINA

Public Safety Answering Point (PSAP) Consolidation Committee

AGENDA

Wednesday April 24, 2025

1:00 PM

Meeting Location:

Fayetteville City Hall – LaFayette Room

433 Hay Street

PSAP Consolidation Committee

1. Welcome – Committee Chair

Announcement - CC Emergency Services Director Gene Booth Retirement & Appointment of Interim ES Director Garry Crumpler

Attendance Roster – Sign

2. Old Business

- April 16, 2025, Meeting Notes Review & Items to be discussed
- Previous Consulting Studies (COF/County)
- NC 9-1-1 Board Recent Consolidation Inter-Local Agreements
- 9-1-1 Grant Submission Deadline
- Unanimously Public Safety Agency Head Consolidation Vote
- Review

3. New Business

- Answer from Chairman de-Viere concerning tight timeline – FY-2026 Budget Driven
- Committee/Associate Member Input
- Committee Members – Managers Update
- Elephant In the Room
- Next Step -

4. Adjournment

5. Next Meeting Date, Time and Location

Public Safety Answering Point Consolidation Committee

Meeting Notes

On Monday, April 24, 2025, the Public Safety Answering Point Consolidation Committee met at the City Hall, Lafayette Room, Fayetteville, NC.

Primary / Alternate Committee Members Present:

Freddy L. Johnson Sr.	CCFCA
Brian Pearce	Cape Fear Valley
Gene Booth	CC Emergency Services
Gary Crumpler	CC Emergency Services Interim Director
Todd Joyce	Fayetteville Police Department
Kevin Dove	Fayetteville Fire Department
Errol Jarman	Spring Lake Police Department
John Morgan	CC Sheriff's Office
Michael Hill	Fayetteville/Wade Fire Department
Matthew Cain	Hope Mills Fire Department
Robert Hurlburt	Hope Mills Fire Department – Alternate
Iva Clark	Committee Administrative Assistant

Associate Members Present:

Adam Johnson	CC 9-1-1 Tele-Communications Manager
Shenna Evans	CC 9-1-1 Assistant Tele-Communications Manager - Alternate
Lisa Reid	Fayetteville 9-1-1 Communications Manager

Others Present:

Adam Lindsay	Fayetteville Assistant City Manager
John Rorie	Spring Lake Town Manager
Lt. Derek Rolland	Hope Mills Police Department
Laura Smith	City of Fayetteville EM

Notes:

Chief Johnson called the meeting to order at 1:02 pm and welcomed everyone to the meeting. Chief Johnson acknowledged Gene Booth's retirement and last day with the County being May 1, 2025. Chief Johnson introduced Gary Crumpler, Interim Emergency Services Director, to the PSAP Committee. Chief Johnson recapped the previous meeting and input from 911 State director Pokey Harris and staff.

Chief Johnson provided a review of where we are now:

1. We have voted to consolidate.
2. We need to create an executive report to present to governing bodies.
3. Chairman deViere desires to have report before FY 26 budget is approved.
4. The issue of "who is in charge" has derailed consolidation efforts in the past.
5. We should not allow this to prohibit us from consolidating now.
6. We have the right people in place to make this happen.
7. Information provided through studies received is helpful to consolidation.
8. The end of May timeframe given but may not be feasible.

Other Comments Received:

1. Since we have voted to consolidate, it needs to be very clear who is going to be the governing body.
2. Is it going to be the City or the County?
3. Also, who is going to fund this consolidation?

4. The citizens must be considered in the funding because they are already paying for services now and they should not pay twice. Multiple centers may not benefit all parties.
5. The timeframe given is not feasible for all the work needed to complete consolidation.
6. Grant deadlines must be remembered and considered to ensure that we do not miss the opportunity to receive funding. Additionally, once grants are submitted, they cannot be altered.
7. Rushing something like this is not wise because we need more framework before we move forward. There is still work to do before consolidation is obtainable.
8. What will happen to the buildings once we consolidate?
9. Chief Johnson is going to reach out to the Chairman and Mayor to setup a time with both to discuss timeline and expectations.
10. Could we expand the current EOC to house all 911 services? If expanded, what/where would the backup facility that is required by state statute?
11. In consolidation how will it be operated (separate Fire or separate police)
12. We have 2 backups here so why not move forward?
13. Current 911 for City of Fayetteville cannot continue to be used due to safety issues.
14. We've voted to consolidate, so we need to move forward and stop looking back.
15. If there is no clear cut "leader" of this project, there will be more issues and consolidation will not happen.
16. Replication of services may be an issue due to cost of services such as IT.
17. Services could be contracted back out if consolidated. There are examples of entities that operate right now in the County but are they insured? Do they have retirement? Benefits would be an issue if we chose to do it without city/county governing.
18. Consensus of a major issue is that: the City will not pay the County if the County is in charge and the County will not pay the City if the City is in charge.
19. Either the City or the County must be in charge.

Meeting concluded with Chief Johnson stating that the decision has been made, and we must know how to move forward. With better direction from the Chairman and Mayor, hopefully we can work together to get consolidation completed.

Lisa Reid, Fayetteville 9-1-1 Coms Manger provided a tour of the 911 Center for the City of Fayetteville.

Meeting adjourned at 2:03 pm.

The next meeting is scheduled for May 8, 2025, 24, 2025, at 2:00 pm. The meeting will be held at Fire Station 14, located at 632 Langdon Street, Fayetteville, NC.

TAB G

CUMBERLAND COUNTY NORTH CAROLINA

Public Safety Answering Point (PSAP) Consolidation Committee

AGENDA

Thursday May 8, 2025

2:00 PM

Meeting Location:

632 Langdon Street, Fayetteville

(City FD Station 14)

PSAP Consolidation Committee

1. Welcome – Committee Chair

2. Call to Order & Remind Committee Members about our overall purpose / focus

3.

4. ***Introductions of any Guests if Any***

5. Old Business

1 – Voted Unanimously to Consolidate – Committees primary focus was to obtain a consensus on consolidation –

2 – Who is in charge – This single issue has derailed all previous attempts to consolidate our two PSAP this committee should focus on the overall public safety good by consolidating and we have the right people to accomplish this mission as members of this consolidation committee

3 – Received two (2) consolidation MOU's from NC 9-1-1 Board – Both were mergers into a consolidated county PSAP

4 – NC 9-1-1 Board – Highest priority is consolidation with 9-1-1($$) funds available to accommodate consolidation

5 - Upcoming May 28 Grant Deadline –

6 – Back-Up Centers

7 – Obtain additional guidance from both CC Chair deViere and Mayor Colvin On timelines and expectations

8 – Review all notes from our April 24 – Meeting

Meeting Canceled - Pending Additional Guideance

6. New Business

7. Closing Statement

- Importance of discretion in discussing our proceedings publicly to avoid misconceptions or misinterpretations.

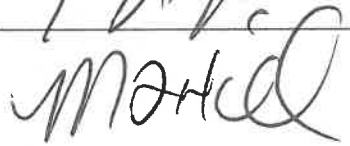
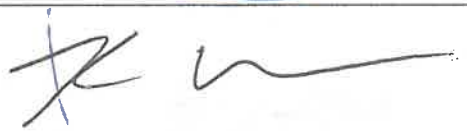
8. Adjournment

9. Next Meeting Date, Time and Location

To Be Determined

PSAP CONSOLIDATION MEETING ATTENDANCE ROSTER

May 8, 2025 – 2 PM – Fayetteville City Hall – LaFayette Room

##	PRIMARY/ALTERNATE MEMBER	SIGNATURE	REMARKS
01	Freddy Johnson CCFCA - Primary		
02	Michael Hill Fayetteville FD/Wade FD – Alternate		
03	Brian Pearce Cape Fear Valley EMS – Primary		
04	Brian Langston Cape Fear Valley EMS – Alternate		
05	Gene Booth Retired CC Emergency Services – ~~Primary~~		
06	Garry Crumpler – Primary CC Emergency Services – ~~Alternate~~		
07	Todd Joyce Fayetteville PD – Primary		
08	Lee Hicks Fayetteville PD – Alternate		
09	Kevin Dove Fayetteville FD – Primary		

##	PRIMARY/ALTERNATE MEMBER	SIGNATURE	REMARKS
10	David Richtmeyer Fayetteville FD - Alternate		
11	Stephen Dollinger Hope Mills PD – Primary		
12	Derwin Brayboy Hope Mills PD – Alternate		
13	Matthew Cain Hope Mills FD – Primary		
14	Robert Hurlburt Hope Mills FD – Alternate		
15	Ennis Wright CC Sheriff's Office – Primary		
16	John Morgan CC Sheriff's Office – Alternate Roberto Reyes – Alternate		
17	Errol Jarman Spring Lake PD – Primary		
18	Jason Williams Spring Lake FD - Primary		

##	ASSOCIATE MEMBERS	SIGNATURE	REMARKS
01	Lisa Reid Fayetteville 9-1- Coms Manager		
02	Adam Johnson CC 9-1-1 Coms Manager		
03	Sheena ~~Evans~~ Graver Asst CC 9-1-1 Coms Manager		
##	NOTE TAKER	SIGNATURE	REMARKS
01	IVA CLARK Administrative Assistance		
##	OTHERS IN ATTENDANCE	SIGNATURE	REMARKS
01	Adam Lindsay Asst Fay City Manager		
02	Print Name / Organization Lt. Derek Rolland Hope Mills P.D.		HMPD
03	Print Name / Organization Lt Greg Wilkerson Spring Lake PD		SLPD
04	Print Name / Organization Jon Rorie - Spring Lake		

TAB H

On June 6, 2025, a productive 3-hour meeting was held in room 564 of the Cumberland County Courthouse, with notable leaders including Chair Kirk deViere, Vice Chair Veronica Jones of the Cumberland County Board of Commissioners, Mayor Mitch Colvin, Mayor Pro-Tem Kathy Jensen of Fayetteville, County Manager Clarence Grier, and City Manager Doug Hewitt along with PSAP Committee Chair Johnson and County Deputy Clerk Iva Clark. The meeting was marked by fruitful discussions and collaborative efforts towards consolidating PSAP services. Chairman Johnson articulated key consolidation recommendations, and a notable proposal to integrate Mental Health Crisis Experts into the dispatch center was introduced by City of Fayetteville representatives and agreed upon by county officials.

TAB I

HOUSE BILL 793

Short Title:	Fayetteville Area Projects.	(Public)
Sponsors:	Representatives Colvin, Wheatley, F. Jackson, and Charles Smith (Primary Sponsors). *For a complete list of sponsors, refer to the North Carolina General Assembly web site.*	
Referred to:	Appropriations, if favorable, Rules, Calendar, and Operations of the House	

April 8, 2025

A BILL TO BE ENTITLED

AN ACT TO APPROPRIATE FUNDS FOR VARIOUS PROJECTS IN THE CITY OF FAYETTEVILLE.

The General Assembly of North Carolina enacts:

SECTION 1. There is appropriated from the General Fund to the Office of State Budget and Management the sum of five million dollars ($5,000,000) in nonrecurring funds for the 2025-2026 fiscal year to provide a directed grant to the City of Fayetteville to establish an Innovation District, which will be established in a geographic location within the City to foster economic growth and collaboration by bringing together various entities such as educational institutions, businesses, universities, and start-ups in a concentrated area. The City of Fayetteville will collaborate with Fayetteville State University and other local entities to establish the joint venture to stimulate economic activities for the area residents and institutions in Cumberland County, which is a tier one county.

SECTION 2. There is appropriated from the General Fund to the Office of State Budget and Management the sum of two million five hundred thousand dollars ($2,500,000) in nonrecurring funds for the 2025-2026 fiscal year to provide a directed grant to the City of Fayetteville to consolidate the City's and Cumberland County's 911 Emergency Dispatch Center to support the region's effort to ensure public safety, emergency services, and medical care.

SECTION 3. There is appropriated from the General Fund to the Office of State Budget and Management the sum of twenty-five thousand dollars ($25,000) in nonrecurring funds for the 2025-2026 fiscal year to provide a directed grant to the Hollywood Heights Community Club's Community Center, a nonprofit organization, for facility repairs and maintenance.

SECTION 4. There is appropriated from the General Fund to the Office of State Budget and Management the sum of four hundred thousand dollars ($400,000) in recurring funds for each year of the 2025-2027 fiscal biennium to provide a directed grant to the City of Fayetteville to provide equal funding to support the following fire stations:

(1) Fayetteville Lake Rim Fire Station.
(2) Fayetteville Fire Station 3.
(3) Fayetteville Fire Station 15.
(4) Fayetteville Fire Station 14.

SECTION 5. There is appropriated from the General Fund to the Office of State Budget and Management the sum of one hundred thousand dollars ($100,000) in nonrecurring

funds for each year of the 2025-2027 fiscal biennium to provide a directed grant to the City of Fayetteville for maintenance and trail development at Lake Rim Park.

SECTION 6. This act becomes effective July 1, 2025.

NORTH CAROLINA
PERQUIMANS COUNTY

INTERLOCAL AGREEMENT FOR THE CONSOLIDATION OF 911 COMMNICATIONS SERVICES FOR PERQUIMANS COUNTY, NC AND GATES COUNTY, NC

THIS AGREEMENT is made and entered into this 1st day of March, 2024 by and between PERQUIMANS COUNTY, (hereinafter referred to as "PERQUIMANS") and GATES COUNTY, (hereinafter referred to as "GATES") for the purpose of consolidating 911 Communications Services.

W I T N E S S E T H :

WHEREAS, Perquimans County and Gates County are political subdivisions of the State of North Carolina, both having the power and authority to enter into this Agreement with the signatories hereto having been authorized to execute this document on behalf of the Perquimans County Board of Commissioners and the Gates County Board of Commissioners; and

WHEREAS, the jurisdictions and residents of Gates County would benefit in terms of life safety and efficiency of service from a consolidated 911 Public Safety Answering Point (PSAP) providing services to Gates County; and

WHEREAS the undersigned governmental jurisdictions wish to agree to the establishment and maintenance of a consolidated PSAP, to be hereinafter known as "Perquimans-Gates 911 Communications"; and

WHEREAS, the establishment of such PSAP will provide improved law enforcement, fire and emergency medical service communications within the boundaries of the participating jurisdictions; and

WHEREAS, Perquimans is willing to provide law enforcement, fire and emergency medical service communications with the combined dispatching operations to be located at the Perquimans County Communications Center, which will serve as the central location for citizens to make and receive calls for public safety needs, subject to the execution of this Agreement.

NOW THEREFORE in consideration of the mutual terms and covenants and conditions set forth herein, it is hereby agreed and covenanted among the undersigned as follows:

1. The effective date of this agreement and contract shall be 12:01 am on March 1, 2024, and the Agreement shall continue in effect until terminated by the consent of the undersigned parties, subject to the termination processes and procedures noted herein.

2. PERQUIMANS agrees to assume all operational responsibility for emergency telecommunications for GATES beginning March 1, 2024.

3. PERQUIMANS and GATES mutually agree that the combined telecommunication operations will be managed by PERQUIMANS. PERQUIMANS and GATES will hold regular coordination meetings, at a minimum semi-annually, in order to communicate feedback and review overall service. Such coordination meetings will include an expansion of the current Perquimans 911 Communications Division Advisory Board to include representation from Gates County Administration and First Responders.

4. Any costs associated with consolidation and transitioning of services (including, but not limited to, any necessary antenna/tower work, establishing CAD services, moving or programming radio equipment), as well as establishing functioning backup PSAP services in Chowan County, are the responsibility of Gates County.

5. Any allocations to GATES from the State 911 Board for funding 911 Communications will be assigned to PERQUIMANS.

6. All costs associated with the operation of the Perquimans-Gates 911 Communications PSAP that are ineligible for funding by the State 911 Board NC Emergency State Telephone Fund will be split equally between PERQUIMANS and GATES.

7. The 2 (two) existing radio towers in GATES and associated VHF repeaters and 800 MHz patches will remain the responsibility of GATES.

8. Prior to April 30 of each year that this Agreement is in effect, the Perquimans County Manager shall notify the Gates County Manager of the projected compensation cost associated with this Agreement. GATES shall include such amount in its annual budget for the fiscal year commencing July 1. PERQUIMANS shall invoice GATES quarterly, with payments due September 30, December 31, March 31, and June 30. Emergency situations may require additional staffing, thus higher billable amounts than the projected budgeted amount may occur.

9. All daytime (8 am – 5 pm, Monday through Friday) administrative calls for the Gates County Sheriff's office, Department of Social Services, and Department of Public Utilities will be the responsibility of GATES. PERQUIMANS will assist with calls on the Sheriff, Department of Social Services and Department of Public Utilities' administrative line outside of normal County business hours.

10. PERQUIMANS agrees to assign a staffing level of at least four telecommunicators for each shift. PERQUIMANS will also staff sufficient management personnel to ensure proper operations as dictated by the State of North Carolina 911 Board. PERQUIMANS will train all telecommunicators to handle fire, emergency medical service, emergency management and law enforcement calls and to require all telecommunicators to obtain in a timely manner, any certifications necessary to allow said personnel to handle all emergency services calls.

11. This agreement is subject to, and shall be construed in accordance with, the laws of North Carolina and has been duly approved by both PERQUIMANS and GATES.

12. In the event that any party desires to terminate this Agreement, said party must give 24 months advance written notice to the other party, and the withdrawal shall take effect only as of the beginning of the next full fiscal year following such notice. This advance written notice may be waived if agreed upon by the governing bodies of both PERQUIMANS and GATES. Upon such termination if such alterations require repayment of North Carolina 911 Board PSAP Grant funds, the withdrawing party agrees to pay these costs. It is agreed by both parties that the consolidation of the Primary PSAPs is final and that no future separation of PERQUIMANS and GATES into multiple Primary PSAPs can occur once this Agreement is enacted.

13. Any notice to be given by either party to the other under this Agreement shall be in writing and shall be deemed to have been sufficiently given if delivered by hand, with written acknowledgement of receipt, or mailed by certified mail, with return receipt requested, to the other party. Notice must be delivered as indicated to the following address or such other address as either party may, from time to time, designate in writing for the receipt of notice.

PERQUIMANS:
County Manager
P.O. Box 45
Hertford, NC 27944

GATES:
County Manager
P.O. Box 148
Gatesville, NC 27938

PERQUIMANS COUNTY

Wallace E. Nelson, Chair

Tracy Mathews, Finance Officer

SEAL

ATTEST:

Mary P. Hunnicutt, Clerk to the Board

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

GATES COUNTY

Dr. Althea Riddick, Chair

William Roberson, Finance Officer

SEAL

ATTEST:

Joleatha Chestnutt, Clerk to the Board

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

TAB J

Press Release

March 6, 2024

Perquimans-Gates 911 Center Consolidation

At the request of Gates County, on Monday, March 4, 2024, the Perquimans County Board of Commissioners voted unanimously to enter a long-term interlocal agreement for the consolidation of 911 communications services for Perquimans County, NC and Gates County, NC. The Gates County Board of Commissioners voted unanimously to enter the agreement on Wednesday, March 6, 2024.

What does this mean for the citizens and visitors of Perquimans and Gates Counties:

- Continued 911 Services provided by highly trained 911 telecommunicators on duty 24 hours per day/7 days per week/365 days per year
- Telecommunicators and support staff committed to providing quality service for both counties
- When calling 911 from either county you will be greeted by a telecommunicator asking "Perquimans-Gates 911, what's the address of the emergency?"
- Text-to-911 Service for both counties
- Rapid SOS, a redundant data pathway that supports the safety and security of local citizens
- Prepared Live allows telecommunicators to view live video and pictures directly from the caller device
- Rapid Deploy will be utilized to support the quality improvement process through data analytics
- After hours administrative services for the Sheriff's Office, Department of Social Services, Magistrate's, and local utilities for both counties including the Towns of Hertford, Winfall, and Gatesville
- Expenses for 911 services not paid through the Emergency Telephone System Fund (ETSF) will now be shared by both counties
- Management of the Consolidated Public Safety Answering Point (PSAP) will be the responsibility of the 911 Communications Division of Perquimans County Emergency Services.

A phased transition plan has been approved that prioritizes the most critical services being implemented first. Many shared vendors standby ready to assist in making this transition as smooth as possible. Also, the current Perquimans 911 Communications Division Advisory Board will be expanded to include representation from both Perquimans and Gates Counties.

This joint venture represents a continued commitment by both Boards of Commissioners to provide quality services to the citizens of our counties at a reasonable cost with a plan that is sustainable both now and in the future.

Wallace Nelson, Chair
Perquimans County Board of Commissioners

Dr. Althea Riddick, Chair
Gates County Board of Commissioners

TAB K

NORTH CAROLINA
PERQUIMANS COUNTY

INTERLOCAL AGREEMENT FOR THE CONSOLIDATION OF 911 COMMNICATIONS SERVICES FOR PERQUIMANS COUNTY, NC AND GATES COUNTY, NC

THIS AGREEMENT is made and entered into this 1st day of March, 2024 by and between PERQUIMANS COUNTY, (hereinafter referred to as "PERQUIMANS") and GATES COUNTY, (hereinafter referred to as "GATES") for the purpose of consolidating 911 Communications Services.

WITNESSETH:

WHEREAS, Perquimans County and Gates County are political subdivisions of the State of North Carolina, both having the power and authority to enter into this Agreement with the signatories hereto having been authorized to execute this document on behalf of the Perquimans County Board of Commissioners and the Gates County Board of Commissioners; and

WHEREAS, the jurisdictions and residents of Gates County would benefit in terms of life safety and efficiency of service from a consolidated 911 Public Safety Answering Point (PSAP) providing services to Gates County; and

WHEREAS the undersigned governmental jurisdictions wish to agree to the establishment and maintenance of a consolidated PSAP, to be hereinafter known as "Perquimans-Gates 911 Communications"; and

WHEREAS, the establishment of such PSAP will provide improved law enforcement, fire and emergency medical service communications within the boundaries of the participating jurisdictions; and

WHEREAS, Perquimans is willing to provide law enforcement, fire and emergency medical service communications with the combined dispatching operations to be located at the Perquimans County Communications Center, which will serve as the central location for citizens to make and receive calls for public safety needs, subject to the execution of this Agreement.

NOW THEREFORE in consideration of the mutual terms and covenants and conditions set forth herein, it is hereby agreed and covenanted among the undersigned as follows:

1. The effective date of this agreement and contract shall be 12:01 am on March 1, 2024, and the Agreement shall continue in effect until terminated by the consent of the undersigned parties, subject to the termination processes and procedures noted herein.

2. PERQUIMANS agrees to assume all operational responsibility for emergency telecommunications for GATES beginning March 1, 2024.

3. PERQUIMANS and GATES mutually agree that the combined telecommunication operations will be managed by PERQUIMANS. PERQUIMANS and GATES will hold regular coordination meetings, at a minimum semi-annually, in order to communicate feedback and review overall service. Such coordination meetings will include an expansion of the current Perquimans 911 Communications Division Advisory Board to include representation from Gates County Administration and First Responders.

4. Any costs associated with consolidation and transitioning of services (including, but not limited to, any necessary antenna/tower work, establishing CAD services, moving or programming radio equipment), as well as establishing functioning backup PSAP services in Chowan County, are the responsibility of Gates County.

5. Any allocations to GATES from the State 911 Board for funding 911 Communications will be assigned to PERQUIMANS.

6. All costs associated with the operation of the Perquimans-Gates 911 Communications PSAP that are ineligible for funding by the State 911 Board NC Emergency State Telephone Fund will be split equally between PERQUIMANS and GATES.

7. The 2 (two) existing radio towers in GATES and associated VHF repeaters and 800 MHz patches will remain the responsibility of GATES.

8. Prior to April 30 of each year that this Agreement is in effect, the Perquimans County Manager shall notify the Gates County Manager of the projected compensation cost associated with this Agreement. GATES shall include such amount in its annual budget for the fiscal year commencing July 1. PERQUIMANS shall invoice GATES quarterly, with payments due September 30, December 31, March 31, and June 30. Emergency situations may require additional staffing, thus higher billable amounts than the projected budgeted amount may occur.

9. All daytime (8 am – 5 pm, Monday through Friday) administrative calls for the Gates County Sheriff's office, Department of Social Services, and Department of Public Utilities will be the responsibility of GATES. PERQUIMANS will assist with calls on the Sheriff, Department of Social Services and Department of Public Utilities' administrative line outside of normal County business hours.

10. PERQUIMANS agrees to assign a staffing level of at least four telecommunicators for each shift. PERQUIMANS will also staff sufficient management personnel to ensure proper operations as dictated by the State of North Carolina 911 Board. PERQUIMANS will train all telecommunicators to handle fire, emergency medical service, emergency management and law enforcement calls and to require all telecommunicators to obtain in a timely manner, any certifications necessary to allow said personnel to handle all emergency services calls.

11. This agreement is subject to, and shall be construed in accordance with, the laws of North Carolina and has been duly approved by both PERQUIMANS and GATES.

12. In the event that any party desires to terminate this Agreement, said party must give 24 months advance written notice to the other party, and the withdrawal shall take effect only as of the beginning of the next full fiscal year following such notice. This advance written notice may be waived if agreed upon by the governing bodies of both PERQUIMANS and GATES. Upon such termination if such alterations require repayment of North Carolina 911 Board PSAP Grant funds, the withdrawing party agrees to pay these costs. It is agreed by both parties that the consolidation of the Primary PSAPs is final and that no future separation of PERQUIMANS and GATES into multiple Primary PSAPs can occur once this Agreement is enacted.

13. Any notice to be given by either party to the other under this Agreement shall be in writing and shall be deemed to have been sufficiently given if delivered by hand, with written acknowledgement of receipt, or mailed by certified mail, with return receipt requested, to the other party. Notice must be delivered as indicated to the following address or such other address as either party may, from time to time, designate in writing for the receipt of notice.

PERQUIMANS:
County Manager
P.O. Box 45
Hertford, NC 27944

GATES:
County Manager
P.O. Box 148
Gatesville, NC 27938

PERQUIMANS COUNTY

Wallace E. Nelson, Chair

Tracy Mathews, Finance Officer

BOARD OF COUNTY COMMISSIONERS SEAL

ATTEST:

Mary P. Hunnicutt, Clerk to the Board

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

GATES COUNTY

Dr. Althea Riddick, Chair

William Roberson, Finance Officer

GATES COUNTY NORTH CAROLINA SEAL

ATTEST:

Joleatha Chestnutt, Clerk to the Board

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

TAB L

PERQUIMANS-GATES 911 CONSOLIDATION TIMELINE

PHASE I - IMMEDIATE TRANSITION OF KEY FUNCTIONS TO PERQUIMANS (0-90 Days)

Ensure Chowan 911 is willing to accomodate expansion from 3 to 4 dispatch positions for our Backup PSAP

Contract for Service approved by Gates and Perquimans Counties

- March 1, 2024 – June 30, 2025, for 1st year
- Gates and Perquimans equally fund all ineligible NC Emergency State Telephone Fund (ETSF) expense
- Perquimans provides Gates the annual budget no later than April 30th

Advertise immediately for additional fulltime Perquimans Telecommunicators

Initiate training for new Telecommunicators

2 Phone/Radio/CAD dispatch positions must be moved (1 to Perquimans & 1 to Chowan for Backup PSAP)

Move radio equipment from Gates 911 to Perquimans 911

Move CAD equipment from Gates 911 to Perquimans 911

Merge CAD and Mapping data for Perquimans and Gates

Set up software interface for responders

Meet with Gates 1st Responders to present proposed plan and hear concerns

PHASE II – MODIFY THE PERQUIMANS 911 CENTER TO TEMPORARILY ACCOMMODATE 6 DISPATCH POSITIONS (90-180 Days)

Complete training for new Telecommunicators

Apply for Seat Count Increase through the 911 Board to add a 6th dispatch position

Building modifications to accommodate 5th and 6th dispatch positions

Expand current 911 Communications Division Advisory Board (Semiannual Meetings)

PHASE III – RENOVATE/UPGRADE 911 CENTER FOR PERMANENT AS A CONSOLIDATED PSAP (24 Months)

Develop a design for needed renovations/upgrades

Apply for NC 911 Board Funding

Implement renovation plan

TAB M

STATE OF NORTH CAROLINA

WATAUGA COUNTY

INTERLOCAL GOVERNMENTAL AGREEMENT REGARDING CONSOLIDATION OF 9-1-1 DISPATCH SERVICES FOR WATAUGA COUNTY AND THE TOWN OF BOONE

THIS AGREEMENT is made and entered into this 1st day of May, 2022, by and between WATAUGA COUNTY, (hereinafter referred to as "COUNTY") and the TOWN OF BOONE, (hereinafter referred to as "TOWN") for the purpose of consolidating 9-1-1 dispatch services.

WITNESSETH:

WHEREAS, Watauga County and the Town of Boone are political subdivisions of the State of North Carolina, both having the power and authority to enter into this agreement with the signatories hereto having been authorized to execute this document on behalf of the Watauga County Board of Commissioners and the Boone Town Council; and

WHEREAS, the jurisdictions and residents of Watauga County would benefit in terms of life, safety and efficiency of service from a consolidated 9-1-1 Public Safety Answering Point (PSAP) providing services to the County and the municipalities and fire protection departments within the County; and

WHEREAS, the undersigned governmental jurisdictions wish to agree to the establishment and maintenance of a consolidated PSAP, to be hereinafter known as "Watauga County Communications"; and

WHEREAS, the establishment of such PSAP will provide improved police, fire, and emergency medical service communications within the boundaries of the participating jurisdictions, together with such other jurisdictions as may hereafter contract with the undersigned for 9-1-1 dispatch services; and

WHEREAS, the COUNTY is willing to provide police, fire, and emergency medical service communications with the combined dispatching operations to be located at the Watauga County Communications Center, which will serve as the central location for citizens to make and receive calls for public safety needs, subject to the execution of this Agreement.

NOW, THEREFORE in consideration of the mutual terms, covenants and conditions set forth herein, it is hereby agreed and covenanted among the undersigned as follows:

1. The effective date of this agreement and contract shall be 12:01 AM on May 1, 2022, and the agreement shall continue in effect until terminated by the consent of the undersigned parties, subject to the termination processes and procedures noted herein.

2. The COUNTY agrees to assume all operational responsibility for emergency services dispatch for the Town of Boone beginning May 1, 2022.

3. The COUNTY and TOWN mutually agree that the combined dispatching operations will be managed by the COUNTY. The County and Town will hold regular coordination meetings, at a minimum quarterly, in order to communicate feedback, and review overall service.

4. The COUNTY and TOWN agree that the Town of Boone Police Department communications services will be consolidated into and assumed by the Watauga County Communications Center and, in connection therewith, six full-time Boone PD telecommunicator positions will be transferred to and become County employees, all as set forth herein. The transfer of these six positions reflects the COUNTY assuming all E-911, other emergency calls, time sensitive calls, automated alarms, etc. and the TOWN will make reasonable efforts to filter administrative calls.

5. Transferred dispatchers becoming County employees hereunder will be subject to the provisions of the Watauga County Personnel Ordinance and the County's administrative policies, as well as all future amendments thereto, effective on the date of the transfer to the County. In addition, such employees will be entitled to all County benefits afforded to regular County employees.

6. The TOWN shall pay the COUNTY, as compensation for the dispatch services, the amount of $415,940 annually for the services described herein. Said compensation amount shall be subject to adjustment annually at the base rate referenced above plus the rate of the annual Consumer Price Index increase as published by the United States Department of Labor for South Urban Size B/C for the period ending December 31, not to exceed 5% annually. Prior to May 1 of each year that this Agreement is in effect, the County Manager shall notify the Town Manager of the projected compensation cost associated with this Agreement. The TOWN shall include such amount in its annual budget for the fiscal year commencing on July 1. The COUNTY shall invoice the TOWN quarterly, with payments due September 30, December 31, March 31, and June 30.

7. In lieu of the pro rata payment for services for the month of May and June 2022; the TOWN shall:
    a. Transfer equipment listed in Appendix A used in the operation of the Boone PD PSAP to the COUNTY. Once transferred, the COUNTY shall continue to house the equipment in the Boone PD facility as a back-up facility pending construction of the new Primary PSAP. In the event that the TOWN should receive a favorable offer for the 1500 Blowing Rock Road property the TOWN will notify COUNTY of the pending sale and allow a minimum of 90 days for relocation of equipment used for backup facility.
    b. Agree to waive permit, system development fees, and tap fees for water and sewer to the Emergency Services facility to be constructed by the COUNTY at 673 Brookshire Road. The COUNTY shall be responsible for usage of water and sewer once the facility is occupied and any alterations occurring after initial occupancy.

8. The COUNTY agrees to maintain a staffing level that incorporates the six positions referenced in this agreement in addition to COUNTY communications staff. The COUNTY will train all dispatchers to handle fire, emergency medical service, rescue squad, emergency management and law enforcement calls and to require all dispatchers to obtain, in a timely manner, any certifications necessary to allow said personnel to handle all emergency services calls.

9. Additional jurisdictions may become participants by written addendum to this Agreement, with the approval of the COUNTY.

10. This agreement is subject to, and shall be construed in accordance with, the laws of North Carolina and has been duly approved by both the TOWN and the COUNTY.

11. In the event that any party desires to terminate this Agreement, said party must give 24 months' advance written notice to the other party, and the withdrawal shall take effect only as of the beginning of the next full fiscal year following such notice. By way of example, and not in limitation: if notice is delivered later than the end of business on June 30 of a given year, the Agreement shall continue until the end of the following fiscal year, (e.g. notice given July 1, 2022, or later in that same fiscal year, equates to withdrawal on June 30, 2024). This advance written notice may be waived if agreed upon by the governing bodies of both the COUNTY and TOWN. Upon such termination if such alterations require repayment of funds, the withdrawing party agrees to pay all cost associated with any repayment of North Carolina 911 Board PSAP Priority One Collaboration Grant funds that may be due to the State. It is agreed by both parties that the consolidation of the Primary PSAPs is final and that no future separation of the COUNTY and TOWN into multiple Primary PSAPs can occur once this Agreement is enacted.

12. Any notice to be given by either party to the other under this Agreement shall be in writing and shall be deemed to have been sufficiently given if delivered by hand, with written acknowledgement of receipt, or mailed by certified mail, with return receipt requested, to the other party. Notice must be delivered as indicated to the following address or such other address as either party may, from time to time, designate in writing for the receipt of notice:

COUNTY:
County Manager
814 West King Street
Suite 205
Boone, NC 28607

TOWN:
Town Manager
567 West King Street
Boone, NC 28607

13. The parties may only amend this Agreement in writing with the approval of both Boards and with the subsequent signatures of the respective duly authorized representatives.

IN WITNESS WHEREOF, the parties have executed this Agreement on the day and year as written above.

WATAUGA COUNTY

John Welch, Chairman

Misty Watson
County Finance Director

ATTEST:

Anita J. Fogle
Clerk to the Board

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

TOWN OF BOONE

Tim Futrelle, Mayor

ATTEST:

Nicole Harmon
Town Clerk

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

Amy Davis
Town Finance Director

TAB N

INTERGOVERNMENTAL AGREEMENT FOR A CONSOLIDATED 9-1-1 CENTER BETWEEN THE COUNTY OF CUMBERLAND AND THE CITY OF FAYETTEVILLE

December 11, 2017

This Agreement, effective as of December 11, 2017, made and entered into by and among the City of Fayetteville, North Carolina, and the County of Cumberland, North Carolina.

WITNESSETH:

WHEREAS, a Needs Assessment and Feasibility Study was completed in February 2016, based upon a scope of work developed by the City of Fayetteville and the County of Cumberland and was jointly paid for; and

WHEREAS, the Study found that the existing facilities do not meet safety and survivability standards for this kind of critical operation; and consolidation of the two existing 9-1-1 centers offers the following potential advantages: significantly enhanced safety and survivability, improved efficiency, improved situational awareness and information flow, reduced maintenance cost, and enhanced ability to address the demand of Next Generation 9-1-1 standards; and

WHEREAS, the City of Fayetteville and the County of Cumberland formed the Joint 9-1-1 Task Force, including representation from law enforcement, fire and emergency medical services (EMS) entities; as well as a County Administration representative and City Administration representative; and this Committee has been exploring the benefits of consolidating public safety communications within Cumberland County; and

WHEREAS, the jurisdictions and residents of Cumberland County would benefit in terms of reliability, effectiveness and efficiency of service from a consolidated 9-1-1 Public Safety Answering Point (PSAP) providing services to Cumberland County, the City of Fayetteville, and all other municipalities within Cumberland County; and

WHEREAS, the City and County agree to the establishment and maintenance of a consolidated PSAP / 9-1-1 Center, to be hereafter known as "Fayetteville Cumberland Consolidated 9-1-1 Center" (herein the "9-1-1 Center"); and

WHEREAS, the establishment of such PSAP will provide improved law enforcement, fire, EMS, and Animal Control communications within the boundaries of the participating jurisdictions (the "Consolidated Service Area"), together with such other jurisdictions as may hereafter contract with the undersigned for communications services; and

WHEREAS, the establishment and maintenance of such PSAP will be of substantial benefit to the citizens of the undersigned governmental jurisdictions and the public in general;

NOW THEREFORE, as an exercise of the police power and authority granted by the Constitution and laws of the State of North Carolina, and in consideration of the mutual terms, covenants and conditions set forth herein, it is hereby agreed and covenanted among the undersigned as follows:

1. PURPOSE:

This Intergovernmental Agreement to establish the 9-1-1 Center contains the following organizational objectives:

1.1. To promote the health, safety and general welfare of the citizens throughout Cumberland County. To that end, the Parties wish to continually improve procedural efficiency and technical capabilities of emergency call taking, emergency call processing, and all emergency response communications.

1.2. To save lives by improved call processing time which reduces response times to emergency incidents.

1.3. To improve safety to emergency responders.

1.4. To effectively receive calls for routine and emergency assistance, based on structured call intake protocols, and coordinate response resources to those calls for service based on the needs of the caller and the direction of field response agencies.

1.5. To provide all participating agencies with a single contact point for the notification of emergencies and receipt of emergency assistance requests, and for the control of coordinated dispatch for law enforcement, fire, EMS, Emergency Management, and Animal Control.

1.6. To bring about increased efficiencies and coordination of communications and emergency response services, including the use of the National Incident Management System and the National Response Plan. These communications improvements are intended to impact emergency response for all types of scenarios that are generally broken into three categories:

1.6.1. Emergencies that occur daily in the community: those "typical" crimes, fires, and medical emergencies.

1.6.2. Local, small scale disasters, such as a school bus accident.

1.6.3. Large-scale and/or national-level disasters, such as terrorist attacks or natural disasters.

1.7. To provide the public and field response agencies with highly trained, certified and/or credentialed 9-1-1 employees who strive to provide the best service possible to all Parties involved.

1.8. To set the goals of meeting National Fire Protection Association (NFPA) 1221 and/or Insurance Services Office (ISO) standards and attaining and sustaining the following accreditations: International Academies of Emergency Dispatch (IAED) accreditations and Commission on Accreditation for Law Enforcement Agencies (CALEA).

1.9. To provide funding to ensure the appropriate level of service to all Parties involved as defined by user agencies by establishing funding mechanisms and defining the budget process for the 9-1-1 Center.

1.10. To provide for governance of the 9-1-1 Center.

1.11. To ensure accountability to the field response agencies by creating User Groups that provide feedback to the Fayetteville Cumberland 9-1-1 Board.

1.12. To provide a mechanism for the addition or withdrawal of Parties to the Agreement.

1.13. To establish an alternate center to serve as a backup consistent with state law and as a secondary location where emergency dispatchers will function in the event that they need to evacuate the primary 9-1-1 Center.

2. DEFINITIONS:

As used in this Agreement the following words and phrases shall have the meanings indicated unless the context clearly requires otherwise:

2.1. "9-1-1 Services" shall mean those services and equipment to answer 9-1-1 calls on a 24-hours-per-day basis.

2.2. "Alarm" shall be, as defined by NFPA, a "signal or message from a person or device indicating the existence of an emergency or other situation that requires action by an emergency response agency." An "alarm" is a call.

2.3. "Call" is made by an individual or alarm and is received at a PSAP (9-1-1 Center) and is answered by a trained telecommunicator at that PSAP. The call can be received on a 9-1-1 trunk, administrative line, or a dedicated seven-digit line that has been advertised to the public. A call typically requires some action on behalf of the telecommunicator whether a

resource is being dispatched or not. A text message or other communication method that otherwise is consistent with this description shall also be a call.

2.4. "Call Processing" for medical and fire calls shall be the time from when the call (alarm) is answered until dispatch begins. The authority having jurisdiction shall determine the call processing timeframes for law enforcement incidents.

2.5. "Center Capital Costs" shall mean the costs to build the 9-1-1 Center, excluding grant funding.

2.6. "City" shall mean the City of Fayetteville.

2.7. "County" shall mean the County of Cumberland.

2.8. "Fayetteville Cumberland 9-1-1 Council" shall mean the advisory body as defined by Article 6 hereof.

2.9. "Fayetteville Cumberland Consolidated 9-1-1 Center" shall mean collectively the Parties to this Agreement in their capacity as providers and/or receivers of 9-1-1 Services; or, as the context may require, the system of providing such services; or the facility housing the countywide 9-1-1 operations.

2.10. "Incident Location" shall be the physical location that need for services is located.

2.11. "Incident Volume" shall be the number of events entered into the 9-1-1 Center's computer aided dispatch (CAD) system, which requires action by a responding unit or units, including self-initiated events, in the City of Fayetteville and/or Cumberland County. The respective incident volume will be per incident, excluding test calls, training calls, and duplicate or cancelled events.

2.12. "Other Services" shall mean services related to emergency service or jurisdictional communications provision, such as administrative call taking.

2.13. "Parties" shall mean the signatories to this Agreement.

2.14. "Population" shall mean the official population of Cumberland County from the United States Census Bureau, including official posted estimates. The population attributed to the County shall be the latest official population or estimate less the population attributed to the City of Fayetteville. The population attributed to the City of Fayetteville shall be the latest official population or estimate. These population numbers shall be used to attribute a percentage of the population to each Party,

2.15. "PSAP" (Public Safety Answering Point) shall mean the facility housing the equipment and personnel that provide 9-1-1 call answering, processing and dispatching services.

3. CITY TO ESTABLISH A CONSOLIDATED 9-1-1 COMMUNICATIONS DEPARTMENT:

The Parties agree that the City will establish and maintain a 9-1-1 Communications Department that will operate the consolidated 9-1-1 Center. The City will provide needed support services including, but not limited to, payroll, employee benefits, facility maintenance, budget/finance, legal, risk management, information technology and procurement. The 9-1-1 Director and all employees of the 9-1-1 Center will be City employees, subject to all City personnel policies and procedures.

The City shall be the operating authority for the 9-1-1 Center and any terms hereof that alter the standard authority and responsibilities of the City Manager to manage the operations of this City Department and its employees and assets will be narrowly construed.

4. PROGRAMMING AND CONSTRUCTION OF FACILITY:

4.1. Location: The 9-1-1 Center and Emergency Management facility will be constructed on property owned by the City located off Fields Road, unless otherwise agreed by the Parties. The appraised value of the acreage provided for these facilities will be credited to the City's capital contribution to the 9-1-1 Center project based upon an average appraised value per acre.

4.2. Capital Cost: Construction and outfitting of the Fayetteville Cumberland Consolidated 9-1-1 Center and other related capital costs not covered by state 9-1-1 funding ("Center Capital Costs") will be supported by both the City and the County.

The initial capital costs for the 9-1-1 portion, based on square footage allocated to 9-1-1 operations, of the Center Capital Costs will be split between the City and County. The City's split is 60 percent, including contributing to any debt service incurred for that purpose as more fully described in Article 9. The County's split is 40 percent, including contributing to any debt service incurred for that purpose as more fully described in Article 9.

The County will fund all capital costs related to the County Emergency Management portion of the facility, based on the square footage allocated specifically for Emergency Management operations.

Shared common area spaces will be subject to contributions from both the City and County based on percentage split indicated above, 60 percent City and 40 percent County.

The City will apply for a grant from the state 9-1-1 Board and, if awarded, will administer that funding consistent with grant requirements to support the construction and operation of the 9-1-1 Center.

4.3. Programming: The Parties will work together through the Executive Board and 9-1-1 Council as defined herein to select the architect and contractors necessary to design and construct the 9-1-1 Center.

The 9-1-1 Center will include at least the following: (1) dispatch area, (2) director and supervisor administrative offices, technology specialist offices, clerical and reception office space, (3) radio/recording/CAD/9-1-1 technology equipment rooms, (4) training area, and (5) storage for inventory, supplies and records.

County Emergency Management will have (1) administrative offices, (2) Emergency Operations Center, (3) break-out meeting rooms, (4) media relations area, (5) storage for inventory, supplies and records and (6) exterior vehicle storage space.

Common areas shall include at least training/meeting rooms, locker rooms, bathroom/shower facilities, and kitchen.

The City will take all actions necessary to ensure the consistent availability of suitable facilities as a backup center, consistent with state regulations, in the event that 9-1-1 Center employees must evacuate the primary 9-1-1 Center. Costs associated with the provision of this facility shall be included in the 9-1-1 Center budget and distributed between the Parties as described herein.

5. TRANSITION ISSUES:

The Parties agree to cooperate in the many complex aspects of transitioning into the 9-1-1 Center. There will be continued involvement of the Fayetteville Cumberland 9-1-1 Council in all phases of the establishment of the 9-1-1 Center. The capital budget, funding plan, initial operational budget, and project schedule will be considered and approved by the City and County as part of each Party's standard budget review and approval processes.

6. 9-1-1 CENTER GOVERNANCE:

With the execution of this Agreement, the existing Joint 9-1-1 Task Force will be disbanded. The 9-1-1 Center will be governed consistent with the terms of this agreement as follows:

6.1. Executive Board:

6.1.1. Membership: The Executive Board shall be comprised of the City Manager or designee, and the County Manager or designee.

6.1.2. Responsibility and Authority: The Executive Board shall have the responsibility:

6.1.2.1. to approve the mission and goals of the 9-1-1 Center,
6.1.2.2. to review performance relative to the implementation of the 9-1-1 Center fiscal policies and budget,
6.1.2.3. to consider and resolve questions, issues and disputes arising from the 9-1-1 Council,
6.1.2.4. to oversee the composition and operation of User Groups of the 9-1-1 Center as discussed in Article 7,
6.1.2.5. to supervise the Center Director with direct advisory input from the 9-1-1 Council, and,
6.1.2.6. to select and conduct performance reviews of the Center Director within guidelines of applicable personnel policies.

6.1.3. It is the intent of the Parties that the members of the Executive Board work together to achieve consensus on key operational issues. Anything to the contrary notwithstanding, however, the City Manager shall be responsible for the operational effectiveness of the 9-1-1 Department and shall have authority to act unilaterally should consensus not be achieved.

6.2. 9-1-1 Council:

6.2.1. Membership:

City of Fayetteville Police Chief (voting)
City of Fayetteville Fire Chief (voting)
Cumberland County Sheriff (voting)
County Fire Representative (voting)
EMS Director (voting)
Town of Hope Mills Public Safety Representative or Town Manager (voting)
Town of Spring Lake Public Safety Representative or Town Manager (voting)

Ex Officio: (non-voting)
City Manager Office Liaison
City Council Liaison
County Manager Office Liaison
County Commission Liaison

6.2.2. Responsibility and Authority: The 9-1-1 Council shall have the responsibility to:

6.2.2.1. Elect a Chairperson from its voting members by a majority vote. The Chairperson will serve a one-year term and may be re-elected for subsequent terms. The Chairperson will have the authority and responsibility:

6.2.2.1.1. to preside at regular and special meetings of the 9-1-1 Council;

6.2.2.1.2. to appoint a member of the 9-1-1 Council to act as Chairperson in his/her absence. This appointment may be made on a case-by-case basis or for a designated period of time, not to exceed three consecutive meetings;

6.2.2.1.3. to call special meetings as appropriate;

6.2.2.1.4. to appoint subcommittees as appropriate;

6.2.2.1.5. to represent the 9-1-1 Council or appoint another member or the 9-1-1 Center Director to represent the 9-1-1 Council at various jurisdictional meetings where consolidated dispatch operations are on the agenda;

6.2.2.1.6. to provide input to the Executive Board with performance reviews of the Center Director and make written recommendations regarding his or her performance, utilizing the City Personnel Policies & Procedures.

6.2.2.2. Establish, together with the Director, the mission and strategic goals of the 9-1-1 Center;

6.2.2.3. Establish operational protocols, policies and procedures for the 9-1-1 Center with the assistance of the Director;

6.2.2.4. Consider and resolve questions, issues and disputes presented to the 9-1-1 Council by the User Groups;

6.2.2.5. Direct the development of User Groups as discussed in Article 7;

6.2.2.6. Work with the Director to submit to the Executive Board a recommended budget for the 9-1-1 Center by no later than February 15th of each year for the upcoming fiscal year beginning July 1;

6.2.2.7. Provide advocacy for both capital and operational needs of the 9-1-1 Center, and work toward funding efficiencies and grant opportunities;

6.2.2.8. Annually adopt a long-range comprehensive capital plan.

6.2.3. Meetings of the 9-1-1 Council:

6.2.3.1. Any member of the 9-1-1 Council may designate a representative to attend meetings in the member's place. The designee must be from the same jurisdiction and the member will ensure that the designee is knowledgeable and prepared. While so designated, the representative shall assume all rights and responsibilities of a full member. Members themselves, however, are expected to attend the majority of meetings.

6.2.3.2. Regularly scheduled meetings of the 9-1-1 Council shall be held monthly at such time and place as determined by mutual agreement. Special meetings may be called by the Chairperson as appropriate.

6.2.3.3. A quorum shall be necessary to convene a meeting. Five voting members shall constitute a quorum. All motions presented for approval shall require majority vote of those present in order to move forward. Additional procedural rules for 9-1-1 Council meetings will be established by the 9-1-1 Council within the first 90 days of the 9-1-1 Council's existence.

6.2.3.4. The 9-1-1 Council will be a public body subject to the North Carolina Freedom of Information Act.

7. USER GROUPS:

Two User Groups will be established for the purpose of providing the opportunity for all user agencies to have input into the operations of the 9-1-1 Center. There will be a Law Enforcement User Group and a separate Fire/EMS User Group.

