Bluffton Township Fire District
Bluffton, South Carolina

Community Risk Assessment: Standards of Cover
2024

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Executive Summary

Since its inception nearly 45 years ago, the Bluffton Township Fire District has consistently served the Bluffton community. Over the years, the organization has evolved into an all-hazard emergency response department, equipped with nine fire stations and a staff of 158 skilled personnel alongside 29 administrative professionals. *Their mission is to protect the lives and property of the community efficiently, with kindness and professionalism.*

To fulfill this mission, the leadership of the District is committed to a three-part approach that includes continuous district-wide self-assessment, detailed analysis of operational performance focusing on risks to life and property, and a community-centered, proactive strategic planning process.

This document focuses on assessing community risks and analyzing performance in mitigating emergencies. Based on this analysis, the command staff has established benchmarks to aim for over the next five years.

To effectively determine the risks, the District must prioritize understanding the community and its connection to those risks. This involves thoroughly reviewing the laws and regulations that established the District and outlined its legal responsibilities. Additionally, the District will rigorously assess its financial structure, including revenue sources, expenditure rates, and the crucial obligation to manage public funds responsibly.

Furthermore, the natural and manmade characteristics of the community, including demographics and critical infrastructures such as government facilities, healthcare centers, schools, transportation systems, and communication networks, were studied to create an accurate snapshot of the area.

The District also assessed its four primary services—fire suppression, EMS, rescue, and hazardous materials—and the current deployment model to evaluate how resources are dispatched to various emergencies.

The Community Risk: Standards of Cover (CRA: SOC) was developed in coordination with information from the District's 2024-2029 Community-Centered Strategic Plan to maintain a strong connection with the community. Since the Standard of Cover outlines response expectations, community input is crucial for establishing realistic goals and response times.

Various risk assessment methodologies were employed to identify hazards to the public across the District's properties and natural environment. This process led the District to revise how it classifies response areas by creating nine coordinated planning zones, allowing staff to focus closely on specific hazards and develop solutions to mitigate them.

Community risks were evaluated and categorized into three hazard levels: low, moderate, and high. The District then performed a detailed critical task analysis for each hazard level based on its services. This analysis formulated standards for an effective response force (ERF) to various hazards.

With this information, the District reviewed the historical performance of the current response system to establish a baseline for response times. This evaluation enabled the District to assess its capacity to meet the required ERF for each type of hazard and call. The study used data from the past five years and involved considerable manpower to compile. The District’s baseline performance was then compared to national consensus standards for acceptable response times and benchmarks from neighboring fire departments. This comparison informed the development of the District's goals for improving response times and operational efficiency over the next five years.

Please continue reading this document to learn more about your fire district. We hope you find the information helpful in understanding how and why the District makes decisions regarding new equipment, personnel, and fire station locations. As always, the District appreciates community support and input, and we are committed to better serving our citizens. This document and the process leading to its creation are part of our ongoing efforts to enhance service to the community.

1. Description of Community Served:

History and Organization of the District: The Bluffton Township Fire District in South Carolina has a history that dates back to the 16th and 17th centuries when the area was known as Granville County of St. Luke's Parish. The original inhabitants, the Yemassee Indians, established a settlement of about 1,200 people and considered the area "Indian Lands." In 1715, a war erupted between the Yemassee and British settlers. After years of conflict, the Yemassee were forced to relocate to Florida, which opened the "Indian Lands" for European settlement.

Around 1718, the new Lord Proprietors divided the land into baronies, one of which was Devil's Elbow, the site of what is now Bluffton. The Town of Bluffton was established on two adjoining parcels within the Devil's Elbow Barony. Benjamin Walls and James Kirk purchased these parcels, and development began in the early part of the 19th century. By the mid-19th century, the first roads were constructed, and the name Bluffton was adopted due to the high banks along the May River.

The land surrounding Bluffton was known for its cotton plantations and Lowcountry rice, with areas near the May River providing pleasant living conditions. However, planters became frustrated with heavy federal tariffs on imported goods, which made these products unreasonably expensive. This discontent led to the "Bluffton Movement," where local planters gathered under what is now known as the "Secession Oak," marking the beginning of the secessionist movement. South Carolina became the first state to secede from the Union.

In 1852, the South Carolina General Assembly officially established the Town of Bluffton. Although the town covered only one square mile, its strategic location along the May River was advantageous. At the end of Calhoun Street, there was a steamboat landing that served as an overnight stop for travelers from Savannah, Beaufort, or Charleston.

Bluffton was pivotal in the secession movement, with one date standing out in history: June 4, 1863. On that day, Union gunboats traveled up the river from Hilton Head Island, carrying 1,000 infantrymen to eliminate the rebels who had made Bluffton their headquarters. Although Confederate soldiers mounted an attack, they were outnumbered and outgunned. After prevailing over the Confederate forces, the Union officer in charge ordered the town to be burned and

destroyed. Of the more than 60 structures in Bluffton before the attack, only two churches and fifteen residences remained standing afterward.

Due to its location along the May River and proximity to the Atlantic Ocean, Bluffton has transformed from a business center into a popular vacation spot. Over the years, increased development has attracted more residents who enjoy the area's comfortable climate. Today, Bluffton is the fifth largest city by land area in South Carolina. The town primarily consists of residential and light commercial areas, with no significant heavy industrial operations.

The Bluffton Township Fire District was established in 1978 as a special tax overlay district by the Beaufort County Council to provide emergency services in the southern part of the county and the Town of Bluffton. Initially, the district included three independent volunteer fire departments—Chelsea, Pritchardville, and Bluffton. These local departments were formed by concerned citizens who recognized the need for fire and medical services in the area before the county combined them into a single professional/volunteer department in 1978. Over time, the department transitioned from a mostly volunteer service to a full-time professional fire department. By 2007, it became entirely career-oriented and now serves approximately 72,634 residents with a staff of 159 personnel across 246 square miles.

Today, the Bluffton Township Fire District is dedicated to protecting the lives and property of its citizens while providing proactive, all-hazards public safety services to address the community’s diverse risks. The district operates nine strategically located fire stations throughout its jurisdiction and is committed to quality service and excellence in all aspects of its operations.

Like most small cities in the U.S., the District encompasses a mix of properties, including single-family and multi-family dwellings, light manufacturing, educational facilities, assembly spaces, institutional buildings, and businesses. As Bluffton continues to grow, plans are underway for a tenth fire station, scheduled to open in 2025.

Legal Basis:

Beaufort County Council is governed under a council-administrator form of government. The legal basis for the District to operate falls under the jurisdiction of the Beaufort County Council (Council). There are eleven council districts in Beaufort County. Five (5) of those council districts fall totally, or at least partially, within the protection area of the District. The Council appoints a seven-member Fire Board (Board) to oversee the Fire District. One Board member is appointed to represent each of the five (5) Council Districts within the Fire District. The Town of Bluffton appoints one (1) Board member to represent the Town, and one (1) Board member is appointed to an at-large position. Each position is for a four-year term and is staggered to preserve continuity. The current Board is as follows:

Chairman: Rick Krob (District 5) Appointed: 10/11/2021
Re-appointed: 2/1/2022

Vice Chairman: William "Bill" Rickett (Town of Bluffton) Appointed: 5/23/2023

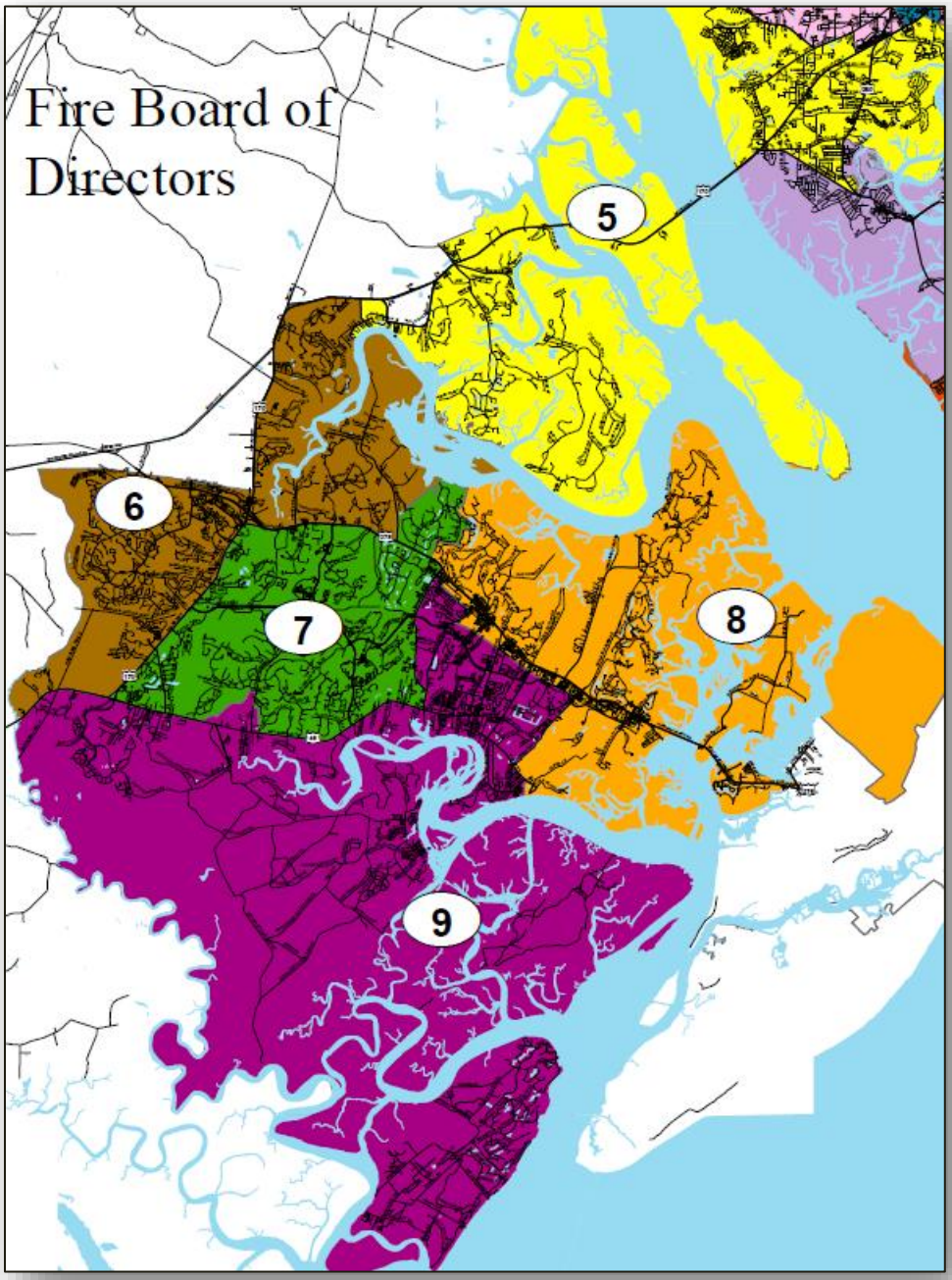
Member: Dana Marsh (District 8) Appointed: 3/15/2022

Member: Natalie Majorkiewicz (District 6) Appointed: 5/23/2023

Member: Joseph Paolo (District 7) Appointed: 4/14/2014
Re-appointed: 3/12/2018; 2/1/2022

Member: Drew Bedingfield (At-Large) Appointed: 9/11/2024

Member: Paul Hamilton (District 9) Appointed: 3/28/2016
Re-Appointed: 03/13/2017; 2/08/2021


Fire Board of Directors
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Financial Basis:

The Bluffton Township Fire District operates under a Charter granted by the Beaufort County Council. In essence, the charter is another term for an operating ordinance. Operating funds for the District are generated predominantly from ad valorem tax revenues. Residents living and owning businesses in the District pay a separate fire tax above and beyond that assessed for the county and school district operations and debt. However, the Fire Board cannot set the tax millage (tax rate). The Fire Board only recommends operating and debt service budget amounts to the Beaufort County Council, which, under South Carolina law, has the authority to set millage and tax the citizens who live within the District's boundaries. The County tax year operates on a fiscal year basis (January 1 – December 31), while the annual operating and debt service budgets operate on a fiscal year basis (July 1 – June 30). In March of each year, the District receives documentation from the Beaufort County Chief Financial Officer regarding the projected revenues it can anticipate for its upcoming budget year. The District prepares an annual budget based on this and any trend data gathered over the years. The Fire Chief makes budget recommendations to the Board, using the documentation from the County. The Board debates, in open session, the budget proposal from the Fire Chief, then votes and approves a recommended budget to be presented to Beaufort County Council for funding approval. The Council then advertises, debates, and adopts the budget by South Carolina state law before July 1 each year.

The County Treasurer collects the Fire District's funds, which remain in a pooled cash account with the County. The account is divided into four funds from which the District operates. The first fund is the general fund, and all personnel costs, benefits costs, and day-to-day operating costs are pulled from this fund. Any revenues remaining upon the conclusion of the fiscal year remain in the fund (general fund balance) and are available to offset budget deficiencies and costs associated with natural disasters and other emergency needs for funds for the District. These funds are restricted until approved by the Fire Board and Beaufort County Council. The second fund is the debt service fund. This fund is limited to payments to service the Fire Board and Beaufort County Council-approved debt of the District. The third fund is the impact fee fund. This fund is also restricted in that purchases must meet strict statutory requirements. The fees are collected during the building permit fee process for all construction occurring in the

District. Impact fees can only be used for capital items, improving the District's response readiness in response to growth, and must have a cost greater than $100,000. Typically, this includes a new fire apparatus as the District grows, new facilities, and other related equipment. Impact funds cannot be utilized for personnel, benefits, or daily operational costs.

2. Area Description

As part of the Community Risk Assessment and Standard of Cover, 10th edition (CRA-SOC), and keeping within its objectives, it is essential to understand the area served and appreciate the physiography, geology, climate hazards and risks it presents within each planning zone.

It may seem harmless, but a natural characteristic of Bluffton is that it is situated in a shallow-lying area. It is famously known as the Lowcountry. This unique characteristic includes all of Beaufort, Colleton, Hampton, and Jasper counties. There are no hills that occur naturally, and there is very little ground that's considered high ground. When it rains, it is not uncommon to have localized flooding.

Furthermore, being in a low area along the coast of South Carolina, another well-known problem is hurricanes. The season is six months long, starting June 1st and ending November 30th, so the exposure to a near or direct hit is high. According to the SC Hurricanes Comprehensive Summary, May 30, 2024, South The District has responded to four (4) hurricanes within the last three (3) years.

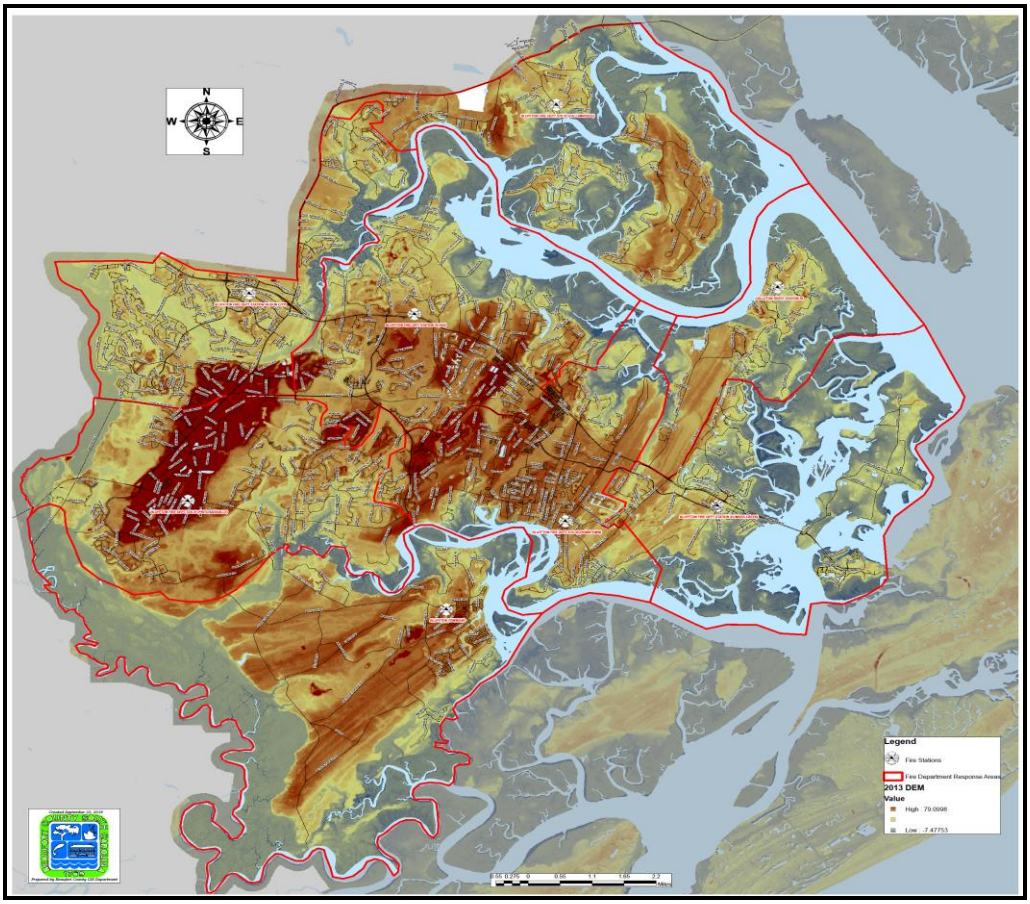
Another weather-related and well-known phenomenon is severe thunderstorms. These storms are rife with lightning and heavy rain and occur almost daily in summer. It is not uncommon for the District to go to a one-engine response instead of an entire effective response force (ERF) for activated fire alarms due to the storms rolling through the area. For this reason, the number of fire alarm activations across the district at similar times makes it impossible to respond to all of them with an ERF. As a result, when severe weather events occur, the District transitions to "Storm Mode," whereby the District can respond to multiple alarms strategically with one engine.

