MORGAN COUNTY COMMISSION
AGENDA
August 18, 2026
5:00 PM
150 East Washington Street, Madison, GA
2nd Floor Board Room

Pledge and Invocation

Agenda Approval

Presentations

1. CVB Annual Report

Planning Commission New Business

2. Morgan County Planning and Development is requesting a text amendment to the Morgan County Development Regulations to add a tree ordinance.
3. Morgan County Planning and Development is requesting a text amendment to the Morgan County Development Regulations to modify language and organization of the development regulations.
4. Morgan County Planning and Development is requesting a text amendment to the Morgan County Zoning Ordinance to modify Chapter 7.32 Event Facilities.
5. Morgan County Planning and Development is requesting a text amendment to Table 4.1 Permitted and Conditional Uses of the Morgan County Zoning Ordinance.

Unfinished Business

6. Consideration of Resolution to Establish the Morgan County Recreation Advisory Board
7. Consideration of Motorola Solutions Customer Agreement, Amendment to Motorola Solutions Customer Agreement, Sourcewell Master Agreement #020625 and Intergovernmental Agreement regarding the Oconee Areawide Radio System

New Business

8. Hospital Authority Board Applications
9. Purchasing Policy Updates
10. Discussion of Draft Legislation Re-Establishing the Board of Commissioners of Morgan County

Public Comments on Agenda Items

Unfinished Business



MADISON MORGAN CVB

25-26 Annual Report

Fiscal Year: July 1, 2025 – June 30, 2026

Presented by: Jennifer Rosa León
Executive Director

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MORGAN COUNTY
CONVENTION & VISITORS BUREAU

OUR MISSION

To boost economic vitality and development by inspiring tourists to come, stay and take part in the local tourism economy.



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OUR BOARD FY 25-26

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Executive Board

- **Carol Sanchez – Chair**
Hard Labor Creek State Park
(County-elect, 7/2021-6/2027)

- **Charles Marvil – Vice Chair**
MAD Hospitality
(City-elect, 7/2021-6/2027)

- **Brandie Anderson– Secretary**
Georgia Safari Conservation Park
(7/2023 – 6/2026)

- **Krista Williams - Treasurer**
(7/2024 – 6/2027)
Harvest & Honey

Board of Directors

- **Joshua Holland**
Hampton Inn Madison
(7/2024 – 6/2028)

- **Jay Homan**
Morgan County Charter Schools
(County-elect, 7/2024 – 6/2028)

- **Alfred Murray**
Pearl-Burney Alumni Association
(7/2025-6/2026)

- **Gene Porter**
Madison Fire Department
(City-elect, 7/2025 – 6/2028)

- **Hallie Jane Zimmerman**
Empire Mills/Hallie Janes Catering
(7/2024 – 6/2026)

TOURISM SPENDING & ECONOMIC IMPACT
MORGAN COUNTY 2024



$65.3M
Total Visitor Spending
YOY: ▲ 7.0%



4.0% is the share of jobs directly sustained by visitor spending in county



Visitors generated **$5.9M** in state and local taxes which is equivalent to **$762** in tax savings for every household

Source: 2024 Economic Impact of Tourism in Georgia Report, commissioned by Explore Georgia and conducted by Tourism Economics, LLC.



OUR RESULTS

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PAID ADVERTISING

EARNED MEDIA

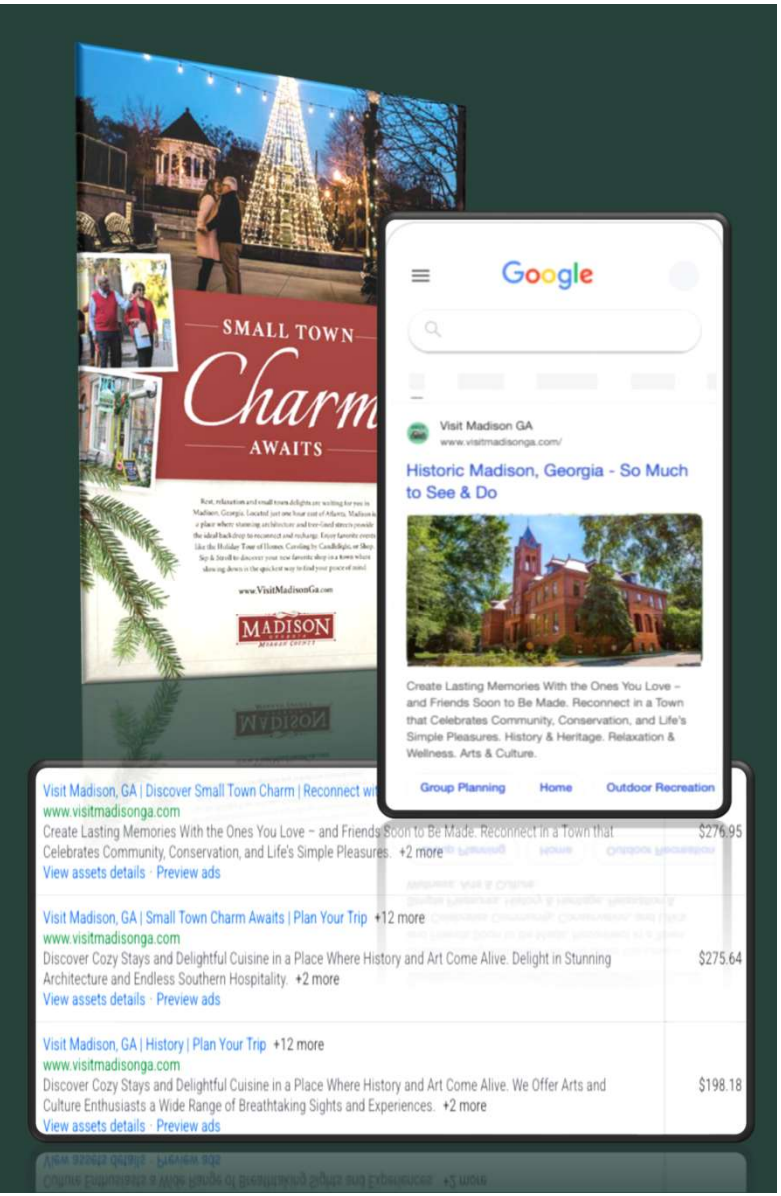
SOCIAL MEDIA MARKETING

OWNED ASSETS

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MORGAN COUNTY CONVENTION & VISITORS BUREAU

PAID ADVERTISING

MADISON GEORGIA
MORGAN COUNTY CONVENTION & VISITORS BUREAU



PAID ADVERTISING

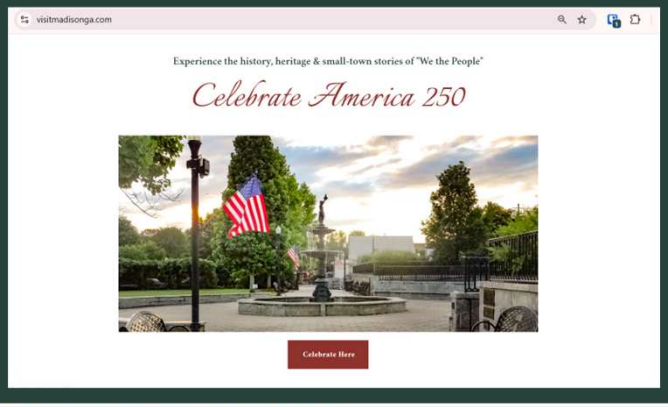
- Traditional advertising investments included 441N Billboard (4M impressions/year), Augusta VIC Banner (350K impressions/year), Digital banners of 60-second videos at Augusta and Valdosta VICs (350K impressions/year), Southern Lady Magazine (87K print distribution)

- Digital advertising campaigns (Google/Native) gained awareness and directed traffic to the website during focused Spring and Summer campaigns achieving 176K impressions and over 13K clicks, achieving a 200% increase in click-through rate over previous year's campaigns. Web Banners on Explore Georgia gained awareness with 200,000 impressions

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SPECIAL MARKETING CAMPAIGNS

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Celebrate Seven for 1776: A Small-Town Adventure for America 250





America 250

Initiatives

- Home page information linking to America 250 landing page listing all offerings, history highlights and special events.
- Special Trip Inspiration posts created highlighting unique histories of "We the People."
- Google Ads achieved 15,986 impressions
- Meta Ads achieved 18,584 views on Facebook & Instagram
- Social Media series, "We the People" highlighting historic attractions (approx. 77k views across Facebook & Instagram)

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World Cup

- Explore Georgia's "Georgia, the Whole Day Through" activation at the Georgia World Congress Center across from Atlanta Stadium welcomed over 50,000 guests from June 15 through the semifinal.
  - Director and Board Chair represented Visit Madison on opening day, promoting Madison with informational materials and branded giveaways
  - Visit Madison also sponsored a branded mobile device charging station
- Paid Digital Ads (Google & Meta) focused on "Atlanta Gameday Getaway" Trip Inspiration page targeting Atlanta Metro during FIFA achieving 1,982 impressions on Facebook & Instagram
- Earned Media with "Hit the Road" highlight in FIFA 2026 World Cup Commemorative Magazine

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EARNED MEDIA

MADISON GEORGIA
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PUBLIC RELATIONS

- Generated 757 stories resulting in record Impressions (3.65 billion) and Advertising Value Equivalency ($971,898), representing increases of 117% and 3% over FY2025.
- Outperformed FY2026 goals by 3,550% (Impressions) and 872% (AVE).
- Secured high-profile national, statewide, and regional feature coverage in high level consumer and trade (meetings/convention) media.

CountryLiving Southern Living MAGNOLIA MOONSHINE msn

AOL GeorgiaTrend WorldAtlas ALIVE

yahoo!news Daily Mail WSB-TV 2 ATLANTA ConventionSouth

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Southern Living

This Amazing Georgia Conservation Park Is A Must-See Stop For Animal Lovers

By Lisa Cericola | Published on July 30, 2025

In This Article

- Take A Safari Tour
- Stay The Night
- More Than An Attraction



Credit: Georgia Safari Conservation Park

Advertisement

Advertisement

This Tiny Town In Georgia Is One Of The Prettiest In The State—And Has A Great Food Scene

Prepare to be charmed by Madison.

By Lisa Cericola | Published on August 02, 2025



Credit: Madison Morgan County Convention & Visitors Bureau

One press visit. Two *Southern Living* features. Nearly 60 million reached and $30,000 in AVE.



Aired nationally on 503 stations including NYC, L.A. and dozens of Southern markets,
reaching 500MM viewers and 3MM+ adults 25–54

GeorgiaTrend

Madison: Out of Africa



Serengeti of the South: Georgia Safari Conservation Park encompasses 500 acres and includes animals like the Southern white rhinoceros. Photo credit: Georgia Safari Conservation Park

In late March, just as spring was settling in, visitors to Georgia Safari Conservation Park got to witness a spindly baby zebra less than a day old get chased by an ostrich across a field. It may sound like something you'd see in Africa, but this was in Madison – in Northeast Georgia. Not long after the park opened two years ago, Time magazine named it one of 2025's "World's Greatest Places."



Room with a View: Guests who stay in the Giraffe Suite can look into the park's 10,000-square-foot giraffe and rhino barn. Photo credit: Georgia Safari Conservation Park

Guests can stay overnight in the park's tasteful Giraffe Suite, which offers an elegant bedroom and floor-to-ceiling windows that overlook the indoor home of three reticulated giraffes. Shy as they are, they still might wander over to peek inside.

The park's safari tour – a bouncy, two-and-a-half-hour crawl across parts of some 500 acres that have come to be known as "the Serengeti of the South" – is open to anyone willing to make the trek to Madison. Bring binoculars to get a closer look at the eland watching from a shady stand of brush and its evolutionary cousin, a roan antelope known to punish lions that push their luck. The Ankole-Watusi, docile bovines with extravagant horns and seemingly not much to do, are prized in parts of Africa as symbols of wealth. As for the African white rhinos, Georgia's red mud is the reason they are not so white.

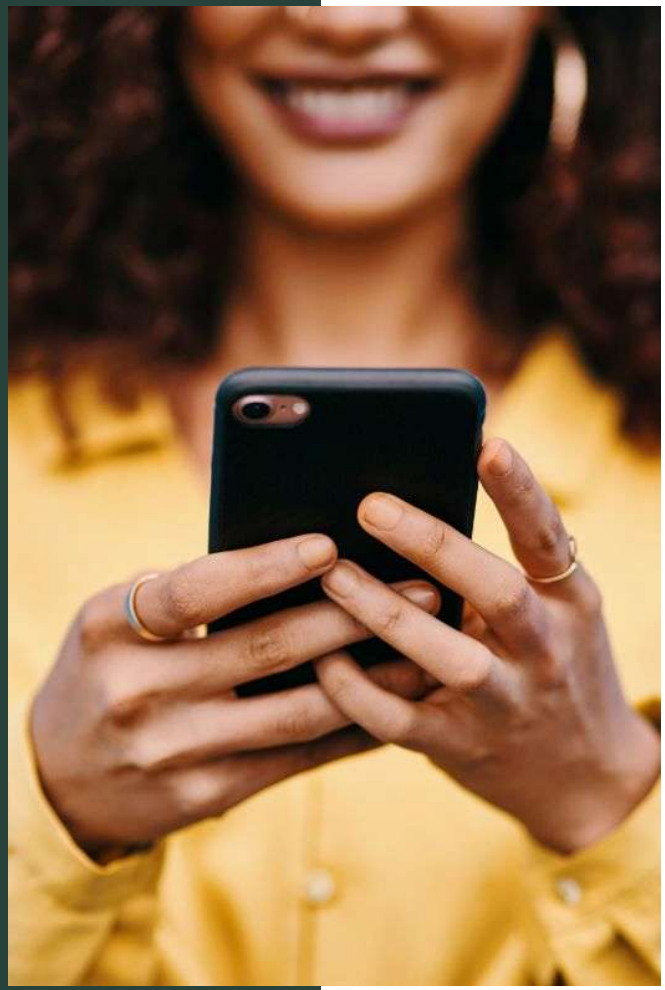
Feature coverage as part of the GACVB Trailblazer Award



FIFA 2026 World Cup Commemorative Magazine

SOCIAL MEDIA MARKETING

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SOCIAL MEDIA

FY 25-26 Goals

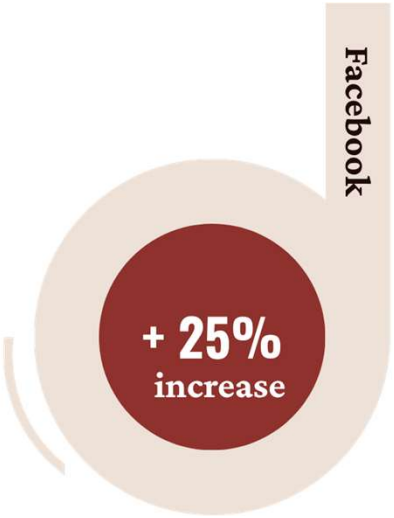
- Enhancing brand awareness through expanded audience reach
- Engaging audience through likes, messages, shares, and comments

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SOCIAL MEDIA: FACEBOOK

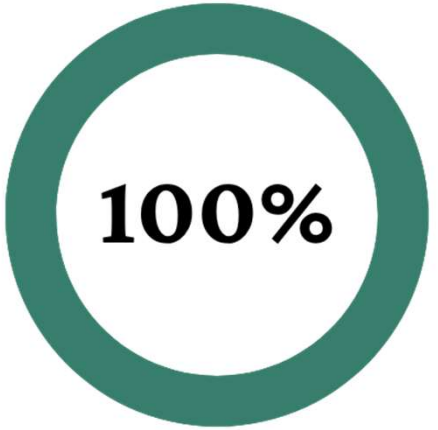
- Organic goal to increase followers by 10 percent
- Paid Meta Ads goal to increase reach to 350,000

20,515 Followers 06/30



10% Follower Increase Goal
Exceeded goal with
25% follower increase
(4,090 new followers)

352,158 Impressions 06/30



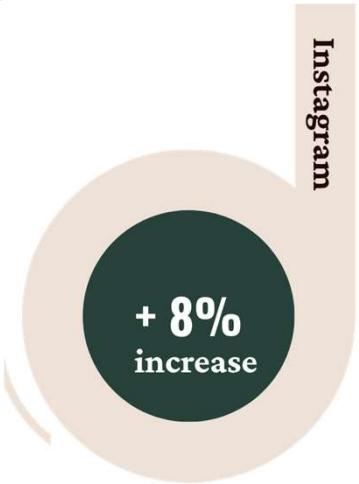
350,000 Paid Impressions Goal
Exceeded goal by
2,158 impressions

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SOCIAL MEDIA: INSTAGRAM

- Organic goal to increase followers by 7 percent to 6,680 followers
- Paid/organic goal to achieve 50,000 reach

6,718 Followers 06/30



6,680 Followers Goal
Exceeded goal with 8% increase

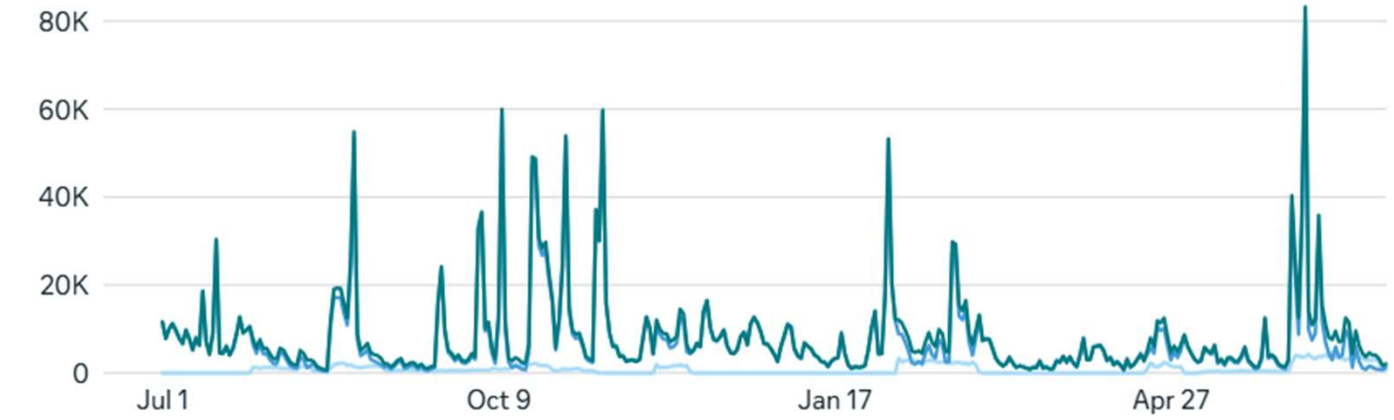
75,423 Reach 06/30



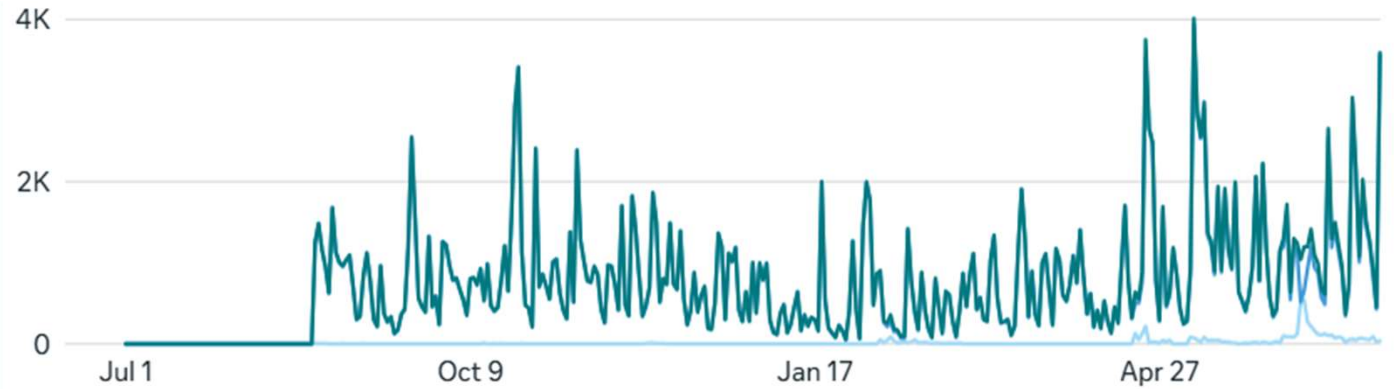
50,000 Reach Goal
Surpassed goal with 150.85% of set goal

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SOCIAL MEDIA (META) TOTAL



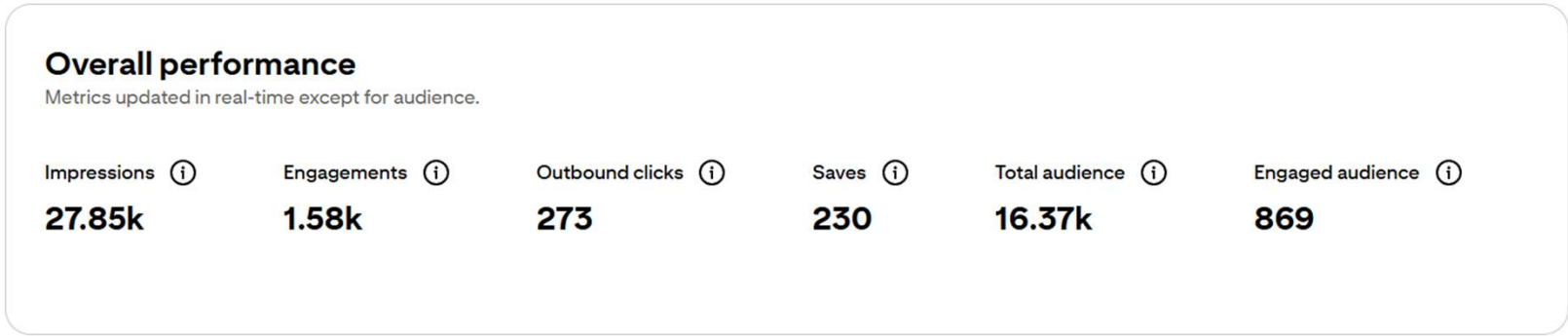
Facebook
3.1M **Reach**



Instagram
50.7K **Reach**

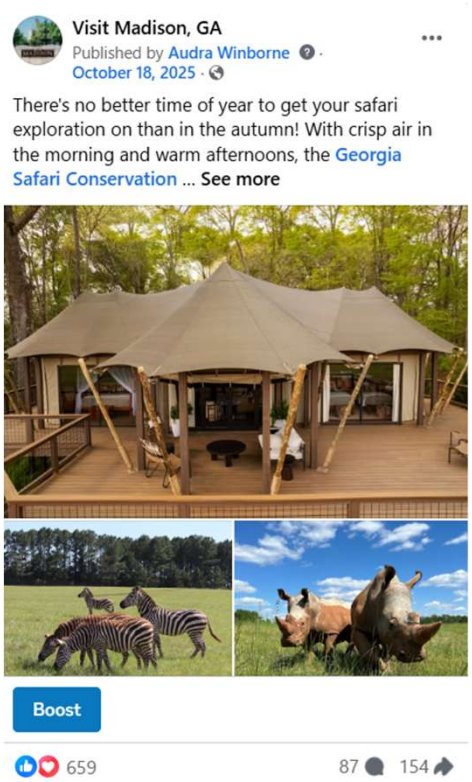
SOCIAL MEDIA: PINTEREST

- Focus on building organic content, sharing at least two posts per month



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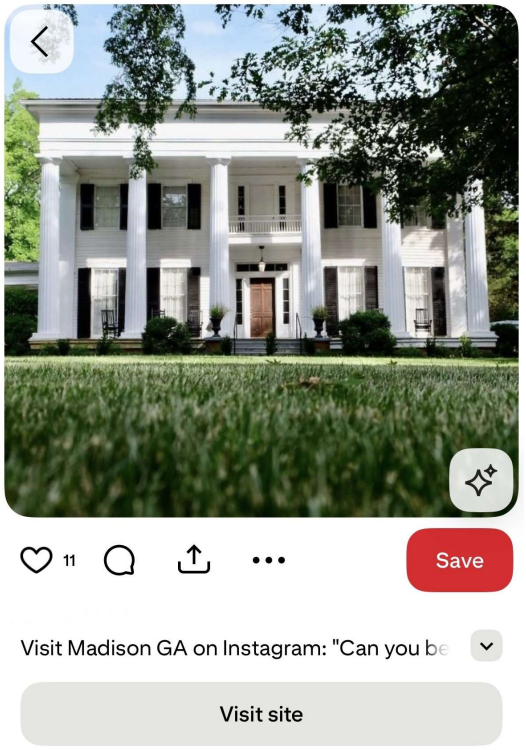
FACEBOOK



INSTAGRAM



PINTEREST



TOP PERFORMING

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OWNED ASSETS

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VISITMADISONGA.COM TRAFFIC

JULY 2025 – JUNE 2026

Total Sessions

129.7K

↓ 23.7% year over year

Organic Search

71.5K

69.7% of all traffic • ↑ 3%

Engagement Rate

76.7%

↑ 24.7% year over year

Avg. Engagement

59 sec

↑ 25.9% year over year

Key Takeaway

Fewer sessions, but stronger engagement. Organic Search remains the leading traffic driver, while AI search is changing how visitors reach websites.

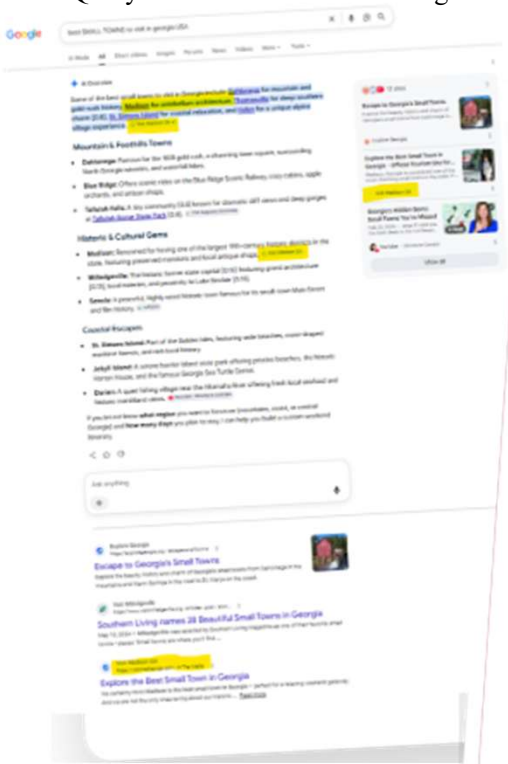
Traffic peaked at 17.5K sessions in June, showing strong momentum heading into summer.

WELCOME TO THE AGE OF (GOOGLE) GEMINI

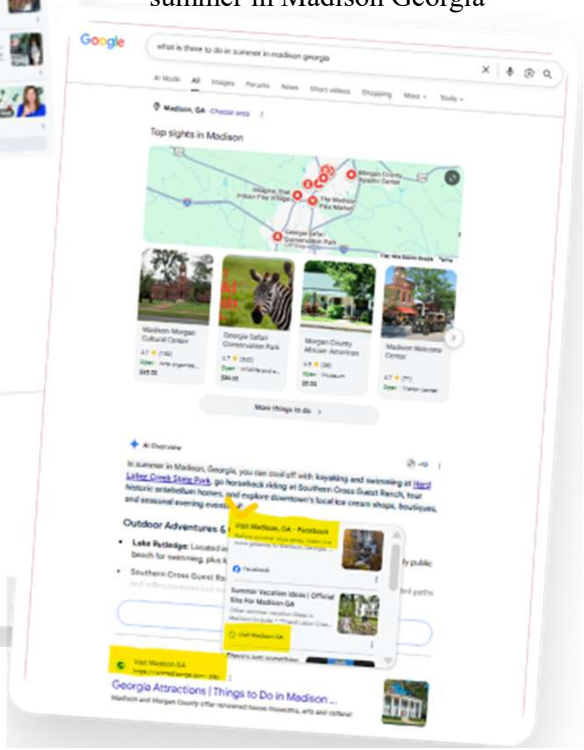
- According to a 2025 study by the Pew Research Center, Google users click on traditional search links less than half of the time when an AI summary is present, compared to when no summary appears.

- Google users are more likely to end their browsing session entirely after visiting a search page with an AI summary than on pages without a summary.

- Query: Best small towns in Georgia



- Query: What is there to do in summer in Madison Georgia



VISITMADISONGA.COM ENGAGEMENT

KEY WEBSITE PERFORMANCE HIGHLIGHTS

Engagement Time

1m 16s

Per active user
• ↑ 25.9%

Page Views

248K

Total pages viewed

Events

1M

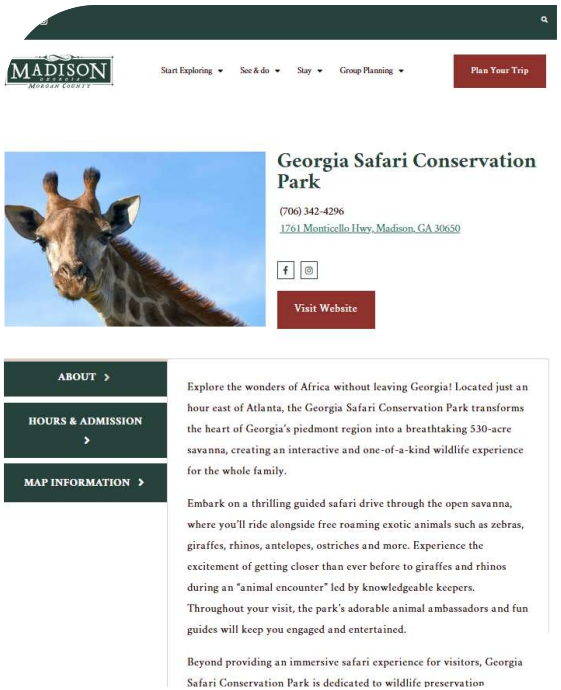
Over 1M user interactions

User Stickiness

24 %

Of monthly visitors interact with site at least once a week

ORGANIC 1



12,970 Views

ORGANIC 2



11,188 Views

TRIP INSPIRATION



3,330 Views

TOP PERFORMING

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WELCOME CENTER

FY25-26 SMART Goal:

SMART Goal: Success to be measured by

maintaining a 5-bubble rating on TripAdvisor.

Tripadvisor

Madison Morgan County Welcome Center

4.9 ●●●●● (223 reviews) #1 of 16 things to do in Madison

Welcomed 9,580 visitors FY 25-26!
(up 150 visitors)

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eNEWSLETTER

FY25-26 SMART Goals:

Increase Subscribers by 20 percent, to 4,111 total

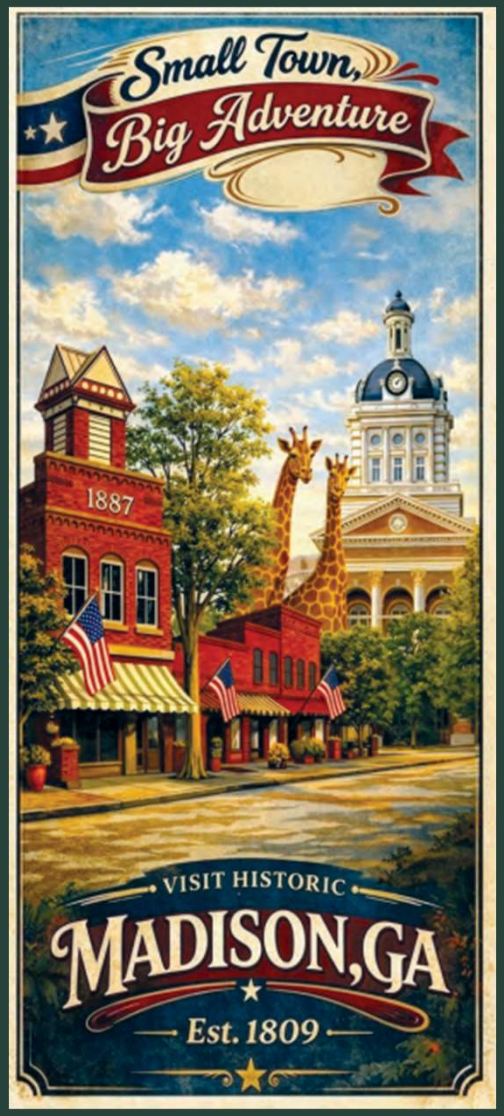
*Grew subscribers from 3,426 to **7,499** (118% increase)*

- Invested in Welcome Leads Program with ExploreGeorgia
- Ongoing growth strategy with push for online and on-site sign-ups

Maintain open rate above industry average (25.9% percent)

Actual 18% open rate.

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DESTINATION GUIDE

2026-27 Destination Guide

- Total Distribution: 30,000 printed copies
- Sales Goal: $15,000; Total Sales: $18,000
  Sold 20% over ad sales goal!

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LOCAL & REGIONAL TRAVEL CO-OPS

- Georgia's Lake Country Inc.
- Madison Morgan Arts, Culture, Tourism Collab

LEADERSHIP/DEVELOPMENT

- Georgia Association of Convention Bureaus' Conference and Tourism Day at the Capitol
- Georgia Governor's Tourism Conference

GEORGIA CAMERA READY®

- Supported 11 film requests as official Camera Ready Liaison for City of Madison and Morgan County

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HOSTED FIRST-EVER WILD ABOUT TOURISM DAY

- Brought together local attractions, hospitality partners, and community leaders to learn about and celebrate tourism, featuring:

- Exclusive safari tour at Georgia Safari Conservation Park showcasing new experiential tourism offerings

- Tourism Lunch & Learn at Empire Mills highlighting the local economic impact of travel and tourism, sharing results of new Visitors Profile Study, and insight into new initiatives.

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2025 ADRIAN AWARD WINNER

- Earned 2025 HSMAI Adrian Award recognition for excellence in destination marketing
- Award presented by the Hospitality Sales & Marketing Association International (HSMAI), one of the industry's most prestigious organizations
- Adrian Awards recognize global excellence in destination marketing, communications, and public relations

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RESEARCH INVESTMENTS



Key Findings:

- Morgan County attracts high-value, older, affluent visitors.
- Visitation is weekend-heavy and seasonal.
- Growth opportunity for extended stays and bundle experiences

Digital Marketing opportunities to prioritize

- Atlanta drive markets
- Family and couples travel
- Outdoor and agritourism specialties

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Questions?

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Jennifer Rosa León
Executive Director
Madison Morgan County CVB

Jennifer@visitmadisonga.com
(706) 342-4454

OUR TEAM

MADISON GEORGIA
MORGAN COUNTY CONVENTION & VISITORS BUREAU



- **Jennifer Rosa León**
  Executive Director
  Started August 2019

- **Trinity Martin**
  Marketing & Sales



Marketing

WELCOME CENTER
MADISON GEORGIA
MORGAN COUNTY

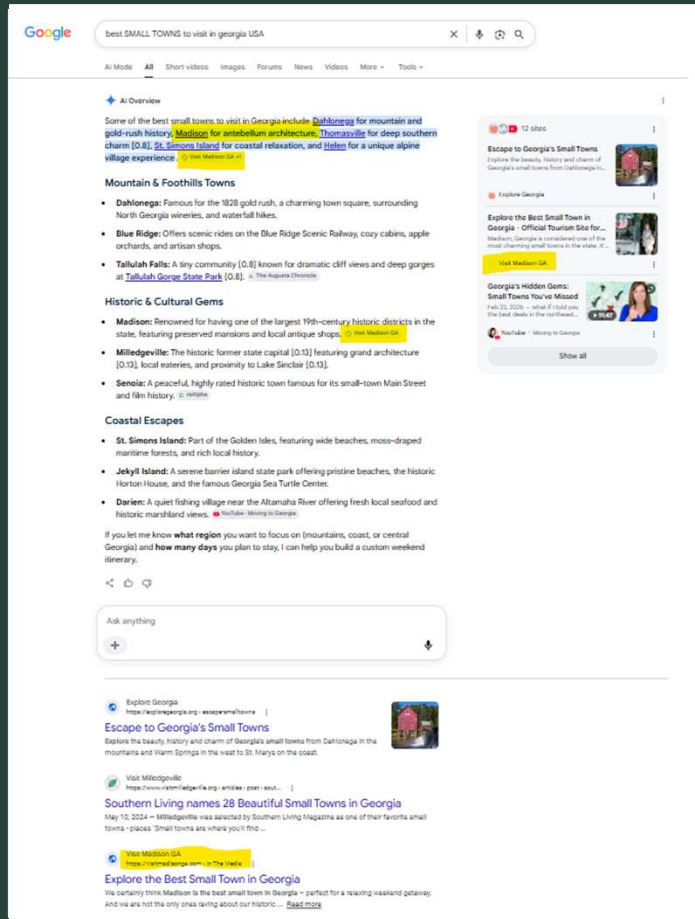


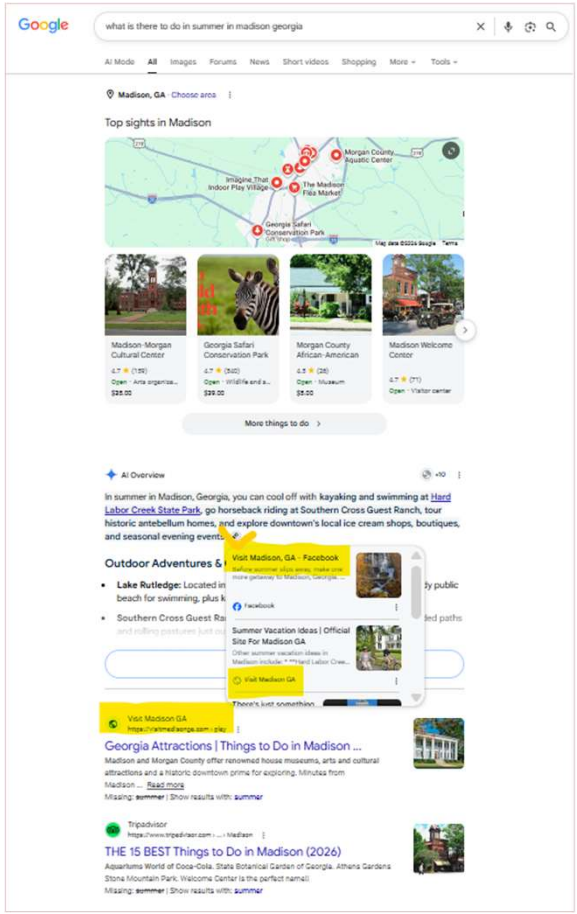
Lead Information Specialist
Jeannie Clark,
Started May 2019
Promoted to Lead March 2020

Information Specialists

- **Jan Borregard**
  Started June 2024
- **Glynis Bowis**
  Started March 2025
- **Evelyn Evans**
  Started June 2026
- **Susie Koller**
  Started May 2023
- **Luke Stephens**
  Started November 2024

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MORGAN COUNTY PLANNING AND DEVELOPMENT
150 East Washington Street, Suite 200
P.O. Box 1357
Madison, Georgia 30650
(706)342-4373 Office · (706)343-6455 Fax

Memorandum

Date: August 7, 2026
To: Morgan County Board of Commissioners
From: Tara Cooner
RE: August Planning Commission recommendation

The following is a summary of the Planning Commission discussions and recommendations from the August 6, 2026 Planning Commission meeting.

I. Morgan County Planning and Development is requesting a text amendment to the Morgan County Development Regulations to add a tree ordinance.

The proposed tree ordinance will only apply to major subdivisions with more than 5 lots. The goal of the ordinance is to protect the greenspace of Morgan County and provide regulations and guidance to developers related to clearing land for subdivisions, protecting native tree species and removing invasive trees. The language requires a developer to keep or plant an average of 100 caliper inches of trees per acre with a minimum of 20 caliper inches per lot. The average allows developers the flexibility to create active open space areas while the per-lot minimum prevents them from clear cutting all trees from areas to be divided into lots. Plans related to the tree ordinance would be required when preliminary plans are submitted. No public was present at the meeting for comments. The Planning Commission requested minor clarification and voted unanimously to recommend approval.

II. Morgan County Planning and Development is requesting a text amendment to the Morgan County Development Regulations to modify language and organization of the development regulations.

Despite the number of pages in this text amendment, the number of actual modifications is minor. These chapters required only clarification of terms and updated or new definitions. The intent of submitting these chapters together is to get though those chapters needing minor changes to allow focus on the upcoming Development Regulations chapters that incorporate more changes. No public was present at the meeting for comments. The Planning Commission requested minor clarification and voted unanimously to recommend approval.

III. Morgan County Planning and Development is requesting a text amendment to the Morgan County Zoning Ordinance to modify Chapter 7.32 Event Facilities.

This language is regarding the text in the Event Facility ordinance that allows non-profits to by-pass event facility approval and operate outside of the ordinance regulations. Two properties have taken advantage of this wording (both in District 3) and events at both resulted in numerous complaints due to events taking place too close to property lines, too close to adjacent residences and parking on the county right-of-way. The original intent of the wording was to assist existing non-profits such as Camp Twin Lakes and the

Stephan Thomas Museum, but time has proven that those organizations and other local non-profits do not need the exemption from the ordinance because they are either grandfathered in or regularly use approved event spaces.

Specifically, the request is to remove the language allowing for non-profits to be exempt from Chapter 7.32 of the Morgan County Zoning Ordinance.

No public was present at the meeting for comments. The Planning Commission had no questions and voted 8:1 to recommend approval. Jeff Farese dissented.

IV. Morgan County Planning and Development is requesting a text amendment to Table 4.1 Permitted and Conditional Uses of the Morgan County Zoning Ordinance.

This agenda item included two requests for Table 4.1:

1. Removing the use "Data Management and Data Processing Facility" from the permitted and conditional use table. This language will be replaced by "Data Center" when the forthcoming data center ordinance is approved.
2. Changing the note related to the use of metal siding from "No attached or detached single family dwellings, accessory dwelling, or tenant dwelling shall have metal siding" to "Architectural metal siding shall be reviewed for suitability and will be subject to design merit, provided the siding is 24 or heavier gauge." The purpose of the request is to allow the use of metal siding that was approved earlier this year for major subdivisions in the rest of the unincorporated county. The Planning Commission debated the gauge, which is a heavier quality that typically seen in residential construction with the admission that the recommended 24 gauge would prevent oil canning (waves or ripples) frequently seen with lighter gauges. Discussion about the affordability of metal siding revealed that even the lighter gauge is more expensive that hardi-board siding, making the cost effectiveness of metal siding over other siding options a moot point. The Planning Commission favored the lighter 26 gauge allowed in surrounding counties. No public was present at the meeting for comments. The Planning Commission voted unanimously to recommend approval of the request to remove "Data Management and Data Processing Facility" from the use table and to approve the allowance of metal siding with a lighter gauge: "Architectural metal siding shall be reviewed for suitability and will be subject to design merit, provided the siding is 26 or heavier gauge." Changing the gauge will create a difference in what is allowed in general and what is allowed in major subdivisions under the house form standards, requiring higher quality metal siding in subdivisions. The BOC may want to consider the additional requirement for <u>stamped</u> architectural metal siding, which will help hide any oil canning present with the lighter gauge.

Purpose

The purpose of this section is to preserve, protect, and enhance existing trees and mitigate the effects of tree removal within Morgan County related to new development. Trees, particularly native species, add natural beauty and distinct local character, add shade, promote water conservation, provide locations for habitat, and increase property values. The provisions of this section are intended to support the long-term viability of healthy trees and promote natural ecological, environmental, and aesthetic quality in the county. The clear cutting of developments is prohibited.

Applicability

The provisions of this section shall apply to any activity that requires the issuance of a land development permit for residential developments of more than five (5) lots, tree ordinance requirements apply to the entire development and to each individual lot.

Exemptions

The following activities are exempt from this section:

(a) Trees within existing and proposed public or private rights-of-way, and utility easements.

(b) Agricultural operations, including land clearing for legitimate agricultural purposes.

(c) Tree nursery and horticultural operations.

(d) Forestry operations, including land clearing for legitimate timber harvesting purposes.

(e) Removal of any tree that the Director of Planning and Development or their designee has determined that is a public nuisance or danger to human life or property or any tree found to be diseased, hazardous, dying, dead, or infested with insects. The property owner or developer may elect to hire a licensed professional to confirm or reverse the County's determination.

Appeals

The Board of Commissioners shall consider an appeal request, if it determines that compliance with this section creates undue hardship for the applicant. The applicant must submit a written appeal identifying the issues that make complying with this section a hardship and must submit an alternate plan for consideration. At the appeal hearing the Board of Commissioners shall hear arguments and decide whether to uphold the administrative decision, modify the administrative decision, or negate the administrative decision. The decision of the Board of Commissioner's shall be final. Fees related to the appeal process may apply.

Tree density and preservation of existing trees.

An emphasis of this section is the preservation of as many existing trees as possible. Therefore, inch-for-inch credit will be given for preserving existing trees with the exception of invasive trees.

(a) All trees to be counted toward meeting the required tree density requirements shall be inventoried. Existing tree inventory information (caliper or DBH and genus) shall be shown on the tree plan and must be provided by a licensed professional along with a statement that the provider conducted the inventory in the field.

(b) To aid preservation efforts, applicants shall have the option of moving existing trees to prevent their damage or destruction by development activities. To receive credit for transplanted trees, the following standards shall be adhered to:

(1) Trees shall be less than ten inches caliper measured six inches above grade;

(2) Trees shall remain within the planting areas of the parcel;

(3) Trees shall not be moved to or from stream buffers or wetlands.

(c) Tree protection areas for residential developments shall be located in common areas, or in buffers required to be undisturbed by zoning or other regulations. Tree protection areas must also be located on individual lots, the lots shall be of sufficient size to reasonably expect the trees to be preserved at the completion of the building process.

(d) Every lot in a residential development shall have trees, either preserved or planted. Planted trees shall be used to supplement preserved trees within the development and on individual lots to meet the minimum number of inches per acre for residential lots. Developments with no trees prior to land disturbance permit shall utilize planted trees to meet the required inches per acre. All planted trees shall be a minimum of two caliper inches and shall be shown on the required Site or Tree Protection Plan. This requirement shall apply to the developer or homebuilder, whoever is the responsible party at the issuance of the certificate of occupancy for the individual lot.

(e) Residential developments with more than 5 lots shall maintain a minimum average of 100 inches per acre within the development, including within common areas. This requirement shall apply regardless of tree coverage prior to development planning. Further, the following shall apply:

1. Each residential lot shall preserve or plant a minimum of 20 caliper inches of trees. Developments that are formerly open pasture shall preserve or plant more heavily wooded areas within the development to satisfy the remaining minimum number of inches per acre after inches per lot are addressed;

2. Preference shall be given to specimen trees (see below) and trees within sensitive environmental areas, such as wetlands, floodplains and areas bordering creeks or streams;

3. Developments seeking open space recreation areas shall preserve or plant more heavily wooded areas within the development to satisfy the minimum number of inches per acre;

4. Trees within the right-of-way, or partially within the right-of-way, adjacent to a development shall not apply to the minimum requirements for this Chapter;

The applicant shall provide a tree plan demonstrating both responsible canopy preservation and tree replacement inches on sites submitted for development in accordance with this section. All trees designated for replacement shall be on an inch-for-inch basis. The density may be achieved as follows:

(1) Counting existing trees (inches measured at DBH) to be preserved with no impact to critical root zone.

(2) Planting new trees (minimum two-inch caliper) for lots that do not meet the required densities as designated herein.

Formula example for residential development:

Acreage x 50 inches = required inches per acre

Example: 3.2 acres x 50 inches = 175 inches required

The minimum required inches per acre shall be calculated and established pursuant to the formula as shown above and calculations shall be in a prominent location on the tree preservation and replacement plan.

(3) Shrubs shall not be given credit.

Tree selection and preservation

Specimen Trees

A specimen tree is any tree which qualifies for special consideration for preservation due to its size, type, and condition. The following criteria are used by the county to identify specimen trees. Both the size and condition criteria must be met for a tree to qualify.

(1) Minimum Size Criteria:

a. Twenty-four-inch caliper at DBH—Oak, Beech, Ash, Black gum, Sycamore, Hickory, Maple (does not include Silver Maple), Pecan, Walnut, Magnolia (does not include Bigleaf Magnolia), Persimmon, Sourwood, Cedar, Cypress, Redwood.

b. Thirty-inch caliper at DBH—Tulip Poplar, Sweet Gum, River Birch, Silver Maple.

c. Ten-inch caliper at DBH—American Holly, Dogwood, Redbud.

(2) Condition Criteria:

a. Life expectancy greater than 15 years.

b. Relatively sound and solid trunk with no extensive decay or significant structural deficiencies.

c. No more than two major and/or several minor dead limbs (excluding pine for minor limbs).

d. A radial trunk dieback of no more than 20 percent or a canopy dieback of no more than 30 percent.