7.1. Law Enforcement User Group:

The Law Enforcement User Group shall be comprised of the following members each designated by the agency chief:

- two representatives from the Fayetteville Police Department,
- two representatives from the Cumberland County Sheriff's Office,
- one representative from the Hope Mills Police Department,
- one representative from the Spring Lake Police Department,
- one representative from Cumberland County Animal Control, and
- one 9-1-1 Center employee who will serve as a liaison for the user group.

7.2. Fire/EMS User Group:

The Fire/EMS User Group shall be comprised of the following members each designated by the agency chief:

- two representatives from the Fayetteville Fire Department,
- one representative from the Hope Mills Fire Department;
- one representative from the Spring Lake Fire Department;
- three representatives from county fire stations, designated by the Fire Chiefs' Association;
- two representatives from EMS of Cape Fear Valley Health, and
- one 9-1-1 Center employee who will serve as a liaison for the user group.

7.3. Each User Group shall appoint a chair to preside over all their meetings. A quorum shall be necessary to convene a meeting. These groups will meet at least quarterly and provide written feedback to the 9-1-1 Council regarding any concerns, problems, or

recommendations related to operational protocols or any other aspects of the 9-1-1 Center's performance to meet their needs.

7.4. User Group recommendations relative to service levels, staffing levels, performance standards, operational procedures and protocols or systems shall be made to the 9-1-1 Director no later than August 15 of each year in order to be considered for implementation in the next budget year.

8. CENTER DIRECTOR:

The 9-1-1 Center will be managed, operated and supervised by a Center Director, who will be a City employee subject to the City's personnel policies and other employee regulations and under the direct supervision of the City Manager or designee. Any major personnel actions involving the Director position, including hiring and disciplinary action or firing, will be considered by the Executive Board.

8.1. Responsibility and Authority of the Center Director:

8.1.1. The Center Director shall be the administrative head of the 9-1-1 Center and will be responsible for handling administration and personnel matters within the framework of City regulations and personnel policies.

8.1.2. The Center Director shall be responsible for following operational policies and dispatch protocols established by each served agency, as approved by the 9-1-1 Council.

8.1.3. The Director will annually prepare a proposed department budget and present it to the 9-1-1 Council for comment. The Director will then present the proposed budget and any 9-1-1 Council comment to the Executive Board no later than February 15th of each year for the upcoming fiscal year beginning July 1st.

8.1.4. The Center Director will be responsible for managing the 9-1-1 Center within the approved annual budget, following all applicable City requirements, policies and procedures.

8.1.5. The Center Director will work closely with staff regarding equipment, training, and other issues for which 9-1-1 funds can be utilized to maintain the best available technology and training to best serve citizens.

8.1.6. The Center Director will be responsible for all activities of the 9-1-1 Center, including but not limited to oversight of call taking, dispatching, records (custodian), recording, staffing, training, and security.

8.1.7. The Center Director shall establish and utilize performance standards for employees. The Director shall actively and continually consider and evaluate all means and opportunities toward the enhancement of operational effectiveness of emergency communications for the benefit of the public and emergency response agencies.

8.1.8. The Center Director shall review and evaluate proposals from User Groups for changes to service levels, performance standards, and/or operational procedures. The Director will prepare a written report on such proposals to include, at a minimum, implementation costs, benefits and liabilities, and will provide a recommendation. Such reports and recommendations will be forwarded to the 9-1-1 Council for review. Final decisions will be made by the 9-1-1 Council on all changes in service levels, performance standards and operational procedures, contingent upon available funding for implementation. However, in order to meet the need for procedural changes in a dynamic deployment situation, the Director will be given authority to alter the procedures during critical circumstances.

8.1.9. The Center Director will participate in a non-voting capacity in meetings of the 9-1-1 Council. Should it be necessary for the Center Director to miss a meeting, he/she will have a designee present.

8.1.10. The Center Director will develop appropriate long-range plans, including strategic capital improvements, staffing, technology, and other matters. A comprehensive long-range plan will be developed and updated yearly. This plan will be presented to the 9-1-1 Council on a yearly basis at a date and time determined by the 9-1-1 Council. Each year the 9-1-1 Council and Director will reach consensus on the plan, and the 9-1-1 Council will take action to adopt the plan.

9. FUNDING:

9.1. The 9-1-1 Center may receive funding from 9-1-1 fees, grants, and/or taxes and other sources. All such funds received shall be credited against the financial obligations of the Parties and utilized solely for the operation, repair, maintenance, and administration of the 9-1-1 Center, subject to review during adoption of the annual budget and adjustment or amendment thereto.

9.2. The amount to be paid by the City and County for 9-1-1 Center operations shall be determined in accordance with this Agreement and submitted to each no later than March 1st of each year, subject to final approval by the City Council and Board of Commissioners in their annual budgets.

9.3. The funding for operations of the 9-1-1 Center sought annually from the County shall be based on the population percentage attributed to the County. In addition, the County shall

increase its contribution in an amount equal to the funding the County annually receives from Hope Mills and Spring Lake for dispatch services. Provided, however, that the County's contribution for Spring Lake and Hope Mills will not be lower than that received by the County during the 2018 fiscal year.

9.3.1. On an annual basis, the Center Director shall determine the population percentage for both the City and County and present same to the Executive Board for concurrence. It shall be at the discretion of the Executive Board to change the City and County population percentages for contributions.

9.3.2. After three years of operations as a consolidated 9-1-1 Center, the Executive Board shall review the operational cost allocation method, with input from the Center Director.

9.4. Any revenue not expended during the fiscal year shall be retained in a special fund and will be available for appropriation in subsequent years. Any fund balance appropriated will be used in calculating the net operational funding to be sought from the County.

9.5. In the event expenditures in any fiscal year exceed budgeted funding for the 9-1-1 Center, the City may seek a supplemental funding allocation from the County based on the determined population percentage for that overage, subject to appropriation by the Parties.

9.6. The County will not reduce 9-1-1 operational funding, excluding capital funding, until such time as all transitional issues have been addressed and the existing City and County 9-1-1 Centers have been consolidated into a single facility and is fully operational as per North Carolina 911 Board timelines and milestones established in the grant award contract.

9.7. The City will provide the land necessary to support the construction of the 9-1-1 Center at the agreed upon location, which is currently on property owned by the City and located off of Fields Road, the value of which will be a credit to the City's capital contribution to the 9-1-1 Center development.

9.8. Upon request, the County will transfer operational equipment currently utilized by its PSAP operations at no cost.

9.9. The County shall contribute 40 percent of the Center Capital Costs provided that:

9.9.1. The County's capital contribution shall be made as a reimbursement payment to the City of the County's pro-rata share of the actual debt service paid annually by the City over the life of the financing and will be due within 30 days of any payment made by the City,

9.9.2. The Center Capital Costs as used herein shall exclude any costs paid by grants, other agencies, or otherwise not incurred by the City, or incurred for other City or County functions not required for operation of the 9-1-1 Center, and,

9.9.3. The capital budget for the 9-1-1 Center's initial development is approved by the City Council and County Commission.

9.10. The County shall fund all capital costs related to the County Emergency Management portion of the facility, based on the square footage allocated specifically for Emergency Management operations.

9.11. After official consolidation of the PSAPs, the County shall contribute to future capital costs associated with the operation of the 9-1-1 Center, based on population percentage, provided that such costs are approved during the annual budget approval process established herein.

10. EQUIPMENT:

Equipment and furnishings for the 9-1-1 Center shall be purchased in the City's name and be the property of the City.

The purchase and maintenance of all equipment necessary to receive radio calls, radio transmissions, and data at the locations (or vehicles) of participating jurisdictions will be the responsibility of the jurisdictions. The Parties may engage in cooperative purchasing activities, including but not limited to, use of North Carolina State Contracts.

11. DURATION OF AGREEMENT – TERMINATION:

This agreement may be terminated, without further obligation on either Party, up to June 30, 2018, should any of the following occur:

- A North Carolina 911 Board grant is deemed insufficient by the Parties, or
- The City fails to execute the agreements required to accept grant funding.

The initial duration of this Agreement shall be for a period of ten (10) years from the date hereof, and thereafter shall be automatically extended for consecutive two (2) year periods unless terminated by the Parties. In the event that any Party desires to terminate this Agreement, said Party must give 12 months' advance written notice to the other Parties, and the withdrawal shall take effect only as of the beginning of the succeeding fiscal year, unless otherwise agreed between the Parties. (By way of example and not in limitation, if notice is delivered later than the end of business June 30th of a given year, the Agreement shall continue until the end of the following fiscal year. Notice delivered June 30, 2021, equals withdrawal June 30, 2022. Notice given July 1, 2020, or later, equals withdrawal June 30, 2022.)

11.1. City Termination: The City will be required to transfer all assets, including real property, utilized to operate the 9-1-1 Center and all employees will become employees of the County. The City will not be eligible for state 9-1-1 funding should it choose to establish a separate PSAP.

11.2. County Termination: The County will not be entitled to any assets or personnel from the 9-1-1 Center and will not be eligible for state 9-1-1 funding should it choose to establish a separate PSAP. The County's obligation to pay Center Capital Costs as provided in Article 9.9 shall survive termination.

12. OPERATIONAL PERFORMANCE STANDARDS:

Consistent with Article 1.7 and 1.8 hereof, within two years of consolidation, the 9-1-1 Center will meet NFPA 1221 and/or ISO standards and attain and sustain the following: IAED accreditations and CALEA Public Safety Communications accreditations.

12.1. Reporting: Commencing 12 months after the opening of the 9-1-1 Center and at least quarterly thereafter, the Center Director shall submit a performance report to the Executive Board and 9-1-1 Council describing the status of the 9-1-1 Center and reporting the following at a minimum:

12.1.1. The status of IAED and CALEA accreditations, and adherence to NFPA 1221 standards.

12.1.2. Performance Metrics for calls including, but not limited to, the items below. Annually, the 9-1-1 Center shall advise the Executive Board and 9-1-1 Council of the latest standards for performance metrics in alignment with the most stringent industry standards from NFPA and IAED, and other sources as necessary.

12.1.2.1. ECaTS (Call answer time) in alignment with most recent version of NFPA 1221 (As of the signed date of this Agreement, 95% of calls on emergency lines answered within 15 secs)
12.1.2.2. Abandoned calls presented to the 9-1-1 Center (Max. 12%)
12.1.2.3. Call processing times for Medical / Fire, in alignment with most recent version of NFPA 1221 (As of the signed date of this Agreement, 90% of call processing for EMD calls within 90 secs and 90% of call processing for EFD calls within 64 secs)
12.1.2.4. Quality Assurance Scores for each served agency, in alignment with requirements from IAED (Min. 95% compliance)

12.2. Minimum Performance Standards: The 9-1-1 Center shall Breach Operational Performance Standards should any of the following occur:

12.2.1. The failure to obtain or sustain IAED or CALEA accreditations, or meet NFPA 1221 standards; or

12.2.2. The rolling 12-month average for any Performance Metric falls below those established annually, the most current of which are noted in Paragraph 12.1.2.

12.3. Breach Operational Performance Standards: The following provisions shall apply to any Breach as defined in Article 12.2:

12.3.1. Required Actions: The Center Director shall submit a Performance Recovery Plan to the 9-1-1 Council for review within 45 days. The 9-1-1 Council shall have 30 days to review that plan and make a recommendation to the Executive Board regarding the acceptance, amendment, or rejection of that Plan. Upon approval, the Executive Board shall manage its implementation through the Center Director and 9-1-1 Council as appropriate.

12.3.2. Timing: If a Breach is not cured within 24 months, the remedies outlined in the next Paragraph shall become active. The 9-1-1 Council may, by a three-fourths supermajority vote of all voting members, extend this cure period by up to an additional 12 months.

12.3.3. Remedy: The Party without operational control at the time of the Breach shall have the following alternatives in seeking to remedy the Breach:

12.3.3.1. Propose and reach agreement on an alternate Performance Recovery Plan including clear deadlines from implementation and cure of the Breach; or,
12.3.3.2. Waive the Breach, and establish new performance standards.

12.4. Either Party shall have the right to audit all information and systems related to the 9-1-1 Center's performance under this Article 12 at its cost. A failure to reasonably cooperate with such an audit or an audit finding that 9-1-1 Center performance information was knowingly falsified will be a material breach of this agreement.

13. PERSONNEL:

The Parties recognize the importance of ensuring the successful transition of employees to the new operational framework and agree to work cooperatively to ensure that transitioned employees remain as whole as possible. The Center Director will prepare a transition plan for presentation to the 9-1-1 Council who will make a recommendation to the Executive Board who must agree on the final transition plan.

That plan will provide the following at a minimum:

13.1. That all County PSAP employees in good standing at the time of transition will be offered a position in the 9-1-1 Center.

13.2. That the position will be commensurate with the employee's skills and experience.

13.3. That transitioned employees will be grandfathered into the compensation system applicable to them at the time of transition and have the right to remain in that system unless they choose to leave that grandfather status in order to move to a compensation system established by the City.

13.4. That any accumulated vacation, or sick time will be transitioned hour for hour.

14. ADDITIONAL SERVED JURISDICTIONS:

The City may, at its option, enter into agreements to provide PSAP services to other jurisdictions under terms and conditions that they define. Provided, however, that such agreements shall not impair any of the County's rights under this agreement. By way of example, without limitation, the composition or responsibilities of the Board may not be changed except by written addendum to this Agreement and the County's remedies on breach under Article 12 shall be specifically reserved in any such agreement.

15. MEDIATION:

Any controversy with regard to the application or interpretation of this Agreement shall be submitted to the Executive Board for resolution. Any unresolved issue may be submitted for mediation. Upon failure of mediation, each Party reserves all rights and remedies otherwise available under North Carolina law.

16. RESPONSIBILITY FOR LOSS:

Each participating jurisdiction agrees to be responsible and assume the risk of liability for its own wrongful and/or negligent acts or omissions, or those of its officers, agents, or employees to the extent that liability exists.

17. SEVERABILITY:

Should any part of the Agreement be determined by a court of competent jurisdiction to be invalid, illegal or against public policy, said offending article shall be void and of no effect, and shall not render any other article herein, nor this Agreement as a whole, invalid. Those rights and obligations under this Agreement, which by their nature should survive, shall remain in effect after termination, suspension or expiration hereof.

18. EXECUTION:

This Agreement, or amendments hereto, shall be executed on behalf of each participating jurisdiction by its duly authorized representative and pursuant to an appropriate motion, resolution or ordinance of each participating jurisdiction. This Agreement, or any amendment thereto, shall be deemed adopted upon the date of execution by the last so authorized representative.

19. SIGNATURES:

Each Party to this Agreement shall sign a signature page to constitute valid execution.

20. ENTIRE AGREEMENT:

This document encompasses the entire Agreement of the members. No understanding or amendment, addendum, or addition to this Agreement shall be effective unless made in writing and signed by all members.

CITY OF FAYETTEVILLE

_____
MITCH COLVIN, Mayor

ATTEST:

_____
PAMELA J. MEGILL, City Clerk

CUMBERLAND COUNTY

_____
LARRY L. LANCASTER, Chairman

ATTEST:

_____
CANDICE WHITE,
Clerk to the Board of Commissioners

TAB O

City of Fayetteville & Cumberland County, NC
Emergency Communication Center
Programming and Planning Study

Prepared for:

City of Fayetteville
Administrative Complex
433 Hay Street
Fayetteville, NC 28301

Cumberland County
County Courthouse
117 Dick Street
Fayetteville, NC 28301

March 4, 2016

MCP ARCHITECTURE
MissionCriticalPartners
with
SCHRADERGROUP architecture, LLC
design | planning | programming

TABLE OF CONTENTS

1 EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

INTRODUCTION

Mission Critical Partners, Inc. (MCP) with SCHRADERGROUP architecture (SGA) was contracted by The City of Fayetteville/ Cumberland County Team to conduct a comprehensive analysis and evaluation of the objectives identified below. The summary of each of these objectives and related issues are considered the essence of the project scope.

- Conduct a thorough programming effort to determine future space needs
- Conduct a threat assessment to evaluate different sites and the feasibility of use for a new Emergency Communication Center
- Develop a systems narrative to describe proposed building systems
- Develop a concept floor plan and site plan for each of the proposed sites
- Develop a set of conceptual budgets from those design concepts and site test fits

MCP/SGA met with The City of Fayetteville/ Cumberland County Team to understand the needs of the organization in November of 2015. This kick-off meeting and programming workshop focused on understanding the proposed operations of the co-located organizations and how those operations might translate into a new facility. The team then visited the various sites identified in this study. Extensive conversation occurred focusing on the feasibility of each site for the proposed use. A preliminary Threat and Vulnerability discussion was then held from which the Threat Assessment portion of this document is derived.

The diagrams in this study attempt to provide some form to the programming effort undertaken in November in order to test the program on the sites presented. The balance of this document supports the overall programming effort undertaken by the team in November.

BUILDING DESIGN PHILOSOPHY

The proposed building construction will be developed to house the functions of the combined City of Fayetteville Communication Agency, The Cumberland County Communication Agency as well as the County Emergency Management Agency. The City Data Disaster Recovery program was also included the overall building program. Following extended conversation the team also allotted area in an ancillary building for the storage of EMA vehicles and equipment.

Since the facility will house the Co-located Communications Center, the Emergency Operations Center and the City Data Disaster Recovery elements, the building must provide for all disaster related operations. Disaster related operations are defined as periods of natural and civil disaster where normal building access and services may be temporarily disrupted.

Construction should:

- Consider the most economical solution to the proposed construction project
- Consider cost effectiveness of operations when evaluating capital expenditures
- Consider near and long term environmental impact when evaluating capital expenditures
- Provide the space required to adequately deliver Public Safety Services to the Region
- Provide appropriate levels of sustainability and survivability to maintain the critical operations of the facility
- Provide an ergonomically appropriate facility that considers the extended periods of use by personnel

The balance of this Section provide a brief summary of each of the Sections included in this overall document.

CONCLUSIONS

Program Summary

The programming information will be used as the basis for locating these functions within the concept plan developed later in this document. What is included in this section are all of the building elements anticipated for the proposed facility. The Concept Design identified in Section 5 of this document and the Concept Budgets described in Section 6 of this document reflect the building program outlined here.

Following the programming workshop a program document was developed. Ultimately the program document (provided beginning on page 2-3) breaks the facility into 7 major components. In addition, the programming sessions identified the need for a separate EMA Vehicle Storage facility on the site (as previously described). The gross square footage program for the facility is as follows:

Administrative Offices	7,830 s.f.
Emergency Communication Center	5,313 s.f.
Training	751 s.f.
Emergency Operations Center	3,457 s.f.
Media Relations	1,101 s.f.
Technology Spaces	4,771 s.f.
Common Spaces	6,291 s.f.
Subtotal (Main Building)	29,514 Net Square Feet
Net to Gross Conversion	2,951 s.f.
TOTAL MAIN BUILDING	32,465 Gross Square Feet
EMA Vehicle Storage Building	6,959 Net Square Feet
Net to Gross Conversion	696 s.f.
TOTAL EMA VEHICLE STORAGE BUILDING	7,654 Gross Square Feet
TOTAL BUILDING AREA	40,119 Gross Square Feet

These building components are used in the concept diagrams and budget exercises developed for Section 5 and 6 of this overall study. It should be noted that once this program was test fit into a concept diagram the building areas remained remarkably close to the programmed areas outlined on the pages to follow.

Threat Assessment

This section highlights a Threat Assessment developed for each of the three proposed sites assembled for this Study. These Threat Assessments are performed in general conformance with FEMA 452 Risk Assessment criteria. Topics similar to those identified in the FEMA document are addressed however they are addressed in a format more specific to a site selection process.

Fayetteville-Cumberland County asked the team to assess and propose development on three sites within the County. A fourth site was originally toured and contemplated however after review of the threat assessment and after further overall review of the site, the Owner elected to remove that fourth site from the Study.

Further information is provided for the three remaining sites in Section 5. The three proposed sites are as follows:

SITE 1 - Cedar Creek Business Park
Location encompasses Lot 1 of the Cedar Creek business Park along with adjacent Parcel with mailing address 2736 Cedar Creek Road

SITE 2 - Fields Road Site
Location is Approximately 300 yards from the intersection of Fields Road and Cedar Creek Road and is labeled as Parcel 0445-97-3707

SITE 3 - Tracy Hall Road Site
Location is approximately ¼ mile from the intersection of Tracy Hall Roads, Wilmington Highway and NC HWY 87 S.

The threat assessments developed in this section were developed after the workshop conducted with the City/County team however they are developed using information provided during the Programming Workshop. The Threat Assessments were then forwarded to the Team for review and comment.

To some extent, the majority of threats to the proposed sites for this project are natural forces or weather related incidents. There is always some concern for continuity of operations generated by the nearby military installation. This threat assessment recognizes those concerns and attempts to provide mitigating strategies to counteract them.

Actual remediation efforts for any of the perceived threats are included on the following pages and in Section 4 to follow.

Proposed Systems Narrative

The facility will be required to satisfy typical IBC/ICC/ North Carolina Adopted Version of this Code and all associated Codes. The facility will be required to meet at a minimum all of those requirements.

Beyond those requirements however, there are a separate set of criteria to be utilized in the integration of and selection of building systems. The first criteria indicated under IBC/ICC/North Carolina Code is that the facility will be required to satisfy Essential Facility requirements of the code which increase the seismic criteria and wind loadings among other things. Second, however, a series of additional guidelines come into play to help develop the ultimate systems to be utilized in the facility.

This facility must continue operations even under the most adverse conditions (ie: last operational building). To accomplish this, the design team will need to incorporate site features, architectural features, and structural design that will allow the facility to maintain its physical integrity under extreme conditions. The building must also be designed to include sufficient redundancy to ensure continuity of operations in case of equipment failure or during maintenance periods. Backup power must be scaled to provide sufficient power for mission critical spaces and equipment for extended periods of time.

The balance of this section identifies those specific criteria that should be utilized to allow the facility to serve as a PSAP/ EOC/ City Data Disaster Recovery Facility.

Concept Diagram Summary

The focus of this entire study was to develop a program specifically for City of Fayetteville/ Cumberland County's proposed Emergency Communication Center and then to test it in several ways to determine the best future for the co-located organizations' facility use. The planning team was tasked with developing a concept diagram reflecting the programming effort outlined in Section 2 of this document and then to test the concept diagram on several sites.

The proposed programs for the site are as follows:

Site #1 - **Cedar Creek Business Center Site** – On this site, the Owner has requested that the design team test-fit the Emergency Communication Center program only

Site #2 - **Fields Road Site** – On this site the Owner has requested that the planning team test fit the Emergency Communication Center program along with a Proposed Fire Station. The combined facility attempts to merge shared site elements between these two programs together. It also attempts to link the two buildings. This is described further in the Site Analysis options on the pages to follow.

Site #3 - **Tracy Hall Road Site** - On this site, the Owner has requested that the design team test-fit the Emergency Communication Center program only

All site configurations are further investigated for cost in Section 6 of this document.

This Section begins with the analysis of the three construction sites identified by City of Fayetteville/ Cumberland County. The planning team has develop a simplified site analysis for use in this document. Note that much of the analysis of the proposed sites is based upon conversation held during the Workshop in November 2015 and from follow-up data provided by City personnel.

Overall, this section provides the following information:

- A brief analysis of Site Location #1
- A brief analysis of Site Location #2
- A brief analysis of Site Location #3
- Concept Floor Plan
- Site Concept Plan - Location #1
- Site Concept Plan – Location #2 (note that both Concept #2A and #2B are shown as one diagram. The reader will need to extrapolate the emergnency communucaiotn center program elements for the drawing to understand the plans used for estimating in Section 6)
- Site Concept Plan – Location #3

Budget Estimate Summary

For the costs identified in this Section, MCP/SGA utilized historic square foot cost data and developed a complete estimate that correlates to the concept diagrams and site diagrams provided in Section 5. Local construction costs, escalation, general site information and knowledge of current construction pricing of communication facilities are included as much as we can anticipate them in the estimates shown on the following pages. The costs included are for budgeting purposes only as no final design has

been derived at this time but we obviously had the benefit of the concept diagrams to work from. Escalation is included to a hypothetical midpoint of construction at a total of 4.00% annually (8% total) in the estimates to follow.

The team attempted to include as many of the items discussed in the Workshop Session and in the Systems Narrative described in other sections of this document. Note that all costs described in this document and all associated systems are considered to be part of this conceptual budget.

The estimates included herein are line item conceptual budget estimates and are broken down to depict several of the types of project costs. The types of cost areas are described below:

Overall Budget Description

The overall budget includes the following:

- CONSTRUCTION BUDGET – Includes anticipated construction costs broken down to support the program area. HVAC systems will be one of the greatest variables depending upon what type of HVAC system is proposed. The other major cost variable will be for the Electrical Systems.
- DESIGN COSTS – Includes anticipated project design costs including the testing services normally anticipated for a project of this type.
- PERMIT COSTS – Includes anticipated permit costs for a project of a similar nature. The value of these permits will not truly be known until the project design process is underway.
- TECHNOLOGY SYSTEMS – The consulting team has included telecommunication technology from the MCP equipment cost estimate and equipment as we understand it at this time. As the project evolves there may be further development that modifies the technology needs.
- OTHER COSTS – includes other anticipated costs that the design team has experienced on other projects of a similar nature. This is also the area of the estimate which contains a Fire Equipment Allowance for Option #2B.
- CONTINGENCY – Readers will note a 10% project contingency which is common at this stage of the project.

Obviously no programming phase budget can anticipate all of the project costs that may arise during a design and construction process however the MCP/SGA team's knowledge of this project type provides significant insight into the various project costs typically experienced. The hope is that these budgets provide a good foundation from which the City/County Team can begin their decision making process.

Overall Summary

The Planning Team has been privileged to work with The City of Fayetteville/ Cumberland County Team on this Study. The concern for continuing the level of service to the Citizens of the Cumberland County Region into the future was evident throughout the process. We look forward to an opportunity to further develop this project at the Owner's convenience.

Mission Critical Partners | SCHRADERGROUP
design | planning | programming

2 PROGRAMMING STUDY

PROGRAMMING STUDY

INTRODUCTION

The MCP/SGA design team worked with a team composed of representatives from The City of Fayetteville and The County of Cumberland, NC in November of 2015 to develop preliminary space programs for a conceptual facility. The goal was to determine anticipated future space needs for the proposed Emergency Communication Center. Once facility needs were derived and future programs were established, the design team developed the proposed overall building areas required for each of the functions. The results of the programming study are included on the following pages.

The programming information will be used as the basis for locating these functions within the concept plan developed later in this document. What follows in this section are all of the building elements anticipated for the proposed facility. The Concept Design identified in Section 5 of this document and the Concept Budgets described in Section 6 of this document reflect the building program outlined here.

SPACE STANDARDS

The entire program study uses Space Standards agreed to with the planning team at the meeting in November. The standards utilized are as follows:

PERSONNEL TITLE	STANDARD S.F.
Manager/Director Office	250 s.f.
Assistant Manager/ Director	200 s.f.
Private/ Manager Office	150 s.f.
Private Office	120 s.f.
Supervisor Workstation	96 s.f.
Telecommunicator Position	64 s.f.
Conference/Training	20 s.f. per person

The programming worksheet then utilizes a net to gross square footage conversion for each workstation or office type. Typically our worksheet will show a 75% NSF to GSF conversion for workstation spaces and a 30% NSF to GSF conversion for office spaces. Various other spaces receive other conversion factors. This tallies into a total GSF for each of the parts of the facility and then a total building NSF to GSF allocation of 10% is applied to cover exterior walls and other utility spaces.

PROGRAM

Following the programming workshop a program document was developed. Ultimately the program document (provided beginning on page 2-3) breaks the facility into 7 major components. In addition, the programming sessions identified the need for a separate EMA Vehicle Storage facility on the site. The gross square footage program for the facility is as follows:

Administrative Offices	**7,830 s.f.**
Emergency Communication Center	**5,313 s.f.**
Training	**751 s.f.**
Emergency Operations Center	**3,457 s.f.**
Media Relations	**1,101 s.f.**
Technology Spaces	**4,771 s.f.**
Common Spaces	**6,291 s.f.**
Subtotal (Main Building)	**29,514 Net Square Feet**
Net to Gross Conversion	**2,951 s.f.**
TOTAL MAIN BUILDING	**32,465 Gross Square Feet**
EMA Vehicle Storage Building	**6,959 Net Square Feet**
Net to Gross Conversion	**696 s.f.**
TOTAL EMA VEHICLE STORAGE BUILDING	**7,654 Gross Square Feet**
TOTAL BUILDING AREA	**40,119 Gross Square Feet**

These building components are used in the concept diagrams and budget exercises developed for Section 5 and 6 of this overall study. It should be noted that once this program was test fit into a concept diagram the building areas remained remarkably close to the programmed areas outlined on the pages to follow.

EMERGENCY COMMUNICATION CENTER
PROGRAM SUMMARY

		NSF	Grossing Factor		GSF	Total
1.0	ADMINISTRATIVE OFFICES	5822	35	%	2008	7830
2.0	EMERGENCY COMMUNICATION CENTER	3348	35	%	1965	5313
3.0	TRAINING	524	33	%	227	751
4.0	EMERGENCY OPERATIONS CENTER	2348	39	%	1109	3457
5.0	MEDIA RELATIONS	794	42	%	307	1101
6.0	TECHNOLOGY SPACES	3430	62	%	1341	4771
7.0	COMMONS	5020	26	%	1271	6291
	Subtotal	**21286**	**39**	**%**	**8228**	**29514**
	Building GSF @ 10%				2951	
	TOTAL BUILDING	**21286**			**11179**	**32465**
8.0	EMA VEHICLE STORAGE	6310	18	%	649	6959
	Subtotal	**6310**	**18**	**%**	**649**	**6959**
	Building GSF @ 10%				696	
	TOTAL STORAGE FACILITY	**6310**			**1344**	**7654**
	GRAND TOTAL COMPLEX	**27596**			**12523**	**40119**

		Space Code	Area/ Unit	Proposed # Units	NSF	Grossing Factor		GSF	Total	Comments
1.0	ADMINISTRATIVE OFFICES									
1.1	City Communications Administration									
1.1.1	Manager/Director	CO	250	1	250	30	%	75	325	
1.1.2	Assistant Manager/ Director	CO	200	1	200	30	%	60	260	
1.1.3	Training Supervisor	CO	150	1	150	30	%	45	195	
1.1.4	Training Specialist	WS	96	2	192	50	%	96	288	
1.1.5	QA Specialist	CO	150	1	150	30	%	45	195	
1.1.6	QA Technician	SO	96	2	192	30	%	58	250	Shared space with County QA
1.1.7	Financial Analyst	CO	150	1	150	30	%	45	195	
1.1.8	9-1-1 Coordinator	CO	150	1	150	30	%	45	195	
1.1.9	Clerical/Reception (Shared with County)	WS	96	1	96	50	%	48	144	
1.1.10	Future Office Space	CO	150	1	150	30	%	45	195	
1.1.11	Conference		20	16	370	30	%	111	481	
1.1.12	Waiting - Reception		15	4	60	30	%	18	78	
1.1.13	Storage		100	1	100	25	%	25	125	
1.1.14	Work/ Copy / File Area		120	1	120	25	%	30	150	
				Subtotal	**2330**	**32**	**%**	**746**	**3076**	
1.2	County Communications Administration									
1.2.1	Director EM and Comm and Fire Marshall	CO	250	1	250	30	%	75	325	
1.2.2	Telecomm Manager	CO	150	1	150	30	%	45	195	
1.2.3	CTO (Certified Training Officer)	SO	96	2	192	50	%	96	288	
1.2.4	Assistant Telecomm Manager	WS	96	1	96	50	%	48	144	
1.2.5	QA/ 9-1-1 Specialist	CO	150	1	150	30	%	45	195	
1.2.6	QA Technicians	SO	96	2	192	50	%	96	288	Shared space with City QA
1.2.7	Financial Analyst	CO	150	1	150	30	%	45	195	
1.2.8	Administrative Coordinators	SO	96	2	192	50	%	96	288	
1.2.9	Assistant Administrative Coordinator	WS	96	1	96	50	%	48	144	
1.2.10	Telecomm Communication Manager	CO	150	2	300	30	%	90	390	
1.2.11	Conference		20	10	250	30	%	75	325	
1.2.12	Waiting - Reception		15	4	60	30	%	18	78	
1.2.13	Storage		100	1	100	25	%	25	125	
1.2.14	Work/ Copy / File Area		120	1	120	25	%	30	150	
				Subtotal	**2298**	**36**	**%**	**832**	**3130**	

		Space Code	Area/ Unit	Proposed # Units	NSF	Grossing Factor		GSF	Total	Comments
1.3	County EM/ Fire Marshall Admin									
1.3.1	Deputy Director	CO	200	1	200	30	%	60	260	
1.3.2	Emergency Management Coordinator	CO	150	1	150	30	%	45	195	
1.3.3	Emergency Management Planner	CO	120	1	120	30	%	36	156	
1.3.4	Grant Coordinator	CO	120	1	120	30	%	36	156	
1.3.5	COOP Specialist	CO	120	1	120	30	%	36	156	
1.3.6	Fire Inspectors	SO	96	2	192	50	%	96	288	
1.3.7	Clerical Support/ Analyst	WS	96	1	96	50	%	48	144	
1.3.8	Community Relations	WS	96	1	96	50	%	48	144	
1.3.9	Storage		100	1	100	25	%	25	125	
				Subtotal	**1194**	**36**	**%**	**430**	**1624**	
				SUBTOTAL SUPPORT	**5822**	**35**	**%**	**2008**	**7830**	
2.0	EMERGENCY COMMUNICATION CENTER									
2.1	Communication									
2.1.1	Shift Supervisors Workstations (County and City)	WS	96	3	288	75	%	216	504	
2.1.2	City Supervisors Office	CO	150	1	150	30	%	45	195	Cabinet drawers for each shift supervisor. Doubles as counselling space
2.1.3	County Supervisors Office	CO	150	1	150	30	%	45	195	Cabinet drawers for each shift supervisor. Doubles as counselling space
2.1.4	Communication Workstations (County and City)	WS	64	30	1920	75	%	1440	3360	At least two workstations are available for training workstations
2.1.5	AV Display		100	1	100	10	%	10	110	
2.1.6	Storage Cabinets		100	1	100	10	%	10	110	
2.1.7	Quiet Room		100	1	100	30	%	30	130	
2.1.8	Toilet Room		70	2	140	35	%	49	189	
2.1.9	Lactation Room		100	1	100	35	%	35	135	
2.1.10	Kitchenette		80	1	80	35	%	28	108	
2.1.11	Mailboxes		0.5	40	20	35	%	7	27	
2.1.12	Printer/ Scanner/Copy Area		50	1	50	25	%	13	63	
2.1.13	Storage/supplies		150	1	150	25	%	38	188	
				Subtotal	**3348**	**35**	**%**	**1965**	**5313**	

		Space Code	Area/ Unit	Proposed # Units	NSF	Grossing Factor		GSF	Total	Comments
3.0	TRAINING									
3.1	Training									
3.1.1	Communication Training Lab		64	6	384	50	%	192	576	Both recurrent training as well as training console. Visible from Supervisor position. Glass connection to the floor. Between EOC and Comm Center
3.1.2	Storage		40	1	40	25	%	10	50	
3.1.3	Public Relations Material Storage		100	1	100	25	%	25	125	
				Subtotal	**524**	**33**	**%**	**227**	**751**	
4.0	EMERGENCY OPERATIONS CENTER									
4.1	EOC									
4.1.1	EOC/Training Room	WS	18	50	900	75	%	675	1575	(Training space for up to 55 people). Folding partition dividing
4.1.2	Manual and Plan Storage		100	1	100	30	%	30	130	
4.1.3	AV Display		100	1	100	30	%	30	130	
4.1.4	Breakout Spaces		300	4	1200	30	%	360	1560	Folding partitions between every two rooms. Organized as Executive, Planning, Finance, Ops
4.1.5	HAM Radio Spaces		12	4	48	30	%	14	62	
				Subtotal	**2348**	**39**	**%**	**1109**	**3457**	
5.0	MEDIA RELATIONS									
5.1	Media Relations									
5.1.1	Training/ Conference/ Media		1	400	400	30	%	120	520	
5.1.2	JIC Positions	WS	15	12	180	50	%	90	270	
5.1.3	JIC Workstation	WS	64	1	64	50	%	32	96	
5.1.4	PIO Office	SO	100	1	100	50	%	50	150	
5.1.5	JIC Storage		50	1	50	30	%	15	65	
				Subtotal	**794**	**42**	**%**	**307**	**1101**	

		Space Code	Area/ Unit	Proposed # Units	NSF	Grossing Factor		GSF	Total	Comments
6.0	TECHNOLOGY SPACES									
6.1	Technology Office									
6.1.1	IT Manager	CO	150	1	150	30	%	45	195	
6.1.2	GIS Technician	WS	96	2	192	50	%	96	288	
6.1.3	CAD/ Database Manager	CO	150	1	150	30	%	45	195	
6.1.4	CAD/ Database Technician	WS	96	1	96	50	%	48	144	
6.1.5	IT Technician	WS	96	2	192	50	%	96	288	
6.1.6	Radio Technician	WS	96	3	288	50	%	144	432	
6.1.7	Vendor Workstations	WS	64	2	128	50	%	64	192	
6.1.8	Repair		100	1	100	50	%	50	150	
6.1.9	Technology Secure Storage Area		250	1	250	25	%	63	313	
				Subtotal	**1546**	**43**	**%**	**651**	**2197**	
6.2	Equip Rooms									
6.2.1	Rack Systems		12	10	120	150	%	180	300	
6.2.2	Future Racks/ Switchout		12	7	84	150	%	126	210	
6.2.3	CRAC Unit		120	2	240	100	%	240	480	redundant HVAC
				Subtotal	**444**	**133**	**%**	**546**	**990**	
6.3	Fayetteville Utility Ops Data Disaster Recovery									
6.3.1	Disaster Recovery Server Space		1200	1	1200	10	%	120	1320	
6.3.2	CRAC Unit		120	2	240	10	%	24	264	redundant HVAC
				Subtotal	**1440**	**10**	**%**	**144**	**1584**	
				SUBTOTAL SUPPORT	**3430**	**62**	**%**	**1341**	**4771**	

		Space Code	Area/ Unit	Proposed # Units	NSF	Grossing Factor		GSF	Total	Comments
7.0	COMMONS									
7.1	Front of house									
7.1.1	Secure Vestibule		100	1	100	30	%	30	130	
7.1.2	Lobby/ Waiting		350	1	350	30	%	105	455	
7.1.3	Toilet Rooms		70	2	140	35	%	49	189	
				Subtotal	**590**	**32**	**%**	**184**	**774**	
7.2	Back of house									
7.2.1	Kitchen		300	1	300	30	%	90	390	Full Prep
7.2.2	Dining		400	1	400	30	%	120	520	Include vending
7.2.3	Lockers		4	55	220	30	%	66	286	110 half size Lockers
7.2.4	Toilet Rooms		200	2	400	35	%	140	540	
7.2.5	Shower/ Changing Rooms		80	4	320	35	%	112	432	
7.2.6	Break Room		400	1	400	30	%	120	520	
7.2.7	Fitness Room		400	1	400	30	%	120	520	
7.2.8	Training/Sleeping Rooms with Storage		300	2	600	30	%	180	780	With closet for cots
7.2.9	Main Power Distribution		200	1	200	10	%	20	220	
7.2.10	Secondary Electrical Rooms		100	1	100	10	%	10	110	
7.2.11	UPS rooms		200	1	200	10	%	20	220	
7.2.12	Emergency Generator		0	0	0	10	%	0	0	outside
7.2.13	Mechanical/Plumbing Room/ Fire protection		500	1	500	10	%	50	550	
7.2.14	Maintenance/Custodial Stor./ Work		100	1	100	10	%	10	110	
7.2.15	Janitorial Spaces		50	1	50	10	%	5	55	
7.2.16	Building Storage		240	1	240	10	%	24	264	
				Subtotal	**4430**	**21**	**%**	**1087**	**5517**	
				SUBTOTAL COMMONS	**5020**	**26**	**%**	**1271**	**6291**	
8.0	EMA VEHICLE STORAGE									
8.1	Vehicle Storage									
8.1.1	Trailers		480	12	5760	10	%	576	6336	3 light towers, two trailers, 6 - 20' trailers, 2 generators, signage trailers
8.1.2	EMA enclosed storage		480	1	480	10	%	48	528	Cots, Tarps, MREs, Cleanup kits, blankets, bottled water
8.1.3	Toilet Rooms		70	1	70	35	%	25	95	
				Subtotal	**6310**	**18**	**%**	**649**	**6959**	

3 THREAT ASSESSMENT

THREAT ASSESSMENT

INTRODUCTION

This section highlights a Threat Assessment developed for each of the three proposed sites assembled for this Study. These Threat Assessments are performed in general conformance with FEMA 452 Risk Assessment criteria. Topics similar to those identified in the FEMA document are addressed however they are addressed in a format more specific to a site selection process.

Fayetteville-Cumberland County asked the team to assess and propose development on three sites within the County. A fourth site was originally toured and contemplated however after review of the threat assessment and after further overall review of the site, the City/ County Team elected to remove that fourth site from the Study.

Further information is provided for the three remaining sites in Section 5. The three proposed sites are as follows:

SITE 1 - Cedar Creek Business Park
Location encompasses Lot 1 of the Cedar Creek business Park along with adjacent Parcel with mailing address 2736 Cedar Creek Road

SITE 2 - Fields Road Site
Location is Approximately 300 yards from the intersection of Fields Road and Cedar Creek Road and is labeled as Parcel 0445-97-3707

SITE 3 - Tracy Hall Road Site
Location is approximately ¼ mile from the intersection of Tracy Hall Roads, Wilmington Highway and NC HWY 87 S.

The threat assessments developed in this section were developed after the workshop conducted with the City/County team however they are developed using information provided during the Programming Workshop. The Threat Assessments were then forwarded to the Team for review and comment.

What follows is an assessment for each of the proposed sites. The design team has taken these Threat Assessments plus the requirements that we believe are applicable to a mission critical facility in this region and have modified the assessment to reflect those issues. The results create the basis for architecture and engineering considerations provided in Section 4.

To some extent, the majority of threats to the proposed sites for this project are natural forces or weather related incidents. There is always some concern for continuity of operations generated by the nearby military installation. This threat assessment recognizes those concerns and attempts to provide mitigating strategies to counteract them.

Actual remediation efforts for any of the perceived threats are included on the following pages and in Section 4 to follow.

SITE 1
Cedar Creek Business Park

CEDARS CREEK BUSINESS PARK - SITE #1 Threat and Vulnerability Assessment Completion Date: 12/15/2015	ASSESSMENT Rank (high, medium, low)		DESIGN PRECAUTIONS ARE NOTED FOR THE FOLLOWING BUILDING SYSTEMS					
	Probability of Occurrence	Importance of Occurrence	Vulnerability Precautions	Architectural Solutions	HVAC/Plumb/ Fire Protect Redundancy	Electrical Redundancy	Telecomm Redundancy	Other
NATURAL THREATS								
Weather								
Flood	low	high			Provide for internal floor drains with positive drainage			
Flash Flood	low	high			Provide for internal floor drains with positive drainage			
Snow/Ice	medium	low		Provide appropriate roof loading design		Power for seven days post storm. Diesel and/or Natural gas generator (cost to be considered). UPS to the site.	Fiber will be brought to the building. Microwave is primary, fiber is backup. Tower on site.	Fuel tank size will be considered based on municipal gas service to the site. Look at 72 hour for FEMA or less.
Hail	medium	low		Design roofing product to accommodate hail. Also, treat roofing and ceiling system acoustically to reduce internal impact during hail.	Shield roof top and exterior equipment	Shield roof top and exterior equipment		
Hurricane/ Tropical Storm in this location	medium	high	Meet North Carolina Building Code - Critical Occupancy Considerations. 160 mph wind.	Consider upgrades to exterior wall and window systems.	Rooftop units will require special anchorage and screen wall capable of missile projectiles.	Power for seven days post storm. Diesel and/or Natural gas generator (cost to be considered). UPS to the site.	Fiber will be brought to the building. Microwave is primary, fiber is backup. Tower on site.	Consider impact resistant window systems from a budget standpoint.
Tornado/ Microburst	medium	high	Meet North Carolina Building Code - Critical Occupancy Considerations. Design for 200 mph Tornado zone.	Consider upgrades to exterior wall and window systems.	Rooftop units will require special anchorage and screen wall capable of missile projectiles.	Power for seven days post storm. Diesel and/or Natural gas generator (cost to be considered). UPS to the site.	Fiber will be brought to the building. Microwave is primary, fiber is backup. Tower on site.	Consider impact resistant window systems from a budget standpoint.
Lightning	high	high	Trees will need to be eliminated far enough from the building for fall protection		May have to provide lightning protection to any rooftop units	TVSS protection to building and telecomm. Lightning protection on the whole building (including the old building)	R56 Grounding requirements.	
Wildfires	low	high	Trees will need to be eliminated far enough from the building for protection from fire		Provide outside air intake shutdown			
Seismic/Geological								
Earthquake	low	medium	In a seismic zone. Seismic Design Category C. Structurally the factor of safety is the same as the wind	Provide seismic protection to all architectural elements	Seismic hangers for pipes, ductwork etc.	Seismic support for lighting and other elements		
Mud/ Rock Slide	NA	NA						
Radon	NA	NA						
Subsidence	NA	NA						

Service Interruption (Natural Occurrence)	Probability of Occurrence	Importance of Occurrence	Vulnerability Precautions	Architectural Solutions	HVAC/Plumb/ Fire Protect Redundancy	Electrical Redundancy	Telecomm Redundancy	Other
Interruption of Primary Power Supply (natural)	high	high				Outages are possible. Provide separate primary power specifically to this building. Diesel or Natural gas generator (cost to be considered). UPS in the building. Consider the cost of gas line and the primary power.	Fiber will be brought specifically to the building. Microwave is primary, fiber is backup. Provide tower	Fuel tank size will be considered based on municipal service to the site. Look at 72 hour for FEMA or less.
Interruption of Secondary Power Supply (natural)	low	high				Run Primary line to the building. A natural gas generator may be interrupted by a seismic event.		
Interruption of Water (natural)	low	low	Consider bottled water					Note, there is not municipal sewer to the site. Will need to accommodate
Interruption of Telecomm/ Wireless (natural)	low	high					Fiber will be brought specifically to the building. Microwave is primary, fiber is backup. Provide tower	
Interruption of Food Supply (natural)	NA	NA						
Interruption of Transport (natural)	NA	NA						

	Probability of Occurrence	Importance of Continuance	Vulnerability Precautions	Architectural Solutions	HVAC/Plumb/ Fire Protect Redundancy	Electrical Redundancy	Telecomm Redundancy	Other
CIVIL THREATS								
Terrorism								
Chemical	low	high			Outside air intake shutdown. High intake from two sides of the building. Possible consideration of filtration if necessary.			
Biological	low	low			Outside air intake shutdown. Intake from two sides of the building. High intakes. Possible consideration of filtration			
Incendiary (explosives)	low	high		Provide appropriate standoff on the site, gating, bollards.				
Firearms	low	medium	Provide appropriate standoff on the site, gating, bollards.	Ballistic wall systems in high importance areas, ballistic windows where low, general windows placed up high.				Cost consideration. Determine ballistic protection
Vehicle	low	medium		Provide appropriate standoff on the site, gating, bollards.				
Aircraft	low	low	Not protecting the building from aircraft					
Radiological	low	low	Not protecting the building from radiation					Note that the site is within the 50 mile radius of the Shearon Harris Nuclear Plant
Interruption of Power (malicious)	low	high		Create standoff from any electrical equipment (where possible)		Provide separate primary power specifically to this building. Diesel or Natural gas generator (cost to be considered). UPS in the building. Consider the cost of gas line and the primary power.	Fiber will be brought specifically to the building. Microwave is primary, fiber is backup. Provide tower	
Interruption of Fuels (malicious)	low	medium		Standoff on the site, gating, bollards.		Provide diesel storage in the belly tank of the generator with a standoff		
Interruption of Water (malicious)	low	low	Consider bottled water					
Interruption of Telecomm/ Wireless (malicious)	low	high					Fiber will be brought specifically to the building. Microwave is primary, fiber is backup. Provide tower	
Interruption of Food Supply (malicious)	low	low						
Unauthorized entry - forced	low	medium	24/7 facility	Secure vestibule. Address exterior door and window systems discussed in programming session		Provide security lighting on the exterior.		CCTV system and access controls. Camera at gate and door. Use keypad access. Remote access release provided at all comm positions. Provide recording device on CCTV
Unauthorized entry - visual access	low	low						

		Probability of Occurrence	Importance of Occurrence	Vulnerability Precautions	Architectural Solutions	HVAC/Plumb/ Fire Protect Redundancy	Electrical Redundancy	Telecomm Redundancy	Other
Vandalism									
	Property Damage	low	low						
	Theft	low	low						
	Unauthorized Entry (physical)	low	low	24/7 facility	Secure vestibule. Address exterior door and window systems discussed in programming session		Provide security lighting on the exterior.		CCTV system and access controls. Camera at gate and door. Use keypad access. Remote access release provided at all comm positions. Provide recording device on CCTV
	Unauthorized Entry (electronic)	low	low					All systems are security protected and are not provided through wireless.	
Information Security									
	Acoustical and Visual Interception of Data	low	low						
ACCIDENT HAZARDS									
Internal									
	Chemical Release	medium	medium			All custodial and janitorial are exhausted.			If we use VRF Systems provide refrigerant sensors
	Fire	low	high	24/7 facility		Office area is wet pipe sprinkler, comm center is double interlock preaction, data center is chemical suppression	Provide spot smoke protection in remote or less occupied locations		
	Water	low	low			Consider drains. Consider water detection sensors if raised floor			
External (Vicinity of Facility)									
	Chemical Release	medium	high			Outside air intake shutdown. High intake from two sides of the building. Possible consideration of filtration if necessary.			
	Wildfires	medium	high	Trees will need to be eliminated far enough from the building for protection from fire		Provide outside air intake shutdown			
	Radiological	low	low	Not protecting the building from radiation					
	Aircraft Crash	low	low	Not protecting the building from aircraft					
PERSONAL THREATS									
Personal Safety									
	Indoor	low	low	24/7 facility	Secure vestibule. Address exterior door and window systems discussed in programming session		Provide security lighting on the exterior.		CCTV system and access controls. Camera at gate and door. Use keypad access. Remote access release provided at all comm positions. Provide recording device on CCTV
	Outdoor on-site and near site	low	low	24/7 facility	Secure vestibule. Address exterior door and window systems discussed in programming session		Provide security lighting on the exterior.		