It is also essential to understand the characteristics of the population that reside and work in the District. By following the population and looking at historical data, one can discover much, including where the call volume and type occur.

Topography:

The District is flat and low-lying, with its highest point reaching about 80 feet above sea level. The western section, along SC Highway 170 just south of US Highway 278 and extending to SC Highway 46, is the tallest area. The District is bordered by water on three sides. It is situated near the Atlantic coast, making it susceptible to severe weather events such as hurricanes and thunderstorms, leading to localized flooding and frequent lightning strikes.

Minimizing environmental impact is a top priority for the Town of Bluffton and Beaufort County. The area's plantations have limited open green spaces, and homes are designed to blend seamlessly with the environment. For example, plantations like Spring Island and Palmetto Bluff regularly conduct controlled burns to manage underbrush. Additionally, Pinckney Island National Wildlife Refuge's land management program aims to reduce wildfire risks and maintain the land's health.



Bluffton's climate is one to enjoy. Its average annual temperature of 65.6 °F and 217 days of sunshine make it a popular and enjoyable place to live.

Severe weather can pose significant dangers to many towns along the coastline. As previously mentioned, hurricanes represent a type of severe weather in this area that is challenging to manage without a well-prepared plan. The hurricane season runs from June 1 to November 30. Historically, Beaufort County has handled hurricanes relatively well over the past decade. However, Hurricane Matthew in November 2016 caused extensive damage, even though it did not make direct landfall in Beaufort County. The estimated cost of the damage to the county was $52 million.

Additionally, summer thunderstorms are common and often feature dangerous lightning, which can strike residential homes and businesses. These storms require the District to operate in "storm mode" to manage fire alarm activations effectively.

Demographics:

The Bluffton area exploded in the early 2000s and again in the early 2020s due to its favorable climate and attractively low taxes. According to the Island Packet, Beaufort County is the 13th fastest-growing county in the nation. Forbes Magazine placed Bluffton on its "Best Places to Retire."[3]

The District used census data to create various maps that illustrate population, income, property values, and diversity, enabling a better understanding of the district's demographics (Bluffton CCD, Beaufort County, South Carolina). Additionally, the District leveraged its computer-based records management system (RMS) to develop layered maps showcasing the services provided, including Fire Suppression, Emergency Medical Services (EMS), Rescue, and Hazardous Material Incidents (Hazmat). This approach helps identify trends within each planning zone. By following this methodology, the District can pinpoint problems, recognize issues, and formulate effective solutions. (2A.6, CC 2C.2)

2020 Census Bluffton	
Total Population	72,634
Median Income	$90,151
Under 5 years	4.5%
Over 65 years	31.4%
White Population	76%
Black Population	6.7%
Hispanic or Latino	14.9%

3. Critical Infrastructure:

Transportation

The District has four main road corridors that are frequently traveled: US Highway 278, SC Highway 170, SC Highway 46, and Bluffton Parkway. US Highway 278 is the main east-west connector. It brings local traffic from I-95 east to Hilton Head Island. Bluffton Parkway

parallels US 278 from SC Highway 170 east to the Hilton Head Bridges (Karl Bowers Bridge and J. Wilton Graves Bridge) to Hilton Head Island. The Bluffton Parkway was partly developed to help alleviate local traffic on US Highway 278 and provide an additional hurricane evacuation route. SC Highway 46 is a two-lane road connecting SC 170 and US 278. SC Highway 46 also parallels, to the south, US 278 and Bluffton Parkway and is used to travel to Savannah, Georgia. (Map)

The District approves all new roads through the plan review process with the Town of Bluffton and Beaufort County. The Fire Prevention Division inspects existing roads biennially for access issues. Neighborhoods and private gated communities with electronic gates must install emergency override devices approved by the District. The District inspects and tests these devices biannually to ensure functionality.

Services and Utilities

Two electrical providers serve the District: Dominion Energy and Palmetto Electric. In areas without natural gas, propane is used, supplied by several local companies. Additionally, the District has four water utilities:

1. Callawassie Public Service District (PSD), serving Callawassie Island and Spring Island.
2. Hilton Head PSD, serving Jenkins Island and Windmill Harbor.
3. Water Oak Utility, serving the Moss Creek area.
4. Beaufort Jasper Water Sewer Authority (BJWSA) serves most of Beaufort County.

All water utilities conduct annual hydrant inspections. Furthermore, the District inspects and maintains the area around fire hydrants annually. Surface and storm drainage were addressed by the Town of Bluffton or Beaufort County during the development process.

Communications

Sparklight Communications (formally Hargray Communications) is the District's primary provider of phone, internet, and cable services, holding approximately 90 percent of the market share among cable subscribers. Time Warner, which offers cable services only, accounts for about 10 percent of the market share. Additionally, the District has several cellular towers from

various prominent providers. The Fire Marshal's Office conducts annual inspections of cell towers and phone utility buildings.

Recreational

The District features several parks and trails maintained by the Town of Bluffton and Beaufort County (Parks and Recreation).

4. Service Milestones:

Plantations—The District did not experience a significant increase in building and population growth until the early 1980s. From 1980 to the mid-1990s, residential developments began to emerge along highways US 278 and US 170. Over the following decades, neighborhoods such as Rose Hill, Belfair, Colleton River, Moss Creek, Callawassie Island, and Spring Island Plantations were established, and they continue to grow today (Map).

Sun City- In June 1993, Del Web Communities, Inc. purchased land from Union Camp to build Sun City's Hilton Head retirement community. On November 1994, the first day it was open, 25 homes sold, and by the end of 1997, 1000 homes had sold. Today, 14,000 people are living in Sun City. With a projection of 8,600 homes at build-out, Sun City's population will top out at approximately 17,000 residents.

Continued growth—In the early 2000s, the District continued to see unprecedented growth in its community, both commercial and residential. Comparing the Town of Bluffton, from the 1900 Census to the 2015 Census, the population grew 911.22%4. The Town grew in population and land size to be the fifth-largest city in the state when it annexed Palmetto Bluff (Growth).

Palmetto Bluff—In the early 1990s, the Town of Bluffton annexed Palmetto Bluff, creating the fifth-largest city in the state. Palmetto Bluff is approximately the size of Hilton Head Island in land mass; however, the development will only be a fraction of Hilton Head, with only 4000 homes at build-out.

Modernizing the District – In 2011, the District planned to relocate station 30 and add a training center and maintenance shop to the new location. In 2013, Station 30 was completed,

and a new "demo" Pierce aerial platform truck was purchased to replace the Sutphen aerial. In 2014, station 33 had a significant renovation completed. In 2015, the District replaced its entire fleet of engines with 2015 Class A Pierce Enforcer engines.In 2017, the maintenance and training facilities were completed. In 2017, station 36 was moved to its new location outside the back gate of Colleton River Plantation. In 2019, the District added a heavy rescue and a quint to its fleet, and finally, Station 38 was completed in 2020.

5. Services Provided:

The District provides four primary services to its stakeholders: Fire Suppression, Emergency Medical Service (Basic Life Support-BLS and Advanced Life Support-ALS), Hazardous Materials response, and Technical Rescue. Furthermore, the District provides additional support services such as community risk reduction programs, life safety programs, and community charity events.

Fire suppression:

The District has a split Insurance Services Office (ISO) Class rating of 2 and 2X. Where hydrant water is available and where a fire station is within five road miles, the District has a rating of 2, and for areas that do not have hydrant water and the fire station is outside of five road miles, the rating is 2X. For these non-hydrant areas, the District relies on static water sources and water shuttles for water supply.

The District utilizes nine stations to protect 246 square miles (Map). It uses the fixed deployment operational model for each planning zone (Response area) to respond. Each station responds with one of nine (9) identical 2015 Class A Pierce Enforcer pumpers with 1500 gallons per minute pump capacity, 750 gallons of water, and a 5-inch large diameter supply hose (1000 feet). The district also has one 100-foot aerial platform (TRK 335), a (2019) 107-foot quint (L333), and one (2019) heavy rescue (R335) in service daily. The district has one brush/pumper that carries 250 gallons of water and a four-wheel drive to access remote or hard-to-reach wooded areas. In addition, the District utilizes a 3000-gallon water tender in areas without fire hydrants.

In October 2024, the District bought two preowned engines from a neighboring jurisdiction to add to its fleet to prepare for the newly planned station inside Sun City, which will open in late 2025. The Engines are a 2008 Spartan MFD Metrostar Cab with a 1500 GPM and 500-gallon water tank.

Emergency Medical Service (EMS):

The District is a non-transport agency that provides two levels of Emergency Medical Service (EMS): Basic Life Support (BLS) and Advanced Life Support (ALS). The District operates three ALS engines from Stations 30, 31, and 38. The ALS stations provide overlap coverage from the BLS stations where Beaufort County EMS (ALS) is housed. By the District providing ALS engines, where they are strategically placed, it provides enhanced coverage for immediate life-threatening sickness or trauma to the community. All firefighters are trained at the National Registry Basic Life Support (BLS) level. There are 14 paramedics trained to the National Registry ALS provider level. Beaufort County EMS is the county's transport agency.

Technical Rescue:

The District has an established Special Operations Division. It comprises firefighters trained in rope rescue, trench rescue, confined space rescue, collapse rescue, water rescue, vehicle rescue, and machinery rescue. The District has the equipment to mitigate most complex rescues except trench rescue, for which Hilton Head Island Fire Rescue would assist the District.

District, with Hilton Head Island Fire & Rescue personnel, comprise one of the State's Regional Search and Rescue Response Teams (RRT-4). The combined personnel team is deployable to incidents in the local area, statewide, and nationwide if requested.

Hazardous Material Response:

All line personnel have been trained at the National Fire Protection Association (NFPA) NFPA 472 Operations level, Standard for Competence of Responders to Hazardous Materials/Weapons of Mass Destruction Incidents. Thirty-five District personnel have been trained to meet NFPA 472 at the Hazardous Material Technician level.

All District engine companies can manage a small hazardous chemical spill, i.e., 55 gallons or less of gasoline, diesel fuel, propane, or natural gas (Level 1). All other equipment needed to manage a large spill (55 gallons or more Level 2) is stored on R335. When deemed necessary, the on-scene company officer can request the response of on-duty Hazardous Materials (HAZMAT) Technician level personnel through the Battalion to assist with mitigating any hazardous chemical incident (Level 2).

If needed, Hilton Head Fire Rescue (HHFR) can be requested to respond to an incident in Bluffton, bringing more Hazmat Technicians and HAZMAT 2 (Level 3). HAZMAT 2, housed out of HHFR station 6, carries all of the equipment needed to deliver the capability of a FEMA-equivalent Type I HAZMAT team.

The District and the Town of Hilton Head Island Fire and Rescue are recognized and serve as a regional (SCHM4) HAZMAT and WMD response team through the South Carolina Mutual Aid Agreement. SCHM4 is one of five (5) Regional Response Teams that serve and protect our immediate communities and can be called anywhere throughout the State or the nation.

6. Current Deployment of Fire and Emergency Services Resources: **(Core Competency 2A.3 Map)**

The District utilizes the fixed deployment operational model to deploy its human and physical resources from individual stations (Distribution). There are a total of nine stations spread around the district to provide maximum coverage. Nine (9) stations deploy, at a minimum, three highly trained personnel to respond to emergencies. In addition to these eight (8) stations, the District's headquarters station, Station 35, deploys at least ten specialized personnel and physical resources to respond district-wide for all emergencies requiring special equipment and expertise. (District Station Map) Furthermore, operating as a fixed station deployment model and having limited resources, the command staff recognized the need to have specialized human and physical resources centralized within the district to optimize its response district-wide (c). Also, Station

35 personnel must be trained to participate in all rescue operations, including hazardous material-technician level certification.

Deployment per Station				
Station	Address	Apparatus	Minimum Staffing	Specialty
Station 30	199 Burnt Church Rd.	Engine 330	3 Personnel	BLS Engine
Station 31	178 May River Rd.	Engine 331 Tanker 341	3 Personnel	ALS Engine
Station 32	155 Callawassie Dr.	Engine 332	3 Personnel	BLS Engine
Station 33	12 Buckingham Plantation Dr.	Ladder 333	3 Personnel	BLS Engine
Station 34	25 William Pope Dr.	Engine 334	3 Personnel	BLS Engine
Station 35	357 Fording Island Rd.	Engine 335 Truck 375 Rescue 355 Battalion 35	3 Personnel 2 Personnel 3 Personnel 2 Personnel	Rescue Hazmat ALS Engine Brush Fire Command - Vehicle
Station 36	254 Sawmill Creek Rd.	Engine 336	3 Personnel	ALS Engine
Station 37	1 Oak Tree Rd.	Engine 337	3 Personnel	BLS Engine
Station 38	260 Raider Dr.	Engine 338 Battalion 38	3 Personnel 2 Personnel	ALS Engine Command-Vehicle

Likewise, the District conducts an in-depth District-wide review of all of its service programs (EMS, Fire suppression, Hazmat, and Rescue) on an annual basis. With consideration of demographics and socio-economic factors, and in conjunction with the budget planning period, the District uses response data, critical tasking, after-action reports (AAR), community risk reduction analysis, and the continuous review of the response SOG to determine if the District is

providing consistent service to its customers (CC 2C.1). Similarly, the District conducts the same analysis as above, but at the planning zone (Map) level annually. (CC 2C.2)

Resources:

For the District to provide fire suppression, emergency medical service, rescue, and hazardous materials services to its citizens on a 24/7/365 basis, the District's command staff determined that the minimum daily staffing would not go below 37 personnel. Conversely, 43 personnel is the goal for everyday staffing; however, with personnel being absent for various reasons, it is rare to be fully staffed consistently. There are three shifts and nine stations. Each shift has a battalion, and each station has a captain or lieutenant complemented by a driver (senior firefighter) and a Jumpman to meet the minimum staffing level. Three of the stations are advanced life support (ALS), while five are essential life support (BLS).

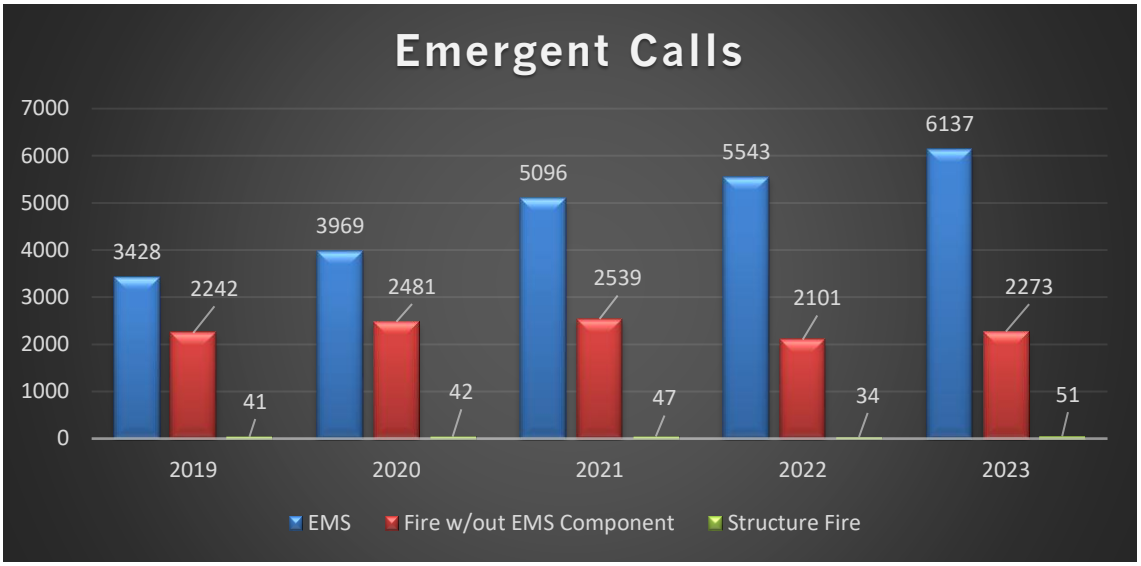
Number of Apparatus	Type of Apparatus	Personnel Minimum/Full
2	Battalion	4
8	Engines	24/32
1	Truck	2/4
1	Rescue	3/3
1	Quint	3/3
Total		36/46

Community Response History: **(CC 2A.**4 & 2B.2 CC 2C.2 2D.6)

Each response area is categorized into geographical zones known as Planning Zones (PZ Map). By establishing these planning zones, the District can analyze each area based on population density, demographics, and socio-economic factors, assess commercial properties for risk levels (OVAP), and evaluate the types and number of calls received. This enables the creation of a comprehensive all-hazard risk assessment. With a better understanding of this data, the District's command staff can determine whether the appropriate response level, in terms of human and physical resources (Concentration), is in place for each Planning Zone.