(3) Small trees can be classified as specimen trees if of a rare or unusual species, of exceptional quality, or socio-historical significance. Small trees may also qualify as specimen if used in a landscape as a focal point of the design. In order to claim this credit, the applicant shall submit a letter from a licensed professional stating that the tree(s) meet these qualifications.

(4) The licensed professional report for each specimen tree impacted by a proposed development requiring a land disturbance permit shall be submitted to the County to determine whether that tree meets the condition criteria for specimen status. The report must be prepared and signed by a licensed professional. The report shall contain the following information:

a. Site plan showing an accurate surveyed location of the tree;

b. Identification/verification of the tree's size, genus and species;

c. Description of the surrounding site conditions;

d. Detailed description of the tree's condition; and

e. Digital photographs to illustrate any defects which would disqualify the tree from specimen status.

(5) The final determination of specimen tree status will be made by County staff after reviewing the report.

Removal of Specimen Trees

Specimen trees removed after being designated for preservation on an approved plan must be replaced on an inch-for-inch basis with tree species with potential for comparable size and quality, regardless of the 100 inches per acre requirement. If a tree is removed without approval and there is no evidence of its condition, size alone shall be the determining factor for replacement.

a. If a specimen tree is to be removed, a plan or written documentation indicating the reason for removal must be submitted to the County.
b. The removal of any specimen tree impacted by a proposed development shall be mitigated by replacing the removed specimen tree with minimum four caliper inch trees of comparable species on an inch-for- two inch replacement basis.

Example: Twenty-four-inch Oak would require replanting 12 four caliper inch trees [24x2=48 replacement inches required; 48 / 4 = 12 trees]. These replacement trees are in addition to the minimum 100 inches per acre for a particular site.

To encourage the preservation of specimen trees and the incorporation of these trees into the design of new development projects, the following incentive is offered: Preserved specimen trees shall receive one and one-half (1.5) x inches DBH.

Champion Trees

Champion trees are identified by the Georgia Forestry Commission as the state's largest trees, based on species. Several Champion Trees have been designated in Morgan County. Developers shall confirm with the Georgia Forestry whether Champion Trees are located on a development site. Designated trees shall not be cut or harmed during development activities and sufficient space shall be maintained to protect the root system at all times. Champion Trees removed from the property shall result in fines. The following substitution shall be allowed for designated Champion Trees located on the development property: Champion Trees shall receive three (3) x inches DBH.

Invasive Trees

When reviewing existing trees, all efforts shall be made to remove invasive trees prior to those native to the area. Primary invasive trees are Tree of Heaven, Mimosa, Bradford/Callery Pear, Empress, Privet, Autumn Olive and Paper Mulberry. A full list of invasive trees may be obtained from Georgia Forestry Commission. To encourage the removal of invasive species prior to native trees, preserved invasive trees shall receive one quarter (.25) x inch DBH.

Tree protection standards.

Allowing enough space for a tree's root system is a critical factor in tree protection throughout the development process. Disturbance within this critical root zone can directly affect a tree's chances for survival. To protect trees, the following standards shall apply:

(a) Site layout should be designed to accommodate tree protection areas.

(b) Construction activities shall be arranged to prevent encroachment into tree protection areas. Encroachment of up to 10 percent into the critical root zone of individual preserved trees

shall be allowed providing no chemicals are used within the critical root zone. Encroachment beyond 10 percent into the critical root zone of individual preserved trees shall be prohibited. No encroachment is allowed into the critical root zone for specimen trees or designated Champion Trees.

(c) No disturbance whatsoever shall occur within tree protection areas without prior written approval. Disturbance permitted with approval from the County shall be limited to general maintenance (i.e., removal of dead trees and/or cleaning of underbrush by hand). Use of machinery shall not be allowed within the tree protection area.

(d) Active protective tree fencing shall be installed along the outer edge of and completely surrounding the critical root zones of all specimen trees or stands of trees designated for preservation prior to land disturbance.

(e) Tree protection fencing shall be minimum four feet high and made of orange laminated plastic netting with wooden posts and rail fencing or other equivalent material as approved by the County.

(f) All protection zones shall include signage in English and Spanish that identifies the areas as tree protection and preservation zones and include the name and phone number of the developer or designated agent.

(g) All tree protection fencing shall be installed prior to any clearing, grubbing, or grading and shall be maintained in functioning condition throughout all phases of development and construction.

(h) Once tree protection areas are established and approved, any changes are subject to review and approval.

(i) Applicants shall notify any adjacent property owner a minimum of 14 days prior to construction dates (copy of notification to be provided to County for permit file) if visual assessment identifies boundary tree root plates are potentially within the proposed limits of disturbance. Any and all subsequent tree matters shall be a civil matter between the property owner and the applicant.

Tree replacement standards.

(b) Replacement trees shall be ecologically compatible with the intended growing site, contribute to the diversity of the forest, and add to the aesthetic quality of the County.

(1) The spacing of replacement trees shall be compatible with spatial site limitations with responsible consideration towards species sizes when mature. Typical spacing for overstory/street trees is 40 feet on center, with no overstory tree being planted less than 25 feet on center from any other tree.

(2) In the event that existing overhead power lines prohibit the planting of required overstory trees, an appropriate understory tree species may be selected and approved for required inches according to accepted silviculture standards and as approved by the impacted utility.

(c) Native species trees are to be prioritized. A list of Georgia native trees may be obtained from Georgia Forestry Commission. Use of a species not shown on these lists is subject to approval, according to accepted silvicultural standards.

(d) Planting of replacement trees within utility, storm drainage, or sanitary sewer easements is not acceptable, and no credit will be allowed toward the required inches per acre.

(e) Trees and plants selected for planting must meet the minimum requirements as provided in the "American Standard for Nursery Stock" (ANSI Standards latest edition).

(f) Each development site or individual lot shall contain trees of sufficient number, size, and type to achieve the minimum required tree density. Total replacement units shall be gathered by using as diverse a palette of species of trees as possible. However, a minimum of 60 percent of the total replacement units required for any parcel shall be achieved in the form of overstory trees. When fewer than ten (10) trees are shown to be planted on a project, one genus may be specified. When ten to 50 trees are shown, a minimum of three genus of trees are required. When more than 50 trees are shown, a minimum of five genus of trees are required.

(g) When ten or more trees are to be planted:

(1) No single genus shall represent more than 50 percent of the required inches per acre.

(2) Native vegetation shall be used to satisfy the replacement requirements of this chapter to the greatest practical extent.

Tree Plan

A tree plan shall be required for all applicable developments as part of the preliminary plat approval. The tree plan is comprised of three parts: the tree survey plan, the tree protection plan and the tree replacement plan.

(a) The Tree Survey Plan shall be in the form of a to-scale map or a site plan prepared and sealed by a licensed professional noting the location of all specimen trees or stands of trees plus all other trees which will be preserved and counted toward meeting site density requirements. It should also include the following information:

(1) All specimen trees and their critical root zones shall be labeled and must be shown on the survey and inventoried by size and species. This includes those specimen trees that are to be preserved as well as those proposed for removal.

(2) The critical root zone of boundary trees that are located on neighboring properties whose critical route zone extends on to applicant's property shall be shown.

(3) All other trees that are to be counted toward meeting density requirements shall be shown on the survey and inventoried by size and species. Only trees with a DBH measurement of two inches or greater are to be identified as eligible for density compliance. Existing trees less than two inches DBH will not be counted toward the required density.

(4) Trees that measure less than two inches DBH, and thus can't be counted toward the density requirements, do not have to be counted and shown individually on the plan.

(5) Sampling methods may be used to determine tree densities for forested areas over five acres. For the purpose of this section, a plot sample is defined as an area measuring 50 feet by 50 feet, for a minimum size of 2,500 square feet. Sampling areas shall be located within the limits of a tree protection area. The sample must be taken in a portion of the site that is representative of its cover-type. The tree protection plan must delineate all ground cover-types and provide a general description of the types of trees present within the tree protection area (i.e., hardwoods, pine/hardwood mix, etc.).

(6) Show all areas of proposed land disturbance along with tree protection zones, tree save areas, and buffers with existing trees on the plan.

(b) A Tree Protection Plan is a detailed plan designed to protect and preserve trees before, during and for a period of two years after construction. The Plan shall include the following:

(1) The type, location and size as measured at the diameter breast height of the tree(s) constituting those to be protected. Only trees designated on the Tree Protection Plan will be counted toward density requirements.

(2) Locations of all specimen trees and their critical root zones. Indicate specimen trees proposed for removal or for preservation. Removal of specimen trees is subject to approval. Any specimen tree proposed for removal is to be identified in terms of exact location, size, and species.

(3) Location of any Champion Trees, including exact location, size, species and Georgia Forestry Commission designation information.

(4) All tree protection zones, natural areas, landscaped areas, buffers, and areas of re-vegetation. Include detailed locations and specifications for active and/or passive tree protection measures. Methods of tree protection should be indicated for all tree protection zones, including tree fencing, erosion control, retaining walls, tunneling for utilities, aeration systems, transplanting, staking, signage, etc.

(5) Limits of clearing and land disturbance such as grading, trenching, etc., where these disturbances may affect tree protection zones.

(6) The locations of all existing and proposed utility lines or easements. Include the location for any boring sites for underground utilities.

(7) Individual lot utilities must be addressed on the plan to confirm preserved trees and their critical root zones, and proposed planted tree locations, will not impact the septic system, municipal water lines, well systems or gas lines. Appropriately sized areas for drainfields must be identified per lot if utilizing septic tanks

(8) Indication of staging areas for parking, material storage, concrete washout, and other areas where tree protection may be affected.

(9) A delineation of tree save areas in which trees have been inventoried for minimum site DBH calculation.

(10) Calculations showing compliance with the required minimum site DBH density using existing trees, replacement/recompense trees, and/or alternative compliance methods. Site density compliance shall be demonstrated on both the Tree Protection and the Tree Replacement plans. Existing trees or stands of trees used in determining the minimum site DBH density requirement shall be indicated on the drawings.

(11) Site area (roads, utility lines, detention ponds, etc.).

(12) The locations of existing and proposed structures, paving, driveways, land disturbance, cut and fill areas, detention areas, etc.

(13) Phase lines and/or limits of construction.

(14) Location and details for all permanent tree protection measures (tree wells, aeration systems, permeable paving, retaining walls, bollards, etc.).

(15) Additional information as required on a case-by-case basis or as requested.

(c) The Tree Replacement Plan includes the planting schedules along with proposed tree names (botanical and common), quantity, size, spacing and any special planting notes. Native trees are to be prioritized when choosing species.

(1) Trees selected for planting must be free from injury, pests, disease, nutritional disorders or root defects, and must be of good vigor to assure a reasonable expectation of survivability. Standards for transplanting shall be in keeping with those established in the International Society of Arboriculture publication Tree and Shrub Planting Manual or similar publication. Reference the American Association of Nurserymen publication American Standard for Nursery Stock (ANSI Z60, 1973) for plant material quality specifications. Reference the Manual of Woody Landscape Plants (Michael Dirr, 1983, Castle Books) or similar publication for information on tree species site requirements.

(2) The Tree Replacement Plan shall also reflect the following requirements:

a. Replanted trees shall be of the same or similar species as those removed when practical unless a change in species is appropriate to achieve the requirements of this section.

b. The use of flowering ornamental trees or plants classified as large shrubs may be included in the Tree Replacement Plan but shall not be used for the purpose of meeting the density calculations for the site unless approved.

c. All overstory trees shall be a minimum of eight feet tall and have a trunk of not less than two caliper inches. All understory trees shall be a minimum of six feet tall and have a trunk of not less than two caliper inches. In order to provide sufficient growing area for planted trees, the following minimum criteria shall be observed unless otherwise approved

1. Overstory Trees - 200 square feet of pervious root zone.
2. Understory Trees - 75 square feet of pervious root zone.
3. Up to 30 percent of root zone may be impervious area.

d. All planting and staking details shall be provided on the plan.

e. All debris from trees cut or substantially damaged should be removed from the site in a timely fashion including the removal of any portion of the tree stump above the original natural grade or elevation of land unless otherwise approved for a specific reason such as, but not limited to, unusually large size or age.

Continuing maintenance.

(a) *Installation.* All landscaping shall be installed in a sound workmanlike manner. Plant materials, installation and maintenance shall meet the standards incorporated in ANSI Z60.1, American Standard for Nursery Stock, most current edition, ANSI A 300, Standard Practices for Tree, Shrub and other Woody Plant Maintenance, most current edition, and as indicated in the project Design Professional's drawings and specifications. All landscaping is subject to inspection and no certificate of completion or certificate of occupancy shall be issued unless the landscaping meets the requirements.

(b) *Maintenance.* The owner, occupant, tenant, and respective agent of each, if any, shall be jointly and severally responsible for the maintenance and protection of all required landscaping for a minimum period of 2 years after the issuance of a Certificate of Occupancy, in accordance with the following standards:

(1) Keep landscaping reasonably free of visible signs of insects and disease and appropriately irrigated to enable landscaping to exist in a healthy growing condition;

Definitions

The following words, terms, and phrases, when used in this article, shall have the meanings ascribed to them in this section, except where the context clearly indicates a different meaning:

American National Standards Institute, Inc (ANSI). A United States based non-profit organization that works to develop and promote standards in the United States and around the world.

Applicant. Any person seeking approval to take action under this article.

Boundary tree. A tree on adjacent property with a critical root zone that intrudes across the property line of the site under consideration.

Caliper inch. The trunk diameter of replacement trees measured in inches at six inches above the soil for those trees that are less than four and a half inches caliper. For trees greater than or equal to four and a half inches in diameter at six inches above soil, caliper is measured at 12 inches above the soil.

Clear-cutting. The indiscriminate cutting, plowing, or grubbing of trees without regard to type or size for the purpose of clearing the land.

Conservation area. A portion of a site left undisturbed and protected from development in perpetuity.

Co-owned tree. A tree growing on two or more different properties, as measured where the trunk of the tree meets the ground, excluding the root flare. The tree is jointly owned by all property owners.

Critical root zone (CRZ). The critical root zone, also referred to as the root save area, is the area surrounding a tree that is essential to the tree's health and survival. For a free-standing tree with no apparent root restrictions, the critical root zone or root save area shall consist of a circle having a radius of one foot for each one inch of diameter at breast height of the tree.

Dead tree. A tree characterized by skeletal remains with no live twigs and a lack of foliage or total browning of foliage during the growing season. During dormancy, dead trees are characterized by peeling or sloughing bark, lack of buds, and dry and brittle twigs.

Destroy. Any intentional or negligent act or lack of protection that is more likely than not to cause a tree to die within a period of five years, as determined by an Arborist, Forester, Landscape Architect or other

qualified professional. Such acts include, but are not limited to: performing grade changes (including lowering or filling the grade) that affect more than 20 percent of the critical root zone; trenching of roots; cutting, girdling or inflicting other severe mechanical injury to the trunk, roots or other vital sections of the tree; removing in excess of 20 percent of the live crown of the tree; inflicting damage upon the root system of a tree by the application of toxic substances, including solvents, oils, gasoline and diesel fuel; causing damage by the operation of heavy machinery; causing damage by the storage of materials; and/or deliberately or negligently burning or setting fire to a tree. In addition, topping, tipping, or any similar improper pruning practices will be deemed as destruction of a tree.

Diameter at breast height (DBH). The diameter of the main stem(s) of a tree measured at four and a half feet (54 inches) above the natural grade at the base of the tree, typically measured in inches. For a tree with three or more stems, the DBH shall be calculated as the diameter of the largest stem plus one-half of each additional stem. The diameter of the top of a stump less than four and a half feet tall shall be considered the "DBH" of an illegally destroyed tree for the purpose of calculating recompense.

Disease. Any fungal, bacterial, or viral infection that will result in the death of the tree, as determined by a licensed professional. Disease shall also mean any fungal, bacterial or viral infection that has progressed to the point where treatment will not prevent the death of the tree, as determined by a licensed professional.

Drip line. An imaginary line extending from the external boundary of a tree's canopy to the ground.

Dying tree. A tree that is diseased, injured, or in terminal decline due to the extent that death is more likely than not within two years.

Environmentally sensitive area. Area(s) of a property that includes important environmental features eligible for special protection under County, State, or Federal regulations based upon its ecological value, including without limitation wetlands, floodplains, perennial and intermittent streams, riparian buffers, stands of trees, historic trees, and other significant aspects of the natural environment on site.

Floodplain. Area(s) of land with natural or constructed contours of elevation at or below the base flood elevation shown on the flood hazard district maps adopted and those areas of land which are not so shown in the flood hazard district maps where inundation is likely to occur during a base flood as determined by engineering studies to determine the probable depth of such floodwaters.

Flush cutting. The removal of limbs by cutting immediately adjacent to the trunk, destroying the protective branch collar and exposing the trunk to decay organisms.

Forested site. Any site that meets the following conditions:

i) 80% or more canopy cover.
ii) a minimum of 1,000 DBH inches per acre. and/or
iii) 50 or more mature trees per acre.

Good condition (of a tree). A tree that has minor or no problems with its root, trunk, major branches, twigs, or foliage is in good condition. Minor pathological problems may be present but may not be severe. Overall color and shoot growth are typical for the species, and canopy foliage has not significantly declined.

Hardship. A unique or otherwise special existing condition that is not addressed by the ordinance.

Hazardous tree. A tree with uncorrectable defects severe enough to pose a present danger people or buildings under normal conditions within a two-year time period, as determined by a licensed professional, or a tree which is determined by a licensed professional to be in imminent likelihood of failure is considered to be hazardous.

Healthy tree. For the purposes of this article, all trees that have not been issued a dead, dying, or hazardous removal permit are considered to be healthy.

Historic tree. A tree that has been designated by the Board of Commissioners, upon application by a licensed professional or any other interested person, to be of notable historic value and interest because of its age, size, or historic association, in accordance with arboricultural specifications and standards of practice. Such designation may occur only by resolution of the Board of Commissioners, and the Planning and Development Director shall maintain a complete listing of the location of each historic tree.

Imminent likelihood of failure. A tree for which failure has started or is most likely to occur in the near future, even if there is no significant wind or increased load has an imminent likelihood of failure. This condition occurs infrequently and may require immediate action to protect people from harm. Examples of imminent likelihood of failure include without limitation: sudden change of pitch of the main stem; cracked or heaved soil opposite the tree's lean; visibly raised root plate; and cracks or breaks in the main stem or large leader.

Impact. Any legal or illegal action that damages a tree. Damage may result from, but is not limited to, grading, filling, soil compaction or other land disturbance within a tree's critical root zone; mechanical injury to any part of a tree; spiking; vandalism; improper or excessive pruning; and allowing toxic substances such as herbicides, gas, brine water, oil, liquid dye, or other substances deleterious to tree health to come in contact with soil within the critical root zone.

Injury. See impact.

Invasive Tree or Invasive Species. Invasive trees are non-native tree species that pose a threat to native ecosystems. A current list of invasive trees is maintained by and available from a licensed professional. The list of invasive trees periodically, based on the list of invasive species published by the Georgia Invasive Species Council, scholarly research, and consultation with professional arborists, ecologists, and foresters.

Land disturbance. For purposes of this article, land disturbance refers to any human-made change to improved or unimproved property that includes, but is not limited to, construction of buildings or other structures, soil compaction, filling, clearing and grubbing, grading, paving, installation of impervious cover, excavation or drilling, storage of equipment or materials, or any other construction activity.

Licensed Professional. For the purposes of this section, a professional holding a license as an Arborist, Forester, or Landscape Architect.

Mature tree. A mature tree is defined as a tree that has reached a significant portion of the maximum potential height for the species. This stage is typically marked by the cessation of height growth and reduced shoot elongation, while the diameter growth of stems, branches, and roots, continues, contributing to the tree's overall size and strength. Mature trees also develop the ability to reproduce, marked by the production of flowers, fruits, or nuts. The onset and duration of the mature stage varies by species. For example, oaks and other slower growing trees may reach maturity after 25 to 40 years and continue to produce acorns for centuries. In contrast, the timescale for faster growing species may reach maturity in a shorter timescale.

Midstory tree. A midstory tree normally attains a DBH of 10 to 25 inches, a height of 30 to 60 feet, and approximately 900 square feet of canopy at maturity.

New lot of record. A tract of land that has been newly subdivided and so recorded as a separate property of record.

Nuisance tree. A tree with uncorrectable defects severe enough to pose an imminent danger to people or buildings on public property under normal conditions, as determined by a licensed professional.

Overstory tree. An overstory tree normally attains a DBH in excess of 25 inches and a height in excess of 60 feet, and approximately 1,200 square feet of canopy at maturity.

Pine. Tree species that are a member of the genus Pinus; does not include other needled trees commonly known as cedar, fir, spruce, hemlock, or any other members of the family Pinaceae.

Planned development. Any non-residential or residential development.

Private property tree. For the purposes of this article, a tree shall be considered a private property tree if more than 50 percent of the trunk of the tree, excluding the root flare, is located on private property.

Pruning. The selective removal of plant parts. For the purposes of this article, proper pruning may not include the removal of more than 20% of the live crown of a tree within a two-year period, and cuts must be made in accordance with ANSI A300 series of standards for tree care management. At no time shall trimming, tipping, or flush cutting of trees be deemed a form of pruning.

Public linear infrastructure project. Construction or maintenance of infrastructure that is linear in form, including but not limited to public roadways, sidewalks, trails, and water, sewer, electrical, gas, phone, internet and other similar utility projects is referred to as linear infrastructure.

Public property tree. For the purposes of this article, a tree shall be considered a public property tree if at least 50 percent of the trunk of the tree, excluding the root flare, is located on public property.

Regulated tree (private property). Any tree other than a pine with a DBH of six inches or greater, or a pine with a DBH of 12 inches or greater.

Replacement tree(s). New trees planted to restore the lost public value of healthy trees that are removed or destroyed according to the requirements of this article are referred to as replacement trees. The size of replacement trees is expressed in caliper inches.

Residential Development. For the purposes of this section, development of a parcel of land into more than five (5) lots or individual residential structures.

Responsible party. Any person(s) or entities whose actions or failures to act violate this article, including without limitation any person who knowingly allows his or her agent or contractor to violate this article. Where a tree is destroyed or impacted in violation of this article, there may be more than one responsible party. A responsible party may include without limitation: the owner of the property on which a tree of concern is located; an agent of the owner; a tree removal company; a builder or developer; or a grading contractor or landscaper.

Saved tree. A saved tree for the purposes of this article is a tree that is to be protected and not destroyed during construction in the manner specified by this article.

Severe mechanical injury. A wound or combination of wounds, measured at their widest extent, that expose or destroy the cambium layer of 30 percent or more of the circumference of the tree.

Standard replacement. The replacement tree requirement is measured in caliper inches. The required replacement is equal to one caliper inch per DBH of each tree destroyed.

Stream buffer. The land and vegetation that is within 100 feet of a perennial or intermittent stream in which development is prohibited or restricted.

Streetscape. For the purposes of this article, streetscape refers to a zoning mandated street frontage treatment beginning at the back of curb that includes a sidewalk/walk area/clear zone and at least one

of the following: a street furniture/tree planting zone, amenity zone, or a supplemental area. Streetscapes typically also have requirements for trees or streetlights.

Structural root plate (SRP). The zone of rapid root taper that provides the tree stability against windthrow. The radius of the root plate is proportional to the stem diameter (DBH) of a tree, excluding the root flare. The table below provides the radius of the structural root plate as determined by the DBH of the tree for upright trees without restricted roots. Adjustments to the assumed SRP may be made by an licensed professional if justified by specific documented site conditions.

DBH (inches)	6-7”	8-10”	11-14”	15-18”	19-23”	24-31”	32-43”	44-51”	52-57”	58-61"
SRP distance (radius’)	5’	6’	7’	8’	9’	10’	11’	12’	13’	14’

DBH (inches)	62-64”	65-67”	65-67”	72-73”	72-73”	74-75”	76-77”	78-79”	80-81”	82-83”
SRP distance (radius’)	15’	16’	17’	18’	19’	20’	21’	22’	23’	24’

Tipping. The cutting of a lateral limb in such a manner as to leave a prominent stub extending beyond a branch node or the trunk.

Topping. The cutting of a leader trunk in such a manner as to leave a prominent stub extending beyond the node (crotch) of another leader trunk or major branch that may become a leader trunk.

Tree. A self-supporting woody, perennial plant that has a trunk diameter of two inches or more when measured at a point six inches above ground level and which normally attains an overall height of at least ten feet at maturity, usually with one main stem or trunk and many branches.

Tree density. The minimum tree coverage required to be growing on a site prior to the issuance of the certificate of occupancy or completion of permitted work is referred to as tree density. For residential developments, tree density is measured by the number of trees per acre on a site. For non-residential developments, tree density is measured by the total DBH inches of trees on a site. Tree density requirements may be met through trees preserved on site, newly planted trees, or a combination of the two, in accordance with the requirements of this section.

Tree Survey. A plan or drawing to scale that identifies the exact size, location, condition (healthy, dead, or declining), and species of protected trees and the disposition of each protected tree during development. The plan shall indicate whether each protected tree is to be preserved or removed. The plan shall indicate the location and types of treatments to be utilized to protect trees during development such as fencing, mulching, root pruning, and other measures.

Understory tree. An understory tree normally attains a DBH of less than ten inches and a height of less than 30 feet, and a canopy of approximately 400 square feet at maturity.

Utility Easement. An existing recorded public or private linear utility easement or a linear corridor containing shared utilities on private property. Utility corridor widths are defined by the width of the recorded easement.

Vacant lot. A property of record that has not had a structure on it in the past five years.

Wetland buffer. The land and vegetation that is within 100 feet of a wetland in which development is prohibited or restricted.

Article 2 ~~Glossary~~ Definitions

Chapter 2.1 Purpose of Article

The following is ~~a glossary of~~ all definitions specifically used in the text of the Development Regulations. Regarding the interpretation of figures, words and phrases as used in these regulations, refer to Article 1, Chapter 1.5.

Chapter 2.2 Defined Words and Phrases

***AASHTO**:* The American Association of State Highway and Transportation Officials.

Accessory Structure: A subordinate building or structure, whether detached from or attached to a principal building, which is customarily incidental and secondary to, and located on the same lot as, the principal use or building. An accessory structure shall not be used for dwelling purposes unless expressly permitted by the applicable zoning district. Accessory structures include, but are not limited to, garages, carports, storage buildings, sheds, gazebos, and similar structures.

***Addition (to an existing building)**:* Any walled and roofed expansion to the perimeter of a building in which the addition is connected by a common load-bearing wall other than a firewall. Any walled and roofed addition which is connected by a firewall or is separated by independent perimeter, load-bearing walls is new construction. Any expansion to an existing building that is not walled and roofed, such as an open porch or deck, is not considered an "addition" for flood damage prevention purposes.

Agency: Any state or any political subdivision thereof, including without limitation, any municipality, township or county, and any domestic entity or body exercising executive, legislative, judicial, regulatory, administrative functions of or pertaining to government, including, without limitation, any corporation or other entity owned or controlled by any of the foregoing, any court of competent jurisdiction, or commission or governmental or regulatory authority or instrumentality or authorized arbitral body.

***Applicant**:* A property owner or their authorized representative who has petitioned the County for approval of a preliminary plat or site plan, development permit, building permit, hardship variance, administrative appeal, or any other authorization for the use or development of their property under the requirements of these development regulations.

***Application**:* A petition for approval of a development permit, building permit, hardship variance, or appeal, or any other authorization for the use or development of a property under the requirements of these Development Regulations.

***Area of Shallow Flooding**:* A designated AO or AH zone on the flood insurance rate map (FIRM) with base flood depths from one to three feet, or where a clearly deemed channel does not exist, where the path of flooding is unpredictable and indeterminate, and where velocity flow may be evident.

***Area of Special Flood Hazard**:* The land in the flood plain within a community subject to a one (1) percent or greater chance of flooding in any given year.

***As-Built Survey Drawings**:* Drawings specifying the dimensions, location, capacities, and operational capabilities of structures and facilities as they have been constructed.

***Base flood**:* The flood having a one (1) percent chance of being equaled or exceeded in any given year (100-year flood).

***Basement**:* One or more floors of a building that are completely or partly below ground level.

***Best Management Practices (BMP's)**:* A collection of structural ~~measures~~ practices and vegetative ~~practices~~ measures which, when properly designed, installed and maintained, will provide effective erosion and sedimentation control for all rainfall events up to and including a 25-year, 24-hour rainfall event.

***Block**:* A parcel or parcels of land bordered on all sides by highways or streets, other than alleys.

***Board of Natural Resources**:* The Board of Natural Resources of the State of Georgia.

***Breakaway Wall**:* A wall that is not part of the structural support of the building and is intended through its design and construction to collapse under specific lateral loading forces without causing damage to the elevated portion of the building or the supporting foundation system.

***Buffer Area**:* A landscaped or naturalized area used to separate and partially obstruct the view of a development from streets and adjacent or contiguous development.

Buildable Area: That portion of a lot or parcel within which a principal or accessory building or structure may be lawfully constructed in compliance with all applicable zoning district requirements, development regulations, and other local, state, or federal regulations. The buildable area shall exclude required setbacks, rights-of-way, easements that prohibit construction, floodways, wetlands protected by law, required buffers, and other areas restricted from development by these Development Regulations or applicable law.

***Building Code**:* The most recent technical codes approved for enforcement or otherwise adopted or adopted as amended by the County under the Georgia Uniform Codes Act, which regulate the construction of buildings and structures.

***Building**:* Anything attached to the ground having a roof supported by columns or by walls and intended for shelter, housing or enclosure of persons, animals or personal property. For purposes of these regulations, the term "building" includes "structure", as defined.

***Comprehensive Plan**:* The Comprehensive Plan for Morgan County and the Cities of Bostwick, Buckhead, and Rutledge, July 18, 2017, as adopted and amended from time to time.

***Condition of Zoning Approval**:* A requirement adopted by the County Commission at the time of approval of a rezoning or special use, placing greater or additional requirements or restrictions on the property than provided in these Development Regulations in order to reduce an adverse impact of the rezoning or special use and to further the protection of the public health, safety, or general welfare.

***Contiguous**:* An area not divided in its entirety by a street or street right-of-way, any right-of-way of a railroad or other public service corporation, or lands owned by others.

***Conventional subdivision**:* A subdivision in which all lots meet or exceed the minimum lot size, lot width, and all other dimensional requirements of the Zoning Ordinance.

***Cut**:* A portion of land surface or area from which earth has been removed or will be removed by excavation; the depth below original ground surface to excavated surface. Also known as "excavation."

***Cutting**:* The removal of any soil or other solid material from a natural ground surface.

Density: The number of dwelling units permitted per unit of land area, expressed as dwelling units per acre, calculated using the gross acreage of the development site unless otherwise specified.

Density, Net: The number of dwelling units permitted per unit of land area, expressed as dwelling units per acre, calculated by dividing the total number of dwelling units by the net acreage of the site. Net acreage shall exclude public and private street rights-of-way, floodways, jurisdictional wetlands, required buffers, required open space, and other areas restricted from development by these Development Regulations or applicable law.

***Developer**:* See "Applicant."

***Development Permit**:* The authorization is necessary to initiate and conduct a land-disturbing activity and to carry out the planned development of land and structures.

***Development**:* Any man-made change to improved or unimproved real estate, including but not limited to, buildings, or other structures, mining, dredging, filling, grading, paving, excavation, drilling operation or permanent storage of materials.

Development, Subdivision: The entire original parcel for which subdivision approval is requested, including all new parcels intended for development, community amenities, recreation facilities, streets, easements, right of ways and areas to be set aside as open space.

***Director**:* The Morgan County Director of Planning and Development or his/her designated representative.

DNR Department: The Georgia Department of Natural Resources.

***Drainage Structure**:* A device composed of a virtually non-erodible material such as concrete, steel, plastic or other such material that conveys water from one place to another by intercepting the flow and carrying it to a release point for storm-water management, drainage control or flood control purposes.

***Easement**:* A grant or one or more property rights by a property owner to, or for the use by, the public, a corporation or a person or entity.

***Elevated Building**:* A non-basement building built to have the lowest floor of the lowest elevated area elevated above the ground level by means of fill; solid foundation perimeter walls; pilings, columns, posts and piers, shear walls; or breakaway walls.

***EPD**:* The Environmental Protection Division of the Georgia Department of Natural Resources.

***EPD Director**:* The Director of the Environmental Protection Division of the Georgia Department of Natural Resources.

***Erosion**:* The process by which land surface is worn away by the action of wind, water, ice, or gravity.

***Erosion and Sedimentation Control Plan**:* A plan for the control of soil erosion and sedimentation resulting from a land-disturbing activity.

***Existing Construction**:* For the purposes of flood damage prevention requirements, any structure for which the start of construction commenced before September 9, 1997.

***Existing County Street or Road**:* A street, road or highway located in unincorporated Morgan County that existed prior to the submission of a final plat for a minor subdivision or existed prior to the submission of a preliminary plat for a major or private street subdivision. An "existing road" may be a street or road created through recordation of a final plat for a subdivision, a road under maintenance responsibility of the County, a legally created private street, or a U.S. or State numbered highway.

***Existing manufactured home park or subdivision**:* For the purposes of flood damage prevention requirements, a manufactured home park or subdivision for which the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including at a minimum the installation of utilities, the construction of streets, and final site grading or the pouring of concrete pads) is completed before September 9, 1997.

***Expansion to an existing manufactured home park or subdivision**:* The preparation of additional sites by the construction of facilities for servicing the lots on which the manufactured homes are to be affixed, including the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads.

***Fill**:* A portion of land surface to which soil or other solid material has been added; the depth above the original ground.

***Filling**:* The placement of any soil or other solid material, either organic or inorganic, on a natural ground surface or excavation.

***Finished Grade**:* The final elevation and contour of the ground after cutting or filling and conforming to the proposed design.

Flood Hazard Boundary Map (FHBM): An official map of a community, issued by the Federal Emergency Management Agency, where the boundaries of the areas of special flood hazard have been defined.

Flood Insurance Rate Map (FIRM)*:* An official map of a community, on which the Federal Emergency Management Agency has delineated both the areas of special flood hazard or the risk premium zones applicable to the community.

Flood Insurance Study*:* The official report provided by the Federal Emergency Management Agency evaluating flood hazards and containing flood profiles and water surface elevations of the base flood.

Flood or Flooding*:* A general and temporary condition of partial or complete inundation of normally dry land areas from the:

(a) Overflow of inland or tidal waters; or

(b) Unusual and rapid accumulation or runoff of surface waters from any source.

Flood Plain*:* Any land area susceptible to inundation by water.

Floodway*:* The channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than one foot in upstream flood elevations.

Floor*:* The top surface of an enclosed area in a building, including basement, i.e., top of slab in concrete slab construction or top of wood flooring in wood frame construction. The term does not include the floor of a garage used solely for parking vehicles or storage, or the floor area of an attic used exclusively for storage.

Grading*:* Altering the shape of ground surfaces to a predetermined condition; this includes stripping, cutting, filling, stockpiling and shaping, or any combination thereof, and shall include the land in its cut or filled condition.

Greenway*:* An area of land immediately adjacent to the banks of state waters in its natural state of vegetation, which facilitates the protection of water quality and aquatic habitat.

Ground Elevation*:* The original elevation of the ground surface prior to cutting or filling.

Highest Adjacent Grade*:* The highest natural elevation of the ground surface, prior to construction, next to the proposed foundation of a building.

Historic Structure. Any structure that is:

(a) Listed individually in the National Register of Historic Places (a listing maintained by the U.S. Department of Interior) or preliminarily determined by the Secretary of the Interior as meeting the requirements for individual listing on the National Register.

(b) Certified or preliminarily determined by the Secretary of the Interior as contributing to the historical significance of a registered historic district or a district preliminarily determined by the Secretary to qualify as a registered historic district.

(c) Individually listed on a state inventory of historic places and determined as eligible by states with historic preservation programs which have been approved by the Secretary of the Interior; or

(d) Individually listed on a local inventory of historic places and determined as eligible by communities with historic preservation programs that have been certified either:

a. By an approved state program as determined by the Secretary of the Interior, or

b. Directly by the Secretary of the Interior in states without approved programs.

Impervious Surface: Any surface that substantially prevents or restricts the infiltration of stormwater into the underlying soil, including but not limited to buildings, rooftops, paved areas, driveways, parking areas, streets, sidewalks, patios, decks, and other similar surfaces, regardless of material, that are designed or constructed to be impermeable or semi-impermeable.

Improvements*:* Physical changes to the land which are necessary to create useable lots including (but not limited to) streets, sewer and water facilities, hydrants, sidewalks, survey monuments, changes to existing utilities and storm drainage systems.

Issuing Authority*:* The Morgan County Board of Commissioners, acting through its Director of Planning and Development as its designated representative, which has been certified by the Director of the Environmental Protection Division (EPD) of the Department of Natural Resources (DNR) as an issuing authority, pursuant to O.C.G.A. § 12-7-8. ~~the Erosion and Sedimentation Act of 1975, as amended, or EPD in those instances where an application for a permit is submitted directly to EPD.~~

Jurisdiction*:* That area over which the governing body has authority for planning, zoning and development permitting under the Constitution of the State of Georgia.

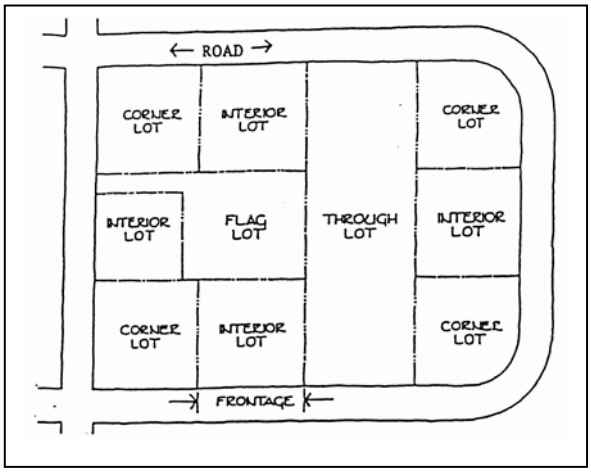
Lake*:* A body of water one acre or more in surface area, created either by a manmade or natural dam or other means of water impoundment.

Land-Disturbing Activity*:* Any activity that may result in soil erosion from water or wind and the movement of sediments into state waters or onto lands within the state, including, but not limited to, clearing, dredging, grading, excavating, transporting and filling of land but not including agricultural practices that are exempt under the Erosion and Sedimentation Control Section of the Land Development Activities Article of these Development Regulations.

Lot of Record: A lot which is part of a subdivision lawfully recorded in the office of the Clerk of Superior Court, or a lot described by metes and bounds, the description of which has been so lawfully recorded.

Lot*:* A parcel of land occupied or capable of being occupied by a use, building or group of buildings devoted to a common use with the customary accessories and open spaces belonging to the same, which is described in a deed or shown on a plat and lawfully recorded in the office of the Superior Court of Morgan County.

***Lot, Corner**:* A lot abutting two or more streets or roads at their intersection.



Lot, Double Frontage: Any lot, other than a corner lot, which has frontage on two streets.

Lot, Reverse Frontage: A double frontage lot on which access is restricted from at least one abutting street or road.

***Lot Frontage**:* See "Lot width."

***Lot Depth**:* The distance measured along a line extending from the lot's frontage, through the mid-point of the lot's width, to the mid-point of the lot line that is most opposite and parallel to the lot width line. For a lot that has more than one frontage, the depth shall be measured from the shortest frontage line. For a lot that has no rear property line, the depth shall be measured at a right angle (90 degrees) to the lot width. For a lot that has more than one rear property line, the depth shall be measured to the mid-point of the property line most nearly opposite and parallel to the lot width.

Lot Width: The linear distance between side lot lines measured at the front building line and at the right-of-way of any street.

***Lowest Floor**:* The lowest floor of the lowest enclosed area, including basement. An unfinished or flood resistant enclosure, used solely for parking of vehicles, building access, or storage, in an area other than a basement, is not considered a building's lowest floor, provided that such enclosure is not built so as to render the structure in violation of other provisions of these regulations.

***Manual for Erosion and Sediment Control in Georgia**:* A publication of the same name published by the Georgia Soil and Water Conservation Commission, and as amended or supplemented from time to time.

***Manufactured Home**:* A structure, transportable in one or more sections, which, in the traveling mode, is eight body feet or more in width or 40 body feet or more in length or, when erected on site, is 320 or more square feet and which is built on a permanent chassis and designed to be used as a dwelling with or without a permanent foundation when connected to the required utilities and includes the plumbing, heating, air-conditioning, and electrical systems contained therein; except that such term shall include any structure which meets all the requirements of this paragraph except the size requirements and with respect to which the manufacturer voluntarily files a certification required by the secretary of housing and urban development and complies with the standards established under the National Manufactured Housing Construction and Safety Standards Act of 1974, 42 U.S.C. Section 5401, et seq.

***Mean Sea Level**:* The average height of the sea for all stages of the tide. It is used as a reference for establishing various elevations within the flood plain. For purposes of these regulations, the term "mean sea level" is synonymous with ~~National Geodetic Vertical Datum (NGVD)~~ North American Vertical Datum of 1988 (NAVD 88).

***Mobile Home**:* A structure, transportable in one or more sections, which, in the traveling mode, is eight body feet or more in width or 40 body feet or more in length or, when erected on site, is 320 or more square feet and which is built on a permanent chassis and designed to be used as a dwelling with or without a permanent foundation when connected to the required utilities and includes the plumbing, heating, air-conditioning, and electrical systems contained therein and manufactured prior to June 15, 1976.

***Model Home**:* A dwelling used initially for display purposes that typifies the type of units that will be constructed in the subdivision.

***National Geodetic Vertical Datum (NGVD)**:* As corrected in 1929, is a vertical control used as a reference for establishing varying elevations within the flood plain.

***Natural Ground Surface**:* The ground surface in its original state before any grading, excavation or filling.

***Nephelometric Turbidity Units (NTU)**:* Numerical units of measure based upon photometric analytical techniques for measuring the light scattered by finely divided particles of a substance in suspension. This technique is used to estimate the extent of turbidity in water in which colloidally dispersed particles are present.

***New Construction**:* Any structure for which the start of construction commenced after September 9, 1997, and includes any subsequent improvements to the structure.

***New Manufactured Home Park or Subdivision**:* For the purposes of flood damage prevention requirements, a manufactured home park or subdivision for which the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including at a minimum, the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads) is completed on or after September 9, 1997.

Open Space: Land or water areas within a development that are intended to remain predominantly undeveloped and are designated for the protection of natural resources, scenic

qualities, agricultural use, passive recreation, or similar purposes consistent with these Development Regulations.

Open Space, Common: Open space owned, maintained, and managed by a homeowners' association, property owners' association, or similar legal entity for the shared use and benefit of the residents of a development, subject to recorded covenants or other legally binding instruments approved by the County.

Open Space, Dedicated: Open space that is conveyed in fee simple or by permanent easement to the County, another governmental entity, or a qualified land trust or conservation organization, for public use or conservation purposes, and accepted by the receiving entity.

Open Space, Protected: Open space that is permanently preserved through conservation easements, deed restrictions, covenants, or other legally enforceable instruments acceptable to the County, which prohibit future development except as expressly permitted by these Development Regulations.

One-Hundred-Year Flood Plain*:* A land area subject to a one (1) percent or greater statistical occurrence probability of flooding in and given year.

Original Parcel: A contiguous parcel of land, recorded in the Office of the Clerk of Superior Court of Morgan County, as it existed immediately prior to the approval of any portion of the parcel being divided as a subdivision.

Owner*:* A person or other legal entity having or controlling a majority fee simple interest in a property, or their authorized representative.

Pervious Surface: A surface that is designed, constructed, and maintained to allow stormwater to infiltrate into the underlying soil at a rate sufficient to reduce surface runoff, including but not limited to landscaped areas, natural ground cover, lawns, gardens, and pervious or porous pavement systems installed in accordance with accepted engineering standards. A surface shall be considered pervious only to the extent that it demonstrably allows infiltration under normal rainfall conditions and is not compacted, sealed, or otherwise rendered impermeable by design or use.

Pond*:* A body of standing water less than one acre in surface area, created either by a natural dam, or other means of water impoundment.

Project*:* The entire proposed development project regardless of the size of the area of land to be disturbed.

Public Improvement*:* The construction, enlargement, extension or other construction of a facility intended for dedication to the public, including but not limited to a street, curb and gutter, sidewalk, cross drain, catch basin, traffic control and street name sign, or other roadway appurtenance other than a driveway apron connection; domestic water supply system main, fire hydrant, valve or other appurtenance other than a supply line to a building; or sanitary sewerage

main or outfall, lift station, force main, manhole or other appurtenance other than a drain line from a building.

Rain Garden: A shallow, landscaped depression designed, constructed, and maintained to collect, temporarily store, and infiltrate stormwater runoff from impervious surfaces such as roofs, driveways, streets, or parking areas. A rain garden uses amended soils, native or adapted vegetation, and natural biological processes to reduce runoff volume, improve water quality, and promote groundwater recharge, and shall be designed in accordance with generally accepted engineering, hydrologic, and horticultural practices. A rain garden shall not be considered a detention or retention facility unless specifically designed and approved as such, and may be required to include overflow structures to safely convey excess runoff.

Recombination: The joining of parcels, or portions thereof, of adjoining properties, including the joining of existing parcels of record, provided that additional parcels are not thereby created, and that all resulting parcels are in compliance with the provisions of the zoning district in which it is located.

Recreational Vehicle. A vehicular type of unit primarily designed for recreation, camping, travel or seasonal use which has its own motive power or is mounted on or towed by another vehicle. The basic entities are: travel trailer, folding camping trailer, park trailer, truck camper, motor home and custom van conversions

Re-subdivision*:* A change in the map of a recorded subdivision plat if such change affects any street layout, area reserved for public use, or any lot line, and includes the further division of platted subdivision lots.

Right-of-Way*:* That area, distinguished from an easement, which is owned in fee-simple by Morgan County or other government, for the present or future use of roads, streets, and highways, together with its drainage facilities and other supporting uses and structures.

Retracement: A survey plat confirming or establishing the boundary lines and property corners from an existing recorded deed.

Roadway Drainage Structure*:* A device such as a bridge, culvert, or ditch, composed of a virtually non-erodible material such as concrete, steel, plastic or other such material that conveys water under a roadway by intercepting the flow on one side of a traveled way consisting of one or more defined lanes, with or without shoulder areas, and carrying water to a release point on the other side.

Screening*:* A method of visually shielding or obscuring one abutting or nearby building, structure, or use from another by fencing, walls, berms, densely planted vegetation, or some combination thereof.

Sediment*:* Solid material, both organic and inorganic, that is in suspension, is being transported or has been moved from its site of origin by air, water, ice or gravity as a product of erosion.

Sedimentation*:* The process by which eroded material is transported and deposited by the action of water, wind, ice, or gravity.

Soil and Water Conservation Commission*:* The Soil and Water Conservation Commission of the State of Georgia.

Soil and Water Conservation District Approved Plan*:* An erosion and sedimentation control plan approved in writing by the Soil and Water Conservation District.

Soil and Water Conservation District*:* The Piedmont Soil and Water Conservation District.

Stabilization*:* The process of establishing an enduring soil cover of vegetation an/or mulch or other ground cover and/or installing temporary or permanent structures for the purpose of reducing to a minimum the erosion process and the resultant transport of sediment by wind, water, ice or gravity.

Start of Construction*:* The initiation of new construction or a substantial improvement, as follows:

(a) For New Construction: The date the development permit was issued, provided the actual start of construction, repair, reconstruction, or improvement was within 180 days of the permit date. The actual start of construction means the first placement of permanent construction of a building, including a manufactured or mobile home, on a site, such as the pouring of slabs or footings, installation of piles, construction of columns, or any work beyond the stage of excavation or the placement of a manufactured or mobile home on a foundation. Permanent construction does not include land preparation, such as clearing, grading and filling, nor does it include the installation of streets or walkways; the excavation for a basement, footings, piers or foundations or the erection of temporary forms; nor does it include the installation on the property of accessory buildings, such as garages or sheds not occupied as dwelling units or not part of the main building. (Note: accessory structures are not exempt).

(b) For a Substantial Improvement: The actual start of construction means the first alteration of any wall, ceiling, floor, or other structural parts of a building, whether or not that alteration affects the external dimensions of the building.

State Waters*:* Any and all rivers, streams, creeks, branches, lakes, reservoirs, ponds, drainage systems, springs, wells and other bodies of surface or subsurface water, natural or artificial, lying within or forming a part of the boundaries of the State which are not entirely confined and retained completely upon the property of a single individual, partnership or corporation.

Street*:* A way for vehicular traffic, whether designated as an "avenue", "road", "boulevard", "highway", "expressway", "alley", or any other term.