SITE 2
Fields Road

FIELDS ROAD SITE - SITE #2 Threat and Vulnerability Assessment Compilation Date: 12/15/2015	ASSESSMENT Rank (high, medium, low)		DESIGN PRECAUTIONS ARE NOTED FOR THE FOLLOWING BUILDING SYSTEMS					
	Probability of Occurrence	Importance of Occurrence	Vulnerability Precautions	Architectural Solutions	HVAC/Plumb/ Fire Protect Redundancy	Electrical Redundancy	Telecomm Redundancy	Other
NATURAL THREATS								
Weather								
Flood	low	low						
Flash Flood	medium	high	Verify elevation of building and parking footprint	Building must accommodate potential flooding	Provide for internal floor drains with positive drainage	Transformer and generator to be above flood plain	Telecomm Floor must be above flood plain	
Snow/Ice	medium	low		Provide appropriate roof loading design		Power for seven days post storm. Diesel and/or Natural gas generator (cost to be considered). UPS to the site.	Fiber will be brought to the building. Microwave is primary, fiber is backup. Tower on site	Fuel tank size will be considered based on municipal gas service to the site. Look at 72 hour for FEMA or less.
Hail	medium	low		Design roofing product to accommodate hail. Also, treat roofing and ceiling system structurally to reduce internal impact during hail.	Shield roof top and exterior equipment	Shield roof top and exterior equipment		
Hurricane/ Tropical Storm in this location	medium	high	Meet North Carolina Building Code - Critical Occupancy Considerations: 160 mph wind.	Consider upgrades to exterior wall and window systems.	Rooftop units will require special anchorage and screen wall capable of missile projectiles	Power for seven days post storm. Diesel and/or Natural gas generator (cost to be considered). UPS to the site.	Fiber will be brought to the building. Microwave is primary, fiber is backup. Tower on site.	Consider impact resistant window systems from a budget standpoint
Tornado/ Microburst	medium	high	Meet North Carolina Building Code - Critical Occupancy Considerations: Design for 200 mph Tornado zone	Consider upgrades to exterior wall and window systems.	Rooftop units will require special anchorage and screen wall capable of missile projectiles.	Power for seven days post storm. Diesel and/or Natural gas generator (cost to be considered). UPS to the site.	Fiber will be brought to the building. Microwave is primary, fiber is backup. Tower on site	Consider impact resistant window systems from a budget standpoint
Lightning	high	high			May have to provide lightning protection to any rooftop units	TVSS protection to building and telecomm. Lightning protection on the whole building (including the old building)	#56 Grounding requirements	
Wildfires	low	low			Provide outside air intake shutdown			
Seismic/Geological								
Earthquake	low	medium	In a seismic zone. Seismic Design Category C. Structurally the factor of safety is the same as the wind	Provide seismic protection to all architectural elements	Seismic hangers for pipes, ductwork etc.	Seismic support for lighting and other elements		
Mud/ Rock Slide	NA	NA						
Radon	NA	NA						
Subsidence	NA	NA						

	Probability of Occurrence	Severity of Occurrence	Vulnerability Precautions	Architectural Solutions	HVAC/Plumb/ Fire Protect Redundancy	Electrical Redundancy	Telecomm Redundancy	Other
Service Interruption (Natural Occurrences)								
Interruption of Primary Power Supply (natural)	high	high				Outages are frequent. Provide separate primary power specifically to this building. Diesel or Natural gas generator (cost to be considered). UPS in the building. Consider the cost of gas line and the primary power	Fiber will be brought specifically to the building. Microwave is primary, fiber is backup. Provide tower	Fuel tank size will be considered based on municipal service to the site. Look at 72 hour for FEMA or less.
Interruption of Secondary Power Supply (natural)	low	high				Run Primary line to the building. A natural gas generator may be interrupted by a seismic event.		
Interruption of Water (natural)	low	low	Consider bottled water					
Interruption of Telecomm/ Wireless (natural)	low	high					Fiber will be brought specifically to the building. Microwave is primary, fiber is backup. Provide tower	
Interruption of Food Supply (natural)	NA	NA						
Interruption of Transport (natural)	NA	NA						

	Probability of Occurrence	Importance of Occurrence	Vulnerability Preventions	Architectural Solutions	HVAC/Floods/ Fire Protect Redundancy	Electrical Redundancy	Telecomm Redundancy	Other
CIVIL THREATS								
Terrorism								
Chemical	low	high			Outside air intake shutdown. High intake from two sides of the building. Possible consideration of filtration if necessary.			
Biological	low	low			Outside air intake shutdown. Intake from two sides of the building. High intakes. Possible consideration of filtration			
Incendiary (explosives)	low	high		Provide appropriate standoff on the site, gating, bollards.				
Firearms	low	medium	Provide appropriate standoff on the site, gating, bollards.	Ballistic wall systems in high importance areas, ballistic windows where low, general windows placed up high.				Cost consideration. Determine ballistic protection
Vehicle	low	medium		Provide appropriate standoff on the site, gating, bollards.				
Aircraft	low	low	Not protecting the building from aircraft					
Radiological	low	low	Not protecting the building from radiation					Note that the site is within the 50 mile radius of the Shearon Harris Nuclear Plant
Interruption of Power (malicious)	low	high		Create standoff from any electrical equipment (where possible)		Provide separate primary power specifically to this building. Diesel or (Natural gas generator (must to be considered) UPS in the building. Consider the cost of gas line and the primary power.	Fiber will be brought specifically to the building. Microwave is primary, fiber is backup. Provide tower	
Interruption of Fuels (malicious)	low	medium		Standoff on the site, gating, bollards.		Provide diesel storage in the belly tank of the generator with a standoff		
Interruption of Water (malicious)	low	low	Consider bottled water					
Interruption of Telecomm/ Wireless (malicious)	low	high					Fiber will be brought specifically to the building. Microwave is primary, fiber is backup. Provide tower	
Interruption of Food Supply (malicious)	low	low						
Unauthorized entry - forced	low	medium	24/7 facility	Secure vestibule. Address exterior door and window systems discussed in programming session		Provide security lighting on the exterior.		CCTV system and access controls. Camera at gate and door. Use keypad access. Remote access release provided at all comm positions. Provide recording device on CCTV
Unauthorized entry - visual access	low	low						

		Probability of Occurrence	Importance of Operations	Vulnerability Precautions	Architectural Solutions	HVAC/Plumb/ Fire Protect Redundancy	Electrical Redundancy	Telecomm Redundancy	Other
	Vandalism								
	Property Damage	low	low	-	-	-	-	-	
	Theft	low	low	-	-	-	-	-	
	Unauthorized Entry (physical)	low	low	24/7 facility	Secure vestibule. Address exterior door and window systems discussed in programming session		Provide security lighting on the exterior.	-	CCTV system and access controls. Camera at gate and door. Use keypad access. Remote access release provided at all comm positions. Provide recording device on CCTV
	Unauthorized Entry (electronic)	low	low	-	-	-	-	All systems are security protected and are not provided through wireless.	
	Information Security								
	Acoustical and Visual Interception of Data	low	low	-	-	-	-	-	-
ACCIDENT HAZARDS									
	Internal								
	Chemical Release	medium	medium	-	-	All custodial and janitorial are exhausted.	-	-	If we use VRF Systems provide refrigerant sensors
	Fire	low	high	24/7 facility	-	Office area is wet pipe sprinkler, comm center is double interlock preaction, data center is chemical suppression	Provide spot smoke protection in remote or less occupied locations	-	
	Water	low	low	-	-	Consider drains. Consider water detection sensors if raised floor	-	-	-
	External (Vicinity of facility)								
	Chemical Release	low	low	-	-	Outside air intake shutdown. High intake from two sides of the building. Possible consideration of filtration if necessary.	-	-	-
	Wildfires	low	low	-	-	Provide outside air intake shutdown	-	-	-
	Radiological	low	low	Not protecting the building from radiation	-	-	-	-	-
	Aircraft Crash	low	low	Not protecting the building from aircraft	-	-	-	-	-
PERSONAL THREATS									
	Personnel Safety								
	Indoor	low	low	24/7 facility	Secure vestibule. Address exterior door and window systems discussed in programming session		Provide security lighting on the exterior.		CCTV system and access controls. Camera at gate and door. Use keypad access. Remote access release provided at all comm positions. Provide recording device on CCTV
	Outdoor on-site and near site	low	low	24/7 facility	Secure vestibule. Address exterior door and window systems discussed in programming session		Provide security lighting on the exterior.		CCTV system and access controls. Camera at gate and door. Use keypad access. Remote access release provided at all comm positions. Provide recording device on CCTV

SITE 3
Tracy Hall Road

TRACY HALL ROAD SITE - SITE #3 Threat and Vulnerability Assessment Completion Date: 12/15/2015	ASSESSMENT Rank (high, medium, low)		DESIGN PRECAUTIONS ARE NOTED FOR THE FOLLOWING BUILDING SYSTEMS					
	Probability of Occurrence	Importance of Occurrence	Vulnerability Precautions	Architectural Solutions	HVAC/Plumb/ Fire Protect Redundancy	Electrical Redundancy	Telecomm Redundancy	Other
NATURAL THREATS								
Weather								
Flood	high	high	Raise elevation of building and parking footprint	Building must accommodate potential flooding	Provide for internal floor drains with positive drainage	Transformer and generator to be above flood plain	Telecomm Floor must be above flood plain	
Flash Flood	high	high	Raise elevation of building and parking footprint	Building must accommodate potential flooding	Provide for internal floor drains with positive drainage	Transformer and generator to be above flood plain	Telecomm Floor must be above flood plain	
Snow/Ice	medium	low	-	Provide appropriate roof loading design	-	Power for seven days post storm. Diesel and/or Natural gas generator (cost to be considered). UPS to the site.	Fiber will be brought to the building. Microwave is primary, fiber is backup. Tower on site.	Fuel tank size will be considered based on municipal gas service to the site. Look at 72 hour for FEMA or less.
Hail	medium	low	-	Design roofing product to accommodate hail. Also, treat roofing and ceiling system acoustically to reduce internal impact during hail.	Shield roof top and exterior equipment	Shield roof top and exterior equipment	-	-
Hurricane/ Tropical Storm in this location	medium	high	Meet North Carolina Building Code - Critical Occupancy Considerations. 160 mph wind.	Consider upgrades to exterior wall and window systems.	Rooftop units will require special anchorage and screen wall capable of missile projectiles.	Power for seven days post storm. Diesel and/or Natural gas generator (cost to be considered). UPS to the site.	Fiber will be brought to the building. Microwave is primary, fiber is backup. Tower on site.	Consider impact resistant window systems from a budget standpoint.
Tornado/ Microburst	medium	high	Meet North Carolina Building Code - Critical Occupancy Considerations. Design for 200 mph Tornado zone.	Consider upgrades to exterior wall and window systems.	Rooftop units will require special anchorage and screen wall capable of missile projectiles.	Power for seven days post storm. Diesel and/or Natural gas generator (cost to be considered). UPS to the site.	Fiber will be brought to the building. Microwave is primary, fiber is backup. Tower on site.	Consider impact resistant window systems from a budget standpoint.
Lightning	high	high	Trees will need to be eliminated far enough from the building for fall protection		May have to provide lightning protection to any rooftop units	TVSS protection to building and telecomm. Lightning protection on the whole building (including the old building)	R36 Grounding requirements.	
Wildfires	medium	high	Trees will need to be eliminated far enough from the building for protection from fire	-	Provide outside air intake shutdown	-	-	
Seismic/ Geological								
Earthquake	low	medium	In a seismic zone. Seismic Design Category C. Structurally the factor of safety is the same as the wind	Provide seismic protection to all architectural elements	Seismic hangers for pipes, ductwork etc.	Seismic support for lighting and other elements	-	-
Mud/ Rock Slide	NA	NA	-	-	-	-	-	-
Radon	NA	NA	-	-	-	-	-	-
Subsidence	NA	NA	-	-	-	-	-	-

	Probability of Occurrence	Importance of Occurrence	Vulnerability Precautions	Architectural Solutions	HVAC/Plumb/ Fire Protect Redundancy	Electrical Redundancy	Telecomm Redundancy	Other
Service Interruption (Natural Occurrences)								
Interruption of Primary Power Supply (natural)	High	High				Outages are frequent. Provide separate primary power specifically to this building. Diesel or Natural gas generator (cost to be considered). UPS in the building. Consider the cost of gas line and the primary power.	Fiber will be brought specifically to the building. Microwave is primary, fiber is backup. Provide tower	Fuel tank size will be considered based on municipal service to the site. Look at 72 hour for FEMA or less
Interruption of Secondary Power Supply (natural)	low	High				Run Primary line to the building. A natural gas generator may be interrupted by a seismic event.		
Interruption of Water (natural)	low	low	Consider bottled water					
Interruption of Telecomm/ Wireless (natural)	low	High					Fiber will be brought specifically to the building. Microwave is primary, fiber is backup. Provide tower	
Interruption of Food Supply (natural)	NA	NA						
Interruption of Transport (natural)	NA	NA						

	Probability of Occurrence	Importance of Occurrence	Vulnerability Precautions	Architectural Solutions	HVAC/Plumb/ Fire Protect Redundancy	Electrical Redundancy	Telecomm Redundancy	Other
CIVIL THREATS								
Terrorism								
Chemical	medium	high			Outside air intake shutdown. High intake from two sides of the building. Possible consideration of filtration if necessary.			Sewer plant adjacent to the site. Also, concern about another neighboring property. Appears to process some chemical compound.
Biological	low	low			Outside air intake shutdown. Intake from two sides of the building. High intakes. Possible consideration of filtration			
Incendiary (explosives)	low	high		Provide appropriate standoff on the site, gating, bollards.				
Firearms	low	medium	Provide appropriate standoff on the site, gating, bollards.	Ballistic wall systems in high importance areas, ballistic windows where low, general windows placed up high.				Cost consideration. Determine ballistic protection
Vehicle	low	medium		Provide appropriate standoff on the site, gating, bollards.				
Aircraft	low	low	Not protecting the building from aircraft					
Radiological	low	low	Not protecting the building from radiation	-				Note that the site is within the 50 mile radius of the Shearon Harris Nuclear Plant
Interruption of Power (malicious)	low	high		Create standoff from any electrical equipment (where possible)		Provide separate primary power specifically to this building. Diesel or Natural gas generator (cost to be considered). UPS in the building. Consider the cost of gas line and the primary power.	Fiber will be brought specifically to the building. Microwave is primary, fiber is backup. Provide tower	
Interruption of Fuels (malicious)	low	medium		Standoff on the site, gating, bollards.		Provide diesel storage in the belly tank of the generator with a standoff		
Interruption of Water (malicious)	low	low	Consider bottled water					
Interruption of Telecomm/ Wireless (malicious)	low	high					Fiber will be brought specifically to the building. Microwave is primary, fiber is backup. Provide tower	
Interruption of Food Supply (malicious)	low	low						
Unauthorized entry - forced	low	medium	24/7 facility	Secure vestibule. Address exterior door and window systems discussed in programming session		Provide security lighting on the exterior.		CCTV system and access controls. Camera at gate and door. Use keypad access. Remote access release provided at all comm positions. Provide recording device on CCTV
Unauthorized entry - visual access	low	low						

		Probability of Occurrence	Importance of Occurrence	Vulnerability Preventions	Architectural Solutions	HVAC/Plumb/ Fire Protect Redundancy	Electrical Redundancy	Telecomm Redundancy	Other
Vandalism									
	Property Damage	low	low						
	Theft	low	low						
	Unauthorized Entry (physical)	low	low	24/7 facility	Secure vestibule. Address exterior door and window systems discussed in programming session		Provide security lighting on the exterior.		CCTV system and access controls. Camera at gate and door. Use keypad access. Remote access release provided at all comm positions. Provide recording device on CCTV
	Unauthorized Entry (electronic)	low	low					All systems are security protected and are not provided through wireless.	
Information Security									
	Acoustical and Visual Interception of Data	low	low						
ACCIDENT HAZARDS									
Internal									
	Chemical Release	medium	medium			All custodial and janitorial are exhausted.			If we use VRF Systems provide refrigerant sensors
	Fire	low	high	24/7 facility		Office area is wet pipe sprinkler, comm center is double interlock preaction, data center is chemical suppression	Provide spot smoke protection in remote or less occupied locations		
	Water	low	low			Consider drains. Consider water detection sensors at raised floor			
External (vicinity of facility)									
	Chemical Release	medium	high			Outside air intake shutdown. High intake from two sides of the building. Possible consideration of filtration if necessary			Sewer plant adjacent to this site. Also, concern about another neighboring property. Appears to process some chemical compound.
	Wildfires	medium	high	Trees will need to be eliminated far enough from the building for protection from fire		Provide outside air intake shutdown			
	Radiological	low	low	Not protecting the building from radiation					
	Aircraft Crash	low	low	Not protecting the building from aircraft					
PERSONAL THREATS									
Personal Safety									
	Indoor	low	low	24/7 facility	Secure vestibule. Address exterior door and window systems discussed in programming session		Provide security lighting on the exterior.		CCTV system and access controls. Camera at gate and door. Use keypad access. Remote access release provided at all comm positions. Provide recording device on CCTV
	Outdoor on-site and near site	low	low	24/7 facility	Secure vestibule. Address exterior door and window systems discussed in programming session		Provide security lighting on the exterior.		CCTV system and access controls. Camera at gate and door. Use keypad access. Remote access release provided at all comm positions. Provide recording device on CCTV

4

PROPOSED SYSTEMS NARRATIVE

PROPOSED SYSTEMS NARRATIVE

OVERVIEW

This planning project is designed to accommodate the needs of regional communications. It houses administrative offices for the co-located organizations and also contains the communications center and Emergency Operations Center. Further, the Fayetteville Utility Operations Data Disaster Recovery function has been located within this building program as well. These facilities typically utilize hardened, redundant and survivable construction and systems.

The facility will be required to satisfy typical IBC/ICC/ North Carolina Adopted Version of this Code and all associated Codes. The facility will be required to meet at a minimum all of those requirements.

Beyond those requirements however, there are a separate set of criteria to be utilized in the integration of and selection of building systems. The first criteria indicated under IBC/ICC/North Carolina Code is that the facility will be required to satisfy Essential Facility requirements of the code which increase the seismic criteria and wind loadings among other things. Second, however, a series of additional guidelines come into play to help develop the ultimate systems to be utilized in the facility.

The balance of this section identifies those specific criteria that should be utilized to allow the facility to serve as a PSAP/ EOC/ Fayetteville Utility Operations Data Disaster Recovery.

GENERAL PSAP/ EOC (Mission Critical Facility) DESIGN GUIDELINES

This facility must continue operations even under the most adverse conditions (ie: last operational building). To accomplish this, the design team will need to incorporate site features, architectural features, and structural design that will allow the facility to maintain its physical integrity under extreme conditions. The building must also be designed to include sufficient redundancy to ensure continuity of operations in case of equipment failure or during maintenance periods. Backup power must be scaled to provide sufficient power for mission critical spaces and equipment for extended periods of time.

Recommended Design Criteria

Aside from referencing the DoD UFC requirements, the Building will be designed in accordance with a number of standards related to the design of critical infrastructure including the following:

- The most recent local and State Building Code
- National Fire Protection Agency (NFPA) 1221 –Standard for Installation, Maintenance, and Use of Emergency Services Communications Systems, 2010.
- National Fire Protection Agency (NFPA) 1660, NAC 783
- Federal Emergency Management Agency (FEMA) 361- Design and Construction Guidance for Community Shelters
- FEMA 452 –A How-To Guide to Mitigate Potential Terrorist Attacks Against Buildings, January 2005.
- Unified Facilities Criteria (UFC) 4-010-01- Department of Defense (DoD) Minimum Antiterrorism Standards for Buildings
- Unified Facilities Criteria (UFC) 4-141-04- Department of Defense (DoD) Emergency Operations Center Planning and Design
- National Institute for Occupational Safety and Health (NIOSH) – Guidance for Protecting Building Environments from Airborne Chemical, Biological, or Radiological Attacks
- TIA 942 Telecommunications Infrastructure Standards for Data Centers
- NENA 04-502 E9-1-1 PSAP/ EOC CPE Site Characteristics Technical Information Document
- NENA Generic E9-1-1 Requirements Technical Information Document

Critical Infrastructure Associated with the Facility

Several components of this new facility will be considered as part of the critical infrastructure and will include the following as they are developed in the project:

- PSAP (Communication Center)
- Emergency Operations Center
- Fayetteville Utility Operations Data Disaster Recovery Equipment Space
- Computer Equipment Space and Common Spaces

Best Practice Recommendations for Mitigating Risk

While the DoD UFC has specific elements of design prescribed for this facility we often find it advisable to delineate general design concepts. Those elements of design important to a facility of this type are encapsulated below.

A. Site Perimeter and Access Points

a. Perimeter fencing will be provided and will be considered the controlled perimeter per UFC in order to implement UFC standoff requirements. Note that the design team will likely need to utilize the outside perimeter of the facility as the standoff boundary to minimize site impacts
b. Provide ability to reject unauthorized vehicles in secure parking areas.
c. Provide clearly defined employee vehicle access with a second means of egress.

B. Site Layout
   a. Recommended standoff of 82 feet (25 meters) to parking areas and drive lanes
   b. If standoff is less than 82 feet, provide enhanced structure, enhanced perimeter, exterior windows, etc. per UFC 4-010-01.
   c. Locate primary loading/receiving area outside secure parking area.
   d. Provide vehicle barrier between the parking and building to inhibit vehicle access.
   e. Locate critical utilities 50 feet away from high-risk areas such as loading / receiving area
   f. Do not locate areas of concealment such as trash containers and ash cans within 30 feet of buildings.
   g. Provide electronic access control to secured areas.
   h. Provide sufficient light levels around buildings and in parking areas, 4 foot candles (fc) in parking areas

C. Building Layout
   a. Create multiple security levels within the facility.
   b. Provide vestibules / airlocks at public and staff entrances.
   c. Control the public entry / lobby.
   d. Provide a dedicated employee entry point if possible.
   e. Secure service access point.
   f. Limit glass at and around emergency egress routes to prevent visual access into secure spaces and opportunities for intrusion.
   g. Avoid building shapes with reentrant corners to limit hiding areas.
   h. Provide electronic access control to secure areas of the building.

D. Building Envelope
   a. Use conventional construction if building is located 82 feet away from public parking areas and is less than three stories in height.
   b. Design building envelope to withstand 4 psi – 28psi per millisecond dynamic load if standoff is within 50 to 82 feet from public parking areas pending design described above.
   c. Design building envelope to a specific threat if standoff is less than 50 feet.
   d. Exterior doors should open outward.
   e. Provide windows as recommended by UFC 4-010-01 if 82 foot standoff is not guaranteed.

f. Windows shall be designed to comply with FEMA 361.
g. Windows around the Backup PSAP/ EOC may comply with NFPA 1221 for ballistic protection.

E. Building Structure
   a. Use non-combustible materials per Uniform Construction Code.
   b. Minimize column spacing where acceptable to provide for reduction of the chance of progressive collapse
   c. Provide vertical continuity of columns (avoid using transfer girders)
   d. Design connections to the capacity of the element for standoff less than 82 feet
   e. Design elements for blast if the standoff is less than 50 feet.

F. HVAC / Fire Protection
   a. Place outdoor air intakes high on side walls, on the roof, or in high soffits per NIOSH guidelines.
   b. Provide emergency shut-off for outdoor air intake and monitoring system.
   c. Provide separate exhaust system for public lobby, mail room, and loading area.
   d. Provide redundant / independent HVAC system for emergency communications per NFPA 1221.

G. Electrical / Telecom
   a. Provide underground utilities encased in duct bank.
   b. Provide emergency generators for all functions and uninterruptible power supply (UPS) for critical infrastructure.
   c. Provide CCTV surveillance around the building perimeter and in parking areas.

H. Other
   a. Provide security desk with visitor screening. Provide ballistic glazing and wall construction around security desk for a controlled entry point.
   b. Provide mail/package room.
   c. Provide the potential future installation of security screening areas

Architectural Considerations

In addition to the above stated requirements for the various components of security and vulnerability a variety of requirements also serve as good guidelines for architectural design of a PSAP/ EOC facility.

Zoned or layered levels of protection

Facilities of this type should be designed utilizing intensifying areas of security and hardening starting at the site perimeter and moving to the interior of the building. This will become particularly important with the interest in providing continued public access for training in the facility.

Passive vs. Active Security Design

While it is critical to include appropriate electronic monitoring and security measures, good architectural techniques should be utilized to provide a facility that creates appropriate levels of hardening and anti-vulnerability through its design. Careful consideration should be given to this approach architecturally. A multi-disciplinary design approach should be utilized to create a facility that utilizes all of its systems to deter intruders.

Capability of increasing or decreasing security

A facility such as this should have the ability to vary its security levels in response to various levels of heightening threat.

General Site recommendations

Buffer Zones

Provide adequate exterior buffer zones around the hardened portion of the site to prevent vehicular intrusion in proximity to the facility. Sufficient setback must be available on the site to accommodate this specific need. In addition, the site should allow appropriate buffering from adjacent sites and where available, sites of high risk adjacent to a potential chosen site should be avoided.

Landscaping

Appropriate setbacks from the facility can be accommodated through landscaping of the site. Specific solutions include berming, street furniture, podium design of public spaces, large diameter deciduous trees, ponds, trenches, fences, water basins, sculpture and bollards among others.

Perimeter protections

The site perimeter is the first step in the provision of the vulnerability zones of protection. Appropriate vehicle speeds should be taken into account dependent upon the level of anti-vulnerability desired for a project of this type. In addition, site circulation should be designed to prevent high-speed approaches by vehicles.

Site Signage

Appropriate site circulation signage should be provided to assist visitors in finding their way to eliminate accidental entry into forbidden areas. In addition, elimination of signage in sensitive areas should be considered to discourage entry.

Architectural space considerations

Office Locations

Offices of vulnerable officials may be placed or glazed so that the occupant cannot be seen from an uncontrolled area. Either a location with visual access into a secure area or courtyard should be considered or suitable obscuration of glazing, window treatment, ballistic resistant glazing or other protective devices should be provided.

Mixed occupancies

Public areas should be separated from high risk areas (i.e. PSAP/ EOC floor area) utilizing appropriate anti-vulnerability measures. In addition, no public toilets or service-oriented spaces should be located in non-secure areas.

Loading docks

Any shipping or receiving area should be given special attention. These areas should be separated from utility rooms, utility mains, service entries (including electrical, telephone, data, fire protection, alarm systems, fire suppression, cooling and heating mains etc.) by a minimum of 50 feet. Loading docks and service access should be located so that no vehicles will be driven into or parked under the facility.

Other items

The following items must be located remotely from the main entrance, vehicle circulation, parking and maintenance areas. If this cannot be accommodated, harden the spaces as necessary:

- Emergency generator, fuel systems, day tank, fire sprinkler and water supply
- Normal fuel storage
- Main switchgear
- Telephone distribution and main switchgear

- Fire pumps
- Building control centers
- UPS systems controlling critical functions
- Main refrigeration systems critical to building operation
- Shafts for utilities
- Critical distribution feeders for emergency power

Concealment Areas — Avoid installing features such as trash receptacles and mailboxes that can be used to hide devices.

Exterior walls — The description provided here is specific to a building where it is determined blast design must be applied. Again, the owner and designer must contemplate the potential situation mitigation described throughout this section to determine if blast design is needed or not.

Other Architectural and Structural Requirements

The design of the facility should conform to the following, except where local codes or regulations override:

- NFPA Standards, as applicable – NFPA 1221
- State-wide Building Code and all other applicable Building Code
- Applicable Structural Specialty Code
- Applicable Fire and Life Safety Regulations
- Applicable Police/Public Safety Guidelines or Standards, if any
- International Plumbing Code, latest edition
- International Mechanical Code, latest edition
- International Electrical Code, latest edition
- Americans with Disabilities Act
- American Society of Heating, Refrigeration and Air Conditioning (ASHRAE) Handbooks
- American Society of Sanitary Engineering (ASSE) Standards
- American National Standards Institute (ANSI) Standards
- American Water Works Association (AWWA) Standards
- American Society for Testing and Materials (ASTM) Standards
- American Society of Mechanical Engineers (ASME) Standards
- Sheet Metal and Air Conditioning Contractors National Association (SMACNA) Standards
- Plumbing and Drainage Institute (PDI) Standards

- Environmental Protection Agency (EPA) Regulations
- Hydronics Institute (HI) Standards
- Air Moving and Conditioning Association (AMCA) Standards
- Air Conditioning and Refrigeration Institute (ARI) Standards
- Illuminating Engineering Society (IES) Handbooks and Recommendations
- Owners Insurance Underwriter Requirements

Expansion

The design of the facility will be such as to accommodate any planned or reasonably anticipated future expansion of either the building itself or the number of stations in the PSAP/ EOC and associated equipment in the Server Room. Note that this will be driven by site size. It should be noted that while the team did not allow for future spaces in the PSAP/ EOC, the floor might be expanded into the offices or the common space by the nature of its design. The equipment room floor allows for expansion of equipment and migration of systems within racks.

Ergonomics

Some of the ergonomic issues include:

- Individual controls of lighting at the console (PSAP/ EOC only)
- Windows and natural light where appropriate and possible
- Neutral color schemes throughout
- Possibility of variable height consoles
- Wrist pads at the keyboards
- Foot rests
- Break room
- Comfortable and durable chairs
- Indirect lighting
- Flat screen low gloss monitors

Acoustics

The design of the PSAP/ EOC must be such that the ambient sound levels in critical spaces are appropriate and do not interfere with the activities occurring therein. The Noise Criteria (sound level) experienced in the various spaces should not exceed those tabulated below.

Area	NC Level	Notes
PSAP/ EOC	35	
Equipment Room	50	Assumes room normally unoccupied
Training/Conference Room	35	
Office/Administration Areas	40	

Provide duct sound attenuators as required. Packless type preferred. Duct lining to be avoided whenever possible.

HVAC

HEATING, VENTILATING AND AIR CONDITIONING

Design Conditions

Outdoor:

Summer and Winter Ambient Dry Bulb (DB) and Wet Bulb (WB) temperatures will be as listed in the latest edition of the ASHRAE Fundamentals Handbook.

Indoor:

Summer: Drybulb temperature and relative humidity should be designed to the local comfort level to match code requirements.

Winter: Drybulb temperature and relative humidity should be designed to the local comfort level to match code requirements.

Fuel Supply

The facility design must take into account the loss of utility delivered fuels that may be used as the source of building heating system.

The heating system shall be served by natural gas or with propane as a backup. Fuel storage tanks should be sized for the eventuality that delivery may be interrupted during an emergency condition. Minimum fuel reserve of 72 hours should be included (including delivery time) if FEMA requirements are being taken into account. Lesser reserves can be considered by the Owner if desired and if fuel delivery alternatives can be arranged. This should be further discussed when actual design for this facility ensues.

Consideration must be given for the physical security of the fuel tanks consistent with the threat level anticipated.

Ventilation

Outdoor air ventilation requirements for all spaces will be in accordance with the Natural Ventilation and Mechanical Ventilation sections of the applicable Mechanical Code.

Roof mounted intakes will be avoided wherever possible. Wall louvers, shall be located high enough above adjacent grade and remote from generator exhaust to prohibit easy access. Louver location and appearance will be coordinated with the general design

of the building to block entry of foreign objects and camouflage its location. Manbars will be considered on all louvers large enough to inhibit human passage.

Indoor Air Handing Unit

Two separate intake louvers on opposite sides of the building (if possible) should be installed to provide redundancy should one intake be violated. Motorized dampers will be included to isolate the contaminated intake. Each intake will be sized for 100% ventilation airflow. Outdoor air in-takes for air-handling unit shall be provided with iodine, chlorine and carbon monoxide and nitrogen dioxide sensors (if necessary and if determined by the threat assessment). Each system shall be complete with a monitoring system. Unit shall also be provided with supply duct smoke detectors. Sensors shall close outdoor air dampers upon detection of gases, and smoke duct detectors shut-down unit upon detection of smoke.

General

Although a final systems selection must occur during the design process, the following system selection is one potential means to handle the heating and cooling for the facility. (Note that the team should also consider a geo coupled heat pump system or a VRF with cassette unit system as well). Other systems are available that may be more applicable to this facility and should be considered at the beginning of the actual design process.

Two high efficiency water boilers (each sized at 65% - 100% of building heating requirements) will provide hot water heating to the indoor air handling unit along with two roof top units (or a single rooftop unit with dual fans and infrastructure), perimeter radiation, (at perimeter office walls) cabinet heaters (entrances, etc.) and VAV box re-heat coils. Hot water will be distributed by two floor mounted hot water pumps (one 100% stand-by).

A chilled water air handling unit will be designed utilizing an air-cooled chiller. Cooling will be by the air handler with thermostat control and VAV boxes for the PSAP/ EOC.

The primary source of cooling energy might be provided by an air-cooled chiller, provided with 30% polypropylene glycol solutions. The chiller will be interfaced with the new DDC system.

Chilled water shall be circulated throughout the building via base mounted centrifugal pumps (one standby).

Chilled Water: Chilled water system shall be a constant flow – system with a chilled water storage tank. System to be provided with DDC Controls interfaced with Building Management System, and provided with flow meter to allow for chilled water capacity control.

Provide two (2) constant flow glycol chilled water pumps. Two pumps (one 100% stand-by) shall serve the PSAP/ EOC area air-handling unit and the office area rooftop units. Pumps shall be complete with suction diffusers, triple duty valve, flexible connectors, isolation valves, thermometer and pressure gauges. Pumps shall be mounted on vibration isolators.

Ventilation air and combustion air shall be provided for the mechanical room. Intake fan shall be two speeds and shall be interlocked with the boiler operation. Boiler burner kill switches shall be provided at the mechanical room door.

Pressure breeching and stacks will be provided for each boiler. Stack caps shall be installed at termination point.

Toilet rooms, break rooms and janitor closets shall be provided with mechanical exhaust systems at a rate of 2 CFM per square foot of floor space and per International Code regulations.

The control system shall be of the electric digital type with head end control and monitoring. Air handling units, VAV boxes, roof-top units and boilers shall be provided with stand-a-lone controls and shall be monitored, controlled and alarmed through the head end.

The Equipment Room and UPS Room (if separate) shall be provided with a floor mounted environmentally controlled Computer Room type air conditioning units (CRAC Unit).

Supply air diffusers shall be of the adjustable lay-on panel or surface mounted type, louver faced with control damper. Slot diffusers will be utilized in exterior offices.

All supply air ductwork and hot water supply and return piping shall be fully insulated with vapor barrier cover.

All water and air systems shall be balanced.

The Server Room shall be provided with an exhaust system in support of the chemical fire suppression system.

All wall louvers shall be approved for hurricane conditions.

Seismic: The PSAP/ EOC may be classified as an Essential Facility according to the IBC. All Mechanical Components will need to meet the Seismic Design Requirements of Section 1621 of the 2003 IBC as well as those set forth in Section 9.6 of ASCE 7-02.

Air Distribution

PSAP/ EOC HVAC System

The HVAC System shall consist of a modular VAV air handling unit with hot water heating and chilled water cooling (or other terminal unit system). Units will provide conditioned air to the PSAP/ EOC space overhead (or underfloor if possible) system. Return air will be obtained from area return registers.

Minimum ventilation air shall be provided through the unit economizer. The economizer shall provide free cooling whenever outdoor air conditions permit.

Support Area HVAC System (Office and other areas)

Again, a myriad of HVAC systems are available depending on final location and design. General areas might be designed as follows. Split systems can be used in the non-emergent spaces. All return air shall be ducted. Ductwork shall be designed for SMACNA requirements. Medium pressure ducts shall have Class A seals and low pressure shall have Class C seals. Flexible ductwork to diffusers shall be insulated medium pressure with reinforced foil face.

Modular Air Handling Unit: (PSAP/ EOC)

Provide a VAV air handling unit located in the proposed mechanical equipment room. Unit shall be provided with an outside and return air mixing box, filler box, (30% Pre-filter, 95% particle filter and Purafil PK12 filled with "CP" select blend carbon filter), chilled water cooling coil with face and by pass, hot water heating coil, supply and return fan sections with VFD drive, diffuser section and 99.999 Hepa Filter. Units shall be mounted on vibration isolators and provided with sound attenuator on supply and return sections, stainless steel drain pan and stainless steel coil casing, ultra-violet disinfection system, air flow measuring station, duct smoke detectors, and DDC controllers.

Roof-Top Units: Support Area HVAC SYSTEM

The HVAC System shall consist of roof-top packaged unit systems with hot water heating and direct expansion cooling. Return air will be obtained from area return registers.

Minimum ventilation air shall be provided through the unit economizer. The economizer shall provide free cooling whenever outdoor air conditions permit.

Units shall also be provided with supply duct smoke detectors. Smoke duct detectors shall shut-down unit upon detection of smoke.

Minimum ventilation air shall be provided through the unit economizer. The economizer shall provide free cooling whenever outdoor air conditions permit.

Server Room

Provide one primary and one redundant indoor horizontal mounted air-handling unit with chilled water cooling coil and hot water heating coil.

The air distribution ductwork from the air-handling unit to the diffusers shall be low pressure and all return air ductwork shall be low pressure. All return air shall be ducted. Ductwork shall be designed for SMACNA requirements. Low pressure shall have Class C seals. Flexible ductwork to diffusers shall be insulated medium pressure with reinforced foil face.

Controls

A complete system of automatic temperature control shall be provided only if requested by the client. The system shall be electric/DDC complete with a head end computer. DDC system shall interface with the existing chiller air handling unit and roof-top unit controllers, monitoring CO_2, VAV Box controllers and reheat. Provide start/start-alarm and communication functions with controllers and shall tie into the boiler control panels for the boilers. In addition, the DDC shall provide time of day control, startup, temperature control, safeties, alarms, etc. The Fin radiation shall be controlled by room thermostats common with the VAV box/reheat and unit heaters by area thermostats. Exhaust fans shall be sequenced on/off through the head end. Head end shall be a web accessible system and shall have interface capabilities with the technology equipment at the PSAP/ EOC Supervisor's workstation. If the DDC system is not used and a simple wall mounted control system is used in lieu, then a means by which outside air intake shutdown can be activated must be investigated.

Chemical Suppression System Exhaust Systems (Server Room)

Provide an in-line exhaust fan along with associated ductwork, controls and grilles.

Exhaust louver for each system shall be as approved for tornado conditions.

Exhaust Fans

Exhaust fans shall be provided for toilet rooms, break room, janitor closets and electrical closets. Exhaust requirements shall be 2 CFM per square foot of floor space and per IBC regulations. Fans shall with back draft dampers, built in disconnects, bird screen and roof curbs.

Duct Insulation

All supply air concealed ducts shall be insulated with 1 1/2" thick standard duct wrap with FSK facing and all exposed supply, return and outside air intake ductwork shall have 1 1/2" thick 1B Board.

Piping Valves and Fittings

All hot water piping shall be schedule 40, black steel. Valves and fittings shall be provided along with isolation ball valves and strainers for all coils, hot water cabinet, heaters and fin radiation.

Pipe Insulation

Pipe insulation with ASJ jacket for hot water piping. Insulation shall be 1 1/2" thick except 1" pipe and smaller shall be 1/2" thick. Exposed piping and fitting to be insulated and provided with aluminum jacket.

Breeching and Stack

Breeching and Stack with 2" insulation fill, aluminum outer jacket and stainless outer jacket. Stack exposed to outdoor conditions shall also have a stainless steel outer jacket. Stack exit shall have a stack cap.

PLUMBING

General

The plumbing systems shall be installed in accordance with the rules and regulations of the Local and State Building Code, the International Plumbing Code, and any authority having jurisdiction. The plumbing systems shall be furnished complete and ready for occupancy. All trenching, excavation, bedding and backfill required for the installation of underground piping shall be provided.

All hangers, hanger rods, beam clamps, rise clamps, etc. required for the installation of above ground piping shall also be provided. All plumbing work shall be performed by an authorized plumbing contractor.

The PSAP/ EOC will have to be classified as an Essential Facility according to the IBC. The seismic design category shall meet those criteria. All mechanical systems and components will need to meet the Seismic Design Requirements of Section 1621 of the IBC as well as those set forth in Section 9.6 of ASCE 7-02.

Sanitary and Vent Systems

The sanitary system shall serve toilet rooms, janitor closets, floor drains, trench drains and all other fixtures requiring drainage. The sanitary piping system shall slope at a minimum of 1/8 inch per foot and shall be vented through roof as required by code.

All above ground sanitary waste and vent piping and underground sanitary piping shall be cast iron pipe and fittings. The above ground cast iron piping shall use the no-hub jointing method with anchors at chair carrier connections. The underground cast iron piping shall utilize modification hub type fittings. Provide cleanouts at the bottom of all risers, each turn and at 50 foot intervals on straight runs.

Domestic Hot and Cold Water Piping Systems

Water service shall connect to the municipal water system. The service shall be provided with a reduced pressure zone backflow preventer, pressure reducing valve, strainers, valves and meter.

The underground domestic water service piping from the municipal water main connection to the building and underground within the building shall be cement lined ductile iron pipe with mechanical joints. All above ground domestic hot and cold water piping shall be Type "L" seamless copper tubing, for use with solder type fittings. Fittings for copper tubing shall be wrought copper or cast bronze. Valves for iron piping shall be iron body; valves for copper tubing shall have bronze bodies. Solder shall be lead free type.

All domestic cold water, hot water, hot water return, and horizontal storm water piping shall be insulated with fiberglass insulation with all service jackets. Insulation thickness shall be in accordance with the International Energy Code.

A 72 hour supply of bottled water for drinking will be provided on site.

Stormwater Piping System

The building stormwater system shall consist of roof area sloped to gutters, leaders, scuppers and downspouts (systems dependent on final roof design). All exterior drains with scuppers and downspouts should at some time be tied to an exterior drain system or else the leaders should hit splash blocks.

Plumbing Fixtures

The fixtures shall be white vitreous china. Water closets shall be 1.6 GPM water saver, wall hung or tank type. Urinals shall be wall hung type with sensor operated flush valves. Lavatories shall be under counter mount with sensor operated faucets. Shower assemblies shall be fitted with faucets, fittings, heads and mixing. Sinks shall be single or double bowl, stainless steel, counter top mounted with gooseneck faucets and wrist blade handles. Molded stone service sinks with service sink faucets shall be provided in janitor closets. Dual level wall hung electric water cooler.

Handicapped fixtures shall be provided within the requirements of the State Codes and the ADA Codes. Water closets and urinals shall be water conservation type.

Fixtures shall be commercial grade plumbing fixtures.

Fixtures shall be furnished in sufficient quantity to satisfy the applicable plumbing code.

Provide water hammer arrestors in domestic water piping to fixtures in accordance with PDI standard "PDI-WH-201".

Plumbing Equipment

Hot water shall be provided by an electric or gas, tank type water heater and recirculating hot water piping system and pump. Heater shall provide appropriate storage with a fast recovery. Heater shall be supplied complete with ASME rated pressure and temperature relief valves.

Plumbing Specialties

Non freeze hose bibbs shall be provided on the exterior of the building for maintenance purposes. A hose bibb shall be in the Mechanical Room. Backflow preventers and vacuum breakers shall be provided at hose faucets and all other areas required by code. Pipe anchors and supports and shock absorber devices shall be provided where required. Floor drains with trap primers shall be provided in Toilet Rooms, and Mechanical Rooms, and under raised floor areas in the PSAP/ EOC and Server Room (if raised floor).

Fire Protection

The fire protection system be designed and installed in accordance with the rules and regulations of the International Building Code, International Fire Code, appropriate County and State Codes, Insurance Underwriter, Local Fire Department Standards, NFPA Codes and any other authority having jurisdiction. The fire protection system shall be furnished complete and ready for occupancy. All trenching, excavation, bedding and backfill required for the installation of underground piping shall be provided. All hangers, hanger rods, beam clamps, riser clamps, etc. required for the installation of above ground piping shall also be provided.

The office area of the facility shall be protected by an automatic wet-pipe sprinkler system (if required by square footage). The system shall be hydraulically calculated to meet NFPA 13 light hazard occupancy requirements.

The PSAP/ EOC, where protection of electronic equipment is a consideration, shall be protected with a double interlocked pre-action system. This system requires the activation of two detectors and melting of a sprinkler head prior to water discharge. After the first action an alarm shall be initiated to allow the building occupants to deal with the fire before water discharge.

The Server Room shall be protected by an FM-200 or ECARO-25 chemical fire suppression system to prevent damage to the contents. FM-200 and ECARO-25 fire suppression systems are replacement agents for Halon 1301 systems and are not damaging to the ozone layer. These systems are controlled by their own smoke and ionization detection systems and control panels which are interconnected with the building fire alarm system. The area shall be protected above the raised floors at the ceiling level. Only if allowed by the local Fire Marshall and insurance underwriter, a time delay feature and abort switch may be provided. This provides a time window after alarm initiation that will give the occupants time to access the situation and deal with the fire and abort system activation if desired prior to chemical discharge. No backup water based fire suppression system will be provided in this area.

The incoming fire service shall be ductile iron pipe and shall connect to the municipal water system or to the current building. The service shall have a double detector check valve assembly, complete riser trim, fire department connection, and wall post indicator valve.

The building shall have fire extinguishers furnished and installed in accordance with NFPA 10 requirements.

The requirements for backflow and metering of the fire service shall be coordinated with the water utility company. No on site storage of fire protection water will be required as far as the design team knows. An analysis of the available water supply must be made per the requirements of NFPA to determine if a fire pump will be required.

The designs for all systems shall conform to the seismic requirements of the International Building Code and NFPA requirements.

ELECTRICAL

Power, lighting etc.

System Redundancy and Emergency Power Supply

The PSAP/ EOC/ Fayetteville Utility Operations Data Disaster Recovery Space and Server Room portions of the facility shall be designed so that the failure of any one piece of equipment will not compromise the public safety mission. In addition, sufficient equipment must be connected to the emergency power supply to similarly achieve the mission during a utility failure. System/Equipment redundancy and emergency power requirements should be in accordance with the following table:

Area/System	Redundancy	Emergency Power
PSAP/ EOC A/C Unit	N +1	Yes
Server Room/ Data Disaster Recovery A/C Unit	N +1	Yes
General A/C Units & Fans	N	No (dependent on location)

Notes:
N= Number and capacity required to satisfy 100% of load.

Compliance

The new electrical service installation shall comply with the most recently adopted edition of the National Electrical Code and International Electrical Codes, as well as with all applicable ordinances of authorities having jurisdiction, and the local Utility's requirements. Reasonable provisions for anticipated growth shall be provided for in the design.

Electrical design philosophy

Principles of value engineering will be applied for the most practical and economical system for initial installation, operation, and maintenance costs. Consideration to not compromise safety, performance, and reliability will be incorporated.

Equipment

Equipment with high power factor and energy efficient motors will be provided to reduce power consumption costs and promote energy conservation.

Incoming service

Dual power supplies from the utility company are preferred over a single source. Obviously this will be very site dependent. Redundant power grids may not be directly available but should continue to be discussed.

At the building, each incoming service shall terminate in a separate double ended switchboard arrangement. The switchboard shall contain a main breaker for each incoming service and a common tie breaker. Mains and tie shall be electrically operated and key interlocked. Three (3) feeder breakers, plus one spare and one space shall be provided. Owner electronic check metering shall be provided for both sides of the switchboard.

All circuit breakers in the switchboard shall have electronic trip elements (short time, long time and instantaneous for feeders; short time and long time only for the mains and tie) and be of the power air drawout circuit breaker type.

Building Loads

The building loads should be developed for the entire square footage and a reasonable factor for building increase of approximately 25% shall be included in the load calculations.

Emergency Standby Power

One Natural Gas generator with propane fuel backup is desired (minimally dependent on available utilities at a given site), capable of full load for at least the PSAP/ EOC and Server Room. If budget allows, a two-generator system should be considered (can be an add alternate in any bid situation). The generator shall be provided with tanks and 72 hour fuel capacity (or as discussed previously in this section).

UPS System

A new UPS shall be provided capable of providing UPS for all of the critical systems within the facility (specifically the Server Room/ City Data Disaster Recovery and the PSAP/ EOC). The UPS will also power a dedicated computer receptacle in every other occupiable space in the facility. The goal is to be sure computers throughout the facility are uninterruptible. This unit will be required to provide for additional growth.

Mechanical Equipment Power

Mechanical equipment in the office support areas shall be fed from the distribution/branch panels in that area. Mechanical equipment in the PSAP/ EOC and Server Room in the hardened areas shall be fed from the distribution/branch panels in that area. Disconnect switches/motor starters for HVAC equipment shall be furnished.

Lighting and Controls

Note that our comments below for office spaces and conference spaces should serve as guidelines only. It should also be noted that many times LED fixtures have become as cost effective as fluorescent fixtures and should be considered where fluorescent is identified.

Provide 2' x 4' recessed fluorescent direct/indirect three lamp (T5HO) lighting fixtures in all office spaces as indicated (one per 70 sq. ft.). In corridors provide the same fixture as the office except two (2) lamps and spaced 12'-0" on center. Provide nominal 6" diameter recessed fluorescent downlights (2 – 26 watt) with suspended glass decorative diffusers for accent lighting in conference rooms, lobbies and reception areas (dimmable ballasts). Assume one (1) fixture per 40 sq. ft.

Lighting in the PSAP/ EOC shall be direct/indirect fluorescent or LED. Continuous rows of 3 lamp (T8-32W) with one fixture for approximately every 65 sq. ft. Innes lamps shall be on a separate circuit. Provide dimming ballasts.

Lighting in the Server room shall be 3 lamp, 2' x 4' recessed acrylic fluorescent. Linear fluorescent lamps shall be T8-32 w or T5-54wHD; compact fluorescent ballasts shall be of the electronic type with less than 10% THD.

In each individual office and conference room provide a wall mounted switchable P.I.R. occupancy sensor.