The following chart displays the call volume across the district from 2019 to 2023. It shows a consistent upward trend for all service types: EMS, fire response, and structure fires. The District employs the same methodology for each planning zone (PZ) to identify service gaps and assess whether the response levels regarding human and physical resources are adequate.

All calls are analyzed, measured for response time, monitored for quality, and classified as emergent (using lights and sirens). The "fire without EMS component" category includes various



emergencies, such as fire alarms, rescues, service calls, and weather-related incidents. In addition to tracking emergent call data, the District also collects information on non-emergent calls and identifies notable trends for further analysis. For instance, the District closely monitors "Lift and Assist" service calls due to the high number of requests received from Sun City and assisted living communities.

Saved vs. Loss (Life and Property):

To ensure comprehensive standards of cover, an agency must understand the impact of structure fires and their consequences for both the community and the agency itself. The most critical factors to consider are the injuries and fatalities experienced by both line firefighters and civilians. Fortunately, the District has not experienced any line-of-duty deaths. However, in 2019, one structure fire resulted in two fatalities. It was discovered that smoke alarms were either

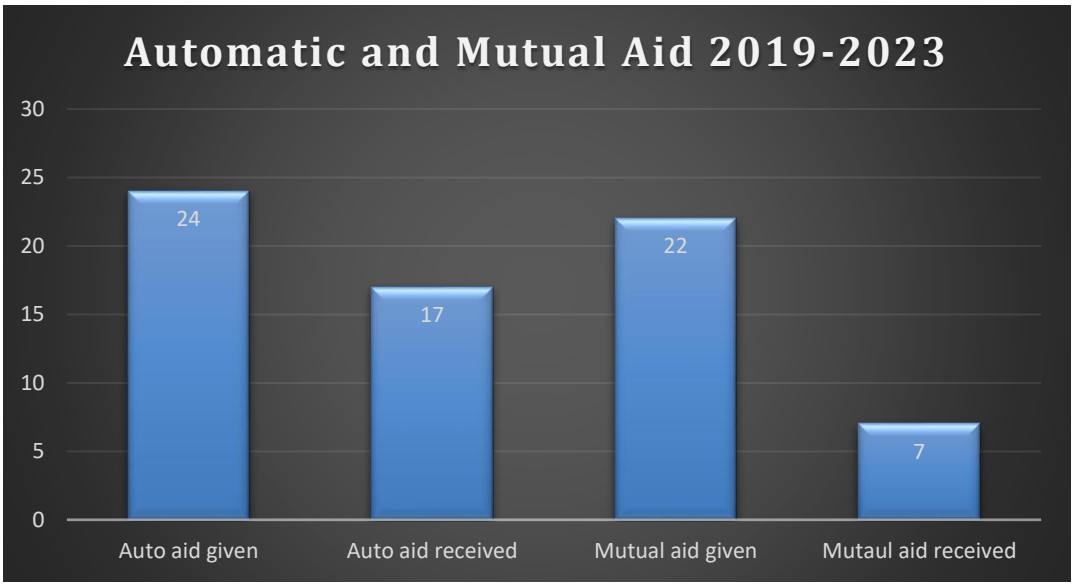
not functioning or missing in key living areas. In response to these findings, the District organized a door-to-door fire alarm campaign and provided educational materials on fire safety. (2A.5)

Year	Total Protected	Total Loss	Total Saved	Percentage Loss	Percent Saved
2023	$54,191,399.00	$2,651,400.00	$51,539,999.00	4.89%	95.11%
2022	$18,159,788.00	$3,481,100.00	$14,678,688.00	19.16%	80.16%
2021	$49,047,622.00	$1,896,740.00	$47,150,882.00	3.86%	96.14%
2020	$45,252,628.00	$2,005,800.00	$43,246,828.00	4.43%	95.57%
2019	$46,270,761.00	$681,150.00	$45,589,611.00	1.47%	98.53%

Aid- Given and Received:

Absorption -practices involve automatic aid, automatic additional alarms, standby units, and personnel callbacks. While the District provides fire suppression, rescue, hazardous material incident mitigation, and EMS services to its citizens, it is sometimes called upon to provide the same services to its bordering neighbors. Because of the aid agreements, each jurisdiction can be confident that assistance will be provided to mitigate an incident when needed.

Furthermore, restoration practices focus on releasing units from incidents, minimizing out-of-service and out-of-district time, and implementing Continuity of Operations plans.



7. Community Expectations and Performance Goals:

Community Expectations:

The accreditation process consists of three key components: Community Risk Analysis, Standards of Cover (SOC), and Community-Driven Strategic Planning, along with Quality Improvement for Fire and Emergency Services. Each component builds upon the others to provide an accurate and unbiased performance assessment.

The strategic plan emphasizes the involvement of community stakeholders, allowing them to share their expectations and concerns with the District. To facilitate this, the District collaborated with the Center for Public Safety Excellence (CPSE) to revise its strategic plan, incorporating input from a diverse cross-section of the community.

As a result, community stakeholders identified several priority areas of concern, including:

- Response time
- Training
- Communication with the public (particularly through social media during events)
- Employee retention
- Community Risk Reduction

- Health and safety of firefighters.

Performance Goals Expectation:

To achieve success, an organization needs a clear direction and vision encapsulated in its mission statement. Specific and measurable goals and objectives guide the performance achieved through this mission, while the vision statement encompasses the overall intent. This approach has proven effective, as establishing clear goals and objectives allows every member—regardless of rank—to perform to their highest potential.

Based on feedback from a community stakeholder meeting and three days of input from internal stakeholders, the District has revised its mission and values statement. It has set its goals for the next five years. These goals and objectives are dynamic and will be updated regularly throughout this period.

Mission Statement

The Bluffton Township Fire District's mission is to efficiently protect the lives and property of our community in a kind and professional manner.

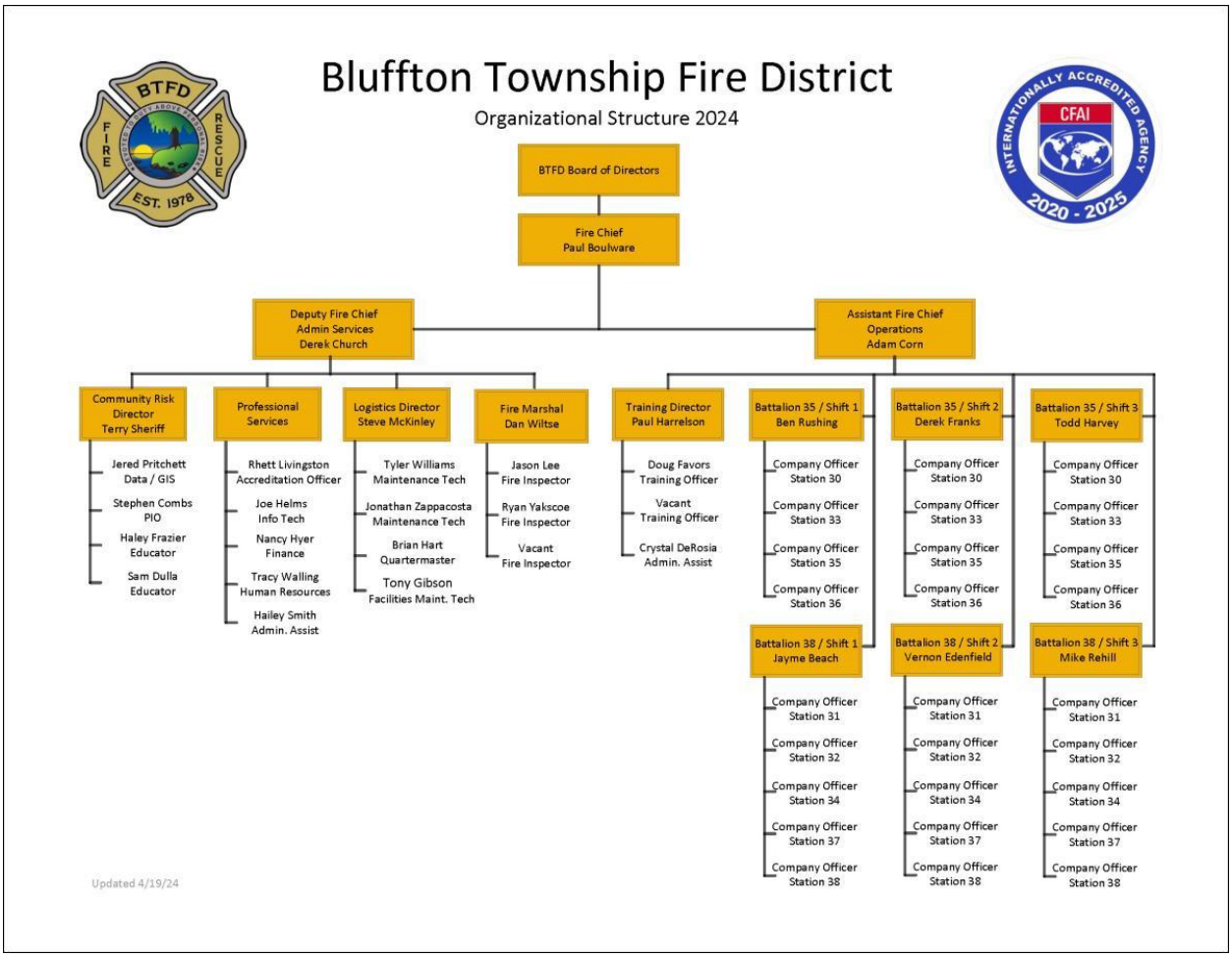
Values Statement

Respect	We respect all people in our community and our own agency through dignity, choice, and compassion.
Advancing	Continuous improvement through community feedback, professional development, and community risk reduction.
Leadership	Guiding our community through all aspects of risk hazard reduction.
Dedication	To maintain an attitude and commitment beyond the expectations of our community.

Trust	Establishing and maintaining integrity through professionalism, transparency, and fiscal responsibility.

Bluffton Township Fire District's 2024 Vision

The Bluffton Township Fire District will be the model accreditation fire and life safety agency recognized by our effectiveness in community outreach, risk reduction, and all-hazard emergency response. We aspire to foster a culture of collaboration, excellence, and continuous improvement by setting the standard for fire departments nationwide. With a commitment to organizational and personal excellence, we will provide programs and services that benefit our residents and visitors in consistent pursuit of the highest quality of life.


Bluffton Township Fire District
Organizational Structure 2024
BTFD Board of Directors
Fire Chief
Paul Boulware
Deputy Fire Chief
Admin Services
Derek Church
Assistant Fire Chief
Operations
Adam Corn
Community Risk Director
Terry Sheriff
Jered Pritchett
Data / GIS
Stephen Combs
PIO
Haley Frazier
Educator
Sam Dulla
Educator
Professional Services
Rhett Livingston
Accreditation Officer
Joe Helms
Info Tech
Nancy Hyer
Finance
Tracy Walling
Human Resources
Hailey Smith
Admin. Assist
Logistics Director
Steve McKinley
Tyler Williams
Maintenance Tech
Jonathan Zappacosta
Maintenance Tech
Brian Hart
Quartermaster
Tony Gibson
Facilities Maint. Tech
Fire Marshal
Dan Wiltse
Jason Lee
Fire Inspector
Ryan Yakscoe
Fire Inspector
Vacant
Fire Inspector
Training Director
Paul Harrelson
Doug Favors
Training Officer
Vacant
Training Officer
Crystal DeRosia
Admin. Assist
Battalion 35 / Shift 1
Ben Rushing
Company Officer Station 30
Company Officer Station 33
Company Officer Station 35
Company Officer Station 36
Battalion 35 / Shift 2
Derek Franks
Company Officer Station 30
Company Officer Station 33
Company Officer Station 35
Company Officer Station 36
Battalion 35 / Shift 3
Todd Harvey
Company Officer Station 30
Company Officer Station 33
Company Officer Station 35
Company Officer Station 36
Battalion 38 / Shift 1
Jayme Beach
Company Officer Station 31
Company Officer Station 32
Company Officer Station 34
Company Officer Station 37
Company Officer Station 38
Battalion 38 / Shift 2
Vernon Edenfield
Company Officer Station 31
Company Officer Station 32
Company Officer Station 34
Company Officer Station 37
Company Officer Station 38
Battalion 38 / Shift 3
Mike Rehill
Company Officer Station 31
Company Officer Station 32
Company Officer Station 34
Company Officer Station 37
Company Officer Station 38
Updated 4/19/24

8. Community Risk Assessment and Risk Levels (CC 2B.1 and CC2B.4)

Risk Assessment Methodology:

Fire suppression:

Every community in the country faces inherent risks from fire-related and non-fire-related incidents. Therefore, it is crucial for fire departments serving these communities to recognize these risks and establish a methodology to quantify the actual threat level.

The District employed the Occupancy Vulnerability Assessment Profile (OVAP) to identify target hazards in commercial buildings and a modified version of the Vision 20/20 Risk Assessment Tool for residential areas and other fire risks using demographic data and RMS statistics.

Additional considerations in the risk analysis include elements that do not receive a specific score but are nonetheless significant, such as the District's road system, private gated communities, marshes, and waterways. Throughout the District, gated communities often have limited access, and their road systems are not arranged in a grid-like pattern. Instead, they feature long, narrow, winding roads that make it challenging for vehicles to exceed the posted speed limits, resulting in longer travel times.

Low-Risk Moderate Probability Low consequences Examples: Fire Alarm, Vehicle, Brush, Dumpster Fire
Moderate-Risk: Low Probability High consequences Example: Single Family / Detached Garage/large outbuildings
High-Risk: Low Probability Great consequences Example: Assisted Living facilities, Golf chemical storage, Schools, Multi-Family Residence

Moreover, Click-to-Enter© is a system designed for communities and businesses with unmanned electronic gates. Both Beaufort County and the Town of Bluffton mandate the installation of Click-to-Enter© devices; however, these systems can occasionally malfunction, causing delays. The Click-to-Enter© system operates on a line-of-sight principle, allowing an officer in a fire engine to use a radio frequency to open the gate as they approach.

This feature reduces the time needed to access the gate by eliminating the need for officers to stop and exit the vehicle, thus saving valuable time during emergency responses.

Hazardous Materials Incidents:

The hazardous material incident (Hazmat) risk was based on historical data (probability and potential consequences), preplans (known chemical storage), and occupancy type, e.g., industry. Though hazardous materials incidents account for about one percent of the total call volume within the district, there is still potential for an event that can have significant consequences for the citizens of the District. With this knowledge, the District has determined three hazmat risk levels to respond to. Level one (Low-Risk): 55 gallons or less, outdoor gas leak. Level two (Moderate-Risk): 55 gallons or more, indoor gas leak, no immediate threat to life; and Level three (High-Risk)- Spill or of an unknown substance or release of a Toxic Inhalation Hazard (IDLH atmosphere) that poses an immediate threat to life. As noted above, the call volume is minimal for hazmat incidents.

Low-Risk Low probability Low consequences Examples: Any spill 55 gallons or less, natural gas or propane odor outside No immediate threat to life.
Moderate-Risk: Low probability High consequences Example: Any spill 55 gallons or more, or known substance at dispatch time. No immediate threat to life.
High-Risk: Low probability Great consequences Example: South Carolina HazMat Regional Team 4 response. Spill of an unknown substance of any size, any release of a Toxic Inhalation Hazard (IDLH atmosphere), immediate threat to life.

In the past five years, there have not been any Level Two (Moderate-Risk) or Level Three (High-Risk) responses. However, the District remains diligent in its hazmat training and preparedness. It is a member of the Hazardous Materials Emergency Response Team (HMERT), specifically South Carolina HazMat-4 (SCHM-4). This team is one of six in the state that can be called upon for both inter- and intra-state responses to incidents. They also provide guidance to responders managing hazardous materials incidents when requested by lawful authorities. The team collaborates closely with Hilton Head Island Fire Rescue (HHIFR).