Street Frontage*:* See “Lot width.”

Structural Erosion and Sedimentation Control Measures*:* Measures for the stabilization of erodible or sediment-producing areas by utilizing the mechanical properties of matter for the purpose of either changing the surface of the land or storing, regulating or disposing of runoff to prevent excessive sediment loss. Examples of structural erosion and sedimentation control practices are riprap, sediment basins, dikes, level spreaders, waterways or outlets, diversions,

grade stabilization structures, sediment traps and land grading. Such measures can be found in the publication *Manual for Erosion and Sediment Control in Georgia*.

***Structure**:* Anything built, constructed or erected, or established or composed of parts joined together in some definite manner, the use of which requires location on the ground or which is attached to something having permanent location on the ground.

***Subdivision site**:* The entire property for which subdivision approval is requested, including the lots intended for development of residences and community amenities (such as recreation facilities and stormwater detention facilities), streets and other rights-of-way or easements, and areas to be set aside as open space.

***Subdivision**:* ~~The division of land into two (2) or more parcels, tracts, lots, building sites or other divisions for sale, lease, or development.~~
All divisions of a tract or parcel of land into two or more lots, buildings, sites, or other divisions for the purpose, whether immediate or future, of sale, legacy, or building development; includes all division of land involving a new public road or a change in existing public roads or new drives, driveways, access ways, or changes that require access to the state right of way; includes resubdivision of land.

Subdivision, Estate: A division of an *original parcel* that creates any number of new parcels, with or without a new street, which requires extensive acreage to facilitate a range of rural and agricultural activities.

Subdivision, Conservation: A form of subdivision design which concentrates lots, houses, streets, utilities, and related development activities on the more suitable, and less environmentally sensitive, areas of the site, thereby preserving the steep slopes, wetlands, unsuitable soils, stream corridors and otherwise environmentally sensitive areas in a natural or undisturbed state. The net density of the development is equal to or less than that of traditional subdivision design, but the lot sizes are smaller in order to preserve the environmentally sensitive areas in dedicated, perpetual open space.

***Subdivision, Major*:** A division of an *original parcel* that creates any number of new parcels involving the construction of a new street, stormwater drainage facilities, or the construction or improvement of public utilities that complies with all requirements of the zoning district in which it is located.

Subdivision, Minor: A division of an *original parcel* that creates no more than five (5) parcels, including the remaining portion of the original parcel, fronts along an existing County street and does not require the extension or widening of the street; require the construction of stormwater drainage facilities; or the construction or improvement of public utilities. No further subdivision of the original parcel or resulting parcels from a minor subdivision will be permitted for three (3) year after the date of Minor Subdivision approval to prevent the circumvention of these

Development Regulations. Parcels created as the result of a Minor Subdivisions shall only be further subdivided as a Major Subdivision, involving the installation of a new street.

***Subdivision, Private Street*:** A major subdivision in which the parcels are served by a street held in private ownership and not dedicated to the County. A private street subdivision must meet all requirements of these development regulations that apply to a "Major Subdivision," except for dedication of the street rights-of-way or easements and drainage structures and easements.

***Substantial Damage**:* Damage of any origin sustained by a structure whereby the cost of restoring the structure to its before-damaged condition would equal or exceed 50 percent of the market value of the structure before damage occurred.

***Substantial Improvement**:* Any combination of repairs, reconstruction, alteration, or improvements to a building, taking place during the life of a building, in which the cumulative cost equals or exceeds 50 percent of the market value of the building prior to improvement. The market value of the building should be:

(a) The appraised value of the building prior to the start of the initial repair or improvement; or

(b) In the case of damage, the value of the building prior to the damage occurring. This term includes structures that have incurred "substantial damage," regardless of the actual amount of the actual repair work performed.

(c) For the purposes of this definition, "substantial improvement" is considered to occur when the first alteration of any wall, ceiling, floor, or other structural part of the building commences, whether or not that alteration affects the external dimensions of the building. The term does not, however, include those improvements of a building required to comply with existing health, sanitary or safety code specifications which are solely necessary to assure safe living conditions, which have been pre-identified through enforcement of these Development Regulations and not solely triggered by an improvement or repair project.

***Substantially improved existing manufactured home park or subdivision**:* A manufactured home park or subdivision where the repair, reconstruction, rehabilitation or improvement of the streets, utilities and pads equals or exceeds 50 percent of the value of the streets, utilities and pads before the repair, reconstruction or improvement commenced.

Variance: A grant of relief from the strict application of the dimensional, spatial, or physical development requirements of these Development Regulations, when such relief is authorized by law and necessary to avoid undue hardship or correct an administrative error, without permitting a use that is otherwise prohibited in the zoning district.

Variance, Administrative: A minor variance granted by the Director or other authorized administrative official, as expressly provided by these Development Regulations, to address dimensional or measurement discrepancies resulting from survey error, topographic conditions, or similar technical factors, provided such variance does not authorize a prohibited use, increase

density beyond that permitted by the zoning district, or create a material adverse impact on adjoining properties.

***Variance, Hardship*:** A variance granted by the Morgan County Board of Commissioners upon a finding that, owing to special conditions unique to the property and not created by the applicant, the strict application of these Development Regulations would result in unnecessary hardship, provided that the variance is the minimum relief necessary, is not contrary to the public interest, and is consistent with the spirit and intent of these Development Regulations.

***Vegetative Erosion and Sedimentation Control Measures**:* Measures for the stabilization of erodible or sediment-producing areas by covering the soil with:

(a) Permanent seeding, sprigging, or planting, producing long-term vegetative cover; or

(b) Temporary seeding, producing short-term vegetative cover; or

(c) Sodding, covering areas with a turf of perennial sod-forming grass.

(d) Such practices can be found in the publication Manual for Erosion and Sediment Control in Georgia.

***Watercourse**:* Any natural or artificial watercourse, stream, river, creek, channel, ditch, canal, conduit, culvert, drain, waterway, gully, ravine, or wash in which water flows either continuously or intermittently and which has a definite channel, bed and banks, and including any area adjacent thereto subject to inundation by reason of overflow or floodwater.

***Wetlands**:* Those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs and similar areas.

Wetlands, protected: Those wetlands identified on the National Wetlands Inventory maps prepared by the U.S. Fish and Wildlife Service, or otherwise approved by the U.S. Army Corps of Engineers based on competent studies prepared by a registered and qualified professional engineer.

***Zoning Map**:* The map of Morgan County delineating the zoning districts described within the *Morgan County Zoning Ordinance* related to property lying within unincorporated areas.

***Zoning Ordinance**:* The Zoning Ordinance for Morgan County, Georgia, adopted by the Board of Commissioners of Morgan County, Georgia, and amended from time to time.

STAFF REPORT
MORGAN COUNTY PLANNING COMMISSION

PETITION FOR: TEXT AMENDMENT

Applicant: Morgan County Planning & Development
Applicant's Agent: N/A
Zoning Ordinance: Morgan County Zoning Ordinance Chapter 7.32

Summary

Event Facilities have been a contentious topic since the ordinance was adopted in 2011, with numerous changes made to the wording. Many modifications were made in response to complaints, and this request is no different.

Non-profit exemptions

In 2011, efforts were made to exempt groups that may have frequent gatherings associated with non-profits, especially churches. Small groups were also exempted due to difficulty of enforcement. The 2011 ordinance language stated:

Section 7.32.2 Exceptions

Church events or events hosted by non-profit organizations held in exchange for a donation are not included.

Permanent facilities serving only 50 people or less may be excluded from these regulations, except use restrictions, provided adequate parking is provided and conforms to all Federal, State and Local ordinances.

In 2017, complaints about the small groups prompted further changes. From the October 2017 staff report:

This text amendment was requested by the Morgan County Board of Commissioners in response to complaints regarding the Event Facilities ordinance language. In June of this year, two residents requested that the language in Section 7.32.2 allowing groups of 50 or less to operate without a conditional use permit be removed.

The original language for event facilities only used zoning designation to regulate where an event could be held. The regulations focused on what events could be held. The exemptions focused on who could hold events without a permit. The exemption language was included for non-profits and small groups. Morgan County has close to 100 churches, all of which hold homecomings, vacation bible schools, holiday celebrations, revivals, etc. We have several non-profits (bonified 501(c)3 organizations) that hold various fund-raising events and regular presentations and exhibits. Smaller groups present an issue for

Morgan County Planning & Development
150 E. Washington Street, Suite 200
Madison, Georgia 30650

enforcement. The general perception is that 50 people is a large group, but the reality is that many family patriarchs host that number every Sunday for family dinners. That number could entail a birthday party or a Super Bowl gathering. The number of cars associated with a 50 person gathering would typically be about 20, but could be much lower. It would be impossible to police every house in Morgan County to determine if every group of 50 or less was, or was not, a paying event.

When it was requested that the 50 or less language be removed, Staff had to consider how to address groups operating without a permit. It isn't plausible to require every gathering in the county to have a permit. Therefore, the most logical solution was to focus on locations already available for assemblies. These locations have been inspected for public use and have ADA accessibility, adequate restroom facilities and have met life safety requirements. The focus on exemptions moved from who to where. An exemption for residential gatherings had to remain, as well as an exemption for family gatherings at locations other than a residence, although Staff admits that these events can still be hard to police.

The new approved language clarified who was exempt:

Church facilities.

Government owned facilities.

Non-profit organization facilities, owned by the organization.

Residential and family gatherings

Restaurants and Hotels with banquet rooms.

Two properties have utilized the language allowing non-profits to operate, including one that prompted the concerns about small groups prior to applying for non-profit status. Both have resulted in numerous complaints. Both properties are approximately 10 acres, which meet the minimum acreage, but are configured where event spaces are too close to other residences and parking has often been on the right-of-way. One has had fireworks displays that are too close to adjacent properties. These concerns have resulted in further deliberation about non-profits and the ability to have unregulated events.

Non-profits located in the county that own property, such as Stephan Thomas Museum and Camp Twin Lakes, are grandfathered with regard to events. Other non-profits typically use large venues in Madison or outside the county and only hold events infrequently for fundraising. The county is working on a special event ordinance that will allow applicants, non-profit or otherwise, to request approval for a one-time occasion, provided they submit the necessary site plan and life safety information. With these considerations, Staff is requesting that the language related to non-profits be removed.

~~*Non-profit organization facilities, owned by the organization.*~~

Criteria for Consideration

From Chapter 14.2.3.1, Criteria for Considering a Text Amendment, in the Buckhead Zoning Ordinance:

1. The proposed amendment is consistent with the purpose and intent of this ordinance as stated in Article 1;
2. The proposed amendment supports or is compatible with the purpose and intent of the Comprehensive Plan;
3. The proposed amendment adequately addresses new or changing conditions to properly implement the Comprehensive Plan or the terms of this Zoning Ordinance;
4. The proposed amendment provides a benefit to the county as a whole;
5. The proposed amendment reasonably promotes the public health, safety, morality and general welfare.

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STAFF REPORT
MORGAN COUNTY PLANNING COMMISSION

PETITION FOR: TEXT AMENDMENT

Applicant: Morgan County Planning & Development
Applicant's Agent: N/A
Zoning Ordinance: Morgan County Zoning Ordinance Table 4.1

Summary

This text amendment request is for two changes to Table 4.1, which both reflect changing conditions seen in application requests received by the Planning & Development office.

Data Centers

The use "Data Management and Data Processing Facility" was originally part of the stand-alone use chart for the MXD1 Zoning District, also known as the Stanton Springs Business Park. The use was permitted. At that time, data processing facilities were often housed in vacant office buildings or smaller corporate facilities. When the use charts were combined in 2012, the use was expanded to commercial and industrial zoning districts as it was still considered benign and unobtrusive. After that, the line item in the use chart was forgotten.

Today, data management and processing facilities are more commonly known as data centers and are massive 100,000+ square foot buildings with high power, and potentially water, needs. Evaporative cooling equipment and generators used for back-up power can generate obtrusive noise and numerous complaints. Many jurisdictions are enacting moratoriums on data centers in an effort to establish regulations to address local concerns.

Morgan County approved a data center moratorium on July 7 to give staff time to research and write a data center ordinance. As part of that process, this text amendment requests the removal of the old use in the zoning ordinance that allows "Data Management and Data Processing Facility" as a permitted use in 4 zoning districts.

USE DESCRIPTION	AG	AR	R1	R2	R3	C1	C2	C3	TCO	MXD3	I1	I2	I3	LR1	LR2	LR3	LTCO	RC	See Sec.
Data Management or Processing Facility							P	P			P	P							

The removal of this use does not negate the data center application already submitted, which was received on June 30. The request is for a zoning map amendment combined with a Comprehensive Plan Amendment to comply with the use currently in the Zoning Ordinance. Staff is working with the applicant to determine if the application will proceed or be held until after the new ordinance is approved.

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Metal Siding

Metal siding was prohibited on residential structures in 2021 to combat the increasing occurrence of metal garage buildings used for residences and the use of cheap metal siding. The request for metal siding, particularly in relation to bardominiums, did not abate and complaints to Commissioners prompted renewed discussions.

In June of this year, language was presented for house form standards to apply for major subdivisions, or developments of more than 5 lots. In that language, metal siding was allowed by review, provided the architectural metal siding was 24 gauge or heavier. The wording was approved by the BOC and immediately the complaints started about why it was allowed in subdivisions but not generally across the county. This text amendment changes the existing language prohibiting metal siding to match what was approved in the house from standards.

Dwellings, including single-family attached and detached, and accessory, have the note (s) after each to specify:

(s) No attached or detached single family dwellings, accessory dwelling, or tenant dwelling shall have metal siding.

Staff proposes to modify the wording to:

(s) Architectural metal siding shall be reviewed for suitability and will be subject to design merit, provided the siding is 24 or heavier gauge.

Criteria for Consideration

From Chapter 14.2.3.1, Criteria for Considering a Text Amendment, in the Buckhead Zoning Ordinance:

1. The proposed amendment is consistent with the purpose and intent of this ordinance as stated in Article 1;
2. The proposed amendment supports or is compatible with the purpose and intent of the Comprehensive Plan;
3. The proposed amendment adequately addresses new or changing conditions to properly implement the Comprehensive Plan or the terms of this Zoning Ordinance;
4. The proposed amendment provides a benefit to the county as a whole;
5. The proposed amendment reasonably promotes the public health, safety, morality and general welfare.

Morgan County Planning & Development
150 E. Washington Street, Suite 200
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MORGAN COUNTY AGENDA REQUEST

Department: Recreation

Presenter(s): A. Mestres / P. Jaugstetter

Meeting Date: mm/dd/yyyy 8/18/2026

Type of Request: Old Business

Wording for the Agenda:

Consideration of Resolution to Establish the Morgan County Recreation Advisory Board

Background/History/Details:

Continued discussion regarding the creation of the recreation advisory board.

What action are you seeking from the Board of Commissioners?

Discussion and consideration of the recreation advisory board

If this item requires funding, please describe:

N/A

Has this request been considered within the past two years? No

If so, when?

Is Audio-Visual Equipment Required for this Request?* No

Backup Provided with Request? Yes

* ***All audio-visual material must be submitted to the County Clerk's Office no later than 48 hours prior to the meeting. It is also your department's responsibility to ensure all third-party audio-visual material is submitted at least 48 hours in advance.***

Approved by Finance Not Applicable

Approved by Purchasing Not Applicable

Manager's Approval Yes

Staff Notes:

ARTICLE II. RECREATION BOARD

Sec. XXXXX. Created.

There is hereby created the Morgan County Recreation Board (hereinafter the "Recreation Board") to serve in an advisory capacity to the Board of Commissioners of Morgan County in matters of policy and administration of County-owned or operated parks, recreation programs, special events, and other activities as managed by the County's Recreation Department. Nothing in this article shall limit the independent legislative discretion of the Board of Commissioners of Morgan County to modify this article at any time.

Sec. XXXXX. Number of members and compensation.

The Recreation Board shall consist of _____ residents of Morgan County. The members of the Recreation Board shall receive no compensation for their service but may be reimbursed for actual expenses incurred in the performance of their duties.

Sec. XXXXX. Terms of office; filling vacancies.

(a) Upon adoption hereof, the Board of Commissioners shall appoint the members of the Recreation Board

(c) The terms of office for Recreation Board members shall be determined upon their appointment.

Sec. XXXXX. Organization and bylaws.

(a) At the first meeting of each calendar year, the Recreation Board members shall meet and organize by electing a chair and other necessary officers to serve for that calendar year.

(b) All meetings of the Recreation Board shall be open to the public, with a record maintained of its proceedings, pursuant to Georgia's Open Meetings Act, O.C.G.A. § 50-14-1 et seq. _____ members of the Recreation Board shall constitute a quorum and an affirmative vote of a majority of members present is required for the adoption of any motions.

(c) The Recreation Board shall have the power to draft by-laws or other rules and procedures to govern the conduct of business by the Board. Any by-laws so adopted shall be presented to the Board of Commissioners for consideration and approval.

(d) Records of the Recreation Board shall be maintained and are subject to Georgia's Open Records Act, O.C.G.A. § 50-18-70 et seq.

Sec. XXXXX. Duties and responsibilities.

(a) The Recreation Board shall act in an advisory capacity to the Board of Commissioners and County Staff on matters of policy and administration of County-owned or operated parks, recreation programs, special events, and other activities as managed by Morgan County's Recreation Department.

(b) The Recreation Board may investigate or analyze matters related to parks and recreation as requested by the Board of Commissioners, the County Manager, or the Director of the Department of Recreation. Whether to refer matters to the Recreation Board is discretionary.

(c) The Recreation Board is authorized to receive public input for changes or improvements to current parks, recreation, or cultural activities within the County.

(d) The Recreation Board may submit recommendations to the Board of Commissioners on policies, rules and regulations, ordinances, and other matters under the purview of the Board. Such recommendations may be solicited by the Board of Commissioners, staff, or made upon the Board's own initiative. Whether to solicit or to follow recommendations from the Recreation Board is discretionary and neither the Board of Commissioners nor staff are obligated to act upon any recommendations provided by the Recreation Board.

MORGAN COUNTY AGENDA REQUEST

Department: Administration

Presenter(s): Chief Smith, Sheriff Hooks, M.

Meeting Date: mm/dd/yyyy 8/18/2026

Type of Request: Old Business

Wording for the Agenda:

Consideration of Motorola Solutions Customer Agreement, Amendment to Motorola Solutions Customer Agreement, Sourcewell Master Agreement #020625 and Intergovernmental Agreement regarding the Oconee Areawide Radio System

Background/History/Details:

Staff have been working for three years on solutions to replacing the current VHF public safety radio system. Staff agree that a UHF system would be an improvement, but the 700/800 MHz P25 system is a better option and is the preferred industry standard for public safety communications. The recommendation from the Fire Department and Sheriff's Office, as of August 11, 2026, is to purchase the Motorola 700/800 MHz P25 system. The cost for the four-site buildout is not to exceed $7,751,550. The annual cost is not to exceed $345,500. This annual cost includes the City of Madison and Board of Education share, LTE coverage(which will be drastically reduced), and $40,000 annual fees for OARS access. A good budget number for a UHF system is $4 to $5 million with annual cost of approximately $100,000. For either system, staff recommend a project manager be utilized to inspect and verify initial scope of work is complete and verify implementation is correct and complete. Funding for the initial capital cost can be secured, with the Board's approval, by pooling the following sources:

- $4 million in remaining SPLOST 7 funds
- $1.5 million in SPLOST 8 funds designated for radio system upgrades
- $1 million in remaining SPLOST 8 funds designated for broadband
- $3.1 million in unallocated SPLOST 8 infrastructure funds

Regardless of which system is selected, ongoing maintenance and warranty costs will need to be covered by the General Fund, which may present a funding challenge due to the State's action to restrict local revenue streams.

Ultimately, the decision rests with the Board: whether to follow public safety's recommendation for the P25 system or to pursue the UHF alternative.

What action are you seeking from the Board of Commissioners?

Consideration of Motorola Solutions Customer Agreement, Amendment to Motorola Solutions Customer Agreement, Sourcewell Master Agreement #020625 and Intergovernmental Agreement regarding the Oconee Areawide Radio System

If this item requires funding, please describe:

Has this request been considered within the past two years? No

If so, when?

Is Audio-Visual Equipment Required for this Request?* No

Backup Provided with Request? Yes

**** All audio-visual material must be submitted to the County Clerk's Office no later than 48 hours prior to the meeting. It is also your department's responsibility to ensure all third-party audio-visual material is submitted at least 48 hours in advance.***

Approved by Finance: Not Applicable

Approved by Purchasing: Not Applicable

Manager's Approval: No

Staff Notes:

Proposal

Morgan County, GA

P25 Simulcast Radio System

PROPOSAL FOR TWO-SITE SYSTEM WITH LTE BACKUP

May 18, 2026

The design, technical, and price information furnished with this proposal is proprietary information of Motorola Solutions, Inc. (Motorola). Such information is submitted with the restriction that it is to be used only for the evaluation of the proposal, and is not to be disclosed publicly or in any manner to anyone other than those required to evaluate the proposal, without the express written permission of Motorola Solutions, Inc.

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PS-000214600

Motorola Solutions, Inc.
500 Monroe Street; Suite 4400
Chicago, IL 60661

May 18, 2026

Morgan County Board of Commissioners
Attn: Mark Williams, Assistant County Manager/Procurement Director
150 E. Washington Street
Madison, GA 30650

Subject: P25 Radio System Proposal

Dear Mr. Williams:

Motorola Solutions, Inc. sincerely appreciates the opportunity to present our proposal for Morgan County's upgrade to an APCO P25 Simulcast Radio System. We recognize the critical importance of this system for your first responders and public works personnel. Our Georgia-based project team has developed a solution designed to effectively meet your operational requirements and deliver exceptional value, based on the information provided by Morgan County personnel.

Our proposal for Morgan County encompasses the following key components:

- P25 Public Safety Simulcast Radio System Infrastructure:
  - An upgrade including the required DBR M12 base radios, MC-Edge gateways, and Virtual Prime equipment to ensure continued operation for many future years.
  - New Tower Site at the Morgan County Public Safety Center.
  - Utilization of the OARS (Oconee Areawide Radio System)-leased Tower Site at United Tower (Jones Wood Road) in Bostwick, GA.
- OARS Integration: Integration of Morgan County's two-site Simulcast System to the OARS Core.
- Microwave : Provision of necessary services for system connectivity and resiliency.
- Subscriber Replacements: Necessary replacement devices, including LTE-enabled subscriber operation.
- Warranty and Support: A 1-year warranty is included, with additional maintenance, support, SUA II, and Smart Services Subscriptions for six additional outyears.

Please note that the time-based proposal incentives offered by Motorola Solutions are valid through June 19, 2026. These are subject to the terms and conditions of Motorola Solutions' Communications System and Services Agreement, Sourcewell Agreement #020625-MOT, and the Motorola Solutions Customer Agreement (MCA).

Should you have any inquiries regarding this proposal, please do not hesitate to contact either Jared Smith, Motorola Senior Account Executive, at (678) 725-2190 or Jarrod Shupe, Motorola Strategic Projects Area Sales Manager, at (386) 227-7675.

Sincerely,
Motorola Solutions, Inc.

Janet Fernandez
Regional Vice President, Southeastern Territory
North America Government Markets

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Section 1

System Description

1.1 Solution Summary

Motorola is pleased to offer Morgan County, GA, a two-site simulcast system to address its Public Safety mobile radio communications needs.

This System will be integrated with OARS (Oconee Areawide Radio System), in order to leverage the existing infrastructure and coverage provided by this System.

1.1.1 Proposed System Components

The two (2) site simulcast system will include the following components:

- **Virtualized Prime Site:** One (1) Virtualized Prime Site at the United Tower ASR 1286534.
- **Simulcast RF Sites:**
  - One (1) 4-Channel Simulcast RF Site at the Morgan County 911 Center.
  - One (1) 4-Channel Simulcast RF Site at the United Tower ASR 1286534.
- **Civil Infrastructure:**
  - One (1) 300-foot self-supported tower with one (1) 12 x 16 foot new shelter, including associated hardware, foundations for the generator, fuel tank, monitoring system, required cabling, automatic transfer switch, and the initial fuel (first fill) at the Morgan County Public Safety Center.
  - One (1) Eaton 9PXM 16KVA / 14.4 KW UPS for the OARS shelter located at the United Tower ASR 1286534.
- **Subscribers:**
  - One hundred ninety-two (192) Mobile Radios.
  - Three hundred fifty (350) Portable Radios.
  - Eight (8) Control Stations.
- **Microwave:**
  - One (1) Microwave Link between the Morgan County 911 Center and the United Tower.

1.1.2 Key Products and Benefits

Imagine a scenario where a large-scale emergency unfolds in Morgan County. Multiple agencies respond, but their communication systems are incompatible. First responders struggle to coordinate efforts, leading to delays and potential risks to both the public and themselves. This lack of interoperability can hinder effective response and put lives at stake.

Motorola Solutions addresses this critical need with a comprehensive suite of communication solutions. The ASTRO 25 Trunked Simulcast System ensures seamless communication across a wide coverage area, while the Virtualized Simulcast Prime Site offers centralized fault management and easy expansion. The use of Morgan County's existing Dispatch Consoles provide dispatchers with the tools they need to efficiently manage resources and respond to emergencies. Together, these solutions create a unified communication network that enhances coordination, improves response times, and ultimately makes Morgan County a safer place.

- **ASTRO 25 Trunked Simulcast System:** The ASTRO 25 trunked IP simulcast subsystem consists of an IP simulcast prime site and simulcast remote sites. Two sites have been proposed to Morgan County, but the system is capable of integrating up to thirty-two (32) sites to provide radio coverage to a large area.
- **Virtualized Simulcast Prime Site:** Motorola Solutions deploys prime sites as Virtualized Prime Sites. In this configuration, the Site Controller and Comparator voting applications are virtualized onto a common hardware platform: the DSC 8000 Site Controller.
- **Trunked Repeater Site:** The ASTRO 25 Radio Frequency (RF) site supports a wide variety of configurations to meet critical communications requirements for present and future communication needs.
- **APX Two-Way Radios:** ASTRO radio systems and APX radios are tested and certified via the P25 Compliance Assessment Program, supporting P25 voice and data communications. APX radios properly provisioned on the same ASTRO radio system can enable mission-critical communication between dispatch and field teams.

1.2 ASTRO 25 Trunked Simulcast System

- The ASTRO 25 trunked IP simulcast subsystem consists of an IP simulcast prime site and two (2) IP simulcast remote sites to provide radio coverage to a large area. In addition to supporting simulcast operations, an IP simulcast subsystem can also support voting, data steering, and console interface operations.
- Simulcast operation is a multi-site radio system topology that uses multiple transmitters on the same frequency in separate locations to transmit the same signal. Simulcast operation is desirable in areas where frequencies are scarce and in areas where physical barriers (such as mountains and buildings) can cause deficiencies in signal coverage.
- An IP simulcast subsystem can have up to thirty (30) channels. As designed, four (4) channels operating in the 700 MHz frequency band have been proposed.
- Each of the voice channels will be equipped with ASTRO 25 TDMA, enabling two simultaneous, yet distinct conversations per RF channel.
- This system offering has been designed to provide mobile radio coverage throughout the County. Additionally, limited portable coverage will also be realized. This coverage, along with LTE-enabled radios that are operable with SmartConnect, will provide ample county coverage. Although RF coverage is not guaranteed, an informational-only coverage map depicting the predicted mobile RF, not including LTE, footprint has been included.

Motorola Solutions deploys Virtualized Prime Sites. In this configuration, the Site Controller and Comparator voting applications are virtualized onto a common hardware platform: the DSC 8000 Site Controller. This consolidates Fault Management and Configuration capabilities into a centralized location and allows for easier implementation and maintenance. Virtualization also enables remote, software-only expansion. For example, when adding base stations to a simulcast sub-system, the Prime Site only needs to add voting software licenses to expand the capacity.

This fully redundant platform offers a new, web-based configuration tool and access to critical applications for more advanced support without the need for additional hardware. With less equipment to maintain, less power consumed, and a smaller physical footprint, the Virtualized Simulcast Prime Site lowers the total cost of ownership.

The DSC 8000 assigns voice and data channels, manages and reports alarms, provides Ethernet switching capabilities, and offers a timing reference for simulcast synchronization. An internal GPS reference with rubidium backup is integrated into the DSC 8000.

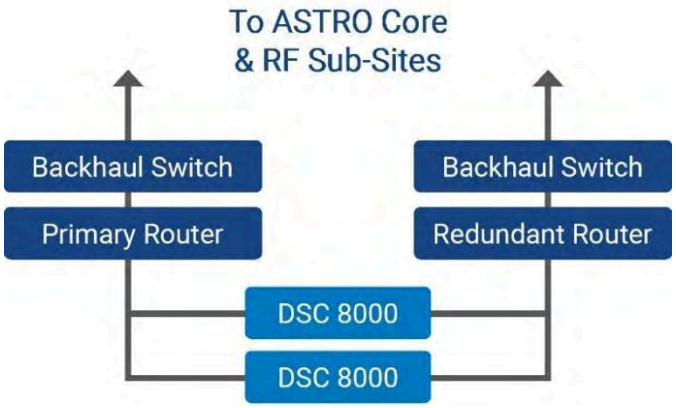


Figure 1.1: Virtualized Prime Site Architecture

The DSC 8000 also provides an IP-based voting and simulcast operation for trunking channels, receiving audio from multiple sites, and performing a frame-by-frame analysis to build a high-quality composite audio package for transmission. The DSC 8000 is provided in a redundant configuration, which means no single point of failure will cause the loss of any functionality or capacity at the Prime Site.

1.2.1 DBR M12

Mission-critical communications are paramount to Morgan County's needs, and modern radio sites are a key component to delivering on that need. The DBR M12 (DBR) Radio Site integrates the key ASTRO radio site components into a single, easy-to-deploy unit. Built on the flexibility of modern hardware and software architectures, the DBR M12 is designed to minimize downtime and provide ease of operation while allowing for cybersecurity updates.

The DBR M12 contains the site processors, transceivers, RF distribution systems, and DC power distribution for up to 12 carriers in a single rack. Multiple racks of up to three (3) can create a site with up to 28 site repeater carriers or 30 simulcast carriers. DBR M12 sites can support up to 12 carriers per

transmit antenna and up to 30 carriers per receive antenna. This proposal includes four (4) DBR M12 channels, one (1) DBR rack, and one (1) transmit antenna.

The DBR M12 is supported on ASTRO 25 Systems starting with the A2021.x release.

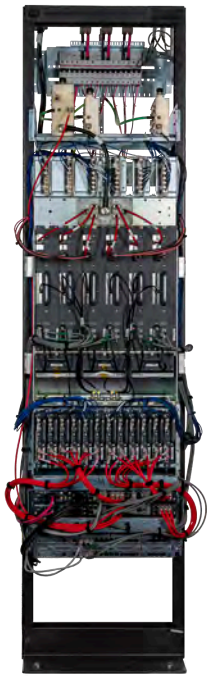


Figure 1.2: DBR M12

1.2.1.1 Improving Uptime

The DBR M12 is designed to minimize downtime from failure, maintenance, or site updates. The DBR M12 can dynamically allocate resources across available hardware, thereby improving resiliency and overall uptime. Critical functions are deployed in pairs so that a redundant component can take over functions if needed. The major hardware components of the DBR M12 are hot swappable to ensure repairs cause minimal disruptions.

The multicarrier amplifier bank amplifies all channels simultaneously from a pool of amplifier resources. Upon a Power Amplifier (PA) module failure, the remaining PA modules can continue to service the channels. Depending on the configuration and transmit power requirements, this can be with no loss in channel capacity or no more than one (1) channel lost. The multicarrier amplifier architecture enables the possibility of an N+1 transceiver redundancy feature. N+1 transceiver (XCVR) redundancy equips the unit with an extra XCVR module. Upon a failure of one of the XCVRs, the idle XCVR will tune to the frequency of the failed channel and take over. This effectively restores full channel capacity of the site without a site visit to manually replace a failed XCVR (some restrictions apply). This proposal does not include optional N+1 redundancy; however, should Morgan desire, this option may be quoted and added to this proposal.

As proposed, one (1) DBR rack will be installed at each 911 Dispatch simulcast remote site and ASR 1286534 simulcast remote site. The DBR will be programmed with four (4) channels, and each DBR

will be configured with one (1) transmit antenna, one (1) receive antenna, and the capability to add one (1) additional diversity receive antenna.

1.2.1.2 Simplifying Ownership

Offering up to 12 carriers per rack, the DBR M12 can reduce the impact on space-constrained sites and ease channel expansions within the capacity of the unit. The built-in Radio Frequency Distribution System (RFDS) of multicouplers, preselectors, and filters connects the DBR M12 to the receive and transmit antennas. With a narrow adjacent frequency spacing requirement of only 50 kHz, the DBR M12 offers greater flexibility than typical 150 kHz equipment, easing frequency acquisition where spectrum availability is an issue.

The DSC 8500 Site Processor provides a single point of connectivity for all of the DBR M12 components at the site. Configuration, fault management, and software upgrades are managed at the site level, rather than addressing each component individually. This provides a streamlined, intuitive user experience.

1.2.1.3 Modernizing Cybersecurity

The DBR M12 is designed to offer protection against an ever-evolving threat landscape, following recommendations of the NIST Cybersecurity Framework guidelines to help identify and detect cyber-attacks, and then how to respond, prevent, and recover from such events.

1.2.1.4 Key DBR M12 Components

DSC 8500 Site Processor – The site processor contains and runs the software used throughout the radio site, including the site controller and base radios. Connections to the base radio transceivers and PAs are provided via the integrated IP switch, which has additional capacity for connecting external RF equipment at the site, such as conventional stations. The DSC 8500 provides integrated Ethernet LAN switching, eliminating the need for external switches at the simulcast sub-site, and provides an integrated site reference. It provides site Ethernet switching, frequency reference, and GPS signal timing. The integrated time/frequency reference uses Global Navigation Satellite System (GNSS) receivers and a Rubidium module as a backup reference, eliminating the need for a TRAK time and frequency reference. The site processor is equipped with integrated redundant GPS references for the ability to maintain timing for a minimum of four (4) hours without a GNSS signal. The rubidium module is included for an extended holdover time of 72-hours. The redundant configuration provides two reference distribution modules. One unit acts as the active unit, and the second is the standby unit.

Multicarrier Amplifier Bank – The DBR M12 pools PA resources into a multicarrier amplifier bank. PA resources within this bank can be sized to provide ample power for the active carriers as well as additional capacity to cover for a PA failure in many channel configurations. The bank dynamically amplifies all channels simultaneously. The multicarrier amplifier bank eliminates the need for traditional cavity combiners. The overall result is a small and power-efficient system, resilient to failure without the need for periodic combiner tuning.

DC Power System – The DBR M12 offers integrated DC power as standard (+/- 48 VDC) throughout. Designed to be powered by a site DC power system, the DBR M12 rack includes multiple breakers to distribute power to the various components, ensuring a single breaker trip will not disable the entire site.

AC Power System – The AC power system is a modular design. Utilizing an N+1 redundancy scheme, the number of modules is sized to meet the power needs of each DBR M12 configuration. The loss of an AC circuit to the DBR M12 unit will not result in the loss of channel capacity.

Remote Site Router – The Juniper SRX routers provide a WAN interface to the Simulcast Virtualized Prime site, performing the following tasks:

- Carries all of the voice and network management traffic for the site.
- Provides IP traffic prioritization for packets departing the site.
- Interfaces between the RF Subsystem and Simulcast Prime Site.

This proposal includes two (2) Juniper SRX routers.

1.2.2 TDMA

This proposal includes FDMA and TDMA licenses for all of the voice stations at the 911 Dispatch and ASR 1286534 simulcast remote sites.

1.2.3 Antenna and Line Systems

This proposal includes the following antennas and antenna line systems to support the system:

911 Dispatch

- One (1) RFI CC807-06 omnidirectional transmit antennas located at the 285-foot level with ⅞-inch coaxial cable.
- One (1) RFI CC807-06 omnidirectional receive antennas located at the 295-foot level, with ⅞-inch coaxial cable in a diversity receive configuration.
- One (1) Diversity Receive Tower-top Amplifier and Control Unit (CU) with ½-inch coaxial cable test line.

ASR 1286534

- One (1) BPA7496-120 directional transmit antenna located at the 230-foot level with ⅞-inch coaxial cable.
- One (1) BPA7496-120 directional receive antenna located at the 250-foot level, with ⅞-inch coaxial cable in a diversity receive configuration.
- One (1) Diversity Receive Tower-top Amplifier and Control Unit (CU) with ½-inch coaxial cable test line.

Motorola understands that Morgan County has made the requisite arrangements with the owners/managers of the ASR 1286534 antenna site to construct and place simulcast remote site equipment, services, and facilities on the property.

1.2.4 MC-EDGE Intelligent Gateway

The MC-EDGE® is an intelligent gateway designed for IoT applications. It is a general-purpose Remote Terminal Unit (RTU) enabling users to remotely control and monitor end node devices.

It can be used as an Auxiliary Input/Output (I/O) Server at ASTRO dispatch sites and as a Network Fault Management (NFM) Remote Terminal Unit (RTU) at ASTRO RF sites. The MC-EDGE replaces the legacy SDM 3000 device for similar applications.

The MC-EDGE device comprises a CPU Host board, a plug-in board, and supports up to 16 SPE I/O modules, while five out of them can be CAN bus I/O expansion modules. The device is enclosed in a compact, protective plastic housing. The CPU front panel provides easy access to connectors and ports. It includes a power LED, status LEDs for onboard DIs/DOs, and status LEDs on the communication ports.



Figure 1.3: MD-EDGE Intelligent Gateway

The I/O module front panel includes terminal block connectors for sensor/device wire connection. There are 5 plug-in board options for each MC-EDGE configuration. Each plug-in board has a panel with different entrances.

The MC-EDGE can be ordered with an external AC/DC power supply. If the supply input power is 12 or 24 V, then no power supply is needed, and only a DC power cable is required. If an AC power input is required, an external power supply can be ordered.

The MC-EDGE provides support in many protocols: DNP, Modbus, MQTT, and more SCADA protocols.

As proposed an MC-EDGE RTU has been proposed at each of the two simulcast remote sites. Each MC-EDGE is configured with AC power and equipped with twelve digital and eight analog inputs.

MC-EDGE as an NFM RTU

The MC-EDGE can be used to report remote site digital sensor states and analog sensor values to the ASTRO Unified Event Manager (UEM) fault management application. The UEM can control digital outputs to activate equipment at remote sites. The MC-EDGE NFM is able to monitor analog inputs,

useful for applications such as monitoring fuel tank levels or making analog environmental measurements.

Up to five modules in total (DI/AI, Mixed I/O, Digital Mix I/O) can be ordered in any combination. Various module types are available based on customer needs. Each module provides different input and output capabilities. Both MC-EDGE units are configured with AC power and equipped with twelve digital and eight analog inputs each.

No special UEM license is required for basic UEM operation with MC-EDGE. However, some UEM functionality for monitoring MC-EDGE is only enabled when the UEM Enhanced Navigation option is purchased.

1.3 RF Coverage

1.3.1 Overview

Motorola is pleased to present to Morgan County the first phase of Morgan's ASTRO 25 simulcast RF network. This phase is designed with two (2) simulcast RF sites to provide extensive mobile radio coverage throughout the County. As this simulcast system is expanded, mobile RF coverage will be increased, and overall radio performance will be enhanced, enabling greater portable radio coverage outside and within specified building densities bounded by Morgan County.

RF Coverage predictions based upon design details making up the two (2) proposed simulcast sites are presented below. These maps were developed using Motorola's advanced design tool, Hydra^{SM}. As this is only the initial phase of the larger simulcast system build-out, these coverage prediction maps are presented for "informational purposes only". No coverage guarantee is included in this proposal.

Hydra^{SM} is an innovative software tool developed by Motorola to accurately predict coverage, model traffic (voice and data), analyze interference, plan channel re-use, and perform other design tasks for Motorola's diverse portfolio of radio networks. This description concentrates on Hydra's coverage planning aspects.

1.3.2 Hydra Development

Hydra's coverage prediction tool was developed to provide accurate coverage simulations by applying proven models to detailed system and environmental data across large geographical areas.

To accurately create a picture of the predicted radio coverage, many elements must be considered. Some of these elements, called system factors, are related to the system design parameters. System factors affecting coverage performance include the following: frequency, distance, transmitter power, receiver sensitivity, antenna height, and antenna gain. Other factors, called environmental factors, vary according to the path taken by the radio signal and the environment surrounding the receiver. Environmental factors include the following: terrain variations, obstructions, vegetation, buildings, ambient noise, and interference.

All coverage prediction methods try to account for both types of factors and incorporate them into a computational model. In general, the currently accepted models, such as Okumura and Longley-Rice, provide excellent portrayals of radio coverage when used within their respective ranges of applicability.

In the past, signal strength analysis was adequate for the type of basic systems that were available. However, today's complex technologies, such as digital voice radios, simulcast, packet data systems, and broadband data, such as LTE, require a much more comprehensive analysis of signal and system characteristics to create a cost-effective design. This makes it necessary to use the appropriate coverage and loading models, provide an accurate representation of the environmental factors, and apply the analysis method to every location within the service area.

Recognizing these facts, Motorola has developed Hydra, a multi-purpose radio network design tool that includes both coverage and traffic analysis models. Taking advantage of the knowledge gained from Motorola's many years of practical experience and coverage testing, Hydra provides a superior means for analyzing system coverage and capacity. This program, unique to Motorola, employs a technique of computing coverage on every tile in a service area. Hydra computes "layers" of these tiles, with each layer containing the values of propagation model losses, coverage simulation results, or datasets. Layers can be displayed separately or in any combination as maps of the service area.

1.3.3 Hydra Detailed Description

1.3.3.1 Inputs and Outputs

Inputs to Hydra's simulations include system architecture, equipment characteristics, service area boundaries, areas of various building losses, subscriber unit distribution density for Traffic analysis, etc.

Hydra's coverage map outputs are created and displayed using ESRI's shapefiles, an industry-standard GIS file format. Shapefiles from many sources (GIS vendors, the Internet, your own GIS department, etc.) can be loaded, displayed, and used in Hydra to enhance mapping and to define polygons for service areas, building loss areas, and subscriber placement. Hydra's coverage analyses can be limited to specified service area polygons (e.g., a county, a city, or a dispatch territory), so coverage reliability can be analyzed exclusively within the boundaries of your operating area.

In addition to showing coverage reliability, Hydra maps can display terrain, land cover, roads and boundaries, signal strength and field strength, interference predictions, etc.

Hydra, together with Motorola's Voyager^{SM} coverage acceptance testing tool, provides closed-loop integration between predicting and verifying coverage. Field survey measurements – signal strength, Bit Error Rate (BER), data throughput, and message success information – can be loaded into Hydra for analysis, display, and printing.

1.3.3.2 Tile Method

Hydra uniformly divides the entire geographical area to be analyzed into small, distinct areas called tiles. The resolution (size) of the tiles can be as fine as one arc-second (approximately 100-feet at U.S. latitudes). At each tile, Hydra models propagation from each site in the system.

The tile method is of particular importance in the calculation of simulcast coverage and interference analysis. Information from every site and all datasets is available in every tile, providing the most accurate results for multi-site analyses (simulcast, voting, interference, best server, etc.).

1.3.3.3 Datasets

For propagation prediction, Hydra uses two (2) types of geophysical datasets:

- Hypsographic (terrain elevations) - to determine shadow loss and elevation morphological (land use) - for environmental clutter loss.

With the proper datasets, Hydra produces accurate results. Because propagation prediction accuracy is directly dependent on the quality of the digitized datasets, Motorola uses high-quality datasets for its analyses. These datasets originate from commercial or government sources such as the U.S. Geological Survey in the United States, and equivalent geodata providers worldwide.

Even the best datasets contain a certain amount of errors, caused by several factors that are difficult to completely overcome due to the massive amount of data involved. Dataset errors can originate in the source information or in the dataset development process. Old datasets can also contribute to errors due to physical changes that have taken place since the development of the dataset.

Hydra, like all terrain-based propagation tools, provides coverage predictions that are only as accurate as the available datasets permit. In the U.S., Motorola uses high-quality terrain and land cover data derived from USGS 30-meter DEM and NLCD sources.

Other datasets that Hydra can use include the following:

- Planimetric (mapping) – roads, water features, political boundaries, feature names, etc.
- U.S. Radio Site Locations – coordinates of existing radio sites, including FCC Wireless Licenses, FCC Antenna Site Registry, and some commercial site providers.
- U.S. Frequencies – potentially available channels in geographic areas, per FCC Wireless Licenses.

1.3.3.4 Propagation Model

For each tile, Hydra predicts signal strength using an improved algorithm based on the industry-accepted Okumura model[1].

1.3.3.5 Coverage Reliability

Hydra predicts Area reliability, defined as the probability of achieving a specified performance criterion within a geographical area of interest. The area of interest is either the Covered Area (the painted area on a Hydra coverage map) or the entire Service Area. Possible criteria include voice Delivered Audio Quality (DAQ), data throughput, or data Message Success Rate (MSR).

[1] Okumura, Yoshihisa et al, “Field Strength and Its Variability in VHF and UHF Land-Mobile Radio Service”, Review of the Electrical Communication Laboratory, 16(9-10), Sept-Oct 1968, pp 825-873.

Since system coverage can never be one-hundred percent reliable, there will always be particular times and locations where the signal strength or BER does not meet that needed to reach the performance criterion. These locations of unsatisfactory performance are often predictable in a coverage study. However, there are also areas of unsatisfactory coverage that cannot be predicted due to unknown circumstances such as unusual structures, tree density, ambient noise, atmospheric conditions, dataset errors, and interference from co-channel or adjacent channel units operating outside their normal service area. Because these conditions exist and signals fade due to these environmental and terrain factors, coverage must be described statistically in terms of a percentage of locations that exhibit the minimum acceptable criterion.

To provide radio systems with acceptably few communications failures throughout the Covered Area, Motorola designs coverage at high Area reliabilities. It is also important to note that locations outside of a Hydra-covered area map may still provide usable communications, even though such locations do not achieve the minimum acceptable reliability.

1.3.4 Hydra Capabilities

Hydra provides a detailed performance simulation of the following Motorola wireless network architectures:

Voice coverage and traffic (Analog FM, ASTRO®, SECURENET™, etc.) ASTRO 25 Integrated Voice & Data coverage and trafficHigh Performance Data coverage and traffic, Dimetra® coverage, and voice traffic

1.3.4.1 Voice Systems

Hydra's coverage models use proven Okumura-based prediction methods and Monte Carlo simulation techniques to provide coverage reliability maps. Voice coverage models (Voice, Dimetra®, ASTRO 25) provide systemwide coverage maps, as well as subsystem maps (when applicable, e.g., for Simulcast cells and Receiver Voting), and individual site maps.

1.3.4.2 Simulcast Coverage Performance

For a simulcast system, merely providing coverage maps of individual sites (separately or on the same map) does not accurately represent the total system performance, which depends upon differential delays and aggregate signal levels. Therefore, Motorola has developed Hydra's simulcast model, which uses the delay spread methodology to simulate aggregate signal strength and power-weighted delay throughout the entire predicted coverage area. All locations within the predicted coverage area are analyzed for the combined effect of signal strengths and differential delays from the simulcast transmitters in the system. Hydra's simulcast coverage maps will show any areas predicted to have coverage problems caused by out-of-phase signals and/or inadequate signal strengths. Hydra allows modeling with varied transmitter launch delays to predict optimized simulcast coverage within the area being evaluated.

1.3.4.3 Narrowband Data Systems (HPD, ASTRO 25 IV&D)

Wireless data network performance is highly dependent on RF coverage reliability, network protocol, and network traffic load. Hydra accurately predicts the coverage and traffic performance of Motorola data systems by modeling the automatic protocol retry mechanisms of data protocols. Hydra integrates RF coverage prediction, network protocol modeling, and traffic engineering into a single simulation and utilizes Monte Carlo simulations as well as discrete event simulation techniques to provide a tool that accurately predicts wireless network system performance.

Hydra uses the Okumura model for terrain-based propagation prediction, and adds the modeling of the protocol behavior (try-based coverage) via a detailed protocol simulation. Hydra models the relevant layers of the OSI protocol stack, from the physical layer of the air interface to the application layer of the host and subscriber entities.

Using this modeling approach, Hydra can account for all the elements that impede network performance, from packet loss on the wireless link due to co-channel interference to packet latencies in the fixed end equipment introduced by protocol behavior. Hydra's modeling architecture allows true end-to-end system modeling.

1.3.4.4 Summary

Hydra is continually updated for the latest technologies by Motorola's Resource Development Engineering team to create the most accurate and up-to-date coverage and traffic prediction tool. It is used extensively in the design and testing phases of Motorola's radio networks. Hydra provides accurate, easy-to-read maps of the predicted coverage for your radio system.