Selected fixtures in corridors and large spaces will be provided with emergency ballasts and also be connected to life safety circuits and be utilized for night/emergency lighting (unswitched). Lighting in the computer equipment room shall be locally switched.

Lighting controls in the Board Meeting/Training rooms and PSAP/ EOC can consist of local dimming packages with multiple scene pre-set controls at the Owner's discretion.

All fluorescent ballasts shall be electronic with <10% THD.

Power Distribution Unit(s) (PDU)

Provide two (2) power distribution units with shielded isolation transformer, two panelboard sections with a total number of poles and power input junction boxes (adequate for total building loading) with surge suppression plates in the Equipment Room.

Remote Power Panels (RPP)

Provide (2) two (size to be determined by electrical sizing) remote power panels in rack type assemblies.

Grounding

Provide grounding in accordance with NEC 250, the requirements identified in Motorola R56 Guidelines, and the following:

Insulated green ground for all lighting, power and mechanical equipment circuits.

#2 AWG insulated ground from switchboard to Voice/Data MDF Room Main Ground Bus (MGB) #2 AWG from MGB to Subsystem Ground Bus (SSGB) and IDF rooms. Provide a 2" x 1/4" x 24" long copper ground bar drilled and mounted on insulated standoffs.

Main Electric Room: 2" x 1/4" long ground bar(s) mounted on insulated stand-offs.

Telecomm/Radio Equipment Grounding: As per Motorola Standard R56. (#2 AWG from SSGB to ground bar in equipment racks.)

UPS System/PDUs: Input and output ground to be same size as phase conductors.

Raised Floor: #6 AWG ground on – 6' x 6' grid (to be final determined by PSAP/ EOC console sizes) attached to pedestals and all panels serving raised floor area, including consoles.

Receptacles

All receptacles shall be heavy duty specification grade, NEMA 5-15R in all office support areas except kitchens, bathrooms and locker rooms which will be NEMA 5-20R (GFCI where indicated). All receptacles in the PSAP/ EOC and Server Room shall be NEMA 5-20R isolated ground type (except where special outlets are identified.)

In raised floor areas of the PSAP/ EOC area, receptacles shall be mounted in access floor service boxes (mounted in the raised floor tile).

Flush floor boxes in concrete floors shall be of the adjustable type, steel with natural aluminum finish faceplates and carpet flange.

As a minimum, provide the following quantity of receptacles:

Offices:	(1) double duplex, (2) duplex
Conference Rooms:	(1) double duplex, (4) duplex, (1) flush floor
Toilet/Lockers:	(1) GFCI
Corridors:	(1) duplex every 50 feet
Reception:	(4) duplex
Kitchen:	(4) double duplex (separate circuits each)
Training:	(1) flush duplex per (2) chairs
PSAP/ EOC areas:	(2) Double duplex (one circuit per outlet) receptacle to serve four pre-wired tables and two per each PSAP workstation
Mechanical/Electrical	(2) duplex minimum
Telecomm IDF	(2) double duplex (separate circuit) or as required by telecommunications designer. Wire per R56 Requirements

Circuiting

Maximum loading per circuit shall be as follows:

277 volt lighting:
3200 watts
120 volt lighting:
1600 watts

Receptacles:	2 standard work stations per circuit Multiple circuits as required for each Backup PSAP/ EOC position 8 maximum receptacles per circuit other areas
Microwave:	Separate circuit
Refrigerator:	Separate circuit

Vending:	2 machines per circuit
Range:	60A 250V circuit
Dimming Circuits:	Separate neutral/switch leg
Homeruns:	Three single phase circuits max. (Separate neutral on clean circuits) Three phase motor circuits: Separate homerun
	120 V circuits over 75 feet: #10 AWG
	277 V circuits over 175 feet: #10 AWG

Equipment Room Ground

Continuous #6 bare ground perimeter of room (below raised floor) for single point ground of communications equipment. All grounding to meet Motorola R56 standards at a minimum.

Lightning Protection

Provide a complete master labeled Class I system in accordance with NFPA 780 and UL 96A.

Fire Alarm

New devices need to be installed in the appropriate manner in the building.

Manual Pull Stations
Audible Alarms
Audible/Visual Alarms
Smoke Detectors
Heat Detectors
Duct Smoke Detectors
Main Fire Alarm Control Panel
Annunciators
Sprinkler Tie-in

Suppression System Tie-in
Auxiliary input/output relays for door release, fan shutdown, etc.

Interface wiring between fire alarm panel and mechanical equipment shall be provided.

Voice/Data Communications

Provide a complete voice/data infrastructure for the building.

Seismic

All equipment, conduit, and other devices related to the electrical installation, etc. shall be seismically braced per the requirements of the Essential Facility requirements.

Seismic bracing and isolation materials shall be of the same manufacturer and shall be certified by the manufacturer.

It is the intent of the seismic portion of this narrative to keep all electrical building system components in place during a seismic event and operational after the event should that be required by code.

All such systems must be installed in strict accordance with seismic codes, component manufacturer's and building construction standards. Whenever a conflict occurs between the manufacture's or construction standards, the most stringent shall apply.

5

SITE ANALYSIS & CONCEPT OPTIONS

SITE ANALYSIS & CONCEPT OPTIONS

INTRODUCTION

The focus of this entire study was to develop a program specifically for City of Fayetteville/ Cumberland County's proposed Emergency Communication Center and then to test it in several ways to determine the best future for the co-located organizations' facility use. The planning team was tasked with developing a concept diagram reflecting the programming effort outlined in Section 2 of this document and then to test the concept diagram on several sites.

Initially the City of Fayetteville/ Cumberland County team identified four sites on which the project might be located. During the Workshop Sessions held in November 2015 the team toured the sites and had general discussion about the viability of the various locations. Following the visit the planning team developed Threat Assessments for each site and eventually through process of elimination three sites were recommended for further study. This study focuses on those three sites. A slightly different program is developed for each site based on requests made by the Owner Team.

THE SITES

The sites and the proposed programs are as follows (note: these sites are identified by address in Section 3):

Site #1 - **Cedar Creek Business Center Site** – On this site, the Owner has requested that the design team test-fit the Emergency Communication Center program only

Site #2 - **Fields Road Site** – On this site the Owner has requested that the planning team test fit the Emergency Communication Center program along with a Proposed Fire Station. The combined facility attempts to merge shared site elements between these two programs together. It also attempts to link the two buildings. This is described further in the Site Analysis options on the pages to follow.

Site #3 - **Tracy Hall Road Site** - On this site, the Owner has requested that the design team test-fit the Emergency Communication Center program only

All site configurations are further investigated for cost in Section 6 of this document.

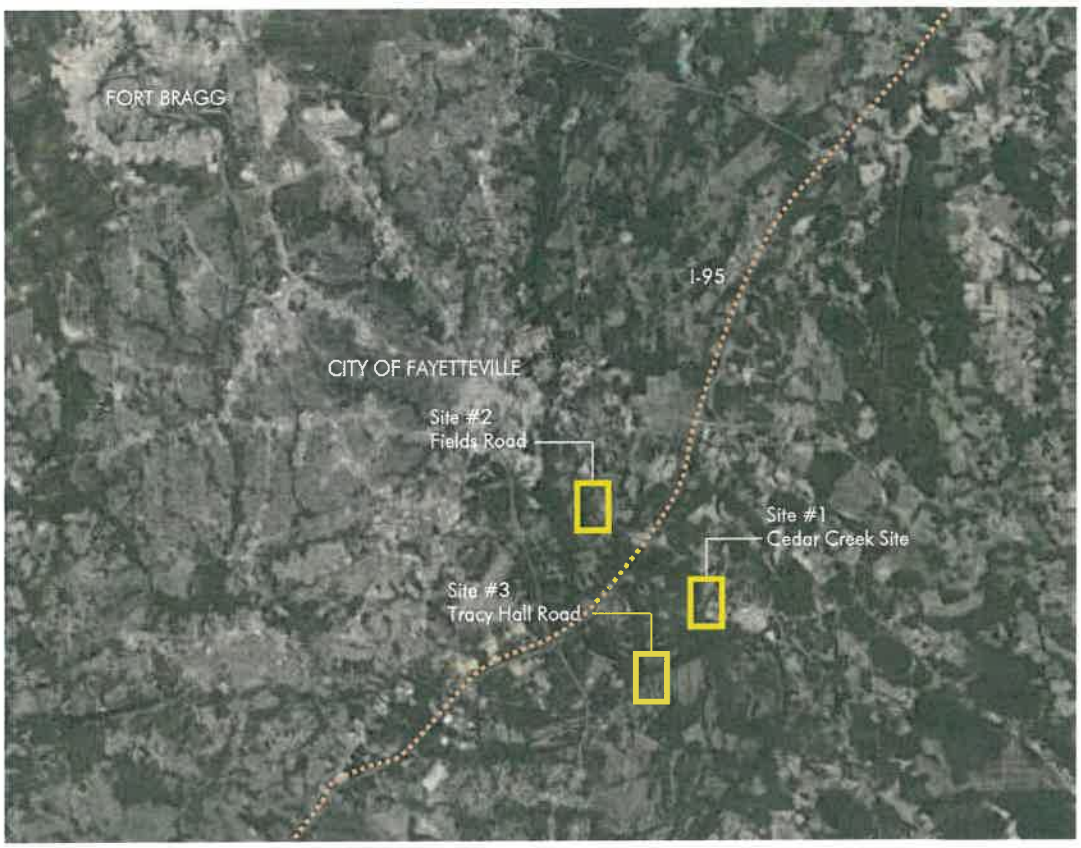
This Section begins with the analysis of the three construction sites identified by City of Fayetteville/ Cumberland County. The planning team has develop a simplified site analysis for use in this document. Note that much of the analysis of the proposed sites is based upon conversation held during the Workshop in November 2015 and from follow-up data provided by City personnel.

Overall, this section provides the following information:

- A brief analysis of Site Location #1
- A brief analysis of Site Location #2
- A brief analysis of Site Location #3
- Concept Floor Plan
- Site Concept Plan - Location #1
- Site Concept Plan – Location #2 (note that both Concept #2A and #2B are shown as one diagram. The reader will need to extrapolate the emergency communication center program elements from the drawing to understand the plans used for estimating in Section 6)
- Site Concept Plan – Location #3

Section 6 of this document provides an order of magnitude budget cost estimate for each site. Except for the Fields Road site, Section 6 utilizes the same building area for each site and will utilize the same structural and material finishes. Further variations in project cost will likely emerge due to site related costs.

The three sites are shown below.



Potential Sites

SITE ANALYSIS

Proposed Site Location #1

LOCATION
Cedar Creek Business Center, Fayetteville, NC

ZONING
Specific zoning classification was not available to the design team however the development is approved as commercial so zoning regulations will likely allow the facility. The allowance of a tower will be a question under each zoning classification.

DESCRIPTION
Site #1 is located on the south west side of Cedar Creek Road at the entry to the Cedar Creek Business Center. It is marked as Parcel #1 on the Cedar Creek Master Plan subdivisions with the suggestion of adding the triangular piece of residential property directly to the north and west of it. Parcel #1 is a rectilinear piece of property of approximately 10.36 acres which when combined with the triangular piece will be in the neighborhood of 15 acres. When Parcel #1 is combined with the triangular piece of property it has approximately 650 feet fronting Cedar Creek Road.

The subdivision information does show a flood plain line within the Cedar Creek development however the flood plain line appears to be over 1,400 feet from Parcel #1. There are a series of wetlands located approximately 1,500 feet to the south and west within the development. According to the development information this site sits approximately twelve feet above the wetland area.

Cedar Creek Road is considered a primary roadway connecting State Route 210 to State Route 242. The site will provide (once the master plan roadway is completed) a secondary means of egress. Current access is directly adjacent to this proposed site to Cedar Creek and the secondary egress in the future may be along Clark West Road which exits to Evans Dairy Road. Access to major highways includes a direct connection from Cedar Creek road 1.5 miles to the north and west. Access to and from the site appears to be very good.

The immediate area contains fields, woods and some residential. Within 1.5 miles there are a mixture of commercial and retail properties.

As with all land development and zoning ordinances, codes should be reviewed in detail prior to further consideration of this piece of property for the project.

UTILITIES

Electricity – Power is provided immediately adjacent to the property along Cedar Creek Road.

Fiber – It is assumed that fiber is provided immediately adjacent along Cedar Creek Road.

Water – 24" diameter PWC water main in Cedar Creek Road.

Sewer – The complex will be served by a 48" diameter PWC sanitary sewer outfall along its western and southern boundaries. An 8" stub is intended to support each individual property on the site. It should be confirmed that these are installed as of this date.

SITE VULNERABILITIES

From the initial analysis, the overall site appears to be a very good and buildable site. Please see the Concept Site Plan provided later in this Section. It seems to have good accessibility and is a flat and buildable site. All of that said, there are some site vulnerabilities to be aware of.

It is not clear whether this site is within range of any plume zone however as noted above, it is located within 1.5 miles of I-95 which is hazardous materials route. This site is just to the east of that route meaning it may be within the predominant prevailing winds. A prevailing wind investigation should be completed to understand the ramifications that a plume might have on the site.

The site is directly adjacent to a Primary Roadway (Cedar Creek Road). Precautions should be taken to harden the facility from the direct drive by capability from that road.

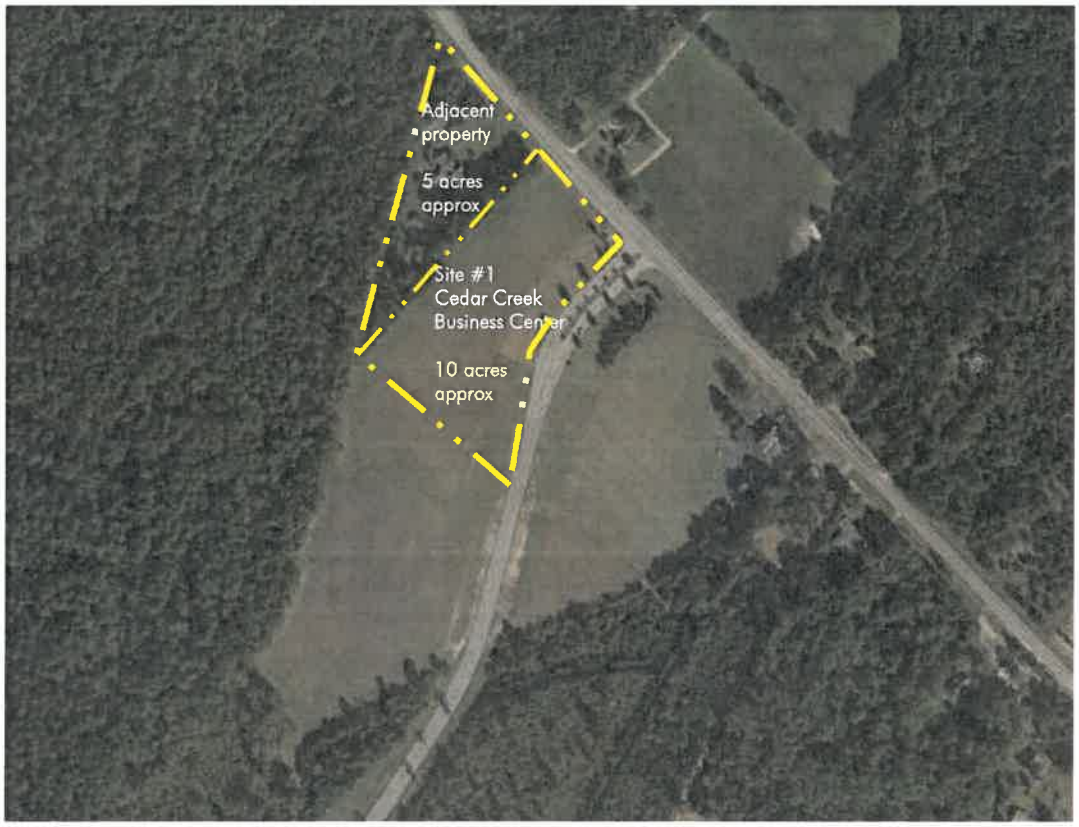
It is unclear whether diverse pathways are available for power or telecommunications. The lack of power redundancy can be overcome. It is more difficult to overcome lack of diverse routing for telecommunications. Water and sewer service appear at first glance to have the capacity for the project however full studies should be undertaken.

A zoning ordinance analysis was not completed as part of this study. Zoning may create more restrictions than identified here however the first glance at the use seems reasonable given the intent of use of the balance of the development.

GENERAL SITE SUMMARY

From the perspective of available site area and buildability, this site is very reasonable. The fact that this site is relatively separate (distance-wise) from the other County and City sites allows for continuity of operations in the region.

The vulnerabilities and inconveniences all may be overcome with reasonable analysis and design. Further investigation should be conducted to determine the feasibility of using this site however at first glance it appears to be suitable. See site images on the next page.



Cedar Creek Business Park Site (Parcel #1 plus adjacent site combined)

SITE ANALYSIS

Proposed Site Location #2

LOCATION
Fields Road, Fayetteville, NC, Tax Pin: 0445-97-3707

ZONING
LC/ Limited Commercial

DESCRIPTION
Site #2 is located on the south side of Fields Road approximately 1/4 mile west of Cedar Creek Road. It is a rectangular piece of property of approximately 50 acres. It has approximately 800 feet fronting Fields Road but does not have access to a second means of egress directly from the site.

The city has indicated that there are plans to develop this site into a sports complex. Other discussions have also suggested the possibility of a law enforcement training facility at this site.

Information provided does not show whether the site is in a flood plain although the front portion of the site being considered for this project appears to be high and dry.

Fields Road is considered a secondary roadway connected to Cedar Creek Road. It is located within 5300 feet (1 mile as the crow flies) of I-95 and passes over that roadway. Access to and from the site appears good.

The immediate area contains fields and woods. Within a ¼ mile there are a mixture of commercial, retail and residential properties.

As with all land development and zoning ordinances, codes should be reviewed in detail prior to further consideration of this piece of property for the project.

UTILITIES
Electricity – PWC at the site. Three phases available

Fiber – PWC, 16,340 feet of overhead line away from the site

Water – 8" AC water main stub out to Fields Road approximately 800' to the north. If the main is extended to this property, PWC requires that the extension continues across the entire front of the property. This means 800' of 8" water main.

Sewer – 36" SS outfall to the east that may require an aerial crossing, wetlands permits and off-site easements

SITE VULNERABILITIES

From the initial analysis, the overall site appears to be a very good and buildable site. Please see the Concept Site Plan provided later in this Section. The grouping of retail and residential properties to the east of the site is testament to the buildable nature of the area. All of that said, there are some site vulnerabilities to be aware of.

The site has some access issues. While it has direct accessibility to Fields Road which empties to Cedar Creek, the secondary access from the actual site will link Fields Road back to Cedar Creek further to the south (by way of Evans Dairy Road). This access works in concept however if Cedar Creek Road is ever blocked this site will have no alternative means of egress.

It is not clear whether this site is within range of any plume zone however it is located within 1 mile of I-95 which is a hazardous materials route. This site is just to the north and west of that route meaning it may be out of the predominant prevailing winds. A prevailing wind investigation should be completed to understand the ramifications that a plume might have on the site.

It is unclear whether diverse pathways are available for power or telecommunications. The lack of power redundancy can be overcome. It is more difficult to overcome lack of diverse routing for telecommunications.

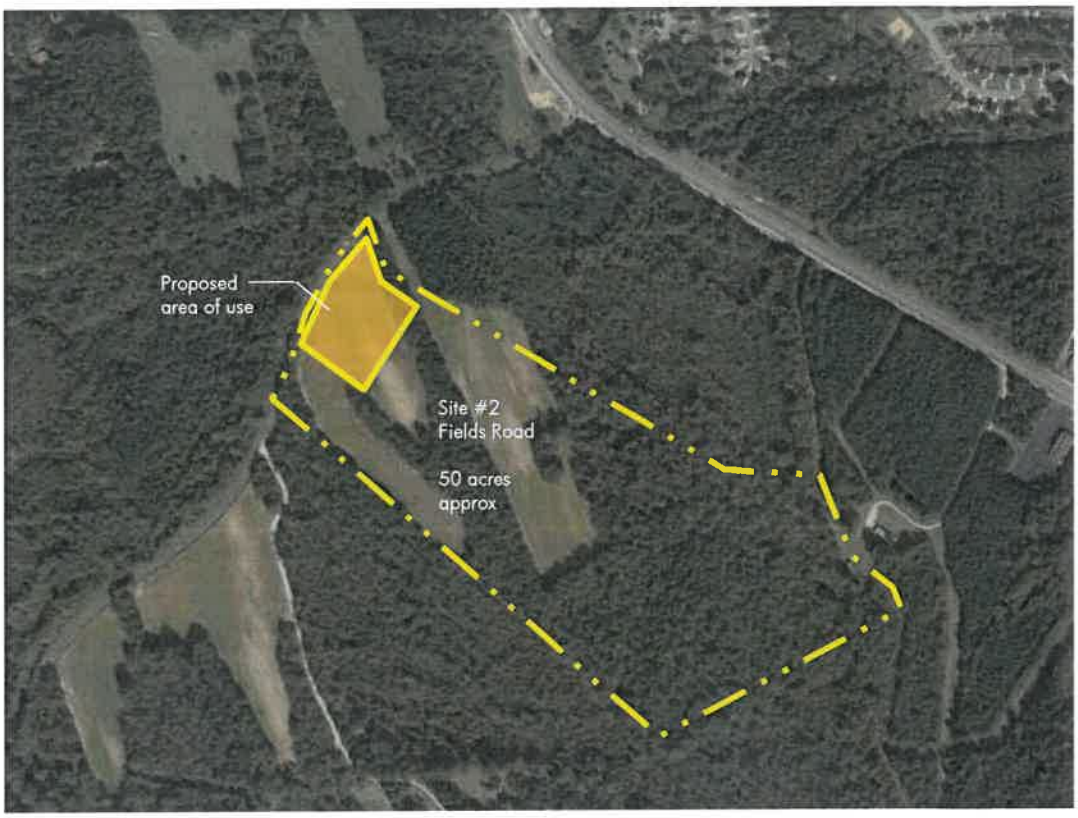
Water and sewer service appear at first glance to have the capacity for the project however full studies should be undertaken. The concern expressed above for sewer connection is a legitimate schedule and cost concern.

A zoning ordinance analysis was not completed as part of this study. Zoning may create more restrictions than identified here however the first glance at the use seems reasonable.

GENERAL SITE SUMMARY

From the perspective of available site area and buildability, this site is very reasonable. This site makes good sense particularly with the potential inclusion of the fire station. Also, the fact that this site is relatively separate (distance-wise) from the other County and City sites allows for continuity of operations in the region.

The vulnerabilities and inconveniences all may be overcome with reasonable analysis and design. Further investigation should be done to determine the feasibility of using this site however at first glance it appears to be suitable with the exception of concern for the potential sewer extension.



Fields Road Site

SITE ANALYSIS

Proposed Site Location #3

LOCATION
Tracy Hall Road, Fayetteville, NC, Tax Pin: 0454-02-0075

ZONING
Industrial (County)

DESCRIPTION
Site #3 is located on the south side of Tracy Hall Road approximately 1/4 mile east of State Route 87. The overall property is an irregularly shaped parcel of approximately 245 acres. The site is framed by Tracy Hall Road, Cape Fear River and a tributary to the river. The proposed site for the actual Emergency Communications Center is a small portion of the overall site likely comprised of approximately 10 acres. The proposed portion utilizes approximately 400 feet of frontage along Tracy Hall Road.

Much of the overall site appears to be in flood plain. The portion proposed for this project indicates a 100 year flood plain line running approximately 100 feet from our proposed property line.

Tracy Hall Road is a utility roadway serving the waste water facility. It is located within 6,000 feet of the I-95 access ramp. Access to and from the site is decent however there is only one means of egress from the site along Tracy Hall Road.

The immediate area contains woods. Within a ¼ mile there is a wastewater treatment plant, a chemical manufacturing facility and a nursery.

As with all land development and zoning ordinances, codes should be reviewed in detail prior to further consideration of this piece of property for the project.

UTILITIES
Electricity – PWC at the site. Three phases available

Fiber – PWC, 2,115 feet of overhead line away from the site

Water – 6" water main on Tracy Hall Road. An 8" water main may be required if the existing main does not meet fire flow requirements. The design team will need to verify.

Sewer – 50" outfall to the east. PWC will not allow sewer taps on this main therefore the sewer service will need to connect directly into a manhole.

SITE VULNERABILITIES

From the initial analysis, the overall site appears to be a reasonably buildable site. Please see the Concept Site Plan provided later in this Section. There are some site vulnerabilities to be aware of.

The site has access issues. While it has direct accessibility to Wilmington Highway and Route 87 there is no secondary means of egress from Tracy Hall Road itself. If Tracy Hall Road is ever blocked this site will have no alternative means of egress.

It is not clear whether this site is within range of any plume zone however as noted above, it is located within 1 mile of I-95 which is a hazardous materials route and Route 87. This site is just to the south and east of those routes meaning is likely in the path of prevailing winds. A prevailing wind investigation should be completed to understand the ramifications that a plume might have on the site.

The site is very close to the waste water treatment facility and the chemical facility. These should be further investigated as there are the potential of plume zones generated by these.

It is unclear whether diverse pathways are available for power or telecommunications. The lack of power redundancy can be overcome. It is more difficult to overcome lack of diverse routing for telecommunications.

Water and sewer service appear at first glance to have the capacity for the project however per the challenges described above, full studies should be undertaken.

The site is very close to the 100 year flood plain. Further investigation will need to be done to evaluate that potential vulnerability.

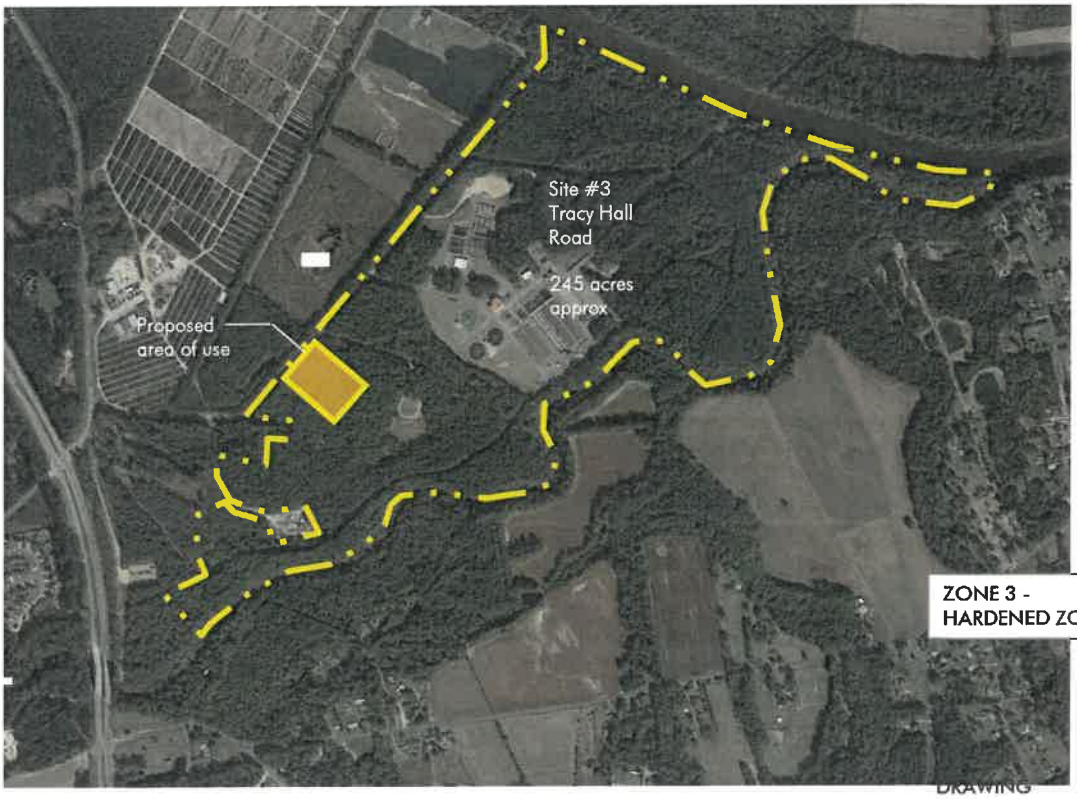
A zoning ordinance analysis was not completed as part of this study. Zoning may create more restrictions than identified here however the first glance at the use seems reasonable.

GENERAL SITE SUMMARY

From the perspective of available site area and buildability, this site is very reasonable. Given fact that this site is relatively separate (distance-wise) from the other County and City sites allows for continuity of operations in the region.

Most of the vulnerabilities and inconveniences may be overcome with reasonable analysis and design however the lack of secondary access, the potential water and sewer challenges and the 100 year flood plain all should raise some red flags. There is also some concern for the proximity of the site to the waste water treatment plant as well as the chemical facility located behind. It is unclear what threat the chemical facility might represent so as frank conversation with the facility will provide more information. Further investigation should be done to determine the feasibility of using this site.

See site images on the next page.



DRAWING
Not to scale

Tracy Hall Road Site

FLOOR PLAN CONCEPT - DESCRIPTION

The Floor Plan Concept shown on the following page utilizes the programming developed in Section 2 of this document. The concept diagram demonstrates a single story approach to the program. Given the overall square footage there is the possibility of developing a two-story scheme however the costs of vertical circulation (including stairways and elevator) must be reconciled with the overall project costs provided in Section 6 of this document.

The concept shown on the next page essentially creates a building comprised of several zones. The zones are described as follows:

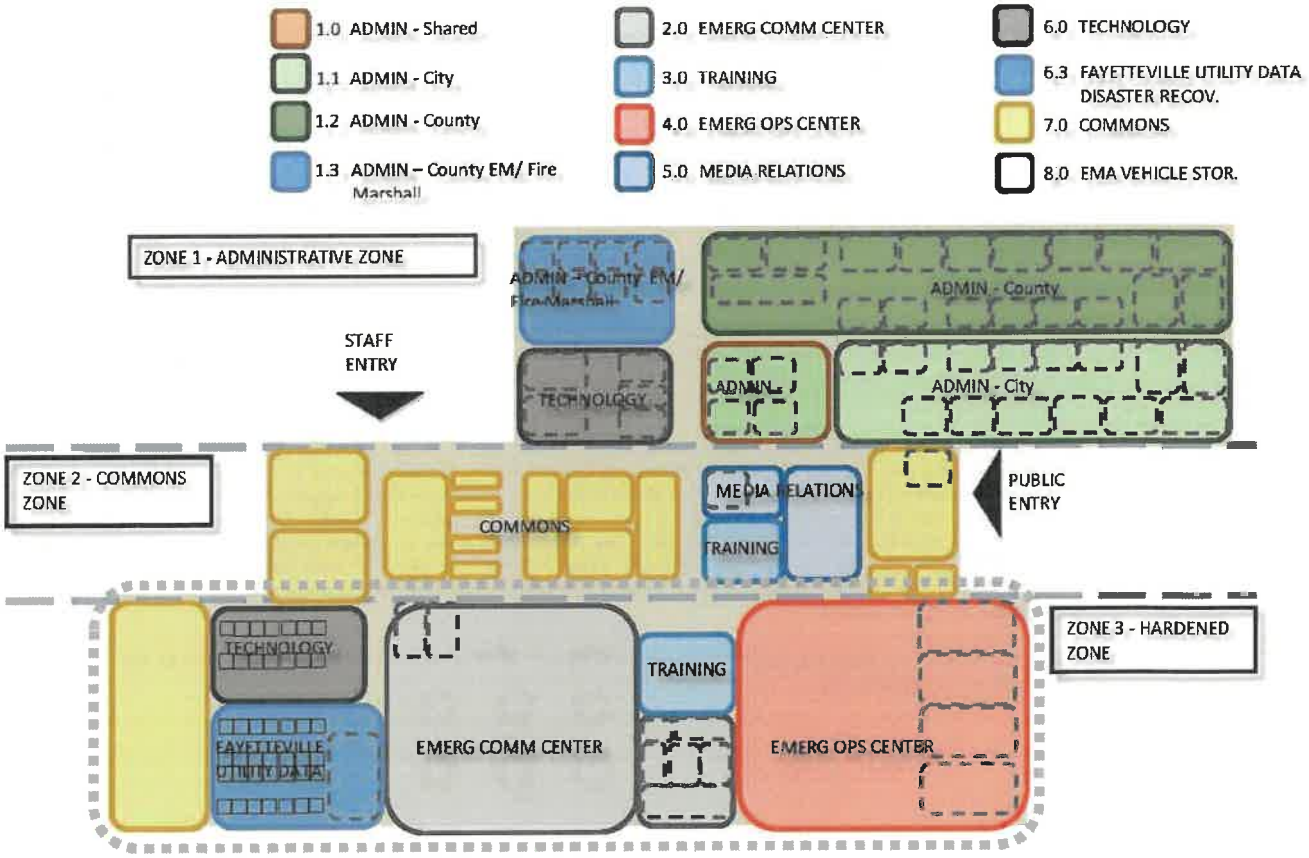
- Zone 1 – Zone 1 contains all office functions for County and City. The Fayetteville Utility Data Disaster Recovery offices are also included in the Administrative zone.

- Zone 2 - The next zone (center zone) is the shared function area. This zone contains the community functions demonstrated by the program. In this space reside common conference spaces as well as locker areas, break areas, kitchen, etc..

- Zone 3 - The last zone is the true hardened zone of the facility. And, while the balance of the facility is hardened to some extent, this zone of the facility is intended to encapsulate all of the critical systems required to continue operations of the facilities it contains. The EOC, the co-located communications functions, the disaster recovery computers, the technology and equipment room and the building services are located here. Should anything happen to any other part of the facility, this portion is truly stand alone.

The site plans will all utilize the "hardened" zone of the facility as the generator for the 25 meter standoff zone. Look for that in the site concepts.

The concept floor plan is provide on the following page.


1.0 ADMIN - Shared
1.1 ADMIN - City
1.2 ADMIN - County
1.3 ADMIN – County EM/ Fire Marshall
2.0 EMERG COMM CENTER
3.0 TRAINING
4.0 EMERG OPS CENTER
5.0 MEDIA RELATIONS
6.0 TECHNOLOGY
6.3 FAYETTEVILLE UTILITY DATA DISASTER RECOV.
7.0 COMMONS
8.0 EMA VEHICLE STOR.
ZONE 1 - ADMINISTRATIVE ZONE
STAFF ENTRY
ADMIN - County EM/ Fire Marshall
ADMIN - County
TECHNOLOGY
ADMIN
ADMIN - City
ZONE 2 - COMMONS ZONE
COMMONS
MEDIA RELATIONS
TRAINING
PUBLIC ENTRY
TECHNOLOGY
FAYETTEVILLE UTILITY DATA
EMERG COMM CENTER
TRAINING
EMERG OPS CENTER
ZONE 3 - HARDENED ZONE

SITE CONCEPTS

GENERAL SITE SUMMARY

The site Analysis provided earlier in this Section provides a reasonable summary of the advantages and disadvantages of each site. The ultimate test, for the sake of this Study however, is to test the footprint of the concept on each site. The images that follow this page provide that graphic test. These concepts are conceptual in nature and would need further design analysis to determine their accuracy. That said, these are reasonable site implementation strategies.

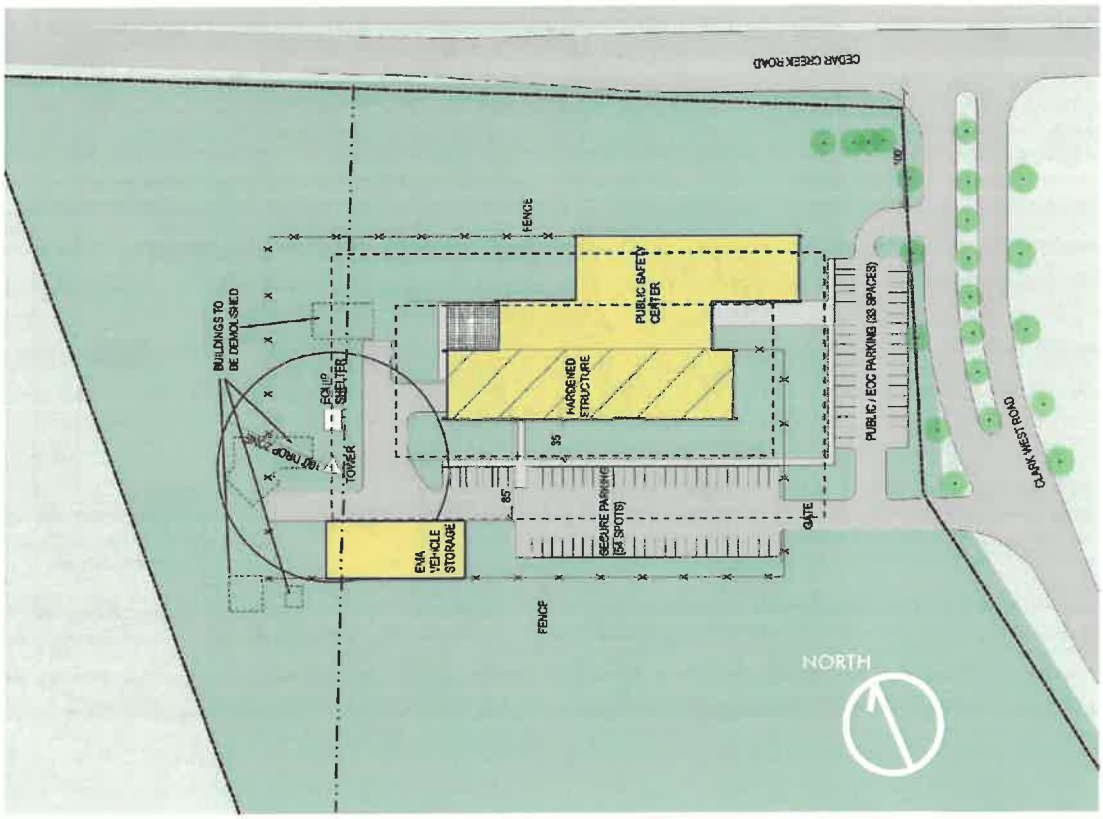
The site concepts incorporate some of the hardening strategies identified in Section 4 of this document. In so doing the planning team has attempted to include a building standoff from the "hardened" portion of the project. Parking for "cleared" vehicles is included in the standoff area assuming those are vehicles of building occupants or other officials previously vetted with the organization.

The concept tested on each site includes the concept floor plan provided on the preceding page. The plan is flipped and turned based on the orientation of the sites and on the capability of the site to accommodate the several different levels of parking. Each site concept also incorporates a 100' tower and potential drop zone. These are the site elements that are consistent for each of the sites.

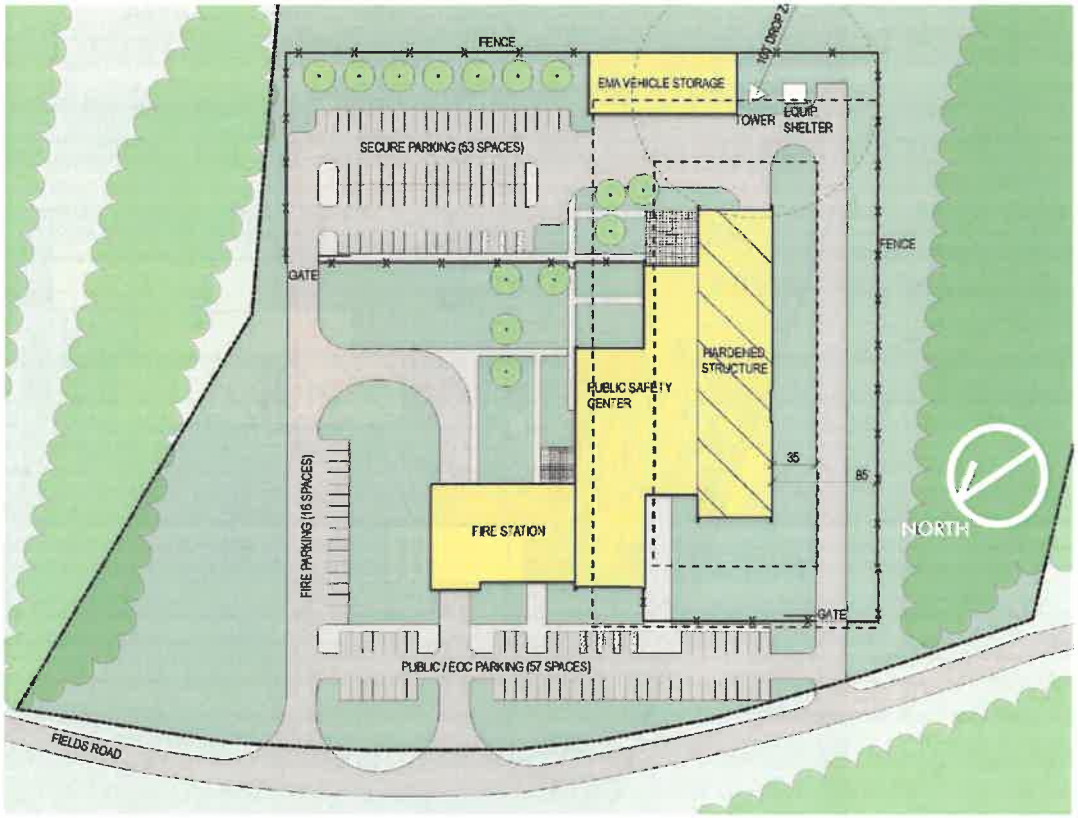
Site #2, The Fields Road site shows a slight modification of this concept. The City of Fayetteville/ Cumberland County Team has requested that the planning team provide the Emergency Communication Center connected to or incorporated in some way with a previously approved fire station floor plan. The planning team has incorporated the Emergency Communication Center with the Fire station so that it incorporates parking for the two into a cohesive scheme. Fencing, parking and site amenities are all combined and shared by the two facilities as well. The two facilities, however, remain completely structurally independent in terms of their functions. They are physically connected in plan, however, and will have continuous facades to allow for a cohesive campus "look". The 25 meter standoff is accommodated within the scheme and allows for both facilities to function completely without disrupting that standoff.

Physically, all sites accommodate the building and site program. The question for the project overall, will be the vulnerabilities presented at the individual sites.

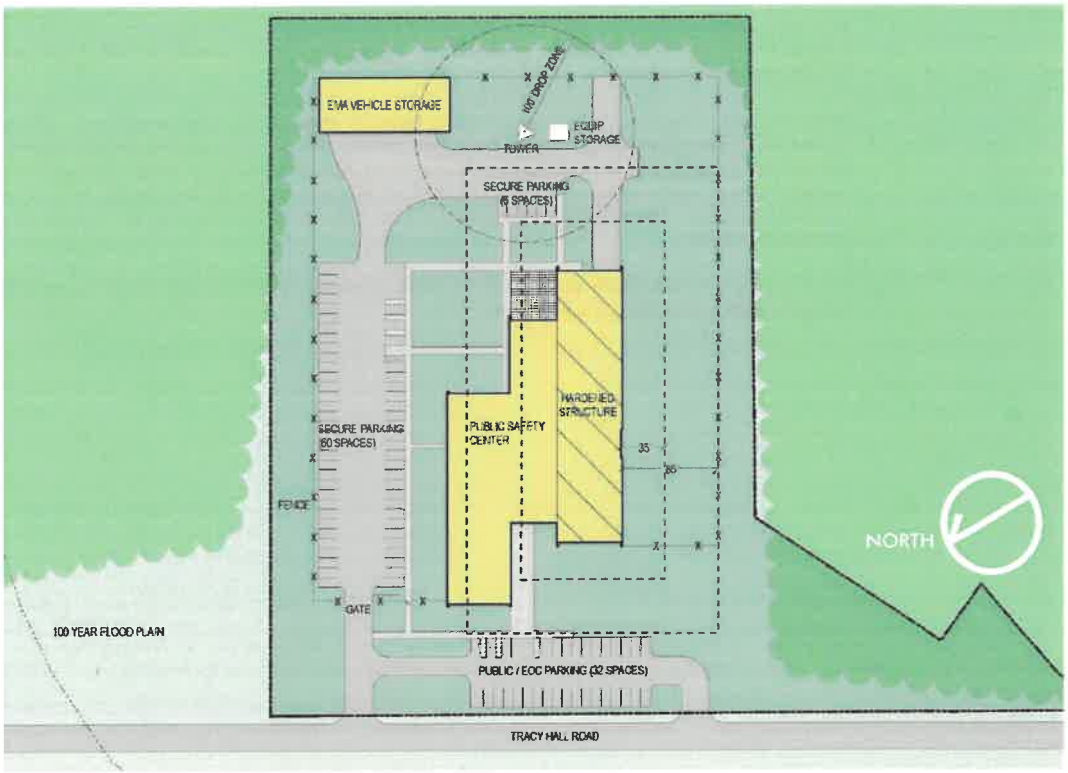
CONCEPT SITE PLAN #1 – Cedar Creek Business Park



CONCEPT SITE PLAN #2 – Fields Road



CONCEPT SITE PLAN #3 – Tracy Hall Road



CONCLUSION

As always, utility investigations, environmental assessments, full Zoning Ordinance reviews and other resource agencies will need to be consulted prior to actual design commencing. Information gleaned from those studies may help to further inform how the building and site is to be used.

While locations of spaces within the floor plans, locations of the facility and site program will likely change as the City of Fayetteville/ Cumberland County begins the design process with an architect, the concept diagrams provided in this section indicate that the program derived during the Programming Workshop held in November generally fit onto the various sites being analyzed. Site #1 works well as an overall location for this program. Site #2 provides the room to accommodate the additional fire station program. Site #3 provides for some concern relative to its secondary means of egress as well as the proximity of the 100 year flood plain.

This information is invaluable in proving that the ideas discussed in that November Workshop meeting can indeed be brought to fruition through a pragmatic design process.

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6 BUDGET ESTIMATES

CONCEPTUAL BUDGET

INTRODUCTION

Section 2 of this document provides an architectural program developed through our Programming Workshop. That building program is developed into a Conceptual Diagram in Section 5 that is then test fit onto the proposed sites. This section develops a project budget around those concepts.

For the costs identified in this Section, MCP/SGA utilized historic square foot cost data and developed a complete estimate that correlates to the concept diagrams and site diagrams provided in Section 5. Local construction costs, escalation, general site information and knowledge of current construction pricing of communication facilities are included as much as we can anticipate them in the estimates shown on the following pages. The costs included are for budgeting purposes only as no final design has been derived at this time but we obviously had the benefit of the concept diagrams to work from. Escalation is included to a hypothetical midpoint of construction at a total of 4.00% annually (8% total) in the estimates to follow.

When the design process has begun, more accurate cost estimate information will be generated.

BUDGET DESCRIPTION

The team attempted to include as many of the items discussed in the Workshop Session and in the Systems Narrative described in other sections of this document. Note that all costs described in this document and all associated systems are considered to be part of this conceptual budget.

The estimates included herein are line item conceptual budget estimates and are broken down to depict several of the types of project costs. The types of cost areas are described below:

Overall Budget Description

The overall budget includes the following:

- CONSTRUCTION BUDGET – Includes anticipated construction costs broken down to support the program area. HVAC systems will be one of the greatest variables depending upon what type of HVAC system is proposed. The other major cost variable will be for the Electrical Systems.
- DESIGN COSTS – Includes anticipated project design costs including the testing services normally anticipated for a project of this type.
- PERMIT COSTS – Includes anticipated permit costs for a project of a similar nature. The value of these permits will not truly be known until the project design process is underway.
- TECHNOLOGY SYSTEMS – The consulting team has included telecommunication technology from the MCP equipment cost estimate and equipment as we understand it at this time. As the project evolves there may be further development that modifies the technology needs.
- OTHER COSTS – includes other anticipated costs that the design team has experienced on other projects of a similar nature. This is also the area of the estimate which contains a Fire Equipment Allowance for Option #2B.
- CONTINGENCY – Readers will note a 10% project contingency which is common at this stage of the project.

Obviously no programming phase budget can anticipate all of the project costs that may arise during a design and construction process however the MCP/SGA team's knowledge of this project type provides significant insight into the various project costs typically experienced. The hope is that these budgets provide a good foundation from which the City/County Team can begin their decision making process.

SUMMARY BUDGET ESTIMATE FOR NEW CONSTRUCTION

The Summary CONCEPT PROJECT BUDGETS are shown on the pages to follow for each of the Site Concepts. They are then expanded upon in the individual budget worksheets following these pages.

SITE #1 – Cedar Creek Site

	CONCEPTUAL BUDGET
Overall Cost	
Construction	$18,023,527
Design	$ 1,531,382
Permits	$ 55,000
Technology	$ 6,512,210
Other Costs	$ 326,000
Project Contingency	$ 2,644,812
Total Conceptual Budget	$29,092,931

SITE #2 – Fields Road Site

This budget shows the costs for the Emergency Communication Facility and associated site work only as Site #2 – Version A (not drawn) and then shows the total construction cost to include the fire station and its site work – Version B (as drawn).

VERSION A (Comm Center Only)	CONCEPTUAL BUDGET
Overall Cost	
Construction	$18,233,090
Design	$ 1,548,147
Permits	$ 55,000
Technology	$ 6,512,210
Other Costs	$ 326,000
Project Contingency	$ 2,667,445
Total Conceptual Budget	$29,341,892

SITE #2 – Fields Road Site (cont.)

VERSION B (Incl. Fire Station)	CONCEPTUAL BUDGET
Overall Cost	
Construction	$21,489,938
Design	$ 1,808,695
Permits	$ 55,000
Technology	$ 6,512,210
Other Costs	$ 626,000
Project Contingency	$ 3,049,184
Total Conceptual Budget	$33,541,028

SITE #3 – Tracy Hall Road Site

	CONCEPTUAL BUDGET
Overall Cost	
Construction	$18,442,653
Design	$ 1,564,912
Permits	$ 55,000
Technology	$ 6,512,210
Other Costs	$ 326,000
Project Contingency	$ 2,690,078
Total Conceptual Budget	$29,590,853

Please refer to the budget worksheets included starting on page 6-6 to follow for further costing information.