Technical Rescue:

Risk categorization for technical rescue is based on historical incidents, probability, potential consequences, and training scenarios. Like hazmat calls, technical rescues occur infrequently, making up about one percent of the total call volume. However, the District acknowledges the risks and potential impacts on its personnel and equipment during significant incidents.

To address these concerns, the District has established three levels of risk:

- **Low Risk:** Examples include elevator rescues, children locked in vehicles, or pets stuck in trees.

- **Moderate Risk:** Examples include water rescues and basic auto extrication.

- **High Risk:** Examples include trench rescues, high-angle rescues, below-grade rescues, and confined space rescues.

Despite the lack of any high-risk incidents in the past five years, the District remains aware of the potential dangers associated with technical rescues. It has proactively prepared through training and planning efforts.

Low-Risk Low probability Low consequences Example: Elevator rescue, child locked in a vehicle,
Moderate-Risk: Low probability High consequences Example: Water rescue, basic auto extrication
High-Risk: Low probability Great consequences Example: Trench rescue, confined space, extensive auto extrication, High angle rescue

The District is part of the South Carolina Task Force-4 (SCTF-4), which includes District personnel and members of the Hilton Head Island Fire Rescue. Similar to the South Carolina HazMat Regional Team-4, the SCTF-4 serves as a valuable resource for both inter- and intrastate response to incidents when requested by lawful authorities.

EMS:

Historically, the District identified two risk levels: low and high. The key distinction between low-risk and high-risk incidents was the presence of mass casualty events. Typically, the District deployed a single engine for all medical emergencies that did not involve mass casualties. While the District operated both Basic Life Support (BLS) and Advanced Life Support (ALS) engines, it could not dispatch units by BLS or ALS event types. Instead, the ALS engines were strategically positioned, where Beaufort County EMS (BCEMS) did not have an ambulance at the District station.

Since the District is not licensed as an EMS transport agency, it relies on Beaufort County EMS, the sole transport agency for all of Beaufort County except for the Town of Hilton Head Island. Additionally, to the District's knowledge, BCEMS does not analyze its response performance data based on dispatch call processing times.

To address these challenges, the District redeveloped a methodology for assessing EMS risk. The Assistant Chief of Operations, along with a committee of paramedics and the District's Medical Control Director, identified which call types represented immediate life-threatening events by utilizing the Beaufort County Dispatch Center (BCDC) CAD system's "Nature of Call" features and the District's new RMS system (Primary Impression). The District classified these events into three risk categories: low, moderate, and high. From this classification, the committee conducted a critical task analysis (CTA) to determine the appropriate number of personnel needed to manage each incident. The CTA accounted for the District's protocols, as well as factors such as training, experience, and industry best practices.

Low-Risk Not serious or life-threatening
Moderate-Risk: Serious, but not immediately life-threatening
High-Risk: Life-threatening, requiring immediate intervention

The risk assessment and CTA findings led to the creation of the District's Emergency Response Framework (ERF) for medical incidents. The District then configured its emergency medical incident response run-order within the BCDC's CAD system to implement the EMS risk assessment effectively, ensuring the appropriate deployment of the ERF.

Risk Assessment per Planning Zone

Geographical Planning Zone 30

Burnt Church Road, May River Road, Buckwalter Parkway, Bluffton Parkway, Fording Island Road, Simmonsville Road, Buck Island Road

Area Profile:

Planning Zone 30 (PZ30), or better known as Old Town Bluffton, response area is unique in the aspect that it encompasses a wide range of roads, buildings, and challenges. Depending on the day, each area potentially carries high traffic and a large capacity of people.

The Downtown response area has nine educational facilities ranging from early childhood to high school, including a large number of daycares. Also, PZ30 has an independent living facility with an attached memory care unit, big box stores (such as Home Depot, Walmart, Sam's Club, Target, and other grocery stores), shopping centers or plazas, industry (fuel, wood, chemicals, hazards)- these include Resort Services Cleaning, Year-Round Pools, Golf Courses, large assemblies- such as churches and buildings that can be converted into gathering halls, and multifamily structures (commercial and residential)- we have many apartment complexes in the area.

PZ 30 includes several residential communities within its response area. Most of these neighborhoods are located near commercial zones, which can lead to significant pedestrian and vehicular traffic. This congestion may slow down response times. Downtown Bluffton is particularly notable due to the numerous festivals, events, and gatherings held throughout the year, including a farmer's market every Thursday. These events often result in temporary road closures, which can create challenges in accessing certain areas.

One distinctive feature of PZ30 is the abundance of waterfront property and boat landings in the area. This increases the likelihood of water-related emergencies or accidents. One of the boat landings includes a gathering area for events, but it has limited access and experiences high traffic volume, particularly during holidays and weekends.

Location Factors:

The area profile of Planning Zone 30 consists of a mix of residential neighborhoods, public schools, and mixed-use commercial properties, including strip-mall shopping areas.

The residential communities in this zone feature a combination of single-story and two-story single-family homes, most of which are not located in gated communities. There are also a few multi-family, multi-story apartment complexes. However, the Myrtle Island neighborhood has some long, narrow driveways that can pose challenges for emergency vehicles needing to access certain homes quickly.

Like other planning zones in the District, Planning Zone 30 is traversed by US Highway 278, Bluffton Parkway, and US Highway 46. Depending on the time of year, some of these roads can experience significant traffic, which must be considered when responding to emergencies. Additionally, the downtown area can become quite crowded throughout the year due to monthly events, further complicating emergency response efforts.

Regarding commercial properties, such as Home Depot, and educational facilities, it is essential to allocate considerable resources for effectively managing fire-related emergencies.

RISK ASSESSMENT: SPECIAL

- Bluffton High School – 12 HE McCracken Circle (HOL)*
- McCracken Middle School – 250 HE McCracken Circle (HOL)
- Bluffton Middle School – 30 New Mustang Drive (HOL)
- MC Riley School – 200 Burnt Church Road (HOL)
- Bluffton Elementary School – 160 HE McCracken Circle (HOL)
- Red Cedar Elementary School – 10 Box Elder Street (HOL)
- Bloom @ Belfair - 60 Oak Forrest Road care facilities with long term residents with limitations. (HOL)
- Grayco Building Center – 345 Buck Island Road
- RSI – 336 Buck Island Road (FL)*
- Ferrell Gas – 330 Buck Island Road (FL)
- Timeless Interiors – 4380 Bluffton Parkway (FL)
- Crescent Golf Maintenance – Oak Forest Road (FL)
- Pine Crest Golf Maintenance - HE McCracken Circle (FL)

*High Occupant Load= HOL
*Fuel Load= FL

Geographical Planning Zone 31

Pritchardville-May River Plantation-Gascoigne Bluff-New Riverside-Hampton Lake

AREA PROFILE:

This area is also known as Pritchardville and is one of the original areas that comprised the department in 1978 when it was chartered. It is comprised mainly of rural land, including large tracks of tree farms, horse farms, and saltwater marsh. In recent years, there has been an explosive growth of residential developments within PZ31. It includes a U.S. DOT rural scenic highway that at one time was the only access to Bluffton from the South and continues to be the main access road to the city of Savannah, GA.

The commercial/business areas are limited but include a storage facility, five-unit strip mall, nursing home, gas station, fast-food restaurant, retail store, tree nursery, public schools, electric company maintenance yard, and churches. As the growth continues outward from the Town of Bluffton, Pritchardville already sees the effects, which will only increase as time progresses.

Neighborhoods such as The Haven, Southern Oaks, Mid-Point, Alston Park, Cypress Ridge, Palmetto Point, May River Preserve, Lawton Station, Hampton Hall, and Rose Dhu Plantation are large track home neighborhoods that were built within the last 25 years. These homes are built close together on small to moderate-sized lots.

Hampton Hall Plantation is unique in that it is built around a large golf course. The community features single-family homes, clubhouses, and a restaurant. The homes in this neighborhood are among the largest in the area.

The older residential neighborhoods include Gascoigne Bluff Plantation and May River Plantation. Developed over 35 years ago, these plantations are characterized by larger lots and limited access.

LOCATION FACTORS:

The Lowcountry is home to various fauna, including oak, cypress, and cedar trees. Large vines often grow over the roadways, creating a ceiling that impedes access to fire apparatus, particularly on many small private roads in Planning Zone 31 (PZ31). This area features extensive saltwater marshes, the headwaters of the May River, and natural swamplands, all limiting accessibility for emergency responders.

The roads in PZ31 range from small dirt paths to state highways. The main roads include S.C. Highway 170, May River Road, Gibbet Road, Old Miller Road, and New Riverside Road. Traffic control devices, such as a roundabout at the intersection of New Riverside Road, S.C. Highway 170, and May River Road, as well as a traffic light at the intersection of S.C. Highway 170 and Gibbet Road, help manage the flow of vehicles. Careful responses are necessary due to the high traffic volume on these underdeveloped roads, which have not kept pace with the area's rapid growth.

Most commercial buildings, including schools and nursing homes, have modern fire protection features, such as automatic sprinkler systems. However, a significant risk in the area is the large number of residences that lack access to fire hydrants. Benton Rd., Whittle Ln., Stillwell Rd., Meadows Dr., Barefoot Alley, Cedar Lakes, Grande Oaks, and Gascoigne Bluff Plantation have no hydrant access, and the privately installed dry hydrants have not been properly maintained. Water shuttle operations would be necessary for any substantial fire event. The district owns a 3,000-gallon water tender assigned to the Dsitricts'Annex in Pritchardville; however, it is a standard transmission where certified personnel are trained to operate it, and the pump is rated for only 350 GPM. The district is exploring both the limited capability of the tender and the lack of water supply for possible solutions.

As the district continues the accreditation process, specifically the comprehensive evaluation of our planning zones, findings for PZ31 indicate that relocating the station would better serve the community. With the economy improving and existing residential neighborhoods being expanded, the district decided to relocate Station 31 to a more strategic location, located on New River Parkway, to meet the needs of the growing planning zone.

RISK ASSESSMENT: SPECIAL

- Pritchardville Elementary at 9447 Evan Way (HOL)*
- May River HS at 601 New River Rd. (HOL)
- Sparklight building at 18 Gibbet Rd would be our only special Hazard due to materials and equipment that remain in use at this site.

*HOL=High Occupancy Load

Geographical Planning Zone 32

Callawassie – Spring Island – Oldfield Mews - Various Neighborhoods - Lemon Island Bridge – Okatie Highway/170 Okatee River – Colleton River – Chechessee Creek/River

AREA PROFILE:

This area encompasses private plantations; Callawassie, Spring Island, small scattered neighborhoods including Oldfield Mews apartments, and Chechesse Point-Lemon Island.

A defining characteristic of this area includes its abundant wildlife and undeveloped sections of marsh, woodlands, and wildlands. Pompous grass-laden Lowcountry, river beds and exposed mud and oyster beds that rise and fall with the tides, and then dense and often untouched forestation. Many times these aspects are surrounding these communities or features within golf courses communities are aesthetically pleasing as well as advantageous to preserving a natural look and feel for the populous that call this planning zone home.

There are small pockets of populated neighborhoods within the planning zone, but the most populated area undoubtedly is Callawassie Island. Callawassie Island is similar to many other plantations in the District in that it has a golf course and clubhouse dotted with ponds and larger homes, and the island is surrounded by marsh and water. The water supply system is well maintained for firefighting needs.

Directly east of Callawassie Island is Spring Island. Spring Island is unique in that homes are more substantial than Callawassie, and the lot sizes are much grander, while natural vegetation is the choice of landscaping. The same water system that serves Callawassie Island services Spring Island. One of the challenges on Spring Island is water supply. While there are abundant fire hydrants, driveways are long and narrow and require long LDH lays and a 2nd engine to relay pump.

Beaufort-Jasper Water and Sewer Authority is just east of the station off of Okatie Highway (SC-170). Also, in the same area is the Beaufort-Jasper health clinic. The clinic is a two-story sprinkled government building that operates under normal business hours.

There is one large apartment complex that sits south of the station just off Okatie Highway (SC-170), called Oldfield Field Mews. The complex has approximately 36 two-story multi-family

housing units. Sprinkler systems protect the majority of the units. Furthermore, the entire complex is well protected by hydrants, and accessibility is very good.
Location Factors:

Distance from the station to the farthest point on Spring Island it is more than five miles. Also, some homes are difficult to access due to narrow and winding driveways. Also, there is only one way on and off for both islands, so it is possible that access to the two islands can be compromised in severe weather or due to catastrophic failure of either bridge or causeway.

Another problematic area is the distance to Oldfield Mews apartments. It was recognized that distance was a factor for the first-due engine to travel, so the District converted a mutual aid agreement it had with Hardeeville Fire Department into an automatic aid agreement to help cover the area. By doing so, Hardeeville FD it is now dispatched as part of the effective response force. The area is well-watered, and access is very good.

RISK ASSESSMENT: SPECIAL

- Spring Island Golf Course – 6 Golf House Road (Maintenance Building)
- Callawassie Golf Club – 100 Utility Court (Maintenance Building)
- Cheechessee Creek Golf Club – 1 Tucker Point (Maintenance Building)
- Beaufort Jasper Water and Sewer Authority – 6 Snake Road
    - Chlorine Storage – Chlorine is one of the ten highest volume of chemicals manufactured in the US. Even though chlorine is not flammable, it will react explosively with other common substances found in water treatment facilities. If exposed to Chlorine, especially through inhalation, may cause respiratory complications.
    - Exposure to Chemicals, organisms, and raw sewage can result in various conditions. The gases that can be found in some of these buildings or tank storage areas can be harmful to employees and rescue workers in the event of an emergency.
    - Another area of concern for the water treatment and sewage plant is the effect on the community after a major storm. There is a possibility with a large enough storm, flooding may occur, or power outages may cause failures and backups of raw sewage into residential water systems or onto the land surrounding residential properties

Lemon Island Boat Landing – Lemon Island Bridge on Rt. 170
Camp St. Marys and Okatie Bluff have limited hydrants and poses a water supply issue.

Geographical Planning Zone 33

Moss Creek, Buckingham, Windmill Harbor, Portions of Colleton River Plantation

Area Profile:

This area is best described as a typical suburban area including residential and some light commercial structures. Residential structures vary from apartment and condo complexes to single-family homes. This area also has numerous commercial structures, small businesses, and two golf courses.

The northern section of this Geographical Planning Zone borders the Colleton River. The water of Colleton River is utilized daily by recreational boaters, fishermen, and Pinckney Island National Refuge. Otherwise, the northern section of this zone (north of Hwy 278) is higher-income residential neighborhoods.

The northern section of this zone also has the Moss Creek neighborhood and Pinckney Island National Refuge. Moss Creek is a gated community with larger single-family homes and a golf course. The water system in Moss Creek is sufficient to support all fire operations within the community. Moss Creek also borders the Colleton River. The United States Fish and Wildlife Service governs the Pinckney Island National Refuge. The 4,053-acre refuge includes Pinckney Island, Corn Island, Big and Little Harry Islands, Buzzard Island, and numerous small hammocks. The district covers fire protection and medical services for this location.

The southern section of this Geographical Planning Zone is mixed with residential neighborhoods, apartment complexes, light commercial, and a golf course. Most commercial businesses in this zone are larger-scale strip malls.

In the southern section of this zone are the two Tanger Outlet Malls. Together these malls house a total of 138 individual retail stores ranging in size from 1,500 to 4,500 square feet. The Tanger Outlet Malls have an adequate water supply and good emergency access and incorporate current fire protection systems. This area also has subdivisions in Heritage Lakes, Windmill Harbor, and The Gatherings. These neighborhoods have adequate water supplies and access to fire and

medical services. Also, the planning zone contains two apartment complexes in Pine Forest and Old South apartments. Hilton Head National Golf Course and RV Resort is made up of 341 RV/Camper slips. A resort-style amenities center with a large swimming pool, restaurant, and bar. The RV resort is located on 97 landscaped acres.

LOCATION FACTORS:

This area consists of one main thoroughfare running east and west. Fording Island Road (US 278) is a six-lane highway that splits this zone in half. US 278 is the only access to the vacation destination Hilton Head Island. Traffic during vacation dates (Memorial Day to Labor Day) can be extremely heavy, especially on the weekends.

Waterways surround the area. During warmer months, the rivers are teeming with recreational boaters and local fishermen.

A few concerns exist in this planning zone. The two golf courses provide an issue with access to patients in EMS emergencies. Meanwhile, the two apartment complexes create a possibility for substantial loss of life and demand persistent monitoring by the fire department. Another area of concern is the numerous waterways beset with recreational activity. Waterways can create unique emergencies with minimal access.