1.3.5 Coverage Maps

The following coverage maps are included for informational purposes:

- **Figure 1.4: Two-Site Simulcast Mobile Roundtrip Coverage.** This map shows mobile round-trip coverage realized from the proposed Morgan County two-site simulcast system.
- **Figure 1.5: Two-Site Simulcast Portable Roundtrip Outside Coverage.** This map shows the portable with RSM round-trip coverage outside coverage realized from the proposed Morgan County two-site simulcast system.
- **Figure 1.6: Two-Site Simulcast Mobile Roundtrip Coverage with Existing Oconee, Greene, and Walton County Mobile Roundtrip Coverage Overlay.** This map shows existing Oconee Green and Walton County Mobile round-trip coverage in GREEN and proposed Morgan County two-site simulcast coverage in purple.
- **Figure 1.7: Two-Site Simulcast Portable with RSM Roundtrip Coverage outside with Existing Oconee Green and Walton County Mobile Roundtrip Coverage Overlay.** This map shows existing Oconee Green and Walton County portable with RSM round-trip outside coverage in GREEN and proposed Morgan County two-site simulcast coverage in purple.

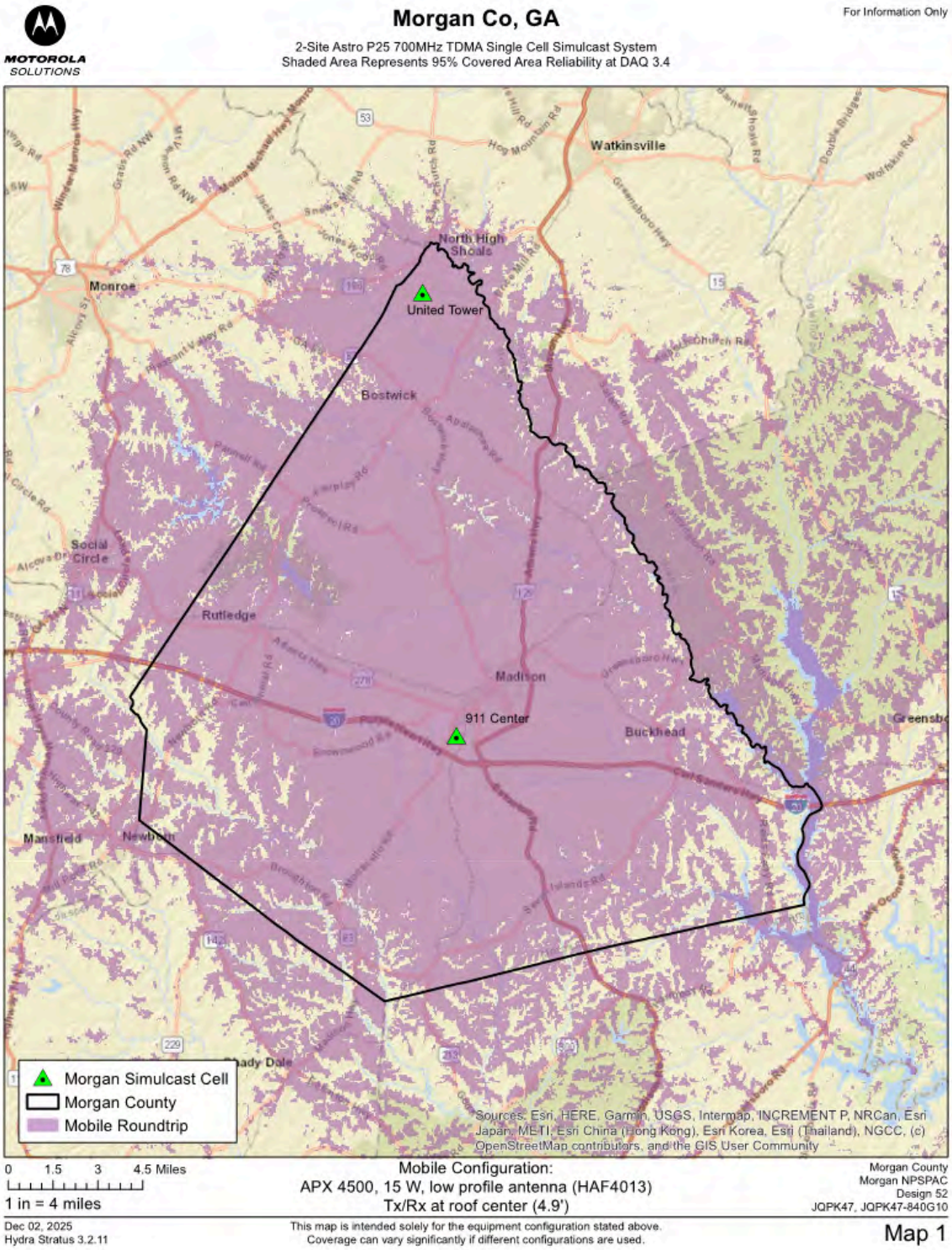


Figure 1.4: Two-Site Simulcast Mobile Roundtrip Coverage

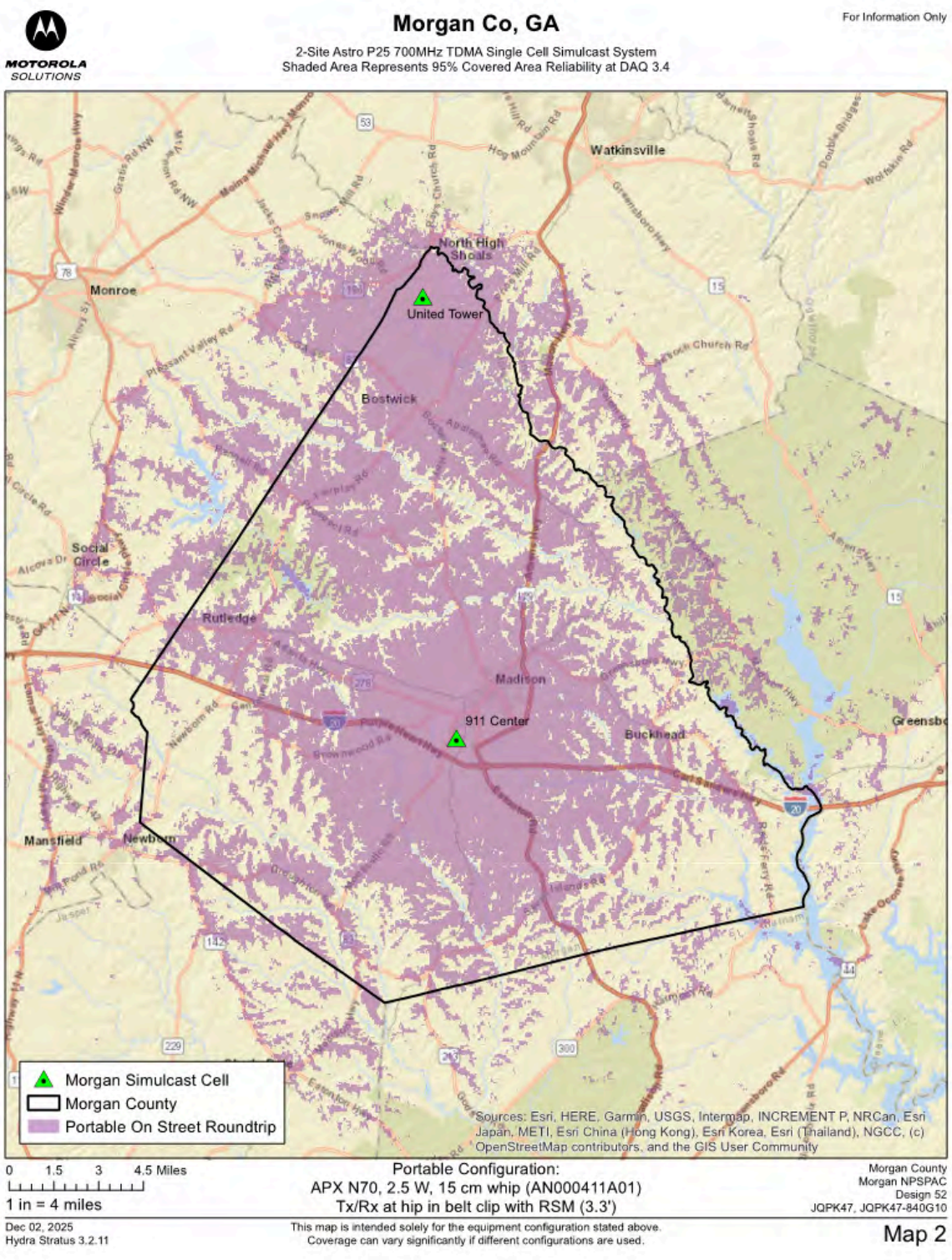


Figure 1.5: Two-Site Simulcast Portable Roundtrip Outside Coverage

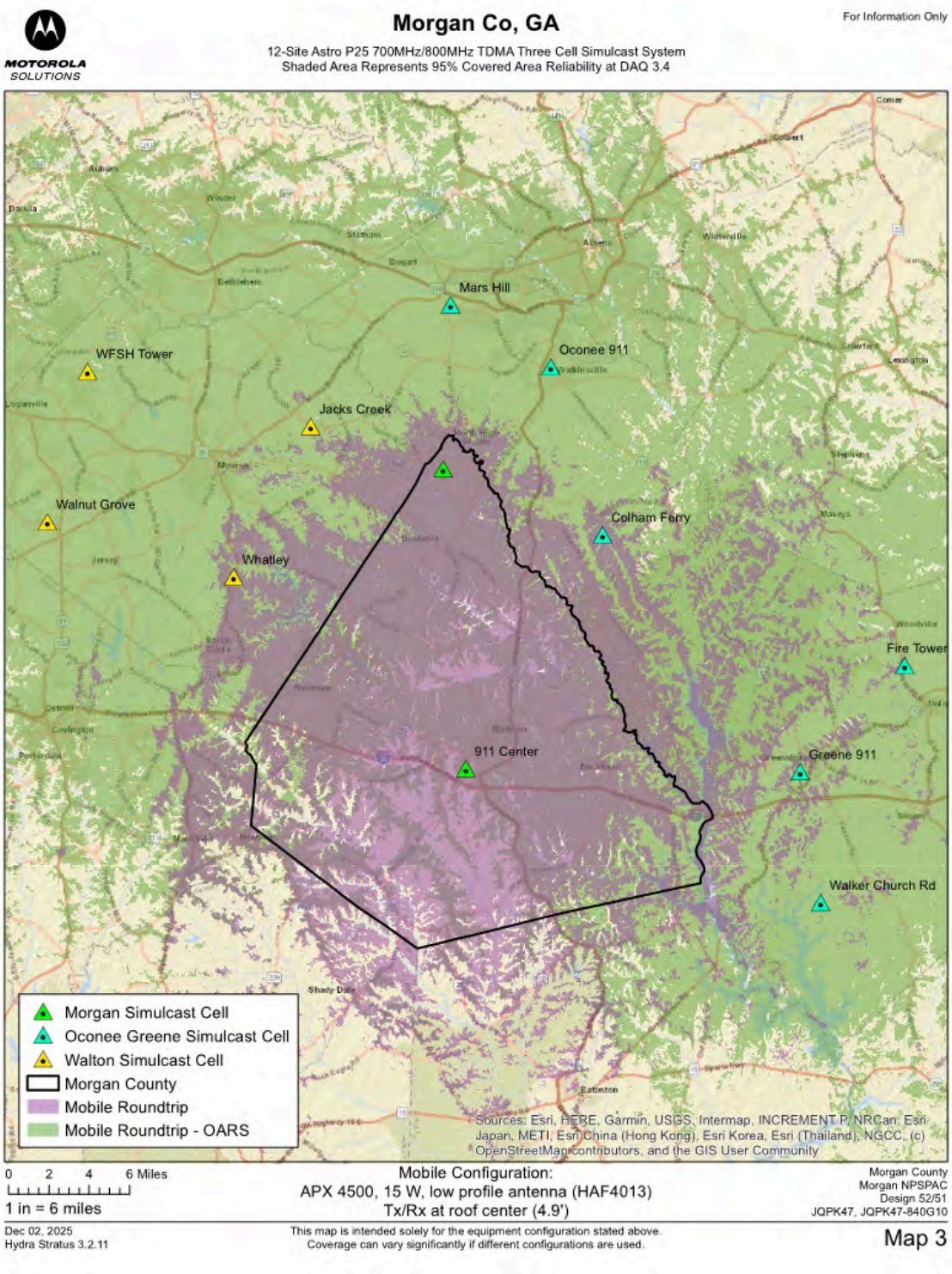


Figure 1.6: Two-Site Simulcast Mobile Roundtrip Coverage with Existing Oconee Green and Walton County Mobile Roundtrip Coverage Overlay

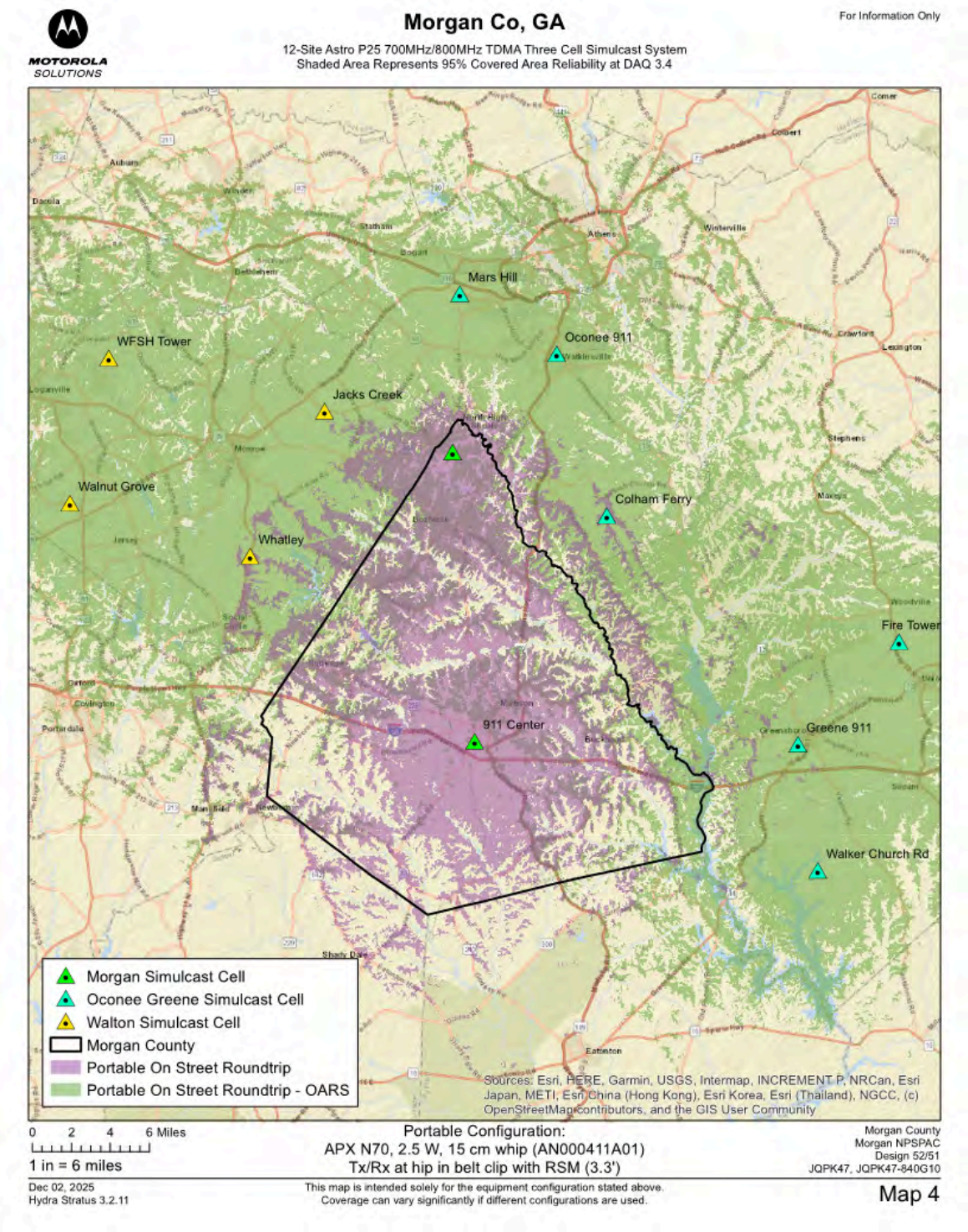


Figure 1.7: Two-Site Simulcast Portable with RSM Roundtrip Coverage outside with Existing Oconee Green and Walton County Mobile Roundtrip Coverage Overlay

These maps were developed using the following design parameters considered for this proposal:

911 Center - Site Data

Table 1.1: 911 Center Site Data

911 Center	Site Data
Site Name	911 Center
Latitude	33°34’8” N
Longitude	83°29’25” W
Elevation Used	633.20 ft

911 Center - Transmit Antenna System

Table 1.2: 911 Center - Transmit Antenna System

Tx Antenna System	Value
Antenna Gain	6.00 dBd
Antenna Height	285.00 ft
Jumper from Antenna	1/2" 10 ft
Main Line	7/8" 315 ft
Antenna Azimuth	0.00 Deg
Room Jumper	1/2" Flex 30 ft

911 Center - Receive Antenna System

Table 1.3: 911 Center - Receive Antenna System

Rx Antenna System	Value
Antenna Gain	6.00 dBd
Antenna Height	295.00 ft
Main Line	7/8" 325 ft
Antenna Azimuth	0.00 Deg
Room Jumper	1/2" Flex 30 ft
Tower Top Amp	Yes

ASR 1286534 - Site Data

Table 1.4: ASR 1286534 Center Site Data

ASR 1286534	Site Data
Site Name	ASR 1286534
Latitude	33°47’32.2” N
Longitude	83°30’38.7” W
Elevation Used	757.87

ASR 1286534 - Transmit Antenna System

Table 1.5: ASR 1286534 Transmit Antenna System

Tx Antenna System	Value
Antenna Gain	10.00 dBd
Antenna Height	230.00 ft
Antenna Azimuth	180.00 Deg
Jumper from Antenna	1/2" 10 ft
Main Line	7/8" 315 ft
Room Jumper	1/2" Flex 30 ft

ASR 1286534 - Receive Antenna System

Table 1.6: ASR 1286534 Receive Antenna System

Rx Antenna System	Value
Antenna Gain	10.00 dBd
Antenna Height	250.00 ft
Antenna Azimuth	180.00 Deg
Main Line	7/8" 280 ft
Room Jumper	1/2" Flex 30 ft
Tower Top Amp	Yes

1.4 Microwave Link

Interconnecting the ASTRO 25 simulcast sites to the Virtualized Prime Site controller can be accomplished by utilizing a microwave hop, as well as an optional customer-owned and maintained fiber optic backhaul system. This proposal includes one microwave hop between the 911 Dispatch and the ASR 1286534 simulcast remote sites.

The following tables show the characteristics of the Microwave hop for both sites:

Table 1.7: ASR 1286534 Microwave Site

ASR 1286534	Characteristics
Location	33 47 32.20 N, 083 30 38.30 W
TR Antenna	HX8-6W (TR)
Height (ft)	250-foot
DR Antenna	VHLP6-6W
Height (ft)	215-foot

Table 1.8: 911 Center Microwave Site

911 Center	Characteristics
Location	33 34 08.00 N, 083 29 25.00 W
TR Antenna	HX8-6W (TR)
Height (ft)	265-foot
DR Antenna	VHLP6-6W
Height (ft)	230-foot

The path is designed with Nokia Wavence UBT-I all indoor radios, hot-standby (HSB) microwave radios. The Nokia 7705 Service Aggregation Router (SAR-8) will provide microwave awareness (MWA) for the Wavence microwave transceivers.

The microwave path is designed in the L6 GHz band with a fixed modulation of 1024 QAM and a data throughput of 226 Mbps. The path is designed to provide a minimum 2-way availability of 99.9999%.



Figure 1.8: Nokia 7705 Service Aggregation Router (SAR-8)

CommScope microwave dishes, elliptical waveguides, and dehydrators will be provided. An Eltek -48 VDC DC power and battery plant will be provided for each of the sites. Each DC plant and battery plant is designed to provide 8-hours of backup power time and a battery recharging period of 24-hours.

FEASIBILITY STUDIES

The feasibility study of the proposed microwave radio path was performed, including information provided by or on behalf of Morgan County. Feasibility studies are preliminary in nature and are not intended to represent a final design. Results of the feasibility study provided may include:

- System map.
- Path profiles.
- Path calculations.
- Availability calculations.

This report is intended to establish the feasibility of constructing a microwave system to meet the customer's needs as outlined within this proposal. It is based on customer-supplied data unless noted otherwise. This information should be used solely to determine if a more formal engineering effort is worthwhile. A field path survey must be performed to confirm path clearances, to verify site and critical point coordinates and elevations, to establish actual tree, building, and tower heights, and to identify any other conditions that can affect path performance. Without a field path survey, the path clearances and, therefore, viability cannot be warranted.

FIELD PATH SURVEYS

Microwave path surveying services are used to determine or verify the following:

- Site coordinates.
- Ground elevation.
- On-path obstruction location and height.
- Tower information.
- Other parameters required to engineer and implement a microwave radio link.

The present and anticipated future effect of on-path obstructions, such as tree growth, is evaluated and incorporated into the path design where applicable. The results of the path survey are documented, and a formal survey report or technical report, as required, is delivered to the customer. Motorola only warrants the actual path surveyed.

PATH DESIGN

The path design is based on formal field survey data gathered by path surveyors qualified and chosen by Motorola. Data collected during the survey will be used to design the path's final parameters, including antenna centerline requirements, and antenna and radio types necessary to meet the availability objective.

Antenna centerlines based on the range of K-factors expected to occur during an average year will be developed. The Fresnel zone clearance criteria used for various K-factors are in line with current industry standards. In addition, paths are checked for susceptibility to obstruction, fading outages using a standard Obstruction Fading model. Paths are also analyzed for ground-based reflections. After these calculations are completed, if the path availability objective has not been met, various countermeasures are recommended to improve path availability.

Path availability is determined using current industry-accepted models for predicting outage times and diversity improvement factors associated with normal atmospheric multipath fading, up-fading, rain fading, and obstruction fading. Every effort is made by Infinity to anticipate the probable occurrence of abnormal propagation conditions based on historical documentation, experience, geographical location, and field survey data.

The final path design documentation will include one or more of the following:

- System map.
- Final path profile(s).
- Final path calculations.

All radio paths using the proposed equipment and installed based on the recommended path design are warranted and shall conform to the availability listed for normal atmospheric multipath fading. Motorola will not be responsible for excessive outages or degraded performance due to abnormal fading conditions. Abnormal fading conditions include, but are not limited to:

Formation of extreme radio refractivity gradients associated with:

- Exceptionally large temperature inversions.
- Abnormal temperature/humidity layers.
- Fog formation.
- Signal trapping caused by surface or atmospheric ducting.
- Reflections from unidentifiable off-path terrain features or physical structures.
- Rain fading due to rainfall rates that are in excess of the published rates or charts used to predict rain-induced outages.

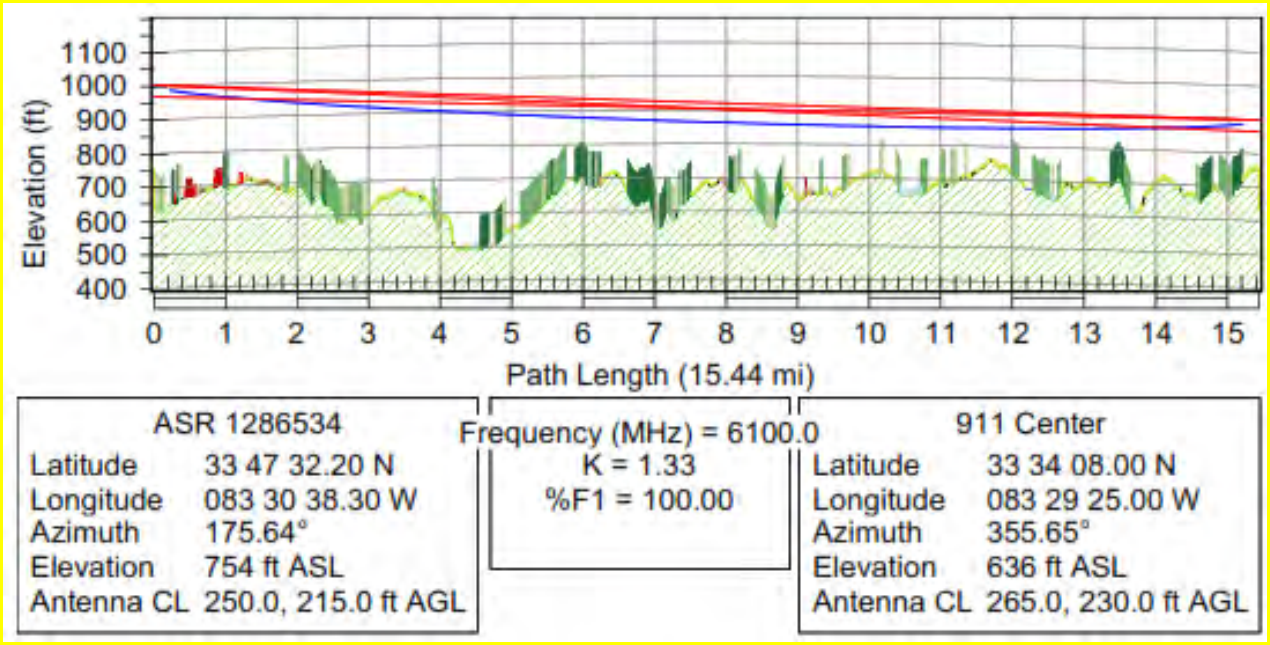
If abnormal propagation conditions are suspected to be the cause of degraded system performance, Motorola will assist Morgan County in verifying the conditions leading to the degraded system performance. After the problem has been identified, Motorola will support the Customer in identifying possible solutions to the problem and assessing the incremental improvement expected from corrective actions.

The following assumptions were used in the path design:

- Site latitudes and longitudes were provided by the customer.
- Existing tower heights were provided by the customer.
- Ground elevations are from the National Elevation Dataset (NED) with a 1/3 arc-sec resolution in the Continental US (~10 m resolution).
- Land cover is from the National Land Cover Dataset 2019.
- Tree heights used in the design are based on a database of previously measured trees in the area. Tree, building, and other potential obstructions heights are cross-referenced as best as possible in Google Earth when street view and 3D building views are available.
- A tree height growth factor of 20-feet.
- Profiles use the Vigants-Barnett multi-path algorithm, the Vigants space diversity algorithm, and the 2003 Crane model with city rates for rain attenuation.

- The path was designed for a poor propagation area (Climatic factor = 2.0).
- The clearance criteria for all main antenna centerlines are the higher of:
  - 100% 1st Fresnel zone over K=4/3
  - Grazing over K=0.5
- The clearance criteria for any space diversity antennas centerline are:
  - 60% 1st Fresnel zone over K=4/3
- The microwave radio type used for path design is the Nokia MPT-HLC indoor transceiver.
- All transmit antennas meet FCC Part 101 Category A standards.
- All non-ring paths are designed to meet an annual availability objective is 99.9999% (2-way multipath + Rain) at 10-6 BER.
- Paths were designed for a minimum fade margin of 30 dB.

PATH PROFILE



	ASR 1286534	911 Center
Latitude	33 47 32.20 N	33 34 08.00 N
Longitude	083 30 38.30 W	083 29 25.00 W
True Azimuth (°)	175.64	355.65
Vertical Angle (°)	-0.16	-0.01
Elevation (ft)	754.01	635.56
ASR	1286534	
Tower height (ft)	250.00	400.00
Tower Type	Guyed	
Antenna Model	HX8-6W (TR)	HX8-6W (TR)
Antenna Filename	rpe 7389	rpe 7389
Antenna Gain (dBi)	41.60	41.60
Antenna Diameter (ft)	8.00	8.00
Antenna Height (ft)	250.00	265.00
Orientation Loss (dB)	0.00	0.00
TX Line Model	EW63	EW63
TX Line Unit Loss (dB/100 ft)	1.45	1.45
TX Line Length (ft)	280.00	295.00
TX Line Loss (dB)	4.06	4.28
Connector Loss (dB)	0.50	0.50
TX Filter Loss (dB)	1.30	1.30
RX Filter Loss (dB)	1.60	1.60
TX loss (dB)	5.86	6.08
RX loss (dB)	6.16	6.38
Antenna Model	VHLP6-6W (DR)	VHLP6-6W (DR)
Antenna Filename	rpe 7138a	rpe 7138a
Antenna Gain (dBi)	39.00	39.00
Antenna Diameter (ft)	6.00	6.00
Antenna Height (ft)	215.00	230.00
Orientation Loss (dB)	0.00	0.00
TX Line Model	EW63	EW63
TX Line Unit Loss (dB/100 ft)	1.45	1.45
TX Line Length (ft)	245.00	260.00
TX Line Loss (dB)	3.55	3.77
Connector Loss (dB)	0.50	0.50
RX Filter Loss (dB)	1.60	1.60

	ASR 1286534	911 Center
TX loss (dB)	0.00	0.00
RX loss (dB)	5.65	5.87
Frequency (MHz)	6100.00	
Polarization	Vertical	
Path Length (mi)	15.442	
Free Space Loss (dB)	136.08	
Atmospheric Absorption Loss (dB)	0.32	
Main Net Path Loss (dB)	65.44	65.44
Diversity Net Path Loss (dB)	67.53	67.53
Configuration	NSB-SD Diplexer Main	NSB-SD Diplexer Main
Radio Model	WVCE61-J2-1024F30S-226	WVCE61-J2-1024F30S-226
Radio Filename	wvce61_j_1024f30s_226	wvce61_j_1024f30s_226
TX Power (dBm)	36.00	36.00
TX Power at ACU Antenna Port (dBm)	34.70	34.70
TX Power at Top of Rack (dBm)	34.70	34.70
Emission Designator	30M0D7W	30M0D7W
EIRP (dBm)	71.74	71.52
RX Threshold Criteria	1E-6 BER	1E-6 BER
RX Threshold Level (dBm)	-65.50	-65.50
RX Threshold at RX Input Port (dBm)	-65.50	-65.50
Maximum Receive Signal (dBm)	-22.00	-22.00
Main RX Signal at Top of Rack (dBm)	-27.84	-27.84
Main RX Signal at ACU Ant. Port (dBm)	-27.84	-27.84
Main RX Signal at RX Input Port (dBm)	-29.44	-29.44
Main Receive Signal (dBm)	-29.44	-29.44
Div RX Signal at Top of Rack (dBm)	-29.93	-29.93
Div RX Signal at ACU Ant. Port (dBm)	-29.93	-29.93
Div RX Signal at RX Input Port (dBm)	-31.53	-31.53
Diversity Receive Signal (dBm)	-31.53	-31.53
Thermal Fade Margin (dB)	36.06	36.06
XPD Fade Margin - Multipath (dB)	40.72	40.72
Flat Fade Margin - multipath (dB)	34.78	34.78
Dispersive Fade Margin (dB)	54.00	54.00
Dispersive fade occurrence factor	1.00	
Effective Fade Margin (dB)	34.73	34.73
Climatic factor	2.00	

	ASR 1286534	911 Center
Terrain roughness (ft)	57.20	
C factor	1.68	
Average annual temperature (°F)	60.54	
Fade occurrence factor (Po)	9.427E-02	
SD Improvement Factor	56.46	56.46
Worst month multipath availability (%)	99.99994	99.99994
Worst month multipath unavailability (sec)	1.48	1.48
Annual multipath availability (%)	99.99998	99.99998
Annual multipath unavailability (sec)	5.36	5.36
Annual 2 way multipath availability (%)	99.99997	
Annual 2 way multipath unavailability (sec)	10.73	

Multipath fading method - Vigants - Barnett

Figure 1.9: Microwave Path Profile

Assumptions

This proposal assumes the following:

- Morgan County will add this site at system release A2025.x.
- There is space available at all sites for the proposed equipment, services, and facilities.
- The FCC approves and licenses the County's request to license and broadcast four 700 MHz channels from the new tower at the 911 Dispatch location and the ASR 1286534 site.
- Any deviation from the design parameters upon which the coverage predictions are based will require a rerun of the coverage maps and a possible change in the coverage maps included in this proposal.
- If applicable, the FAA approves Morgan County's request for a 300' tower at the 911 Dispatch site location.
- Motorola understands that Morgan County has made the requisite arrangements with the owners/managers of the ASR 1286534 antenna site to construct and place simulcast remote site equipment, services, and facilities on the property.
- Utility power at the new RF site and the ASR 1286534 site must be ordered and maintained by Morgan County.
- A physical path study will be required to verify that there are no obstructions in the line-of-sight on the path between 911 Dispatch and ASR 1286534.
- A 30 MHz channel is available to license in the lower 6 GHz band for the microwave path.
- The new site is to be constructed on county-owned land specified by the following coordinates: 33 34 08.00 N, 083 29 25.00 W. The ASR 1286534 tower is structurally capable of handling the load of microwave dishes at the proposed heights. No tower remediation is included in this proposal.

- Morgan County shall obtain the appropriate SUA, if any, required by the owner/operator of the partnered Core.
- No logging recorder equipment or services are included within this proposal.
- No coverage guarantee is included in this proposal.

1.5 Subscribers

1.5.1 Subscriber Requirements

The following subscribers are included in this proposal:

Table 1.9: Subscriber Requirements

No	Agency	Portable Radios		Mobile Radios		Control Stations	
		Qty	Model	Qty	Model	Qty	Model
1	Morgan County SO	52 35	APX N70 UHF	56	APX 4500		
2	Morgan County Fire	109	APX N70 XE	51	APX 4500		
3	Morgan County BOE	7 50	APX N30 UHF	60	APX 1500		
4	Morgan County Public Works	20	APX N70				
5	Morgan County Transportation	15	APX N70			1	APX 4500
6	Morgan County 911	5	APX N70			7	APX 4500
7	Morgan County Animal Control	3	APX N70				
8	Madison FD	36	APX N70 XE	8	APX 4500		
9	Madison PD	18	APX N70	17	APX 4500		
Total		**350**		**192**		**8**	

1.5.2 APX 1500 Enhanced Mobile Radio

Motorola Solutions' APX 1500 Enhanced mobile radio is a budget-friendly, P25 Phase 1 and Phase 2 solution that provides seamless interoperability and extends the range of communications to keep public safety personnel connected wherever the mission takes them. With ruggedized construction and easy installation, the APX 1500 Enhanced is designed for users who require reliable P25 functionality in a durable, compact, and cost-effective mobile radio.



Standard features and benefits of the APX 1500 Enhanced include the following:

- P25 and Legacy Interoperability – Unifies public works and public safety personnel so they can communicate effectively. Available in 700/800 MHz, VHF, and UHF R1 frequency bands, and is compatible with both P25 Phase 1 and Phase 2 infrastructure.
- Ergonomic Controls – Large, multifunctional knobs allow radio users to easily adjust talkgroup and volume settings while wearing bulky gloves. A front color display with intelligent lighting allows easier operation in all lighting conditions. The compatible O2 Control Head is easy to read and operate in all lighting conditions, as well.
- Easy Installation – A simplified dash mount design makes APX 1500 Enhanced installation quick and easy, fitting into the existing APX 1500 footprint so mounting holes and cables can be reused to reduce cost.
- Ruggedized Form Factor – Uncompromising durability and renowned quality enable the APX 1500 Enhanced to withstand wet, dusty, and hazardous conditions, with an IP56 durability rating and applicable MIL-STD 810C, D, E, F, and G standards.

1.5.3 APX 4500 Enhanced Mobile Radio

Motorola Solutions' APX 4500 Enhanced mobile radio offers interoperable communications and advanced public safety capabilities with a compact, ruggedized form factor to support users wherever the mission takes them. The APX 4500 Enhanced mobile is built to evolve alongside Morgan County's personnel as new features and functionalities become available and operational needs change. This includes Wi-Fi support and connection to LTE routers to allow faster software updates.



By providing a wide range of configuration options, the APX 4500 Enhanced mobile radio offers the functionality and security required by public works, public safety, and utilities personnel, no matter the budget.

The APX 4500 Enhanced mobile radio offers the following key benefits:

- Easy Installation – Streamlines installation that fits into the existing APX 4500 footprint, and reduces cost through the reuse of mounting holes and cables.
- Ergonomic Controls – Simplifies operation with enlarged, multifunctional knobs and intelligent lighting of the color screen. The compatible O2 Control Head with integrated speaker (available in grey/green) is easy to read and operate in emergencies.
- Ruggedized Form Factor – Features an IP56 durability rating (the highest certification for mobiles) and meets applicable MIL-STD 810C, D, E, F, G standards, allowing the APX 4500 Enhanced to provide reliable performance even in severe conditions.
- CommandCentral Integration – Integrates CommandCentral Aware suite capabilities, such as Impact Detection, to trigger an alert in the event of a vehicle crash and allow personnel to respond accordingly.
- Secure Communications – Enables secure and reliable communications for public safety personnel via AES Encryption.
- P25 and Legacy Interoperability – Unifies coordination and communication across different systems with P25 and legacy interoperability, supporting 700/800 MHz, VHF, and UHF R1 frequency bands, and is compatible with P25 Phase 1 and Phase 2 infrastructure.

The APX 4500 Enhanced mobile radio is compatible with advanced features and data applications to meet a variety of operational needs. These features include integrated Wi-Fi capabilities, Hardware AES Encryption, remote mount configuration, and compatibility with the Motorola Solutions' green O2 Control Head.

1.5.4 APX N30 Portable Radio

1.5.4.1 Overview



The APX N30 offers affordable, next-generation communications without compromising P25 interoperability or voice and data quality. It has a durable design with “pick-up-and-go” functionality, optimizing ease-of-use and focused communications in almost all environments.

Durable and Easy to Use

The APX N30 enhances operations with a front display with an upgraded user interface for better readability and loud and clear audio for reliable, everyday use. Additionally, the N30 offers extended battery life, a shorter antenna, and Bluetooth compatibility with audio accessories, promoting efficient communications between first responders.

ViQi

To prevent first responders from losing focus while events unfold, ViQi allows users to operate their devices with customized voice commands. First responders can switch between preset channels and zones, adjust volume, and change audio profiles by pressing the preprogrammed ViQi button and speaking into the microphone.

Essential and Secure P25 Communications

The APX N30 is certified compliant with P25 standards and supports digital and analog trunking, FDMA and TDMA, and Integrated Voice and Data. All P25 communications over the N30 are safe and secure – it offers software encryption, single- and multi-key encryption, and P25 Authentication, protecting communications during daily operations.

Reliable Connectivity

Using the APX N30 lets first responders stay connected across disparate networks. It is equipped with Wi-Fi®, Bluetooth®, GPS, and Geofence features, bringing future-ready applications, services, and best-in-class connectivity to everyday use. APX N30 radios support 7/800 MHz frequency bands across radio systems, with minimal intervention by the radio user.

SmartConnect over Wi-Fi

SmartConnect is a subscription service that allows first responders to access critical intelligence no matter where the mission takes them. When P25 networks are unavailable, the APX N30 will maintain functionality and voice quality by automatically switching to an available broadband network, enabling connectivity outside of radio system coverage. Voice information and signals between radios and control are encrypted, ensuring that all transmissions are secure.

The APX N30 can use SmartConnect when directly connected to Wi-Fi hotspots, through an in-vehicle LTE modem, or over a satellite connection. Additionally, the radio will indicate to users when SmartConnect is active by displaying a blue bar on-screen.

1.5.4.2 Managing and Provisioning Devices

APX N30 can be programmed in two (2) ways: one at a time through Customer Programming Service (“CPS”) or through a combination of CPS and batch programming over Wi-Fi available with the Radio Management (“RM”) software.

CPS is a proprietary, Windows-based application used to configure APX subscriber radios in offline situations that include provisioning, networking, and monitoring tools that provide greater awareness and faster radio management. The CPS application offers drag-and-drop, clone-wizard, and basic import/export functions that allow the addition of new software and feature enhancements. APX N radios can be programmed one at a time on a local PC, via secure USB port connection, with TLS-PSK-based encryption. Once loaded, subscriber radios are read and edited, and codeplugs and templates can be saved and duplicated to program other fleet radios.

Batch Programming is available through the RM software for simultaneous programming and upgrading throughout the radio fleet. With Batch Programming, up to 16 radios can be programmed at once over a Wi-Fi connection. This reduces programming time and ensures that the radio fleet is always up to date and ready to use in the field.

Device Management Services

Device Management Services – Essential (“DMS”) provides programming, management, and maintenance services to maximize the effectiveness of this APX N30 solution, while reducing maintenance risk, workload, and total cost of ownership. DMS tackles a range of customer needs, whether the solution is self-maintained or managed by Motorola Solutions, Inc.

1.5.5 APX N70 Portable Radio



1.5.5.1 Overview

The APX N70 offers affordable, next-generation communications without compromising P25 interoperability or voice and data quality. It offers a durable design with “pick-up-and-go” functionality, optimizing ease-of-use and focused communications in almost all environments.

Durable and Easy to Use

The APX N70 enhances operations with a full color transflective glass display with touch technology for glove-on operation. The touchscreen includes a high-velocity user interface with large touch targets, shallow menu hierarchy, home screen information at a glance, and access to integrated apps. Additionally, the N70 offers extended battery life, a shorter antenna, and Bluetooth compatibility with audio accessories, promoting efficient communications between first responders.

Essential and Secure P25 Communications

The APX N70 is certified compliant with P25 standards and supports digital and analog trunking, FDMA and TDMA, and Integrated Voice and Data. P25 communications over the N70 are equipped with software and hardware encryption, single- and multi-key encryption, and P25 Authentication designed to protect communications during daily operations.

Reliable Connectivity

Using the APX N70 lets first responders stay connected across disparate networks. It can be equipped with LTE, Wi-Fi®, Bluetooth®, and GPS features, bringing future-ready applications, services, and connectivity to everyday users. APX N70 radios support 7/800 MHz, UHF, and VHF frequency bands across radio systems with minimal intervention by the radio user.

1.5.5.2 Device Management Services – Essential

Device Management Services - Essential (“DMS”) is an additional option that provides remote technical support and hardware repair to maximize the effectiveness of the APX N70 solution, while reducing maintenance risk, workload, and total cost of ownership. The offering consists of:

Expert Technical Support

Our experienced technicians are available to help isolate and resolve any issues you may have with your APX N70 radios. With an extensive knowledge base and trained and certified technical engineers, this team can troubleshoot and provide prompt resolution to your technical device issues. We apply leading industry standards to record, monitor, escalate, and report technical service calls from our customers.

Expert Hardware Repair

Your APX N70 radio fleet components are protected in the event of an unexpected failure and are back in operation as soon as possible. All device components are returned to you with original factory

specifications and updated with the latest firmware. Plus, our service centers are certified to comply with ISO 9001, ensuring the highest quality repairs.

1.5.5.3 Managing and Provisioning Devices

APX N70 provides users greater awareness and faster radio management through Customer Programming Software (“CPS”), Radio Management (“RM”), or RadioCentral programming. These tools transform accurate data into smarter action by enabling dispatchers and network managers to keep radios in the field, make informed operational decisions, and, above all, protect first responders' focus and safety.

Customer Programming Software

CPS is a proprietary, Windows-based application used to configure APX subscriber radios in offline situations. The CPS application offers drag-and-drop, clone-wizard, and basic import/export functions that allow for the addition of new software and feature enhancements. APX N70 radios can be programmed one at a time on a local PC, via secure USB port connection, with TLS-PSK-based encryption. Once loaded, subscriber radios are read and edited, and codeplugs and templates can be saved and duplicated to program other fleet radios.

Radio Management

Batch Programming is available through the Radio Management (RM) software, which allows new codeplugs, firmware updates, and flashcode updates to be sent to groups of devices simultaneously. With Batch Programming, radios can also be programmed at once over a Wi-Fi connection for compatible radios. This helps keep the radio in the hands of the end user, reduces programming time, and ensures that the radio fleet is always up to date.

RadioCentral

RadioCentral is Motorola’s cloud-based programming offering, which provides fast, efficient provisioning and deployment to get devices out into the field as quickly as possible. Parameters such as talkgroups, interface options, and security keys can be programmed remotely within minutes. RadioCentral streamlines the APX N70 out-of-the-box experience with a few simple steps. Users will power on the device and view a boot-up animation, and from power on to provisioning, the process takes less than a minute. For Encryption and Authentication users, a KVL needs to be connected to the radio to use those services.

APX N70 also features Touchless Key Provisioning (TKP), leveraging RadioCentral and Key Management Facility to add encryption keys remotely. This streamlined, one-time process reduces the time and effort spent enabling encryption. TKP delivers the initial encryption keys to APX N70 radios. Users can provision encryption on one radio or on batches of radios, further speeding up the encryption process for radio fleets.

The figure below illustrates APX N70’s faster provisioning process.

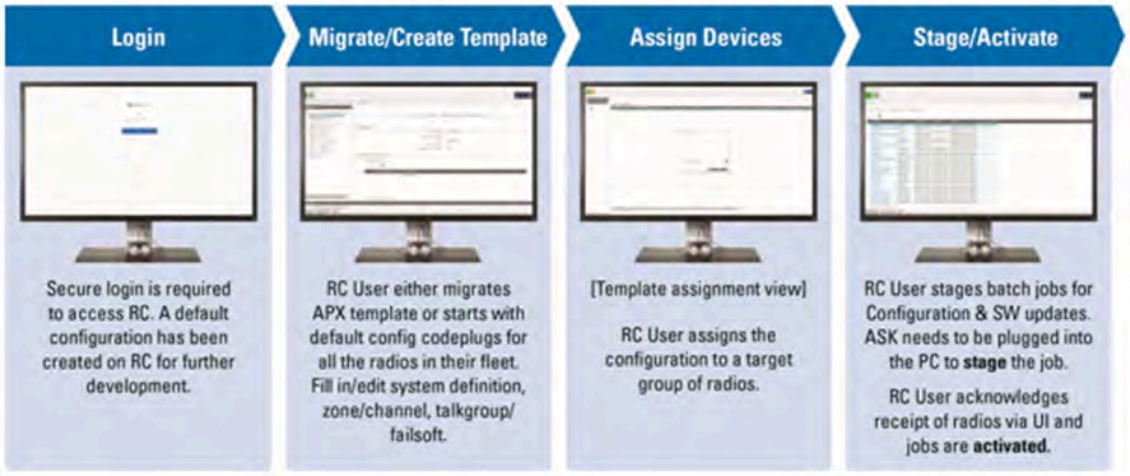


Figure 1.10: APX N70 Provisioning via Radio Central

1.5.5.4 Evolving with Application Services

APX N70 gives first responders access to mobile features through the following set of application services.

SmartProgramming Application Service

In conjunction with RadioCentral provisioning capabilities, the SmartProgramming application allows radios to be updated anywhere within an agency's local LTE network coverage area. APX N70 devices do not need to be tied to a computer via USB cable, limited to Wi-Fi network coverage, or gated by Land Mobile Radio (LMR) bandwidth. SmartProgramming allows the APX N70 device to take advantage of LTE broadband data speeds to pull programming jobs from RadioCentral devices in minutes.

The SmartProgramming Application Service is proposed as a subscription-based model to optimize budget and scale to meet evolving needs.

ViQi

Two voice-activated features on the APX N70 enhance situational awareness and first responder safety.

ViQi allows users to operate their radios with their voice. From switching channels and zones to adjusting the volume, to checking battery level, or canceling commands, users only need to press and hold the ViQi button and speak into the mic. (To ensure security, there is no "wake word" that leaves an open mic; the ViQi button must be pressed when commands are issued.) Each action is accessible using a range of intuitive commands. For example, "battery," "check battery," "battery level," and "battery status" are all recognized to get an update on a user's radio battery.

SmartConnect Application Services

SmartConnect allows first responders to access critical intelligence no matter where the mission takes them. It keeps first responders connected and maintains critical LMR features through a broadband connection. By seamlessly switching between P25 LMR and LTE cellular networks, SmartConnect

extends reliable Push-to-talk (“PTT”) communications as users roam onto supported broadband networks. Authentication, status, talkgroups, and encryption are all preserved automatically, without interruptions or resets, to ensure that first responders continue to have access to the critical features they need in dangerous situations.