BUILDING OPERATION COSTS

Operations in a facility such as this are comprised of three costs; Utility costs to run the systems within the facility (electrical, natural gas, sewer and water), the maintenance costs for the systems (replacement of filters etc.) and the manpower to operate the facility. A facility of this size can often be operated by the users with the assistance of a half FTE (Full Time Equivalent) of support from the maintenance and custodial team for the City/ County. The assumption is that a Building Operations person for the City or County can operate this facility for less than one hour a day and a custodial person or a custodial service might be needed for three hours to clean. The City/ County experience will vary depending on how they staff these functions.

We combine utility operations costs and maintenance into one number and assign $2.00 per square foot annually to building costs for the main building (this cost will vary widely based on systems chosen and utility costs in your region) and $0.75 per square foot for the Ancillary Building. We assign one-half FTE at $35,000 per year with a 2X multiplier for costs (again, this cost will vary depending on City/ County benefit and pay packages. Given that, for the sake of budgeting, the costs to operate this facility annually may be:

Utility and Maintenance		
Main Building	33,000 s.f. x $2.00/s.f.	= $ 66,000 annually
Ancillary Building	7,700 s.f. x $1.00/s.f.	= $ 7,700 annually
Operations		
Operations Personnel	½ FTE x $35,000 x 2.00	= $ 35,000 annually
		= $108,700 annually

Costs will vary widely but for preliminary purposes it is reasonable to assume that budgeting $108,700 annually to run a building of this type will be a good starting point. Again, the team must recognize that this number will vary significantly depending on systems chosen, current and future energy costs and staffing costs.

SITE #1
Cedar Creek Business Center

Concept Project Budget

EMERGENCY COMMUNICATION CENTER
PROPOSED NEW FACILITY
SITE #1 - Cedar Creek Road
Fayetteville-Cumberland County, NC

BUDGET COST ANALYSIS
Date: 27-Jan-16

Main Building Area	33,000 s.f.
Vehicle Storage Building Area	7,700 s.f.
Total Area	40,700 s.f.

Project Phase: Programming

			cost/s.f. (using building construction cost only)			
	CONSTRUCTION					
	BUILDING CONSTRUCTION COSTS					
1	**Total Main Building Construction Cost Estimate**			33,000 .f.		
2	General Construction		$273.28 s.f.		$	**9,018,240.00**
3	HVAC Construction		$54.88 s.f.		$	**1,811,040.00**
4	Plumbing/ FP Construction		$16.80 s.f.		$	**554,400.00**
5	Electrical Construction		$61.60 s.f.		$	**2,032,800.00**
6		SUBTOTAL MAIN BUILDING	**$406.56**		$	**13,416,480.00**
7	**Total Vehicle Storage Building Construction Cost Estimate**			7,700 .f.		
8	General Construction		$87.50		$	**673,750.00**
9	HVAC Construction		$14.45		$	**111,265.00**
10	Plumbing/ FP Construction		$8.85		$	**68,145.00**
11	Electrical Construction		$18.93		$	**145,722.50**
12		SUBTOTAL VEHICLE STORAGE BUILDING	**$129.73**		$	**998,882.50**
	SITE CONSTRUCTION					
13	**Total Site Construction Cost Estimate (using main building s.f.)**		$44.80 s.f.		$	**1,478,400.00**
14	**SUBTOTAL CONSTRUCTION ESTIMATE**				$	**15,893,762.50**
15		2 year escalation @	8.00%		$	1,271,501.00
16				**SUBTOTAL**	$	**17,165,263.50**
17		Const. Contingency @	5%		$	858,263.18
18			**$ 442.84**	**GRANDTOTAL**	$	**18,023,526.68**

SITE #1 - Cedar Creek Road (continued)

Fayetteville-Cumberland County, NC

BUDGET COST ANALYSIS

Date: 27-Jan-16

				Main Building Area		33,000 s.f.
				Vehicle Storage Building Area		7,700 s.f.
				Total Area		40,700 s.f.
DESIGN						
19	Programming and Needs Assessment (already completed)			NA		
20	A/E Design Fee	@	8.0%	$ 1,441,882		
21	Expenses			$ 20,000		
22	Telecomm. Consultant Design & Project Management			$ -	Separate number	
23	Geotechnical Investigation			$ 12,000	includes resistivity	
24	Land Survey Services			$ 7,500		
25	Inspection / Testing Services			$ 50,000		
26	Land Development Approvals			NA		
27	**Total Design Services**				**$**	**1,531,382.13**
PERMITS						
28	State Approvals			$ 10,000		
29	Building Permit			$ 20,000		
30	Highway/Streets Permits			$ -		
31	Water Service / Sanitary Service			$ 10,000		
32	FAA Approval (tower)			$ 5,000		
33	Other Approvals			$ 10,000		
34	**Total Permitting**				**$**	**55,000.00**

SITE #1 - Cedar Creek Road (continued)

Fayetteville-Cumberland County, NC

Main Building Area	33,000 s.f.
Vehicle Storage Building Area	7,700 s.f.
Total Area	40,700 s.f.

BUDGET COST ANALYSIS

Date: 27-Jan-16

TECHNOLOGY					
	Communications				
35	Comm. & EOC Workstations			$ 716,400	
36	Customer Premise Equipment (CPE)			$ 75,000	Move Cost
37	Logger/ Recorder (Enterprise)			$ 350,010	
38	Computers for Comm. Ops Only			$ 108,000	
39	Network Equip			$ 124,500	
40	Synchronized Clock System			$ 20,669	
41	Radio Antenna System			$ 50,000	
42	Radio consoles			$ 2,880,000	
43	CSSI Console Connections			$ 150,000	
44	Amateur Radio Emergency Services (ARES) Equip			$ 12,000	
45	Computer Aided Dispatch			$ 50,000	Relocation of Equip Only
46	Satellite Phones			$ 12,000	
47	Admin Telephone Systems			$ 97,500	
48	Audio/Video (AV) Systems			$ 325,000	
49	Access Control/Intrusion Detection/ CCTV			$ 120,550	
50	Telecomm Service Access - Telephone, CATV, Internet			$ 50,000	
51	Communications Tower			$ 100,000	
52	Telecomm Structured Cabling			$ 291,260	
		Subtotal		$ 5,532,889	
			10% Contingency	$ 553,288.90	
			7% Sales Tax	$ 426,032.45	
53	**Total Technology Costs**				**$ 6,512,210.35**

SITE #1 - Cedar Creek Road (continued)

Fayetteville-Cumberland County, NC

BUDGET COST ANALYSIS

Date: 27-Jan-16

Main Building Area	33,000	s.f.
Vehicle Storage Building Area	7,700	s.f.
Total Area	40,700	s.f.

OTHER COSTS						
	Other Systems					
54	Off-Site Electrical Connection			$ 20,000		
55	Ancillary Computer Equipment for entire building			$ 153,000		
56	Other			$ -		
57		Subtotal		$ 173,000		
	Other Costs					
58	Furniture (not including console furniture)			$ 153,000		
59		Subtotal		$ 153,000		
60	**Total Other Costs**				**$**	**326,000.00**
CONTINGENCY				Subtotal	$	26,448,119.16
61	Project Contingency	@	10%	$ 2,644,812		
62	**TOTAL PROJECT BUDGET**				**$**	**29,092,931.08**

SITE #2A
Fields Road – Emergency Communications Only

Concept Project Budget

EMERGENCY COMMUNICATION CENTER
PROPOSED NEW FACILITY
SITE #2A - Fields Road - Emergency Communications Only
Fayetteville-Cumberland County, NC

BUDGET COST ANALYSIS
Date: 27-Jan-16

Main Building Area	33,000 s.f.
Vehicle Storage Building Area	7,700 s.f.
Total Area	40,700 s.f.

Project Phase: Programming

	CONSTRUCTION	cost/s.f. (using building construction cost only)			
	BUILDING CONSTRUCTION COSTS				
1	**Total Main Building Construction Cost Estimate**		33,000 .f.		
2	General Construction	$273.28 s.f.		$	**9,018,240.00**
3	HVAC Construction	$54.88 s.f.		$	**1,811,040.00**
4	Plumbing/ FP Construction	$16.80 s.f.		$	**554,400.00**
5	Electrical Construction	$61.60 s.f.		$	**2,032,800.00**
6	SUBTOTAL MAIN BUILDING	**$406.56**		$	**13,416,480.00**
7	**Total Vehicle Storage Building Construction Cost Estimate**		7,700 .f.		
8	General Construction	$87.50		$	**673,750.00**
9	HVAC Construction	$14.45		$	**111,265.00**
10	Plumbing/ FP Construction	$8.85		$	**68,145.00**
11	Electrical Construction	$18.93		$	**145,722.50**
12	SUBTOTAL VEHICLE STORAGE BUILDING	**$129.73**		$	**998,882.50**
	SITE CONSTRUCTION				
13	**Total Site Construction Cost Estimate (using main building s.f.)**	$50.40 s.f.		$	**1,663,200.00**
14	**SUBTOTAL CONSTRUCTION ESTIMATE**			$	**16,078,562.50**
15	2 year escalation @	8.00%		$	1,286,285.00
16			**SUBTOTAL**	$	**17,364,847.50**
17	Const. Contingency @	5%		$	868,242.38
18		**$ 447.99**	**GRANDTOTAL**	$	**18,233,089.88**

SITE #2A - Fields Road - Emergency Communications Only (cont.)

Fayetteville-Cumberland County, NC

Main Building Area	33,000	s.f.
Vehicle Storage Building Area	7,700	s.f.
Total Area	40,700	s.f.

BUDGET COST ANALYSIS

Date: 27-Jan-16

DESIGN						
19	Programming and Needs Assessment (already completed)			NA		
20	A/E Design Fee	@	8.0%	$ 1,458,647		
21	Expenses			$ 20,000		
22	Telecomm. Consultant Design & Project Management			$ -	Separate number	
23	Geotechnical Investigation			$ 12,000	includes resistivity	
24	Land Survey Services			$ 7,500		
25	Inspection / Testing Services			$ 50,000		
26	Land Development Approvals			NA		
27	**Total Design Services**				**$**	**1,548,147.19**
PERMITS						
28	State Approvals			$ 10,000		
29	Building Permit			$ 20,000		
30	Highway/Streets Permits			$ -		
31	Water Service / Sanitary Service			$ 10,000		
32	FAA Approval (tower)			$ 5,000		
33	Other Approvals			$ 10,000		
34	**Total Permitting**				**$**	**55,000.00**

SITE #2A - Fields Road - Emergency Communications Only (cont.)

Fayetteville-Cumberland County, NC

Main Building Area	33,000	s.f.
Vehicle Storage Building Area	7,700	s.f.
Total Area	40,700	s.f.

BUDGET COST ANALYSIS

Date: 27-Jan-16

TECHNOLOGY				
	Communications			
35	Comm. & EOC Workstations		$ 716,400	
36	Customer Premise Equipment (CPE)		$ 75,000	Move Cost
37	Logger/ Recorder (Enterprise)		$ 350,010	
38	Computers for Comm. Ops Only		$ 108,000	
39	Network Equip		$ 124,500	
40	Synchronized Clock System		$ 20,669	
41	Radio Antenna System		$ 50,000	
42	Radio consoles		$ 2,880,000	
43	CSSI Console Connections		$ 150,000	
44	Amateur Radio Emergency Services (ARES) Equip		$ 12,000	
45	Computer Aided Dispatch		$ 50,000	Relocation of Equip Only
46	Satellite Phones		$ 12,000	
47	Admin Telephone Systems		$ 97,500	
48	Audio/Video (AV) Systems		$ 325,000	
49	Access Control/Intrusion Detection/ CCTV		$ 120,550	
50	Telecomm Service Access - Telephone, CATV, Internet		$ 50,000	
51	Communications Tower		$ 100,000	
52	Telecomm Structured Cabling		$ 291,260	
	Subtotal		$ 5,532,889	
		10% Contingency	$ 553,288.90	
		7% Sales Tax	$ 426,032.45	
53	**Total Technology Costs**			**$ 6,512,210.35**

SITE #2A - Fields Road - Emergency Communications Only (cont.)

Fayetteville-Cumberland County, NC

Main Building Area	33,000 s.f.
Vehicle Storage Building Area	7,700 s.f.
Total Area	40,700 s.f.

BUDGET COST ANALYSIS

Date: 27-Jan-16

OTHER COSTS						
	Other Systems					
54	Off-Site Electrical Connection			$ 20,000		
55	Ancillary Computer Equipment for entire building			$ 153,000		
56	Other			$ -		
57		Subtotal		$ 173,000		
	Other Costs					
58	Furniture (not including console furniture)			$ 153,000		
59		Subtotal		$ 153,000		
60	**Total Other Costs**				**$**	**326,000.00**
CONTINGENCY				Subtotal	$	26,674,447.42
61	Project Contingency	@	10%	$ 2,667,445		
62	**TOTAL PROJECT BUDGET**				**$**	**29,341,892.16**

SITE #2B
Fields Road – Emergency Communications & Fire Station

Concept Project Budget

EMERGENCY COMMUNICATION CENTER
PROPOSED NEW FACILITY
SITE #2B - Fields Road - Emergency Communication & Fire Station
Fayetteville-Cumberland County, NC

Communication Building Area	33,000	s.f.
Fire Station Area	10,000	s.f.
Vehicle Storage Building Area	7,700	s.f.
Total Area	40,700	s.f.

BUDGET COST ANALYSIS
Date: 27-Jan-16

Project Phase: Programming

	CONSTRUCTION	cost/s.f. (using building construction cost only)		
	BUILDING CONSTRUCTION COSTS			
1	**Total Main Building Construction Cost Estimate**		33,000 .f.	
2	General Construction	$273.28 s.f.	$	**9,018,240.00**
3	HVAC Construction	$54.88 s.f.	$	**1,811,040.00**
4	Plumbing/ FP Construction	$16.80 s.f.	$	**554,400.00**
5	Electrical Construction	$61.60 s.f.	$	**2,032,800.00**
6	SUBTOTAL MAIN BUILDING	**$406.56**	$	13,416,480.00
1	**Total Fire Building Construction Cost Estimate**		10,000 .f.	
2	General Construction	$150.00 s.f.	$	**1,500,000.00**
3	HVAC Construction	$30.00 s.f.	$	**300,000.00**
4	Plumbing/ FP Construction	$16.80 s.f.	$	**168,000.00**
5	Electrical Construction	$40.00 s.f.	$	**400,000.00**
6	SUBTOTAL FIRE BUILDING	**$236.80**	$	2,368,000.00
7	**Total Vehicle Storage Building Construction Cost Estimate**		7,700 .f.	
8	General Construction	$87.50	$	**673,750.00**
9	HVAC Construction	$14.45	$	**111,265.00**
10	Plumbing/ FP Construction	$8.85	$	**68,145.00**
11	Electrical Construction	$18.93	$	**145,722.50**
12	SUBTOTAL VEHICLE STORAGE BUILDING	**$129.73**	$	998,882.50

SITE #2B - Fields Road - Emergency Communication & Fire Station (cont.)

Fayetteville-Cumberland County, NC

Communication Building Area	33,000 s.f.
Fire Station Area	10,000 s.f.
Vehicle Storage Building Area	7,700 s.f.
Total Area	40,700 s.f.

BUDGET COST ANALYSIS
Date: 27-Jan-16

SITE CONSTRUCTION						
13	**Total Site Const Cost Estimate (using main bldg & fire station s.f.)**		$50.40 s.f.		$	**2,167,200.00**
14	**SUBTOTAL CONSTRUCTION ESTIMATE**				$	**18,950,562.50**
15		2 year escalation @	8.00%		$	1,516,045.00
16				**SUBTOTAL**	$	**20,466,607.50**
17		Const. Contingency @	5%		$	1,023,330.38
18			**$ 528.01**	**GRANDTOTAL**	$	**21,489,937.88**

SITE #2B - Fields Road - Emergency Communication & Fire Station (cont.)

Fayetteville-Cumberland County, NC

Communication Building Area		33,000 s.f.
Fire Station Area		10,000 s.f.
Vehicle Storage Building Area		7,700 s.f.
Total Area		40,700 s.f.

BUDGET COST ANALYSIS
Date: 27-Jan-16

DESIGN						
19	Programming and Needs Assessment (already completed)			NA		
20	A/E Design Fee	@	8.0%	$ 1,719,195		
21	Expenses			$ 20,000		
22	Telecomm. Consultant Design & Project Management			$ -		Separate number
23	Geotechnical Investigation			$ 12,000		includes resistivity
24	Land Survey Services			$ 7,500		
25	Inspection / Testing Services			$ 50,000		
26	Land Development Approvals			NA		
27	**Total Design Services**				**$**	**1,808,695.03**
PERMITS						
28	State Approvals			$ 10,000		
29	Building Permit			$ 20,000		
30	Highway/Streets Permits			$ -		
31	Water Service / Sanitary Service			$ 10,000		
32	FAA Approval (tower)			$ 5,000		
33	Other Approvals			$ 10,000		
34	**Total Permitting**				**$**	**55,000.00**

SITE #2B - Fields Road - Emergency Communication & Fire Station (cont.)

Fayetteville-Cumberland County, NC

Communication Building Area	33,000 s.f.
Fire Station Area	10,000 s.f.
Vehicle Storage Building Area	7,700 s.f.
Total Area	40,700 s.f.

BUDGET COST ANALYSIS
Date: 27-Jan-16

TECHNOLOGY				
	Communications			
35	Comm. & EOC Workstations		$ 716,400	
36	Customer Premise Equipment (CPE)		$ 75,000	Move Cost
37	Logger/ Recorder (Enterprise)		$ 350,010	
38	Computers for Comm. Ops Only		$ 108,000	
39	Network Equip		$ 124,500	
40	Synchronized Clock System		$ 20,669	
41	Radio Antenna System		$ 50,000	
42	Radio consoles		$ 2,880,000	
43	CSSI Console Connections		$ 150,000	
44	Amateur Radio Emergency Services (ARES) Equip		$ 12,000	
45	Computer Aided Dispatch		$ 50,000	Relocation of Equip Only
46	Satellite Phones		$ 12,000	
47	Admin Telephone Systems		$ 97,500	
48	Audio/Video (AV) Systems		$ 325,000	
49	Access Control/Intrusion Detection/ CCTV		$ 120,550	
50	Telecomm Service Access - Telephone, CATV, Internet		$ 50,000	
51	Communications Tower		$ 100,000	
52	Telecomm Structured Cabling		$ 291,260	
	Subtotal		$ 5,532,889	
		10% Contingency	$ 553,288.90	
		7% Sales Tax	$ 426,032.45	
53	**Total Technology Costs**			**$ 6,512,210.35**

SITE #2B - Fields Road - Emergency Communication & Fire Station (cont.)

Fayetteville-Cumberland County, NC

Communication Building Area	33,000 s.f.
Fire Station Area	10,000 s.f.
Vehicle Storage Building Area	7,700 s.f.
Total Area	40,700 s.f.

BUDGET COST ANALYSIS
Date: 27-Jan-16

OTHER COSTS						
	Other Systems					
54	Off-Site Electrical Connection			$ 20,000		
55	Ancillary Computer Equipment for entire building			$ 153,000		
56	Fire Station Equipment Allowance			$ 300,000		
57		Subtotal		$ 473,000		
	Other Costs					
58	Furniture (not including console furniture)			$ 153,000		
59		Subtotal		$ 153,000		
60	**Total Other Costs**				$	**626,000.00**
CONTINGENCY				Subtotal	$	30,491,843.26
61	Project Contingency	@	10%	$ 3,049,184		
62	**TOTAL PROJECT BUDGET**				$	**33,541,027.58**

SITE #3
Tracy Hall Road

Concept Project Budget

EMERGENCY COMMUNICATION CENTER
PROPOSED NEW FACILITY
SITE #3 - Tracy Hall Road
Fayetteville-Cumberland County, NC

BUDGET COST ANALYSIS
Date: 27-Jan-16

Main Building Area	33,000 s.f.
Vehicle Storage Building Area	7,700 s.f.
Total Area	40,700 s.f.

Project Phase: Programming

	CONSTRUCTION	cost/s.f. (using building construction cost only)		
	BUILDING CONSTRUCTION COSTS			
1	**Total Main Building Construction Cost Estimate**		33,000 .f.	
2	General Construction	$273.28 s.f.		$ **9,018,240.00**
3	HVAC Construction	$54.88 s.f.		$ **1,811,040.00**
4	Plumbing/ FP Construction	$16.80 s.f.		$ **554,400.00**
5	Electrical Construction	$61.60 s.f.		$ **2,032,800.00**
6	SUBTOTAL MAIN BUILDING	**$406.56**		$ **13,416,480.00**
7	**Total Vehicle Storage Building Construction Cost Estimate**		7,700 .f.	
8	General Construction	$87.50		$ **673,750.00**
9	HVAC Construction	$14.45		$ **111,265.00**
10	Plumbing/ FP Construction	$8.85		$ **68,145.00**
11	Electrical Construction	$18.93		$ **145,722.50**
12	SUBTOTAL VEHICLE STORAGE BUILDING	**$129.73**		$ **998,882.50**
	SITE CONSTRUCTION			
13	**Total Site Construction Cost Estimate (using main building s.f.)**	$56.00 s.f.		$ **1,848,000.00**
14	**SUBTOTAL CONSTRUCTION ESTIMATE**			$ **16,263,362.50**
15	2 year escalation @	8.00%		$ 1,301,069.00
16			**SUBTOTAL**	$ **17,564,431.50**
17	Const. Contingency @	5%		$ 878,221.58
18		**$ 453.14**	**GRANDTOTAL**	$ **18,442,653.08**

SITE #3 - Tracy Hall Road (continued)

Fayetteville-Cumberland County, NC

Main Building Area	33,000	s.f.
Vehicle Storage Building Area	7,700	s.f.
Total Area	40,700	s.f.

BUDGET COST ANALYSIS

Date: 27-Jan-16

DESIGN						
19	Programming and Needs Assessment (already completed)			NA		
20	A/E Design Fee	@	8.0%	$ 1,475,412		
21	Expenses			$ 20,000		
22	Telecomm. Consultant Design & Project Management			$ -		Separate number
23	Geotechnical Investigation			$ 12,000		includes resistivity
24	Land Survey Services			$ 7,500		
25	Inspection / Testing Services			$ 50,000		
26	Land Development Approvals			NA		
27	**Total Design Services**				**$**	**1,564,912.25**
PERMITS						
28	State Approvals			$ 10,000		
29	Building Permit			$ 20,000		
30	Highway/Streets Permits			$ -		
31	Water Service / Sanitary Service			$ 10,000		
32	FAA Approval (tower)			$ 5,000		
33	Other Approvals			$ 10,000		
34	**Total Permitting**				**$**	**55,000.00**

SITE #3 - Tracy Hall Road (continued)

Fayetteville-Cumberland County, NC

Main Building Area	33,000	s.f.
Vehicle Storage Building Area	7,700	s.f.
Total Area	40,700	s.f.

BUDGET COST ANALYSIS

Date: 27-Jan-16

TECHNOLOGY				
	Communications			
35	Comm. & EOC Workstations		$ 716,400	
36	Customer Premise Equipment (CPE)		$ 75,000	Move Cost
37	Logger/ Recorder (Enterprise)		$ 350,010	
38	Computers for Comm. Ops Only		$ 108,000	
39	Network Equip		$ 124,500	
40	Synchronized Clock System		$ 20,669	
41	Radio Antenna System		$ 50,000	
42	Radio consoles		$ 2,880,000	
43	CSSI Console Connections		$ 150,000	
44	Amateur Radio Emergency Services (ARES) Equip		$ 12,000	
45	Computer Aided Dispatch		$ 50,000	Relocation of Equip Only
46	Satellite Phones		$ 12,000	
47	Admin Telephone Systems		$ 97,500	
48	Audio/Video (AV) Systems		$ 325,000	
49	Access Control/Intrusion Detection/ CCTV		$ 120,550	
50	Telecomm Service Access - Telephone, CATV, Internet		$ 50,000	
51	Communications Tower		$ 100,000	
52	Telecomm Structured Cabling		$ 291,260	
	Subtotal		$ 5,532,889	
		10% Contingency	$ 553,288.90	
		7% Sales Tax	$ 426,032.45	
53	**Total Technology Costs**			**$ 6,512,210.35**

SITE #3 - Tracy Hall Road (continued)

Fayetteville-Cumberland County, NC

Main Building Area	33,000	s.f.
Vehicle Storage Building Area	7,700	s.f.
Total Area	40,700	s.f.

BUDGET COST ANALYSIS

Date: 27-Jan-16

OTHER COSTS						
	Other Systems					
54	Off-Site Electrical Connection			$ 20,000		
55	Ancillary Computer Equipment for entire building			$ 153,000		
56	Other			$ -		
57		Subtotal		$ 173,000		
	Other Costs					
58	Furniture (not including console furniture)			$ 153,000		
59		Subtotal		$ 153,000		
60	**Total Other Costs**				**$**	**326,000.00**
CONTINGENCY				Subtotal	$	26,900,775.67
61	Project Contingency	@	10%	$ 2,690,078		
62	**TOTAL PROJECT BUDGET**				**$**	**29,590,853.24**

7 APPENDIX

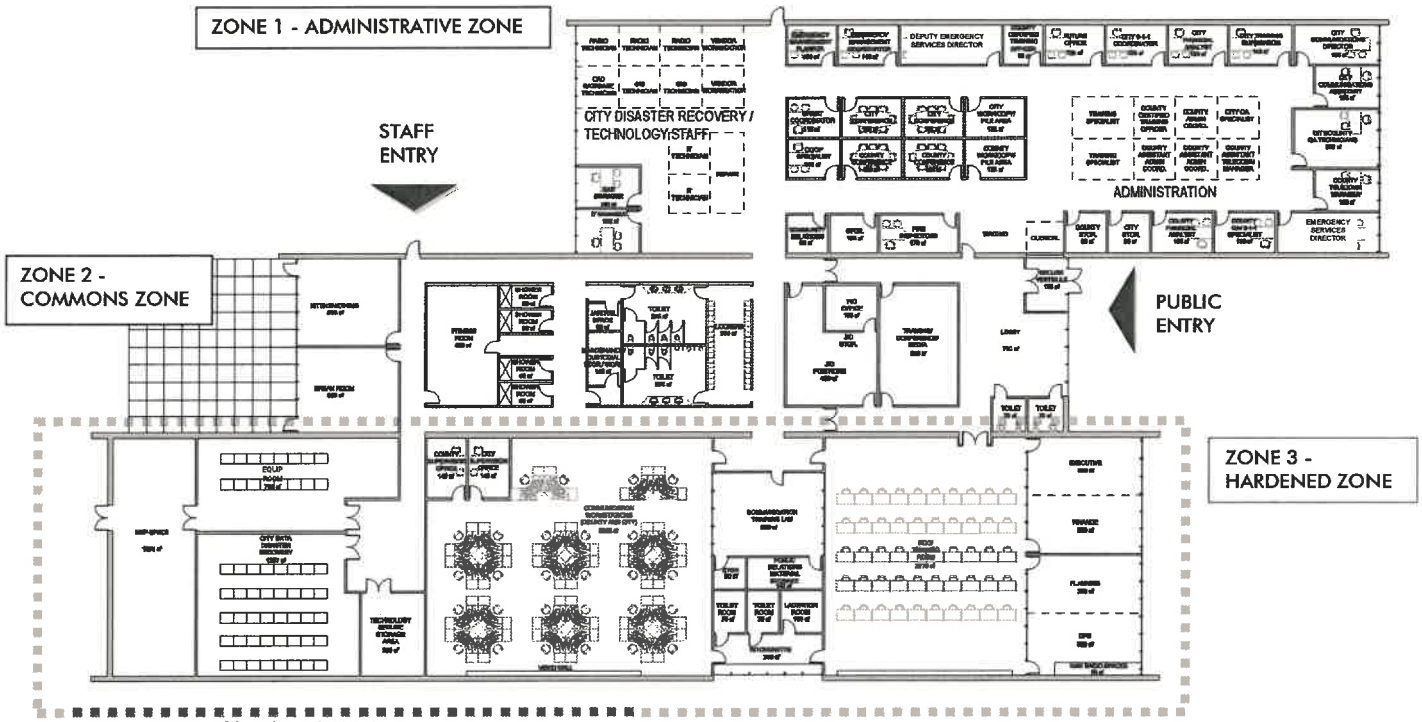
CONCEPTUAL FLOOR PLAN

FLOOR PLAN CONCEPT - DESCRIPTION

During the course of this process, an actual floor plan concept was derived. That floor plan should be taken as a development of spatial relationships at a given scale only. The plan has not been endorsed by the users. The ultimate design of the facility will be derived from a process of development with the ultimate architect hired for this process. The users thought it helpful to include this plan as an appendix item only because it shows that the program itself fits within the space created through this process.

The concept floor plan is provided on the following page.

CONCEPT FLOOR PLAN



ARCHITECTURE
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TAB P

Co-location Needs Assessment and Feasibility Study

FINAL REPORT

SUBMITTED FEBRUARY 2016 TO:
CITY OF FAYETTEVILLE AND CUMBERLAND COUNTY, NORTH CAROLINA

MissionCriticalPartners
4801 Glenwood Ave, Suite 200 | Raleigh, NC 27612 | 888.8.MCP.911 or 919-390-0321 | www.MCP911.com

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EXECUTIVE SUMMARY

Mission Critical Partners, Inc. is pleased to present the results of the Co-location Needs Assessment and Feasibility Study to the City of Fayetteville (Fayetteville or City) and Cumberland County (County). The primary goals of the co-location feasibility study were to determine operational and financial feasibility and provide space programming and assessments of potential sites[1] for a new co-located facility. Subsequent recommendations can be found throughout this report.

The county is served by three public safety answering points (PSAPs or 9-1-1 centers) operated independently by Fayetteville, Cumberland County, and Fort Bragg[2]. Fayetteville Communications (9-1-1) and Cumberland County Emergency Communications Center (9-1-1) are both professional operations that take great pride in their respective centers. Both are challenged with space needs in their unique way and there is little to no additional expansion capabilities in the current environments.

Both 9-1-1 centers are primary PSAPs, providing, together, call handling and dispatch services for four law enforcement agencies, one career and eighteen contracted fire departments, emergency medical services (EMS), and animal control after-hours and on weekends.

Fayetteville 9-1-1 has an authorized strength of 65 employees, while Cumberland County 9-1-1 has an authorized strength of 42 employees. Both 9-1-1 centers have experienced telecommunicator vacancies in the past, and Fayetteville 9-1-1's 24 percent vacancy rate in the fall of 2015 was critical. However, at this time, the authorized telecommunicator strength of each 9-1-1 center is appropriate for their respective call and incident volumes. The supervisory spans of control are higher than best practice, yet telecommunicators in each 9-1-1 center work in a single location, and within two primary focus areas: call take and dispatch. Both centers also have experienced staff that are able to provide direction to newer telecommunicators when the need arises.

Fayetteville 9-1-1 has 15 console workstations, five of which support call taking only and ten of which support both call taking and dispatch functionality; there is a sixteenth position in the emergency operations center (EOC). Cumberland County 9-1-1 has ten console workstations, all of which support both call taking and dispatch functionality.

The existing technology systems in use at Fayetteville 9-1-1 and Cumberland County 9-1-1 are good products that provide a viable base for their migration, or similar product, into a new co-located facility. The City and County have already made a significant achievement in the shared services arena with the computer aided dispatch (CAD) system. As the City and County are not ready for full consolidation, Mission Critical Partners believes the next logical steps in the evolution of 9-1-1 operations in the

[1] SCHRADERGROUP architecture's report, which includes the programming study, threat assessments, building layouts and elevation alternatives, is provided under separate cover.

[2] Fort Bragg requested not to be a part of this initiative. As such, references to the 9-1-1 centers refers only to Fayetteville and Cumberland County. Any reference to Fort Bragg will be direct.

county are to expand the shared services model and transition operations to a newly constructed co-located 9 1-1 center.

Mission Critical Partners recommends that the City and County pursue the construction and implementation of a co-located Fayetteville–Cumberland County 9-1-1 Emergency Communications Center. There are advantages, disadvantages, and risks to a co-location initiative.

Advantages	Disadvantages	Risks
• Improved efficiencies in operations • Streamlined information flow • Improved situational awareness of activities • Improved efficiencies of shared systems, • Improved disaster response and recovery • Recovery of much needed space in City Hall and the Sheriff's Office facilities • Possible reduction in maintenance costs for use of shared systems versus maintaining individual systems • Ability to face the technology and operational challenges of NG9-1-1 • Possible precursor to full consolidation in the future	• Perceived loss of control of operations and functions • Increased operational costs for a new facility • Disparities in organizational policies, such as human resources • Supporting administrative entity for the facility may be perceived as jurisdiction with control • Not one true decision-making authority	• Inability to agree on site location and building design parameters and function • Inability to agree on a cost-sharing model • Inability to fully address disparities • Breakdown in open and honest communications between City and County administrative personnel • Inability to secure funding for construction • Loss of key staff through the transition

Many of the identified risks can likely be mitigated through the development of a strong governance committee and project team that can develop a working relationship built on mutual respect, trust, honesty, and integrity—all of which are necessary to see the co-location initiative to fruition and realize a seamless system of information flow.

There are essentially three types of boards or committees that could be established to represent Fayetteville and Cumberland County and the respective agencies: an executive board/committee, an advisory board/committee, or a steering committee. A hierarchal relationship may also be established between two or among all three.

Mission Critical Partners recommends the formal development of an Executive Steering Committee, with membership reflecting the partnership between the City and County, with representation from both organizations' executive-level staff, legal, finance, procurement, and facilities, as well as representation from the public safety community.

In a co-located environment, Fayetteville 9-1-1 and Cumberland County 9-1-1 must provide equitable, efficient, and effective service to all law enforcement, fire, and EMS user agencies based on the dispatch plans for each agency. To do this, the 9-1-1 centers must be cushioned from the impact of political changes to the greatest extent possible. To this end, and as the co-located environment nears reality, Mission Critical Partners recommends the establishment of a 9-1-1 Advisory Committee with oversight and decision-making authority for the shared services and facility, and input for operational parameters. Mission Critical Partners recommends the 9-1-1 Advisory Committee be a sub-committee of the Steering Committee.

In a co-located environment, the operating cost of delivering 9-1-1 services will remain with the respective organization. That is, both Fayetteville 9-1-1 and Cumberland County 9-1-1 will maintain independent operating budgets. There is not anticipated to be any reduction in the operating budgets for either 9-1-1 center by co-locating operations.

Finding the proper cost sharing model that meets both governments' organizational needs is critical to the success of co-location. Several models are feasible for cost sharing of a new facility and subsequent future operating costs:

- Population-based
- Per 9-1-1 call received
- Square footage split
- Straight split

Each model could work for a new co-located facility, but because of the complexities, detailed discussions should be held between key stakeholders to determine the best model for Fayetteville and Cumberland County.

With clear understanding and communications of the financial obligations of each governmental organization before construction begins, a co-located 9-1-1 center can be successful in providing critical services while improving operations.

The City and County should be commended for taking the steps to commission this study and having the foresight to recognize that improvements can be made for the delivery of emergency services to their constituents. Mission Critical Partners stands ready to assist Fayetteville and Cumberland County in making their vision a reality.

1. BACKGROUND

The city of Fayetteville is the county seat of Cumberland County, which is located in southeast North Carolina. The city encompasses approximately 91 square miles of the county's 658 square miles. According to U.S. Census Bureau estimates for 2014, Cumberland County's population was approximately 326,328; of this population, 203,948 are estimated to reside within the city limits of Fayetteville.[3] The Fort Bragg Military Reservation is partially located within Fayetteville and Cumberland County.

Figure 1: Map of Cumberland County

The county is served by three PSAPs operated independently by Fayetteville, Cumberland County, and Fort Bragg.

Mission Critical Partners conducted site interviews with key PSAP personnel from both the City and County, finding staff of both organizations to be professional and with a strong desire to improve operational efficiencies of 9-1-1 within the county as a whole for citizens and first responders.

Figure 2: Map of Fayetteville

[3] http://www.census.gov/quickfacts/table/PST045215/3722920,37051,37,00

Mission Critical Partners was tasked with making a recommendation regarding the co-location of Fayetteville's and Cumberland County's 9-1-1 operations. While considering the co-locations, it is important to understand the various differences between consolidation, co-location, and shared services. *9-1-1 Magazine* published an article in June 2011 that provides good information on types of PSAP consolidation.

> ***Full consolidation:*** *All existing dispatch services are moved to a single dispatch center with a single management structure. A consolidated center requires diverse centers to be brought together under one management team with common operating platforms. While full consolidation often has the largest start up costs (initial investment) it typically provides the greatest long-term cost savings.*
>
> *A consolidated center offers many advantages:*
>
> - *employs common electrical, HVAC, and emergency power subsystems*
> - *employees may be cross-trained*
> - *employee schedules may be combined for added personnel efficiency*
> - *flexible arrangements may amplify the commonalties in fire and medical dispatch.*
> - *better interagency information sharing*
> - *elimination of duplicate services*
> - *opportunities to pool financial resources to fund system upgrades*
> - *increased ability to communicate between agencies*
> - *more efficient dispatch collaboration for fire and EMS*
> - *potentially, a more cost effective overall solution*
>
> *Several technical issues that must be addressed with a full consolidation: 911 equipment, administrative telephones, Computer Aided Dispatch (CAD), Records Management System (RMS), and recording equipment. The 911 equipment must be sized for the consolidated dispatch operation. The telephone workstations themselves must also accommodate the larger number of 911 and non-911 lines.*
>
> *A single CAD … operating platform for the consolidated 911 operation is a necessity. Any new CAD must feed multiple records management systems. This single CAD must be able to upload into the various records management systems and be sophisticated enough to handle the call volume and dispatch functions. A consolidated center requires a single recording system capable of handling the consolidated load. These factors necessarily limit the number of CAD vendors, RMS vendors, and equipment vendors available because smaller vendors are not able to handle the increased capacity [sic]*
>
> ***Co-located consolidation:*** *In this scenario, multiple dispatch centers are moved to the same physical location, but maintain separate operations. Often, this type of consolidation will bring together all of the agencies into one center located in the same*

building. The different operations share some of the infrastructure costs, but they remain separate in their dispatch responsibilities. This type of configuration is often driven by diverse dispatch needs in the individual communities.

In a scenario where 911 centers are co-located with separate operations, there is the potential (though not the requirement) to share some common equipment, such as the CAD system, RMS and radio equipment and maintain multiple 911 switches. The CAD and recorder systems in this scenario may also remain separate. The most challenging issues, however, usually involve personnel: parallel staffing for each agency, with multiple, separate schedules, pay scales, leave policies, and supervisors may prove inefficient.

***Shared services:** The major services are shared among multiple agencies. Typically, this includes the CAD, 911 Customer Premise Equipment (CPE) Automatic Number Identification / Automatic Location Identification (ANI/ALI), logging recording, Geographic Information System (GIS) mapping, and possibly the RMS system. In some cases, it may also be preferable to share radio system resources. In this scenario, critical systems are maintained in a single location, and all dispatch centers access them via an IP network. This environment requires redundant, reliable high-speed connectivity between the shared services location and each dispatch center.*

Additionally, the agencies may agree to use a common CAD, RMS and radio console vendor. In this type of shared services environment, many of the dispatch centers may maintain their own CAD and RMS servers but choose a configuration that facilitates a common operating picture, which enables them to see all emergency response assets. A key advantage of this approach is the opportunity to share equipment costs and to reduce purchase and maintenance costs. In addition, shared technical support may increase interoperability and operational awareness.

One disadvantage of the shared services consolidation may be duplication of personnel and management, but our experience is that personal preferences and political realities may not support consolidation beyond this shared services approach[4]

While long-term full consolidation of all PSAP functions in Cumberland County may be achievable, both the City and County believe co-location of PSAP operations with some shared services is the most desirable option at this time. A new facility will allow for co-location with shared services that will meet the requirements of both 9-1-1 centers and should improve operational inefficiencies that currently exist with personnel physically located in separate facilities.

The PSAPs currently demonstrate the success of shared services through the use of a single CAD system. In 2012, the City of Fayetteville and Cumberland County recognized the improved efficiency

[4] http://www.9-1-1magazine.com/AECOM-Consolidated-Dispatch-Centers

that could be achieved through a single OSSI/SunGard CAD software solution. Sharing a CAD system allows the two centers to seamlessly share data that can be critical to protecting the lives of the citizens and responders in Fayetteville and Cumberland County. As both centers utilize International Academy of Emergency Dispatch (IAED) protocols, the shared CAD system enabled the elimination of 9-1-1 call transfers between the two centers—an industry best practice. Through mutual understanding and cooperation, Fayetteville 9-1-1 and Cumberland County 9-1-1 began entering calls for service for the other center when the situation warranted.

Several benefits are realized by both 9-1-1 centers utilizing the same CAD system:

- Eliminates duplication of efforts of call entry as a call is entered once, even if both City and County resources must be dispatched
- Eliminates call transfer, which allows the incident to start sooner, allowing emergency responders to be dispatched quicker
- Reduces the potential to lose the call in transfer due to technical or human error
- May reduce caller stress knowing the person with whom they are speaking is able to help to provide assistance without transfer
- Improves customer service
- Most importantly, provides for quicker emergency response

This serves as a precedence to shared services in Fayetteville and Cumberland County.

This spirit of cooperation between the two 9-1-1 centers has led to other opportunities for shared services, such as training resources, 9-1-1 call overflow handing, etc. These services and others could be significantly enhanced with a co-located Fayetteville–Cumberland County 9-1-1 Emergency Communications Center.

2. 9-1-1 IN NORTH CAROLINA

In 1989, the Public Safety Telephone Act (North Carolina General Statute Chapter 62A) became law and recognized 9-1-1 as the toll-free number for the public to reach emergency services within the state. The Act defines a PSAP as "[t]he public safety agency that receives an incoming 911 call and dispatches appropriate public safety agencies to respond to the call."[5] The Act further defines a Primary PSAP as "[t]he first point of reception of a 911 call by a public safety answering point."[6] Both Fayetteville and Cumberland County are primary PSAPs for their respective jurisdictions.

All counties in North Carolina provide enhanced 9-1-1 (E9-1-1) and wireless Phase I and Phase II services.

[5] http://www.ncleg.net/EnactedLegislation/Statutes/HTML/ByChapter/Chapter_62a.html
[6] Ibid.

Both PSAPs receive automatic number identification (ANI) and automatic location identification (ALI) information for all wireline calls placed to 9-1-1. Wireline 9-1-1 calls originate from a subscriber's telephone through the serving telephone central office. The central office routes the call through a selective router and completes the call to the appropriate primary PSAP based on the calling party's phone number and associated street address, which is linked to an emergency service number (ESN). Dedicated 9-1-1 centralized automatic message accounting (CAMA) trunks provide connectivity between the tandem switch (selective router) and the respective communications center. The PSAPs provide voice communications with the 9-1-1 caller. The phone number originating the 9-1-1 call and the caller's location are displayed at the answering PSAP. The caller's originating phone number is used to retrieve the caller's location information from ALI databases.

For 9-1-1 wireless calls, PSAPs that are Federal Communications Commission (FCC) Phase I-compliant receive the caller's wireless number and the address of the tower transmitting the call. PSAPs that are FCC Phase II-compliant receive the caller's wireless number and location, based on global positioning system (GPS) information transmitted to the PSAP from the wireless service provider (WSP). Fayetteville and Cumberland County are wireless Phase II-compliant.

Delivery of wireless 9-1-1 calls to the PSAPs is accomplished utilizing network facilities provided by CenturyLink, the local exchange carrier (LEC), and the different WSPs. The routing of a wireless 9-1-1 call is more complicated than that of a wireline 9-1-1 call, as the subscriber may be mobile and the technology still in place today to route a wireless 9-1-1 call is somewhat limited.

A wireless 9-1-1 call originates from a subscriber's device and is transmitted via a radio signal over the wireless carrier's network to a base station/antenna located at one of the respective carrier's tower sites. The base station sends the 9-1-1 call to the WSP's mobile switching center (MSC) for proper call processing. The MSC uses a service-control-point database to assign an emergency service routing key (ESRK) number based on the tower site from which the call originated. A primary PSAP designation is assigned to each ESRK in the database. From the MSC, the 9-1-1 call is connected to one of CenturyLink's tandem/selective routers within the telephone network. The call is then routed from the tandem switch (or selective router) and passed to the appropriate PSAP via the same dedicated CAMA trunks used for wireline calls.

PART 1—OPERATIONS AND STAFFING

3. STANDARDS AND ACCREDITING ORGANIZATIONS

Communications centers (also referred to as PSAPs or 9-1-1 centers) throughout the country adopt and use industry standards and best practices to assure the effectiveness of the agency and that the best possible service is provided to citizens and first responders. Measurable standards create an objective view of 9-1-1 operations and provide for consistent interactions with the public and first responders.

Standards and best practices most often used in 9-1-1 communications centers are from the Association of Public-Safety Communications Officials-International (APCO) and the National Emergency Number Association (NENA). Also used often are the National Fire Protection Association (NFPA) standards, specifically 1221, *Standard for the Installation, Maintenance, and Use of Emergency Services Communications Systems*, and 1061, *Professional Qualifications for Public Safety Telecommunications Personnel*; and standards from the Commission on Accreditation for Law Enforcement Agencies (CALEA), particularly *Standards for Public Safety Communications Agencies*. APCO, NENA, and NFPA are each an American National Standards Institute (ANSI)-accredited standards development organization (SDO).

3.1. STANDARDS ORGANIZATIONS

APCO "is the world's oldest and largest organization of public safety communications professionals and supports the largest U.S. membership base of any public safety association. It serves the needs of public safety communications practitioners worldwide – and the welfare of the general public as a whole – by providing complete expertise, professional development, technical assistance, advocacy and outreach."[7] APCO has undertaken many projects over the years. Two notable projects are Project 25 (P25), the development of standards for digital telecommunications technology, and Project 33, development of a telecommunicator training standard. In Project 33, APCO collaborated with NENA "to evaluate what type of standardized training programs (if any) each state had. The information gathered helped APCO build the foundation for the National Public Safety Telecommunicator Training Standard, which is the minimum standard used today."[8]

NENA, a non-profit corporation, is dedicated to fostering "the technological advancement, availability and implementation of a universal emergency telephone number system."[9] NENA has several topic-specific committees that develop recommended 9-1-1 center model recommendations/standards and other operational information documents. NENA model recommendations/standards give 9-1-1 centers the tools they need to maintain a consistent level of service and work in relation to their peers in neighboring counties and states.

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[7] https://www.apcointl.org/about-apco.html
[8] https://www.apcointl.org/about-apco/apco-projects.html
[9] http://www.nena.or-g/?page=Mission

NENA 56-005, *9-1-1 Call Answering Standard*, states, "Ninety percent (90%) of all 9-1-1 calls arriving at the Public Safety Answering Point (PSAP) shall be answered within ten (10) seconds during the busy hour (the hour each day with the greatest call volume, as defined in the NENA Master Glossary 00-001). Ninety-five (95%) of all 9-1-1 calls should be answered within twenty (20) seconds."[10]

While NENA defines the call answering priority, NENA does not define further call processing times.

NFPA has higher standards for call processing. NFPA, also a non-profit organization, is "devoted to eliminating death, injury, property and economic loss due to fire, electrical and related hazards. The association delivers information and knowledge through more than 300 consensus codes and standards, research, training, education, outreach and advocacy; and by partnering with others who share an interest in furthering the NFPA mission."[11] NFPA 1221, Section 7.4.1 states, "Ninety-five percent of alarms[12] received on emergency lines shall be answered within 15 seconds, and 99 percent of alarms shall be answered within 40 seconds."[13] There is speculation within the industry that NENA may align its call answering standard with NFPA's in the future.

NFPA further defines call processing times, which begin when the call is answered and end when dispatch starts. Section 7.4.2 states, "With the exception of the call types identified in 7.4.2.2, 90 percent of emergency alarm processing shall be completed within 64 seconds, and 95 percent of alarm processing shall be completed within 106 seconds."[14]

Section 7.4.2.2 states, "Emergency alarm processing for the following call types shall be completed within 90 seconds 90 percent of the time and within 120 seconds 99 percent of the time:

(1) Calls requiring emergency medical dispatch questioning and pre-arrival medical instructions
(2) Calls requiring language translation
(3) Calls requiring the use of a TTY/TDD[15] device or audio/video relay services
(4) Calls of criminal activity that require information vital to emergency responder safety prior to dispatching units
(5) Hazardous material incidents
(6) Technical rescue
(7) Calls that require determining the location of the alarm due to insufficient information
(8) Calls received by text message"[16]

---

[10] http://c.ymcdn.com/sites/www.nena.org/resource/collection/ABEAA8F5-82F4-4531-AE4A-0AC5B2774E72/NENA_56-005_9-1-1_Call_Answering_Standard.pdf, page 8 of 12.
[11] http://www.nfpa.org/about-nfpa
[12] NFPA 1221 defines an alarm as "a signal or message from a person or device indicating the existence of an emergency or other situation that requires action by an emergency response agency."
[13] http://www.nfpa.org/codes-and-standards/document-information-pages?mode=code&code=1221
[14] Ibid.
[15] Teletypewriter/Telecommunications Device for the Deaf
[16] http://www.nfpa.org/codes-and-standards/document-information-pages?mode=code&code=1221

NFPA does not address law enforcement call processing and dispatching times, allowing the jurisdictions to establish time frames for dispatch in accordance with respective standard operating procedures (SOPs).

3.2. ACCREDITING ORGANIZATIONS

Standards are the cornerstone of accreditation for public safety agencies. While NENA, APCO, and NFPA are not accrediting bodies, CALEA, the Commission on Fire Accreditation International (CFAI), and the Commission on Accreditation of Ambulance Services (CAAS) are, as is IAED for entities utilizing the Academies' protocols. Only CALEA and IAED accredit communications centers.

CALEA, a "credentialing authority through the joint efforts of law enforcement's major executive associations"[17] accredits law enforcement agencies and 9-1-1 communications centers. CALEA standards define what needs to be done, not how agencies are to accomplish it. CALEA's "accreditation program provides public safety agencies an opportunity to voluntarily demonstrate that they meet an established set of professional standards which:

- Require an agency to develop a comprehensive, well thought out, uniform set of written directives. This is one of the most successful methods for reaching administrative and operational goals, while also providing direction to personnel.
- Provide the necessary reports and analyses a CEO needs to make fact-based, informed management decisions.
- Require a preparedness program be put in place—so an agency is ready to address natural or man-made critical incidents.
- Are a means for developing or improving upon an agency's relationship with the community.
- Strengthen an agency's accountability, both within the agency and the community, through a continuum of standards that clearly define authority, performance, and responsibilities.
- Can limit an agency's liability and risk exposure because it demonstrates that internationally recognized standards for law enforcement have been met, as verified by a team of independent outside CALEA-trained assessors.
- Facilitates an agency's pursuit of professional excellence."[18]

The Fayetteville Police Department and the Cumberland County Sheriff's Office are both an accredited agency through CALEA.