RISK ASSESSMENT: SPECIAL

- Moss Creek Golf maintenance
- BJWA 115 Forman Hill Rd. (Chemical exposure limited access)
- Hilton Head Harbor RV Resort (Exposure limited access)

Geographical Planning Zone 34

Sun City – Sun City Riverbend - USCB Bluffton – University Park – Old Field – Baynard Park – Park Side – Seagrass Station – Rivers End

Area Profile:

Planning Zone 34, commonly known as the Sun City station, encompasses a diverse range of areas, including commercial properties, educational facilities, and smaller residential neighborhoods. This zone features key transportation routes, such as US Highway 278 (running East/West) and South Carolina Highway 170 (running North/South).

Sun City itself offers numerous amenities, including a woodworking shop, tennis courts, pickleball courts, a softball field, a performing arts theater, a movie theater, a bowling alley, nature trails, lagoons, and various clubs.

At the northern end of the zone is Oldfield Plantation, a gated golfing community that boasts multiple waterfront properties. Oldfield provides a host of amenities, including community pools, fitness centers, golf courses, and equestrian centers.

Other smaller gated communities within Planning Zone 34 include Sun City's Rivers Bend, Rivers End, Seagrass Station, Parkside, and University Park.

On the western side of the planning zone is the 200-acre University of South Carolina-Bluffton campus, which features nine three-story dormitory buildings and several university facilities. Additionally, there are two full-time assisted living facilities within the zone, with two more currently under construction. The area also includes various medical facilities, such as rehabilitation centers, dialysis units, and numerous commercial properties located along US Highway 170, Okatie Center Boulevard North, Okatie Center Boulevard South, and William Pope Drive.

Planning Zone 34 is home to Okatie Elementary School and River Ridge Academy (serving grades K-8), as well as two four-story hotels located just behind the station.Location Factors:

While the significant roadways in PZ34 include SC-170, US-278, and Bluffton Parkway, they all have traffic lights that are controlled by preemption devices to allow traffic to clear the intersection before emergency vehicles enter the intersection. Also, the posted speed limits are designed to keep traffic moving smoothly. However, the roads inside Sun City have to be recognized for their speed control measures to slow traffic. For example, the posted speed limit for the majority of the roads is 25mph, and there are numerous stop signs to negotiate while responding to an emergency, all of which slows down the response time.

Important response considerations in this area include the University of South Carolina - Bluffton campus and an assisted living facility.

Station 34 is situated outside the gates of Sun City, which creates challenges when responding to emergencies within the community. Although the furthest address from the station is only 3.8 miles away, it often takes over 8 minutes to reach this location. Factors such as stop signs, narrow winding roads, and low-speed limits all contribute to these extended travel times.

Another area of concern is Oldfield Plantation, which is the most distant plantation within PZ34's service area. To address this issue, the District has established an automatic aid agreement with the Hardeeville Fire Department, which is located closer to Oldfield Plantation.RISK ASSESSMENT: SPECIAL

- The Palmettos 3035 Okatie Highway- This nursing home is considered a high hazard because of the age and condition (memory care) of the patients as well as the number of occupants held within.
- NHC 3039 Okatie Highway- This nursing home is considered a high hazard because of the age and condition of the patients as well as the number of occupants held within.
- Magnolia Hall 118 Sun City Lane- This area is considered a high hazard due to the age and amount of occupants that gather daily. Large groups of people gather in this location to watch movies, plays, and other shows.
- Encompass Health 107 Seagrass Station- This area is considered a high hazard due to the condition of its patients. This facility is used for rehabilitation, and some of the patients are in poor health.
- Ashley Furniture 101 Okatie Center Blvd North– This area is considered a high hazard due to its fire load. This large store is full of highly combustible furniture items. This area is large enough for a person to become easily disoriented during emergency operations.

Geographic Planning Zone 35

Berkeley Hall Plantation-Rose Hill Plantation-Woodbridge-Island-West-Belfair Plantation

Area Profile:

Planning Zone 35's community consists of a mix of residential, light commercial, and professional office spaces, along with several small strip shopping areas. The residential neighborhoods include both public and private (gated) communities, as well as several multi-family apartment complexes. The commercial properties primarily feature one-story offices and retail stores. Additionally, there are two small parochial schools (K-12) within the district, which contribute to increased traffic during pick-up and drop-off times throughout the school year. The area also includes a multi-story continuing care facility

.Location Factors

Station 35 covers an area with a mix of public and private residential roadways. This area is divided by US Highway 278 (Fording Island Road), which runs in an east-west direction. The terrain is generally flat, with little to no slope. There are several county-controlled intersections with traffic lights, as well as many two-, three-, and four-way stop intersections. The roadways within the private communities are mostly residential and feature stop signs at intersections. The District provides hazard response and mitigation services in these private areas.

Key response considerations in this region include a continuing care facility and nearby schools. The continuing care facility accommodates residents with limited mobility, as well as some individuals with dementia or Alzheimer's. While the facility has fire protection systems, some doors are locked at all times for residents' safety and security.

Both schools in Station 35's area have limited access for emergency vehicles. These new schools are constructed to high safety standards and are equipped with monitored fire protection systems. However, during morning and afternoon student drop-off and pick-up times, emergency vehicle access is severely restricted, which can increase response times.RISK

ASSESSMENT: SPECIAL

- EVICORE Building 400 Buckwalter Place Blvd and 1 Carecore Dr. (HOL)
- Bloom at Belfair 800 Fording Island Rd (HOL assisted living- Limited access)
- Saint Gregory the Great Catholic School 323 Fording Island Rd (HOL)

Geographical Planning Zone 36

Colleton River Plantation, Moss Creek Plantation,

Area Profile:

Planning zone 36 has a response district that is composed primarily of single-family residences inside the private communities of Colleton River Plantation and a portion of Moss Creek Plantation. Colleton River Plantation Club is a member-owned golf community. The 1,500 acres of Lowcountry land is surrounded by water on three sides and is adjacent to Victoria Bluff Heritage Preserve. A majority of the houses in this district are utilized as vacation or second homes and not occupied throughout the entire year. Most homes range between 2,500 to 4,000 square feet in size, with one exception, a 20,000 square foot home that shares features with those of commercial structures.

Additionally, this planning zone encompasses two golf clubhouses, golf maintenance facilities, amenities centers, and a restaurant. Access to the community is restricted and permitted only to residents and their guests. Waterfront access on the Colleton River and being the home of one of the top 100 golf courses in the country makes this region a favorable venue for large golf events. In 2015, Colleton River was the host site for the USGA Junior Amateur Championship drawing large crowds and vendors into the community.

As this standards of cover was, station 36 moved from inside Colleton River Plantation to a new location just outside of the back gate of the plantation. This move made it possible for station 36 to cover more areas outside of Colleton River. The new location gives station 36 better access to Moss Creek Plantation as a second-due apparatus. Since the new location of the station has moved, the planning zone now encompasses Tanger One outdoor shopping mall and a small stretch of commercial properties next to it, all of Colleton River Plantation, and a portion of Moss Creek Plantation.

Location Factors:

All access within Colleton River is limited to narrow residential roadways. The roads within the community are winding with sharp curves restricting the speed of responding emergency

apparatus. Marked speed in all of the community is 30mph, which is the realistic, safe response speed for large vehicles. Night time responses pose additional challenges due to the lack of street lights and abundant wildlife (deer).

Many of the homes in the district have automatic notification systems in place for fire protection but are not protected with sprinklers. Though the houses are newer and comply with current building codes, fire conditions could result in a higher chance of "loss of life" and or "loss of personal property" due to their size. As a proactive measure, the district takes every opportunity during the construction phase or during false fire alarms to preplan the larger homes with the residents when permitted. Understanding the layout improves the crew's capabilities and efficiency during emergencies.

RISK ASSESSMENT: SPECIAL

- Waddell Mariculture Research and Development Center
    - This facility has chemicals, tanks, nets, pumping equipment, potential water rescue, no fire hydrants
- Colleton River golf maintenance (Jack Nicklaus & Pete Dye) (Chemical storage)

Geographical Planning Zone 37

Palmetto Bluff

AREA PROFILE:

This planning zone is known as Palmetto Bluff Plantation. It is a private gated community with residential homes as well as commercial buildings. The community itself is an entire planning zone.

The residential homes range from 2500 square foot patio homes to multi-thousand square foot estate homes. There are also private gated communities within the community of Palmetto Bluff. Each of the communities has its amenities facility. The community has a large riverfront residential area as well as multiple resort areas which are also located on the riverfront.

The estate homes range from gated communities with multi-acre home sites, to private gated multi-acre home sites.

The resort areas are equipped with shopping areas, restaurants, tennis courts, and a basketball court. There are multiple resort areas which vary from a large multi-story 5-star spa/resort building to quaint private cottages. There are multiple swimming pools and a bowling alley. Also, within one of the riverfront resort areas are two historical chapels. There is also a large multi-story administrative building equipped with a restaurant, conference rooms, and a wine cellar/lounge.

Palmetto Bluff Plantation also has a world-class equestrian center known as Longfield Stables. Longfield Stables equestrian center is equipped with a boarding facility and a maintenance facility.

Palmetto Bluff Plantation also has a shooting club. This professionally-designed sporting clays course boasted 13 sporting clays stations as well as an elevated and covered five-stand station, and a wobble deck field for a total of 15 shooting sites.

The resort area also includes a dry boat storage facility which includes boat and kayak rental.

Palmetto Bluff Plantation is also a golf community with an 18-hole, "Jack Nicklaus-designed golf course. A large clubhouse with a restaurant, pro shop, and golf cart storage building exists. The community also has a small grocery market equipped with gas pumps.

As Palmetto Bluff expands with new residential and commercial properties, the District has established specific trigger points for adding new fire stations. At present, Palmetto Bluff has not yet met those trigger points.

LOCATION FACTORS:

This area comprises 20,000 acres of land, including 32 miles of riverfront property. The resort riverfront area has narrow streets with sharp turns. There are usually many cars parked, impeding access for apparatus. The resort hosts many events in densely populated areas. Some events may host several hundreds of guests.

The resort area is also equipped with what is known as "Taxpayer buildings." These buildings have commercial occupancies on the first floor and residential occupancies on the floors above. The FDC (Fire Department Connection) locations for these buildings are located off of a narrow driveway behind the buildings. The driveway is a very narrow street within the collapse zone of the buildings. Additionally, the Montage Hotel is another large, high-occupancy building that has limited access to the rear of the hotel.

The Boat storage facility is fire-protected but still has a significant fire load.

Due to the location of the fire station, the backup engines are potentially 15 minutes away, thus delaying additional resources to assist in getting large working fires under control if not extinguished in a reasonable amount of time. Narrow streets will make it difficult, at best, for elevated master streams to be deployed to protect life and property.

The residential homes within the resort areas are very close to each other, causing a risk of multiple exposures in the event of a structure fire. The estate homes are on large parcels of land without fire protection, unmarked dark-colored hydrant's (very difficult to see) water supply, and narrow, unpaved driveways. Elevated master streams may not be possible because the apparatus may not have access to the residence.

Since the resort hosts many large events, the possibility of a mass casualty incident exists.

Due to our geographical location, there is also a risk of a natural disaster such as a hurricane. Evacuation of the community will be challenging.

RISK ASSESSMENT: SPECIAL:

- Wilson Landing Boat Dry Storage 31 Boat House Street

  - Heavy fuel load
  - 5000 gallons of marine fuel storage
  - 3000 gallons of diesel fuel
  - Accessibility within the collapse zone
- Palmetto Bluff golf maintenance 550, 552, 556, 558 Old Palmetto Bluff Rd.
  - 2000 gallons of fuel
  - 3000 gallons of diesel
  - Chemical storage
- Montage at Palmetto Bluff 477 Mont Pelia Rd.
  - High occupancy load
  - No access to the rear of the building

Geographical Planning Zone 38

Bluffton Parkway, Buckwalter Parkway, New River Parkway.

Planning Zone 38 (PZ38)** is a diverse area with residential, commercial, educational, and nursing home facilities. Depending on the day, this zone experiences high traffic and a large capacity of people.

PZ38 is home to multiple schools, ranging from preschool to high school, as well as a culinary institute. There are three nursing home facilities nearby, two of which have memory care units. The area also features a 40,000-square-foot cancer treatment hospital and several doctors' offices.

In addition, PZ38 includes a bowling alley, two grocery stores, numerous restaurants, a large storage facility, and multiple gas stations.

The zone contains several residential communities, many of which are located near commercial areas. This proximity can lead to significant pedestrian and vehicular traffic, potentially slowing down response times.
Location Factors:

The area profile of Planning Zone 38 includes residential neighborhoods, public and private schools, and mixed commercial properties such as strip mall shopping centers and medical facilities.

The residential communities feature a combination of single-story and two-story single-family homes, most of which are located in gated communities. There are also a few multi-family, multi-story apartment complexes within the planning zone.

Like many other planning zones in the District, Bluffton Parkway runs through this area. Depending on the time of day, traffic on the parkway and surrounding roads can be significant.

For the various facilities in PZ38—whether they are apartment complexes, nursing homes, or schools—numerous resources must be taken into account to effectively manage fire-related emergencies.

RISK ASSESSMENT: SPECIAL

- Bluffton High School – 12 HE McCracken Circle (HOL)*
- McCracken Middle School – 250 HE McCracken Circle (HOL)
- Bluffton Elementary School – 160 HE McCracken Circle (HOL)
- Bluffton Early Childhood Elementary School- 150 HE McCracken Circle (HOL)
- Boys and Girls Club: -100 HE McCracken (HOL)
- Hilton Head Christin Academy- 3088 Bluffton Pkwy (HOL)
- River Ridge Academy Intermediate School- 3050 River Ridge Drive (HOL)
- Benton House – 8 Hampton Lake Drive care facilities with long-term residents with limitations. (HOL)
- NHC – 3039 Okatie Highway care facilities with long-term residents with limitations. (HOL)
- The Palmettos – 3035 Okatie Highway care facilities with long-term residents with limitations. (HOL)
- St. Joseph Candler Cancer Hospital – 100 Buckwalter Place (HOL)
- Publix – 101 Buckwalter Place (HOL)
- Kroger – 27 Discovery Drive (HOL)
- Station 300 – 25 Innovation Drive (HOL)
- One Hampton Lake – 11 Parklands Drive (HOL)
- Mystic Bluff Apartments – 103 Inspiration Ave (HOL)
- Pine Crest Golf Maintenance - HE McCracken Circle (FL)

*High Occupant Load= HOL

*Fuel Load= FL

9. Critical Task Analysis and Effective Response Force (ERF) **(CC 2C.4)**

For every service provided by the District—such as fire suppression, emergency medical services (EMS), rescue operations, and hazardous materials incidents (Hazmat)—there are inherent risks that must be considered. To minimize these risks, the District categorized them as low, moderate, or high for each service. Subsequently, the District conducted a Critical Task Analysis (CTA) to evaluate whether it has the appropriate number of trained personnel and physical resources needed to handle emergencies safely.

The charts on the following pages below indicate the CTA results by service and risk type. The minimum staff is three (3) personnel per engine and two (2) personnel for the battalion.