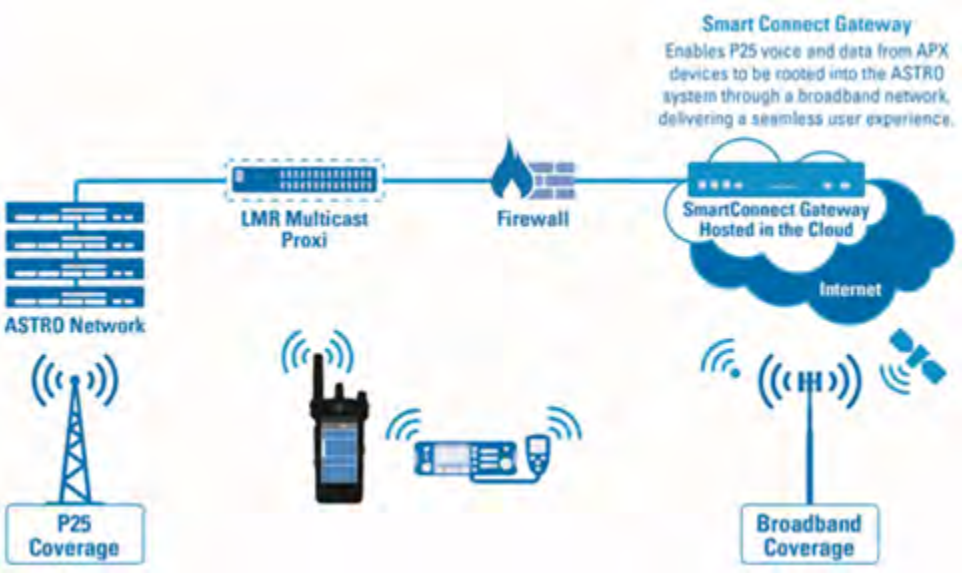


Figure 1.11: APX N70 SmartConnect Network Elements

1.5.6 APX N70 XE Portable Radio



The APX N70 XE is designed for firefighters and EMS personnel on the front line. It is built on the legendary ruggedness and familiar design you trust, while delivering an enhanced user experience and next-generation capabilities. Adaptive audio for clear communication in any environment, plus optional LTE connectivity, smart app integration, and streamlined fleet management for enhanced situational awareness and operational efficiency.

Durable and Easy to Use

Every element of the radio's tough, ergonomic design is focused on maximizing task performance for firefighters and EMS personnel working in the most unpredictable and adverse situations. Large, readily accessible control knobs and buttons can be operated confidently, even when wearing thick gloves. The 3" Corning® Gorilla® Glass touch screen lets firefighters view critical information and interact with smart apps via a clear, streamlined user interface that lets workers concentrate on the job at hand with fewer distractions.

Mission-Critical Audio

Adaptive audio intelligently monitors the surrounding environment, automatically adjusting the radio's sound settings for maximum clarity, even when normal conversations are drowned out by background noise at the scene of an incident. High Dynamic Range mics handle extremes in speech volume without distortion. Intelligent processing filters out noise and suppresses feedback so firefighters can hear and be heard loud and clear, minimizing the risk of vital information being misunderstood.

Essential and Secure P25 Communications

The APX N70 XE is certified compliant with P25 standards and supports digital and analog trunking, FDMA and TDMA, and Integrated Voice and Data. P25 communications over the APX N70 XE are safe and secure, with software and hardware encryption, single- and multi-key encryption, and P25 Authentication that protect communications during daily operations.

Reliable Connectivity

The APX N70 XE goes beyond boundaries with Wi-Fi and optional LTE connectivity, keeping crew members in touch even when they're outside regular radio coverage. Optional smart apps and services further enhance performance, heightening situational awareness and enabling more effective collaboration. APX N70 XE radios support 7/800 MHz frequency bands across radio systems with minimal intervention by the radio user.

1.5.6.1 Equipping Accessories

APX N70 XE accessories support users in extreme environments with faster access to the device and improved usage with heavy equipment and gloves.

The XVE500m RSM enhances the APX N70 XE experience. This RSM provides four high-dynamic range microphones situated on top of the device for improved communications, regardless of the usage

position, and reduces muffled audio over earlier RSM designs. All HDR microphones are windported to combat high-wind from disrupting communication and placed behind Motorola Solutions, Inc.'s engineered grill to further redirect airflow and water drain. The adaptive audio engine tracks the user's voice from any direction and helps filter out surrounding background noise to supply the most intelligible audio in any environment.

Large knobs make gloved use easier in the field, and the engineered speaker improves speaker clarity while maintaining best-in-class volume over previous RSM designs.



Figure 1.12: XVE500M Remote Speaker Microphone (RSM)

1.5.6.2 Managing and Provisioning Devices

APX N70 XE provides users with greater awareness and faster radio management through Customer Programming Software (CPS), Radio Management (RM), or RadioCentral programming. These tools transform accurate data into smarter action by enabling dispatchers and network managers to keep radios in the field, make informed operational decisions, and, above all, protect first responders' focus and safety.

1.5.6.2.1 Customer Programming Software

CPS is a proprietary, Windows-based application used to configure APX subscriber radios in offline situations. The CPS application offers drag-and-drop, clone-wizard, and basic import/export functions that allow for the addition of new software and feature enhancements. APX N70 XE radios can be programmed one at a time on a local PC, via a secure USB port connection, with TLS-PSK-based

encryption. Once loaded, subscriber radios are read and edited, and codeplugs and templates can be saved and duplicated to program other fleet radios.

1.5.6.2.2 Radio Management

Batch Programming is available through the Radio Management (RM) software, which allows new codeplugs, firmware updates, and flashcode updates to be sent to groups of devices simultaneously. With Batch Programming, radios can also be programmed at once over a Wi-Fi connection for compatible radios. This helps keep the radio in the hands of the end user, reduces programming time, and ensures that the radio fleet is always up to date.

1.5.6.2.3 RadioCentral

RadioCentral is Motorola's cloud-based programming offering, which provides fast, efficient provisioning and deployment to get devices out into the field as quickly as possible. Parameters such as talk groups, interface options, and security keys can be programmed remotely within minutes. RadioCentral streamlines the APX N70 XE out-of-the-box experience with a few simple steps. Users will power on the device and view a boot-up animation, and from powering on to provisioning, the process takes less than a minute. For Encryption and Authentication users, a KVL needs to be connected to the radio to use those services.

APX N70 XE also features Touchless Key Provisioning (TKP), leveraging RadioCentral and Key Management Facility to add encryption keys remotely. This streamlined, one-time process reduces the time and effort spent enabling encryption. TKP delivers the initial encryption keys to APX N70 XE radios. Users can provision encryption on one radio or on batches of radios, further speeding up the encryption process for radio fleets.

The figure below illustrates APX N70 XE's faster provisioning process.

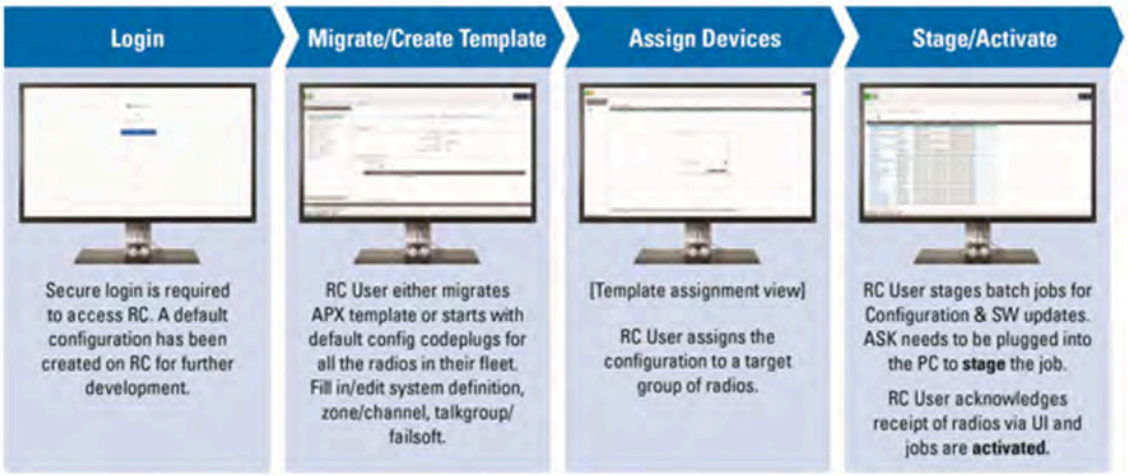


Figure 1.13: APX N70 XE Provisioning via RadioCentral

1.5.6.3 Evolving with Application Services

APX N70 XE gives first responders access to mobile features through the following set of application services.

1.5.6.3.1 SmartProgramming Application Service

In conjunction with RadioCentral provisioning capabilities, the SmartProgramming application allows radios to be updated anywhere within an agency's local LTE network coverage area. APX N70 XE devices do not need to be tied to a computer via USB cable, limited to Wi-Fi network coverage, or gated by Land Mobile Radio (LMR) bandwidth. SmartProgramming allows the APX N70 XE device to take advantage of LTE broadband data speeds to pull programming jobs from RadioCentral devices in minutes.

The SmartProgramming Application Service is proposed as a subscription-based model to optimize budget and scale to meet evolving needs.

1.5.6.3.2 ViQi

ViQi allows users to operate their radios with their voice. From switching channels and zones to adjusting the volume, checking battery level, or canceling commands, users only need to press and hold the ViQi button and speak into the mic. (To ensure security, there is no "wake word" that leaves an open mic; the ViQi button must be pressed when commands are issued.) Each action is accessible using a range of intuitive commands. For example, "battery," "check battery," "battery level," and "battery status" are all recognized to get an update on a user's radio battery.

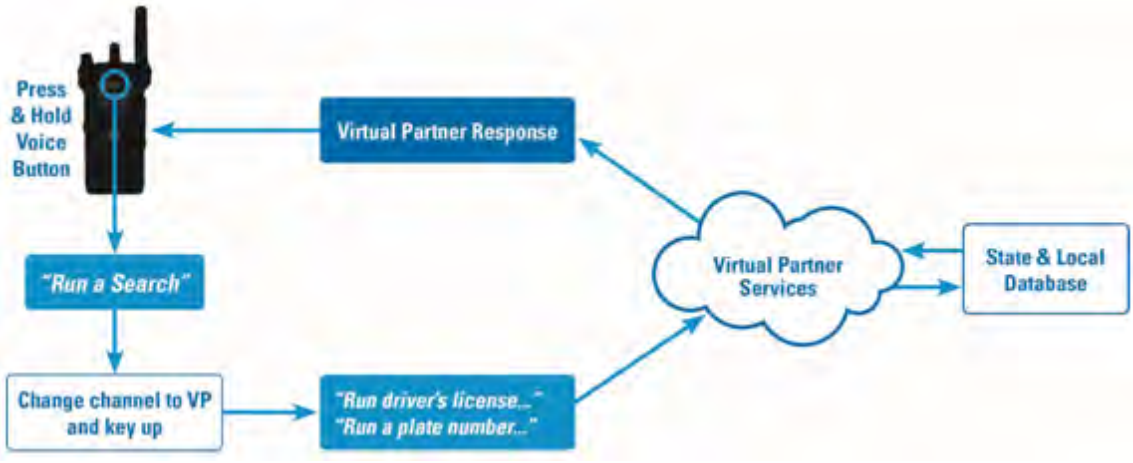


Figure 1.14: ViQi Virtual Partner

1.5.6.3.3 SmartConnect Application Services

SmartConnect allows first responders to access critical intelligence no matter where the mission takes them. It keeps first responders connected and maintains critical LMR features through a broadband

connection. By seamlessly switching between P25 LMR and LTE cellular networks, SmartConnect extends reliable Push-to-talk (PTT) communications as users roam onto supported broadband networks. Authentication, status, talkgroups, and encryption are all preserved automatically, without interruptions or resets, to ensure that first responders continue to have access to the critical features they need in dangerous situations.

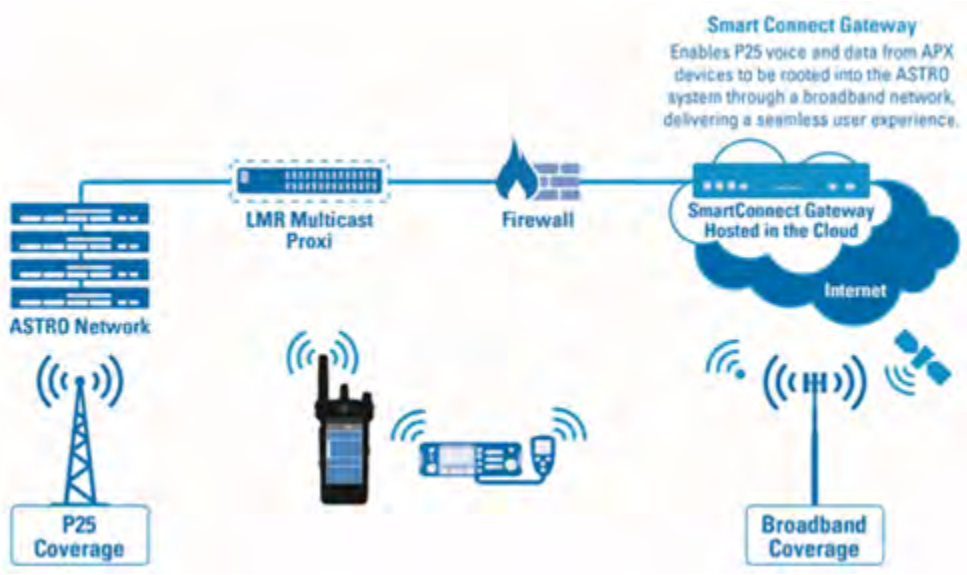


Figure 1.15: APX N70 XE SmartConnect Network Elements

UHF Radios are being provided with initial programming and factory warranty, including necessary accessories.

Two (2) UHF repeaters are being provided, installed, and programmed as part of this proposal for installation at the Morgan County Schools.

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Section 2

Implementation Statement of Work

2.1 Overview

This Statement of Work (SOW) describes the deliverables to be furnished to Morgan County. The tasks described herein will be performed by Motorola Solutions, its subcontractors, and Morgan County to implement the solution described in the System Description. It describes the actual work involved in installation, identifies the installation standards to be followed, and clarifies the responsibilities for Motorola Solutions and Morgan County during the project implementation. Specifically, this SOW provides:

- A description of the responsibilities for Motorola Solutions and Morgan County.
- The assumptions taken into consideration during the development of this project.

This SOW provides the most current understanding of the work required by all parties to ensure a successful project implementation. In particular, Motorola Solutions has made assumptions about the sites to be used for the new system. Should any of the sites change, a revision to the SOW and associated pricing will be required. It is understood that this SOW is a working document and that it will be revised as needed to incorporate any changes associated with contract negotiations, and any other change orders that may occur during the execution of the project.

2.2 Responsibility Matrix

Motorola will use a phased approach to successfully implement Morgan County's system.

These phases are broken down by:

- Project Initiation
- Site Preparation and Development
- System Installation
- System Optimization and Testing

Tasks	Motorola Solutions	Morgan County
PROJECT INITIATION		
Contract Finalization and Team Creation		
Execute the contract and distribute the contract documents.	X	X
Assign a Project Manager as a single point of contact.	X	X
Assign resources.	X	X
Schedule project kickoff meeting.	X	X
Deliverable: Signed contract, defined project team, and scheduled project kickoff meeting.		
Project Administration		
Ensure that project team members attend all meetings relevant to their role on the project.	X	X
Set up the project in the Motorola Solutions information system.	X	
Record and distribute project status meeting minutes.	X	
Maintain responsibility for third-party services contracted by Motorola Solutions.	X	
Complete assigned project tasks according to the project schedule.	X	X
Submit project milestone completion documents.	X	
Upon completion of tasks, approve project milestone completion documents within 7 to 10 business days.		X
Conduct all project work Monday through Friday, 8 a.m. to 5:00 p.m. local time, except for Motorola Solutions' and the Customer's holidays.	X	
Execute the necessary agreements with core share partner(s), including colocating in equipment shelters and towers, as applicable.		X
Deliverable: Completed and approved project milestones throughout the project.		
Project Kickoff		
Introduce the team, review roles, and decision authority.	X	X
Present project scope and objectives.	X	
Review SOW responsibilities and project schedule.	X	X
Schedule Design Review. Customer Design Review will take place within 14 days of contract execution.	X	X

Tasks	Motorola Solutions	Morgan County
Deliverable: Completed project kickoff and scheduled Design Review.		
Design Review		
Review the Customer's operational requirements.	X	X
Present the system design and operational requirements for the solution.	X	
Present installation plan.	X	
Present preliminary cutover plan and methods to document final cutover process.	X	
Present configuration and details of sites required by system design.	X	
Validate that Customer sites can accommodate the proposed equipment.		X
Provide all approvals required to add the proposed equipment at the proposed sites.		X
Review safety, security, and site access procedures.	X	
Present equipment layout plans and system design drawings.	X	
Provide backhaul performance specifications and demarcation points.	X	
Provide heat load and power requirements for new equipment.	X	
Provide information on existing system interfaces.		X
Provide frequency and radio information for each site.		X
Assume liability and responsibility for providing all information necessary for complete installation.		X
Assume responsibility for issues outside of Motorola Solutions' control.		X
Complete the required forms for frequency coordination and licensing.	X	
Ensure that frequency availability and licensing meet project requirements, and pay licensing and frequency coordination fees.	X	
Review and update design documents, including System Description, Statement of Work, Project Schedule, and Acceptance Test Plan, based on Design Review agreements.	X	
Provide minimum acceptable performance specifications for customer-provided hardware, software, LAN, WAN, and internet connectivity.	X	
Execute Change Order in accordance with all material changes to the Contract resulting from the Design Review.	X	

Tasks	Motorola Solutions	Morgan County
Deliverable: Finalized design documentation based upon "frozen" design, along with any relevant Change Order documentation.		
SYSTEM INSTALLATION		
Equipment Order and Manufacturing		
Create an equipment order and reconcile it to the contract.	X	
Manufacture the Motorola Solutions-provided equipment necessary for the system based on the equipment order.	X	
Procure non-Motorola Solutions equipment necessary for the system.	X	
Deliverable: Equipment procured and ready for shipment.		
System Staging		
Ship all equipment needed for staging to Motorola Solutions' factory for staging.	X	
Provide information on existing system interfaces, room layouts, or other information necessary for the assembly to meet field conditions.		X
Set up and rack the solution equipment on a site-by-site basis, as it will be configured in the field at each of the sites.	X	
Cut and label the cables with to/from information to specify interconnection for field installation and future servicing needs.	X	
Complete the cabling/connecting of the subsystems to each other ("connectorization" of the subsystems).	X	
Assemble required subsystems to assure system functionality.	X	
Power up, load application parameters, program, and test all staged equipment.	X	
Confirm system configuration and software compatibility with the existing system.	X	
Inventory the equipment with serial numbers and installation references.	X	
Review and approve the proposed Factory Acceptance Test Plan.		X
Pay for travel, lodging, meals, and all incidental expenses for Customer personnel and representatives to witness the Factory Acceptance Testing.		X
Perform factory functional acceptance tests of system features.	X	
Conduct site and system-level testing.	X	
Perform system burn-in 24-hours a day during staging to isolate and capture any defects.	X	

Tasks	Motorola Solutions	Morgan County
Pack and ship the racked equipment to the field to finalize the staging of equipment. Field staging will be completed at the facility.	X	
Deliverable: System staged and ready for shipment.		
Equipment Shipment and Storage		
Provide a secure location, temperature-controlled for solution equipment.		X
Pack and ship the solution equipment to the identified or site locations.	X	
Receive solution equipment.		X
Inventory solution equipment.	X	
Deliverable: Solution equipment received and ready for installation.		
General Installation		
Deliver solution equipment to the installation location.	X	
Coordinate receipt of and inventory solution equipment with the designated contact.	X	
Install all proposed fixed equipment as outlined in the System Description based upon the agreed-upon floor plans, connecting audio, control, and radio transmission cables to connect equipment to the power panels or receptacles, and audio/control line connection points. Installation performed in accordance with R56 standards and state/local codes.	X	
Provide connectivity test results to confirm specification compliance before equipment installation. ● Provide 24-hour test compliance, per Motorola specification. ● Provide an IT contact representative for backhaul-related requirements.	X	
Provide system interconnections that are not specifically outlined in the system design, including dedicated phone circuits, microwave links, or other types of connectivity.		X
Install and terminate all network cables between site routers and network demarcation points, including microwave, leased lines, and Ethernet.	X	
Provide, install, and terminate all cabling between MC-Edge and punch blocks installed on the wall or in the rack. Perform wiring for the Aux I/O controls, such as Doors, Gates, Environmental alarm closures, etc., to the control punch block.	X	
Connect existing, pre-wired auxiliary input/outputs to the proposed Motorola MC-Edge input/output box, as needed. NOTE: The customer will provide wiring to allow for the connection in the dispatch room. NOTE: If any new wiring for input/outputs is needed at the dispatch site, an additional quote can be provided.		X

Tasks	Motorola Solutions	Morgan County
Ensure that Type 1 and Type 2 AC suppression is installed to protect installed equipment.		X
Connect the installed equipment to the provided ground system within 15-feet.	X	
Label Motorola-supplied equipment, racks, and cables.	X	
Perform preliminary audit of installed equipment to ensure compliance with requirements and R56 standards.	X	
Note any required changes to the installation for inclusion in the “as-built” system documentation.	X	
Remove, transport, and dispose of old equipment.		X
Deliverable: Equipment installed.		
Site Link Assessment		
Verify site link performance prior to the interconnection of the solution equipment to the link equipment. Site links will be tested once. If the links do not pass the audit, a change order will be processed to perform link audits a second time after the customer resolves the link issues and before cutover.	X	
Motorola Solutions will not perform any work on non-Motorola Solutions-owned equipment.		X
Provide information on the customer's public Internet connection for evaluation purposes.		X
Evaluate the customer’s network from an IT perspective.	X	
Deliverable: Site Link Assessment completed, and findings are presented to the Customer.		
ASTRO 25 Site Installation and Configuration		
Install fixed equipment contained in the equipment list and system description.	X	
Provide backhaul connectivity and associated equipment for all sites to meet latency, jitter, and capacity requirements.		X
Configure the ASTRO 25 system to support the new RF sites.	X	
Provide a list of subscriber IDs for loading into the Zone Controller.		X
Load subscriber IDs in the Zone Controller.	X	
Provide the required radio ID and alias information to enable the alias database setup for the interface to consoles.		X
Integrate the RF sites into the system to ensure proper operation.	X	

Tasks	Motorola Solutions	Morgan County
Deliverable: ASTRO 25 core and remote site equipment installation completed.		
Control Station Installation and Configuration		
Provide the locations of control stations and desk sets at each site.		X
Survey mounting locations and develop a control station installation plan.	X	
Provide adequate space, grounding, and power for the control station installation.		X
Properly ground the cabling, which will be run to the outdoor antenna location using the least obtrusive method.	X	
Provide an elevated antenna mounting location and adequate feed-line routing and support.		X
Provide and install standard antenna mounts.	X	
Install the line (not greater than 100-feet in length) and antenna system (connectors, coax grounding kit, antenna, and surge protection).	X	
Install RF local control stations identified in the equipment list.	X	
Provide console equipment and necessary programming and cabling changes, as necessary.		X
Provide control stations with codeplugs for integration to customer's existing consoles.	X	
Provide existing control station codeplugs or provide a list of channels (and associated parameters) to program the proposed control stations.		X
Perform control station programming.	X	
Remove any console equipment, Control stations, and antenna lines as applicable.		X
Deliverable: Control station equipment installation completed.		
Deliverable: Fleetmap plan completed and approved by Customer.		
Mobile Radio Installation and Programming		
Develop and approve prototypes for each type of mobile installation.	X	
Test features and functionalities of the mobile templates.	X	
Program the mobile radios identified in the equipment list in accordance with the programming templates, client software, and fleetmap. A "one-time only" programming is included in the project pricing.	X	
Provide at least four (4) vehicles for installations according to the		x

Tasks	Motorola Solutions	Morgan County
project/installation schedule.		
Perform RF alignment and install all the mobiles in the vehicles, as identified in the equipment list, and according to the installation schedule.	X	
Permanently mount the antennas on each vehicle according to the approved prototype, appropriate for the vehicle type. Install the antennas close to the same location as the existing antennas, where practical, in vehicles that already have antennas installed. If applicable, plug the old antenna hole with an appropriate rubber plug.	X	
Install the antennas on the roof, where practical, on the new antenna installations. If a mobile antenna cannot be installed on the roof, determine an alternative location.	X	X
Remove the existing mobiles from the vehicle at the time of installation of the new radios.	X	
Deliverable: Mobile radios installed and accepted.		
Portable Radio Programming and Distribution		
Pass all features and functionalities of the portable radio template.	X	
Define where the programming or flashing will be done. If it is done at the shop, then the customer delivers the Portable Radios per the agreed-upon schedule.		X
Program test portable radios with each template version and activate them on the system.	X	
Program the portable radios identified in the equipment list in accordance with the programming templates, client software, and fleetmap. A “one-time only” programming is included in the project pricing.	X	
Deliver portable radios to authorized Customer personnel and inventory upon receipt.	X	
Acknowledge receipt of portable radios and accessories and verify proper operation of a sampling of delivered portable radios.		X
Distribute portable radios to end users.	X	
Deliverable: Portable radios accepted and distributed.		
Smart Programming		
Motorola Solutions will be responsible for the installation of Smart Programming.	X	
Provide customer specifications of hardware, software, and network requirements for installation.	X	

Tasks	Motorola Solutions	Morgan County
Will not interface with certain network connections.	X	
Provide IT network requirements as outlined by Motorola Solutions.		X
Provide hardware, software, and network requirements needed for Smart Programming per specifications.		X
Deliverable: Fixed Network Equipment installation completed and ready for optimization.		
SYSTEM OPTIMIZATION AND TESTING		
R56 Site Audit		
Perform R56 site-installation quality audits, verifying proper physical installation and operational configurations.	X	
Create a site evaluation report to verify the site meets or exceeds requirements, as defined in Motorola Solutions' R56 Standards and Guidelines for Communication Sites.	X	
Deliverable: R56 Standards and Guidelines for Communication Sites audits completed successfully.		
Electromagnetic Interference (EMI) Analysis		
Perform EMI analysis for the Motorola Solutions-supplied equipment. Note: Motorola Solutions is only responsible for interference caused by Motorola Solutions-provided transmitters to the Motorola Solutions-provided receivers. Should the proposed equipment experience interference, Motorola Solutions can be contracted to investigate the source and recommend solutions to mitigate the issue.	X	
Resolve any interference caused by equipment not supplied by Motorola Solutions.		X
Deliverable: EMI analysis completed.		
Solution Optimization		
Verify that all equipment is operating properly and that all electrical and signal levels are set accurately.	X	
Verify that all audio and data levels are at factory settings.	X	
Verify communication interfaces between devices for proper operation.	X	
Ensure that functionality meets manufacturers' specifications and complies with the final configuration established during design review or system staging.	X	
Reconfigure and re-optimize third-party equipment that is not part of the Motorola Solutions scope of work.		X
Deliverable: Completion of System Optimization.		

Tasks	Motorola Solutions	Morgan County
Functional Acceptance Testing		
Verify the operational functionality and features of the solution supplied by Motorola Solutions, as contracted.	X	
Witness the functional testing.		X
Document all issues that arise during the acceptance tests.	X	
If any major task for the system as contractually described fails during the Customer acceptance testing or beneficial use, repeat that particular task after Motorola Solutions determines that corrective action has been taken.	X	
Resolve any minor task failures before Final System Acceptance.	X	
Document the results of the acceptance tests and present for review.	X	
Review and approve final acceptance test results.		X
If any major task as contractually described fails, repeat that particular task after Motorola Solutions determines that corrective action has been taken.	X	
Document all issues that arise during the acceptance tests.	X	
Document the results of the acceptance tests and present them to the Customer for review.	X	
Resolve any minor task failures before Final System Acceptance.	X	
Deliverable: Completion of functional testing and approval by Customer.		
30-Day Burn-in Testing		
Turn on the complete system and monitor for the entire test duration.	X	
Categorize failures as major and minor, based upon agreed definitions.	X	
If a major failure occurs, correct the problem and restart the test.	X	
If a minor failure occurs, correct the problem and continue the 30-day burn-in.	X	
Complete the 30-day burn-in test successfully and prepare the required reports.	X	
Review and approve the results of the test. Execute the 30-day burn-in test progress milestone.	X	X
Deliverable: Completion of 30-Day Burn-in testing and approval by Customer.		
Training		
Finalize the schedule for training coursework.	X	

Tasks	Motorola Solutions	Morgan County
Provide a training facility.		X
Ensure that the training participants fulfill course prerequisites.		X
Conduct the training classes outlined in the Training Plan.	X	
Attend proposed training classes.		X
Deliverable: Training coursework completed.		
Cutover		
Finalize Cutover Plan.	X	X
Calibrate and tune existing mobile and portable radios to ensure good working order.		X
Provide Motorola Solutions with user radio information for input into the system database and activation, as required.		X
Provide programming of user radios and related services (i.e., template building, re-tuning, testing, and installations), as needed, during the cutover period.		X
Conduct a cutover meeting with relevant personnel to address both how to mitigate technical and communication problem impacts to the users during cutover and during the general operation of the system.	X	
Notify the personnel affected by the cutover of the date and time planned for the cutover.		X
Provide ongoing communication with users regarding the project and schedule.	X	X
Cut over users and ensure that user radios are operating on the system.		X
Resolve punch list items, documented during the Acceptance Testing phase, to meet all the criteria for final system acceptance.	X	
Assist Motorola Solutions with the resolution of identified punch list items by providing support, such as access to the sites, equipment, and system, and approval of the resolved punch list items.		X
Deliverable: Migration to the new system completed, and punch list items resolved.		
Transition to Warranty		
Review the items necessary for transitioning the project to warranty support and service.	X	
Motorola Solutions to provide services during the year 1 warranty, which aligns with the proposed services.	X	

Tasks	Motorola Solutions	Morgan County
Provide a Customer Support Plan detailing the warranty support associated with the contract equipment.	X	
Participate in the Transition Service/Project Transition Certificate (PTC) process.		X
Deliverable: Service information delivered and approved by Customer.		
Finalize Documentation and System Acceptance		
Provide manufacturer's installation material, part list, and other related material to Customer upon project completion.	X	
Provide an electronic as-built system manual on CD or other customer-preferred electronic media. The documentation will include the following: ● Site Block Diagrams. ● Site Floor Plans. ● Site Equipment Rack Configurations. ● Antenna Network Drawings for RF Sites (where applicable). ● ATP Test Checklists. ● Functional Acceptance Test Plan, Test Sheets, and Results. ● Equipment Inventory List. ● Maintenance Manuals (where applicable). ● Technical Service Manuals (where applicable). ● Drawings will be delivered in Adobe PDF format.	X	
Receive and approve documentation.		X
Execute Final Project Acceptance.	X	X
Deliverable: All required documents are provided and approved. Final Project Acceptance.		

2.3 Assumptions

The following assumptions remain in need of review and verification as of the submission of this proposal. These assumptions affect the scope of responsibilities to ensure ancillary systems and facilities are fully prepared to support the solution contained in this proposal. Motorola will work with the customer to determine the validity of these assumptions and determine the increased scope for which Motorola and/or the customer is responsible. Should the customer prefer Motorola to assume responsibility for the increased scope, Motorola will prepare and submit to the customer a revised proposal or change order reflecting the revised scope, cost, and project implementation.

- A Performance Bond is not required.
- Union Labor is not required.
- Prevailing Wages are not required.
- All existing sites or equipment locations will have sufficient space available for the system described as required/specified by R56.
- All existing sites or equipment locations will have adequate electrical power in the proper phase and voltage, and site grounding to support the requirements of the system described.
- All existing towers will have adequate space and size to support the antenna network requirements of the system described.
- Any site/location upgrades or modifications are the responsibility of the Customer.
- All Communication Sites can be accessed with a 4-wheel drive vehicle. Anything beyond the use of a 4-wheel drive vehicle will require a change order to capture the additional cost.
- Interfacing with third-party equipment or applications is not a part of this proposal.
- Approved FCC licensing is the responsibility of Morgan County.
- Approved local, State, or Federal permits as may be required for the installation and operation of the proposed equipment are the responsibility of the Customer.
- Any required system interconnections not specifically outlined here will be provided by the Customer. This may include dedicated phone circuits, microwave links, or other types of connectivity.
- Training is included in this proposal.
- Motorola Solutions is not responsible for interference caused or received by the Motorola Solutions-provided equipment except for interference that is directly caused by the Motorola Solutions-provided transmitter(s) to the Motorola Solutions-provided receiver(s). Should the Customer’s system experience interference, Motorola Solutions can be contracted to investigate the source and recommend solutions to mitigate the issue.
- All sites are assumed to be land-accessible, and no special transportation, such as a helicopter and the like, is required to gain site access.

2.4 Site Development Statement of Work

2.4.1 Morgan County 911 Center - Self-Supported Tower (SST) and New Shelter

Site Scope Summary

- Engineering services for site drawings and regulatory approvals – Included.
- Site acquisition services – Not included.
- Zoning Services – Not included.
- New fenced compound/expansion size – 80-foot x 80-foot.
- Clearing type – Medium.
- Road length requiring improvement – 50-feet.
- New shelter size – 12-foot x 16-foot.
- New fuel tank size – 132-gallons- , Type – Diesel sub-base.
- New generator size – 50 kW, Type – Outdoor.
- New tower to be used for antennas – 300-foot self-supported tower.
- Foundation Pad and Pier up to 75 Cubic Yards

Motorola Responsibilities:

Site Engineering

- Prepare site construction drawings showing the layout of various new and existing site components.
- Conduct site walks to collect pertinent information from the sites (e.g., location of Telco, power, existing facilities, etc.).
- Perform a site and topographic survey for the property on which the communication site is located or will be located.
- Prepare a lease exhibit and sketch of the site to communicate to the property owner the proposed lease space and planned development at the particular site location.
- Prepare record drawings of the site showing the as-built information.
- Perform construction staking around the site to establish reference points for proposed construction.
- Perform NEPA Threshold Screening, including limited literature and records search and brief reporting, as necessary to identify sensitive natural and cultural features referenced in 47 CFR Chapter 1, subsection 1.1307 that may potentially be impacted by the proposed construction activity. This does not include the additional field investigations to document site conditions if it is determined that the proposed communication facility “may have a significant environmental impact” and thus require additional documentation, submittals, or work. Regional Environmental Review (RER) report submittals if required by FEMA have not been included. Perform Cultural Resource study as needed to identify sensitive historical and archaeological monuments that might be impacted by proposed construction activity.
- Conduct up to 80-foot deep soil boring test at each tower leg, backfill holes with spoils and prepare geotechnical report of soil conditions at locations of the tower foundation. Grouting of

boring holes or access by Automatic Traction Vehicle (ATV) - mounted rig is not included.
- Conduct construction inspection of foundation steel prior to pour, materials testing of concrete and field density tests of backfill to ensure quality construction.
- Check tower erection for plumbness, linearity and alignment after installation.
- Perform inspection of the site and the work performed by the Contractor to document that the site is built in accordance with the “Site Plans” and document any deviations or violations.
- Prepare, submit and track application for local permit fees (electrical, building etc.), prepare FAA filings and procure information necessary for filing.

Site Preparation

- Obtain the permits such as electrical, building, and construction permits, and coordinate any inspections with local authorities that may be needed to complete site development work.
- Provide one-time mobilization costs for the construction crews. Any remobilization due to interruptions/delays that are out of Motorola's control will result in additional costs.
- Perform medium clearing, grubbing and disposal of vegetation and shrub growth in the site compound area and a 20-foot path around it (14400 square feet).
- Perform medium tree clearing (Trees up to 6-inch in diameter), grubbing and disposal of vegetation and shrub growth in a 15-foot wide access road to the site (not to exceed 50-feet in length).
- Grade the site compound and 10-foot path around it to provide a level, solid, undisturbed surface for installation of site components (not to exceed 10000 square feet).
- Supply and install gravel surfacing to a depth of 6-inches, including herbicide treatment and geotextile fabric installation within the fenced in site compound area, and a 3-foot path around it (not to exceed 7396 square feet).
- Provide a 15-foot wide access road (not to exceed 50-feet in length), including surface grading and graveling.
- Provide silt fence around the compound to control soil erosion (not to exceed 320 linear feet).
- Supply and install 8-foot high chain-link fencing with a ten-foot wide gate around the shelter compound (not to exceed 320 linear feet).
- Perform site touch up (fertilize, seed and straw) disturbed areas not covered with gravel after completion of construction work. Landscaping, decorative fencing or any other aesthetic improvement that may be required by local jurisdictions has not been included and will be handled through a negotiated contract change notice.

Site Components Installation

- Construct one (1) reinforced concrete foundation necessary for a 12-foot x 16-foot shelter.
- Construct one (1) foundation for the 50 kW generator with reinforcing steel necessary for foundations.
- Supply and install one (1) prefabricated concrete shelter 12-foot x 16-foot.
- Supply and install one (1) standby power generator (50 kW) located within 20-feet of the ATS, including interconnection wiring between the generator, transfer switch, and site electrical service mains.
- Supply and install a perimeter grounding system around the compound and shelter. The ground

system is to tie to the fence and all new metal structures within the compound to meet current Motorola's R56 standards.
- Supply and install a perimeter grounding system around the compound and shelter. The ground system is to tie to the fence and all new metal structures within the compound to meet current Motorola's R56 standards.
- Conduct one (1) three-point ground resistance test of the site. Should any improvements to grounding system be necessary after ground testing, the cost of such improvements shall be the responsibility of Morgan County, GA.
- Supply and install one (1) freestanding 24-inch-wide cable/ice bridge from the tower to the shelter (up to 20 linear feet).

Tower Work

- Construct pier and pad type tower foundations including excavation, rebar and concrete (not to exceed 75 cubic yards).
- Erect new 300-foot self-supported tower with strobe lighting.
- Supply and install grounding for the towerbase for self-supported towers.

Antenna and Transmission Line Installation

- Install up to four (4) antenna(s) for the RF system.
- Install up to one (1) tower top amplifier(s).
- Install up to 330 linear feet of 1/2-inch transmission line.
- Install up to 660 linear feet of 7/8-inch transmission line.
- Install up to 660 linear feet of 1-1/4-inch transmission line.
- Perform sweep tests on transmission lines.
- Supply and install one (1) ground buss bar at the bottom of the antenna support structure for grounding RF cables before they make horizontal transition.

Miscellaneous Work

- Spoils removal and hauling to an approved location.
- Crane and Rigging.
- Private locates before any excavation.

Customer Responsibilities:

- Provide personnel to observe construction progress and testing of site equipment according to the schedule provided by Motorola.
- As applicable (based on local jurisdictional authority), the Customer will be responsible for any installation or upgrades of the electrical system in order to comply with NFPA 70, Article 708.
- As required, provide property deed or lease agreement, and boundary survey, along with existing as-built drawings of the site and site components to Motorola for conducting site engineering.
- Provide property deed or lease agreement, and boundary survey, along with existing as-built drawings of the site and site components to Motorola for conducting site engineering.
- Provide a right of entry letter from the site owner for Motorola to conduct field investigations.
- Conduct all the testing and documentation (balloon tests, photo simulations, zoning application, expert testimony, zoning drawings etc.) required for the zoning the proposed new tower sites.

- Secure power connection to the site, associated permitting and installation of a meter and disconnect within 50-feet of the proposed shelter location.
- Provide additional temporary space for staging of the construction equipment during the construction of new site facilities (tower, shelter, generator, fuel tank etc.).

Assumptions:

- All work is assumed to be done during normal business hours as dictated by time zone (Monday thru Friday, 7:30 a.m. to 5:00 p.m.).
- All recurring and non-recurring utility costs [including, but not limited to, generator fuel (except first fill), electrical, Telco] will be borne by the Customer or site owner.
- All utility installations shall be coordinated and paid for by the site owner and located at jointly agreed to location within or around the new communications shelter or equipment room.
- Site will have adequate electrical service. Utility transformer, transformer upgrades, line, or pole extensions have not been included.
- Pricing has been based on National codes such as IBC or BOCA. Local codes or jurisdictional requirements have not been considered in this proposal.
- Hazardous materials are not present at the work location. Testing and removal of hazardous materials, found during site investigations, construction or equipment installation will be the responsibility of the customer.
- A maximum of 30 days will be required for obtaining approved building permits from time of submission.
- No access road or staging area improvements are required for the heavy construction equipment which could include concrete trucks, drill rigs, semi tractors and trailers, and crane.
- If extremely harsh or difficult weather conditions delay the site work for more than a week, Motorola will seek excusable delays rather than risk job site safety.
- In absence of geotechnical reports, foundations and subsurface conditions for tower design are based on Presumptive Sand soil parameters, as defined by EIA-222-H . Also, rock coring, piling, extensive dewatering of foundations, permanent casings or hazardous material removal has not been included.
- For zoning approvals, a maximum of 60 days will be required from time of submittal.
- The new tower location will pass the FAA hazard study, zoning, FCC and environmental permitting.
- The restoration of the site surroundings by fertilizing, seeding and strawing the disturbed areas will be adequate.
- Tower and foundation sizing is based on the tower loading requirements as a result of the RF Antenna System design and the Microwave Antenna System design (i.e. - dish sizes and locations obtained from paper path studies). If after physical path studies, the dish sizes and locations change, then Motorola will then review the impact to tower structure and foundations and revise applicable costs.
- If as a result of NEPA studies, any jurisdictional authority should determine that a proposed communications facility "may have a significant environmental impact", the environmental impact studies or field testing and evaluation related to such determination have not been included.

- For new towers greater than 200-feet in overall height, FAA obstruction lighting has been included. Painting of any new towers has not been included.
- The site location can be finalized and lease agreement can be reached with the property owner within 60 calendar days after the start of the site acquisition effort.
- A waiver to zoning requirements like setbacks, tower height limitations, etc. can be obtained.
- The soil resistivity at the site is sufficient to achieve resistance of 10-ohms or less. Communications site grounding will be designed and installed per Motorola's Standards and Guidelines for Communications Sites (R56).
- Underground utilities are not present in the construction area, and as such no relocation will be required.
- Foundations for the compound, shelter, generator and fuel tank are based on "normal soil" conditions as defined by TIA/EIA 222-H. Footings deeper than 30-inches, raised piers, rock coring, dewatering, hazardous material removal or wetland mitigation have not been included.
- AM tuning of towers has not been included in this proposal.
- Motorola’s proposal is conditioned upon the ability of Motorola to complete the project at the prices set forth herein. Due to significant market volatility and material price fluctuations in raw materials such as steel, copper, finished wood, crushed stone and concrete, Motorola reserves the right to review all material pricing prior to placing any order for materials or equipment required for new towers or shelters and related civil materials at each site in order to verify price validity. In the event of a significant cost increase in material or equipment occurring during performance of the project through no fault of Motorola, the contract price, time of completion and/or contract requirements shall be equitably adjusted by Change Order in accordance with the procedures of the contract documents.

2.4.2 United Tower ASR 1286534 Site

Site Scope Summary

- Engineering services for site drawings and permitting approvals – Included.
- Site acquisition services – Not included.
- Zoning Services – Included.
- Existing tower to be used for antennas – 270-foot Guyed Tower.
- Existing shelter - Colocated with OARS Shelter/Equipment.

Motorola Responsibilities:

Site Engineering

- Prepare site construction drawings, showing the layout of various new and existing site components.
- Conduct site walks to collect pertinent information from the sites (e.g., location of Telco, power, existing facilities, etc.).
- Prepare record drawings of the site showing the as-built information.
- Provide a structural engineering analysis for antenna support structure, if necessary, to support the proposed antenna system. If the tower structure fails the analysis, the cost of any site relocation or modifications to the tower required to support the antenna system will be the

responsibility of Morgan County. NOTE: This task does not include mapping, structural measurement survey, materials testing, geotechnical investigation, and/or other field investigation to acquire the data. If applicable, these tasks will be noted separately in the SOW.
- Preparation, submission and tracking of application for local permit fees (electrical, building etc.) and procurement of information necessary for filing.

Site Preparation

- Obtain the permits such as electrical, building, and construction permits, and coordinate any inspections with local authorities that may be needed to complete site development work.
- Provide one-time mobilization costs for the construction crews. Any remobilization due to interruptions/delays that are out of Motorola's control will result in additional costs.

Tenant Improvement

- 100A Breaker panel with capacity for twenty (20) circuits.
- Install 20A single pole breakers in the panel and wire to simplex outlets located on an average within 35 cable feet.
- Install new single phase Uninterruptible Power Supply (UPS) equipment (14 to 18 KVA), make before break switch, transformer, 100-Amp disconnect, wire output to breakers and connect to alarm punch block.

Antenna and Transmission Line Installation

- Install up to four (4) antenna(s) for the RF system.
- Supply and install up to four (4) 6-foot side arm(s) for antenna mounts.
- Install up to one (1) tower top amplifier(s).
- Install up to 320 linear feet of 1/2-inch transmission line.
- Install up to 640 linear feet of 7/8-inch transmission line.
- Install up to 640 linear feet of 1-1/4-inch transmission line.
- Perform sweep tests on transmission lines.
- Supply and install one (1) ground buss bar at the bottom of the antenna support structure for grounding RF cables before they make horizontal transition.

Customer Responsibilities:

- Provide personnel to observe construction progress and testing of site equipment according to the schedule provided by Motorola.
- As applicable (based on local jurisdictional authority), the Customer will be responsible for any installation or upgrades of the electrical system in order to comply with NFPA 70, Article 708.
- Provide a right of entry letter from the site owner for Motorola to conduct field investigations.
- Maintain existing access road in order to provide clear and stable entry to the site for heavy-duty construction vehicles, cement trucks and cranes. Sufficient space must be available at the site for these vehicles to maneuver under their own power, without assistance from other equipment.
- Arrange for space on the structure for installation of new antennas at the proposed heights on designated existing antenna-mounting structures.
- Provide as-built structural and foundation drawings of the structure and site location(s) along

with geotechnical report(s) for Motorola to conduct a structural analysis.
- Provide support facilities for the antenna cables (cable ladder, entry ports, waveguide bridge) from the antenna to the equipment room.
- Pay for any upgrade of the antenna support structure necessary to accommodate the new antennas.

Assumptions:

- All work is assumed to be done during normal business hours as dictated by time zone (Monday thru Friday, 7:30 a.m. to 5:00 p.m.).
- All recurring and non-recurring utility costs [including, but not limited to, generator fuel (except first fill), electrical, Telco] will be borne by the Customer or site owner.
- All utility installations shall be coordinated and paid for by the site owner and located at jointly agreed to location within or around the new communications shelter or equipment room.
- Site will have adequate electrical service. Utility transformer, transformer upgrades, line, or pole extensions have not been included.
- Pricing has been based on National codes such as IBC or BOCA. Local codes or jurisdictional requirements have not been considered in this proposal.
- Hazardous materials are not present at the work location. Testing and removal of hazardous materials, found during site investigations, construction or equipment installation will be the responsibility of the customer.
- A maximum of 30 days will be required for obtaining approved building permits from time of submission.
- No access road or staging area improvements are required for the heavy construction equipment which could include concrete trucks, drill rigs, semi tractors and trailers, and crane.
- If extremely harsh or difficult weather conditions delay the site work for more than a week, Motorola will seek excusable delays rather than risk job site safety.
- The existing ground system and soil resistivity at the site is sufficient to achieve resistance of 10-ohms or less. Communication site grounding will be designed and installed per Motorola's R56 standards.
- The existing site has adequate room to expand and install the shelter, including lay-down and staging areas, without encroaching on wetlands, easements, setbacks, right-of-ways, or property lines.
- AM detuning or electromagnetic emission studies will not be required.
- Protective grating over microwave dishes or the communications shelter has not been included in this proposal.
- Structural and foundation drawings of the antenna support structure will be made available to preclude the need for ultrasonic testing, geotechnical borings or mapping of existing tower structural members.
- Lead paint testing of existing painted towers has not been included.
- On the existing tower, the antenna locations for the proposed antenna system design will be available at the time of installation.
- The new shelter can be located within 20-feet of the existing tower location and the generator/fuel tank can be located within 25-feet of the shelter.

- Restoration of the site surroundings by fertilizing, seeding, and strawing the disturbed areas will be adequate.
- The site has adequate utility service to support the proposed equipment loading. Utility transformer upgrades or step-up or down transformers will not be required.
- Underground utilities are not present in the construction area and as such no relocation will be required.
- The existing antenna support structure is structurally capable of supporting the new antenna, cables, and ancillary equipment proposed and will not need to be removed or rebuilt at the existing site. The tower or supporting structure meets all applicable EIA/TIA-222 structural, foundation, ice, wind, and twist and sway requirements. Motorola has not included any cost for structural or foundation upgrades to the antenna support structure.
- The existing cable support facilities from the antenna to the cable entry port can be used for supporting the new antenna cables.
- Structural analyses for towers or other structures that have not been performed by Motorola will relinquish Motorola from any responsibility for the analysis report contents and/or recommendation therein.
- Foundations for the compound, shelter, generator and fuel tank are based on "normal soil" conditions as defined by TIA/EIA 222-F. Footings deeper than 30-inches, raised piers, rock coring, dewatering, hazardous material removal or wetland mitigation have not been included.