CFAI administers the Center for Public Safety Excellence's (CPSE's) accreditation program for fire and emergency service organizations. CPSE, a non-profit corporation, "promotes the continuous quality improvement of fire and emergency service agencies that serve communities worldwide by providing training and career resource information…CPSE supports and encourages agencies and personnel to

[17] http://www.calea.org/content/commission
[18] Ibid.

meet international performance standards through various programs and the work of two commissions..."[19]

Fayetteville Fire/Emergency Management, Fort Bragg Fire and Emergency Services, and Stoney Point Volunteer Fire Department are accredited agencies through CFAI.

CAAS is "an independent Commission that established a comprehensive series of standards for the ambulance service industry."[20] CAAS standards are "designed to help increase operational efficiency and decrease risk and liability across the entire spectrum of the organization."[21] While CAAS does not accredit communications centers, Section 204 of the standards addresses communications centers, stating, "[e]fficient call taking, effective resource deployment, and continuous communications capabilities are required to maintain an effective EMS agency."[22] There are seven applicable areas:

- 204.01 Policies and Procedures
- 204.02 Contingency Plans
- 204.03 Preventive Maintenance
- 204.04 Training
- 204.05 Licensure
- 204.06 Communications Inter-Agency Dialogue
- 204.07 Communications Performance Improvement

Cumberland County EMS of Cape Fear Valley Health, Fayetteville, is an accredited agency through CAAS.

"IAED is a non-profit standard-setting organization promoting safe and effective emergency dispatch services world-wide. Comprised of three allied Academies for medical, fire and police dispatching, the IAED supports first-responder related research, unified protocol application, legislation for emergency call center regulation, and strengthening the emergency dispatch community through education, certification, and accreditation."[23] Entities that utilize IAED's internally recognized protocols can apply to become an Accredited Center for Excellence (ACE).

Accreditation is a voluntary path that many first responder agencies pursue. With agencies within Fayetteville and Cumberland County accredited, the communications centers are required to meet or exceed the applicable standards of the respective accrediting body.

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[19] http://www.publicsafetyexcellence.org/about-cpse/cpse-mission-goals.aspx
[20] http://www.caas.org/
[21] http://www.caas.org/benefits
[22] http://www.caas.org/caas-standards/content-summaries
[23] http://www.emergencydispatch.org/

4. ORGANIZATIONAL STRUCTURES

4.1. FAYETTEVILLE

Fayetteville 9-1-1 is a division of the City of Fayetteville Police Department. Fayetteville 9-1-1 has an authorized strength of 65 employees:

- Communications Manager (1)
- Support Staff (5)
  - Training Supervisor
  - Radio Technician
  - 911 Coordinator
  - Training Specialist
  - QA Specialist
- Shift Supervisors (4 – one per shift)
- Telecommunicators (55)
  - Telecommunicator II (36)
  - Telecommunicator I (19)

While the authorized strength is 65, Fayetteville 9-1-1 had 13 telecommunicator vacancies—almost 24 percent—during the analysis period for this report. Some vacancies have since been filled.

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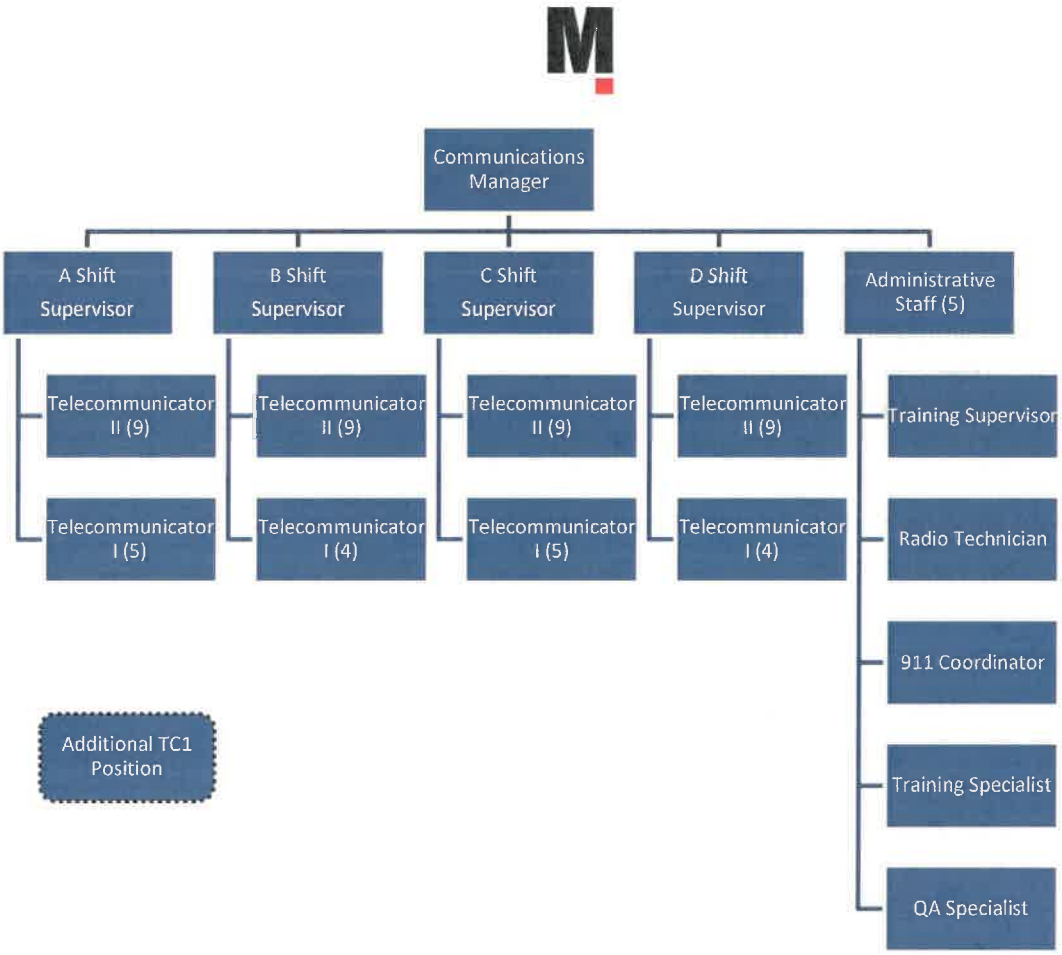

Figure 3: Fayetteville 9-1-1 Center Organizational Chart

Fayetteville 9-1-1 operates four 12-hour shifts that are responsible for coverage 24 hours a day, 7 days a week, 365 days a year. Day shift is 0700–1900 (7:00 a.m. to 7:00 p.m.) and night shift is 1900–0700 (7:00 p.m. to 7:00 a.m.). Shift supervisors and telecommunicators work two days on, two days off; three days on, two days off; two days on, three days off. Every other weekend is a 3-day weekend. Shift supervisors and telecommunicators rotate days and nights every 12 weeks. Telecommunicators are allotted two 15-minute breaks per shift. Support staff work typical Monday–Friday hours, adjusting as needs dictate.

Starting salaries for personnel are as follows:

- Communications Manager – $68,158
- Training Supervisor – $40,689
- QA Specialist – $40,689
- Training Specialist – $37,675
- 911 Coordinator – $37,675
- Shift Supervisors – $43,944
- Telecommunicator 2 – $31,793
- Telecommunicator 1 – $28,000

City of Fayetteville employees accrue holiday time for later use.

Fayetteville 9-1-1 is located in Fayetteville City Hall. The space allocated for the 9-1-1 center itself is sufficient for current operations. However, the 9-1-1 center is challenged with space for support staff and support operations. The small EOC, located adjacent to the 9-1-1 center, for all practical purposes has been reallocated as the training room, but is not sufficient to support the comprehensive training needs of modern 9-1-1 center operations. Fayetteville 9-1-1 shares breakroom and restroom facilities with other employees of City Hall.

4.2. CUMBERLAND COUNTY

Cumberland County Emergency Services has responsibility for Emergency Management and the Emergency Communications Center (9-1-1). Emergency Services is overseen by a Director, with assistance from a Deputy Director and six emergency management support staff. Emergency services is supported by a 911 Coordinator, CAD Administrator, and GIS Specialist.

Cumberland County 9-1-1 has an authorized strength of 42 employees:

- Telecommunications Manager (1)
- 911 Professional Standards Coordinator (1)
- Shift Supervisors (4 – one per shift)
- 9-1-1 Trainers (2)
- Telecommunicators (34)

During the analysis period for this report, Cumberland County 9-1-1 had two vacancies.

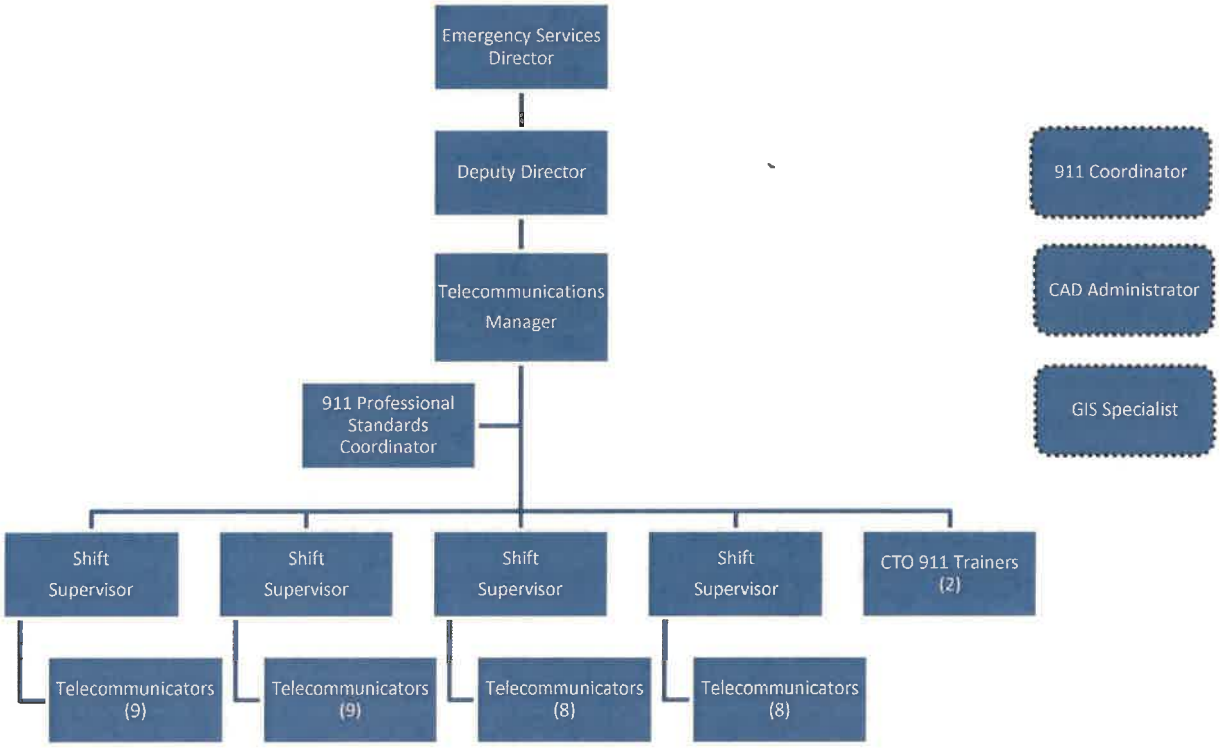

Figure 4: Cumberland County 9-1-1 Center Organizational Chart

Cumberland County 9-1-1 operates four 12-hour shifts that are responsible for coverage 24 hours a day, 7 days a week, 365 days a year. Day shift is 0700–1900 (7:00 a.m. to 7:00 p.m.) and night shift is 1900–0700 (7:00 p.m. to 7:00 a.m.). Shift supervisors and telecommunicators work two days on, two days off; three days on, two days off; two days on, three days off. Every other weekend is a 3-day weekend. Telecommunicators are allotted one 30-minute meal, taken at the console, and two 10-minute breaks per shift. Support staff work typical Monday–Friday hours, adjusting as needs dictate.

Starting salaries for personnel are as follows:

- Telecommunications Manager – $43,035
- 911 Professional Standards – $39,318
- Shift Supervisors – $37,580
- 9-1-1 Trainers – $32,731
- Telecommunicators – $31,267

Cumberland County follows the State of North Carolina holiday schedule. Employees are paid holiday time, rather than accruing hours for later use.

Cumberland County 9-1-1 is located in the Cumberland County Sheriff's Office building. The space allocated for the 9-1-1 center is inadequate to support current operations. The workstation layout does not support efficient operations. Staff should be commended for making the best of the current facility and proving they can be efficient in the current center. Additional space is needed.

4.3. RECOMMENDATIONS

There are primarily three disparities that have the potential to create morale issues in a co-located environment: salaries, breaks, and holiday leave accrual versus pay. Some issues can likely be addressed, others may simply be a City or County policy that will remain.

Fayetteville and Cumberland County are aware of the inequalities in telecommunicator and supervisor salaries, and are already working to address this. However, there are operational differences between the two 9-1-1 centers that may warrant differences in pay. For example, Cumberland County 9-1-1 telecommunicators dispatch EMS, whereas Fayetteville 9-1-1 does not. Cumberland County 9-1-1 also has responsibility for 18 different contracted fire departments, all with volunteer personnel, which requires different dispatch parameters than a career department. Yet Fayetteville 9-1-1 is the busier of the two 9-1-1 centers with greater call and incident volumes. While Mission Critical Partners commends the action to reduce the discrepancy, consideration should be given to the operational parameters that will remain and a determination made as to what is fair considering the respective operational responsibilities.

The second disparity is breaks. As the breaks are paid, Mission Critical Partners recommends an agreement be reached before co-location on how breaks and/or meals are to be handled. There will be

a perception of unequal treatment if personnel from Cumberland County get an additional 30 minutes, particularly when the workload is greater for Fayetteville 9-1-1.

The third disparity is holiday time and leave accrual. As these are jurisdictional policies, there will continue to be a disparity in a co-located environment.

These issues are likely to surface (or resurface) in a co-located environment. Ensuring they have at least been considered, and addressed where possible, will make the future transition much easier.

5. OPERATIONAL CONFIGURATIONS

5.1. FAYETTEVILLE

Fayetteville 9-1-1 has call take and dispatch responsibilities for the Fayetteville Police Department and Fayetteville Fire Department. Fayetteville 9-1-1 operates in a horizontal configuration, i.e., there is a division of responsibilities between the call take and dispatch functions. In a horizontal center, dispatch is not delayed while information is gathered from the caller. There are dedicated call takers with responsibility only for answering incoming calls.

Fayetteville 9-1-1 has 15 console workstations, five of which support call taking only and ten of which support both call taking and dispatch functionality. There is a sixteenth position in the EOC that is used for training and overflow, when needed. At a minimum, four law enforcement positions (three dispatch, one administrative), two fire positions (dispatch, tactical), and three call take positions must be staffed 24 hours a day, 7 days a week. Ideally four to five call take positions would be staffed. A supervisor is also on-duty.

In 2014, Fayetteville 9-1-1 processed over 255,000 9-1-1 calls and over 654,000 ten-digit incoming and outgoing calls. The center was responsible for a total law enforcement incident volume of 307,679 and a total fire incident volume of 29,404, and processed over 784,500 National Crime Information Center (NCIC)/Division of Criminal Information (DCI) and local database transactions. Data was collected during the third quarter of 2015, and 2015 totals were not available. However, data through the third quarter was on track to be similar to 2014 numbers.

NENA's call answering standard is 90 percent of all 9-1-1 calls arriving at the PSAP shall be answered within 10 seconds during the busy hour and 95 percent of all 9-1-1 calls answered within 20 seconds. NFPA has higher standards for call processing – 95 percent of calls received on emergency lines shall be answered within 15 seconds, and 99 percent of alarms shall be answered within 40 seconds. Fayetteville 9-1-1 meets NFPA's call answering standard.

On average it takes Fayetteville 9-1-1 telecommunicators 133 seconds (2 minutes 13 seconds) to process (pickup to disconnect) a 9-1-1 call and 61 seconds to process an administrative call.

Fayetteville 9-1-1 uses Emergency Police Dispatch (EPD), Emergency Fire Dispatch (EFD), and Emergency Medical Dispatch (EMD) protocols from IAED to process incoming calls for service. (See section 6.3, Protocol Usage, for additional information.) Police and fire incidents are dispatched based on respective agency guidelines. While Fayetteville 9-1-1 does not dispatch EMS, callers requesting medical assistance are processed by Fayetteville 9-1-1, rather than being transferred to Cumberland County 9-1-1. The shared CAD system between Fayetteville 9-1-1 and Cumberland County 9-1-1 allows either agency to process calls for service without the need to transfer callers.

5.2. CUMBERLAND COUNTY

Cumberland County 9-1-1 has call take and dispatch responsibilities for the Cumberland County Sheriff's Office, Spring Lake Police Department, Hope Mills Police Department, Cumberland County EMS, and 21 fire stations (contracted for dispatch services). Cumberland County 9-1-1 is responsible for animal control after-hours and on weekends.

Table 1: Cumberland County Fire Stations

Cumberland County Fire Stations	
Beaver Dam Stations 26 and 27	Hope Mills Station 21
Bethany Station 12	Pearces Mill Station 3
Cotton Station 4	Spring Lake Station 22
Cumberland Road Station 5	Stedman Station 23
Eastover Station 1	Stoney Point Stations 13 and 19
Godwin-Falcon Station 17	Vander Stations 2 and 8
Gray's Creek Station 18	Wade Station 16
Gray's Creek Station 24	Westarea Stations 15, 20, and 25

Cumberland County 9-1-1 also operates in a horizontal configuration.

Cumberland County 9-1-1 has ten console workstations, all of which support both call taking and dispatch functionality. Four positions are dedicated to law enforcement. One position serves as the main channel for the Sheriff's Office. One position is responsible for the Hope Mills Police Department and Sheriff's Office detectives, and serves as a backup to the Sheriff's Office main channel. One position is responsible for the Spring Lake Police Department and Sheriff's Office school resource officers, and serves as a backup to the Hope Mills Police Department. The fourth position is dedicated to civil responsibilities. There is one fire position, which serves as a backup for EMS. There is one EMS position, which serves as a backup for fire. There are three call take positions. A supervisor is also on-duty, with monitoring capabilities for all channels.

In 2014, Cumberland County 9-1-1 processed over 143,000 9-1-1 calls and over 337,000 ten-digit incoming and outgoing calls. The center was responsible for a total law enforcement incident volume of 226,755, a total fire incident volume of 15,526, and a total EMS incident volume of 66,061. Data was

collected during the third quarter of 2015, and 2015 totals were not available. However, data through the third quarter was on track to be similar to 2014 numbers.

NENA's call answering standard is 90 percent of all 9-1-1 calls arriving at the PSAP shall be answered within 10 seconds during the busy hour and 95 percent of all 9-1-1 calls answered within 20 seconds. NFPA has higher standards for call processing – 95 percent of calls received on emergency lines shall be answered within 15 seconds, and 99 percent of alarms shall be answered within 40 seconds. Cumberland County 9-1-1 meets NFPA's call answering standard.

Cumberland County 9-1-1 uses EPD, EFD, and EMD protocols from IAED to process incoming calls for service. (See section 6.3, Protocol Usage, for additional information.) Police and fire incidents are dispatched based on respective agency guidelines. The shared CAD system between Fayetteville 9-1-1 and Cumberland County 9-1-1 allows either agency to process calls for service without the need to transfer callers.

5.3. PROTOCOL USAGE

IAED defines a protocol as "a highly-defined procedure placed into a reference system…designed to lead the calltaker through a predictable, repeatable, and verifiable process for a specific situation."[24] "Protocols have become an integral part of modern day, emergency dispatch operations. Protocols reduce variance, ensure a continuity of care, reduce liability, standardize response decisions, and provide a basis for performance measurement and quality improvement efforts."[25]

Protocols involve a set of scripted questions designed to elicit as much information from the caller as possible.[26] At case entry, essential information is gathered in a standardized format, including the address of the incident, the caller's phone number and name, and the problem. Once the problem or "Chief Complaint" has been identified, questioning continues to help assess scene safety, prioritize the response, select appropriate instructions for the caller, and provide pertinent information for responders. The questions are designed to be asked verbatim and in order. Where the answer is obvious, questions may be skipped. Post-dispatch instructions are designed to ensure responders' and the caller's safety. If necessary, pre-arrival instructions—potentially life-saving, scripted instructions—are provided.

While the protocols determine prioritization of the calls for service based on the caller's response to the questions, such as Delta, Charlie or Bravo, first responder agencies determine their respective response parameters, such as lights and sirens (hot) or routine (cold, non-emergency), how many units

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[24] The National Academies of Emergency Dispatch® (2011) *Emergency Telecommunicator Course Manual,* Edition 3. Salt Lake City, Utah: Priority Press.

[25] http://www.9-1-1magazine.com/Patterson-Protocols-0804

[26] While there are numerous vendors for dispatch protocols, the terminology and information referenced is from Priority Dispatch; other vendors may have slightly differing terms and sequencing. This is just intended to provide an example.

to send to which types of calls, etc. Most EMS and fire responses are fairly standardized, such as advanced life support (ALS) or a full run order for a residential fire. However, significant differences are often seen among law enforcement agencies, regardless of whether scripted protocols are in use. For example, one law enforcement agency may not hold any calls for service, regardless of the nature, dispatching as soon as possible to any available unit. Another law enforcement agency may provide different response parameters based on the nature; for example, holding an incident that happened two days ago, but was just reported, for a unit that is assigned to that area, rather than assigning to a unit across town.

In Cumberland County and Fayetteville, response parameters differ per law enforcement agency.

5.4. RECOMMENDATIONS

Fayetteville 9-1-1 has 15 console workstations and Cumberland County 9-1-1 has ten console workstations. Mission Critical Partners recommends 30 console workstations in a co-located environment. The additional five workstations would be allocated to support future growth and monitoring of trainees.

In a co-located environment, operations of the two 9-1-1 centers remain distinct; yet there is an opportunity to share additional resources similar to those of the CAD system. In a co-located environment, these shared systems will continue to be in operation. While the 9-1-1 trunks may continue to remain separated by jurisdiction, Mission Critical Partners recommends consideration be given to shared 9-1-1 call taker resources. Any available call taker should be able to answer a 9-1-1 call, regardless of where it originates. Currently, when a 9-1-1 call is answered in either center, it is handled by the respective call taker regardless of the jurisdiction. In a co-located environment, it should not matter that a 9-1-1 call is coming in on a City 9-1-1 trunk or a County 9-1-1 trunk, the next available call taker should answer the call. While both centers currently meet NFPA's call answering standard, sharing call taking resources may further allow both 9-1-1 centers to improve call answering times.

As 9-1-1 call volume is not equal between the two 9-1-1 centers, the potential exists for an unbalanced workload. It is true that the workload is unbalanced in current operations, but it becomes noticeable when all telecommunicators are working in the same space. It may be possible that all 9-1-1 trunks for the City are ringing, but the County trunks are not. If call take resources are not shared, there may be call takers that are idle but cannot answer the call because it is on a City 9-1-1 trunk, and vice versa. This has the potential to degrade the service provided to the citizens and might create morale problems. However, the use of shared call taker resources will also require oversight as the potential exists for some telecommunicators to "take advantage" of a larger pool to answer 9-1-1 calls. While the integrity of the telecommunicators has not come under question, it is important to realize it could happen. Regular communications between Fayetteville 9-1-1 and Cumberland County 9-1-1 management is critical to addressing these types of concerns before they become an issue.
Before the City and County embark on collaborative staff arrangements, Mission Critical Partners recommends the pay and break issues discussed previously have been addressed. These issues are likely to surface (or resurface) in a co-located environment.

If the City and County decide to share call taker resources, it should be memorialized in an intergovernmental agreement (IGA) or memorandum of understanding/agreement (MOU/MOA), detailing the specifics of what is expected of the telecommunicators and supervisory personnel. Mission Critical Partners recommends that the shared call take resource be limited to 9-1-1 calls only. Calls received on non-emergency (administrative) lines should be handled by the respective jurisdiction.

Regardless of a decision to share or not share call taker resources, staffing will not be affected. Fayetteville 9-1-1 and Cumberland County 9-1-1 will each need to staff the call take positions as if they were in separate centers. The sharing of resources should not be seen as an opportunity to allow additional staff time off; leave should continue to be handled in accordance with established policies.

In addition, Mission Critical Partners recommends the development of a law enforcement working group, prior to co-location, to review dispatch parameters, with the goal to streamline operational processes where possible. Mission Critical Partners is not advocating that the law enforcement agencies change their response protocols, but to come together with 9-1-1 center personnel to determine how response protocols affect operations and perhaps reduce the disparities. Technology may also allow for dispatch response parameters to be built into the CAD system for respective agencies to assist telecommunicators in their response to callers.

While the focus of this report is the co-location of 9-1-1 operations, other opportunities exist to enable the seamless flow of information in areas outside 9-1-1 operations. Currently, Cumberland County is responsible for animal control after-hours and on weekends. Animal Control "enforces all state and local laws pertaining to the ownership, regulation and control of dogs, cats, and other animals within the County. The department is responsible for picking up stray animals, livestock, exotic animals as well as nuisance wildlife and rabid animals."[27] Animal Control officers respond throughout the county, including the city of Fayetteville. Animal Control officers are responsible for investigating all animal bites in accordance with North Carolina law. As such, there is often a need for dialogue with the 9-1-1 centers. Mission Critical Partners recommends that consideration be given to allocating one of the console workstations for the Animal Control communicator, with access to the CAD system. By providing access to the CAD system, Animal Control can become an integral part of the call take operations, eliminating the need for caller transfers and providing situational awareness to all involved. Co-locating an Animal Control communicator with 9-1-1 operations provides an opportunity to improve both animal control and public safety response.

[27] http://www.co.cumberland.nc.us/animal_control.aspx

6. STAFFING

Communications centers across the country continue to struggle with staffing shortages. Tenured employees are retiring; others just leave for any number of reasons – shift work, the hours, child care issues, stress, and better pay in the private sector. While generally there is not a lack of applicants for open positions, the often stringent job qualifications (i.e., background checks, drug usage) knock many out, as do the lengthy application processes; it is not unusual for many law enforcement communications centers to have processes that take upwards of six months from application to start date. Thus communications centers often find themselves with a revolving door for staff; unfortunately many are not able to fill the vacancies before more staff leave, creating an even larger gap. Both Fayetteville 9-1-1 and Cumberland County 9-1-1 have experienced staffing shortages in recent years.

To verify appropriate staffing and/or determine staffing needs, call centers and 9-1-1 centers use calculations based on call volume and workload. APCO and NENA have developed tools based on the Erlang C[28] calculator, coupled with statistical calculations that take into consideration other PSAP data (e.g., leave usage). PSAP data is measured and used as a basis for projecting the number of call take, dispatch, and supervisory staff required to adequately handle call and incident volumes.

In 2010, NENA implemented a Communications Center Staffing Tool in concert with the Center Manager Certification Program. The staffing tool, partially based on NENA Standard 54-501A, is a formalized system that takes into account call volume and other PSAP-specific data, such as incident volume and leave, to calculate staffing needs. Mission Critical Partners uses this NENA staffing tool, coupled with Erlang C calculations, to project staffing requirements.

The NENA staffing tool calculates many factors, including available work hours, utilization, and turnover rates, which are then used with call and/or incident data to determine staffing. Available work hours are the number of hours a telecommunicator (call takers and dispatchers) is available to work during the course of a year. There are many sub-factors to this calculation, including leave usage; i.e., any time that the employee is away from their assigned duties. This time includes vacation, holiday, sick, and personal leave; training; military leave; and other activities.

In 2014, Fayetteville 9-1-1 telecommunicators used in excess of 10,800 total hours of leave; this averages approximately six and one-half weeks of leave per person. In 2014, Cumberland County 9-1-1 telecommunicators used in excess of 7,245 total hours of leave; this averages approximately five weeks of leave per person.[29] This does not imply that each person used the respective leave; some may have used less, some may have used more. This is the average per person.

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[28] The Erlang C calculator is a tool in the public safety industry utilized to assist emergency communications centers in determining call taker staffing needs.

[29] Staff work 12-hour shifts, with a 36-hour work week followed by a 48-hour work week. Averages are based on a 40-hour work week as time taken off varies based on the work week and time taken off.

Utilization is a subjective number, but is designed to provide an estimate of the time per shift that a telecommunicator should be busy providing call handling and dispatching services. Breaks and meals are subtracted from the shift length, as is time spent doing other work-related activities, such as filing paperwork or decompressing after a stressful incident. Fayetteville 9-1-1 telecommunicators are allotted two 15-minute breaks and one 30-minute meal break. Cumberland County 9-1-1 telecommunicators are allotted two 10-minute breaks and one 30-minute meal break, which is taken at the console. Fayetteville 9-1-1 and Cumberland County 9-1-1 have utilization rates of 96 percent and 93 percent, respectively. This is exceptional and demonstrates that telecommunicators do not have extraneous duties that detract from their call take and dispatch responsibilities.

Turnover is also calculated. Data is collected for three years and includes the highest number of employees for a given year and the number of staff that left voluntarily or involuntarily. The result is the attrition rate. Between 2012 and 2014, Fayetteville 9-1-1's average attrition rate was 19.61 percent. The attrition rate has decreased since 2012 when it was 25.49 percent; 2014 saw an attrition rate of 15.69 percent. Between 2012 and 2014, Cumberland County 9-1-1's average attrition rate was estimated to be 19.44 percent, and may have been as high as 36.11 percent in 2014.[30]

Calculations for workload and position coverage must also take performance metrics into account. Performance metrics measure the operational efficiency of a PSAP against targeted goals and established standards. Mission Critical Partners uses performance metrics and national standards to ascertain how staff utilization may be positively or negatively impacting PSAP operations. The most common metric involves the average time it takes a PSAP to answer its incoming emergency calls. PSAPs typically try to align their call answering goals to either NENA or NFPA standards. As mentioned previously, both Fayetteville 9-1-1 and Cumberland County 9-1-1 meet NFPA standards.

6.1. FAYETTEVILLE

Taking all factors into consideration with the current configuration of the 9-1-1 center, and to continue to meet NFPA standards for call answering, Fayetteville 9-1-1's authorized telecommunicator strength is appropriate, and staffing will be adequate for current call and incident volumes when vacancies are filled.

6.2. CUMBERLAND COUNTY

Taking all factors into consideration with the current configuration of the 9-1-1 center, and to continue to meet NFPA standards for call answering, Cumberland County 9-1-1's authorized telecommunicator strength is appropriate, and staffing will be adequate for current call and incident volumes when vacancies are filled.

[30] Cumberland County 9-1-1 does not track the number of new hires that failed to complete the probationary period or experienced employees that left. From comments in leave usage records from 2014, Mission Critical Partners was able to determine that ten staff separated from the division that year.

6.3. RECOMMENDATIONS

At this time, the *authorized* telecommunicator strength of each 9-1-1 center is appropriate for their respective call and incident volumes. Both centers have experienced vacancies in the past, and Fayetteville 9-1-1's 24 percent vacancy rate in the fall of 2015 was critical. Fayetteville 9-1-1 cannot continue to sustain such a deficit in staff as operations will ultimately be affected.

In a co-located environment, each 9-1-1 center will maintain their own staffing levels, with the exception of emergencies. This means that the City and County will continue their respective hiring practices as a joint hiring process is prohibited. Mission Critical Partners recommends that, where possible, the City and County establish the same standards and processes for hiring telecommunicators. This will ensure that staff working in the co-located environment have passed the same tests and interviews, have undergone similar processes, and had the same level of background checks, etc. Often, personnel working for a law enforcement agency undergo a more rigorous background check than those working for other agencies. While this may be difficult to align, it will ensure all newly hired telecommunicators in a co-located environment have met the same requirements for employment.

Mission Critical Partners recommends that a staffing study be conducted annually for both 9-1-1 centers to ensure authorized strength is appropriate based on then current call and incident volumes, as well as personnel factors, such as leave usage. If adjustments need to be made to authorized strength for either or both 9-1-1 centers, the City and County, respectively, can make preparations for additional staff during their planning and budgeting processes.

Mission Critical Partners recommends consideration be given to collaborative staffing where possible. In a co-located environment, there may be more opportunities for collaborative staffing positions, such as in training or quality assurance (QA). Collaborative staffing will improve efficiency and may be viewed positively by the North Carolina 911 Board. Current telecommunicators or supervisors should be allowed to apply for any open positions, which could potentially create vacancies in the 9-1-1 centers. As such, it is imperative that the City and County determine administrative support roles prior to the transition to a co-located facility. This will allow time for all positions to be filled, and not at the expense of the 9-1-1 centers.

7. SUPERVISION

The Technical Committee on Public Emergency Service Communication prepared the latest edition of NFPA 1221, *Standard for the Installation, Maintenance, and Use of Emergency Services Communications Systems* (Edition 2016). Chapter 7 sets forth the standards for PSAP operations; Section 1 of Chapter 7 addresses management.

NFPA 1221, 7.1.1 states, "All system operations shall be under the control of a manager, director, or supervisor of the jurisdiction served by the system.

7.1.3 states, "Personnel in supervisory roles shall receive supervisory training as defined by the AHJ." (AHJ is defined as the Authority Having Jurisdiction.)

7.1.4 states, "The AHJ shall be responsible for initial and ongoing training in supervisory skills of personnel in supervisory roles."

Section 3 of Chapter 7 addresses staffing.

NFPA 1221, 7.3.4 states, "Supervision shall be provided when more than two telecommunicators are on duty."

Annex A of NFPA 1221 provides further explanation. A.7.3.4 states, "The supervisor position(s) in the communications center are provided in addition to the telecommunicators *[sic]* positions. Although supervisory personnel are intended to be available for problem solving, the supervisor position is permitted to be a working position."

7.3.4.1 states, "Supervision shall be provided by personnel located within the communications center who are familiar with the operations and procedures of the communications center."

7.3.4.2 states, "The supervisor shall be allowed to provide short-term relief coverage for a telecommunicator, provided that the telecommunicator does not leave the communications center and is available for immediate recall as defined in the policies and procedures of the AHJ."

The *Standards for Public Safety Communications Agencies* (SPSCA), established jointly by CALEA and APCO, does not specifically address staffing or supervision in a PSAP. However, both sets of standards reference utilizing Incident Command System (ICS) protocols. (CALEA Standard 46.1.2 and SPSCA Standard 7.1.2 are mandatory for accreditation.)

The Department of Homeland Security (DHS), coordinating with federal, state, and local governments established the National Incident Management System (NIMS). ICS falls under the Command and Management element of NIMS. ICS represents best practices and is the standard for emergency management across the country. ICS requires a supervisor when there are between three and seven persons performing similar functions. (The optimal span of control is five.) A manageable span of control allows supervisors to supervise and control their subordinates, while allowing for efficient communications between all parties.

While NFPA standards and ICS require dedicated supervisory personnel, there are in-house considerations as well:

- Provides coordination and direction during major emergency incidents
- Is available for problem solving
- Is readily able to identify areas for growth among subordinates
- Has the ability to document employees' performance for annual/periodic reviews

- Provides a more narrow scope of supervision when implementing new policies and procedures
- Provides more supervision for diversified, complex tasks
- Is able to stay current with technological changes/advancements
- Provides guidance to new employees who have less training and experience
- Provides greater knowledge of laws, procedures, and administrative processes
- Is able to focus on the operations of the 9-1-1 center as a whole
- Is able to focus on customer service to the public and subscriber agencies
- Allows for improved communications with management, subordinates, and subscriber agencies
- Spends more time with subordinates individually, on a daily basis
- Allows for operational efficiency
- Is able to identify areas for remedial training, counseling or discipline, when appropriate
- Is able to address issues upon occurrence, not after the fact
- Is able to set priorities
- Allows for delegation of tasks/responsibilities

Understanding how a PSAP performs as compared to national standards, such as call answering, is valuable information, but it is only part of the puzzle. 9-1-1 center directors and/or managers must be able to identify whether goals and objectives are being met, as well as identify issues at the onset. While many challenges can be attributed to staff shortages, some issues are not as intuitively obvious. As such, appropriate and focused supervision of operational personnel is critical.

Fayetteville 9-1-1 and Cumberland County 9-1-1 each have four supervisory positions, with one supervisor assigned to each shift.

7.1. RECOMMENDATIONS

Best practice suggests a span of control as three to seven, with five being optimal. In Fayetteville, one supervisor is assigned per shift, who could have responsibility for up to 14 people when fully staffed with no absences. In Cumberland County, one supervisor is assigned per shift, who could have responsibility for up to nine people when fully staffed with no absences. While these spans of control are higher than best practices and not necessarily ideal for Fayetteville 9-1-1, telecommunicators work in a single location, and within two primary focus areas: call take and dispatch. Both centers have experienced staff that are also able to provide direction to newer telecommunicators when the need arises.

However, Mission Critical Partners recommends that the City consider increasing its shift supervisor complement by two, for a total of six shift supervisors, when telecommunicator positions are fully staffed. Mission Critical Partners recommends that one additional shift supervisor work a "power shift" between A and B shifts, while the second additional shift supervisor works a "power shift" between C and D shifts. This will provide additional supervisory oversight during times of peak call and incident

volumes. If authorized telecommunicator strength increases in the future, consideration will need to be given to a total supervisory complement of eight, or two per shift, to align with best practices.

While Cumberland County 9-1-1 also exceeds the best practice span of control, it is marginal. Cumberland County 9-1-1's call and incident volumes are not as great as Fayetteville 9-1-1's, and telecommunicators also work in closer quarters, all of which make supervisory oversight somewhat easier. However, if authorized telecommunicator strength increases in the future, consideration will need to be given to increasing the supervisory complement to more closely align with best practices.

In a co-located environment, where two shifts are on-duty at one time (one City and one County operating from a singular location), there are additional considerations. Each 9-1-1 center could continue to operate as they do currently, with a respective supervisor only responsible for their telecommunicators. Or supervisors could be cross-trained and provide oversight to any telecommunicator. The configuration of the primary focus areas provides an opportunity for concentrated supervisory oversight in a co-located environment, when applied correctly. One supervisor could be specifically assigned to the call take area and one to the dispatch area. While this would require cross-training on the part of the supervisors, it diminishes the lines of City | County.

Other operational decisions will also affect this. If the City and County decide to share 9-1-1 call taking resources, supervisory personnel will need to be able to provide oversight to all call takers, not just their own. For example, if 9-1-1 lines are ringing and are not being answered, a Cumberland County 9-1-1 supervisor may need to direct a Fayetteville 9-1-1 telecommunicator to answer the phone. While the integrity of the telecommunicators has not come under question, this is a real scenario that could play out in a co-located environment.

Any decisions regarding supervisory personnel's authority for staff other than theirs will need to be memorialized in any governance agreement. If a decision is made to expand supervisor's authority, supervisors, as well as telecommunicators, will require training on the new expectations to ensure boundaries are not overstepped and that favoritism does not have a role.

7.1.1. Leadership Development

Staff are often promoted to a supervisory position because they were good, if not great, telecommunicators. They are then trained and/or mentored to manage administrative duties and daily tasks associated with the respective job description. While management responsibilities need to be taught, leadership skills also need to be developed. Leaders must be able to motivate people and unite their team. While the supervisory positions must be respected based on their seniority (management), gaining a person's cooperation and respect towards their work is crucial, and often leads to respecting the person, not just the position.

The North Carolina Justice Academy offers a 24-hour Telecommunicator Supervisor Training course. The course goal is "to provide the participant with knowledge and skills required to

effectively supervise personnel in an emergency communications center."[31] At the completion of the course, "students will be able to:

- Avoid liability problems arising from employment practices.
- Determine and utilize motivational incentives to improve or cause high performance.
- Demonstrate supervising for results skills dealing with work performance and work habit problems.
- Identify the important attributes of documentation and how to effectively use it.
- Utilize identified competencies of a leader to address factors in high performance by employees.
- Lead others through concepts of empowerment and transformation."[32]

APCO offers Communications Center Supervisor training; this course can be taken online (five weeks) or in person (three days). There are no recertification requirements. Topics include the following:

- Telecommunications Supervisor Role
- Liability Issues for Supervisors
- Policies, Procedures and Directives
- Communication Skills
- Self-Assessment
- Employee Evaluation and Motivation[33]

There are numerous organizations that also offer leadership training, but may not have the 9-1-1 background of these.

Mission Critical Partners recommends the City and County continue to ensure that supervisory-level staff take advantage of professional development opportunities to become better leaders. Continued leadership development provides an avenue for the enhancement of knowledge, competencies, and skills. This results in increased learning, achievement of goals, improved performance, and often personal satisfaction. When possible, leadership training opportunities should be offered to senior telecommunicators who may wish to pursue promotional opportunities in the future.

David Witt, a researcher with The Ken Blanchard Companies who studies employee engagement and the impact that leadership practices have on employee retention, well-being, and productivity, said, "…we've been looking at the connection between leadership practices, employee work passion, customer devotion, and an organization's bottom line. What we've found is that there is a clear connection between the quality of an organization's leadership practices—as perceived by employees—and subsequent intentions by employees to stay with an organization, perform at a high

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[31] http://ncja.ncdoj.gov/2232.aspx

[32] Ibid.

[33] https://apconetforum.org/eweb/DynamicPage.aspx?site=APCOInst&webcode=APCOTrainingCourseDetail&evt_key=CAAF4833-5ADF-4EC8-8254-DF920FF1087E

level, and apply discretionary effort."[34] The challenge for both Fayetteville 9-1-1 and Cumberland County 9-1-1 will be finding the time to ensure supervisors are actively engaged in developing their skills.

8. TRAINING

Training is defined as "a process by which someone is taught the skills that are needed for an art, profession, or job."[35] Training is essentially provided in four arenas:

- New hire training
- Refresher/continuing education training
- Update training, such as for technology/equipment or changes in policies and procedures
- Promotional opportunity training

In 9-1-1, call taker and dispatch training and standards vary across the country, and often within a state. In August 2012, NENA Government Affairs Staff published a State by State Training Standards Overview[36]; North Carolina was not included.

In 1998, North Carolina passed mandatory training requirements for law enforcement telecommunicators. In accordance with Administrative Code Title 12-10B, the state's Sheriff's Training and Standards Commission governs the mandate. The 48-hour Telecommunicator Training Certification Course is mandatory for all telecommunicators working under the direction of a sheriff; however, certification is optional for agencies not under the direction of a sheriff. Training is facilitated by the North Carolina Justice Academy.

The course goals are "to present the basic standard operating procedures for telecommunicators and to develop the role and responsibilities of the emergency service telecommunicator."[37] Upon completion of the course, students will be able to:

- Define the role and explain the characteristics of the professional telecommunicator; stress and the telecommunicator; and the telecommunicator's code of ethics.
- Identify and demonstrate the general operation of the major equipment components of a modern telecommunications service center.
- List and identify the major information resources available to assist in the practice of telecommunications.

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[34] http://www.kenblanchard.com/Leading-Research/Ignite-Newsletter/October-2013
[35] http://www.merriam-webster.com/dictionary/training
[36] http://legis.wisconsin.gov/lc/committees/study/2012/911/files/aug16_nena_State%20by%20State%20Training%20Requirements.pdf
[37] http://ncja.ncdoj.gov/2222.aspx

- Differentiate between the organization, general operational practices, terminology and common service requests associated with law enforcement, fire and emergency medical services, and the North Carolina Division of Emergency Management.
- Identify, explain and demonstrate common call reception, prioritization and resource allocation practices associated with everyday telecommunications.
- Identify and explain the aspects of civil liability for the professional telecommunicator.
- Identify, explain and demonstrate basic radio broadcast techniques associated with emergency telecommunications.
- Demonstrate basic telecommunications training skills in a structured telecommunications training practicum.[38]

Once certified, telecommunicators are required to complete 16 hours of in-service training annually; some topics are deemed mandatory.

Aside from this, North Carolina has no telecommunicator training standards. The North Carolina 911 Board has undertaken this initiative and is in the process of crafting legislation for minimum telecommunicator training within the state. No further information is known at this time.

APCO's *Minimum Training Standards for Public Safety Telecommunicators*, APCO ANS 3.103.2-2015, "identifies minimum training requirements for both new and veteran Public Safety Telecommunicators. This position is typically tasked with receiving, processing, transmitting, and conveying public safety information to dispatchers, law enforcement officers, firefighters, emergency medical and emergency management personnel. This document seeks to define training in certain knowledge and skills for the Agency to provide to Telecommunicators."[39]

IAED offers an Emergency Telecommunicator (ETC) Certification course that aligns with APCO's training standards. The 40-hour course covers the following topics:

- Roles and Responsibilities of the Emergency Telecommunicator
- Emergency Telecommunication Technologies
- Telecommunication Essentials
- Interpersonal Communication
- Caller Management
- Police Call Classification
- Fire Call Classification
- Medical Call Classification
- Man-Made and Natural Catastrophic Events
- Radio Broadcast Procedures
- Legal Aspects of Public Safety Communication

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[38] Ibid.

[39] https://www.apcointl.org/doc/911-resources/apco-standards/75-minimum-training-standards-for-public-safety-telecommunicators/file.html, page 2 of 37.

- Quality Improvement
- Stress Management

CALEA's *Standards for Public Safety Communications Agencies* has a chapter devoted to training, which addresses administration, academies (for those that operate a training academy), and training itself.

Fayetteville 9-1-1 and Cumberland County 9-1-1 already collaborate on classroom training whenever possible. Both centers teach IAED's ETC course as well as EMD, EFD, and EPD protocols. Upon the completion and successful passing of the exams, certification is received in each area.

Although on-the-job (OTJ) training varies for each center based on the respective disciplines for which they dispatch, certified training officers or other tenured telecommunicators conduct training. OTJ training for both 9-1-1 centers involves CAD-based training with guidance from the assigned communications training officer (CTO), shadowing, observations, coaching, and mentoring.

IAED requires recertification every two years for EMD, EFD, and EPD. For only one certification, 24 hours of continuing education is required every two years. For those with more than one certification, as is the case for both Fayetteville 9-1-1 and Cumberland County 9-1-1, a sliding scale is applicable. A combination of all three protocols has a requirement for 48 hours of continuing education every two years. EMD recertification (and initial certification) also requires cardio pulmonary resuscitation (CPR) certification.

IAED provides the following guidance for continuing education programs:

> *Your agency's CDE Program should be organized around the training and responsibilities of the dispatchers and meet the following specific objectives:*
> 1. *Developing a better understanding of telecommunications and the emergency dispatcher's roles and responsibilities*
> 2. *Enhancing on-line skills in Pre-arrival Instructions and in all emergency telephone procedures within the practice of emergency dispatch*
> 3. *Improving skills in the use and application of all component parts of the Priority Dispatch System® (PDS) including interrogation and prioritization*
> 4. *Providing opportunities for discussion, skill practice, and critique of skill performance*[40]

IAED also provides a list of continuing education approved categories, as well as examples.

Both Fayetteville 9-1-1 and Cumberland County 9-1-1 currently provide continuing education for their telecommunicators in accordance with best practices and IAED certification requirements.

[40] http://www.emergencydispatch.org/CDE

8.1. RECOMMENDATIONS

Training is essential to maintaining the knowledge and skills to efficiently and effectively work in a 9-1-1 center. There are many benefits of training, including the following:

- Improved employee morale and job satisfaction, which can lead to greater contributions to organizational success and creates the potential for less absenteeism and reduced turnover
- Less supervision as staff are well-acquainted with job responsibilities and expectations
- Fewer errors as staff are more proficient
- Improved efficiency and quality performance
- Risk management when human resources topics are included, such as ethics, diversity, human relations, and sexual harassment

Fayetteville and Cumberland 9-1-1 centers have already established a shared training program that works well for the agencies. Currently though, both Fayetteville 9-1-1 and Cumberland County 9-1-1 maintain individual records for their staff and oversee all respective recertification requirements. In a co-located environment, this is a duplication of effort. Resources can be more readily shared in a formalized, structured environment. As such, Mission Critical Partners recommends that the shared training program become more formalized when co-location is achieved. Mission Critical Partners recommends the creation of a shared training/QA[41] coordinator or supervisor position, dependent on identified responsibilities and support staff allocations. The formalized training program and training/QA coordinator/supervisor position would need to be addressed in any governance agreement between the City and County to identify fiscal and personnel responsibilities. Ideally this position would have oversight for the training supervisor, training specialist, and QA specialist (Fayetteville 9-1-1) and the 9-1-1 trainers (Cumberland County 9-1-1), but this may not be practical as the training/QA coordinator/supervisor will be an employee of one of the agencies with potential oversight of staff from both the City and County. However, a well-developed governance agreement should be able to address any concerns the organizations may have. The potential exists for this shared program to continue to be very successful. If a shared coordinator/supervisor position is created, the training supervisor position (Fayetteville 9-1-1) may not be necessary and could be transitioned to an additional training specialist.

Mission Critical Partners recommends that OTJ training continue to be a function of the respective 9-1-1 center. As each center completes daily observation reports (DORs) for trainees, Mission Critical Partners recommends the use of a singular DOR to ensure consistency within a co-located center. This will ensure that each trainee is evaluated on the same set of performance parameters.

[41] QA is discussed in section 9.