Critical Tasking: Fire Suppression

Low Risk (Fire Alarm, Vehicle, Brush, Dumpster Fire)		
Apparatus	**Tasks**	**CTA**
First Due Engine	Officer- Establish command; size up, initial action plan, Safety Officer	3
	Engineer- Apparatus placement, water supply, operate fire pump to provide desired flow rate for fire attack	
	Firefighter(s) and Officer- Deploy proper hose line and begin an initial fire attack	
Second Due Engine/ Truck	Crew- Provide water supply for the first arriving apparatus	1
	Crew- Assist as directed by Incident Command	2
Critical Task Analysis Staffing	**Total Personnel**	**6**

Moderate (Single Family / Multi-Residence, Detached Garage, Commercial Building		
Apparatus	**Task**	**CTA**
First Due Engine	Officer-Scene size up, Command decision, Incident action plan	3
	Engineer- Apparatus placement, water supply, operate fire pump to provide desired flow rate for fire attack	
	Firefighter(s) and Officer- Deploy proper hose line and begin initial fire attack or rescue	
Second Due Engine	Ensure water supply, make connections and operate fire pump to supplement buildings' fire suppression system	3
	Deploy a secondary attack line	
	IRIC	
Third Due Engine	Establish Rapid Intervention Crew	3
Fourth Due Engine	Perform duties as directed by Incident Command	3
Planning Zone 32 (HFD/BFD)*	Perform duties as directed by Incident Command	4
Planning Zone 34 (HFD/JCFD)**	Perform duties as directed by Incident Command	2
Rescue	Perform duties as directed by Incident Command	3
Truck Company	Officer and Firefighter- Force Entry, Search and Rescue,	2
	Operator and Firefighter- Ground ladders, aerial operations, control utilities, ventilation	
Battalion Chief w/ Aid	Assume Incident Command, Bat Aid Incident safety officer	2
	Evaluate incident action plan and update as needed	
	Consider additional resources	
Critical Task Analysis Staffing	**Total Personnel**	**25**

***Denotes Hardeeville (1 person) and City of Beaufort Fire Department (3 personnel) is part of the ERF for Planning Zone 32.**

****Denotes Jasper County Fire Department (1 person), Hardeeville Fire Department (1 person).**

High Risk (Assisted Living facilities, Golf chemical storage, and Schools)		
Apparatus	**Task**	**CTA**
First Due Engine	Officer-Scene size up, Command decision, Incident action plan, Request additional alarm upon confirmation of a working fire	3
	Engineer- Apparatus placement, water supply, operate fire pump to provide desired flow rate for fire attack	
	Firefighter(s) and Officer- Deploy proper hose line and begin initial fire attack or rescue	
Second Due Engine	Ensure water supply, make connections and operate fire pump to supplement the buildings' fire suppression system	3
	Deploy a secondary attack line	
	IRIC	
Third Due Engine	Establish Rapid Intervention Crew	3
fiveth Due Engine	Perform Duties as directed by Incident Command	3
Fifth Due Engine	Perform Duties as directed by Incident Command	3
Sixth Due Engine	Perform Duties as directed by Incident Command	3
Seventh Due Engine(Planning Zone 32 HFD/BFD)*	Perform Duties as directed by Incident Command	4
Eighth Due (Planning Zone 34 HFD/JCFD)*	Perform Duties as directed by Incident Command	2
Rescue	Perform Duties as directed by Incident Command	3
Truck Company	Officer and Firefighter- Force Entry, Search and Rescue,	2
	Operator and Firefighter- Ground ladders, aerial operations, control utilities, ventilation	
Battalion Chief w/ Aid	Assume Incident Command, Incident safety officer	1
	Evaluate incident action plan and update as needed	
	Consider additional resources	
Safety Officer	Monitor conditions and overall safety of all operations	1
	Establish Safety Group if needed due to incident size or complexity	
Officer	Additional command staff	1
	Additional Safety Officer	
	Total Personnel	**32**

***Denotes Hardeeville (1 person) and City of Beaufort Fire Department (3 personnel) is part of the ERF for Planning Zone 32.**

****Denotes Jasper County Fire Department (1 person), Hardeeville Fire Department (1 person).**

Critical Tasking: EMS

EMS: Low-Risk: Not serious or life-threatening			
Unit	**ERF**	**Critical Task**	**CTA**
First Due Engine Company	3	Command / Safety / Family Liaison / Patient Assessment / Patient Care / Handling / Equipment / Documentation / Medical Communications	3
Total Effective Response Force	**3**		**3**

EMS: Moderate-Risk: Serious, but not immediately life-threatening			
Unit	**ERF**	**Task**	**CTA**
First Due Engine Company	3	Command / Safety / Patient Assessment / Patient Care / Handling / Equipment / Documentation / Medical Communications	3
Battalion QRV	2	Assume Command / Incident Safety Officer / Family Liaison	2
Total Effective Response Force	**5**		**5**

EMS: High-Risk: Life-threatening, requiring immediate intervention			
Unit	**ERF**	**Task**	**CTA**
First Due Engine Company	3	Command / Safety / Triage / Patient Assessment / Patient Care / Handling / Equipment / Documentation / Medical Communications	3
Second Due Engine Company	3	Safety / Triage / Patient Assessment / Patient Care / Handling / Equipment / Documentation / Medical Communications	3
Battalion QRV	2	Assume Command / Incident Safety Officer/ Resource Management / Liaison with EMS or LEO.	2
Total Effective Response Force	**8**		**8**

Critical Tasking: Technical Rescue

Technical Rescue Critical Tasking: Low-Risk (Elevator Rescue)		
Apparatus	**Task**	**CTA**
Engine First Due	Assumes Command Recon and Locate Patient	3
Rescue	Performs Elevator Rescue	3
Total Effective Response Force	**Total Personnel**	**6**

Technical Rescue Critical Tasking: Moderate-Risk (Water Rescue)		
Apparatus	**Task**	**CTA**
Engine First Due	Assumes Command Recon and Locate Patient	3
Rescue/Boat Asset	Establish Rescue Group Launch Boat and perform rescue	3
Battalion Chief	Incident Command Safety officer	2
Total Effective Response Force	**Total Personnel**	**8**

Technical Rescue Critical Tasking: Moderate-Risk (Basic Auto Extrication)		
Apparatus	**Task**	**CTA**
Engine First Due	Assumes Command Recon Patient Care	3
Rescue	Rescue Operations	3
Engine Second Due	Secure Fire Hazards	3
Battalion Chief	Incident Command Safety officer	2
Total Effective Response Force	**Total Personnel**	**11**

Technical Rescue Critical Tasking Continued:

Technical Rescue Critical Tasking: High-Risk Trench Rescue/Confined Space Rescue		
Apparatus	**Task**	**CTA**
Engine First Due	Assumes Command Recon and Locate Patient	3
Second Due Engine	Decon and Manpower	3
Rescue	Establishes Rescue Group Initiates Rescue Operations	3
HHIFR Rescue Truck	Setup Logistics for equipment Assist in Setup and Rescue	3
RRT-4 Callout	Perform rescue Operations as needed	10
Battalion Chief	Incident Command Safety officer	2
Total Effective Response Force	**Total Personnel**	**24**

Critical Tasking: Hazardous Materials Incidents

Level 1 HAZMAT Response* Low Risk (Any spill 55 gallons or less, natural gas or propane odor outside)		
Apparatus	**Task**	**CTA**
First Due Engine	Officer assumes command, performs scene size up, develops an IAP, recognizes the need and calls for additional resources	3
Rescue	Isolate and deny entry, medical triage, initial	3
Critical Task Analysis Staffing	**Total Personnel**	6

Level 2 HAZMAT response* Moderate (Any spill 55 gallons or more, or known substance at dispatch time) No immediate threat to life.		
Apparatus	**Task**	**CTA**
First Due Engine	Officer assumes command, performs scene size up, develops an IAP	1
	Entry/Recon	2
Second Due Engine	Back-up/Decon	3
Battalion Chief w/ Aide	Assumes command, reevaluates IAP and makes necessary changes, recognize the need and calls for additional resources	1
	BC Aide assumes the role of Incident Safety Officer	1
Rescue	Isolate and deny entry, medical triage	3
Truck	Assist units on scene as needed	2
Total Effective Response Force	**Total Personnel**	**13**

*A Level 2 response consists of 2 engines and a Battalion Chief (BC) w/ aide. The first arriving engine initially assumes the role of IC and Safety. Upon the arrival of BC w/ aide, command and safety are assumed from the first arriving engine officer. BCEMS provides medical.

Level 3 HAZMAT* High-Risk response: (South Carolina HazMat Regional Team 4) Spill of an unknown substance of any size, any release of a Toxic Inhalation Hazard (IDLH atmosphere), immediate threat to life.			
Positions		**Task**	**CTA**
Incident Command	1	Assumes command of the incident, develops an IAP, communicates with Hazmat Branch, liaison with other agencies if on scene	1
Incident Safety Officer	1	Oversees safety of the entire incident	1
Hazmat Branch	1	Oversees Hazmat side of the incident, communicates back to Incident Command	1
Hazmat Safety Officer	1	Oversees safety of hazmat operations, accountability of hazmat personnel	1
Decontamination Officer	1	Oversees decontamination of personnel	1
Decon Team	4	Sets up decontamination line, performs decontamination of personnel after exiting hot zone	4
Entry Officer	1	Briefs entry personnel	1
Recon Team	2	Establishes control zones, relays information back regarding the incident, reports back to Entry Officer	2
Entry Team	2	Finishes recon if not completed, mitigation of incident, reports back to Entry Officer	2
Back-up	2	Safety for entry team/RIC performs further mitigation if needed, reports back to Entry Officer	2
Medical/Rehab	2	Obtains vitals before and after of entry personnel, sets up rehab	2
Science	1	Works with Safety Officers determining proper PPE, isolation zones, treatment for responders and public	1
Total Effective Response Force		**Total Personnel**	**19**

* A level 3 response will rapidly tax the Districts' numbers and off-duty personnel. SCHM4 will likely be requested to respond. The size of the incident will dictate the positions assigned and the extra personnel needed

10. Historical Perspective and Summary of System Performance

To create a successful Standards of Cover document, it is essential to understand the system performance model. There are two components to the system performance model: distribution and concentration. Both components are measured in time. Distribution relates to the placement of first-due resources (fixed deployment station) for immediate mitigation of an emergency, and concentration refers to the placement of specific resources, i.e., the truck company and rescue to deploy district-wide to assist the first-due resources effectively. This, too, was determined by historical need and the possibility of need. These factors consider risk levels, critical tasking, and physical and human resources.

Distribution Factors:

The distribution consists of two components: the geographical location of a station and time measurement for how quickly the first-due apparatus will arrive at an incident. For the district, all apparatuses respond from fixed station locations. As of this Standards of Cover publication, there are nine stations from which the District responds. The District does not utilize Automatic Vehicle Locator (AVL), which means the closest available unit.

From its inception, the District inherited previously volunteer-operated stations, which were not always in ideal locations. The initial station locations were close to the largest population centers: Downtown Bluffton, Pritchardville, and Callawassie. However, these stations are miles apart, and as the community has grown, areas between the stations have also developed. This led to the creation of additional stations to serve the "infill" areas.

At that time, the tax base could not support significant expenditures for land and buildings. Consequently, the District had to establish stations where private parties could donate land or

where county-owned property could be utilized. As a result, the stations were not always in the most suitable locations for the District's needs, but they were functional.

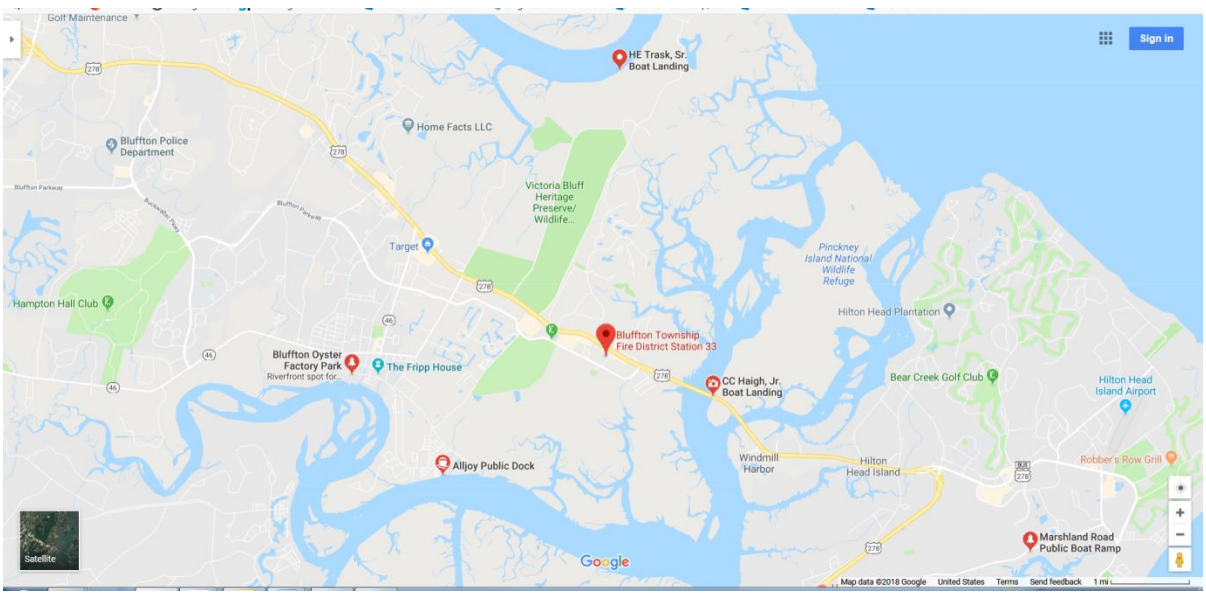
As the District continues to grow, so too does its tax base, which enables the construction of new facilities to meet the community's needs better.

To achieve this, the District employs modern analytical methods to identify geographical areas with long response times. For instance, a portion of Sun City experiences extended response times due to the community's large size and the closest fire station being located outside of Sun City. In response, the District has allocated funds to construct a new station within Sun City. This initiative aims to reduce these longer response times and improve the availability of resources. Once completed, this new station will be the tenth in the District, with an estimated completion date set for late 2025.

Concentration:

Concentration refers to allocating resources within a specific area to effectively handle an emergency by ensuring adequate human and physical resources. This involves the arrival of all preassigned equipment at the scene to address the emergency. For instance, in the case of a structure fire, concentration involves the initial arrival of the first-due engine, followed by a preassigned set of resources, such as four additional engines, a truck company, rescue personnel, and two battalions, all arriving within a specified time frame to prevent the fire from spreading.

The District currently has one Truck Company, one brush truck, one quint, and one heavy rescue to support engine company operations across the District. The heavy rescue is a versatile apparatus: it can support structure fire operations, water rescue, and technical rescues such as extrication, high-angle rescues, and hazardous materials incidents.



Reliability:

Reliability refers to the District's ability to deliver services consistently within performance expectations. This involves ensuring the District has enough human and physical resources to perform its duties reliably. To achieve this, the District has implemented procedures to minimize the drawdown or out-of-service time of first-due engines. For example, during training scenarios, no more than two engines will be out of service for an extended period. This approach ensures that the continuity of service performance and an effective response force are only minimally affected when there is a drawdown of personnel and equipment.

During the summer months, the area experiences severe thunderstorms that can cause significant disruption for short periods, putting a strain on the District's capabilities. To address this, the District has a "Storm mode" policy in place. This policy helps to minimize resource usage during severe weather events. By implementing the storm mode policy, the District can efficiently allocate resources to the areas that need them the most while also having the ability to call back additional personnel and resources if necessary.

Similarly, the District utilizes historical data to comprehend resource usage. It is important for the District to assess the dependability of each planning zone to ensure that enough human and

physical resources are available when short but impactful events such as structure fires, severe thunderstorms, and technical rescue incidents occur. (CC2D.1)

For less common events than day-to-day operational incidents, the District relies on mutual and automatic aid agreements with its neighboring departments (Restoration). These agreements allow the District to return to normalcy quickly while maintaining high reliability.

Lastly, as the area develops and population density changes, the District will determine if its service to its stakeholders is effective. This is done, in part, by understanding the system performance it provides to its community. The District conducts this analysis on an annual basis. The chart below shows reliability for each planning zone. The chart tells the District command staff that the reliability of each station and its human and physical resources are available most of the time; thus, there is no need to add additional human and physical resources to any particular station. However, the District has a threshold to add additional resources when a station falls below 70% reliability. Once this is recognized, more resources may be assigned accordingly after further study of that station.

Planning Zone Reliability					
	2019	2020	2021	2022	2023
Station 30	89%	97%	97%	96%	97%
Station 31	93%	90%	93%	94%	92%
Station 32	96%	92%	94%	94%	97%
Station 33	92%	91%	89%	87%	90%
Station 34	92%	97%	97%	97%	98%
Station 35	91%	74%	78%	76%	74%
Station 36	95%	75%	81%	71%	69%
Station 37	84%	77%	90%	85%	91%
Station 38	NA	64%*	79%	82%	81%

*Opened September 2020

11. Performance Objectives and Measurements: (CC2C.5)

Baseline Performance Statement:

Baseline performance is a measurement of the current time (current performance). It incorporates the 911 time continuum: Alarm handling (PSAP), Turnout time, Travel time, and Total response time. Within each of the above time segments, data is collected and analyzed to determine baseline performance for each of the services the District provides to its stakeholders: fire suppression, EMS, technical rescue, and hazardous materials incidents. Furthermore, the District collects time data on effective response force (ERF) to thoroughly understand the time it takes to have all human and physical resources on an emergent scene as dictated by the incident.

Baseline performance is then used to set benchmark times. Benchmark times are strived for, or in other words, a goal. Establishing baseline performance aims to understand where the gaps in services are, investigate the causes, and implement corrective action. Any fire department must understand its current performance. By completing this analysis segment, the District can improve its performance in all the services it provides to its stakeholders. Baseline performance is based on five years of data-2019-2023. **CC2C.** Response time will be copied and input manually into the RMS for apparatus outside the District.

It should be noted, that an analysis of the effective response force (ERF) data revealed inconsistencies in the ERF responses for certain call types, particularly those requiring code 3 responses (lights and sirens). Specifically, the data concerning brush fires, low-risk technical rescues, fire alarms, and low-risk Hazmat incidents showed discrepancies when compared to the District's Standard Operating Guidelines (SOG).

For example, in many instances involving brush fires and low-risk technical rescues, the first-due engine responded with code 3, while the second-due engine (ERF) responded with code 1. This discrepancy has led to skewed ERF data, resulting in a very limited dataset for valid ERF responses.