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Section 3

Training Plan

3.1 Training Overview



Partnering with Motorola Solutions will enable Morgan County to build personnel competency and maximize return on investment.

Effective training ensures the successful implementation and use of your communications system by all personnel for the life of the system. The training plan furnished to Morgan County consists of targeted coursework developed and delivered by our expert instructors. This plan, included below, will effectively provide Morgan County's personnel with a comprehensive understanding of the proposed system and user equipment.

We will collaborate with Morgan County to tailor a final training plan to enable Morgan County's organization to operate, configure, and manage the proposed solution effectively and efficiently.

3.2 Motorola Solutions Training

Motorola Solutions provides an expanding portfolio of training delivery methods, tools, and courses to support the training needs of our customers. The figure below shows the elements of our training methodology that qualify us as the leader in the communications training industry.

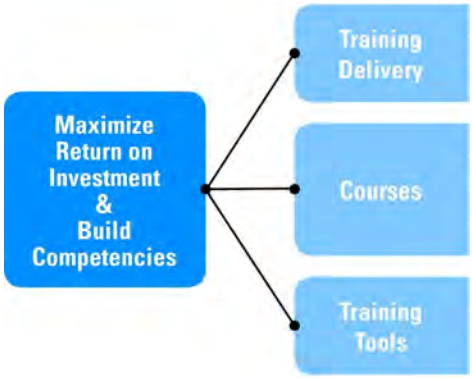


Figure 3.1: Build the competencies of Morgan County personnel and maximize your return on investment with Motorola Solutions' expanding portfolio of training delivery methods, tools, and courses.

3.2.1 Training Delivery

Training Methods

Motorola Solutions' training experience and expertise enable our customers to gain the training they need to use during critical times in a variety of methods. As shown in the figure below, we offer three interactive methods of training: Online Self-Paced, Virtual Instructor-Led, and Instructor-Led.



Figure 3.2: Motorola Solutions offers a variety of interactive training methods that cater to different learning techniques, allowing more effective ways to give personnel the skills they need.

These training approaches ensure our customers receive the understanding they need for the practical aspects of their jobs.

Delivery Options

Field

Field class delivery is "tailored" to the customer's specific system. We are providing classes that are not offered as standard "Open Resident" classes at our training facilities. The students benefit from working on their own systems, at their home location, and within their schedules.

Motorola Facility

Resident classes are open to all Motorola customers; seating is based on availability, and participant guides and required pre-work when applicable are included in the tuition. These courses are comprehensive and are not tailored to any one customer's system. Students benefit from other students' experiences and are allowed to take systems out of service. These courses provide optimal "hands-on" training.

Motorola Facility Closed Sessions-Customer Specific

Special Resident classes are closed sessions for a particular Motorola Solutions customer. The customer is essentially renting the classroom. These courses are tailored to the customer's system as much as possible. The instructor will require the customer's system diagrams prior to the class taking place. The students will receive their ASTRO 25 IV&D manuals on CD-ROM and hard copy participant guides. Class manuals, participant guides, and required pre-work are included in the pricing of the class per student. The students are allowed to take systems out of service, which provides optimal "hands-on" training.

Motorola Solutions Instructors

We have approximately 40 instructor resources distributed across North America. These instructors are available to train customers in our Technical Training Center located in Schaumburg, Illinois, while specific training courses are available at our facility in Plantation, Florida. Training can also be delivered directly on-site at customer locations. All instructors undergo an Instructional Skills and Technical Knowledge Program, which is a globally recognized training and instructor assessment program.

Consultative Services

Motorola Solutions provides consultative services for our customers, which include personalized training plans and other training-related services. Our dedicated training consultant team works with our customers and Motorola Solutions account teams to identify and meet the training needs of technical, administrative end users, and other audiences.

3.2.2 Training Courses

Motorola Solutions offers a wide range of training courses to help our customers improve their proficiency with our expanding portfolio and get the most from their training system.

Our specialized courses/curricula are designed for our customers' roles. Whether they are an administrator, technician, or user, Motorola Solutions makes sure our customers are equipped with foundational and advanced skills.

General overviews of product and/or solution training offered are listed below:

Foundational Radio and Networking Training

Foundational Radio and Networking training provides new hires or staff from different skilled backgrounds with fundamental knowledge. Some of these courses are online/self-paced, while others are instructor-led. Some topics include: Radio System Basics, Basic Networking, Communication System Concepts, Networking Essentials, and Applied Networking. This allows Motorola Solutions to offer training before installation, during installation, and after your solution is operational.

ASTRO 25 Infrastructure Training Courses

ASTRO 25 Infrastructure Training provides participants with a full curriculum that will enable them to maintain/service the new solution, and will give them the skills required to manage and operate the solution to obtain its fullest potential and capabilities.

ASTRO 25 Patch Management Training Course

ASTRO 25 Patch Management Training provides ASTRO 25 Land Mobile Radio (LMR) system administrators the information needed to access and patch their radio network infrastructure, update antivirus definitions, and review log files.

Mobile and Portable Radio Training Courses

Mobile and Portable Radio Training provides participants with an introduction to the radio, the knowledge and skills necessary to perform basic radio operation, common operational tasks, operating procedures for specific features of the radio, and technical programming and maintenance of radios.

LTE Training Courses

LTE Training provides participants with a high-level understanding of the Public Safety LTE system and the network elements that comprise the system. Participants will gain knowledge of LTE architecture, signaling, system administration, and applied networking.

WAVE Training Courses

WAVE Training provides participants with an overview of the WAVE solution. It offers a basic understanding of how WAVE delivers a Radio-over-IP solution; describes features, hardware, and software requirements; how to use applications; and provides instruction in designing, integrating, and troubleshooting the WAVE solution.

3.2.3 Training Tools

Training Kits

Training kits are essential suitcase equipment, labs, and exercises that apply to some of the ASTRO, MOTOTRBO, WAVE, and LTE solutions. These kits are used in addition to the equipment in order to prevent solution downtime while training is conducted. As part of specific on-site classes, shown in the table below, kits are included and shipped to our customers to allow students an in-depth, hands-on experience.

Table 3.1: Field Classes Training Kit Availability

Field Classes Training Kit Availability	
Networking Essentials	Server Virtualization
Applied Systems Networking	WAVE Certified Integration Engineer
Domain Controller	MOTOTRBO™ Systems Applied Networking

Tracking and Evaluation

All customer training is tracked and evaluated. The Project Manager and training team track and record all courses completed through the implementation of the project. Surveys are given to trainees to evaluate the trainers. Feedback is given and placed on our customer shared website.

End User Training Kit (EUTK)

The End User Training Kit is a knowledge-transfer tool designed to accelerate learning through customizability. Using the EUTK allows trainers to customize user/operator training to match unique button, feature programming, and displays provided in the system and radio codeplug. These tailored materials are developed by Motorola Solutions trainers using training kits that allow customer trainers to modify training materials when radio or console features change. Personnel are taught how to maneuver through and tailor the EUTK screens. The tailored selections are saved to an electronic file that the Motorola Solutions training team provides to the customer.

For a more detailed view of the training Motorola Solutions provides, please see our Product and System Technical Training Course Catalog: https://learning.motorolasolutions.com/catalog/56280enus.

3.3 Proposed Training Overview for Morgan County

In order to achieve the training goals identified by Morgan County, we propose the following courses.

It is necessary that participants bring their laptop computers for all system administrator and technician classes. Materials will be delivered electronically.

3.3.1 Radio User Training Plan

Course Title	Target Audience	Sessions	Duration	Location	Date	Participants
Law: **APX8000 Portable (1 Model)** **APX8500 Mobile (1 Model)** **Train-the-Trainer** Utilizing the End User Training Kit (Instructor-led)	Law Radio Trainers	1 (8-hour Session)	1 day	Madison, GA	Before training Radio Users	15
Fire: **APX8000 Portable (1 Model)** **APX8500 Mobile (1 Model)** **Train-the-Trainer** Utilizing the End User Training Kit (Instructor-led)	Fire Radio Trainers	1 (8-hour Session)	1 day	Madison, GA	Before training Radio Users	15
General: **APX N30 Portable (1 Model)** **APX4500 Mobile (1 Model)** **Train-the-Trainer** Utilizing the End User Training Kit (Instructor-led)	General Radio Trainers	1 (8-hour Session)	1 day	Madison, GA	Before training Radio Users	15

3.3.2 Course Descriptions for Morgan County

Course descriptions for Morgan County are included on the following pages.

3.3.2.1 APX Portable and APX Mobile Train-the-Trainer

Course Synopsis and Objectives:	This course provides APX radio trainers with an introduction to their radio, its basic operation, and tailored job aids available for assistance in operation. The learning experience is a mix of facilitation and hands-on activities to help users perform common tasks associated with their radio operation. Segmentation between user groups (i.e., Police, Fire/EMS, and Public Service) is encouraged to help focus instruction on the specific operational issues of the individual user group. This course is geared toward customers who have an experienced, dedicated training staff in their organization. It provides the customer's identified training personnel with the knowledge and practice of applying training techniques that will enable them to successfully train their students. Trainers will use audiovisual (Interactive End User Toolkits–iEUTK), facilitation, and "hands-on" activities to facilitate learning events supported by tailored or customized training materials and job aides. They will become proficient in discussing common tasks associated with the operation of the customer's radios. After completing the course, the participant will be able to: • Understand a high-level overview of the customer system configuration • Understand the general radio operation • Understand proper operating procedures for specific customer features • Perform basic operational tasks of the radio • Utilize the provided job aids to perform specific tasks associated with the radio
Delivery Method:	ILT - Instructor-led training
Duration:	8 hours
Participants:	APX Trainers, Supervisors, and Support Personnel
Class Size:	Up to 15
Prerequisite:	Previous two-way radio and training experience
Curriculum:	• Basics: o Controls o Top and Side Buttons o Switches o 3 Position toggle o 2 Position Concentric o Home key o Data Key o Display o Front Display o Top Display o Display light o Intelligent Lighting o Push to Talk, or Accessory PTT found on the microphone o Hub, hang-up box (Mobile) • Menu: o Menu Screen Anatomy o Navigating Menu Screen o Recent Call List (Model 3.5) o Unified Call List - Contacts (Model 3.5) o Dual-Sided Radio (Model 3.5) o Dual Mics o Dual Speakers o Accessory Connector • Specific Features:

- Changing Talkgroups/Channels
- Changing Zones
- Mute tones of the keypad
- Talkgroup Call
- Private Call
- Accessing Private Call Feature
- Initiating Private Call
- Call List Programming
- Announcement/All Call (Calls involving Multiple Talkgroups)
- Initiating Announcement/All Call
- Direct/Talkaround
- Failsoft
- Radio Profiles
- Accessing and changing Radio Profile

- Optional Features:
  - Scan
  - Scan program
  - Priority Scan
  - Dynamic Priority
  - Telephone Interconnect
  - Accessing the Telephone Interconnect Feature
  - Initiating a Phone Call
  - Phone List Programming
- Data Services:
  - Text Messaging
  - Accessing the Text Messaging Feature
  - Creating a Free Form Text Message
  - Sending a “Canned “ Text Message
  - GPS
  - OTAP User Interface
  - Encryption
  - Emergency

3.3.2.2 APX NEXT / APX N-Series Train-the-Trainer

Course Synopsis and Objectives:	This course provides radio trainers with an introduction to the APX NEXT / APX N-Series radio, its basic operation, and tailored job aids available for assistance in operation. The learning experience is a mix of facilitation and hands-on activities to help users perform common tasks associated with the APX NEXT / APX N-Series operation. Segmentation between user groups (i.e., Police, Fire/EMS, and Public Service) is encouraged to help focus instruction on the specific operational issues of the individual user group. This course is geared toward customers who have an experienced, dedicated training staff in their organization. It provides the customer's identified training personnel with the knowledge and practice of applying training techniques that will enable them to successfully train their students. Trainers will use audiovisual (Interactive End User Toolkits – iEUTK), facilitation, and "hands-on" activities to facilitate learning events supported by tailored or customized training materials and job aides. They will become proficient in discussing common tasks associated with the operation of the customer's radios. After completing the course, the participant will be able to: • Understand a high-level overview of the customer system configuration. • Understand the general radio operation. • Understand proper operating procedures for specific customer features. • Perform basic operational tasks of the radio. • Utilize the provided job aids to perform specific tasks associated with the radio.
Delivery Method:	ILT - Instructor-led training
Duration:	8 hours
Participants:	Trainers, Supervisors, and Support Personnel
Class Size:	Up to 15
Prerequisite:	Previous two-way radio and training experience
Curriculum:	**Basics:** • Controls • Buttons • Switches • Setting up APX NEXT / APX N-Series • Mics/Speakers • Indicators **Using APX NEXT / APX N-Series:** • On/Off/Standby • SmartTouch/OnScreen keyboard • Widgets • Adjustments • Battery Management • Updates **Specific Features:** • Changing Talkgroups/Channels • Changing Zones • Mute tones of the keypad • Talkgroup Call • Private Call • Accessing Private Call Feature • Initiating Private Call • Call List Programming • Announcement/All Call (Calls involving Multiple Talkgroups) • Initiating Announcement/All Call • Direct/Talkaround

- Failsoft
- Radio Profiles
- Accessing and changing Radio Profile
- Secure Operations
- ARS

Optional Features:

- Scan
- Scan program
- Priority Scan
- Dynamic Priority
- Telephone Interconnect
- Accessing the Telephone Interconnect Feature
- Initiating a Phone Call
- Phone List Programming
- Contacts

Services:

- Smart Connect
- ViQI Voice Control
- ViQi Virtual Partner
- SmartLocate
- Radio Central
- SmartProgramming

Connectivity

- LTE
- WiFi
- Bluetooth

Data Services:

- Text Messaging
- Accessing the Text Messaging Feature
- Creating a Free Form Text Message
- Sending a “Canned “ Text Message
- GPS
- OTAP User Interface
- Encryption
- Emergency

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Section 4

Warranty and Maintenance

4.1 Overview

1-year of warranty support is included in the base offering with an optional Maintenance and Support offering for an additional 6 years, for a total of 7 years. Motorola Solutions is proposing the following Warranty and Maintenance Plans for the Equipment included in this proposal:

Table 4.1: Warranty and Maintenance Plans

Equipment	Maintenance Plan	Term
Infrastructure	Infrastructure Advanced Plus Services	7 Years
Microwave Equipment	Microwave Equipment Warranty and Maintenance	7 Years
Subscribers	Device Management Services - Essential	7 Years

The following sections explain in more detail the services included in these plans.

4.2 Infrastructure Advanced Plus Services

4.2.1 Overview

Advanced Plus Services for ASTRO 25 infrastructure is a comprehensive program to sustain the long-term performance of Morgan County's network. Advanced Plus Services consists of the following elements:

- ASTRO System Monitoring
  - Network Event Monitoring
- Remote Technical Support
- Network Hardware Repair
- Remote Security Update Service (RSUS)
- On-Site Infrastructure Response
- Annual Preventative Maintenance
- Network Updates
- Microwave Tested Vendor Product Monitoring

Together, these elements will help to avoid operational disruptions and maintain the value of Morgan County's communications investment.

4.2.2 Advanced Plus Services Element Descriptions

The following sections describe the elements proposed for Morgan County's ASTRO 25 infrastructure.

4.2.2.1 ASTRO System Monitoring

ASTRO System Monitoring Service includes advanced network and security monitoring, along with connectivity to deliver these services.

- **Network Event Monitoring**

Real-time, continuous ASTRO 25 radio communications network monitoring and event management. Using sophisticated tools for remote monitoring and event characterization, Motorola will assess events, determine the appropriate response, and initiate that response. Possible responses include remotely addressing the issue, escalation to product technical support groups, and dispatch of designated field technical resources.

4.2.2.2 Remote Technical Support

Motorola Solutions' Centralized Managed Support Operations (CMSO) will provide Remote Technical Support for infrastructure issues that require specific technical expertise. Experienced technical support specialists will be available to consult with Morgan County to help diagnose, troubleshoot, and resolve infrastructure issues. Service Desk maintenance procedures and incident resolution techniques are based on ISO 9001 and TL 9000 standards.

4.2.2.3 Network Hardware Repair

To restore Morgan County's ASTRO 25 network components if they malfunction, Motorola Solutions will repair Motorola Solutions-provided infrastructure equipment. This includes select third-party infrastructure equipment supplied by Motorola Solutions. Motorola Solutions will ship and return repaired equipment and will coordinate the repair of third-party solution components.

If Morgan County prefers to maintain its existing FRU inventory rather than using Motorola Solutions' depot inventory, Motorola Solutions can provide "loaner" FRUs during the repair process.

4.2.2.4 Remote Security Update Service

Commercial security software updates are often designed without consideration for specialized systems like radio communications networks. These updates may inadvertently disrupt ASTRO 25 network operations and functionality.

To minimize cyber risks and software conflicts, Motorola Solutions provides the Remote Security Update Service (RSUS). With this service, Motorola Solutions deploys antivirus and operating system security updates on an ASTRO 25 network in a dedicated information assurance lab to test and validate them for use with ASTRO 25 networks.

Motorola Solutions tests whether applying these security updates degrades network service. If an update degrades performance, Motorola Solutions searches for a solution or workaround to address the issue before releasing that update.

With RSUS, Motorola Solutions will remotely install tested updates on Morgan County's ASTRO 25 network. If there are any recommended configuration changes, warnings, or workarounds, Motorola Solutions will provide detailed documentation on a secure extranet website.

4.2.2.5 On-Site Infrastructure Response

Motorola Solutions will provide repair service from trained and qualified technicians. Once dispatched, technicians will travel to Morgan County's ASTRO 25 network location to diagnose issues and restore functionality. These technicians will run diagnostics on hardware to identify defective components and repair or replace them as appropriate. Infrastructure Response times are based on a given issue's impact on overall system function.

Travel times and service levels are governed by local geography. Motorola Solutions will provide additional information in the Statement of Work for ASTRO 25 Advanced Services and in the Customer Support Plan agreed between Morgan County and Motorola Solutions.

4.2.2.6 Annual Preventive Maintenance

Motorola Solutions will annually test and service network components. Qualified field technicians will perform routine hands-on examination and diagnostics of network equipment to keep them operating according to the original manufacturer specifications.

4.2.2.7 Network Updates

The Network Updates service provides public safety radio system release updates on a consistent, budgeted plan. These updates maintain reliable network operations and cybersecurity protection. In addition, Network Updates keeps Morgan County's ASTRO 25 network compatible with expansion elements, as well as new products or features. With Network Updates, Morgan County's network will remain on a release that qualifies for support services.

Motorola Solutions will deliver updates based on a predefined cadence of upgrade windows, with up to one update in each window. The Network Updates service includes the following:

- Software Release Updates - Motorola Solutions-certified software that improves network functions over previous releases. This also includes commercial operating systems and application software updates.
- Hardware Update – When needed to support a software release update, Motorola Solutions provides new hardware that will support the new software update, as well as maintain existing functions and features.
- Professional Implementation Services – Motorola Solutions will plan and implement updates at Morgan County's site. This includes factory integration, testing, and supply chain management for new software and hardware.

With these services, Morgan County will have access to the technology, support, and planning expertise needed for an effective upgrade.

4.2.2.8 Microwave Tested Vendor Product Monitoring

Motorola Solutions will provide real-time “endpoint” event monitoring of Morgan County's backhaul network components. When an event is detected and classified, Motorola Solutions will notify and dispatch Morgan County's Servicer to resolve the issue.

4.3 System Upgrade Agreement II

The System Upgrade Agreement II (SUA II) service provides public safety radio system release updates on a consistent, budgeted plan. These updates maintain reliable network operations and cybersecurity protection. In addition, SUA II keeps your ASTRO 25 network compatible with expansion elements, as well as new products or features. With SUA II, your network will remain on a release that qualifies for support services.

Motorola Solutions, Inc. will deliver SUA II in two-year periods, with up to one update in each period. The SUA II service includes the following:

- Software Release Updates - Motorola Solutions-certified software that improves network functions over previous releases. This also includes commercial operating system and application software updates.
- Hardware Update – When needed to support a software release update, Motorola Solutions provides new hardware. New hardware will both support the new software update, as well as maintain existing functions and features.
- Professional Implementation Services – Motorola Solutions will plan and implement updates at the Customer site. This includes factory integration, testing, and supply chain management for new software and hardware.

With these services, the Customer will have access to the technology, support, and planning expertise needed for an effective upgrade.

4.4 Microwave Equipment - Warranty and Maintenance

Nokia warrants its Wavence products, for a period of eighteen (18) months from shipment from Nokia when installed by Infinity, that the radio equipment will be free from defects in materials and workmanship and perform in accordance with its specifications. If Infinity does not perform the installation work, the applicable warranty period commences on the date of shipment from Nokia for a period of fourteen (14) months.

During the warranty period, Nokia will repair or replace any Nokia Product that does not substantially conform to Product specifications. The customer is responsible for obtaining a Return Material

Authorization (RMA) number from Infinity and for shipping the unit to Infinity's facility in Mooresville, NC. Infinity will return the unit to the Customer as promptly as practicable. Typical turnaround time is thirty (30) Business Days from the time of receipt. Advance Replacement and Emergency Replacement Services are available only for an additional charge at Nokia's then-current rates. At the time of System Acceptance, Infinity will provide the customer with RMA procedures for the repair or replacement of sold products.

Any Non-Nokia Product sold by Infinity shall pass to the reseller with the OEM warranty provided by the manufacturer of the Product.

Infinity's Standard Warranty for the Nokia Hardware shall be limited to either the Repair or replacement - at its sole option - of any defective Part during the Standard Product Warranty Period, provided that such defects can be shown to be due to defective materials or workmanship. Infinity has no obligation to repair or replace any Hardware arising from: (i) normal wear and tear; (ii) the consequences of improper or negligent use, storage, or handling; (iii) repair or modification without prior written authorization from Infinity; (iv) use or installation in connection with other products that do not fit the Specifications of the Product or have not been approved by Nokia/Infinity; (v) use or installation in a manner that does not comply with the technical Specifications of the Product; or (vi) any damage to the Product by power failure, fire, explosion, or any act of God or any other cause beyond Infinity's control.

Nokia offers Customer Technical Assistance Center (CTAC) remote support for an additional charge during the warranty and post-warranty maintenance period. Nokia CTAC will use reasonable commercial efforts to provide effective telephone assistance, which results in timely answers to technical questions involving applications, operations, and maintenance of Nokia equipment. This involves defining, isolating, and reproducing system problems. All calls to Nokia CTAC are logged and tracked. Infinity will quote CTAC prices upon the Customer's request.

Nokia and Infinity offer the Customer the resources of fully staffed Technical Training Centers to provide initial and ongoing Product training. Skilled, qualified instructors offer hands-on experience in the use of every Nokia Product group that goes beyond textbook learning. This service is available only for an additional charge. Infinity will quote training prices upon the Customer's request.

4.5 Device Management Services - Essential

4.5.1 Overview

Device Management Services - Essential ("DMS Essential") for APX™ subscriber radios provides the Customer with Subscriber Radio Technical Support and Hardware Repair services. DMS Essential is structured as a per-unit, fixed-fee multi-year service in order to mitigate the likelihood of unexpected subscriber radio repair expenses.

4.5.2 Hardware Repair

Scope

Hardware Repair provides repair coverage for internal and external subscriber radio components that do not work in accordance with published specifications. Repair services are performed at a Motorola Solutions-operated or supervised facility. The subscriber radio will be repaired to bring it into compliance with its specifications, as published by Motorola Solutions at the time of delivery of the original subscriber radio.

Motorola Solutions Responsibilities

- Repair or replace the malfunctioning device, as determined by Motorola Solutions.
- Complete repair or replacement with a turnaround time of four business days in-house, provided the device is delivered to the repair center by 9:00 a.m. (local repair center time). Turnaround time represents the time a product spends in the repair process, and does not include time in transit to and from the Customer's site. Business days do not include US holidays or weekends.
- If applicable, apply periodically-released device updates in accordance with an Engineering Change Notice.
- Provide two-way air shipping when a supported Motorola Solutions electronic system, such as Customer Hub, is used to initiate a repair. A shipping label will be generated via the electronic system.

Limitations and Exclusions

- Replacement of consumable parts or accessories, as defined by the product, including batteries, cables, antennas, and carrying cases.
- In the case of mobile radios, repair of a single mobile control head that is required for normal operation of the subscriber radio is included, provided the control head was supplied at the original point of purchase of the mobile radio.
- Repair of problems caused by:
  - Internal or external damage resulting from natural or manmade disasters, including fire, theft, and floods.
  - Third-party software, accessories, or peripherals not approved in writing by Motorola Solutions for use with the device.
  - Using the device outside of the product's operational and environmental specifications, including improper handling, carelessness, or reckless use.
  - Unauthorized alterations, attempted repair, or repair by a third party.
- Non-remedial work, including administration and operator procedures, reprogramming, and operator or user training.
- Problem determination and/or work performed to repair or resolve issues with non-covered products. For example, hardware or software products not specifically listed on the service order form are excluded from service.
- Cosmetic imperfections that do not affect the functionality of the device.
- Software support for unauthorized modifications or misuse of the device.
- File backup or restoration.
- Completion and test of incomplete application programming or system integration, if not

performed by Motorola Solutions and covered by Motorola Solutions' services.
- Software Release updates.
- Accidental damage, chemical or liquid damage, or other damage caused outside of normal device operating specifications.
- Motorola Solutions is not obligated to provide support for any device that has been subject to the following:
  - Repaired, tampered with, altered, or modified (including the unauthorized installation of any software) — except by Motorola Solutions authorized service personnel.
  - Subjected to unusual physical or electrical stress, abuse, or forces or exposure beyond normal use within the specified operational and environmental parameters outlined in the applicable product specification.
  - If the Customer fails to comply with the obligations contained in the product purchase agreement and/or the applicable software license agreement and/or the Motorola Solutions and conditions of service.
- DMS Essential is quoted on a per-unit basis, is prepaid, non-cancellable, and non-refundable for the purchased service term.

Customer Responsibilities

- For non-contiguous renewals and services purchased separately from APX subscriber radios, the Customer must provide a complete list, preferably in electronic format, of all hardware serial numbers to be covered under the Agreement to Motorola Solutions.
- Initiate subscriber radio repairs, as needed.
  - When initiating a repair via a supported Motorola Solutions electronic system, label each package correctly with the shipping label and Return Material Authorization ("RMA") number generated by the electronic system.
  - When initiating a repair via paper Return Material Form ("RMF"), the RMF included in the package with the device must be completed for each device and shipped to the Motorola Solutions depot specified on the RMF.
- Remove any data or other information from the device that the Customer wishes to destroy or retain before sending the device for repair.

4.5.3 Subscriber Radio Technical Support

Scope

Motorola Solutions' Subscriber Radio Technical Support service provides telephone consultation for subscriber radio and accessory issues. Support is delivered through the Motorola Solutions Centralized Managed Support Operations ("CMSO") organization by a staff of technical support specialists.

The Customer may contact the CMSO Call Management Center (800-MSI-HELP) at any time (24 hours a day / 7 days a week / 365 days per year), and a Motorola Solutions representative will log a technical request in the Case Management System on the Customer's behalf. In addition, the Customer may send an email to portal.support@motorolasolutions.com to address any portal-specific questions or concerns.

Motorola Solutions will then respond to the Customer case within two hours of case creation, during support hours. Support hours are 7 am to 7 pm CST, Monday through Friday, excluding US holidays.

Motorola Solutions Responsibilities

- Provide technical support for subscriber radios, assessing and troubleshooting reported issues.
- Receive and log Customer support requests, and assign a technical representative to respond to a Customer Case per the defined timeframes.

Limitations and Exclusions

- Land Mobile Radio (“LMR”) network, Wi-Fi, and LTE network troubleshooting.

Customer Responsibilities

- Use the provided methods to contact Motorola Solutions technical support.
- Provide sufficient information to allow Motorola Solutions technical support agents to diagnose and resolve Customer issues.
- Provide contact information for on-site technicians in the event that Motorola Solutions has to follow up.

4.5.4 Customer Hub Access

Customer Hub is a tool available for customers to track orders, RMA, and tech support ticket status, and serves as a consolidated download site for software and documentation.

Motorola Solutions Responsibilities

- Provide a web accessible, secure portal to view the Customer’s data.
- Provide Customer Hub technical support to answer end-user questions between the hours of 7 am to 7 pm CST Monday through Friday, excluding US holidays. In addition, the Customer may send an email to portal.support@motorolasolutions.com to address any portal-specific questions or concerns.
- Keep the site updated with the latest Customer information.
- Motorola Solutions’ Customer Support Manager (“CSM”) will assist the Customer in establishing a Customer Hub account.

Customer Responsibilities

- Create a Customer Hub account if the Customer does not have an existing account.
- During the DMS Essential onboarding process, provide Motorola Solutions with contact information for administrative users.
- Administer user access.
- Provide Internet access for users to access the site.
- Protect login information against unauthorized use.
- Work with Motorola Solutions’ CSM to update information as needed.

Section 5

Pricing

5.1 Pricing Summary

Table 5.1: Pricing Summary - OARS Join

Description	Price
Equipment (Two (2) 4-channel RF sites, one (1) Prime Site, Core and Shelter Share with OARS, one (1) Self-Supporting Tower and 12x16 Shelter Package at 911, and one (1) MW connection between 911 and United Tower locations)	$3,069,645
Subscribers (all subscribers in table 5.3 with 7-year Device Essential Support on all Subscribers, as well as 1-year of Smartconnect and Radio Central subscriptions on N70 Subscribers)	$4,440,152
Implementation and 1-Year Warranty Services	$2,427,050
Subtotal	**$9,936,847**
Sourcewell Contract Discount	($1,310,728)
System Upgrade and Trade-In Discount	($2,448,452)
Contract by June 19, 2026	($475,000)
Total – OARS Join	**$5,702,667**

Table 5.2: Annual Support and Maintenance

ANNUAL SERVICE	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
SUAII	$39,019	$40,013	$41,048	$42,124	$43,243	$44,406
Maintenance	$105,661	$109,888	$114,286	$118,858	$123,613	$128,561
MW	$13,140	$14,162	$18,451	$19,781	$21,600	$23,588
N70 SmartConnect and SmartProgramming Subscriptions	$83,232	$83,232	$83,232	$83,232	$83,232	$83,232
TOTAL	**$241,052**	**$247,295**	**$257,017**	**$263,995**	**$271,688**	**$279,787**

Table 5.3: Subscriber Itemization

ENTITY	QNTY	UNIT LIST	EXT LIST	UNIT SW DISC	EXT SW DISC	ANNUAL SUB	INSTALL (est)
SO Mobile	56	$7,299	$408,744	$5,451	$305,256	N/A	$76,364
SO Portable	52	$10,698	$556,296	$8,048	$418,496	$16,775	$7,091
SO Detention UHF Portable	35	$1,500	$52,500	$1,500	$52,500	N/A	Inc.
911 Control Station	7	$7,467	$52,269	$5,573	$39,011	N/A	$11,264
911 Portable	5	$10,668	$53,340	$8,025	$40,125	$1,613	$682
Fire Mobile	51	$7,299	$372,249	$5,451	$278,001	N/A	$69,546
Fire Portable	109	$11,916	$1,298,844	$8,967	$977,403	$35,164	$14,864
PW Portable	20	$10,668	$213,360	$8,025	$160,500	$6,452	$2,727
Trans Control Station	1	$6,346	$6,346	$4,755	$4,755	N/A	$1,609
Trans Portable	15	$10,668	$160,020	$8,025	$120,375	$4,839	$2045
Animal Control Portable	3	$10,668	$32,004	$8,025	$24,075	$968	$410
Madison FD Mobile	8	$7,299	$58,392	$5,451	$43,608	N/A	$10,909
Madison FD Portable	36	$11,916	$428,976	$8,967	$322,812	$11,614	$4,909
Madison PD Mobile	17	$7,299	$124,083	$5,451	$92,667	N/A	$23,182
Madison PD Portable	18	$10,668	$192,024	$8,025	$144,450	$5,807	$2,455
MADISON TOTAL					**$603,537**	**$17,421**	**$41,455**
BOE Portable	7	$6,375	$44,625	$4,778	$33,446	N/A	$955
BOE Bus Mobile	60	$6,018	$361,080	$4,516	$270,960	N/A	$65,455
BOE UHF Portable	50	$500	$25,000	$500	$25,000	N/A	Inc.
BOE TOTAL					**$329,406**	**N/A**	**$66,410**

The quote is valid until June 19, 2026.

Due to significant market and tariff volatility, as well as fluctuations in the cost of energy and raw materials, including, but not limited to, steel, copper, finished wood, and concrete, Motorola Solutions

reserves the right to equitably adjust the contract price, completion schedule, and/or contract requirements. Additionally, Motorola Solutions reserves the right to apply a fuel surcharge to quoted freight rates based on the prevailing diesel cost at the time of shipment.

5.2 Payment Milestones

Except for a payment that is due on the Effective Date, Customer will make payments to Motorola within thirty (30) days after the date of each invoice. Customer will make payments when due in the form of a check, cashier's check, or wire transfer drawn on a U.S. financial institution. If the Customer has purchased additional Professional or Subscription services, payment will be in accordance with the applicable addenda. Payment for the System purchase will be in accordance with the following milestones.

System Purchase (excluding Subscribers, if applicable)

1. **25% of the System Price due upon contract execution (due upon effective date);**
2. **60% of the System Price due upon shipment of equipment;**
3. **10% of the System Price due upon installation of equipment; and**
4. **5% of the System Price due upon Final Acceptance.**

If Subscribers are purchased, 100% of the Subscriber Contract Price will be invoiced upon shipment (as shipped).

All optional pricing presented must be selected at the time of contract execution. Motorola reserves the right to re-price any option the county may wish to procure in the future.

Motorola shall make partial shipments of equipment and will request payment upon shipment of such equipment. In addition, Motorola shall invoice for installations completed on a site-by-site basis or when professional services are completed, when applicable. The value of the equipment shipped/services performed will be determined by the value shipped/services performed as a percentage of the total milestone value. Unless otherwise specified, contract discounts are based upon all items proposed and the overall system package. Overdue invoices will bear simple interest at the maximum allowable rate by state law.

For Maintenance and Support Plan and Subscription-Based Services: Motorola will invoice Customer annually in advance of each year of the plan.

Due to significant market and tariff volatility, as well as fluctuations in the cost of energy and raw materials, including, but not limited to, steel, copper, finished wood, and concrete, Motorola Solutions reserves the right to equitably adjust the contract price, completion schedule, and/or contract requirements. Additionally, Motorola Solutions reserves the right to apply a fuel surcharge to quoted freight rates based on the prevailing diesel cost at the time of shipment.

Inflation Review

For multi-year agreements, at the end of the first year of the Agreement and each year thereafter, a CPI percentage change calculation shall be performed using the U.S. Department of Labor, Consumer Price Index, “All Items,” Unadjusted Urban Areas (CPI-U). Should the annual inflation rate increase by more than 3% during the previous year, Motorola shall have the right to increase all future maintenance prices by the CPI increase amount exceeding 3%. “All Items,” not seasonally adjusted, shall be used as the measure of CPI for this price adjustment. The adjustment calculation will be based upon the CPI for the most recent twelve (12) month increment beginning from the most current month available as posted by the U.S. Department of Labor (http://www.bls.gov) immediately preceding the new maintenance year. For purposes of illustration, if in Year 5 the CPI reported an increase of 8%, Motorola may increase the Year 6 price by 5% (8%-3% base). Any pricing change would be documented in a change order executed with the Customer.

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Section 6

Contractual Documentation

The parties' agree to utilize Source Agreement #020625-MOT for the purchase of products as included in this proposal. The parties further agree to incorporate the below Motorola Solutions Customer Agreement (MCA), and any applicable addenda as included in the documents.

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Motorola Solutions Customer Agreement

This Motorola Solutions Customer Agreement (the "**MCA**") is entered into between Motorola Solutions, Inc., and affiliated companies, with offices at 500 W. Monroe Street, Suite 4400, Chicago, IL 60661 ("**Motorola**") and the entity purchasing Products (as defined below) from Motorola ("**Customer**"). Motorola and Customer will each be referred to herein as a "**Party**" and collectively as the "**Parties**". This Agreement (as defined below) is effective as of the earlier of (a) the first purchase of a Product from Motorola, and (b) the date of the last signature on the Agreement (the "**Effective Date**").

1. Agreement.

1.1. Scope; Agreement Documents. This MCA governs Customer's purchase of Products (as defined below) from Motorola. Additional terms and conditions applicable to specific Products are set forth in one or more agreed upon addenda incorporated within this MCA (each an "**Addendum**", and collectively the "**Addenda**"). This MCA, the applicable Addenda, and Proposal collectively form the Parties' "**Agreement**".

1.2. Order of Precedence. In interpreting this Agreement and resolving any ambiguities each Addendum will control with respect to conflicting terms in the Agreement, but only as applicable to the Products described in such Addendum. The Proposal will control with respect to conflicting terms in the MCA or any Addenda, but only as applicable to the Products and Services described in the Proposal.

2. Definitions.

"**Authorized Users**" means Customer's employees and contractors engaged for the purpose of supporting or using the Products and Services on behalf of Customer, and that are not competitors of Motorola, and the entities (if any) specified in a Proposal or otherwise approved by Motorola in writing (email from an authorized Motorola signatory accepted), which may include affiliates or other Customer agencies.

"Change Order" means a written amendment to this Agreement after the Effective Date.

"Communications System" is a solution that includes at least one radio Product, whether devices, software, or infrastructure, and requires Integration Services to deploy such radio Product at a Customer Site or onto any Customer-Provided Equipment or Equipment provided to Customer.

"Contract Price" or "**Fees**" means the charges applicable to the Products, excluding applicable sales or similar taxes and freight charges.

"**Confidential Information**" means any and all non-public information provided by one Party to the other that is disclosed under this Agreement in oral, written, graphic, machine recognizable, or sample form, being clearly designated, labeled or marked as confidential or its equivalent or that a reasonable business person would consider non-public and confidential by its nature. With respect to Motorola, Confidential Information will also include Products, and Documentation, as well as any other information relating to the Products.

"Customer Data" has the meaning given to it in the DPA.

"**Customer-Provided Equipment**" means components, including equipment and software, not provided by Motorola which may be used with the Products.

"**Data Processing Addendum**" or "**DPA**" means the Motorola Data Processing Addendum applicable to processing of data, including Customer Data, as updated, supplemented, or superseded from time to time. The DPA is incorporated into and made a part of this Agreement for all purposes pertaining to the contents of the DPA. Where terms or provisions in the Agreement conflict with terms or provisions of the DPA, the terms or provisions of the DPA will control with respect to the contents of the DPA.

"**Delivery**" means the applicable delivery for a Product as described in Section 5.7 of this Agreement.

"Documentation" means the documentation for the Products, or data, that is delivered or made available with the Products that specifies technical and performance features, capabilities, users, or operation, including training manuals, and other deliverables, such as reports, specifications, designs, plans, drawings, analytics, or other information.

"Equipment" means hardware provided by Motorola.

"Equipment Lease-Purchase Agreement" means the agreement by which Customer finances all or a portion of the Contract Price.

"Feedback" means comments or information, in oral or written form, given to Motorola by Customer or Authorized Users, including end users, in connection with or relating to the Products.

"Integration Services" means the design, deployment, implementation, and integration Services provided by Motorola in order to design, install, set up, configure, and/or integrate the applicable Products as agreed upon by the Parties.

"Licensed Software" means software which is made available to Customer by Motorola (for example software preinstalled on Equipment, accessible via a website provided by Motorola, or software installed on or made available for Customer-Provided Equipment) and is licensed to Customer by Motorola.

"**Lifecycle Management Services**" or "**LMS**" means upgrade services as set out in the applicable Proposal.

"Maintenance and Support Services" means the break/fix maintenance, technical support, or other Services described in the applicable Proposal.

"Motorola Data" means data owned by Motorola and made available to Customer in connection with the Products;

"Motorola Materials" means proprietary equipment, hardware, content, software, tools, data, and other materials, including designs, utilities, models, methodologies, systems, and specifications, which Motorola has developed or licensed from third parties (including any corrections, bug fixes, enhancements, updates, modifications, adaptations, translations, de-compilations, disassemblies, or derivative works of the foregoing, whether made by Motorola or another party). Products, Motorola Data, Third-Party Data (as defined in the DPA), and Documentation, are considered Motorola Materials.

"Non-Motorola Materials" means collectively, Customer or third-party equipment, software, services, hardware, content, and data that is not provided by Motorola.

"Proposal" means solution descriptions, pricing, equipment lists, statements of work ("**SOW**"), schedules, technical specifications, quotes, order forms, and other documents setting forth the Products to be purchased by Customer and provided by Motorola. The Proposal may also include an Acceptance Test Plan ("**ATP**"); a "Payment" Form (Communications System purchase only); or a "System Acceptance Certificate" (Communications System only), depending on the Products purchased by Customer.

"Products" or **"Product"** is how the Equipment, Licensed Software and Services being purchased by the Customer is collectively referred to in this Agreement (collectively as "Products", or individually as a "Product").

"Professional Services" are services provided by Motorola to Customer under this Agreement, including Integration Services, the nature and scope of which are more fully described in the Proposal.

"Prohibited Jurisdiction" means any jurisdiction in which the provision of such Products is prohibited under applicable laws or regulations.

"Services" means services, including access to services, as described in the Proposal, and includes Integration Services, Subscription Services, Professional Services, Maintenance & Support Services, and Lifecycle Management Services provided by Motorola.

"Service Completion Date" means the date of Motorola's completion of the Services described in a Proposal.

"Service Use Data" has the meaning given to it in the DPA.

"Site" or **"Sites"** means the location where the Integration Services, Lifecycle Management Services, or Maintenance and Support Services will take place.

"**Software-as-a-Service**" or "**SaaS**" means a solution that includes at least one Subscription Service and associated Licensed Software, which may include, as an example, client software or a web page.

"Software System" means a solution that includes at least one Licensed Software Product and requires Integration Services to deploy such Licensed Software Product at a Customer Site or onto any Customer-Provided Equipment or Equipment provided by or made available to Customer by Motorola.

"**Subscription**" means a recurring payment for Products, as set out in the Proposal.

"Subscription Services" or "**Recurring Services**" means Services, including access to Services, paid for on a subscription basis. Subscription Services includes services available through SaaS Products.

"Term" means the term of this MCA which will commence on the Effective Date and continue until six (6) months after the later of (a) the termination, expiration, or discontinuance of Services under the last Proposal in effect, or (b) the expiration of all applicable warranty periods, unless the MCA is earlier terminated as set forth herein.

3. Products and Services.

3.1. Products. Motorola will sell (a) Equipment, (b) licenses to Licensed Software, and (c) Services to Customer, to the extent each is set forth in this Agreement. At any time during the Term, Motorola may substitute any Products at no cost to Customer, if the substitute is substantially similar to the Products set forth in this Agreement. All Licensed Software is provided pursuant to the terms of the Software License Agreement.

3.2. Services.

3.2.1. Motorola will provide Services, to the extent set forth in this Agreement.

3.2.2. Integration Services; Maintenance and Support Services. Motorola will provide (a) Integration Services at the applicable Sites, agreed upon by the Parties, or (b) Maintenance and Support Services or Lifecycle Management Services, each as further described in the applicable SOW. Terms applicable to Maintenance, Support and Lifecycle Management can be found in the Maintenance, Support and Lifecycle Management Addendum.

3.2.3. Service Proposals. The Fees for Services will be set forth in Motorola's Proposal. A Customer point of contact may be set forth in the applicable SOW for the Services.

3.2.4. Service Completion. Services described in a Proposal will be deemed complete upon the Service Completion Date, or as Services expire, or are renewed or terminated.

3.2.5. Professional Services

3.2.5.1. Additional Service Terms. If Customer is purchasing Professional Services to evaluate or assess networks, systems or operations; network security assessment or network monitoring; software application development Services; or transport connectivity services, Additional Services Terms apply.

3.3. Additional Product Terms. If the Products include one of the following Products or Product types, additional terms apply as found in the below links:
AI Terms
Comparison Manager
Data licensed from Motorola
Drone related Products
Mobile Video Products, such as LPR cameras, bodycams, or vehicle cameras, and related software

3.4. Non-Preclusion. If, in connection with the Products provided under this Agreement, Motorola performs assessments of its own, or related, products or makes recommendations, including a recommendation to purchase other products, nothing in this Agreement precludes such efforts nor precludes Motorola from participating in a future competitive bidding process or otherwise offering or selling the recommended products to Customer. Customer represents that this paragraph does not violate its procurement standards or other laws, regulations, or policies.

3.5. Customer Obligations. Customer represents that information Customer provides to Motorola in connection with receipt of Products are accurate and complete in all material respects. If any assumptions in the Proposals or information provided by Customer prove to be incorrect, or if Customer fails to perform any of its obligations under this Agreement, Motorola's ability to perform its obligations may be impacted and changes to the Agreement, including the scope, Fees, and performance schedule may be required.

3.6. Documentation. Products may be delivered with Documentation. Documentation is and will be owned by Motorola, unless otherwise expressly stated in a Proposal that certain Documentation will be owned by Customer. Motorola hereby grants Customer a limited, royalty-free, worldwide, non-exclusive license to use the Documentation solely for its internal business purposes in connection with the Products.

3.7. Motorola Tools and Equipment. As part of delivering the Products, Motorola may provide certain tools, equipment, models, and other materials of its own. Such tools and equipment will remain the sole property of Motorola unless they are to be purchased by Customer as Products and are explicitly listed on the Proposal. The tools and equipment may be held by Customer for Motorola's use without charge and may be removed from Customer's premises by Motorola at any time without restriction. Customer will safeguard all tools and equipment while in its custody or control, and be liable for any loss or damage. Upon the expiration or earlier termination of this Agreement, Customer, at its expense, will return to Motorola all such tools and equipment in its possession or control.

3.8. Authorized Users. Customer will ensure its employees and Authorized Users comply with the terms of this Agreement and will be liable for all acts and omissions of its employees and Authorized Users. Customer is responsible for the secure management of Authorized Users' names, passwords and login credentials for access to Products.

3.9. Export Control. Customer, its employees, and any other Authorized Users will not access or use the Products in any Prohibited Jurisdiction, and Customer will not provide access to the Products to any government, entity, or individual located in a Prohibited Jurisdiction. Customer represents and warrants that (a) it and its Authorized Users are not named on any U.S. government list of persons prohibited from receiving U.S. exports, or transacting with any U.S. person; (b) it and its Authorized Users are not a national of, or a company registered in, any Prohibited Jurisdiction; (c) Customer will not permit its Authorized Users to access or use the Products or Services in violation of any U.S. or other applicable export embargoes, prohibitions or restrictions; and (d) Customer and its Authorized Users will comply with all applicable laws regarding the transmission of technical data exported from the U.S. and the country in which Customer, its employees, and the Authorized Users are located.

3.10. Change Orders. Unless a different change control process is agreed upon in writing by the Parties, a Party may request changes to an Addendum or a Proposal by submitting a Change Order to the other Party. If a requested change causes an increase or decrease in the Products, the Parties by means of the Change Order will make appropriate adjustments to the Fees, project schedule, or other matters. Change Orders

are effective and binding on the Parties only upon execution of the Change Order by an authorized representative of both Parties.

4. Term and Termination.

4.1. Term. The applicable Addendum or Proposal will set forth the Term for the Products governed thereby.

4.1.1. Subscription Terms. Unless otherwise specified in the Proposal, if the Products are purchased as a Subscription, the Subscription commences upon Delivery of, or Customer having access to, the first applicable Product ordered under this Agreement and will continue for a twelve (12) month period or such other period identified in a Proposal (the "**Initial Subscription Period**") and, unless otherwise stated in the Proposal, will automatically renew for additional twelve (12) month periods (each, a "**Renewal Subscription Year**"), unless either Party notifies the other of its intent not to renew at least thirty (30) days before the conclusion of the then-current Subscription Term. (The Initial Subscription Period and each Renewal Subscription Year will each be referred to herein as a "**Subscription Term**".) Motorola may increase Fees prior to any Renewal Subscription Year by notifying Customer of the proposed increase no later than thirty (30) days prior to commencement of the Renewal Subscription Year.

4.2. Termination. Either Party may terminate the Agreement or the applicable Addendum or Proposal if the other Party breaches a material obligation under the Agreement and does not cure such breach within thirty (30) days after receipt of notice of the breach or fails to produce a cure plan within such period of time. Each Addendum and Proposal may be separately terminable as set forth therein.