9. QUALITY ASSURANCE

When providing emergency dispatch, adherence to the structured protocol becomes critically important. "This is especially true for agencies that provide some measure of post-dispatch and/or pre-arrival instructions to callers, directing the caller to actively do something to stabilize a patient or begin to mitigate an emergency before the arrival of the dispatched first responders. Evaluating performance and compliance with protocols and procedures becomes as necessary as the provision of the protocol itself, since doing so incorrectly could wind up harming the patient or exposing the agency to liability."[42]

A QA/QI program is an essential component of 9-1-1 communications processes as it can improve the level of service provided to citizens, and is a best practice to improve overall PSAP performance. APCO provides the following definitions:

> *Quality Assurance (QA): All actions taken to ensure that standards and procedures are adhered to and that delivered products or services meet performance requirements.*[43]
>
> *Quality Assurance and Improvement Program: An on-going program providing at a minimum, the random case review evaluating emergency dispatch performance, feedback of protocol compliance, commendation, retraining and remediation as appropriate, and submission of compliance data to the Agency.*
>
> *Quality Assurance / Improvement Process: A formal assessment process by which actual performance, behavior, and outcomes are compared against established standards to ensure compliance, consistency, and accuracy in the delivery of quality service.*[44]

APCO's *Minimum Training Standards for Public Safety Telecommunicators*, APCO ANS[45] 3.103.2-2015, further states, "[t]he Agency shall provide the Telecommunicator with an overview of its quality assurance and/or quality improvement process(es) used to recognize excellence, identify areas needing improvement, and ensure performance measures are met."[46]

In April 2015, APCO and NENA published their *Standard for the Establishment of a Quality Assurance and Quality Improvement Program for Public Safety Answering Points* (APCO/NENA ANS 1.107.1.2015). The QA/QI process is designed to measure "the quality and performance of the service provided. This process includes, but is not limited to, the following criteria:

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[42] http://www.9-1-1magazine.com/The-Numbers-Game/

[43] Institute for Telecommunications Services, the research and engineering branch of National Telecommunications and Information Administration a part of the U.S Department of Commerce.

[44] https://www.apcointl.org/doc/911-resources/apco-standards/75-minimum-training-standards-for-public-safety-telecommunicators/file.html, sections 1.2.21 – 1.2.23, page 14 of 37.

[45] American National Standard

[46] https://www.apcointl.org/doc/911-resources/apco-standards/75-minimum-training-standards-for-public-safety-telecommunicators/file.html, section 2.2.16, pages 16 and 17 of 37.

- Analysis of performance trends;
- Compliance to protocols and standard operating procedures;
- Customer Service;
- Optimizing the use of agency resources;
- Overall performance of each employee; and
- Reviewing the operation as a whole"[47]

The standard further states that "PSAP agencies shall, in the normal course of business, review at least 2% of all calls for service. Where the 2% factor would not apply or be overly burdensome due to low or excessively high call volumes, agencies must decide on realistic levels of case review."[48]

IAED has established minimum case (call) review rules for agencies using the Academies' protocols:

- "Agencies whose call volume is between 43,333 and 500,000 will be required to audit a percentage ranging between 3% and 1% ...
- Agencies whose call volume is below 43,333 will be required to audit 1,300 cases (25 per week)
- Agencies whose call volume is below 1,300 will be required to audit 100% of their cases
- Agencies whose call volume is above 500,000 will be required to audit 1% of their cases"[49]

The minimum review rules for call volume apply to those incidents handled through protocol usage, which eliminates those calls that are self-initiated, for example.

CALEA's *Standards for Public Safety Communications Agencies,* section 6.1.5, states:

> *A written directive establishes a quality assurance program, and includes at a minimum:*
> *a. documented quality checks of employees' call handling and dispatch performance;*
> *b. frequency and quantity of quality checks;*
> *c. process for telecommunicator feedback; and*
> *d. management reporting and review process.*

Commentary adds that the "quality checks should cover all aspects of the employee's performance to ensure compliance with agency directives..." This is a mandatory standard for agencies seeking accreditation.

NFPA 1221 section 7.7 states, "Communications centers shall establish a quality assurance/improvement program to ensure the consistency and effectiveness of alarm processing." Explanatory material in Annex A states, "The purpose of the quality assurance program is to follow up

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[47] https://c.ymcdn.com/sites/www.nena.org/resource/resmgr/Standards/APCO-NENA_ANS_1.107.1.2015_Q.pdf, section 5.4.1, page 23 of 80.
[48] Ibid., section 5.3.1.2, page 22 of 80.
[49] http://www.emergencydispatch.org/AccredCalculator

and review calls with communications center employees, improve procedures, and make the corrections needed to improve service and response. Generally accepted statistical methods should be used when selecting calls for review."

Currently Cumberland County 9-1-1 supervisors conduct ten QA/QI reviews per week, while Fayetteville 9-1-1 has a QA specialist responsible for QA/QI reviews. As both 9-1-1 centers utilize IAED protocols, IAED review rules must be met. As both 9-1-1 centers' call volumes are below 500,000, a sliding scale[50] is used. For example, an incident volume of 300,000 for Cumberland County 9-1-1 yields an audit percentage of 1.876 percent or 5,628 audits annually / 108 audits weekly. An incident volume of 310,000 for Fayetteville 9-1-1 yields an audit percentage of 1.832 percent or 5,680 audits annually / 109 audits weekly. It is unlikely that the number of audits required is consistently conducted due to other job responsibilities and time constraints.

9.1. RECOMMENDATIONS

A well-developed and defined QA program ensures consistency of operations and identifies problems and corrective actions to resolve the issues. In today's 9-1-1 environment, having a QA program is the recognized standard of care. Through a QA program, calls are reviewed, feedback on performance is provided, and compliance with policies, procedures, standards, and best practices is ensured.

"Each call assessment should reflect the collective effort of the agency to efficiently, accurately, reliably answer calls – not as scrutiny of individual performance."[51]

Gaps in employee knowledge, consistency, or procedures are likely to be uncovered through a uniform, objective QA evaluation process, which will ultimately provide opportunities for improvement.

Mission Critical Partners recommends the development of a shared QA/QI program when co-location is achieved. As noted above, Mission Critical Partners recommends the creation of a shared training/QA coordinator or supervisor position. The formalized QA/QI program and training/QA coordinator or supervisor position would need to be addressed in any governance agreement between the City and County to identify fiscal and personnel responsibilities. A well-developed governance agreement should be able to address any concerns the organizations may have regarding oversight responsibilities. If a shared coordinator/supervisor position is not created, a QA supervisor position may be necessary, dependent on identified responsibilities and support staff allocations.

All responsibility for evaluating calls and dispatches, and reviewing with employees, should be assigned to QA/QI program personnel, removing supervisors from the process. Employees often construe meetings with supervisors as negative, even though that is not the intent. A peer-to-peer review is better accepted. In addition, supervisory staff have operational responsibilities that demand their time and energy; removing QA reviews with employees allows supervisors to focus on their primary

[50] http://www.emergencydispatch.org/AccredCalculator
[51] http://www.powerphone.com/2013/11/qa-call-assessment-one-for-all-not-all-for-one/

responsibilities. This does not imply that supervisors are not aware of the outcomes or of any issues, just that they are not responsible for reviewing the calls with employees.

From past experience, one person, on average, can review ten structured protocol calls in a standard work day, which includes time for review with telecommunicators. In this environment, not all calls are reviewed with staff members; primarily those with issues or "above and beyonds." However, each employee should have at least monthly contact with a QA reviewer. Mission Critical Partners recommends a complement of two to three full-time QA positions. Currently, Fayetteville 9-1-1 has a QA specialist, while supervisors are responsible for QA in Cumberland County 9-1-1. This recommendation then requires two additional positions, which are over and above the current authorized telecommunicator positions. These staff positions would also review radio dispatches and radio traffic. These staff positions can be supported by training personnel as time allows. Ideally, these positions would report to the training/QA coordinator.

A formalized QA/QI program will demonstrate the City's and County's commitment to accountability and quality service in handling emergency calls for service.

10. STANDARD OPERATING PROCEDURES

SOPs are a critical component of a communications center's operations as they serve to reduce the possibility of human error and provide guidelines for employees to follow. SOPs create consistency in the internal and external functions of the communications center, which is paramount when dealing with callers and emergency services personnel. The more consistent the process or procedure is from person to person, the less chance there will be for problems or issues with quality.

Well-developed SOPs provide the following:

- Guidance – provides information/direction during the course of one's assigned duties
- Protection – provides liability protection if followed
- Accountability – to acknowledge responsibility to the public and organizations served
- Expectations – provides employees with what the organization expects of them
- Training – provides a basis for knowledge of organizational structure, operation, maintenance, etc.

SOPs also provide a method of communication. As improvements are made to operations or operational or technical processes, SOPs are updated and each update requires new training. This provides a method to communicate the process changes to all employees.

SOPs also ensure a communications center can meet the expectations of first responder agencies. SOPs can be developed to ensure a communications center's policies and procedures align with responder agencies' while considering the requirements and limitations of the center itself.

Both Fayetteville and Cumberland County have SOPs or standard operating guidelines (SOGs) for use within their respective center.

10.1. RECOMMENDATIONS

Mission Critical Partners recommends the development of a working group, prior to co-location, to review both agencies' SOPs and streamline operational processes where possible. This would not affect individual responder agency procedures, but rather those policies and procedures that would affect supervisors and telecommunicators in a co-located environment, such as call answering priorities, supervisory responsibilities, and relief for meals. The working group should include equal representation from both Fayetteville and Cumberland County. Representatives could include the 9-1-1 coordinators, supervisory personnel, training officers, and/or telecommunicators from both agencies. Care should be given not to create such a large working group that it becomes ineffective and achieving goals impossible.

Consideration should be given to policies and procedures in the areas of administrative, operations, and facilities. As the supporting entities remain the same (City and County), changes will likely not be needed in the area of human resources. Table 2 provides a list of suggested content that could be applicable to a co-located center. The 9-1-1 centers are encouraged to expand this list.

Table 2: Suggested SOP Content

Administrative	
Mission Statement	Internal/External Correspondence
Code of Ethics	Media Contacts/Press Releases
Organizational Structures	Release of Recordings
Organizational Charts	FCC/Radio Operation
Training Parameters	Dress Code
Roles and Authority	Computer/Internet Use
Agency Files	Lost or Damaged Property
Complaints	
Operations	
General Rules	Environmental Health
Answering Procedures	Emergency Management
Protocol Usage	Radio Communications
Protocol Suspension	Paging
Street/Road Closings	Emergency Media Notification
Premise Information	Radio System Operations
Exigent Circumstances	Records Management
Telematics Calls	Internal Notifications
Language Line	Severe Weather
Emergency Services for the Deaf	Repossessions
Manual Operations	Incident Cancellation Requests

Mobilization of Personnel	Burning Bans
Major Emergency Incidents	Scene Safety
Critical Incidents	Special Events
Homeland Security	
Facilities	
Security	Alternate Power Sources
Visitors	Equipment Malfunction Notifications
Facility Maintenance	Radio System Failure
Emergency Evacuation of PSAP	Emergency Operations

10.1.1. SMART

SMART is an acronym used to describe how objectives should be set. Originally SMART was used in setting personal performance goals or for project management, yet the concept can also be applied to SOPs, which are used to guide actions. While there is no true consensus as to what the acronym letters stand for, a general acceptance is as follows:

- Specific
- Measurable
- Achievable
- Realistic
- Time

An individual standard should specify what needs to be achieved, be able to be measured as to whether the standard is met, be achievable, be realistic (can the standard be met with the resources available), and describe a time frame. Time will not need to be specified in each SOP. Some SOPs may require annual reports, weekly tests, or occur on a daily basis. "Time" can also mean trackable, tangible, or traceable.

The SMART approach is a test to be carried out after writing a standard to test its validity; it is not an order to be followed or a constraint to be applied when developing goals or objectives. While not all standards will fit this mold, following this model leaves little doubt as to what is expected.

PART 2—TECHNOLOGY AND EQUIPMENT

11. TECHNICAL ASSESSMENT

The existing systems in use at Fayetteville 9-1-1 and Cumberland County 9-1-1 are good products that provide a viable base for their migration, or similar product, into a new co-located facility.

11.1. GENERAL OBSERVATIONS

11.1.1. Fayetteville

Workstation console furniture is from Evans. Each workstation, depending on the position, in the 9-1-1 center has four to eight ~24-inch monitors to view customer premise equipment (CPE), CAD system, and radio system information. Workstations are fed power and communications cabling distribution through a raised floor. While each workstation has individual environmental controls, the 9-1-1 center itself experiences heat issues. The use of supplemental air is often needed to assist the cooling system.

There are several large format (~42-inch) wall-mounted monitors in the 9-1-1 center for news and television (TV) programming via cable television (CATV) connection. A few positions monitor closed-circuit TV (CCTV) building surveillance feeds. In the current configuration, not all monitors can be seen. Some workstations are located such that telecommunicators' backs are to the monitors.

Figure 5: View of Consoles

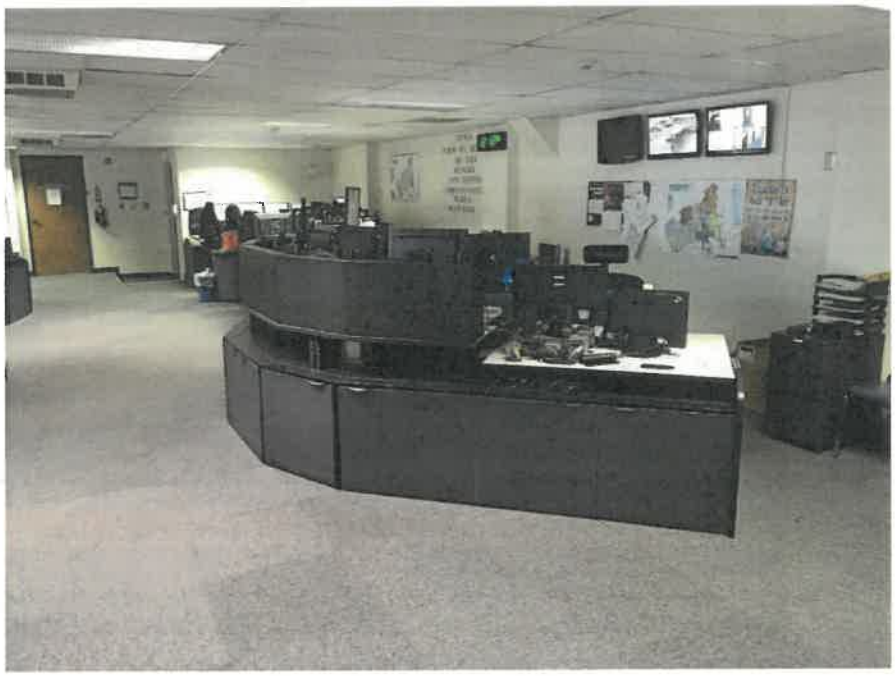

Figure 6: View of Supervisor's Console

Power is supplied through a 50 kilovolt-ampere (kVA) Liebert® Npower™ uninterruptible power supply (UPS). The Liebert® UPS unit in the 9-1-1 center equipment room supports common equipment and workstations. The UPS is backed up by the building's emergency generator, which is not dedicated to the 9-1-1 center.

A Spectracom NetClock provides network time synchronization for the 9-1-1 center.

11.1.2. Cumberland County

Workstation console furniture is from Russell Bassett. Each workstation, depending on the position, in the 9-1-1 center has six to eight ~24-inch monitors to view CPE, CAD system, and radio system information. Workstations are fed power and communications cabling distribution through a raised floor. Each workstation has individual environmental controls.

There are several large format (~42-inch) wall-mounted monitors in the 9-1-1 center for news and TV programming via CATV connection. In the current configuration, not all monitors can be seen. Some workstations are located such that telecommunicators' backs are to the monitors.

Figure 7: View of Console Workstation

Figure 8: View of Console Workstation (2)

Power is supplied through a 40 kVA APC Symmetra UPS. The Symmetra UPS unit in the 9-1-1 center equipment room supports common equipment and workstations. The UPS is backed up by the building's Cummins emergency generator, which is not dedicated to the 9-1-1 center.

A Spectracom NetClock provides network time synchronization for the 9-1-1 center.

11.1.3. Recommendations

Fayetteville 9-1-1 has 15 console workstations, five of which support call taking only and ten of which support both call taking and dispatch functionality; there is a sixteenth position in the EOC. Cumberland County 9-1-1 has ten console workstations, all of which support both call taking and dispatch functionality.

Mission Critical Partners recommends 30 console workstations in a co-located environment. The additional five workstations would be allocated to support future growth and training.

11.2. CUSTOMER PREMISES EQUIPMENT

11.2.1. Fayetteville

The City recently converted from Intrado's Positron VIPER CPE system to the CenturyLink One i3 solution, manufactured by Intrado. The new solution is a hosted system that provides enhanced call taking efficiencies, high availability, automatic call distribution (ACD), and remote deployment capabilities. The cloud-based service provides users with the same or similar services as an on-site server-based application. The new system is Next Generation 9-1-1 (NG9-1-1)-compatible.

This new system provides call accounting information through Emergency Call Tracking System (ECaTS) software utilized by the State of North Carolina[52]. It also provides ANI and ALI data for use by the call takers and the Intrado's Positron management information system (MIS) solution.

The City has 15 licensed call taker positions. These positions are interfaced with a dedicated computer equipped with a headset, Genovation 24-button keyboard, and a supervisor plug-in port.

The City has seven 9-1-1 trunks and three administrative lines.

11.2.2. Cumberland County

The County currently uses Intrado's Positron VIPER CPE system, yet has plans to convert to the CenturyLink One i3 solution.

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[52] The North Carolina 911 Board (911 Board), through an agreement with Direct Technology, provides ECaTS to each primary PSAP in the state. The 911 Board uses this system to verify compliance with standards.

The County has ten licensed positions on the VIPER system. These positions are interfaced with a dedicated computer equipped with a headset, Genovation 24-button keyboard, and a supervisor plug-in port.

The County has twelve 9-1-1 trunks (six wireless and six wireline) and ten administrative lines.

11.2.3. Recommendations

Based on identified staffing needs, the City will still require a minimum of 15 workstations and the County will still require a minimum of 10 workstations. Each workstation currently supports 9-1-1 call taking, although not all support radio. In a co-located environment, the CPE solution should be configured to support 9-1-1 call taking at each workstation.

Providing text-to-9-1-1 service is often considered the first step toward NG9-1-1. Increasingly, wireless and voice over Internet Protocol (VoIP) subscribers expect that the PSAPs that serve them are capable of providing this life-saving service. Neither Fayetteville 9-1-1 nor Cumberland County 9-1-1 provide this service. Mission Critical Partners recommends that both Fayetteville 9-1-1 and Cumberland County 9-1-1 take the necessary steps now to deploy a text-to-9-1-1 capability. Mission Critical Partners recommends contracting with a cloud-based service (via Internet access) from Intrado with a backup stand-alone computer on-site. This establishes the ability to receive texts, without utilizing existing 9-1-1 trunks, at a relatively low cost. As a backup, additional circuits may be installed and dedicated for text-to-9-1-1 service.

In a co-located environment, it is expected that both Fayetteville 9-1-1 and Cumberland County 9-1-1 will continue to utilize the same CPE. Based on recent and expected implementation, this will likely be the CenturyLink One i3 solution. As such, there should be little impact to staff operations. Proper planning will be necessary, however, to ensure proper configurations of the CPE to maximize efficiencies of a co-located center.

Mission Critical Partners recommends that a 9-1-1 trunk utilization study be conducted on a regular basis to ensure adequate trunking is in place to support the call volume.

11.3. COMPUTER AIDED DISPATCH

In March 2012, Fayetteville and Cumberland County entered into an MOU that allows both 9-1-1 centers to operate on a shared CAD system. The current CAD system is from SunGard, which operates OSSI software version 15.1.

Cumberland County Information Technology (IT) is responsible for maintaining the CAD system environment. Cumberland County also has responsibility for the accuracy of CAD software and maps in the training and live CAD environment. Fayetteville IT is responsible for maintaining a current records management system (RMS) environment to facilitate compatibility with the CAD system.

Fayetteville IT supports all network issues within Fayetteville 9-1-1 and provides updates to Cumberland County IT as needed.

All updates require prior approval from the CAD Steering Committee and are implemented in the training environment to allow for testing prior to being promoted to the live system.

The MOU will continue until terminated by either party. The terminating party has to provide a minimum of 18 months notification of intent to terminate to allow for funding allocation. The City and County agreed to seek ways to maintain service levels to the community in the event the MOU is terminated.

11.3.1. Fayetteville and Cumberland County

Fayetteville 9-1-1 and Cumberland County 9-1-1 have 20 and 15 CAD licenses, respectively.

The CAD system interfaces with SunGard's RMS, an OSSI geographical information system (GIS), FIREHOUSE reporting software, IAED's ProQA software, and NCIC/DCI.

While 9-1-1 center staff reported some technology support issues with City and County IT staff, staff are overall satisfied with the functionality and features of the current CAD system.

11.3.2. Recommendations

Mission Critical Partners has no recommendations regarding the shared CAD system, although additional licenses will likely be needed in a co-located center, especially if administrative support personnel increase. There is concern, however, regarding the technology support received from the IT departments. Whether the issues are real or perceived, this should be addressed prior to transitioning to a co-located environment. Shared, dedicated IT support is discussed in section 14, Technology Support.

11.4. LOGGING RECORDER

11.4.1. Fayetteville

Fayetteville 9-1-1 uses a 120-channel Eventide NexLog 740 logging recorder from Carolina Recording. Phone and radio communications, as well as screen captures, are recorded. Fayetteville 9-1-1 is satisfied with the functionality and features of the recording system.

11.4.2. Cumberland County

Cumberland County 9-1-1 uses a 96-channel Inform V6 logging recorder from Nice Systems. Phone and radio communications are recorded. While the Inform V6 is capable of screen-captures, the County's system is not configured for it. Cumberland County 9-1-1 is satisfied with the functionality and features of the recording system.

11.4.3. Recommendations

In a co-located environment, a single logging recorder system is preferable. Mission Critical Partners recommends that Fayetteville 9-1-1 and Cumberland County 9-1-1 review the two systems in use, as well as other products if desired, to select a single vendor solution. The system should be NG9-1-1-compatible. It addition to current features, the system should allow geofence search capabilities and provide enhanced reporting and call evaluation functions, instant recall, advanced analytics, and flexible archive capabilities.

11.5. GEOGRAPHIC INFORMATION SYSTEM

11.5.1. Fayetteville and Cumberland County

Cumberland County GIS provides all GIS data layers for 9-1-1 operations through the OSSI software. Cumberland County GIS utilizes the Environmental Services Research Incorporated (Esri) ArcGIS software platform.

11.5.2. Recommendations

While today's 9-1-1 centers use GIS data for call handling and dispatching, in an NG9-1-1 system, GIS data is used for location validation and routing of emergency calls to the proper PSAP, and is used to locate wireless 9-1-1 callers. GIS data becomes the core database in NG9-1-1. While GIS data may be "good enough" to meet the demands of call handling and dispatch, the quality and demands of GIS data greatly increase in NG9-1-1.

High quality, current, accurate, and standardized GIS data is vital to NG9-1-1. NENA has developed many GIS-related standards and best practices as a result. NENA 02-014, *GIS Data Collection & Maintenance*, which is currently being updated, provides "PSAP management, vendors, and other interested parties necessary guidelines for collecting and maintaining GIS data."[53] High-level testing of available GIS data is addressed in NENA 02-010, *Standard Data Formats for 9-1-1 Data Exchange & GIS Mapping*. Esri database creation and maintenance should include conformance to NENA 02-010, if it does not already.

The NENA standard is a 98 percent match rate between GIS, Master Street Address Guide (MSAG), and ALI databases before using GIS data in a NG9-1-1 system.[54] Having GIS, MSAG, and ALI datasets in agreement is crucial to providing telecommunicators with the information they need to correctly verify the location of a caller, understand where units are available for dispatch, and provide efficient emergency response. Comparing GIS data to the MSAG and ALI data uncovers discrepancies between the databases. These discrepancies may be used to determine data quality issues. Discrepancies

[53] http://www.nena.org/?page=gisdatacollection
[54] Reference NENA 71-501, Synchronizing Geographic Information System Databases with MSAG & ALI, Version 1.1, September 8, 2009 at: https://www.nena.org/?page=synch_gis_msag_ali

uncovered in GIS, MSAG, and ALI data will influence the proper display of call locations on CAD system map displays. NENA 71-501, *Synchronizing Geographic Information System Databases with MSAG & ALI,* walks one through the synchronization process and should be used as a guide to develop a plan for regularly executing the synchronization and comparison process.

NENA has other standards and best practices directly related to GIS data requirements in NG9-1-1 under development. These include *NG9-1-1 GIS Data Model*[55]; NENA-STA-005.1-201X[56], *Provisioning and Maintenance of GIS Data to ECRF/LVF;* and the next revision of *Detailed Functional and Interface Standards for the NENA i3,* to be renumbered as NENA-STA-010[57].

Mission Critical Partners recommends that Cumberland County confirm that the GIS data is compliant with NENA standards and best practices and is verified through routine synchronization and audits.

11.6. MASS NOTIFICATION SYSTEM

11.6.1. Fayetteville

The Fayetteville Police Department uses Reverse 911® marketed by Airbus DS Communications to notify residents in a defined geographic area during emergency incident. Fayetteville 9-1-1 does not use a reverse notification system.

11.6.2. Cumberland County

Cumberland County uses CodeRED service by Emergency Communications Network for reverse notification. CodeRED is a high-speed, web-based, emergency and mass notification system. The service allows a 9-1-1 center to send phone calls, text messages, emails, and social media messages through the public safety alerting application, CodeRED Mobile Alert. The system can also integrate with IP-based devices such as digital signs. CodeRED is a Software as a Service (SaaS) solution, and does not require individual agencies to purchase or lease hardware or phone lines to access the system.

11.6.3. Recommendations

While mass notification systems may not see extensive use, they do serve a valuable purpose. Mass notification systems were used in critical incidents such as the Sandy Hook School shooting, the Boston Marathon bombings, and the Charleston AME Church shooting. Mass notification systems can also be used to notify residents of severe weather and the need to evacuate a particular area.

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[55] http://www.nena.org/?page=NG911GISDataModel
[56] https://www.nena.org/news/238115/NENA-ECRFLVF-Standards-Available-for-2nd-Public-Review-and-Comment.htm
[57] http://www.nena.org/?page=i3_Stage3

The major forces driving this market are the growing need for public safety, increasing awareness for emergency communication solutions, requisite for business continuity, and the trend towards mobility is rising. Hence, the adoption of mass notification solutions is increasing. Also, the enterprises are expected to follow business continuity and disaster recovery and public safety compliance standards which are boosting the sales of mass notification solutions. Most of the enterprises across different verticals are actively formulating policies and procedures to ensure operational safety and minimizing loss of life and loss of property in case of emergencies.[58]

Mission Critical Partners recommends that a reverse 9-1-1-type mass notification system is available within the co-located environment, particularly as Fort Bragg is partially located in Cumberland County. As Cumberland County already uses CodeRED, Mission Critical Partners recommends this system remain. The Fayetteville Police Department can continue to utilize Reverse 911® for its own purposes.

11.7. CONNECTIVITY

11.7.1. Fayetteville

Fayetteville 9-1-1 is supported by Fayetteville IT. The IT department provides connectivity to cloud-based services and standard administrative applications.

Fayetteville 9-1-1 has Internet services provided by City IT through a state contract.

A dark fiber connection from the Public Works Commission to the Cumberland County 9-1-1 provides connectivity for shared services such as the CAD system.

CenturyLink serves as the LEC and provides connectivity via a multi-protocol label switching (MPLS) circuit as part of the CenturyLink One i3 solution.

11.7.2. Cumberland County

Cumberland County 9-1-1 is supported by County IT. The IT department provides connectivity to cloud-based services and standard administrative applications. According to staff, County IT has difficulty providing the required amount of support for mission-critical operations, resulting in non-IT personnel, such as the 911 Director, performing support.

Cumberland County 9-1-1 has Internet services provided by County IT through a state contract.

A dark fiber connection from the Public Works Commission to Fayetteville 9-1-1 provides connectivity for shared services such as the CAD system.

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[58] http://www.marketsandmarkets.com/PressReleases/mass-notification.asp

CenturyLink currently provides all CAMA trunks for 9-1-1 call delivery. Cumberland County is in the process of transitioning to the CenturyLink One i3 solution. CAMA trunks will be replaced with CenturyLink MPLS circuits for connectivity.

11.7.3. Recommendations

Services to a new co-located facility should be constructed in diverse and redundant paths. This should include connectivity to City IT and County IT, the backup 9-1-1 center, the Internet, radio towers, and all cloud-based services. The preferred method of communicating would be through fiber-optic cabling. A partnership between the City and the County, and possibly neighboring PSAPs would allow for increased redundancy and alternate pathways for resiliency.

Mission Critical Partners recommends the continued use of the Public Works Commission's fiber network for connectivity. Further investigation is required to discover all available commercial fiber providers able to meet diverse and redundant connectivity options.

Sharing of all communications media will provide additional pathways, allowing the co-located facility to overcome any failures of connectivity components.

In the long-term, expanding the fiber connectivity will become important and a necessary step towards the implementation of NG9-1-1. Regardless of whether the fiber-optic cable is owned or leased, it is imperative that such a capability is implemented or the full potential of NG9-1-1 will not be realized.

A fiber-optic connection to the backup facility would allow for seamless failover should the primary location be taken out of service, or to overflow in the event of increased demand. The fiber connection would also provide a level of performance that is equal to the primary co-located facility, with degradation.

Fayetteville 9-1-1 and Cumberland County 9-1-1 have expressed the desire for the 9-1-1 trunking configuration in a co-located facility to remain as it is today; trunking separated by jurisdiction. Utilizing available technology and proper configuration, telecommunicators in a co-located environment could answer any incoming 9-1-1 trunk line, if this is the direction the centers chose to go. Fayetteville 9-1-1 and Cumberland County 9-1-1 are encouraged to completely explore all impacts when configuring CPE equipment to maximize the efficiency of the telecommunicators in the call taking configuration.

12. TECHNOLOGY SUPPPORT

Fayetteville 9-1-1 and Cumberland County 9-1-1 staff both expressed concerns with the current technology support of their mission-critical applications. Currently, City IT supports all technology for Fayetteville 9-1-1 with the exception of the CAD software. County IT supports all technology for Cumberland County 9-1-1, including the CAD software for both 9-1-1 centers. Often staff from the 9-1-1 centers' find themselves supporting the technology that is used in their respective center because of the highly specialized nature of the applications and technology.

Technology is and will continue to be a key component to the success of any 9-1-1 operation. Each technology system in use in a 9-1-1 center provides a critical lifesaving function to support emergency response. The technology must remain operational 24 hours a day, 7 days a week. Often, general IT support is not available to meet the demands of 9-1-1 center operations. It has become a common trend among larger 9-1-1 centers to employ full-time technology staff to support 9-1-1 operations. This allows technology staff to specialize in the equipment associated with a 9-1-1 center, such as NG9-1-1 applications. This specialization promotes improving operational efficiency through the use of technology.

Mission Critical Partners recommends the development of a shared 9-1-1 IT program when co-location is achieved. The formalized 9-1-1 IT program would need to be addressed in any governance agreement between the City and County to identify fiscal and personnel responsibilities. The 9-1-1 IT staff could be charged with support of the network, CPE, CAD system, and radio systems, to name a few, depending on their area of expertise. IT staff's skills may need to be developed over time. A shared 9-1-1 IT program will maximize investment and reduce the workload for both City IT and County IT.

13. RADIO CONSOLE SYSTEMS

Fayetteville and Cumberland County operate disparate radio systems. Fayetteville 9-1-1 operates on an 800 megahertz (MHz) core from the City of Durham, which was turned up in the fall of 2015. Cumberland County 9-1-1 operates on the State's 800 MHz Voice Interoperability Plan for Emergency Responders (VIPER) system. Both systems are Project 25[59] (P25)-compliant. Both 9-1-1 centers operate Motorola MCC7500 radio consoles.

13.1. CONSOLE SYSTEM CONFIGURATION

The MCC7500 console systems in place at Fayetteville 9-1-1 and Cumberland County 9-1-1 are recent upgrades and should be migrated to a new co-located facility.

[59] P25 is a suite of standards from APCO for interoperable digital two-way radio communications.

The radio systems in Fayetteville and Cumberland County have a technical limitation that allows each system to have a direct, proprietary wireline connection to a single radio system. Due to this limitation, there are two viable options for radio consoles at the co-located facility to allow console connectivity from both console systems to both radio systems: a single console system using a console sub-system interface (CSSI) or migration of both console systems. If both console systems are migrated to the co-located center, CSSI could still be implemented on one or both systems to provide additional functionality on secondary networks.

CSSI provides a standards-based connection between the P25 radio systems and offers additional functionality when compared to over-the-air solutions that are currently in use. The CSSI product offered by Motorola supports the following features:

- Console Priority
- Clear or Encrypted Group Calls
- Push-to-talk (PTT) Identification (ID) Display
- Emergency Alarm
- Emergency Group Call
- Emergency Cancel
- Phase 1 Frequency Division Multiple Access[60] (FDMA) and Phase 2 Time Division Multiple Access[61] (TDMA) Group Call
- Phase 1 FDMA and Phase 2 TDMA Unit-to-Unit Call
- Announcement Group Call
- Call Alert

Perhaps the most important feature provided by the CSSI is console priority, providing console positions higher priority than subscribers on the system. If a console and a subscriber try to key up the same talk group simultaneously, the console would receive the PTT request.

CSSI has limitations when compared to a direct, proprietary connection. Unit-to-unit calls and call alert features would only be available between radios on the home system and the consoles. Also, the following features are not supported over the CSSI from Motorola:

- Radio Inhibit – Disables a radio believed to be improperly operating on the network. This feature can be performed at the network management terminal.
- Status Update – Reports the specific radio site to which a radio is affiliated. This feature can be performed at the network management terminal.
- Radio Unit Monitor – Remote keying of a user radio upon request from a dispatch operator to listen to activity at the user location.

[60] FDMA is a channel access method that gives users an individual allocation of one or several frequency bands. FDMA coordinates access between multiple users. https://en.wikipedia.org/wiki/Frequency-division_multiple_access

[61] TDMA is also a channel access method. TDMA allows several users to share the same frequency channel by dividing the signal into different time slots. https://en.wikipedia.org/wiki/Time_division_multiple_access

- Dynamic Dual-Mode Talkgroups (supported, but not recommended by Motorola) – Supports talkgroups that can dynamically switch between P25 Phase I and P25 Phase II. Both Fayetteville and Cumberland County operate P25 Phase I systems, and therefore this feature is not needed.

To Mission Critical Partners' knowledge, none of these features are utilized by either Fayetteville or Cumberland County.

13.1.1. Single Console System with CSSI

In a single console system, one of the two radio systems would need to be selected for the direct, proprietary wireline connection. This system would be considered the "home" radio system by both Fayetteville 9-1-1 and Cumberland County 9-1-1 radio console positions. The CSSI-connected radio system would be designated as the CSSI system.

Depending on which system is chosen as the home system, CSSI system functionality would be gained for one of the 9-1-1 centers. However, functionality could be lost for the other 9-1-1 center on what is currently their home system. As noted above, there appear to be no known features utilized by Fayetteville or Cumberland County that would be lost.

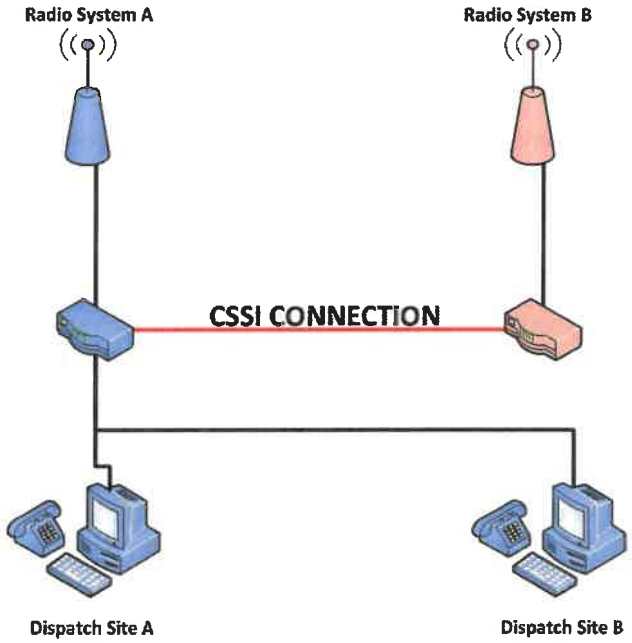

Figure 9: Single Console System with CSSI

In the example in figure 9, radio system "A" is chosen as the home system. Dispatch site "A" would maintain their proprietary wireline interface to radio system "A" and would gain CSSI functions on radio system "B." Dispatch site "B" would gain the benefits of a proprietary wireline interface on radio system "A," but would lose functionality with the CSSI connection to system "B."

13.1.2. Migration of Both Console Systems

The migration of both console systems would entail co-locating both radio console systems in the co-located facility and moving the termination points of the existing fiber connections to the new facility. This option would provide both 9-1-1 centers the same console functionality in place today. The cost to relocate both radio console systems is estimated at $250,000, not including the new radio consoles that would be needed for the additional workstations that are recommended.

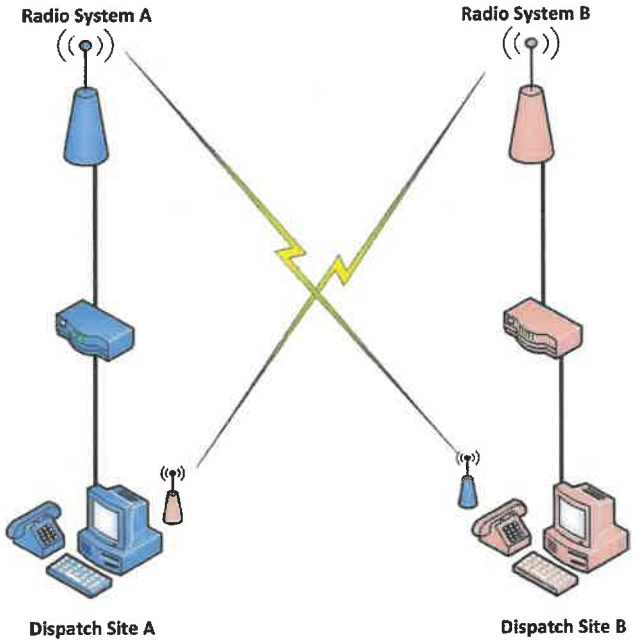

Figure 10: Maintaining Two Console Systems

Fayetteville 9-1-1 currently operates on the VIPER system with portable radios, while Cumberland County 9-1-1 currently operates on Fayetteville's system with control stations. The current control stations and portables used to talk across systems would also need to be maintained. Figure 10 depicts the two-radio console system configuration, using over-the-air means to talk across radio systems.

This configuration would limit the ability of the two radio console systems to provide backup dispatch capabilities for the other. In the event of a radio console system failure, the other system would lack a true console integration, with operators dispatching from a subscriber device over the air.

Mission Critical Partners recommends that a new antenna system for Cumberland County 9-1-1 control stations is implemented at the co-located facility to ensure the control stations achieve reliable over-the-air communications. The cost for a new antenna system is estimated at $50,000.

Mission Critical Partners also recommends the construction of a 100-foot tower at the co-located facility to provide appropriate mounting locations for control station antennas as well as Auxiliary Communications Services (ACS) equipment. The tower provides additional vertical spacing between antennas, minimizing interference. The estimated cost for a 100-foot self-supporting tower is $100,000.

The tower and foundation should be designed according to Telecommunications Industry Association (TIA)/Electronic Industries Alliance (EIA)-222-G standard. Expected current loading should be accounted for in the design along with anticipated future loading. If future loading is unknown, a growth factor of 50 percent additional loading should be used. The tower should be constructed of high-strength, hot-dipped galvanized steel and assembled according to manufacturer's guidelines. The tower should be grounded according to best industry practices, such as Motorola R56®, *Standards and Guidelines for Communication Sites*. A cable ladder and ice bridge should be installed at the time of tower construction.

Pre-construction work for the tower should be started as soon as commitment to constructing the new facility is made. A 1-A survey of the site should be conducted to determine exact placement of a tower. The results of the 1-A survey can be used to start Federal Aviation Administration (FAA) and environmental study work. A core boring and the resultant geotechnical report at the site can be provided to vendors during the procurement process, resulting in an accurate foundation design early in the process and minimizing unexpected costs.

Coverage should be tested inside the co-located facility for the portable radios used by Fayetteville 9-1-1 telecommunicators to access the VIPER system.

13.1.3. Two Console Systems with CSSI

Both agencies would gain console features on neighboring radio systems with the implementation of CSSI in the two-radio console system configuration. One of the more important features would be console priority. CSSI connections would not be dependent on over-the-air coverage, but would rely on a wireline connection to neighboring systems.

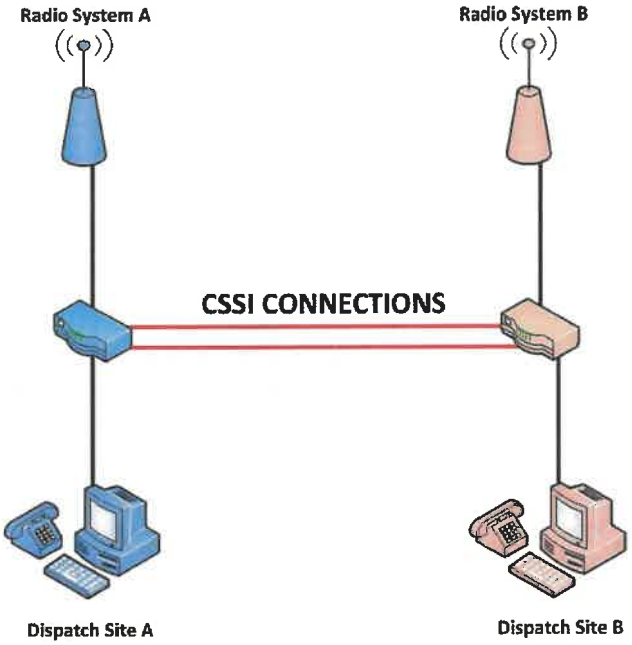

Figure 11: Two Console Systems with CSSI

Existing connectivity between each radio console system and its respective radio system could be used to provide the CSSI connection. Exact bandwidth requirements would need to be provided by the manager of each radio system. Depending on the bandwidth required, the capacity of the Ethernet connections may need to be increased.

The CSSI 8000 offered by Motorola provides for 24 talk paths on the neighboring radio system. This exceeds the present interoperability needs of both 9-1-1 centers. Each 9-1-1 center would need to implement its own CSSI connection. The cost for implementation of a single CSSI connection is $75,000. This cost is in addition to the previously listed costs for relocation, tower, and antenna systems, which would be incurred regardless of CSSI implementation.

13.2. CONSOLE WIRELINE CONNECTIVITY

Fayetteville 9-1-1 currently connects to the Durham core via a fiber connection. Mission Critical Partners recommends this fiber connection is replicated at the co-located facility.

Cumberland County currently connects to the VIPER system core via a leased Ethernet connection. The North Carolina State Highway Patrol, which manages the VIPER system, does not allow connection to the system via microwave. As a result, Mission Critical Partners recommends that the existing leased Ethernet connection is replicated at the co-located facility.

13.3. RECOMMENDATIONS

Mission Critical Partners recommends implementing CSSI connections while maintaining each console system. This solution allows each radio console system to maintain current operations on its primary radio system, while improving console functionality on the neighboring radio system. CSSI connections will also enable the two radio console systems to be better suited to serve as a redundant backup for the other.

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PART 3—FACILITY NEEDS

14. FACILITY REQUIREMENTS

The shared CAD system demonstrates the ability and willingness of the City and County to partner and collaborate in a way to best serve the community at large. Continuation and expansion of collaborative efforts will enable more shared services opportunities.

A new facility should be designed and built with a "last building standing" mindset. This means that the construction of each system can withstand any anticipated natural or man-made event, including disruption of utilities and services. A new 9-1-1 facility design should also include redundant and diverse systems to maximize fault-tolerance and resiliency. Mission Critical Partners recommends early investigation into the availability of a secondary power feed from an alternate power grid.

NG9-1-1 technology enables the sharing of resources, data, systems, and information across municipal, county, regional, and state boundaries. The integrity of an NG9-1-1 system requires agencies to consistently follow best practices and comply with applicable standards. Mission Critical Partners recommends alignment with NENA standards and best practices, particularly those related to i3 architecture, which provides the technological foundation for NG9-1-1 services.

The ability to share communications infrastructure is one of the first steps to deploying NG9-1-1 technology. Key strategic elements for implementing NG9-1-1 include the following:

- Emergency Services Internet Protocol (IP) network (ESInet) development and implementation
- Standards-based approach
- IP-capable PSAPs
- Geographic-based routing and database integration
- NG9-1-1-capable applications
- Convergence of networks and systems to implement system-of-systems
- Best practices approach

The average life cycle of emergency communications equipment and software is three to five years. Given this, it is important to remember that the design and construction period of this project may extend past the expected life of the existing equipment. New versions of, or upgraded equipment will be investigated as the project progresses in order to provide the state-of-the-art technology that a facility like this requires. The correct amount of time for this investigation would be calculated by working backwards from the anticipated move in date, minus the training time, minus the installation and testing time, minus the procurement processing time.

As the design effort moves forward, all support systems and spaces need to be planned to provide the highest level of redundancy and diversity. The mission-critical systems in 9-1-1 centers need to be fully

functional 24 hours a day, 7 days a week, with little downtime. Any unscheduled downtime can negatively affect performance.

The ability for telecommunicators and supervisors to have a good vantage point of wall-mounted informational monitors is critical. In addition to correct viewing angles, heights, and distances, the ability to control and change the images as needs arise will make those images more valuable. Images and information should also be available in administrative offices, situation rooms, training rooms, etc.

Workstation console layout should allow telecommunicators uncluttered and easy access to all 9-1-1 systems, while allowing support staff access to the equipment and cabling needed to keep them functioning at their peak performance. Mission Critical Partners recommends 30 console workstations in the operations area of a co-located facility.

A facility feasibility assessment is a critical process in determining support space requirements for a co-located emergency communications center. SCHRADERGROUP architecture conducted a programming exercise to determine the space requirements for a new facility. SCHRADERGROUP architecture also reviewed three candidate sites provided by the City and County as potential locations and conducted threat assessments for each.

SCHRADERGROUP architecture's report, which includes the programming study, threat assessments, building layouts and elevation alternatives, is provided under separate cover.

15. BACKUP CAPABILITY

The 2013 session of the General Assembly of North Carolina introduced amendments to General Statute 62A, Public Safety Telephone Service and Wireless Telephone Service, to include provisions for a backup PSAP (Senate Bill 797). Appendix A contains a copy of Senate Bill 797.

§ 62A-40, Definitions, adds 'Back-up PSAP.' Text is as follows: "*Back-up PSAP. – The capability to operate as part of the 911 System and all other features of its associated primary PSAP. The term includes a back-up PSAP that receives 911 calls only when they are transferred from the primary PSAP or on an alternate routing basis when calls cannot be completed to the primary PSAP.*"

§ 62A-42(a)(1), Powers and duties of the 911 Board, was rewritten to include "e*nsure individual PSAP plans incorporate a back-up PSAP...*" § 62A-42(a)(4) states, "To establish policies and procedures to fund advisory services and training for PSAPs, to set operating standards for PSAPs, *and back-up PSAPs* and to provide funds…"

§ 62A-46(a), Fund distribution to PSAPs, was amended to include the following: "*The Board may reduce, suspend, or terminate distributions under this subsection if a PSAP does not comply with the requirements of this Article.*"

§ 62A-46(e)(4a) was added and states, "*A PSAP must have a plan and means for 911 call-taking in the event 911 calls cannot be received and processed in the primary PSAP. The plan must identify the alternative capability of taking the redirected 911 calls. This subdivision does not require a PSAP to construct an alternative facility to serve as a back-up PSAP.*"

The General Assembly ratified the bill on July 3, 2014; the bill was approved on July 9, 2014. Changes to the Act are effective when the Act becomes law and apply to 9-1-1 fund distributions made on or after July 1, 2016.

In essence, all primary PSAPs are mandated to have a functioning backup PSAP that can perform the same tasks and duties as the primary. The North Carolina 911 Board has stated in its operating standards that the backup PSAP, when staffed, shall be capable of performing the emergency functions performed at the primary. The backup PSAP shall be separated geographically from the primary PSAP at a distance that ensures the survivability of the alternate center.

Today, Fayetteville 9-1-1 and Cumberland County 9-1-1 have independent backup and evacuation plans. Because the two 9-1-1 centers are physically located in different facilities, they are able to provide support to each other during an evacuation. In a co-located facility, if evacuation is necessary, both 9-1-1 centers would need to evacuate simultaneously.

There is the potential for natural and man-made disasters to threaten a co-located 9-1-1 center in Cumberland County. There is no location on which a new facility could be sited that is completely immune to threats. The critical nature of the 9-1-1 services provided by City and County requires that appropriate contingency planning be in place to ensure continuity of operations in the event the co-located center requires evacuation.

15.1. RECOMMENDATIONS

The City and County will need to consider their next course of action regarding a backup center and complying with general statute. Mission Critical Partners recommends that as part of the co-location and construction of the new facility, a comprehensive emergency contingency plan be developed to serve both 9-1-1 centers. Management staff from both 9-1-1 centers have experience developing their respective plans and should collaborate on a plan for the co-located center.

Fayetteville and Cumberland County would be prudent to consider the development of a backup facility while design and construction of a new co-located facility is underway. Equipment, such as workstation furniture, that is in use today, but will be procured new for the co-located center, could be repurposed for the backup center if useful life remains.

NENA-INF-017.2-2015, *Communications Center/PSAP Disaster and Contingency Plans Model Recommendation,*[62] provides guidance for developing a backup plan along with considerations for the

[62] https://c.ymcdn.com/sites/www.nena.org/resource/resmgr/Standards/NENA-INF-017.2.2015_Disaster.pdf

backup center. NENA recommends that the backup center be adequate to meet the basic needs of the 9-1-1 system, but does not have to be a mirror image of the primary communications center.

Fayetteville and Cumberland County staff have noted that the vacated Godwin-Falcon Fire Department, located at 7739 Godwin Falcon Road is a potential site for a backup center. While Mission Critical Partners was not commissioned to evaluate locations for a backup PSAP facility, generally buildings that were constructed as public use facilities offer potential to be converted to a backup facility.