Consequently, there is no ERF data for 2023. In response to these issues, the Response SOG has been revised to establish a new response methodology, which specifies that the first engine will respond with code 3 while subsequent responding units will operate under code 1.

Benchmark Statement and Methodology:

The District, on an annual basis, analyzes its data to identify opportunities to improve its district-wide performance. The benchmark methodology is part of the annual appraisal of its overall performance. Concerning this analysis, the District's response history is analyzed to identify consistencies, reliabilities, and resiliencies by risk category and incident classification. This methodology establishes benchmark times for first-due (Concentration) and ERF (Distribution). (CC 2D.1)

The method follows CPSE's 10th edition of the Community Risk Assessment Standards of Cover which defines total response time as Alarm handling time (PSAP), Turnout time, and Travel time for first-due and effective response force (ERF).

Benchmarks: Performance Objectives

Benchmark statements are performance objectives to strive for (Goal). As mentioned earlier, benchmark objectives pertain to the 911 time continuum for each service the District provides: fire suppression, EMS, hazardous materials incidents, and technical rescue.

The chart below depicts the National Fire Protection Association (NFPA) NFPA 1710 Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire. The chart is used to compare to the District actual baseline performance and benchmark statements, which is described in the performance charts later in this document. The intention for depicting the NFPA standard is to show the perspective of the national standard versus the actual baseline performance so that new benchmarks can be established.

Benchmark Performance Objectives			**Structure Fires**	**EMS**	**Technical Rescue**	**Hazardous Materials**
Alarm Handling (NFPA Recommended)	Pick up to Dispatch	Urban	1:04	1:30	1:30	1:30
Turnout Time (NFPA Recommended)	Turnout Time 1st Unit	Urban	1:20	1:00	1:20	1:20
Travel Time (NFPA Recommended)	Travel Time 1st Unit Distribution	Urban	4:00	4:00	4:00	4:00
	Travel Time ERF Concentration	Urban	8:00	8:00	8:00	8:00
Total Response Time (BTFD Historical Data)	Total Response Time 1st Unit On-Scene Distribution	Urban	11:51	11:12	12:12	12:47
	Total Response Time ERF Concentration	Urban	19:26	11:16	60	60

The command staff discussed the goals for each time segment except for alarm handling. Because alarm handling is outside the district's purview, the command staff followed the NFPA 1221 (7.4.2) Standard for the Installation, Maintenance, and Use of Emergency Services Communications Systems. Though the District does not have jurisdiction over the dispatch center, it does monitor it monthly. If there is a concern with alarm handling time, the District will follow the county's policy for dispatch errors.

Fire Suppression Benchmarks:

All Risk Levels: First-Due

For 90 percent of all risk levels, the total response time for the first-due apparatus, consisting of a minimum of 3 personnel, shall be 11 minutes and 12 seconds. The first-due apparatus (Distribution) shall be capable of establishing command, providing 500/750 gallons of water with a pump capacity of 1500 gallons per minute (GPM), completing a scene size-up, develop an initial incident action plan, establish a water supply (if possible), deploy proper hose lines flowing a minimum of 150 GPM or rescue. Personnel are expected to follow the District's standard operating guidelines and perform tasks safely for themselves and the public.

Low-Risk ERF

For 90 percent of all low-risk incidents, the total response time for the effective response force (ERF-Concentration), consisting of a minimum of 3 personnel, shall be 15 minutes and 41 seconds. The ERF shall be capable of establishing/assisting with a water supply and helping with hose lines or rescue. Personnel are expected to follow the District's standard operating guidelines and perform tasks safely for themselves and the public.

Moderate-Risk ERF

For 90 percent of all moderate-risk incidents, the total response time for the ERF (Concentration), consisting of a minimum of 25 personnel, shall be 20 minutes and 54 seconds. The ERF shall be capable of establishing a safety officer, establishing a rapid intervention team

{RIT- OSHA requirement 2 in-2 out policy 29 CFR 1910.134(g)(4)(i)}, assisting with water supply, ladder buildings for second means of egress, assist with ventilation, rescue, hose management, and perform salvage and overhaul. Personnel are expected to follow the District's standard operating guidelines and perform tasks safely for themselves and the public.

High-Risk ERF

For 90 percent of high-risk incidents: the total response time for the ERF (Concentration), consisting of a minimum of 31 personnel shall be 20 minutes and 54 seconds. The ERF shall be capable of establishing an additional safety officer and deploy resources as needed. Personnel are expected to follow the District's standard operating guidelines and perform tasks safely for themselves and the public.

Below is a table depicting five years' baseline performance (2019-2023). The table illustrates the 90th percentile of each risk classification and the number of calls for each year. The baseline performance data is the control data that is used to set benchmarks (Goals). The command staff uses the baseline data to compare to the set benchmarks where gaps in service are identified and where the command staff determines the cause. Likewise, the District will strive for benchmarks within the same chart. The table is depicted for Fire Suppression, Technical Rescue, Hazardous Materials Incidents, and EMS.

Lastly, the District has not experienced a high-risk incident for Fire Suppression for the data period; therefore, the moderate-risk benchmark statement is the same for high-risk.

Baseline Performance: Fire suppression

(Low Risk) Fire Suppression - 90th Percentile Times - Baseline Performance			Benchmark (Target)	2019-2023	2023	2022	2021	2020	2019
Alarm Handling	Pick-up to Dispatch	Urban		2:54	2:50	2:52	2:45	3:00	3:04
Turnout Time	Turnout Time 1st Unit	Urban		1:46	1:36	1:51	1:43	1:45	1:58
Travel Time	Travel Time 1st Unit **Distribution**	Urban		8:31	8:31	7:35	7:19	8:30	10:44
	Travel Time ERF **Concentration**	Urban		15:06	NA	26:43	10:39	10:39	12:23
Total Response Time	Total Response Time 1st Unit on Scene **Distribution**	Urban	11:12	13:00	12:55	11:42	12:12	13:06	14:37
				n=404	n=78	n=96	n=76	n=87	n=67
	Total Response Time ERF **Concentration**	Urban		18:58	NA	28:41	17:37	17:12	15:51
			15:41	n=113	n=o	n=30	n=29	n=27	n=27

(Moderate Risk) Fire Suppression - 90th Percentile Times - Baseline Performance			Benchmark (Target)	2019-2023	2023	2022	2021	2020	2019
Alarm Handling	Pick-up to Dispatch	Urban		2:48	2:46	2:40	2:40	3:03	2:52
Turnout Time	Turnout Time 1st Unit	Urban		1:50	1:43	1:53	1:54	2:02	1:38
Travel Time	Travel Time 1st Unit Distribution	Urban		8:33	7:39	11:55	7:29	7:08	8:37
	Travel Time ERF Concentration	Urban		19:10	16:32	20:32	22:06	13:52	22:49
Total Response Time	Total Response Time 1st Unit on Scene Distribution	Urban	10:21	11:57	11:43	15:45	11:11	10:21	10:47
				n=210	n=50	n=31	n=42	n=40	n=47
	Total Response Time ERF Concentration	Urban		26:11	20:55	30:24	28:12	22:14	25:42
			20:54	n=60	n=16	n=8	n=11	n=16	n=9

Emergency Medical Service Benchmark Performance:

All Risk Levels- First Due

For 90 percent of all risk levels, the total response time for the first-due apparatus (Distribution), consisting of a minimum of three (3) personnel, shall be 11 minutes and 15 seconds. The first-due apparatus, ALS or BLS, shall be capable of determining if the scene is safe, establishing command, forming a general impression, conducting an initial patient assessment, obtaining vitals, obtaining the patient's medical history, and following the District's standing orders. Once Beaufort County EMS arrives on the scene, and a patient report is given to the paramedic in charge, it is when the patient's care is transferred. The engine crew will then assist Beaufort County EMS with packaging the patient and transport (a driver) if needed. Personnel are expected to follow the District's standard operating guidelines and perform tasks safely for themselves and the public.

Low-Risk ERF:

For 90 percent of all low-risk incidents, the total response time for an ERF (Concentration), consisting of an engine with three (3) personnel, shall be 11 minutes and 15 seconds. The ERF, ALS or BLS, shall be capable of: determining if the scene is safe, establish command, form a general impression, conduct an initial patient assessment, obtain vitals, obtain the patient's medical history, and follow the District's standing orders. Once Beaufort County EMS arrives on the scene, and a patient report is given to the paramedic in charge, it is when the patient's care is transferred. The engine crew will then assist Beaufort County EMS with packaging the patient and transport (a driver) if needed. Personnel are expected to follow the District's standard operating guidelines and perform tasks safely for themselves and the public.

(Continue to the next page.)

Moderate-Risk ERF:

For 90 percent of all moderate-risk incidents, the total response time for an ERF (Concentration), consisting of an engine with three (3) personnel and a battalion with aid with two (2) personnel, shall be 13 minutes and 34 seconds. The ERF shall be capable of: determining if the scene is safe, perform a scene size-up, perform ALS and BLS treatment, assist/setup triage, assist/set up a safe zone, establish a safety officer, and establish a unified command. Personnel are expected to follow the District's standard operating guidelines and perform tasks safely for themselves and the public.

High-Risk ERF:

For 90 percent of all high-risk incidents, the total response time for an ERF (Concentration), consisting of two engines with six (6) personnel and a battalion with aid with two (2) personnel, shall be 13 minutes and 37 seconds. The ERF shall be capable of: determining if the scene is safe, perform a scene size-up, perform ALS and BLS treatment, assist/setup triage, assist/set up a safe zone, establish a safety officer, and establish a unified command. Personnel are expected to follow the District's standard operating guidelines and perform tasks safely for themselves and the public.

EMS Baseline Performance:

(All Risks First-Due) EMS - 90th Percentile Times - Baseline Performance			Benchmark (Target)	2019-2023	2023	2022	2021	2020	2019
Alarm Handling	Pick-up to Dispatch	Urban		2:50	2:45	2:52	2:53	2:50	2:46
Turnout Time	Turnout Time 1st Unit	Urban		1:45	1:40	1:45	1:53	1:44	1:44
Travel Time	Travel Time 1st Unit **Distribution**	Urban		8:34	8:21	8:21	8:34	9:12	8:41
	Travel Time ERF **Concentration**	Urban		NA	NA	NA	NA	NA	NA
Total Response Time	Total Response Time 1st Unit on Scene **Distribution**	Urban	11:15	13:10	12:48	12:38	13:19	14:06	13:23
				n=23809	n=6105	n=5487	n=5054	n=3783	n=3380
	Total Response Time ERF **Concentration**	Urban		NA	NA	NA	NA	NA	NA
			NA	NA	NA	NA	NA	NA	NA

(Low Risk) EMS - 90th Percentile Times - Baseline Performance			Benchmark (Target)	2019-2023	2023	2022	2021	2020	2019
Alarm Handling	Pick-up to Dispatch	Urban		2:49	2:46	2:53	2:53	2:50	2:46
Turnout Time	Turnout Time 1st Unit	Urban		1:44	1:40	1:45	1:49	1:43	1:44
Travel Time	Travel Time 1st Unit **Distribution**	Urban		8:37	8:20	8:22	8:34	9:12	8:41
	Travel Time ERF **Concentration**	Urban		NA	NA	NA	NA	NA	NA
Total Response Time	Total Response Time 1st Unit on Scene **Distribution**	Urban	11:15	13:10	12:52	12:39	13:21	13:48	13:23
				n=23131	n=5957	n=5315	n=4928	n=3551	n=3380
	Total Response Time ERF **Concentration**	Urban		NA	NA	NA	NA	NA	NA
			NA	n=NA	n=NA	n=NA	n=NA	NA	n=NA

Single engine response for Low-Risk calls.

(Moderate Risk) EMS - 90th Percentile Times - Baseline Performance			Benchmark (Target)	2019-2023	2023	2022	2021	2020	2019
Alarm Handling	Pick-up to Dispatch	Urban		3:10	2:28	2:53	3:12	3:15	NA
Turnout Time	Turnout Time 1st Unit	Urban		1:55	2:12	1:45	1:34	1:12	NA
Travel Time	Travel Time 1st Unit **Distribution**	Urban		8:16	8:56	8:22	8:34	7:01	NA
	Travel Time ERF **Concentration**	Urban		10:47	11:13	9:21	9:34	13:00	NA
Total Response Time	Total Response Time 1st Unit on Scene **Distribution**	Urban	11:15	12:25	12:36	11:00	14:22	11:25	NA
				n=57	n=13	n=17	n=13	n=14	NA
	Total Response Time ERF **Concentration**	Urban		17:45	17:11	15:17	15:02	17:16	NA
			13:34	n=26	n=10	n=9	n=4	n=3	NA

-- Starting in January 2020, the District began the new Low-Moderate and High-risk deployment model. Therefore, there is no ERF data for 2019. Prior to the implementation of the new EMS deployment model, the District's response to all EMS call types was a single-engine.

(High Risk) EMS - 90th Percentile Times - Baseline Performance			Benchmark (Target)	2019-2023	2023	2022	2021	2020	2019
Alarm Handling	Pick-up to Dispatch	Urban		2:41	2:38	2:44	2:57	2:30	NA
Turnout Time	Turnout Time 1st Unit	Urban		1:44	1:38	1:31	1:44	2:13	NA
Travel Time	Travel Time 1st Unit **Distribution**	Urban		7:57	6:38	7:21	7:39	10:12	NA
	Travel Time ERF **Concentration**	Urban		11:28	8:04	11:22	11:09	15:17	NA
Total Response Time	Total Response Time 1st Unit on Scene **Distribution**	Urban	11:15	11:45	9:43	11:53	10:50	14:25	NA
				n=481	n=138	n=148	n=112	n=83	NA
	Total Response Time ERF **Concentration**	Urban		16:04	12:07	15:54	15:35	19:35	NA
			13:37	n=230	n=65	n=56	n=63	n=46	NA

-- Starting in January 2020, the District began the new Low-Moderate and High-risk deployment model. Therefore, there is no ERF data for 2019. Prior to the implementation of the new EMS deployment model, the District's response to all EMS call types was a single-engine.

Technical Rescue Benchmark Performance:

All Risk Levels:

For 90 percent of all risk levels, the total response time for the first-due apparatus, consisting of a minimum of 3 personnel, shall be 12minutes and 24 seconds. The first-due apparatus shall be capable of: establishing command, completing a scene size-up, determining if the scene is safe, determine if a rescue is necessary, determine if more resources are needed, initiate incident action plan, and provide EMS functions if it is safe to the crew and the public.

Low-Risk ERF

For 90 percent of all low-risk technical rescue incidents, the total response time performance for the ERF (Concentration), consisting of 3 personnel shall be 12 minutes and 24 seconds. The ERF shall be capable of: Establishing if the scene is safe, establish a safety officer, transition command if needed, adjust IAP, and perform rescue operations. Personnel are expected to follow the District's standard operating guidelines and perform tasks safely for themselves and the Public.