4.3. Termination for Non-Appropriation. In the event any identified funding is not appropriated or becomes unavailable, the Customer reserves the right to terminate this Agreement for non-appropriation upon thirty (30) days' advance written notice to Motorola. In the event of such termination, Motorola shall be entitled to compensation for all conforming Products delivered or performed prior to the date of termination.

4.4. Suspension of Services. Motorola may promptly terminate or suspend any Products under a Proposal if Motorola determines: (a) the related Product license has expired or has terminated for any reason; (b) the applicable Product is being used on a hardware platform, operating system, or version not approved by Motorola; (c) Customer fails to make any payments when due; or (d) Customer fails to comply with any of its other obligations or otherwise delays Motorola's ability to perform.

4.5. Wind Down of Subscription. In addition to the termination rights in this Agreement, Motorola may terminate any Subscription Term, in whole or in part, in the event Motorola plans to cease offering the applicable Licensed Software or Subscription Services to customers.

4.6. Effect of Termination or Expiration. Upon termination for any reason or expiration of this Agreement, an Addendum, or a Proposal, Customer and the Authorized Users will return or destroy (at Motorola's option) all Motorola Materials and Motorola's Confidential Information in their possession or control and, as applicable, provide proof of such destruction, except that Equipment purchased by Customer should not be returned. If Customer has any outstanding payment obligations under this Agreement, Motorola may accelerate and declare all such obligations of Customer immediately due and payable by Customer. Notwithstanding the reason for termination or expiration, Customer agrees to pay Motorola for Products already delivered or performed. Customer has a duty to mitigate any damages under this Agreement, including in the event of default by Motorola and Customer's termination of this Agreement.

4.7. Equipment. In the event that Customer purchases any Product at a price below the published list price for such Product in connection with Customer entering into a fixed- or minimum required-term agreement for Products, and Customer or Motorola terminates the Agreement prior to the expiration of such fixed- or minimum required-term, then Motorola will have the right to invoice Customer for, and Customer will pay, the amount of the discount to the published list price for the Product or such other amount set forth in writing. This Section will not limit any other remedies Motorola may have with respect to an early termination.

5. Payment, Invoicing, Delivery and Risk of Loss

5.1. The Contract Price of $7,263,501 excluding taxes, is fully committed and identified, including all subsequent years of any contracted Services. The Customer will pay all invoices as received from Motorola subject to the terms of this Agreement and any changes in scope will be subject to the change order process as described in this Agreement.
Motorola acknowledges the Customer may require the issuance(s) of a purchase order or notice to proceed as part of the Customer's procurement process. However, Customer agrees that the issuance or non-issuance of a purchase order or notice to proceed does not preclude the Customer from its contractual obligations as defined in this Agreement.

5.2. Fees. Fees and charges applicable to the Products will be as set forth in the applicable Proposal. Changes in the scope of Products described in a Proposal that require an adjustment to the Fees will be set forth in the applicable pricing schedule. The Fees for any Products exclude expenses associated with unusual and costly Site access requirements (e.g., if Site access requires a helicopter or other equipment), tariffs, fluctuations in the costs of energy, raw materials, and fuel. Motorola reserves the right to equitably adjust the Fees for these expenses upon written notice to Customer. Customer will reimburse Motorola for expenses reasonably incurred by Motorola in connection with the Products. The annual Subscription Fee for Products may include certain one-time Fees, such as start-up fees, license fees, or other fees set forth in a Proposal. Motorola may suspend Licensed Software and any Subscription Services if Customer fails to make any payments within thirty (30) days of invoice due date when due.

5.3. Taxes. The Fees do not include any excise, sales, lease, use, property, or other taxes, assessments, duties, or regulatory charges or contribution requirements (collectively, "**Taxes**"), all of which will be paid by Customer, except as exempt by law, unless otherwise specified in a Proposal. If Motorola is required to pay any Taxes, Customer will reimburse Motorola for such Taxes (including any interest and penalties) within thirty (30) days after Customer's receipt of an invoice therefore. Customer will be solely responsible for reporting the Products for personal property tax purposes, and Motorola will be solely responsible for reporting taxes on its income and net worth.

5.4. Invoicing. Motorola will invoice Customer as described in this Agreement and Customer will pay all invoices within thirty (30) days of the invoice date or as otherwise specified in writing. In the event Customer finances the purchase of the Motorola Products contemplated herein via Motorola Solutions Credit Corporation ("MSCC"), invoices for such purchase will be paid via the disbursement of the financing proceeds pursuant to the Equipment Lease - Purchase Agreement executed between the parties and the payment schedule enclosed therein shall control payment of the related invoices. Late payments will be subject to interest charges at the maximum rate permitted by law, commencing upon the due date. Motorola may invoice electronically via email, and Customer agrees to receive invoices via email at the email address set forth in Section 5.6. Customer acknowledges and agrees that a purchase order or other notice to proceed is not required for payment for Products.

5.5. Payment. Customer will pay invoices for the Products provided under this Agreement in accordance with the invoice payment terms set forth in Section 5.4. Generally, invoices are issued after shipment of Equipment or upon Motorola's Delivery of Licensed Software, Customer access to SaaS, or upon System Completion Date of a Software System, as applicable, but if a specific invoicing or payment schedule is set forth in the Agreement, such schedule will determine the invoicing cadence.
Motorola will have the right to suspend future Deliveries of Products if Customer fails to make any payments when due.

5.6. INVOICING AND SHIPPING ADDRESSES. Invoices will be sent to the Customer at the following address:
Name: _____
Address: _____
Phone: _____

E-INVOICE. To receive invoices via email:
Customer Account Number: _____
Customer Accounts Payable Email: _____
Customer CC (optional) Email: _____

The address which is the ultimate destination where the Equipment will be delivered to Customer is:

Name: _____
Address: _____

The Equipment will be shipped to the Customer at the following address (insert if this information is known):

Name: _____
Address: _____
Phone: _____

Customer may change this information by giving written notice to Motorola.

5.7. Delivery, Title and Risk of Loss. Motorola will provide to Customer the Products set forth in a Proposal, in accordance with the terms of the Agreement. Motorola will, using commercially reasonable practices, pack the ordered Equipment and ship such Equipment to the Customer address set forth in **Section 5.6** or otherwise provided by Customer in writing, using a carrier selected by Motorola.

Notwithstanding the foregoing and unless otherwise stated in a Equipment Lease - Purchase Agreement, Delivery of Equipment (and any incorporated Licensed Software) will occur, and title and risk of loss for the Equipment will pass to Customer, upon shipment by Motorola in accordance with ExWorks, Motorola's premises (Incoterms 2020). Customer will pay all shipping costs, taxes, and other charges applicable to the shipment and import or export of the Products and Services, as applicable, and Customer will be responsible for reporting the Products for personal property tax purposes.

Delivery of Licensed Software for installation on Equipment or Customer-Provided Equipment will occur upon the earlier of (a) electronic delivery of the Licensed Software by Motorola, or (b) the date Motorola otherwise makes the Licensed Software available for download or use by Customer. If agreed upon in a Proposal, Motorola will also provide Services related to such Products. Title to Licensed Software will not pass to Customer at any time. Delivery of SaaS Products will occur when the Services are made available to Customer.

5.8. Delays. Any shipping dates set forth in a Proposal are approximate. While Motorola will make reasonable efforts to ship Products by any such estimated shipping date, Motorola will not be liable for any delay or related damages to Customer. Time for Delivery will not be of the essence, and delays will not constitute grounds for cancellation, penalties, termination, or a refund.

5.9. Future Regulatory Requirements. The Parties acknowledge and agree that certain Products (for example, cyber services) are in evolving technological areas and therefore, laws and regulations regarding Products may change. Changes to existing Products required to achieve regulatory compliance may be available for an additional fee. Any required changes may also impact the price for Products.

5.10. Resale of Equipment. Equipment may contain embedded Licensed Software. If Customer desires to sell its used Equipment to a third party, Customer must first receive prior written authorization from Motorola, which will not be unreasonably denied, and obtain written acceptance of the applicable Licensed Software license terms, including the obligation to pay relevant license fees, from such third party. Customer will take appropriate security measures when disposing of Equipment, including the deletion of all data stored in the Equipment.

6. Sites; Customer-Provided Equipment; Non-Motorola Materials.

6.1. Access to Sites. Customer will be responsible for providing all necessary permits, licenses, and other approvals necessary for the performance, installation and use of the Products at each applicable Site, including for Motorola to perform its obligations hereunder, and for facilitating Motorola's access to the Sites. No waivers of liability will be imposed on Motorola or its subcontractors by Customer or others at Customer facilities or other Sites, but if and to the extent any such waivers are imposed, the Parties agree such waivers are void.

6.2. Site Conditions. Customer will ensure that (a) all Sites are safe and secure, (b) Site conditions meet all applicable industry and legal standards (including standards promulgated by OSHA or other governmental or regulatory bodies), (c) to the extent applicable, Sites have adequate physical space, air conditioning, and other environmental conditions, electrical power outlets, distribution, equipment, connections, and telephone or other communication lines (including modem access and interfacing networking capabilities), and (d) Sites are suitable for the installation, use, and maintenance of the Products. This Agreement is predicated upon normal soil conditions as defined by the version of E.I.A. standard RS-222 in effect on the Effective Date.

6.3. Site Issues. Upon its request, which will not be unreasonably denied, Motorola will have the right to inspect the Sites and advise Customer of any deficiencies or non-conformities with the requirements of this **Section 6 – Sites; Customer-Provided Equipment; Non-Motorola Materials**. If Motorola or Customer identifies any deficiencies or non-conformities, Customer will promptly remediate such issues or the Parties will select a replacement Site. If a Party determines that a Site identified in a Proposal is not acceptable or desired, the Parties will cooperate to investigate the conditions and select a replacement Site or otherwise adjust the installation plans and specifications as necessary. A change in Site or adjustment to the installation plans and specifications may cause a change in the Fees or performance schedule under the applicable Proposal.

6.4. Customer-Provided Equipment. Customer will be responsible, at its sole cost and expense, for providing and maintaining the Customer-Provided Equipment in good working order. Customer represents and warrants that it has all rights in Customer-Provided Equipment to permit Motorola to access and use the applicable Customer-Provided Equipment to provide the Products under this Agreement, and such access and use will not violate any laws or infringe any third-party rights (including intellectual property rights). Customer (and not Motorola) will be fully liable for Customer-Provided Equipment, and Customer will immediately notify Motorola of any Customer-Provided Equipment damage, loss, change, or theft that may impact Motorola's ability to provide the Products under this Agreement, and Customer acknowledges that any such events may cause a change in the Fees or performance schedule under the applicable Proposal.

6.5. Non-Motorola Materials. In certain instances, Customer may be permitted to access, use, or integrate Non-Motorola Materials with or through the Products. If Customer accesses, uses, or integrates any Non-Motorola Materials with the Products, Customer will first obtain all necessary rights and licenses to permit Customer's and its Authorized Users' use of the Non-Motorola Materials in connection with the Products. Customer will also obtain the necessary rights for Motorola to use such Non-Motorola Materials in connection with providing the Products, including the right for Motorola to access, store, and process such Non-Motorola Materials (e.g., in connection with SaaS Products), and to otherwise enable interoperation with the Products. Customer represents and warrants that it will obtain the foregoing rights and licenses prior to accessing, using, or integrating the applicable Non-Motorola Materials with the Products, and that Customer and its Authorized Users will comply with any terms and conditions applicable to such Non-Motorola Materials. If any Non-Motorola Materials requires access to Customer Data, Customer hereby authorizes Motorola to allow the provider of such Non-Motorola Materials to access Customer Data, in connection with the interoperation of such Non-Motorola Materials with the Products.

6.6. Customer acknowledges and agrees that Motorola is not responsible for, and makes no representations or warranties with respect to, the Non-Motorola Materials (including any disclosure, modification, or deletion of Customer Data resulting from use of Non-Motorola Materials or failure to properly interoperate with the Products). If Customer receives notice that any Non-Motorola Materials must be removed, modified, or disabled within the Products, Customer will promptly do so. Motorola will have the right to

disable or remove Non-Motorola Materials if Motorola believes a violation of law, third-party rights, or Motorola's policies is likely to occur, or if such Non-Motorola Materials poses or may pose a security or other risk or adverse impact to the Products, Motorola, Motorola's systems, or any third party (including other Motorola customers).

6.7. Motorola may provide certain Non-Motorola Materials as an authorized sales representative of a third party as set out in a Proposal. As an authorized sales representative, the third party's terms and conditions will apply to any such sales. Any orders for such Non-Motorola Materials will be fulfilled by the third party.

6.8. End User Licenses. Notwithstanding any provision to the contrary in the Agreement, certain Non-Motorola Materials software are governed by a separate license, EULA, or other agreement, including terms governing third-party equipment or software, such as open-source software, included in the Products. Customer will comply, and ensure its Authorized Users comply, with any such additional terms applicable to third-party equipment or software. Certain third party flow-down terms applicable to Motorola Products may apply.

6.9. Prohibited Use. Customer will not integrate or use, or permit a third party or an Authorized User to integrate or use, any Non-Motorola Materials with or in connection with a Software System or other Licensed Software provided by Motorola under this Agreement, without the express written permission of Motorola.

6.10. API and Client Support. Motorola will use reasonable efforts to maintain its Application Programming Interfaces (APIs) for each Software System, understanding that APIs will evolve. Motorola will support each API version for 6 months after introduction but may discontinue support with reasonable notice or without notice if a security risk is present. For Licensed Software requiring a local client installation, Customer is responsible for installing the current version. Motorola will support each client version for 45 days after its release but may update the client at any time, and does not guarantee support for prior client versions.

7. Representations and Warranties.

7.1. Mutual Representations and Warranties. Each Party represents and warrants to the other Party that (a) it has the right to enter into, and execute, the Agreement and perform its obligations hereunder, and (b) the Agreement will be binding on such Party.

7.2. System Warranty. Subject to the disclaimers and exclusions below, Motorola represents and warrants that, on the date of System Acceptance (for Communications Systems), System Completion Date (for Software Systems), or Delivery, as applicable (a) the Communications System will perform in accordance with the descriptions in the applicable Proposal in all material respects, (b) the Software System will perform in accordance with the descriptions in the applicable Proposals in all material respects, and (c) if Customer has purchased any Licensed Software (but, for clarity, excluding SaaS Products) as part of such Communications System or Software System, the warranty period applicable to such Licensed Software will continue for a period of one (1) year commencing upon System Acceptance, System Completion, or date the Licensed Software is delivered (the "**Warranty Period**").

7.3. Communications Systems. During the Warranty Period, in addition to warranty services, Motorola will provide Maintenance and Support Services for the Equipment and support for the Motorola Licensed Software in Communication Systems pursuant to the applicable maintenance and support Proposal. Support for the Licensed Software will be in accordance with Motorola's established Software Support Policy ("SwSP"). If Customer wishes to purchase (a) additional Maintenance and Support Services during the Warranty Period; or (b) continue or expand maintenance, software support, installation, and/or Motorola's LMS after the Warranty Period, Motorola will provide the description of and pricing for such services in a separate proposal document and such terms will be agreed upon in a Proposal. Unless otherwise agreed by the Parties in writing, the terms and conditions of the MSLMA referenced in Section 3.2.2 will govern the provision of such Services.

7.4. SaaS. SaaS Products do not qualify for the System Warranty above.

7.5. Motorola Warranties - Services. Subject to the disclaimers and exclusions below, Motorola represents and warrants that (a) Services will be provided in a good and workmanlike manner and will conform in all material respects to the descriptions in the applicable Proposal; and (b) for a period of ninety (90) days commencing upon the Service Completion Date for one-time Services, the Services will be free of material defects in materials and workmanship. Other than as set forth in subsection (a) above, recurring Services are not warranted but rather will be subject to the requirements of the applicable Addendum or Proposal.

7.6. Motorola Warranties - Equipment. Subject to the disclaimers and exclusions set forth below, (a) for a period of one (1) year commencing upon the Delivery of Motorola-manufactured Equipment under **Section 5.7 – Delivery, Title and Risk of Loss**, Motorola represents and warrants that such Motorola-manufactured Equipment, under normal use, will be free from material defects in materials and workmanship; and (b) the warranties applicable to Motorola-manufactured Equipment set forth in herein shall be applicable to all radio Equipment purchased hereunder whether or not such Equipment was manufactured by Motorola.

7.7. Warranty Claims; Remedies. To assert a warranty claim, Customer must notify Motorola in writing of the claim prior to the expiration of any warranty period set forth in this Agreement. Unless a different remedy is otherwise expressly set forth herein, upon receipt of such claim, Motorola will investigate the claim and use commercially reasonable efforts to repair or replace any confirmed materially non-conforming Product or re-perform any non-conforming Service, at its option. Such remedies are Customer's sole and exclusive remedies for Motorola's breach of a warranty. Motorola's warranties are extended by Motorola to Customer only, and are not assignable or transferable.

7.8. Pass-Through Warranties. Notwithstanding any provision of this Agreement to the contrary, Motorola will have no liability for third-party software or hardware provided by Motorola; provided, however, that to the extent offered by third-party providers of software or hardware and to the extent permitted by law, Motorola will pass through express warranties provided by such third parties.

7.9. WARRANTY DISCLAIMER. EXCEPT FOR THE EXPRESS AND PASS-THROUGH WARRANTIES IN THIS AGREEMENT, PRODUCTS AND SERVICES PURCHASED HEREUNDER ARE PROVIDED "AS IS" AND WITH ALL FAULTS. WARRANTIES SET FORTH IN THE AGREEMENT ARE THE COMPLETE WARRANTIES FOR THE PRODUCTS AND SERVICES AND MOTOROLA DISCLAIMS ALL OTHER WARRANTIES OR CONDITIONS, EXPRESS OR IMPLIED, INCLUDING IMPLIED WARRANTIES OF MERCHANTABILITY, NON-INFRINGEMENT, FITNESS FOR A PARTICULAR PURPOSE, TITLE, AND QUALITY. MOTOROLA DOES NOT REPRESENT OR WARRANT THAT USE OF THE PRODUCTS AND SERVICES WILL BE UNINTERRUPTED, ERROR-FREE, OR FREE OF SECURITY VULNERABILITIES, OR THAT THEY WILL MEET CUSTOMER'S PARTICULAR REQUIREMENTS.

7.10. ADDITIONAL WARRANTY EXCLUSIONS. NOTWITHSTANDING ANY PROVISION OF THE AGREEMENT TO THE CONTRARY, MOTOROLA WILL HAVE NO LIABILITY FOR (A) DEFECTS IN OR DAMAGE TO PRODUCTS RESULTING FROM USE OTHER THAN IN THE NORMAL AUTHORIZED MANNER, OR FROM ACCIDENT, LIQUIDS, OR NEGLECT; (B) TESTING, MAINTENANCE, REPAIR, INSTALLATION, OR MODIFICATION BY PARTIES OTHER THAN MOTOROLA; (C) CUSTOMER'S OR ANY AUTHORIZED USER'S FAILURE TO COMPLY WITH INDUSTRY AND OSHA OR OTHER LEGAL STANDARDS; (D) DAMAGE TO RADIO ANTENNAS, UNLESS CAUSED BY DEFECTS IN MATERIAL OR WORKMANSHIP; (E) EQUIPMENT WITH NO SERIAL NUMBER; (F) BATTERIES OR CONSUMABLES; (G) FREIGHT COSTS FOR SHIPMENT TO REPAIR DEPOTS; (H) COSMETIC DAMAGE THAT DOES NOT AFFECT OPERATION; (I) NORMAL WEAR AND TEAR; (J) ISSUES OR OBSOLESCENCE OF LICENSED SOFTWARE DUE TO CHANGES IN CUSTOMER OR AUTHORIZED USER REQUIREMENTS, EQUIPMENT, OR SYSTEMS; (K) TRACKING AND LOCATION-BASED SERVICES; OR (L) BETA SERVICES.

8. Indemnification.

8.1. General Indemnity. Motorola will defend, indemnify, and hold Customer harmless from and against any and all damages, losses, liabilities, and expenses (including reasonable fees and expenses of attorneys) arising

from any actual third-party claim, demand, action, or proceeding ("Claim") for personal injury, death, or direct damage to tangible property to the extent caused by Motorola's negligence, gross negligence or willful misconduct while performing its duties under this Agreement, except to the extent the claim arises from Customer's negligence or willful misconduct. Motorola's duties under this **Section 8.1 – General Indemnity** are conditioned upon: (a) Customer promptly notifying Motorola in writing of the Claim; (b) Motorola having sole control of the defense of the suit and all negotiations for its settlement or compromise to the extent allowed by applicable law; and (c) Customer cooperating with Motorola and, if requested by Motorola, providing reasonable assistance in the defense of the Claim.

8.2. Intellectual Property Infringement. Motorola will defend Customer against any third-party claim alleging that a Motorola-developed or manufactured Product (the "Infringing Product") directly infringes a United States patent or copyright ("Infringement Claim"), and Motorola will pay all damages finally awarded against Customer by a court of competent jurisdiction for an Infringement Claim, or agreed to in writing by Motorola in settlement of an Infringement Claim. Motorola's duties under this **Section 8.2 – Intellectual Property Infringement** are conditioned upon: (a) Customer promptly notifying Motorola in writing of the Infringement Claim; (b) Motorola having sole control of the defense of the suit and all negotiations for its settlement or compromise; and (c) Customer cooperating with Motorola and, if requested by Motorola, providing reasonable assistance in the defense of the Infringement Claim.

8.2.1. If an Infringement Claim occurs, or in Motorola's opinion is likely to occur, Motorola may at its option and expense: (a) procure for Customer the right to continue using the Infringing Product; (b) replace or modify the Infringing Product so that it becomes non-infringing; or (c) grant Customer (i) a prorated refund of any amounts pre-paid for the Infringing Product (if the Infringing Product is Licensed Software) or (ii) a credit for the Infringing Product, less a reasonable charge for depreciation (if the Infringing Product is Equipment, including Equipment with embedded Licensed Software).

8.2.2. In addition to the other damages disclaimed under this Agreement, Motorola will have no duty to defend or indemnify Customer for any Infringement Claim that arises from or is based upon: (a) Customer Data, Customer-Provided Equipment, Non-Motorola Materials, or third-party equipment, hardware, software, data, or other third-party materials; (b) the combination of the Product with any products or materials not provided by Motorola; (c) a Product designed, modified, or manufactured in accordance with Customer's designs, specifications, guidelines or instructions; (d) a modification of the Product by a party other than Motorola; (e) use of the Product in a manner for which the Product was not designed or that is inconsistent with the terms of this Agreement; or (f) the failure by Customer to use or install an update to the Product that is intended to correct the claimed infringement. In no event will Motorola's liability resulting from an Infringement Claim extend in any way to any payments due on a royalty basis, other than a reasonable royalty based upon revenue derived by Motorola from Customer from sales or license of the Infringing Product.

8.2.3. This **Section 8.2 – Intellectual Property Infringement** provides Customer's sole and exclusive remedies and Motorola's entire liability in the event of an Infringement Claim.

8.3. Customer Indemnity. To the extent allowed by applicable law, Customer will defend, indemnify, and hold Motorola and its subcontractors, subsidiaries and other affiliates harmless from and against any and all damages, losses, liabilities, and expenses (including reasonable fees and expenses of attorneys) arising from any actual or threatened third-party claim, demand, action, or proceeding arising from or related to (a) Customer-Provided Equipment, Customer Data, or Non-Motorola Materials, including any claim, demand, action, or proceeding alleging that any such equipment, data, or materials (or the integration or use thereof with the Products) infringes or misappropriates a third-party intellectual property or other right, violates applicable law, or breaches the Agreement; (b) Customer-Provided Equipment's failure to meet the minimum requirements set forth in the applicable Documentation or match the applicable specifications provided to Motorola by Customer in connection with the Products; (c) Customer's (or its service providers, agents, employees, or Authorized User's) negligence or willful misconduct; and (d) Customer's or its Authorized User's breach of this Agreement. This indemnity will not apply to the extent any such claim is

caused by Motorola's use of Customer-Provided Equipment, Customer Data, or Non-Motorola Materials in violation of the Agreement. Motorola will give Customer prompt, written notice of any claim subject to the foregoing indemnity. Motorola will, at its own expense, cooperate with Customer in its defense or settlement of the claim. Notwithstanding anything to the contrary herein, Customer is not required or obligated to indemnify or defense Motorola from or against any claim which, if brought against Customer, would be barred by sovereign immunity or official immunity.

9. Limitation of Liability.

9.1. EXCEPT FOR PERSONAL INJURY OR DEATH, THE TOTAL AGGREGATE LIABILITY OF MOTOROLA, ITS AFFILIATES, AND ITS AND THEIR RESPECTIVE OFFICERS, DIRECTORS, EMPLOYEES, SUBCONTRACTORS, AGENTS, SUCCESSORS, AND ASSIGNS (COLLECTIVELY, THE "MOTOROLA PARTIES"), WHETHER BASED ON A CLAIM IN CONTRACT OR IN TORT, LAW OR EQUITY, RELATING TO OR ARISING OUT OF THE AGREEMENT WILL NOT EXCEED THE FEES, OR PORTION OF FEES, RELATED TO THE PRODUCT UNDER WHICH THE CLAIM AROSE. WITH RESPECT TO ANY RECURRING SERVICES, THE MOTOROLA PARTIES' TOTAL AGGREGATE LIABILITY FOR ALL CLAIMS RELATED TO SUCH RECURRING SERVICES WILL NOT EXCEED THE TOTAL FEES PAID FOR THE APPLICABLE PRODUCT DURING THE CONSECUTIVE TWELVE (12) MONTH PERIOD IMMEDIATELY PRECEDING THE EVENT FROM WHICH THE FIRST CLAIM AROSE. EXCEPT FOR PERSONAL INJURY OR DEATH, THE MOTOROLA PARTIES WILL NOT BE LIABLE IN CONNECTION WITH THIS AGREEMENT (WHETHER UNDER MOTOROLA'S INDEMNITY OBLIGATIONS, A CAUSE OF ACTION FOR BREACH OF CONTRACT, UNDER TORT THEORY, OR OTHERWISE) FOR ANY INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, PUNITIVE, OR CONSEQUENTIAL DAMAGES OR DAMAGES FOR LOST PROFITS OR REVENUES, EVEN IF MOTOROLA HAS BEEN ADVISED BY CUSTOMER OR ANY THIRD PARTY OF THE POSSIBILITY OF SUCH DAMAGES OR LOSSES AND WHETHER OR NOT SUCH DAMAGES OR LOSSES ARE FORESEEABLE.

9.2. EXCLUSIONS FROM LIABILITY. NOTWITHSTANDING ANY OTHER PROVISION OF THIS AGREEMENT, MOTOROLA WILL HAVE NO LIABILITY FOR DAMAGES ARISING OUT OF (A) CUSTOMER DATA, INCLUDING ITS TRANSMISSION TO MOTOROLA, OR ANY OTHER DATA AVAILABLE THROUGH THE PRODUCTS; (B) CUSTOMER-PROVIDED EQUIPMENT OR SITES; NON-MOTOROLA MATERIALS; THIRD-PARTY EQUIPMENT, HARDWARE, SOFTWARE, DATA, OR CONTENT; OR UNKNOWN OR UNAUTHORIZED COMBINATION OF PRODUCTS AND SERVICES; (C) LOSS OF DATA, HACKING, RANSOMWARE, THIRD-PARTY ATTACKS OR DEMANDS; (D) MODIFICATION OF PRODUCTS NOT AUTHORIZED BY MOTOROLA; (E) RECOMMENDATIONS PROVIDED IN CONNECTION WITH THE PRODUCTS PROVIDED UNDER THIS AGREEMENT; (F) DATA RECOVERY SERVICES OR DATABASE MODIFICATIONS; OR (G) CUSTOMER'S OR ANY AUTHORIZED USER'S BREACH OF THIS AGREEMENT OR MISUSE OF THE PRODUCTS.

IN ADDITION TO THE FOREGOING EXCLUSIONS FROM DAMAGES, AND NOTWITHSTANDING ANY PROVISION OF THE AGREEMENT TO THE CONTRARY, MOTOROLA WILL HAVE NO LIABILITY FOR (A) INTERRUPTION OR FAILURE OF CONNECTIVITY, VULNERABILITIES, OR SECURITY EVENTS; (B) DISRUPTION OF OR DAMAGE TO CUSTOMER'S OR THIRD PARTIES' SYSTEMS, EQUIPMENT, OR DATA, INCLUDING DENIAL OF ACCESS TO USERS, OR SHUTDOWN OF SYSTEMS CAUSED BY INTRUSION DETECTION SOFTWARE OR HARDWARE; (C) AVAILABILITY OR ACCURACY OF ANY DATA AVAILABLE THROUGH SOFTWARE-AS-A-SERVICE, OR INTERPRETATION, USE, OR MISUSE THEREOF; (D) TRACKING AND LOCATION-BASED SERVICES; OR (E) BETA SERVICES.

9.3. Statute of Limitations. Customer may not bring any claims against a Motorola Party in connection with this Agreement or the Products and Services more than one (1) year after the date of accrual of the cause of action.

10. Confidentiality.

10.1. Confidential Information. Customer and Motorola agree that, subject to any applicable freedom of information or public records legislation, Motorola's Confidentiality Terms apply to information shared between the Parties.

11. Proprietary Rights; Data; Feedback.

11.1. Motorola Materials. Customer acknowledges that Motorola may use or provide Customer with access to "Motorola Materials". Except when Motorola has expressly transferred title or other interest to Customer in writing, the Motorola Materials are the property of Motorola or its licensors, and Motorola or its licensors retain all right, title and interest in and to the Motorola Materials (including, all rights in patents, copyrights, trademarks, trade names, trade secrets, know-how, other intellectual property and proprietary rights, and all associated goodwill and moral rights).

This Agreement does not grant to Customer any shared development rights in or to any Motorola Materials or other intellectual property, and Customer agrees to execute any documents and take any other actions reasonably requested by Motorola to effectuate the foregoing. Motorola and its licensors reserve all rights not expressly granted to Customer, and no rights, other than those expressly granted herein, are granted to Customer by implication, estoppel or otherwise. Customer will not modify, disassemble, reverse engineer, derive source code or create derivative works from, merge with other software, distribute, sublicense, sell, or export the Products and Services or other Motorola Materials, or permit any third party to do so.

11.2. Ownership of Customer Data. Customer retains all right, title and interest, including intellectual property rights, if any, in and to Customer Data. Motorola acquires no rights to Customer Data except those rights granted under this Agreement including the right to Process (as defined in the DPA) and use the Customer Data as set forth in the DPA.

11.3. Feedback. Any Feedback provided by Customer is entirely voluntary, and will not create any confidentiality obligation for Motorola, even if designated as confidential by Customer. Motorola may use, reproduce, license, and otherwise distribute and exploit the Feedback without any obligation or payment to Customer or Authorized Users and Customer represents and warrants that it has obtained all necessary rights and consents to grant Motorola the foregoing rights.

11.4. Improvements; Products and Services. The Parties agree that, notwithstanding any provision of this Agreement to the contrary, all fixes, modifications and improvements to the Services or Products conceived of or made by or on behalf of Motorola that are based either in whole or in part on the Feedback, Customer Data, or Service Use Data (or otherwise) are the exclusive property of Motorola and all right, title and interest in and to such fixes, modifications or improvements will vest solely in Motorola. Customer agrees to execute any written documents necessary to assign any intellectual property or other rights it may have in such fixes, modifications or improvements to Motorola.

12. Acceptance

12.1. Communications System Acceptance. Unless further defined in the applicable Proposal or Statement of Work, System Acceptance for a Communications System occurs upon successful completion of Acceptance Tests as detailed in the Acceptance Test Plan. Motorola will provide ten days' notice before testing begins, and upon successful completion, both parties will sign an acceptance certificate. If the plan includes tests for subsystems or phases, acceptance occurs upon successful completion of those tests and separate certificates will be issued. If Customer believes the system has failed, they must provide a detailed written notice within thirty days; otherwise, System Acceptance is deemed to have occurred. Minor, non-material issues will not delay acceptance but will be addressed per a mutually agreed schedule. Customer use of the system before System Acceptance requires Motorola's written authorization and transfers responsibility for system operation to the Customer. Software System Completion is defined by Customer's Beneficial Use of each Product within the system, with "Beneficial Use" defined to occur thirty days after functional demonstration if not otherwise defined in the Proposal.

13. Force Majeure; Delays Caused by Customer.

13.1. Force Majeure. Except for Customer's payment obligations hereunder, neither Party will be responsible for nonperformance or delayed performance due to events outside of its reasonable control. If performance

will be significantly delayed, the affected Party will provide notice to the other Party, and the Parties will agree (in writing) upon a reasonable extension to any applicable performance schedule.

13.2. Delays Caused by Customer. Motorola's performance of the Products will be excused for delays caused by Customer or its Authorized Users or subcontractors, or by failure of any assumptions set forth in this Agreement (including in any Addendum or Proposal). In the event of a delay under this **Section 13.2 – Delays Caused by Customer**, (a) Customer will continue to pay the Fees as required hereunder, (b) the Parties will agree (in writing) upon a reasonable extension to any applicable performance schedule, and (c) Customer will compensate Motorola for its out-of-pocket costs incurred due to the delay (including those incurred by Motorola's affiliates, vendors, and subcontractors).

14. Disputes. The Parties will use the following procedure to resolve any disputes relating to or arising out of this Agreement (each, a "Dispute"):

14.1. Governing Law. All matters relating to or arising out of the Agreement are governed by the laws of the State of Georgia. The terms of the U.N. Convention on Contracts for the International Sale of Goods and the Uniform Computer Information Transactions Act will not apply.

14.2. Negotiation; Mediation. The Parties will attempt to timely resolve the Dispute promptly through good faith negotiations. Either Party may initiate dispute resolution procedures by sending a notice of Dispute ("Notice of Dispute") to the other Party. The Parties will choose an independent mediator within thirty (30) days of such Notice of Mediation. Neither Party may unreasonably withhold consent to the selection of a mediator, but if the Parties are unable to agree upon a mediator, either Party may request that the American Arbitration Association nominate a mediator. Each Party will bear its own costs of mediation, but the Parties will share the cost of the mediator equally. Unless otherwise agreed in writing, all in person meetings under this **Section 14.2 – Negotiation; Mediation** will take place in the State of Georgia, and, unless disclosure is required by law, all communication relating to the Dispute resolution will be maintained in strict confidence by the Parties. Notwithstanding the foregoing, any Dispute arising from or relating to Motorola's intellectual property rights must be decided by a court of competent jurisdiction, in accordance with **Section 14.3 – Litigation, Venue, Jurisdiction** below.

14.3. Litigation, Venue, Jurisdiction. If the Dispute has not been resolved by mediation within sixty (60) days from the Notice of Mediation, either Party may submit the Dispute exclusively to a court in Morgan County, Georgia. Each Party expressly consents to the exclusive jurisdiction of such courtfor resolution of any Dispute and to enforce the outcome of any mediation.

15. General.

15.1. Compliance with Laws. Each Party will comply with applicable laws in connection with the performance of its obligations under this Agreement, including that Customer will ensure its and its Authorized Users' use of the Products complies with law (including privacy laws), and Customer will obtain any FCC, FAA, and other licenses or authorizations (including licenses or authorizations required by foreign regulatory bodies) required for its and its Authorized Users' use of the Products. Motorola may, at its discretion, cease providing or otherwise modify Products (or any terms related thereto in an Addendum or Proposal), in order to comply with any changes in applicable law.

15.2. Audit; Monitoring. Motorola will have the right to monitor and audit use of the Products, including an audit of total user licenses credentialed by Customer for any Licensed Software or SaaS Products, which may also include access by Motorola to Customer Data and Service Use Data. Customer will provide notice of such monitoring to its Authorized Users and obtain any required consents, including individual end users, and will cooperate with Motorola in any monitoring or audit. Customer will maintain during the Term, and for two (2) years thereafter, accurate records relating to any licenses granted under this Agreement to verify compliance with this Agreement. Motorola or a third party ("Auditor") may inspect Customer's and, as applicable, Authorized Users' premises, books, and records. Motorola will pay expenses and costs of the Auditor, unless Customer is found to be in violation of the terms of the Agreement, in which case Customer will be responsible for such expenses and costs. In the event Motorola determines that Customer's usage

of the Licensed Software or SaaS Product exceeded the number of licenses purchased by Customer at a given time, Motorola may invoice Customer for the additional licenses used by Customer, pro-rated for each additional license from the date such license was activated, and Customer will pay such invoice in accordance with the payment terms in the Agreement.

15.3. Assignment and Subcontracting. Neither Party may assign or otherwise transfer this Agreement without the prior written approval of the other Party. Motorola may assign or otherwise transfer this Agreement or any of its rights or obligations under this Agreement without consent (a) for financing purposes, (b) in connection with a merger, acquisition or sale of all or substantially all of its assets, (c) as part of a corporate reorganization, or (d) to a subsidiary corporation. Subject to the foregoing, this Agreement will be binding upon the Parties and their respective successors and assigns. Motorola may subcontract any of the work, but subcontracting will not relieve Motorola of its duties under this Agreement.

15.4. Waiver. A delay or omission by either Party to exercise any right under this Agreement will not be construed to be a waiver of such right. A waiver by either Party of any of the obligations to be performed by the other, or any breach thereof, will not be construed to be a waiver of any succeeding breach or of any other obligation. All waivers must be in writing and signed by the Party waiving its rights.

15.5. Severability. If any provision of the Agreement is found by a court of competent jurisdiction to be invalid, illegal, or otherwise unenforceable, such provision will be deemed to be modified to reflect as nearly as possible the original intentions of the Parties in accordance with applicable law. The remaining provisions of this Agreement will not be affected, and each such provision will be valid and enforceable to the full extent permitted by applicable law.

15.6. Independent Contractors. Each Party will perform its duties under this Agreement as an independent contractor. The Parties and their personnel will not be considered to be employees or agents of the other Party. Nothing in this Agreement will be interpreted as granting either Party the right or authority to make commitments of any kind for the other. This Agreement will not constitute, create, or be interpreted as a joint venture, partnership, or formal business organization of any kind.

15.7. Third-Party Beneficiaries. The Agreement is entered into solely between, and may be enforced only by, the Parties. Each Party intends that the Agreement will not benefit, or create any right or cause of action in or on behalf of, any entity other than the Parties. Notwithstanding the foregoing, a licensor or supplier of third-party software included in the software Products will be a direct and intended third-party beneficiary of this Agreement.

15.8. Interpretation. The section headings in this Agreement are included only for convenience The words "including" and "include" will be deemed to be followed by the phrase "without limitation". This Agreement will be fairly interpreted in accordance with its terms and conditions and not for or against either Party.

15.9. Notices. Notices required under this Agreement to be given by one Party to the other must be in writing and either personally delivered or sent to the address provided by the other Party by certified mail, return receipt requested and postage prepaid (or by a recognized courier service, such as FedEx, UPS, or DHL), and will be effective upon receipt.

15.10. Cumulative Remedies. Except as specifically stated in this Agreement, all remedies provided for in this Agreement will be cumulative and in addition to, and not in lieu of, any other remedies available to either Party at law, in equity, by contract, or otherwise. Except as specifically stated in this Agreement, the election by a Party of any remedy provided for in this Agreement or otherwise available to such Party will not preclude such Party from pursuing any other remedies available to such Party at law, in equity, by contract, or otherwise.

15.11. Survival. The following provisions will survive the expiration or termination of this Agreement for any reason: Section 3.5 – Customer Obligations; Section 4.6 – Effect of Termination or Expiration; Section 5 – Payment and Invoicing; Section 7.9 – Warranty Disclaimer; Section 7.10 - Additional Warranty Exclusions; Section 8.3 – Customer Indemnity; Section 9 – Limitation of Liability; Section 10 – Confidentiality; Section

11 – Proprietary Rights; Data; Feedback; Section 13 – Force Majeure; Delays Caused by Customer; Section 14 – Disputes; and Section 15 – General.

15.12. Entire Agreement. This Agreement, including all Addenda, and Proposals, constitutes the entire agreement of the Parties regarding the subject matter hereto, and supersedes all previous agreements, proposals, and understandings, whether written or oral, relating to this subject matter. This Agreement may be executed in multiple counterparts, and will have the same legal force and effect as if the Parties had executed it as a single document. The Parties may sign in writing or by electronic signature. An electronic signature, facsimile copy, or computer image of a signature, will be treated, and will have the same effect as an original signature, and will have the same effect, as an original signed copy of this document. This Agreement may be amended or modified only by a written instrument signed by authorized representatives of both Parties. The preprinted terms and conditions found on any Customer purchase order, acknowledgment, or other form will not be considered an amendment or modification or part of this Agreement, even if a representative of each Party signs such document.

The Parties hereby enter into this MCA as of the Effective Date.

Motorola Solutions, Inc.	**Customer: Morgan County**
By: J. Fernandez	By: _____
Name: Janet Fernandez	Name: _____
Title: Regional Vice President, Southeast Region	Title: _____
Date: June 16, 2026	Date: _____

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Section 7

Product Documentation

Motorola has provided key literature on the following pages.

1. ASTRO 25 Trunked Simulcast System
2. Microwave Equipment
3. Subscribers

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7.1 ASTRO 25 Trunked Simulcast System

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ASTRO P25 RADIO SYSTEMS

YOUR LIFELINE TO A SUCCESSFUL MISSION



THE ASTRO ADVANTAGE

Whether a traffic stop or a wide-area disaster, team communication can make the difference between a good and a bad outcome.

But in today's interconnected world, we know your communication technology needs to be more than just reliable. It needs to securely connect different teams using different technologies.

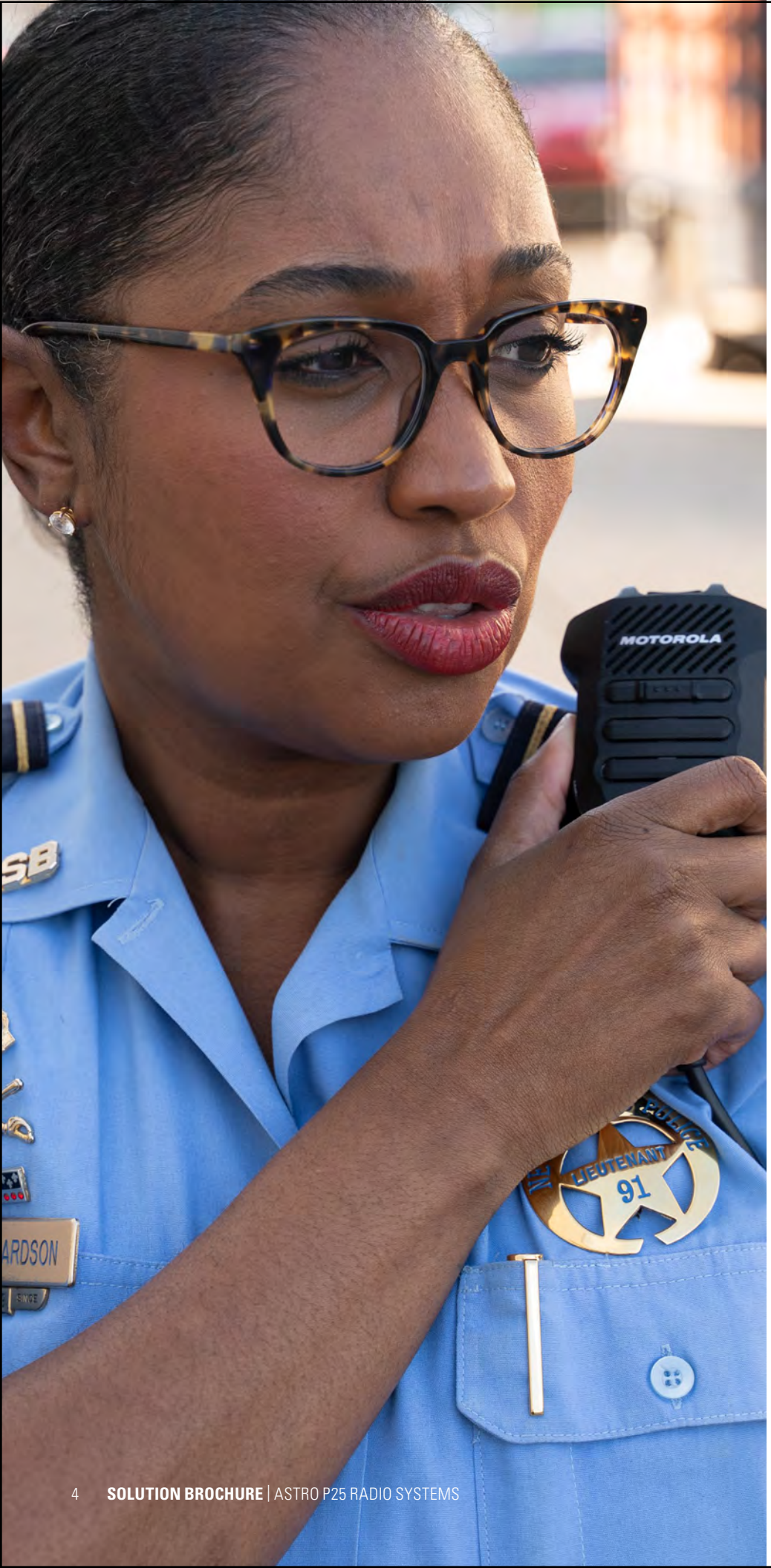
This is why we build ASTRO® radio systems.

Always-available communication, even under extreme conditions. Bringing together P25 and broadband for a higher level user experience. Greater interoperability and ease of collaboration between agencies. And, securely protecting the network and the information it carries.



FROM THE FIRST COMMERCIALLY-DEPLOYED DIGITAL TWO-WAY RADIO SYSTEM TO TODAY'S SOFTWARE-DEFINED NETWORK, ASTRO CONTINUES TO EVOLVE TO BE MORE CAPABLE AND MORE PREPARED TO CHANGE OUTCOMES.

CHOOSE A PROVEN COMMUNICATION SOLUTION.
CHOOSE ASTRO P25 RADIO SYSTEMS.



ALWAYS AVAILABLE

Reliable communication, everywhere you operate, is crucial for an effective operation and for the safety of your personnel. Responding to a natural disaster, routine traffic stop or ensuring safety at a parade, your personnel depend on reliable communication to change outcomes. Reliability is a fundamental tenet of every ASTRO system we build.

RESILIENT AGAINST SERVICE DISRUPTIONS

Multiple levels of resiliency, all aimed at maintaining reliable communication for everyone and every situation.

COVERAGE EVERYWHERE

Best-in-class coverage designs and radio performance combined with broadband to keep you connected.

PROVIDING MAXIMUM FLEXIBILITY

A software-defined architecture adaptable to your changing needs — from a single site to a statewide network.

BEST-IN-CLASS SERVICES

From initial design to lifecycle assurance, we can help you maintain the peak performance of your radio system.

INTEROPERABLE

Natural and manmade incidents are increasing in size and complexity. No one agency can do it all, and neither can any one communication system. Such incidents require a coordinated region-wide response equipped with seamless communication. ASTRO radio systems connect and work with other P25 systems and technologies to enable the seamless exchange of voice and data between agencies and critical infrastructure providers.

CERTIFIED APCO P25 COMPLIANT

Supporting interoperable communication with any manufacturer's P25 compliant radio.

CRITICAL CONNECT

One link connects ASTRO to multiple other radio systems and broadband PTX services for seamless collaboration.

COMMAND CENTER INTEGRATION

Integrates with our public safety CommandCentral software suite to deliver critical voice and data to the command center.

BROADBAND INTEGRATION

Get the best of both worlds — instant P25 group communications with high bandwidth of broadband. ASTRO can determine the best path for the content and device.

SECURE

It is no secret that bad actors are out there, continuously testing government IP systems for vulnerabilities. ASTRO radio systems adhere to every phase of the NIST cybersecurity framework. We use a risk-based approach throughout the entire product development, implementation and operational support lifecycle to protect user data as well as the network itself.

PROTECTING RADIO USER DATA

Radio authentication and end-to-end encryption with FIPS 140-2 compliance protects voice and data in-transit all the way between the radio user and dispatcher.

PROTECTING THE NETWORK

Guard against illicit access at all points of entry to your ASTRO radio system with link encryption and authentication, SSH/ SNMPv3, endpoint security, intrusion detection systems and stateful firewalls.



STRENGTHENING ASTRO WITH CLOUD

From its early years as a collection of discrete boxes to today's highly flexible software-platform ASTRO technology has continued to leverage advancements in technology to deliver more capability and value to its users. Now, as we see cloud-computing gaining industry acceptance, we are again looking at how this new technology can enhance ASTRO. Our CirrusCentral solutions integrate with ASTRO systems to bring the advantages of cloud to P25 radio communications.