When determining the location for the back-up facility, considerations should be made for the following:

- Location – The facility should be an adequate distance from the primary communications center so that localized emergencies will not affect both locations at the same time.
- Will the center be a hot-standby site? – That is, will the backup center be at an operational readiness state at all times or will it need to be set up upon activation, or can it be a multi-use facility that can be activated as the backup 9-1-1 center in the time of need.
- Access to telephone network – Are there adequate telephone trunking facilities to support the backup center?
- Access to network infrastructure – Is there a high-speed data network to support voice and data network needs?
- Commercial power access – Is there adequate commercial power to support a 24 hours a day, multi-day operation?
- Security of the facility – The facility must have adequate security when operating as the 9-1-1 center.

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PART 4—GOVERNANCE

16. GOVERNANCE

A simple definition of governance is "the way that a city, company, etc., is controlled by the people who run it."[63] "Governance structures…provide a foundation for public safety entities to collaborate, plan, and make decisions on strategies and operations that mutually support the investment, sustainment, and advancement of communications-related initiatives."[64]

In 2015, SAFECOM and the National Council of Statewide Interoperability Coordinators (NCSWIC) published the *Emergency Communications Governance Guide for State, Local, Tribal, and Territorial Emergency Communications Officials*[65]. While the Governance Guide is focused on interoperability and emergency communications (land mobile radio, broadband, 9-1-1/NG9-1-1, and alerts and warnings), there are characteristics that are applicable to governance of 9-1-1 centers, whether consolidated or co-located.

> *Effective governance structures are designed to operate in a collaborative manner with input from stakeholders across multiple disciplines, emergency communications functions, levels of government, and nongovernmental entities. Such structures allow for greater understanding and evaluation of existing communications capabilities such as plans, procedures, and equipment; identification of communications gaps; and development and implementation of a coordinated vision and plan to address and prioritize resources, investments, and staffing.*
>
> *The following characteristics, attributes, and activities are typical of effective governance structures:*
>
> - *Documented Authority: Establish formally with either an Executive Order or Legislation.*
> - *Balanced Representation: Align needs and priorities across various stakeholders that have a role in or are impacted by communications-related initiatives.*
> - *Properly-sized Membership: Determine appropriately sized membership that maintains inclusiveness while permitting a quorum to be met regularly.*
> - *Accountability: Determine whether stated roles, responsibilities, and membership requirements are met routinely.*
> - *Active Membership: Provide multiple means to participate in meetings (i.e., in-person, videoconference, and teleconference) while advancing information sharing and transparency by disseminating meeting minutes to members.*

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[63] http://www.merriam-webster.com/dictionary/governance
[64] http://www.dhs.gov/sites/default/files/publications/2015%20Governance%20Guide_Master_508c%20Final.pdf, page 9 of 51.
[65] http://www.dhs.gov/sites/default/files/publications/2015%20Governance%20Guide_Master_508c%20Final.pdf

- *Meeting Frequency: Maintain consistent meeting cadence. Members should collectively determine where meetings will be held and include consistent or alternating meeting location to increase attendance and participation depending on the size of the state or jurisdiction and residency of members.*
- *Scalable and Agile: Able to respond to changes in the emergency communications landscape.*
- *Rules of Engagement: Manage internal and jurisdictional differences (e.g., "checking egos at the door" and working toward common, universally beneficial goals).*
- *Transparent and Responsive: Maintain an open and transparent forum to promote greater stakeholder buy-in.*
- *Funding and Sustainment: Identify sustainable funding for existing and future emergency communications priorities.*[66]

There are essentially three types of boards or committees that could be established to represent Fayetteville and Cumberland County and the respective agencies: an executive board/committee, an advisory board/committee, or a steering committee. A hierarchal relationship may also be established between two or among all three.

An executive board/committee typically is formal, with full decision-making authority, and is the responsible entity. The roles of the board members are spelled out in by-laws, as are how member elections are held, and members removed. Members of the board are accountable to the stakeholders, in this case the public and responder agencies, for the performance of the 9-1-1 centers. The board may be responsible for approving the 9-1-1 centers' budgets. The board is intended to represent the best interests of the 9-1-1 centers, and may make strategic planning decisions.

An advisory board/committee is informal and is created on behalf of the 9-1-1 centers. This governance model focuses on the board's supportive role as one of providing strategic advice to management. Members of the board have no accountability for the performance of the 9-1-1 centers; only the quality of advice. An advisory board can make decisions, if so empowered, whereas an advisory committee generally has no decision-making authority. The informal nature of an advisory board gives greater flexibility in structure and management.

A steering committee is a body of high-level advisors tasked with governing an organization and providing it with guidance and direction. A steering committee is often responsible for creating working groups and choosing the right experts to complete a project or program. A steering committee provides guidance on strategic direction and can set overall operational parameters. A steering committee assists in operations-based decision-making. A steering committee can make policy decisions that affect operations as a whole, as well as provide budget reviews. Authority and responsibility fall between that of an executive board and an advisory board.

[66] Ibid., page 11 of 51.

In a co-located environment, both 9-1-1 centers remain as separate departments or divisions within their respective government structure. Staff continue to report to the same position within their organizational structure as they do today. This structure maintains the operational integrity of each center, yet may also make it more difficult to accomplish goals and objectives. Overall operational parameters of the center will need to be considered before changes are made, and any requisite approval processes followed. The autonomy limits the governance structures for the co-located environment to one of joint decision-making and oversight for only the facility and shared services, such as the equipment (e.g., CAD system, logging recorder) and any shared staffing arrangements (e.g., IT support, training/QA).

Both the City and County, independently, will continue to be the authorities for all administrative services (payroll and human resources) and support services (budget and finance, legal, and risk management) for their respective 9-1-1 center. That said, a supporting entity (primary responsible organization), with responsibility for accounts payable, accounts receivable, facility maintenance (cleaning, upkeep), etc., is needed for facility ownership, shared equipment ownership, and to employ shared staff.

> *"Governance bodies bring together multiple disciplines and jurisdictions to address common goals and objectives to improve emergency communications. As such, an MOU/MOA helps stakeholders establish the partnerships and authority needed to achieve an effective governance structure for public safety operable and interoperable communications. An MOU/MOA is important because it defines the responsibilities of each party in an agreement, provides the scope and authority of the agreement, clarifies terms, and outlines compliance issues."*[67]

"An MOU is important because it defines the responsibilities of each party in an agreement, provides the scope and authority of the agreement, clarifies terms and outlines compliance issues."[68] An IGA (or MOU/MOA) should establish the following:

- Span of authority and control for any board/committee
- Funding mechanisms, contribution percentages, board/committee authority, and a method for updating it or changing it as needed
  - Budget approval process for 9-1-1 centers
  - Establishment of reserve accounts to pay for critical systems replacements
- Administrative responsibilities for accounts payable and receivable
- Maintenance responsibilities for the facility
- Process for jurisdictional or agency complaint resolution and input
- Procurement processes and administrative responsibilities
- Ownership of technology purchased jointly

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[67] Ibid., page 19 of 51.

[68] http://www.dhs.gov/sites/default/files/publications/Writing%20Guide%20for%20a%20Memorandum%20of%20Understanding.pdf., page 13 of 16.

- SOP approval process for shared services
- Agreed-upon service levels to be provided, including any shared call taker resources
- Development of any shared staffing positions (IT support, training/QA)
- Span of authority for shared staffing positions
- Span of authority for supervisory oversight of co-located 9-1-1 centers
- Length of the agreement
- Withdrawal process and time requirements

The success of a co-location initiative will be in part be dependent on a well-thought out and well-written IGA or MOU/MOA.

16.1. RECOMMENDATIONS

"Governance structures provide the framework in which stakeholders can collaborate and make decisions that represent a common objective."[69] To be successful in meeting goals and objectives, direction and leadership are necessary, with a balance towards internal operations and external expectations. In a co-located environment, the appearance of past allegiances and/or hidden agendas can undermine trust. A well-defined governance structure can assure a united front and a cohesive team approach moving forward.

Mission Critical Partners recommends the formal development of an Executive Steering Committee. The Steering Committee's membership should reflect the partnership between the City and County, with representation from executive-level staff, legal, finance, procurement, and facilities, as well as representation from the public safety community. Other representatives can be brought in as needed, such as human resources.

The Executive Steering Committee would be responsible for the following:

- Oversight of strategic goals and any strategy modifications
- Reviewing co-location facility status updates, including issues and risks
- Monitoring achievement of major program milestones
- Directing resources to accomplish goals
- Providing leadership and support for the co-location initiative
- Supporting the co-location project and project components by communicating the vision and working to reduce barriers and mitigating risk
- Facilitating jurisdictional and interdepartmental collaboration
- Providing issue resolution across agencies
- Reviewing and approving the overall co-location procurement strategy
- Managing fiscal and political issues
- Ensuring the availability of funds

[69] http://www.dhs.gov/sites/default/files/publications/interoperability_continuum_brochure_2.pdf., page 2 of 5.

The beginning of this committee has already been established for this feasibility study.

In a co-located environment, Fayetteville 9-1-1 and Cumberland County 9-1-1 must provide equitable, efficient, and effective service to all law enforcement, fire, and EMS user agencies based on the dispatch plans for each agency. To do this, the 9-1-1 centers must be cushioned from the impact of political changes to the greatest extent possible.

To this end, and as the co-located environment nears reality, Mission Critical Partners recommends the establishment of a 9-1-1 Advisory Committee with oversight and decision-making authority for the shared services and facility, and input for operational parameters. Mission Critical Partners recommends the 9-1-1 Advisory Committee be a sub-committee of the Steering Committee. As the facility and co-location initiative is a joint venture between the City and County, decisions will still be necessary at the Executive Steering Committee-level after co-location is achieved, although the frequency will be greatly reduced.

9-1-1 Advisory Committee members should be high-level executives (chiefs or their representatives) of key stakeholder groups, with authority to make decisions on behalf of their agencies. "[T]he particular character and makeup of a governance group should reflect the institutional culture, needs, and specific challenges of the population it represents…it is critical that membership is committed to a unified vision that benefits the public safety community, not individual members. A successful governance model relies heavily on the diversity of skills and background within its membership."[70]

The 9-1-1 Advisory Committee would be responsible for the following:

- Setting long-term goals and strategies in support of the strategic direction and vision
- Setting priorities for funding and technology initiatives
- Making budget requests on behalf of the co-located 9-1-1 centers
- Ensuring consistency and coordination in support of the directors (managers)
- Resolving issues brought before the committee
- Providing guidance and direction on leveraging technology
- Providing guidance and direction on operational policy changes
- Assisting the Steering Committee in managing fiscal and political issues

A supporting entity will also be required for the facility, shared equipment, and shared staff with responsibility for accounts payable and receivable, facility maintenance, etc. While it may to possible to create a separate administrative structure (authority), it would be cost prohibitive to establish the infrastructure necessary, as it would mean on-going costs added to capital and operational costs for the co-located facility. Both the City and County have the capabilities and infrastructure already in place. Mission Critical Partners recommends that whichever entity provides these services, compensation for the services is determined and agreed upon, and is memorialized within the IGA (MOU/MOA). Mission Critical Partners recommends that particular attention is given to the following in an IGA:

[70] Ibid., page 28 of 51.

- Governance structure
- Funding model
- Supervisory oversight
- Shared services and resources (training, QA, IT support)
- Shared technology (essentially everything in facility)
- Change management, both operationally and technically
- Problem resolution with appeals process
- Facility administration

This will ensure a balance of fairness is achieved during co-located operations.

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PART 5—FINANCIAL FEASIBILITY

17. FINANCIAL FEASIBILITY

Fayetteville 9-1-1 and Cumberland County 9-1-1 have shared cost of the CAD system for several years. According to staff, the cost-sharing model for the CAD system serves both organizations well. However, in a co-located environment, cost sharing will prove to be much more complex. In a new facility, the City and County will share the facility and the technology infrastructure. Even though all 9-1-1 calls will be answered from the same operational floor, the two 9-1-1 centers will remain independent agencies of their respective government (i.e., Fayetteville or Cumberland County). The organizational structures of both 9-1-1 centers are different and the requirements for administrative space in a new building will vary. Determining a fair and equitable model to share the capital and operating costs may be challenging, but is achievable.

Many complexities will be identified during the life of the project and construction. Some of the complexities that must be considered for cost sharing are listed below.

- This study recommends a total of 30 operator workstations on the operations floor. To ensure the most efficient operation possible and optimize the sharing of resources, the recommended layout of the center will allow any Fayetteville 9-1-1 or Cumberland County 9-1-1 telecommunicator to operate any position. As such, the 9-1-1 center equipment and space would be shared equally between the City and County, yet one organization may staff fewer positions than the other.
- Because training tends to be conducted jointly, the training space will be shared, but at times may be needed for other purposes that can create inequitable usage times.
- Cumberland County 9-1-1 is a division of Cumberland County Emergency Services, which also includes County Fire Marshal and Emergency Management operations. While it is logical that the entire Emergency Services organization locate to a new facility, this space allocation is not a direct function of 9-1-1 operations. Consideration must be made to ensure the fair distribution of costs directly attributed to either the City or County.
- A backup data center for Fayetteville's Public Works Commission has been proposed to be located in the new facility. Consideration must be made to ensure the fair distribution of costs directly attributed to the Public Works Commission, if the data center becomes reality.

In a co-located environment, the operating cost of delivering 9-1-1 services will remain with the respective organization. That is, both Fayetteville 9-1-1 and Cumberland County 9-1-1 will maintain independent operating budgets. There is not anticipated to be any reduction in the operating budgets for either 9-1-1 center by co-locating operations.

There is currently a disparity in staff salary between the 9-1-1 centers, even though the essential duties of the positions are similar. The City and County are aware of the inequalities in telecommunicator and

supervisor salaries, and are already working to address this. However, there are operational differences between the two 9-1-1 centers that may warrant differences in pay. Consideration should be given to the operational parameters that will remain and a determination made as to what is fair considering the respective operational responsibilities. Any alignment of salaries between Fayetteville 9-1-1 and Cumberland County 9-1-1 may increase personnel budgets, as will additional staff positions.

Mission Critical Partners has recommended consideration be given to shared dedicated IT support for 9-1-1 operations and shared training and QA programs. Shared staffing resources will have operational cost impacts and should be included in the cost sharing between the City and County.

Finding the proper model that meets both governments' organizational needs is critical to the success of co-location. Several models are feasible for cost sharing of a new facility and subsequent future operating costs. Examples of funding models include the following:

- Population-based: The percentage of population that is served by the answering 9-1-1 center equates to the percentage of financial responsibility.
- Per 9-1-1 call received: The budget is divided by the combined total of 9-1-1 calls answered by each 9-1-1 center in the previous year to determine a cost per call. The financial responsibility would then be allocated based on the number of 9-1-1 calls received by each 9-1-1 center.
- Square footage split: The total square footage of the building is divided by the budget to determine a cost per square foot. An agreed upon formula must be used to determine how many square feet are used by City and County, respectively; keeping in mind that many spaces are shared. Financial responsibility is then based upon the square footage used.
- Straight split: The City and County equally split the cost.

Each model could work for a new co-located facility, but because of the complexities, detailed discussions should be held between key stakeholders to determine the best model for Fayetteville and Cumberland County. With clear understanding and communications of the financial obligations of each governmental organization before construction begins, a co-located 9-1-1 center can be successful in providing critical services while improving operations.

Initial technology costs for a co-located facility are estimated to be $6,512,210.94. Appendix B, Technology Costs, provides a breakdown. Based on the North Carolina 911 Board's approved expenditure list, many of the capital purchases may be funded through 911 Fund balances. A list of eligible 9-1-1 fee expenditures may be found in Appendix C.

18. GRANT FUNDING

The North Carolina 911 Board recently opened applications for the 2016 PSAP Grant program. According to the North Carolina 911 Board website, three types of grant programs are available to primary PSAPs.

> ***Consolidation*** *- A consolidation project involves combining one or more PSAPs with a primary PSAP with an integrated management structure that serves the same populations and jurisdictions previously served by offering grant funding for both PSAP costs authorized under G.S. 62A-46(c) and costs not authorized under G.S. 62A-46(c) to include construction costs.*
>
> ***Individual PSAP Enhancement/Replacement*** *- Provide funding to primary PSAPs for projects designed to replace or upgrade E-911 equipment and services that are out of service, without vendor support, technically outdated, or can no longer perform at an established minimum functional standard to sustain an acceptable level of service to the public. Also to provide funding to primary PSAPs for projects designed to strengthen, broaden or increase the current E-911 operations through equipment, PSAP staff development, or service beyond that PSAP's current capabilities, or the relocation costs of primary PSAPs, including costs not authorized under G.S. 62A-46(c) and construction costs.*
>
> ***Regional Initiative Enhancement/Replacement*** *- Regional initiatives are regional approaches which provide for shared use of the components that support E-911, such as equipment, resources, and/or co-location of technology. Such initiatives comprise projects involving two or more primary PSAPs.*[71]

Mission Critical Partners believes that the co-location of Fayetteville 9-1-1 and Cumberland County 9-1-1, with the shared use of technology, would meet the Regional Initiative program. Mission Critical Partners' experience shows that the North Carolina 911 Board encourages consolidation of PSAPs; however, the co-location discussed in this report certainly supports the shared use of components that both the City and County use to provide 9-1-1 services to their respective communities. Sharing as many resources as possible in the new operational environment will be important to improving the chances of receiving grant reward.

Very few federal grant programs are available to assist with construction of emergency communications centers. In the past, DHS, through the Federal Emergency Management Agency, offered an Emergency Operations Center Grant program to assist with the construction of EOCs. However, Mission Critical Partners is not aware of a grant award by DHS for a new emergency operations or communications center in several years.

Both the City and County should engage state and federal officials to attempt to gain funds from other sources that would be at their disposal for the benefit of their constituents.

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[71] https://www.nc911.nc.gov/PSAPs/GrantAppDefault.asp

Mission Critical Partners recommends that the City and County submit a joint application to the North Carolina 911 Board for consideration of funding for the new co-located emergency communications center. Grant submittal requires an executed MOU, funding decisions, as well as technology quotes from vendors (if technology is requested). A grant application should detail the strong level of cooperation between both jurisdictions and 9-1-1 centers and demonstrate how the shared CAD system has already been successful for Fayetteville 9-1-1 and Cumberland County 9-1-1.

The City and County should be aware that over the past several years, North Carolina 911 grant funds have become much more competitive. Funds are also limited, yet requests continue to rise. During the 2015 grant cycle, 23 grant submittals were received. Only three grants were awarded; two consolidation initiatives and one regional initiative. Each grantee was also a Tier 1 County, as designated by the North Carolina Department of Commerce. Cumberland County is designated Tier 2.

Mission Critical Partners recommends the City and County jointly develop a plan for alternate funding in the event a grant submittal is not successful.

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PART 6—CONCLUSION

19. OPERATIONAL FEASIBILITY

The City and County should be commended for taking the steps to commission this study and having the foresight to recognize that improvements can be made for the delivery of emergency services to their constituents.

Fayetteville 9-1-1 and Cumberland County 9-1-1 are both professional operations that take great pride in their respective centers. Both are challenged with space needs in their unique way and there is little to no expansion capabilities in the current environments.

The North Carolina 911 Board encourages PSAP consolidation whenever possible, but in many communities consolidation faces political and fiscal hurdles and challenges. The City and County have already made a significant achievement in the shared services arena with the CAD system. As the City and County are not ready for full consolidation, Mission Critical Partners believes the next logical steps in the evolution of 9-1-1 operations in the county are to expand the shared services model and transition operations to a newly constructed co-located 9 1-1 center.

Co-located 9-1-1 operations have the opportunity to provide benefits to both the City and County.

- Improved efficiencies in operations by allowing call takers to share 9-1-1 answering responsibilities, regardless of incoming trunks
- Streamlined information flow
- Improved situational awareness of activities throughout the county
    - For example, if the Sheriff's Office is searching for a suspect, the information can be immediately shared with the police department because the telecommunicators are located in the same operations area
- Improved efficiencies of shared systems, such as CAD, backup generators, phone systems, and other technology
- Improved QA/QI program that can improve operations for both 9-1-1 centers
- Improved disaster response and recovery through a properly designed EOC with access to the co-located 9-1-1 centers
- Recovery of much needed space in City Hall and the Sheriff's Office facilities with the transition of the 9-1-1 centers to another facility
- Possible reduction in maintenance costs for use of shared systems versus maintaining individual systems
- Ability to face the technology and operational challenges of NG9-1-1
- Future opportunities to invite Fort Bragg to participate in the co-located environment
- Possible precursor to full consolidation in the future

While there are advantages to co-location, there are also disadvantages.

- Perceived loss of control of operations and functions that are shared

- Increased operational cost for a new facility
- Disparities in organizational policies, such as human resources (salary, hiring processes, grievance processes, leave, etc.)
- Supporting administrative entity for the facility may be perceived as jurisdiction with control
- Not one true decision-making authority; City and County will both have to weigh-in on parameters that can be perceived to affect operations and morale

In addition to the above, there are also risks to a co-location initiative.

- Inability to agree on site location and building design parameters and function
- Inability to agree on a cost-sharing model
- Inability to fully address 9-1-1 center disparities, creating significant morale issues in the telecommunicators
- Breakdown in open and honest communications between City and County administrative personnel
- Inability to secure funding for construction
- Loss of key staff through the transition

Staff are paramount to the success of such a comprehensive and complex project as this co-location. Fayetteville and Cumberland County have dedicated and knowledgeable staff who are proud of the organizations for which they work. The cooperation that has been demonstrated between the staff of both organizations during the development of this report is noteworthy. The advantages of a co-location initiative can be realized with the strengths of the dedicated staff members who will directly contribute to the success of a co-located 9-1-1 center.

Fundamental changes in operations will create excitement; but the excitement may become overshadowed by the identified risks. Staff may be apprehensive about changes that will be inevitable during the implementation and continued operation of a co-located 9-1-1 center. Experience shows that open and direct lines of communication during all phases of such a project can lessen the fear of change.

Mission Critical Partners recommends that the City and County pursue the construction and implementation of a co-located Fayetteville–Cumberland County 9-1-1 Emergency Communications Center. The City and County should prioritize the risks and determine those that are controllable, those that must be mitigated, and those that must be accepted. For example, the loss of key personnel may have to be accepted, unless it can be mitigated through compensation or another factor. The more quickly a risk can be validated, the more quickly the risk can be lessened, but will still be a risk. Many of the identified risks can likely be mitigated through the development of a strong Executive Steering Committee and project team that can develop a working relationship built on mutual respect, trust, honesty, and integrity—all of which are necessary to see the co-location initiative to fruition and realize a seamless system of information flow.

Appendix A—Senate Bill 797

Senate Bill 797 may be found on the following pages.

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GENERAL ASSEMBLY OF NORTH CAROLINA
SESSION 2013

SESSION LAW 2014-66
SENATE BILL 797

AN ACT TO AMEND THE DUTIES OF THE 911 BOARD RELATING TO PUBLIC SAFETY ANSWERING POINTS, AS RECOMMENDED BY THE JOINT LEGISLATIVE OVERSIGHT COMMITTEE ON INFORMATION TECHNOLOGY, AND TO CLARIFY THE COLLECTION AUTHORITY OF THE DEPARTMENT OF REVENUE FOR THE 911 FEE ON PREPAID WIRELESS.

The General Assembly of North Carolina enacts:

SECTION 1.1. G.S. 62A-40 is amended by adding a new subdivision to read:

"(4a) Back-up PSAP. – The capability to operate as part of the 911 System and all other features of its associated primary PSAP. The term includes a back-up PSAP that receives 911 calls only when they are transferred from the primary PSAP or on an alternate routing basis when calls cannot be completed to the primary PSAP."

SECTION 1.2. G.S. 62A-42(a) reads as rewritten:

"(a) Duties. – The 911 Board has the following powers and duties:

(1) To develop the 911 State Plan. In developing and updating the plan, the 911 Board must monitor trends in voice communications service technology and in enhanced 911 service technology, investigate and incorporate GIS mapping and other resources into the plan, ensure individual PSAP plans incorporate a back-up PSAP, and formulate strategies for the efficient and effective delivery of enhanced 911 service.

...

(4) To establish policies and procedures to fund advisory services and training for PSAPs, to set operating standards for PSAPs, and back-up PSAPs and to provide funds in accordance with these policies, procedures, and standards.

...."

SECTION 1.3. G.S. 62A-46 reads as rewritten:

"**§ 62A-46. Fund distribution to PSAPs.**

(a) Monthly Distribution. – The 911 Board must make monthly distributions to primary PSAPs from the amount allocated to the 911 Fund for PSAPs. A PSAP is not eligible for a distribution under this section unless it complies with the requirements of this Article, provides enhanced 911 ~~service~~ service, and received distributions from the 911 Board in the 2008-2009 fiscal year. The Board may reduce, suspend, or terminate distributions under this subsection if a PSAP does not comply with the requirements of this Article. The Board must comply with all of the following:

(1) Administration. – The Board must notify PSAPs of the estimated distributions no later than December 31 of each year. The Board must determine actual distributions no later than June 1 of each year. The Board must determine a method for establishing distributions that is equitable and sustainable and that ensures distributions for eligible operating costs and anticipated increases for all funded PSAPs. The Board must establish a formula to determine each PSAP's base amount. The formula must be determined and published to PSAPs in the first quarter of the fiscal year preceding the fiscal year in which the formula is used. The Board may not change the funding formula for the base amount more than once every year.

(2) Reports. – The Board must report to the Joint Legislative Commission on Governmental Operations and the Revenue Laws Study Committee within

45 days of a change in the funding formula. The report must contain a description of the differences in the old and new formulas and the projected distributions to each PSAP from the new formula.

(3) Formula. – The funding formula established by the Board must consider all of the following:

a. The population of the area served by a PSAP.

b. PSAP reports and budgets, disbursement histories, and historical costs.

c. PSAP operations, 911 technologies used by the PSAP, compliance with operating standards of the 911 Board, level of service a PSAP delivers dispatching fire, emergency medical services, law enforcement, and Emergency Medical Dispatch.

d. The tier designation of the county in which the PSAP is located as designated in G.S. 143B-437.08.

e. Any interlocal government funding agreement between a primary PSAP and a secondary PSAP, if the secondary PSAP was in existence as of June 1, 2010, receives funding under the agreement, and is within the service area of the primary PSAP.

f. Any other information the Board considers relevant.

(4) Additional distributions. – In the first quarter of the Board's fiscal year, the Board must determine whether payments to PSAPs during the preceding fiscal year exceeded or were less than the eligible costs incurred by each PSAP during the fiscal year. If a PSAP receives less than its eligible costs in any fiscal year, the Board may increase a PSAP's distribution in the following fiscal year above the base amount as determined by the formula to meet the estimated eligible costs of the PSAP as determined by the Board. The Board may not distribute less than the base amount to each PSAP except as provided in subsection (b1) of this section. The Board must provide a procedure for a PSAP to request a reconsideration of its distribution or eligible expenses.

...

(c) Use of Funds. – A PSAP that receives a distribution from the 911 Fund may not use the amount received to pay for the lease or purchase of real estate, cosmetic remodeling of emergency dispatch centers, hiring or compensating telecommunicators, or the purchase of mobile communications vehicles, ambulances, fire engines, or other emergency vehicles. Distributions received by a PSAP may be used only to pay for the following:

(1) The lease, purchase, or maintenance of:

a. Emergency telephone equipment, including necessary computer hardware, software, and database provisioning.

b. Addressing.

c. Telecommunicator furniture.

d. Dispatch equipment located exclusively within a building where a PSAP or back-up PSAP is located, excluding the costs of base station transmitters, towers, microwave links, and antennae used to dispatch emergency call information from the ~~PSAP.~~PSAP or back-up PSAP.

(1a) The nonrecurring costs of establishing a 911 system.

(2) Expenditures for in-State training of 911 personnel regarding the maintenance and operation of the 911 system. Allowable training expenses include the cost of transportation, lodging, instructors, certifications, improvement programs, quality assurance training, training associated with call taking, and emergency medical, fire, or law enforcement procedures, and training specific to managing a PSAP or supervising PSAP staff. Training outside the State is not an eligible expenditure unless the training is unavailable in the State or the PSAP documents that the training costs are less if received out-of-state. Training specific to the receipt of 911 calls is allowed only for intake and related call taking quality assurance and improvement. Instructor certification costs and course required prerequisites, including physicals, psychological exams, and drug testing, are not allowable expenditures.

(3) Charges associated with the service supplier's 911 service and other service supplier recurring charges. The PSAP providing 911 service is responsible to the voice communications service provider for all 911 installation, service, equipment, operation, and maintenance charges owed to the voice communications service provider. A PSAP may contract with a voice communications service provider on terms agreed to by the PSAP and the provider.

...

(e) Compliance. – A PSAP, or the governing entity of a PSAP, must comply with all of the following in order to receive a distribution under this section:

(1) A county or municipality that has one or more PSAPs must submit in writing to the 911 Board information that identifies the PSAPs in the manner required by the FCC Order.

(2) A participating PSAP must annually submit to the 911 Board a copy of its governing agency's proposed or approved budget detailing the revenues and expenditures associated with the operation of the PSAP. The PSAP budget must identify revenues and expenditures for eligible expense reimbursements as provided in this Article and rules adopted by the 911 Board.

(3) A PSAP must be included in its governing entity's annual audit required under the Local Government Budget and Fiscal Control Act. The Local Government Commission must provide a copy of each audit of a local government entity with a participating PSAP to the 911 Board.

(4) A PSAP must comply with all requests by the 911 Board for financial information related to the operation of the PSAP.

(4a) A PSAP must have a plan and means for 911 call-taking in the event 911 calls cannot be received and processed in the primary PSAP. The plan must identify the alternative capability of taking the redirected 911 calls. This subdivision does not require a PSAP to construct an alternative facility to serve as a back-up PSAP.

(5) A primary PSAP must comply with the rules, policies, procedures, and operating standards for primary PSAPs adopted by the 911 Board.

...."

SECTION 1.4. Sections 1.1 through 1.4 of this act are effective when this act becomes law and apply to distributions made on or after July 1, 2016.

SECTION 2.1. G.S. 62A-54(c) reads as rewritten:

"(c) Administration. – Administration, auditing, requests for review, making returns, collection of tax debts, promulgation of rules and regulations by the Secretary of Revenue, additional taxes and liens, assessments, refunds, and penalty provisions of Article 9 of Chapter 105 of the General Statutes apply to the collection of the 911 service charge for prepaid wireless telecommunications service. An audit of the collection of the 911 service charge for prepaid wireless telecommunications service shall only be conducted in connection with an audit of the taxes imposed by Article 5 of Chapter 105 of the General Statutes. Underpayments shall be subject to the same interest rate as imposed for taxes under G.S. 105-241.21. Overpayments shall be subject to the same interest rate as imposed for taxes under G.S. 105-241.21(c)(2). Excessive and erroneous collections of the service charge will be subject to G.S. 105-164.11. The Department of Revenue shall establish procedures for a seller of prepaid wireless telecommunications service to document that a sale is not a retail transaction, and the procedures established shall substantially coincide with the procedures for documenting a sale for resale transaction under G.S. 105-164.28. The Secretary of Revenue may retain the costs of collection from the remittances received under subsection (b) of this section, not to exceed five hundred thousand dollars ($500,000) a year of the total 911 service charges for prepaid wireless telecommunications service remitted to the Department. Within 45 days of the end of each month in which 911 service charges for prepaid wireless telecommunications service are remitted to the Department, the Secretary of Revenue shall transfer the total 911 service charges remitted to the Department less the costs of collection to the 911 Fund established under G.S. 62A-44."

SECTION 2.2. Section 8 of S.L. 2011-122, as amended by Section 52 of S.L. 2013-414, is repealed.

SECTION 2.3. Notwithstanding G.S. 62A-54(c), the Department may retain six hundred and forty thousand dollars ($640,000) of the 911 fee service charges for prepaid wireless telecommunications service remitted to the Department in the 2014-2015 fiscal year.

SECTION 2.4. Sections 2.1 through 2.4 of this act become effective July 1, 2014. The remainder of this act is effective when it becomes law.

In the General Assembly read three times and ratified this the 3rd day of July, 2014.

s/ Andrew C. Brock
Presiding Officer of the Senate

s/ Thom Tillis
Speaker of the House of Representatives

s/ Pat McCrory
Governor

Approved 4:00 p.m. this 9th day of July, 2014

Appendix B—Estimated Technology Costs

The table below provides budgetary costing for technology infrastructure for the co-located 9-1-1 center.

Description	Estimated Cost	Notes
Workstation Furniture	$716,400.00	
CPE	$75,000.00	CenturyLink Hosted solution will require move cost but not new capital purchase.
Logger/Recorder (Enterprise)	$350,010.00	
Desktop Computers	$108,000.00	For communications operations only
Network Equipment	$124,500.00	
Synchronized Clock System	$20,669.00	
Radio Antenna System	$50,000.00	
Radio Consoles	$2,880,000.00	Consideration must be made whether to move this equipment for reuse at the new center or if the equipment will be moved to the back-up center and new equipment purchased for the new center.
CSSI Console Connections	$150,000.00	
Amateur Radio Emergency Services (ARES) Equipment	$12,000.00	
Computer Aided Dispatch (CAD)	$50,000.00	Since the recommendation is to maintain existing CAD system, this cost is for the re-location of the equipment. Any server replacement would be required through the existing MOU between the city and county.
Satellite Phones	$12,000.00	
Admin Telephone System	$97,500.00	
Audio/Video (A/V) Systems	$325,000.00	
Access Control/Intrusion Detection/CCTV	$120,550.00	
Telecom Service Access - Telephone, Community Access Television (CATV), Internet	$50,000.00	
Communications Tower	$100,000.00	
Telecom Structured Cable	$291,260.50	
Sub-total	**$5,532,889.50**	
Contingency 10%	$553,288.95	

Description	Estimated Cost	Notes
Sales Tax 7%	$426,032.49	
911 Technology/Systems Budgetary Estimate	**$6,512,210.94**	

Appendix C—Eligible 9-1-1 Fee Expenditures

Eligible 9-1-1 fee expenditures, approved by the North Carolina 911 Board, are described below.[72] Information is current as of June 19, 2015. Mission Critical Partners recommends the Board website be visited prior to expenditure to ensure accuracy. The Board should also be contacted for questions regarding expenditures not listed.

Phone Systems:

- 9-1-1 trunks and one administrative line per answering position
- Telephones sets used to answer 9-1-1 calls, including CPE equipment, headsets, monitors, keyboards, mouse and servers used exclusively for telephone sets[73]
- TDD/TTY
- ACD systems, whether facility-based or premise-based
- Interpretive services (e.g., Language Line or Omni Lingual)
- Service provider selective routing and ALI provisioning charges
- Data connection for the sole purpose of collecting call information for analysis[74]

Furniture:

- Cabinets, tables, or desks that hold eligible 9-1-1 equipment
- Telecommunicator chairs

Software:

- CAD system modules that are part of the call taking process only; some CAD systems will include additional modules that are not a part of the 9-1-1 process and are not eligible
- GIS software used to create and display the base map showing street centerlines
- GIS layers developed specifically for 9-1-1 addressing functions
- Voice logging recorder software
- Management Information System (MIS) software for 9-1-1 phone systems
- Time synchronization device software
- Law enforcement, fire and medical call taking protocols including software and flip-cards
- QA software for the training program of law enforcement, fire and medical call taking protocols
- ALI database software

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72 https://www.nc911.nc.gov/pdf/Funding%20Committee/Elegible%20Expenditure%20Lists/2015/06192015%20Approved%20Use%20of%20Fund%20List.pdf

73 When servers host both 911 eligible and ineligible applications, only the percentage of the cost of the server representing the 911 eligible use is allowable.

74 If connection is shared with non-eligible 9-1-1 devices, then only a percentage of the eligible 9-1-1 cost is eligible.

- Radio console software that is part of the 9-1-1 process; some radio console software will include additional modules that are not a part of the 9-1-1 process and are not eligible
- Console Audio Box (CAB) software
- Paging software including licensing costs to interface or integrate with CAD or licensing cost to establish a web-based paging function in substitution for paging through CAD; excludes costs for use of such software or functions by first responders
- CAD-to-CAD interface software
- Automated digital voice dispatching software
- Message switch software that allows for voiceless dispatch, status updates, and mobile-to-CAD messaging, including CAD licensing costs for mobile computer terminals, smartphones and tablets; some message switch software may include additional modules that are not a part of the 9-1-1 process and are not eligible

Hardware:

- Servers used exclusively for telephone, CAD, voice logging recorder, GIS, paging, console/alias database management, radio console network switching, and radio console software systems, including monitor, keyboard, and mouse
- Computer work stations used exclusively for telephone, CAD, voice logging recorder, GIS, and radio console software systems, including monitor, keyboard, mouse, microphones, speakers, headset jacks, footswitches, and CAB
- Time synchronization devices
- UPS for only 9-1-1-related equipment; if a UPS serves more than 9-1-1 equipment, only a percentage of the total cost is allowable
- Emergency power generator serving the 9-1-1 center; if a generator serves more than the 9-1-1 center, only a percentage of the total cost is allowable
- Radio network switching equipment used exclusively for 9-1-1 centers' radio dispatch consoles
- Fax modem for rip and runs
- Printers
- Radio console Ethernet switch
- Radio console access router
- Backup storage equipment for 9-1-1 database systems
- Mobile message switch
- Paging interface with CAD system
- Alpha/Numeric pager tone generator
- Radio consolette, configured for exclusive use at the dispatcher work station for dispatcher operation to perform dispatch function when there is no traditional console installed at the workstation
- Handheld GPS devices that are used strictly for 9-1-1 addressing; must meet or exceed the requirements of "Mapping Grade GPS Receiver" as defined in the Global Positioning

System (GPS) Data Collection and Documentation Standards established by the North Carolina Geographic Information Coordinating Council

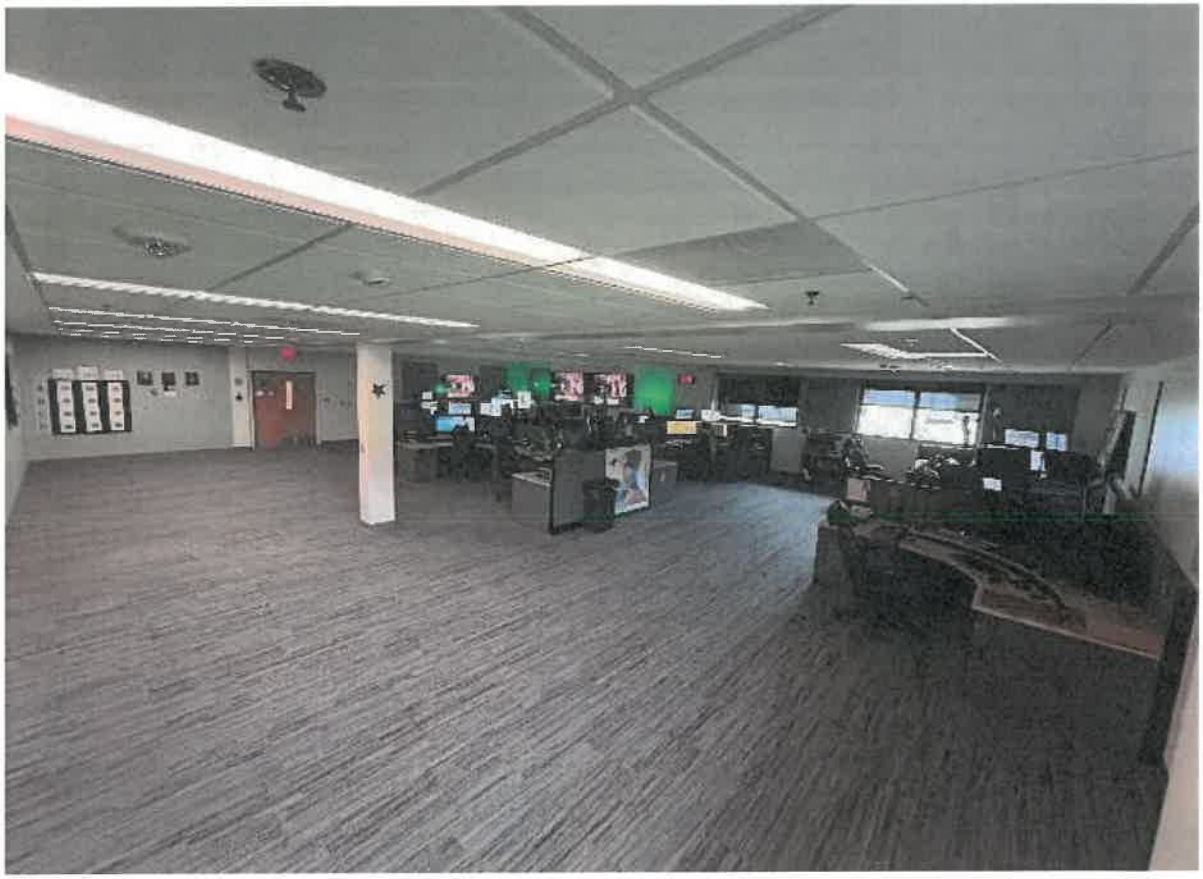
Training:

- Individual class registration for maintenance and operation of the 9-1-1 system and specific 9-1-1 intake and related call taking training, managing of a PSAP and supervising PSAP staff
- Out-of-state training if the class is not offered in North Carolina six months prior to or six months after the scheduled out-of-state class
- Allowable travel expenses not exceeding local government or North Carolina per diem rates

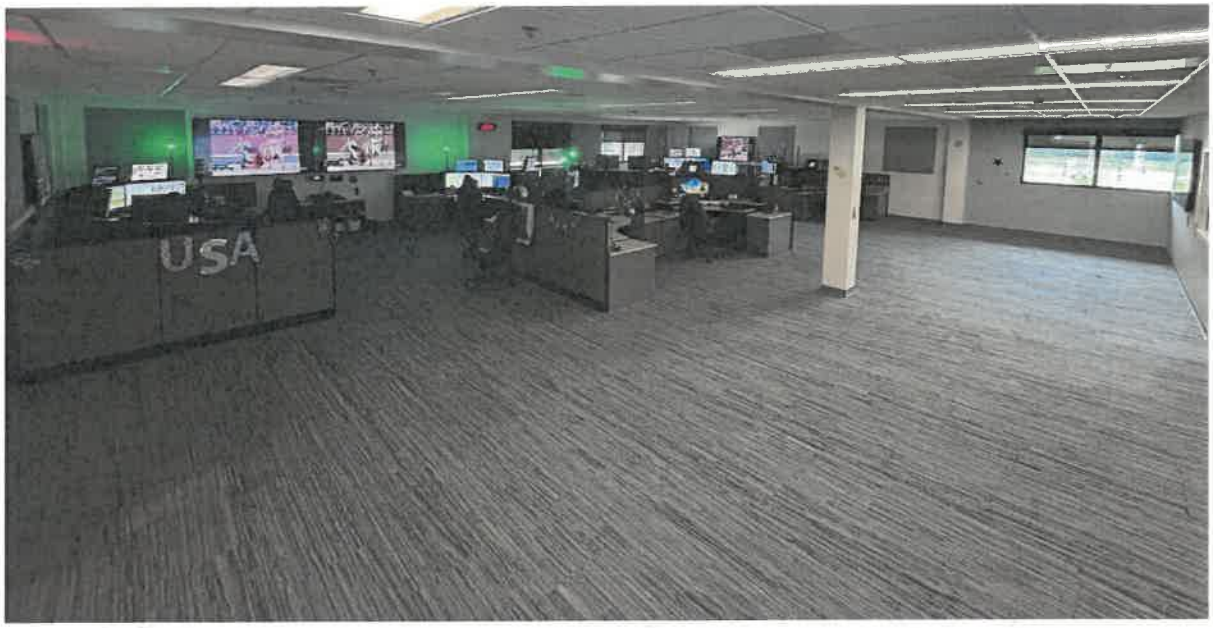
Support Functions (Implemental Functions)

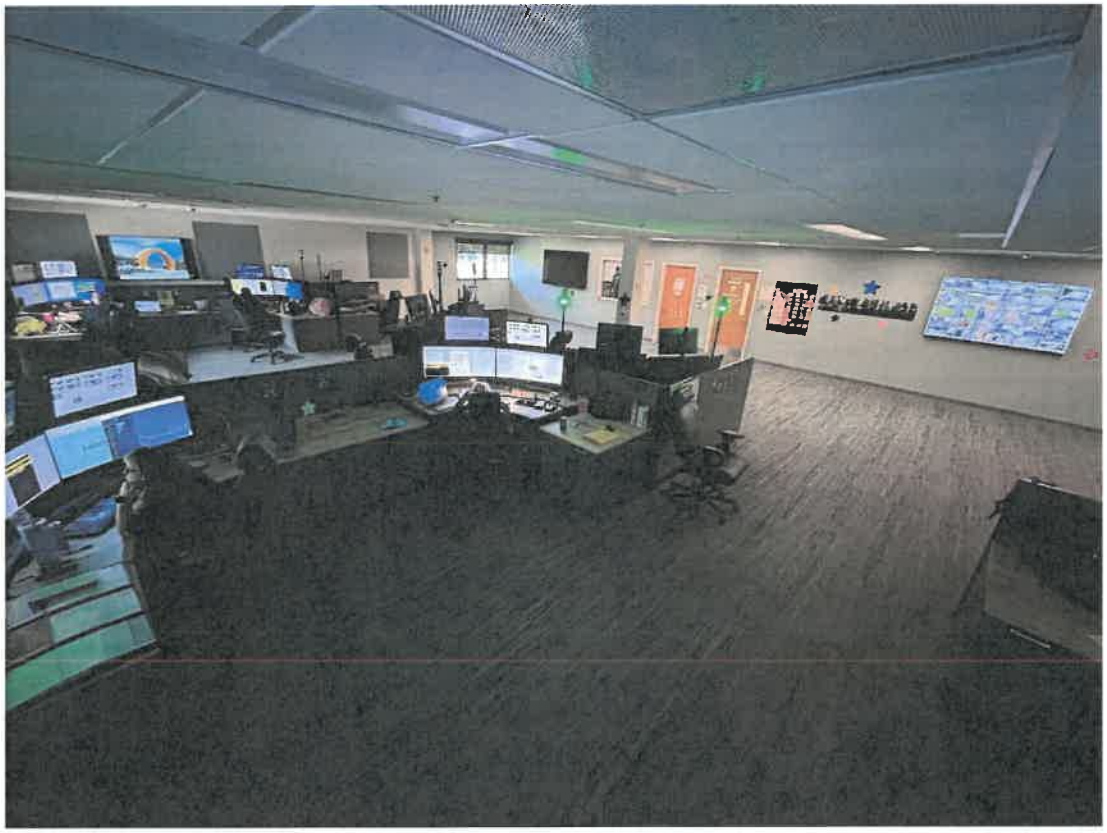
- Maintenance, database provisioning, and addressing functions costs implemental to receiving and utilizing voice and data and maintenance costs of dispatch equipment located exclusively within a building where a 9-1-1 center is located

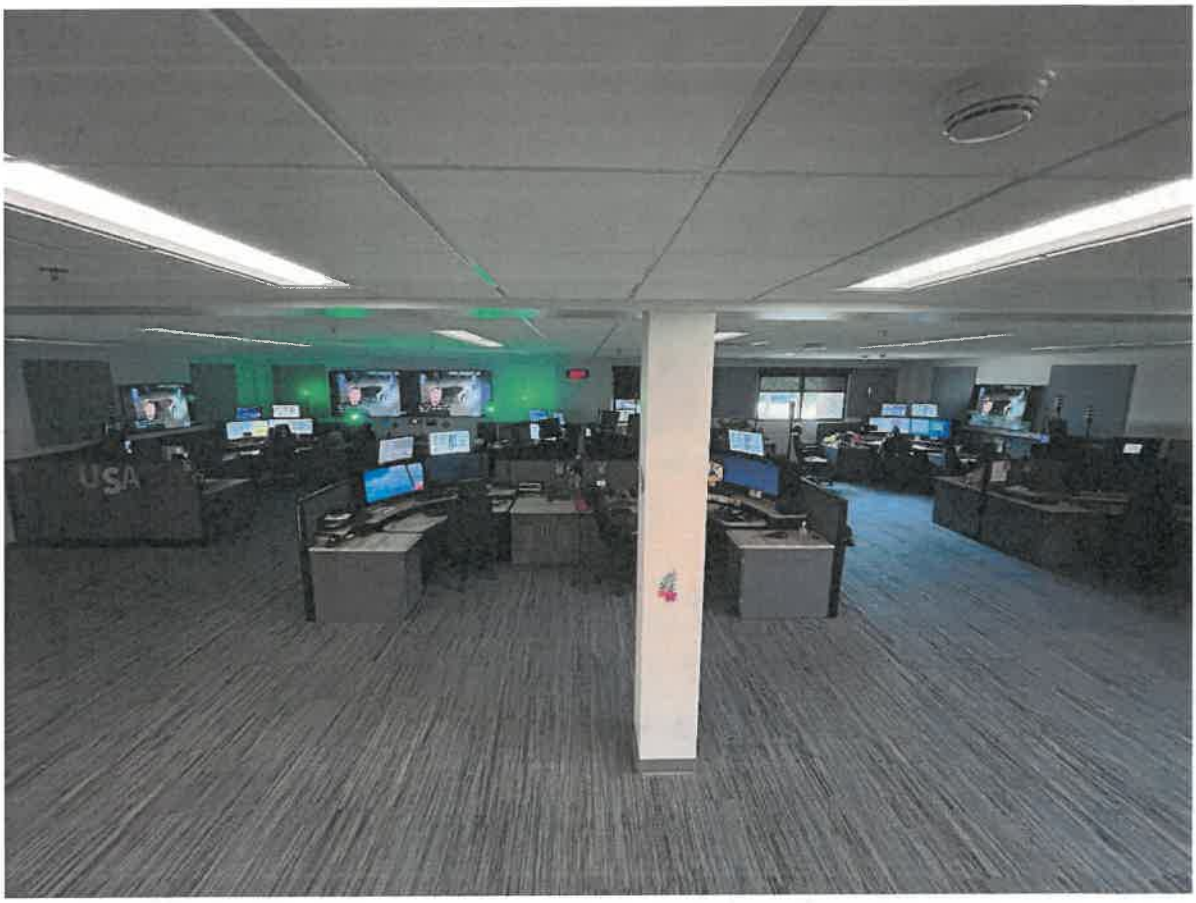
TAB Q



Cumberland County 9-1-1 Center



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