Moderate-Risk ERF (Water Rescue)

For 90 percent of moderate-risk with water rescue component, the total response time performance for the ERF (Concentration), consisting of 8 personnel shall be 17 minutes and 24 seconds. The ERF shall be capable of: Establishing if the scene is safe, establish a safety officer, transition command if needed, adjust IAP, and perform rescue operations recognize the need for more personnel and equipment. Personnel are expected to follow the District's standard operating guidelines and perform tasks safely for themselves and the Public

Moderate-Risk ERF (Extrication)

For 90 percent of moderate-risk with extrication rescue component incidents, the total response time performance for the ERF (Concentration), consisting of 11 personnel shall be 13 minutes and 24 seconds. The ERF shall be capable of: Establishing if the scene is safe, establish a safety officer, transition command if needed, adjust IAP, and perform rescue operations recognize the need for more personnel and equipment. Personnel are expected to follow the District's standard operating guidelines and perform tasks safely for themselves and the Public

High-Risk ERF

For high-risk incidents, there has not been a full deployment of personnel. However, the District has recognized the potential for high-risk incidents; therefore, for 90 percent of all high-risk technical rescue incidents, the total response time performance for the ERF (Concentration), consisting of 24 personnel shall be 60 minutes to muster the entire SCTF-4. The ERF shall be capable of: Establishing if the scene is safe, establish a safety officer, transition command if needed, adjust IAP, secure fire hazards, establish logistics, and perform rescue operations. Personnel are expected to follow the District's standard operating guidelines and perform tasks safely for themselves and the Public

Technical Rescue Baseline Performance: First Due All Risk Levels

(First-Due All Risks) Technical Rescue - 90th Percentile Times - Baseline Performance			Benchmark (Target)	2019-2023	2023	2022	2021	2020	2019
Alarm Handling	Pick-up to Dispatch	Urban		3:00	2:54	3:00	2:56	2:51	2:55
Turnout Time	Turnout Time 1st Unit	Urban		1:49	2:15	1:35	1:44	1:41	1:55
Travel Time	Travel Time 1st Unit **Distribution**	Urban		8:43	7:38	8:53	8:58	8:12	6:24
	Travel Time ERF **Concentration**	Urban		NA	NA	NA	NA	NA	NA
Total Response Time	Total Response Time 1st Unit on Scene **Distribution**	Urban	12:24	14:43	16:47	12:37	20:19	12:36	12:02
				n=104	n=13	n=22	n=26	n=28	n=15
	Total Response Time ERF **Concentration**	Urban		NA	NA	NA	NA	NA	NA
			14:36	n=NA	n=NA	n=NA	n=NA	n=NA	n=NA

Technical Rescue Low-Risk ERF

(Low Risk) Technical Rescue - 90th Percentile Times - Baseline Performance			Benchmark (Target)	2019-2023	2023	2022	2021	2020	2019
Alarm Handling	Pick-up to Dispatch	Urban		2:48	2:38	2:25	3:06	2:48	3:07
Turnout Time	Turnout Time 1st Unit	Urban		1:40	1:59	1:31	1:38	1:42	1:33
Travel Time	Travel Time 1st Unit **Distribution**	Urban		8:03	8:17	9:01	7:56	8:13	6:48
	Travel Time ERF **Concentration**	Urban		13:45	NA	17:04	10:20	15:15	12:22
Total Response Time	Total Response Time 1st Unit on Scene **Distribution**	Urban	12:24	14:56	20:44	12:37	16:11	13:07	12:02
				n=54	n=7	n=12	n=16	n=13	n=6
	Total Response Time ERF **Concentration**	Urban		18:56	NA	21:17	20:04	19:40	14:46
			14:36	n=20	n=NA	n=5	n=8	n=5	n=2

Moderate-Risk (Water)

(Moderate Risk-Water Rescue) Technical Rescue - 90th Percentile Times - Baseline Performance			Benchmark (Target)	2019-2023	2023	2022	2021	2020	2019
Alarm Handling	Pick-up to Dispatch	Urban		2:46	1:45	4:29	2:05	2:30	3:04
Turnout Time	Turnout Time 1st Unit	Urban		1:19	1:16	:56	1:45	1:52	1:45
Travel Time	Travel Time 1st Unit **Distribution**	Urban		8:19	7:22	5:07	14:31	4:20	10:19
	Travel Time ERF **Concentration**	Urban		15:43	22:44	14:51	16:20	13:50	10:51
Total Response Time	Total Response Time 1st Unit on Scene **Distribution**	Urban	12:24	13:49	13:23	10:32	19:23	9:31	16:17
				n=17	n=1	n=1	n=5	n=5	n=5
	Total Response Time ERF **Concentration**	Urban		22:22	33:02	21:45	19:41	19:12	18:13
			17:24	n=11	n=1	n=1	n=3	n=2	n=4

According to the Data Correction Process for Response Times, reference SOG 104.02, the calls listed in the chart do not meet the specified parameters in the Standard Operating Guidelines (SOG). However, after reviewing all the calls, they were determined to be valid and thus included in the chart. Given the extensive local waterways, the lengthy call processing times can be attributed to difficulties in locating incidents.

Moderate-Risk (Extrication)

(Moderate Risk-Extrication) Technical Rescue - 90th Percentile Times - Baseline Performance			Benchmark (Target)	2019-2023	2023	2022	2021	2020	2019
Alarm Handling	Pick-up to Dispatch	Urban		2:40	2:58	3:01	1:57	2:51	2:33
Turnout Time	Turnout Time 1st Unit	Urban		1:39	1:47	1:39	1:20	1:33	2:00
Travel Time	Travel Time 1st Unit **Distribution**	Urban		6:44	5:23	8:40	5:21	8:18	5:59
	Travel Time ERF **Concentration**	Urban		7:29	7:31	4:40	9:59	10:25	4:50
Total Response Time	Total Response Time 1st Unit on Scene **Distribution**	Urban	12:24	11:55	13:46	12:21	11:27	11:30	10:32
				n=31	n=5	n=7	n=4	n=10	n=5
	Total Response Time ERF **Concentration**	Urban		18:40	28:41	12:10	20:48	21:22	10:22
			13:24	n=12	n=2	n=2	n=3	n=4	n=1

Hazardous Materials Benchmark Performance:

Hazardous Materials Incidents Benchmark Statements:

All Risk Levels:

For 90 percent of all risk levels, the total response time for the first-due apparatus (Distribution), consisting of a minimum of 3 personnel, shall be 13 minutes and 27 seconds. The first-due apparatus shall be capable of: establishing command, completing a scene size-up, determining if the scene is safe, determine if a rescue is necessary, determine if more resources are needed, initiate incident action plan, and provide EMS functions if it is safe to the crew and the public.

Low-Risk ERF (Level 1):

For 90 percent of all low-risk (Level 1) hazardous material incidents, the total response time performance for the ERF (Concentration), consisting of 3 personnel shall be 13 minutes and 27 seconds. The ERF shall be capable of: Establishing if the scene is safe, establish a safety officer, transition command if needed, adjust IAP, and perform rescue operations. Personnel are expected to follow the District's standard operating guidelines and perform tasks safely for themselves and the Public.

Moderate-Risk ERF (Level 2):

The District has not had a moderate-risk incident in the past five years; however, the District still recognizes the dangers of any hazardous materials incident. Therefore, for 90 percent of moderate-risk (Level 2) incidents, the total response time for the ERF (Concentration) shall be 19 minutes and 24 seconds, consisting of a second engine, truck company, and a battalion, for 13 personnel. The ERF shall be capable of establishing a safety officer, evaluate and change the initial incident action plan, provide support and physical resources, setup decon, and provide medical help if needed. Personnel are expected to follow the District's standard operating guidelines and perform tasks safely for themselves and the public.

High-Risk (Level 3):

The District has not had a high-risk hazardous materials incident in the past five years, and like the benchmark statement for moderate-risk, the District recognized the risks. Therefore, for 90 percent of high-risk (Level 3) incidents, the total response time for the arriving ERF (Concentration) shall be 60 minutes, consisting of 19 personnel. The ERF shall be capable of establishing a safety officer, Hazmat safety officer, Decontamination Officer, Decon Team, Entry Officer, Recon Team, Medical/Rehab, Science position, evaluate and change the initial incident action plan, provide support and physical resources, setup decon, and provide medical

(Low Risk) Hazmat - 90th Percentile Times - Baseline Performance			Benchmark (Target)	2019-2023	2023	2022	2021	2020	2019
Alarm Handling	Pick-up to Dispatch	Urban		2:58	3:09	3:07	3:04	2:16	3:17
Turnout Time	Turnout Time 1st Unit	Urban		1:39	1:39	1:28	1:37	1:50	1:42
Travel Time	Travel Time 1st Unit Distribution	Urban		10:18	8:04	12:49	9:24	10:54	10:19
	Travel Time ERF Concentration	Urban		N/A	N/A	N/A	N/A	N/A	NA
Total Response Time	Total Response Time 1st Unit on Scene Distribution	Urban	12:47	14:48	12:01	15:01	14:14	15:38	17:06
				n=186	n=33	n=68	n=45	n=34	n=33
	Total Response Time ERF Concentration	Urban		N/A	NA	N/A	N/A	N/A	N/A
				n=N/A	n=NA	n=N/A	n=N/A	N/A	N/A

Compliance Methodology: (CC2D.7) CC2D.6 2D.2

From the beginning of its accreditation process, the District had to adjust or create new methods for monitoring its performance monthly and annually. A significant change was transitioning from using the average as a performance measure to adopting the nationally accepted performance standard of the 90th percentile (NFPA 1710 A.4.1.2.5.2).

The District also has a strategy for identifying potential external influences and anticipated growth within its service boundaries. The Fire Marshal is crucial in future planning within the District's response area. By actively participating in the building planning process for the Town of Bluffton and Beaufort County, the Fire Marshal helps ensure that the District can effectively plan for distribution, concentration, reliability, and resiliency in its services.

Although the District's performance fluctuates throughout the year, it's important to review performance annually to identify any shortcomings, inconsistencies, and negative trends in the fire suppression, EMS, rescue, and hazmat programs it provides to the community. This involves analyzing annual program appraisals, current year RMS data, and historical data (five years) for consistency, reliability, and resilience and comparing the results to industry standards and neighboring fire departments.

In addition, the District also considers the Community Risk Reduction and Public Education Program, the Community Risk: Standards of Cover (CRA-SOC), and the community expectations found in the community-focused strategic plan.

By doing this, the District can confidently identify gaps, research the causes, and develop a plan to address any shortcomings. The results are published in the District's annual report.

Conclusions:

After a long and detailed analysis of the District's performance and the process of completing the standards of cover (SOC), the District recognized areas of opportunities for improvement.

Below are the administration's recommendations:

- The District should identify methods to improve accuracy when data is manually input into the RMS and then implement those methods at a higher frequency.
- The District should work to improve its overall turnout time by using education, technology, and enhanced supervision.
- The District should work closely with Beaufort County Dispatch to improve dispatch operations through performance improvement plans, in-depth quarterly performance review meetings, and technology such as advanced vehicle location (AVL) software implementation.
- The District identified the wildland-urban interface (WUI) as an emerging threat to the public. The District should develop a detailed WUI operations plan and implement the plan once training is complete.
- Provide a written directive for documenting automatic and mutual aid, thereby improving the data and validating the performance of our auto and mutual aid partners.
- Change Program Appraisal review to the fiscal year schedule. This way the process will align better with the budget schedule.

References:

1. Unknown Author, (2011, August). *Bluffton History!* http://www.bluffton.com/bluffton-history/

2. Kat Walsh, (2016, August). *Hurricane Matthew costs county $52 million.* *http://yourislandnews.com/hurricane-matthew-costs-county-52-million/*

3. William P. Barret (2016, April). *The Best Places to Retire In 2016.* *https://www.forbes.com/sites/williampbarrett/2016/04/04/the-best-places-to-retire-in-2016/#6542699717c3*

4. Unknown Author, (Unknown Publication). No Title. http://www.blufftonpublicdevelopmentcorporation.com/demographics

Definitions:

Alarm Handling Time (PSAP) – The time interval from the receipt of the alarm at the primary PSAP until the beginning of the transmittal of the response information via voice or electronic means to an emergency response facilities (ERFs) or the emergency response units in the field.

Effective Response Force (ERF) - Is the minimum number of human and physical resources that are needed in a specific location within the prescribed benchmark time to mitigate an emergency.

The Insurance Services Office, Inc. (ISO)- ISO was established in 1971 as an advisory and rating organization for the property and casualty insurance industry. Its purpose is to provide statistical and actuarial services, develop insurance programs, and assist insurance companies in complying with state regulatory requirements.

PSAP – Public Safety Answering Point

Storm Mode – A weather event that overwhelms the dispatch center or an individual fire district.

Total Response Time – The time interval from the receipt of the alarm at the agency's public safety answering point (PSAP) to when the unit(s) arrives at the scene.

Travel Time – The time interval that begins when a unit is en-route to the emergency incident and ends when the units arrive on the scene.

Turnout Time – The time interval that begins when the emergency response facilities (ERF) and emergency response units' notification process begins by either an audible alarm or visual annunciation or both and ends at the beginning point of travel.

Quint - A quint is a fire-fighting apparatus that combines the functions of an engine and a ladder truck. The term "quintuple" refers to the five capabilities that a quint offers: pump, water tank, fire hose, aerial device, and ground ladders.

CRA-SOC - CFAI Accreditation Model Correlation Matrix

PI/CC	PI/CC Text	CRA-SOC Location
2A.1	Service area boundaries for the agency are identified, documented, and legally adopted by the authority having jurisdiction.	5-8
2A.2	Boundaries for other service responsibility areas, such as automatic aid, mutual aid, and contract areas, are identified, documented, and appropriately approved by the authority having jurisdiction.	22
CC2A.3	**The agency has a documented and adopted methodology for organizing the response area(s) into geographical planning zones.**	18
CC2A.4	**The agency assesses the community by planning zone and considers the population density within planning zones and population areas, as applicable, for the purpose of developing total response time standards.**	20
2A.5	Data that include property, life, injury, environmental, and other associated losses, as well as the human and physical assets preserved and/or saved, are recorded for a minimum of three (initial accreditation agencies) to five (currently accredited agencies) immediately previous years.	20-21
2A.6	The agency utilizes its adopted planning zone methodology to identify response area characteristics such as population, transportation systems, area land use, topography, geography, geology, physiography, climate, hazards, risks, and service provision capability demands.	13&65
2A.7	Significant socioeconomic and demographic characteristics for the response area are identified, such as key employment types and centers, assessed values, blighted areas, and population earning characteristics.	19,20, 32-51
2A.8	The agency identifies and documents all safety and remediation programs, such as fire prevention, public education, injury prevention, public health, and other similar programs, currently active within the response area.	16, 19, 23, 24, 87
2A.9	The agency defines and identifies infrastructure that is considered critical within each planning zone.	12-15
CC2B.1	**The agency has a documented and adopted methodology for identifying, assessing, categorizing and classifying all risks (fire and non-fire) throughout the community or area of responsibility.**	26-51
2B.2	The historical emergency and nonemergency service demands frequency for a minimum of three immediately previous years and the future probability of emergency and non-emergency service demands, by service type, have been identified and documented by planning zone.	20-21
2B.3	Event outputs and outcomes are assessed for three (initial accrediting agencies) to five (currently accredited agencies) immediately previous years.	2, 21, 22, 23
CC2B.4	**The agency's risk identification, analysis, categorization, and classification methodology has been utilized to determine and document the different categories and classes of risks within each planning zone.**	2, 26-47
2B.5	Fire protection and detection systems are incorporated into the risk analysis.	20, 26

2B.6	The agency assesses critical infrastructure within the planning zones for capabilities and capacities to meet the demands posed by the risks.	1, 13-16
2B.7	The agency engages other disciplines or groups within its community to compare and contrast risk assessments in order to identify gaps or future threats and risks.	87
CC2C.1	**Given the levels of risks, area of responsibility, demographics, and socio-economic factors, the agency has determined, documented, and adopted a methodology for the consistent provision of service levels in all service program areas through response coverage strategies.**	18-19
CC2C.2	**The agency has a documented and adopted methodology for monitoring its quality of emergency response performance for each service type within each planning zone and the total response area.**	13, 20
2C.3	Fire protection systems and detection systems are identified and considered in the development of appropriate response strategies.	20, 26-47
CC2C.4	**A critical task analysis of each risk category and risk class has been conducted to determine the first due and effective response force capabilities, and a process is in place to validate and document the results.**	20, 52-62
CC2C.5	**The agency has identified the total response time components for delivery of services in each service program area and found those services consistent and reliable within the entire response area.**	66-86
2C.6	The agency identifies outcomes for its programs and ties them to the community risk assessment during updates and adjustments of its programs, as needed.	87
2C.7	The agency has identified the total response time components for delivery of services in each service program area and assessed those services in each planning zone.	32-47
CC2C.8	**The agency has identified efforts to maintain and improve its performance in the delivery of its emergency services for the past three (initial accreditation agencies) to five (currently accredited agencies) immediately previous years.**	87
2C.9	The agency's resiliency has been assessed through its deployment policies, procedures, and practices.	18, 67
CC2D.1	**The agency has a documented and adopted methodology for assessing performance adequacies, consistency, reliability, resiliency, and opportunities for improvement for the total response area.**	62-65
2D.2	The agency continuously monitors, assesses, and internally reports, at least quarterly, on the ability of the existing delivery system to meet expected outcomes and identifies and prioritizes remedial actions.	87
CC2D.3	**The performance monitoring methodology identifies, at least annually, future external influences, altering conditions, growth and development trends, and new or evolving risks, for purposes of analyzing the balance of service capabilities with new conditions or demands.**	87
2D.4	The performance monitoring methodology supports the assessment of the efficiency and effectiveness of each service program at least annually in relation to industry research.	87

2D.5	Impacts of incident mitigation program efforts, such as community risk reduction, public education, and community service programs, are considered and assessed in the monitoring process.	16, 18, 19, 24
CC2D.6	**Performance gaps for the total response area, such as inadequacies, inconsistencies, and negative trends, are determined at least annually.**	23, 62, 87
CC2D.7	**The agency has systematically developed a continuous improvement plan that details actions to be taken within an identified timeframe to address existing gaps and variations.**	18, 19
2D.8	The agency seeks approval of its standards of cover by the authority having jurisdiction (AHJ).	1, 6, 87
CC2D.9	**On at least an annual basis, the agency formally notifies the AHJ of any gaps in current capabilities, capacity, and the level of service provided within its delivery system to mitigate the identified risks within its service area, as identified in its community risk assessment/standards of cover.**	87
2D.10	The agency interacts with external stakeholders and the AHJ at least once every three years, to determine the stakeholders' and AHJ's expectations for types and levels of services provided by the agency.	1-2, 23-24, 87