CIRRUSCENTRAL MANAGEMENT

With lives on the line, you need to know that your communication system is up to the task. Designed for ASTRO radio systems, CirrusCentral Managment helps System Managers gain better insights into their system performance with an intuitive user interface and powerful data analytic tools. And as a cloud service, it can be accessed from anywhere on any device with a simple web browser.

CIRRUSCENTRAL CORE

A key component of reliability is having a good backup plan. CirrusCentral Core resides in our secure cloud, safely away from local natural or manmade events that might render the local on-premise core unavailable. If needed, CirrusCentral Core can take over ASTRO call control and routing to maintain wide-area communication between sites and users.

ASTRO EQUIPMENT

Tailored to meet your needs for coverage and capacity, the ASTRO radio system consists of RF site equipment, transport, centralized call control and system management. From a single site to statewide network, conventional to trunking, ASTRO gives you flexibility and scalability to expand as your needs change.

ASTRO CORE

The primary function of the ASTRO core is to enable wide area communication across multiple sites. The core provides distributed call control and routing of voice and data between multiple radio sites.

SOFTWARE DEFINED PLATFORM

The ASTRO Core is designed to adapt to the changing needs of small, single-site systems all the way up to the largest regional or national radio systems with hundreds of radio and console sites. Easy to deploy entitlement licenses and software enables simple capacity expansions, deployment of new features and capabilities, and adoption of new products and services.

RELIABLE

With no single point of failure and multiple levels of redundancy, the ASTRO Core is built for mission-critical service. ASTRO cores are built with components tested for the durability of continuous operations. Redundant hardware, software and network transport systems are ready to take over if needed. And to protect against a catastrophic loss of the core site, geo-redundant and cloud-core configurations are available.

SYSTEM MANAGEMENT

To achieve peak system operating performance you need complete visibility and control of your system components and the devices that run on them. ASTRO's comprehensive set of on-premise management apps includes Fault, Configuration, Accounting, and Performance functions. CirrusCentral Management, a cloud-based management application, enables anywhere, any device access to advanced tools analytics from an intuitive user interface.



RF SITES

The ASTRO portfolio of RF stations, receivers, site controllers and comparators make up the building blocks for Project 25 (P25) two-way radio communication systems from Motorola Solutions. ASTRO site equipment is built with flexibility, resilience and service in mind. For indoor installations, ASTRO site equipment comes in open racks or enclosed cabinets. And, a self-contained, environmentally enclosed cabinet is available for outdoor deployments.



FLEXIBLE DESIGN. SOFTWARE-CONFIGURABLE.

Because it is defined and configured through software, ASTRO has the flexibility to support different modes of operations based on individual site requirements. This simplifies technology migration while extending the useful life of the hardware.

ALWAYS AVAILABLE. RESILIENT TO DISRUPTION.

Built to last, ASTRO sites continue to provide wide-area communication regardless of the conditions. From technology that delivers superior coverage to site designs with no single point of failure (resulting in no more than 1 channel removed from service), ASTRO sites provide best-in-class performance.

SERVICE MADE EASY.

ASTRO sites are built to ease service and maintenance with front access modules, cable connections and LED indicators. Hot-swap modules ensure channels are back on the air with minimal downtime. Remote software upgrades with rolling activation makes it easy to stay up to date with minimal disruption.

EXTENDING P25 SERVICE AREA

Incidents don't always occur where you have strong radio coverage. Buildings, tunnels and rural areas can put your teams at risk of losing their radio signal. This is where our portfolio of coverage enhancement products can deliver the communication needed to keep your people safe, and operations successful.



DVR-LX P25 DIGITAL REPEATER

Extend the range of P25 digital or FM analog operation with the power of a 10 watt repeater. Install the repeater in a vehicle and take it with you to incidents in remote areas or permanently fix mount the repeater in a tunnel or underground parking garage.



PDR 8000 PORTABLE DIGITAL REPEATER

Set up the PDR 8000 suitcase at a special event or incident to quickly provide local P25 conventional or analog FM portable radio coverage. Connect to your Motorola Solutions dispatch console wherever it may be via a V.24 telephone connection.



VRX 1000 VEHICLE RADIO EXTENDER

With up to 3 watts of power, the budget friendly VRX 1000 provides portable radio communication in a mobile-only coverage area.



SMARTCONNECT

Stay connected to P25 even when outside P25 coverage. SmartConnect can keep you connected by rerouting P25 voice and data packets available broadband networks such as LTE, Wi-Fi and satellite. This effectively extends the service area of equipped APX P25 radios to nationwide. The switch is fast and automatic with no user intervention.



ASTRO SOFTWARE APPLICATIONS

Augment your radio system with integrated applications and software that can speed information delivery, ease operational management and improve team safety.

VIRTUAL ASSISTANT

Run routine database checks at the push of a button with ViQi, our AI-powered virtual assistant, and leave dispatchers to focus on other priorities.

INDUSTRIAL INTERNET OF THINGS (IOT)

Remotely monitor the performance of your critical infrastructure and correct problems instantly to extend the life of your assets.

LOCATION SERVICES

In addition to plotting users on a map, create ad-hoc talkgroups defined by geofences and ensure everyone in the area is connected.

SMARTCONNECT

Stay connected even when outside radio coverage by automatically switching to broadband — Wi-Fi, LTE, or satellite.

ALERTS

From man down to vehicle impact to shots fired, keep field teams safe with a variety of alerts automatically sent to the command center.

MESSAGING

Efficiently send text, status, telematics and other information to individuals or talkgroups to elevate awareness across your extended team.

INTEROPERABILITY

Set up interoperable communication in just a few clicks across multiple radio and broadband systems.

FLEET MANAGEMENT

Update your fleet of radios over LTE, Wi-Fi or P25 without bringing them into the shop and without operational interruption.

DISPATCH COMMUNICATIONS

Highly reliable, robust dispatch capabilities have always been a key component of P25 communications. To get the most out of your ASTRO radio system, pair it with our dispatch consoles for safer, more informed field responses when it matters most.





COMMANDCENTRAL AXS

From its flexible, intuitive user interface, to cross-platform integration and seamless multi-system access, CommandCentral AXS helps you efficiently manage and respond to the increasing amount of data and information that is flowing into today's dispatch centers.

NEXT GENERATION DISPATCH EXPERIENCE

With CommandCentral AXS, you can access what you want, where you want, in the manner you want, helping reduce stress and learning curves. A customizable interface lets you place your most important resources at your fingertips.

CROSS-PLATFORM INTEGRATION

CommandCentral AXS is built with extensible architecture, enabling bi-directional integration capabilities with other software applications found in the dispatch center. Dispatchers can place and control their primary radio resources from within their CAD application.

SEAMLESS MULTI-SYSTEM ACCESS

CommandCentral AXS enables dispatchers to seamlessly communicate and simultaneously connect across ASTRO and other P25 trunking systems, private broadband systems, MOTOTRBO™ professional systems, and analog radio systems.

MCC 7500E

The portable and compact MCC 7500E IP Dispatch Console gives your command centers access to expanded metadata and audio resources, helping you drive more informed field responses, whether you're communicating from permanent, back-up or mobile dispatch locations.

TAKE IT WITH YOU

The MCC 7500E provides a full console interface experience anywhere inside or outside of your radio network. Count on high availability, always, via redundant ethernet connections, end-to-end encryption and dual firewalls.

PHYSICAL SPACE EVOLUTION

The MCC 7500E utilizes a small form factor console that occupies only 165 cubic inches of physical space, an overall 90% reduction from other offerings. Its compact size makes it perfectly suited for cramped command centers that require best in class dispatching capabilities without all the extra weight.

ASTRO INFRASTRUCTURE SERVICES

BECAUSE DOWNTIME IS NOT AN OPTION

Your network must be available, resilient and responsive to support your operations, from everyday routines to crisis situations. Our services can help you accelerate service response, manage technology complexity and boost network performance with the right combination of expertise and tools.

NETWORK MONITORING & INCIDENT MANAGEMENT

ENSURE MINIMAL DOWNTIME AND AVOID OUTAGES

Our 24/7/365 remote network monitoring and incident management can help provide peace of mind regarding network performance. In addition to keeping a watch over your network we also monitor weather, political, national and local events so that we can help you respond to any emergency.

Our expertise, coupled with intelligent automation tools, enables faster incident identification and resolution. Service capabilities include: fault detection, incident analysis, issue resolution, performance reporting and the use of advanced analytics.

DETECT

ANALYZE

RESOLVE

REPORT

PREVENT

EMERGENCY & DISASTER RESPONSE

PREPARE YOUR RESPONSE

Our complete set of capabilities can help you prepare for the worst that might happen. We not only address natural disasters but also other events such as political, social and sporting events. Our teams work 24/7/365 to support your organization and keep your operations running smoothly and minimize downtime. Service capabilities include: proactive monitoring and resolution of your network and external incidents; immediate communications across teams to proactively identify risks; a knowledgeable technical service desk to resolve issues quickly; system engineering that employ best-in-class tools, diagnostics and escalation protocols; and mission-critical expertise to manage network incidents in the field.

EMERGENCY AWARENESS

EMERGENCY OPERATIONS

TECHNICAL SERVICE DESK

NETWORK MONITORING

SYSTEM ENGINEERING

FIELD SERVICES

TECHNICAL SUPPORT & PREVENTATIVE MAINTENANCE

OPTIMIZE SYSTEM PERFORMANCE

Today's technical support capabilities need to span the entire mission-critical technology ecosystem for the entire system to work optimally. Rapid resolution of system issues with effective troubleshooting and well laid out escalation procedures is critical. As the technology provider and system integrator of your public-safety systems we understand system issues better than anyone else. Trust us to provide on-site and remote support for technical issues including repair and replacement and preventive maintenance arising from devices, infrastructure, applications and video cameras.

NETWORK MONITORING

SYSTEM ENGINEERING

FIELD SERVICES



LIFECYCLE MANAGEMENT

IMPROVE SYSTEM PERFORMANCE AND SECURITY

We offer a full range of lifecycle management services that address technology refreshes, security and information assurance for ongoing system reliability and resilience. Software maintenance complements the lifecycle of the system by providing periodic software updates which safeguard, improve performance and extend the lifespan of the system. As new system releases become available, we work with you to upgrade software or hardware or both pertaining to base stations, site controllers, comparators, routers, LAN switches, servers, dispatch consoles, logging equipment, network management terminals, network security devices such as firewalls and intrusion detection sensors, and more – onsite or remotely.

To ensure system upgrades do not impact network availability causing business disruption requires proper planning, we perform extensive testing, flawless implementation and post upgrade training. And finally, our consultants work very closely with you to conduct periodic system assessments and adopt a cadence of communication to keep you informed of upcoming lifecycle changes and recommended strategy.

SOFTWARE MAINTENANCE

SYSTEM UPGRADES

LIFECYCLE MANAGEMENT

MANAGED SECURITY SERVICES

IDENTIFY AND MITIGATE SYSTEM VULNERABILITIES

Stop small issues from becoming big ones with our Managed Security Services. We provide the right people, technology and proven processes to proactively monitor and manage your security needs to defend against cyber attacks. Our suite of services deliver 24/7/365 threat management and data protection with security patching, network and application monitoring, incident management and reporting and advanced threat detection and response.

SECURITY PATCHING

SECURITY MONITORING

THREAT DETECTION



Learn more at **motorolasolutions.com/astro**

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7.2 Microwave Equipment

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Compact HE rectifiers for small to medium telecom applications

The Flatpack S rectifiers incorporate Telecom specifications, high efficiency, ORing protection on output and high power in a small, 217 mm deep box.

Used in the 1U high, 2 or 3 rectifier positions power rack with Smartpack S controller and battery and load distributions, the Flatpack S rectifiers cover 2 to 5.4kW applications using a minimum of space, less than 6 liters, and low heat dissipation.



FLATPACK S 48V RECTIFIERS

1000W HE & 1800W HE

Doc 241122.1x5.DS3 – v1

APPLICATIONS

TELECOM – MOBILE / WIRELESS

- **RADIO BASE STATIONS/ CELL SITES**
- **LTE / 4G / WIMAX**
- **DISTRIBUTED ANTENNA SYSTEMS**
- **MICROWAVE**
- **BROADBAND**

TELECOM – FIXED

- **TELEPHONY SERVERS / SWITCHES**
- **FIBER OPTICS / FTTX**
- **MICROWAVE**
- **CABLE**
- **BROADBAND**



1U 50A SYSTEM



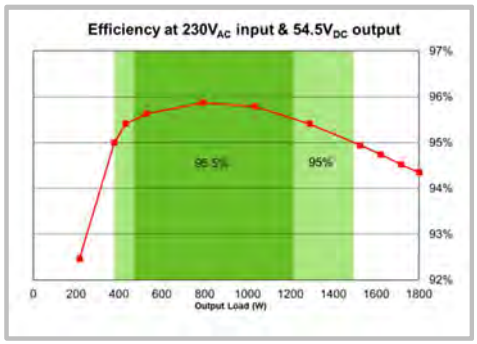
1U 100A SYSTEM



3U SYSTEM BULK OUTPUT

KEY FEATURES

- SMALL
- SHORT
- POWER DENSITY - 47 W/INCH^3
- HIGH EFFICIENCY
- ORING PROTECTION ON OUTPUT
- HOT PLUG-ABLE
- VOLTAGE AND POWER KEYING



FLATPACKS 48V 1800W EFFICIENCY PLOT

FLATPACK S 48V RECTIFIERS

1000W HE & 1800W HE

Model	48/1000 HE	48/1800 HE
Part number	241122.105	241122.125
INPUT DATA		
Voltage (nominal)	185 - 270 V_{AC} / 185 - 250 V_{DC} [1)]	195 - 277 V_{AC} / 195 - 250 V_{DC} [1)]
Voltage (operating range)	85 - 300 V_{AC} / 85 - 250 V_{DC} [1)]	85 - 305 V_{AC} / 85 - 250 V_{DC} [1)]
Current (maximum) @ nominal input, full load	5.9 A_{RMS}	9.9 A_{RMS}
Frequency	45 - 66 Hz / 0 Hz[1)]	
Power Factor	> 0.99 at 50% load or more	
Protection	Fuse in L & N Varistor Shutdown when input voltage is out of operating range	
OUTPUT DATA		
Voltage (default)	53.5 V_{DC}	
Voltage (adjustable range)	43.5 - 57.6 V_{DC}	
Power (maximum) @ nominal input	1000 W	1800 W
Power @ 85 VAC	420 W	700 W
Current (maximum) @ nominal input	20.9 A (@V_{OUT} < 48V_{DC})	37.5 A (@V_{OUT} < 48V_{DC})
Hold up time, maximum output power	>20ms; output voltage > 41 V_{DC}	>10ms; output voltage > 42 V_{DC}
Current sharing (10 - 100% load)	±5% of maximum current from 10 to 100% load	
Static Voltage regulation (10 - 100% load)	±0.5%	
Dynamic Voltage regulation	±5.0% for 10-90% or 90-10% load variation, regulation time < 50ms	
Ripple	< 150 mV_{PP} , 30 MHz bandwidth	
Protection	ORing FET Short circuit proof High temperature protection Over voltage Shutdown	
OTHER SPECIFICATIONS		
Efficiency	Up to 95.5 %	Up to 95.8 %
Isolation	3.0 kV_{AC} - input to output 1.5 kV_{AC} - input to earth 710 V_{DC} - output to earth	
Alarms: Red LED	Low and high input voltage shutdown, High and low temperature shutdown, Rectifier Failure, Overvoltage shutdown on output, Fan failure, Low output voltage alarm, CAN bus failure	
Warnings: Yellow LED	Rectifier in power derate mode, Remote output current limit activated, Input voltage out of range, flashing at overvoltage, Loss of CAN communication with controller	
Normal operation: Green LED		
MTBF (Telcordia SR-332 Issue I method III (a))	>315 000 (@ $T_{ambient}$: 25 °C)	>300 000 (@ $T_{ambient}$: 25 °C)
Operating temperature (5-95% RH n.cond. hum.) Maximum output power derates above temp / to	-40 to + 85°C [-40 to +185°F] 45°C [113°F] / 600W @ 85°C[185°F]	-40 to + 85°C [-40 to +185°F] 45°C [113°F] / 1000W @ 85°C[185°F]
Storage temperature	-40 to +85°C (-40 to +185°F), humidity 0 - 99% RH non-condensing	
Dimensions[WxHxD] / Weight	72 x 41.5 x 217mm (2.83 x 1.63 x 8.54") / < 850 g (1.9 lbs)	
DESIGN STANDARDS		
Electrical safety	UL 60950-1, EN 60950-1	
EMC	ETSI EN 300 386 EN 61000-6-1 / -2 / -3 / -4 TS 61000-6-5 FCC CFR 47 Part 15	
Environment	ETSI EN 300 019: 2-1 (Class 1.2), 2-2 (Class 2.3) & 2-3 (Class 3.2) RoHS (2011/65/EU) and WEEE (2002/96/EC) compliant	

1) DC input only allowed when up-stream breaker is rated for the applicable DC input voltage and has a maximum current rating of 32A

COMPACT, RICH-FEATURED, HOT SWAPPABLE, ALL-IN-ONE CONTROLLER

The Smartpack S covers all control and monitoring needs of small to medium telecom and industrial dc power systems. Status and configuration is fully available through the display locally, or through the Ethernet plug both remote or locally.

Designed for the Flatpack S system platform, the Smartpack S finds its way into many space restricted application. Used in the 1U high, 265mm deep power racks, Smartpack S offers comprehensive monitoring and control of a 2-3kW system occupying less than 6 liters.



SMARTPACK S CONTROLLER

FOR 12V_{DC}, 24V_{DC}, 48 V_{DC} & 60 V_{DC} SYSTEMS

Doc 242100.410.DS3 – v2

APPLICATIONS

TELECOM – MOBILE / WIRELESS

- RADIO BASE STATIONS/ CELL SITES
- LTE / 4G / WIMAX
- DISTRIBUTED ANTENNA SYSTEMS
- BROADBAND

TELECOM – FIXED

- FIBER OPTICS / FTTX
- MICROWAVE
- CABLE
- BROADBAND

OFFSHORE AND PROCESS INDUSTRY

- SAFETY AND AUTOMATION SYSTEMS (SAS)

RAILWAY INFRASTRUCTURE

- CONTROL & PROTECTION
- SIGNALING



1U 50A SYSTEM



1U 100A SYSTEM



3U SYSTEM BULK OUTPUT

KEY FEATURES

- GRAPHICAL 2.2" TFT HIGH CONTRAST, HIGH RESOLUTION COLOR DISPLAY FOR EASY NAVIGATION IN USER MENU
- ETHERNET FOR REMOTE OR LOCAL MONITORING AND CONTROL VIA WEB BROWSER
- SNMP PROTOCOL WITH TRAP, SET AND GET ON ETHERNET. EMAIL OF TRAP ALARMS
- 6 PROGRAMMABLE RELAY OUTPUTS
- 6 PROGRAMMABLE MULTI-PURPOSE INPUTS ("DIGITAL INPUTS" OR ANALOG SIGNALS).
- COMPREHENSIVE LOGGING
- AUTOMATIC BATTERY MONITORING AND TEST
- BATTERY QUALITY INDICATION (BASED ON TEST RESULTS)

SMARTPACK S CONTROLLER

FOR 12V_{DC}, 24V_{DC}, 48 V_{DC} & 60 V_{DC} SYSTEMS

TECHNICAL SPECIFICATIONS

Model	Smartpack S
Part number	242100.410
INPUT DATA	
Voltage (nominal)	10 - 75 V_{DC}
Power Consumption, max - no relays energized max - all relays energized	3,1W (display sleep) 5,5W (display on)
SYSTEM CONNECTIONS - SYSTEM MONITORS	
Voltage sense, system voltage support	12 V_{DC}, 24V_{DC}, 48V_{DC} & 60V_{DC}
Current sense, shunt support	0 - 20mV and 0 - 60mV
Battery fuse monitoring	Auxiliary switch NO/NC, Pull up/down
Load fuse monitoring	Auxiliary switch NO/NC, Diode Matrix Pull up/down
Ground fault detection	Simple bridge circuit detection
SYSTEM CONNECTIONS - LVD CONTROL	
Battery disconnect	1 (latched or non-latched supported)
Load disconnect	1 (latched or non-latched supported)
INPUTS AND OUTPUTS	
Digital configurations, Inputs #1-6	Auxiliary switch: NO/NC
Analog configurations, Inputs #1-4	Analog Voltage[±0 - 10V] ±4-20mA current measurement (through external 470kΩ resistor) Temperature (for NTC probe)
Analog configurations, Inputs #5-6	Analog Voltage[0-75V] Symmetry measurement
Output configurations, Outputs #1-6 (alarms)	6x Relay–Dry/Form C Configurable Normally Open/Closed [Max capacity 75V/2A/60W]
USER INTERFACE	
Local	2.2" TFT 65k Colour display QVGA resolution 4 keys
Ethernet port	10/100 BASE-T HP Auto MDI/MDI-X IP protocols: HTTP / SSL, SNMP v3, MODBUS TCP and pComm UDP (PowerSuite)
Serial port	RS-232 and RS-485 on RJ11 connector Serial protocols: MODBUS RTU, Modem Call-Back/SMS reporting (PSTN or GSM), COMLI, CSCP and pComm (PowerSuite)
GENERAL SPECIFICATIONS	
Dimensions (WxHxD)	72.2 x 43.0 x 220.7mm (2.8 x 1.7 x 8.7")
Temperature Range	Operating -20 to +60˚C (-40 to 140˚F)
DESIGN STANDARDS	
Electrical safety	UL 60950-1-3rd edition, EN 60950-1-3rd edition
EMC	ETSI EN 300 386 V.1.4.1 EN 61000-6-1 / -2 / -3 / -4 FCC Part 15 Subpart 109
Marine*)	DNV- OS-D202, Ch.2 Sev.4 (DNV 2.4), Temperature Cl. B, Humidity Cl. B, Vibration Cl. A and EMC Class B
Environment	ETSI EN 300 019: 2-1 (Class 1.2), 2-2 (Class 2.3) & 2-3 (Class 3.2) ROHS compliant

*) As part of CA0603.000 Flatpack S 3U Marine system

Nokia Wavence

Microwave packet transport for long-haul full-indoor I (ANSI)

The Nokia Wavence Ultra-Broadband Transceiver (UBT-I) provides high-capacity, low latency microwave transport for long-haul, full indoor applications.

Designed to support long-distance, high-capacity, mission-critical applications, the UBT-I units help build flexible, secure, scalable and highly reliable networks. The UBT-I units are integrated in the Nokia Network Services Platform for common management with the rest of the Wavence portfolio, enabling consistent operations across end-to-end packet microwave networks. Combined with the Wavence Microwave Service Switch (MSS), the UBT-I sets the standard for delivering fast, efficient wireless transmission links with flexible networking and simple operations.



UBT-I	
Applications	• Mobile backhauling, private network backbone and rural last mile connectivity • Full indoor configuration
Physical	• 4.06 in x 7.95 in x 11.14 in • (103 mm x 202 mm x 283 mm)
Rack dimension	• 17.1 in x 4.29 in x 10.2 in • (436 mm x 109 mm x 260 mm)
Interfaces	• 1/2.5/10 GE optical port
Radio	• 5.8, L6, U6, 7, 8, 10.5 and 11 GHz • L6, U6, 11 GHz HP version • Up to 1 Gb/s with packet compression • Channels: 5 MHz, 10 MHz, 25 MHz, 30 MHz, 40 MHz, 60 MHz, 80 MHz
Modulation	• 4 QAM to 4096 QAM
Weight	• 11.13lb (5.05 kg)
Power	• -40.5 to -57.6 V • Dedicated sub-9 connector • 180 to 200 W typical depending on configuration and power level



NOKIA

Technical specifications

Connections

- Optical SFP or SFP cables
- Direct power connection to PDU

Radio

- Two versions for UBT-I:
  - Standard unit with transmit and receiver
  - Optional unit with diversity receiver and digital combiner
- Two versions with different output power: UBT-I and UBT-I HP
- 1+0/1+1 HSB/SD
- N+0 Carrier Aggregation
- MPT-HLC + UBT-I Mixed Carrier Aggregation
- Optimized 2+0 Carrier aggregation
- Standalone (direct connection to router)

Mechanical

- Flexible RF filter configurations
  - Diplexers for compact & cost-effect solutions
  - Stacking filters to support FD and LAG
  - Adjacent Channel Co-Polar (ACCP) filters for maximum spectrum efficiency
- Each subrack occupies 2.5 RU in a standard 19–in. rack and holds up to 2 UBT-I/UBT-I HP
- Mix MPT-HLC and UBT-I in same subrack

Networking

- Ethernet interface: One optical SFP plug-in
- Advanced QoS: Support for IEEE 802.1p, Diffserv, TTL and strict priority
- Dynamic scheduling according to air interface changes
- VLAN: IEEE 802.1P, IEEE 802.1Q, Q-in-Q support
- ERPS: ITU-T G.8032
- Ethernet OAM (IEEE 802.1ag, ITU-T Y.1731 BNM, IEEE 802.3ah)

Environmental

- Operating temperature: 23°F to 131°F (-5°C to +55°C)
- Humidity: 0% to 95%, non-condensing

Standards compliance

Regulatory

- FCC Part 101
- ISED SRSP
- NTIA

Security

- AES 256 Encryption over Radio
- Strong Security Protocols (SFTP, HTTPS, SNMPv3)

Safety and environmental

- Telcordia GR-1089
- Telcordia GR-63
- IEEE 1613

Metro Ethernet Forum

- MEF 2.0, MEF 8, MEF 9, MEF 14, MEF 22

Services

- Architecture and design
- Network planning
- Equipment and site engineering
- Installation services
- Integration services
- Performance analysis, network assessment, DCN, synchronization and QoS assessment
- Migration to packet microwave management
- Maintenance
  - 24x7 technical support
  - Return for repair or advanced exchange



About Nokia

At Nokia, we create technology that helps the world act together.

As a trusted partner for critical networks, we are committed to innovation and technology leadership across mobile, fixed and cloud networks. We create value with intellectual property and long-term research, led by the award-winning Nokia Bell Labs.

Adhering to the highest standards of integrity and security, we help build the capabilities needed for a more productive, sustainable and inclusive world.

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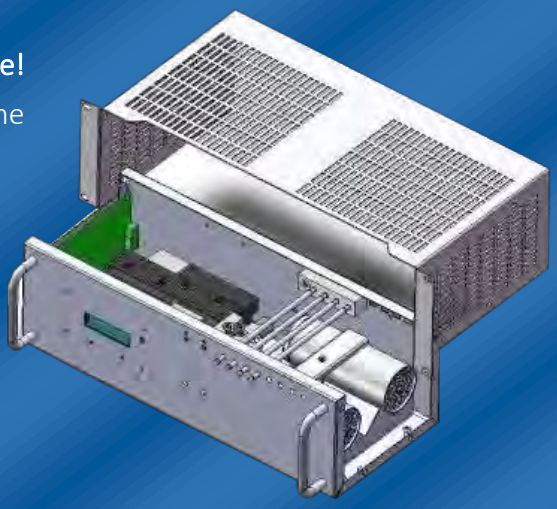
LAB4 Dehydrator

for Waveguide & Coaxial Transmission Line



LAB4 Features

- Designed for continuous operation and automatic duty
- Dry air is vented by four or eight standard individual air outlets with hose-tail fittings accessible from the back side of the equipment. Each outlet has an independent shutoff valve.
- Air is dried through absorption by granular substances in two drying chambers – while one chamber dries the other one is regenerated by heating and backwashing with a reverse dry air flow
    - The electronic microprocessor board controls drying cycles and adjusts the cycle's duration according to plant air needs
- Air is compressed by two diaphragm pumps
- A FUNDAMENTAL feature of the LAB4 is the continuous tracking of output pressure through the Pulse Width Modulation (PWM) technique. PWM optimizes the pump's duty, power consumption and acoustic noise by controlling pump speed
    - Pump speed control eliminates the need for mechanical pressure regulators that introduce undesirable pressure losses and a worse response to flow needs
- No need for pre-settings nor warmup time before start up
- **MTBF: 165,000 hrs = 8,760 per year = 19 years without maintenance!**
- The LAB4 does **not** need preventive maintenance during its lifetime



DIMENSIONS:

19" Rack Mounting: 5.2" H x 19" W x 9.4" Depth
(132 mm H x 482 mm W x 238 mm Depth)
ETSI - N3 Rack Mounting: 5.2" H x 21" W x 9.4" Depth
(132 mm H x 533 mm W x 238 mm Depth)
Wall & Floor Mounting: 5.2" H x 19" W x 11" Depth
(132 mm H x 482 mm W x 278 mm Depth)

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MAILING ADDRESS: PO Box 845, Bristol, TN 37621-0845

PHONE: +1 423 878-3141 **e-mail:** KTL@kintronic.com **website:** www.kintronic.com

Front & Rear Panel Devices

Front Panel

- 0.8" x 6" LCD Display
- 2 Functional keys to 1) scroll and 2) switch settings
- 1 bi-color *Power On* and *Alarms* LED
- Shut-off outlet valves

Rear Panel

- Power Supply connector
- Remote Alarm connector
- Outlets with hose-tail fittings according the equipment configuration

LAB4 Specifications

Output Pressure	Programmable from 0.15 – 0.9 psig (1 – 6 kPa)
Max. Flow Rate	0.18 CFM (300 l/h)
Safety Valve	Factory set at 1.02 psig (7 kPa) ± 10%
Output Air Dew Point	Better than -49° F (-45° C), at 68° F (20° C) ambient temperature, 80% relative humidity
Desiccant Regeneration	Automatic by heating
Regeneration Phase Interval	Adaptive according to plant leakages
Local Alarms	Power & system failures; low/high pressure; and high humidity
Remote Alarms	The summary alarm is remotely signaled by an SPDT relay
Optional Remote Monitoring Interface	10/100 BaseT ethernet, auto-sensing with the following protocols: HTTP, TCP/IP, SNMP, TFTP, FTP, Telnet, DHCP
Outlets	4 outlets standard (8 outlets available at additional cost)
Low Pressure Alarm	Factory set at 0.15 psig (1 kPa), programmable from 0.07 psig (0,5 kPa)
High Pressure Alarm	Factory set at 0.9 psig (6 kPa), programmable up to 1.02 psig (7 kPa)
High Humidity Alarm	Set at 10% of relative humidity ± 2%
Standard Measures	Air pressure, Hour meter
Optional Measures	Digital flow meter, pump rate
Acoustic Noise	≤ 50 dBA at 3.2 ft (1 m) distance and 5 ft (1,5 m) height
Enclosure Degree of Protection	IP20 according to IEC529
Operating Temperature	14 – 122° F (-10° C / +50° C)
Storage Temperature	-22 – 140° F (-30° C / +60° C)
Power Supply	100 – 240 VAC, 50/60 Hz
Power Consumption	≤ 3 W normal operation < 55 W regeneration phase
Weight	About 14.3 lbs (6,5 kg)
Outlet Fittings	3/8" (9,5 mm) diameter (other fittings on request)

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MAILING ADDRESS: PO Box 845, Bristol, TN 37621-0845

PHONE: +1 423 878-3141 **e-mail**: KTL@kintronic.com **website**: www.kintronic.com

HX8-6W-6GF



2.4m | 8ft ValuLine® High Performance, High XPD Antenna, dual-polarized, 5.925 – 7.125 GHz, grey, CPR137G flange

Product Classification

Product Type	Microwave antenna
Product Brand	ValuLine®

General Specifications

Antenna Type	HX - ValuLine® High Performance, High XPD Antenna, dual-polarized
Polarization	Dual
Antenna Input	CPR137G
Antenna Color	Gray
Reflector Construction	One-piece reflector
Radome Color	Gray
Radome Material	Fabric
Flash Included	Yes
Side Struts, Included	1
Side Struts, Optional	4

Dimensions

Diameter, nominal	2.4 m | 8 ft

Electrical Specifications

Operating Frequency Band	5.925 – 7.125 GHz
Gain, Low Band	40.8 dBi
Gain, Mid Band	41.6 dBi
Gain, Top Band	42.4 dBi
Boresite Cross Polarization Discrimination (XPD)	33 dB

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Front-to-Back Ratio	70 dB
Beamwidth, Horizontal	1.3 °
Beamwidth, Vertical	1.3 °
Return Loss	26 dB
VSWR	1.1
Radiation Pattern Envelope Reference (RPE)	7389
Electrical Compliance	ACMA FX03_6b, 6p7b | Brazil Anatel Class 2 | ETSI 302 217 Class 3 | IC 3059A | IC 3064A | US FCC Part 101A | US FCC Part 74A
Cross Polarization Discrimination (XPD) Electrical Compliance	ETSI EN 302217 XPD Category 2

Electrical Specifications, Band 2

Operating Frequency Band	5.725 – 5.850 GHz
Gain, Mid Band	40.7 dBi
Beamwidth, Horizontal	1.3 °
Beamwidth, Vertical	1.3 °

Mechanical Specifications

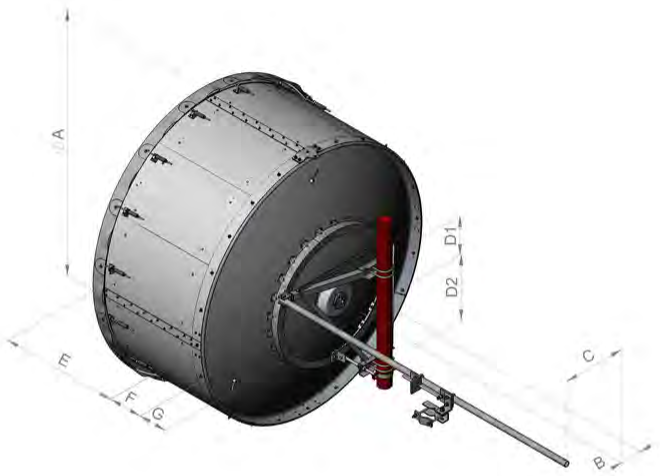
Compatible Mounting Pipe Diameter	115 mm | 4.5 in
Fine Azimuth Adjustment Range	±5°
Fine Elevation Adjustment Range	±5°
Wind Speed, operational	180 km/h | 111.847 mph
Wind Speed, survival	200 km/h | 124.274 mph

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HX8-6W-6GF

Antenna Dimensions and Mounting Information

HX8



Dimensions in inches (mm)								
Antenna size, ft (m)	A	B	C	D1	D2	E	F	G
8 (2.4)	95.1 (2416)	8.0 (203)	22.5 (572)	14.1 (357)	23.6 (600)	42.4 (1078)	12.1 (306)	10.3 (262)

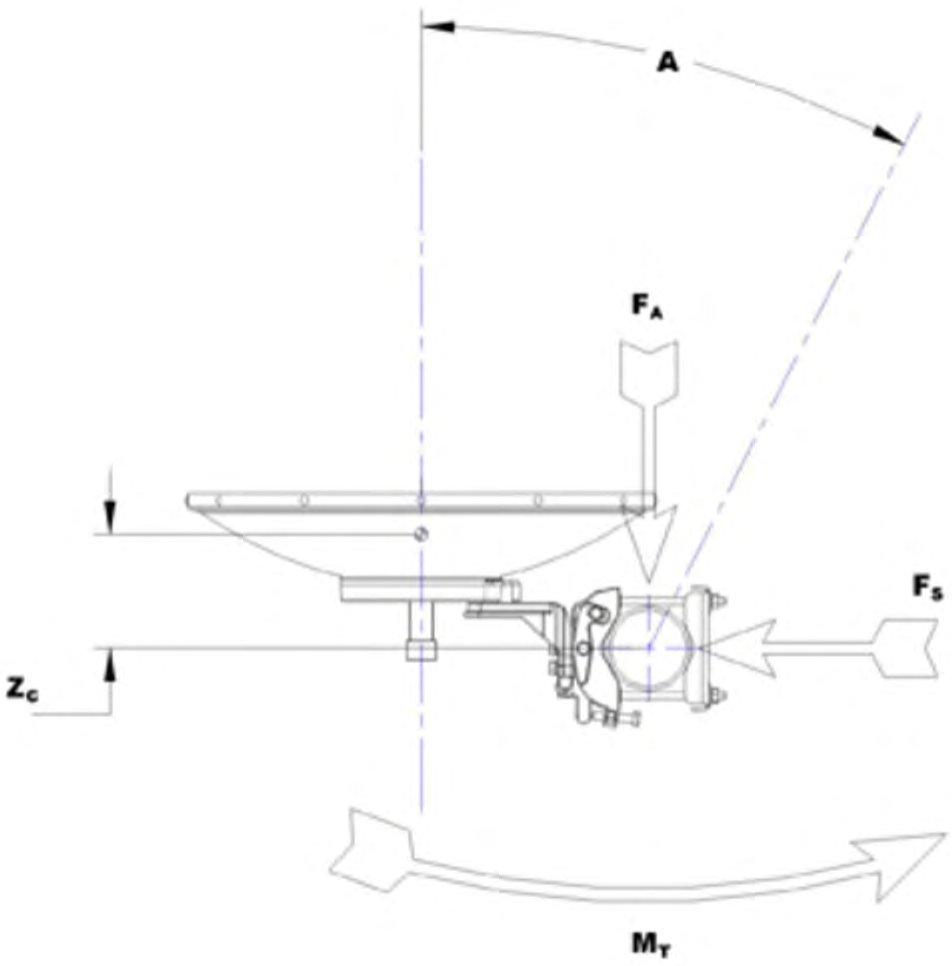
Wind Forces at Wind Velocity Survival Rating

Axial Force (FA)	10599 N | 2,382.751 lbf
Angle a for MT Max	-140 °
Side Force (FS)	4594 N | 1,032.773 lbf
Twisting Moment (MT)	-6518 N-m | -57,689.16 in lb
Force on Inboard Strut Side	11263 N | 2,532.024 lbf
Zcg without Ice	532 mm | 20.945 in
Zcg with 1/2 in (12 mm) Radial Ice	675 mm | 26.575 in
Weight with 1/2 in (12 mm) Radial Ice	342 kg | 753.98 lb

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Wind Forces at Wind Velocity Survival Rating Image



Packaging and Weights

Height, packed	2250 mm | 88.583 in
Width, packed	1130 mm | 44.488 in
Length, packed	2380 mm | 93.701 in
Packaging Type	Standard pack
Volume	6.1 m^3 | 215.42 ft^3
Weight, gross	318 kg | 701.069 lb
Weight, net	187 kg | 412.264 lb

Regulatory Compliance/Certifications

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Agency	Classification
ISO 9001:2015	Designed, manufactured and/or distributed under this quality management system

* Footnotes

Operating Frequency Band	Bands correspond with CCIR recommendations or common allocations used throughout the world. Other ranges can be accommodated on special order.
Gain, Mid Band	For a given frequency band, gain is primarily a function of antenna size. The gain of Andrew antennas is determined by either gain by comparison or by computer integration of the measured antenna patterns.
Boresite Cross Polarization Discrimination (XPD)	The difference between the peak of the co-polarized main beam and the maximum cross-polarized signal over an angle twice the 3 dB beamwidth of the co-polarized main beam.
Front-to-Back Ratio	Denotes highest radiation relative to the main beam, at 180° ±40°, across the band. Production antennas do not exceed rated values by more than 2 dB unless stated otherwise.
Return Loss	The figure that indicates the proportion of radio waves incident upon the antenna that are rejected as a ratio of those that are accepted.
VSWR	Maximum; is the guaranteed Peak Voltage-Standing-Wave-Ratio within the operating band.
Radiation Pattern Envelope Reference (RPE)	Radiation patterns define an antenna's ability to discriminate against unwanted signals. Under still dry conditions, production antennas will not have any peak exceeding the current RPE by more than 3dB, maintaining an angular accuracy of +/-1° throughout
Cross Polarization Discrimination (XPD) Electrical Compliance	The difference between the peak of the co-polarized main beam and the maximum cross-polarized signal over an angle twice the 3 dB beamwidth of the co-polarized main beam.
Wind Speed, operational	For VHLP(X), SHP(X), HX and USX antennas, the wind speed where the maximum antenna deflection is 0.3 x the 3 dB beam width of the antenna. For other antennas, it is defined as a deflection is equal to or less than 0.1 degrees.
Wind Speed, survival	The maximum wind speed the antenna, including mounts and radomes, where applicable, will withstand without permanent deformation. Realignment may be required. This

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	wind speed is applicable to antenna with the specified amount of radial ice.
Axial Force (FA)	Maximum forces exerted on a supporting structure as a result of wind from the most critical direction for this parameter. The individual maximums specified may not occur simultaneously. All forces are referenced to the mounting pipe.
Side Force (FS)	Maximum side force exerted on the mounting pipe as a result of wind from the most critical direction for this parameter. The individual maximums specified may not occur simultaneously. All forces are referenced to the mounting pipe.
Twisting Moment (MT)	Maximum forces exerted on a supporting structure as a result of wind from the most critical direction for this parameter. The individual maximums specified may not occur simultaneously. All forces are referenced to the mounting pipe.
Packaging Type	Andrew standard packing is suitable for export. Antennas are shipped as standard in totally recyclable cardboard or wire-bound crates (dependent on product). For your convenience, Andrew offers heavy duty export packing options.

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VHLP6-6W/B



1.8 m | 6 ft ValuLine® High Performance Low Profile Antenna, single-polarized, 5.925–7.125 GHz

Product Classification

Product Type	Microwave antenna
Product Brand	ValuLine®

General Specifications

Antenna Type	VHLP - ValuLine® High Performance Low Profile Antenna, single-polarized
Polarization	Single
Side Struts, Included	1
Side Struts, Optional	1 inboard

Dimensions

Diameter, nominal	1.8 m | 6 ft

Electrical Specifications

Operating Frequency Band	5.925 – 7.125 GHz
Gain, Low Band	38.5 dBi
Gain, Mid Band	39.3 dBi
Gain, Top Band	40.1 dBi
Boresite Cross Polarization Discrimination (XPD)	30 dB
Front-to-Back Ratio	66 dB
Beamwidth, Horizontal	1.8 °
Beamwidth, Vertical	1.8 °
Return Loss	17.7 dB
VSWR	1.3
Radiation Pattern Envelope Reference (RPE)	7138B

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Electrical Compliance	Brazil Anatel Class 3 | Canada SRSP 305.9 Part B | Canada SRSP 306.4 Part A | ETSI 302 217 Class 3 | US FCC Part 101A

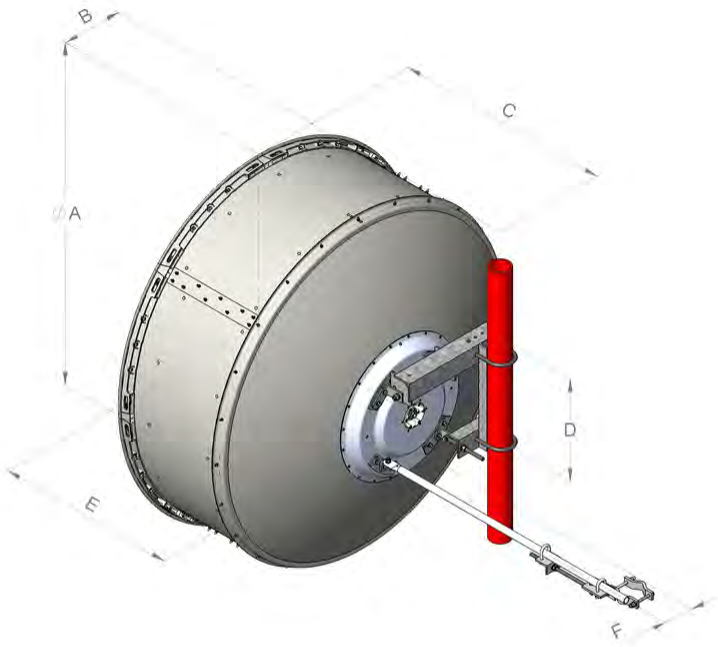
Mechanical Specifications

Compatible Mounting Pipe Diameter	115 mm–120 mm | 4.5 in–4.7 in
Fine Azimuth Adjustment Range	±15°
Fine Elevation Adjustment Range	±5°
Wind Speed, operational	180 km/h | 111.847 mph
Wind Speed, survival	250 km/h | 155.343 mph

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VHLP6-6W/B

Antenna Dimensions and Mounting Information



Dimensions in inches (mm)						
Antenna size, ft (m)	A	B	C	D	E	F
6 (1.8)	74.8 (1899)	13.4 (340)	47.5 (1206)	22.4 (570)	39.4 (1001)	6.9 (174)

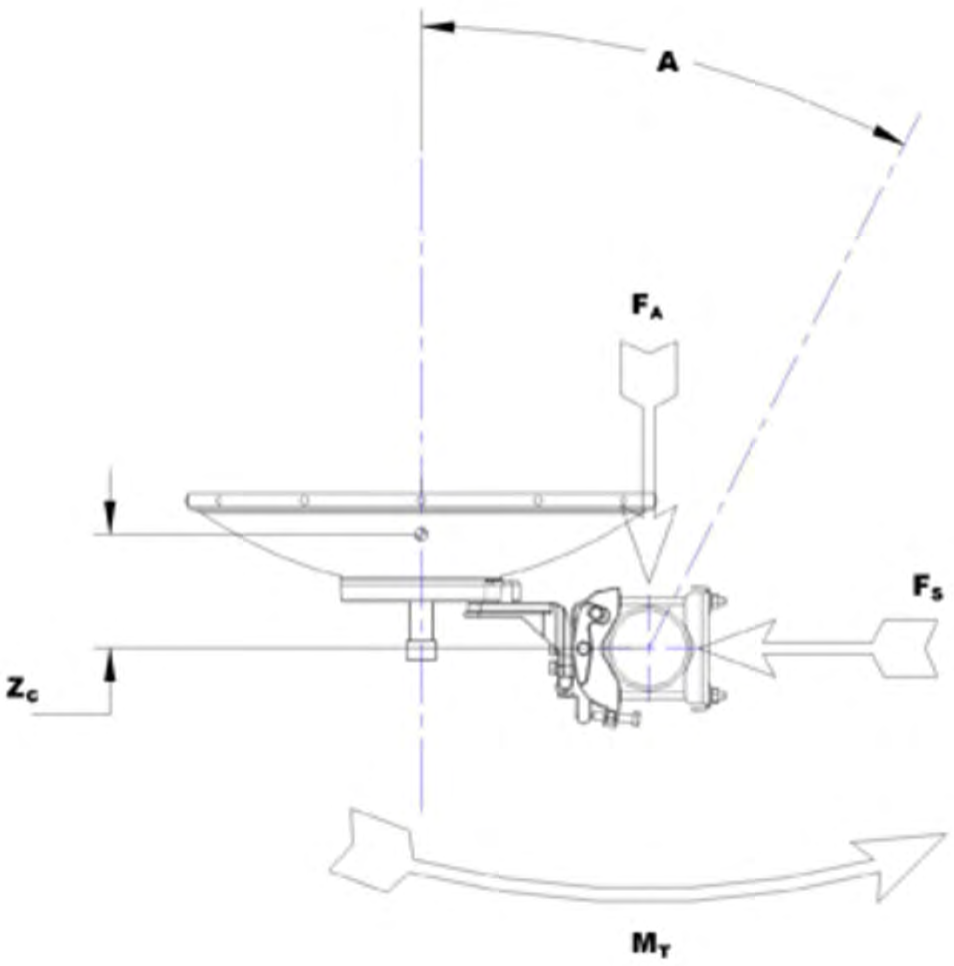
Wind Forces at Wind Velocity Survival Rating

Axial Force (FA)	10670 N | 2,398.712 lbf
Angle a for MT Max	-120 °
Side Force (FS)	5286 N | 1,188.34 lbf
Twisting Moment (MT)	4752 N-m | 42,058.742 in lb
Zcg without Ice	363 mm | 14.291 in
Zcg with 1/2 in (12 mm) Radial Ice	543 mm | 21.378 in
Weight with 1/2 in (12 mm) Radial Ice	234 kg | 515.881 lb

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VHLP6-6W/B

Wind Forces at Wind Velocity Survival Rating Image



Packaging and Weights

Weight, net	86 kg | 189.597 lb

Regulatory Compliance/Certifications

Agency	Classification
ISO 9001:2015	Designed, manufactured and/or distributed under this quality management system

* Footnotes

Operating Frequency Band	Bands correspond with CCIR recommendations or common allocations

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	used throughout the world. Other ranges can be accommodated on special order.
Gain, Mid Band	For a given frequency band, gain is primarily a function of antenna size. The gain of Andrew antennas is determined by either gain by comparison or by computer integration of the measured antenna patterns.
Boresite Cross Polarization Discrimination (XPD)	The difference between the peak of the co-polarized main beam and the maximum cross-polarized signal over an angle twice the 3 dB beamwidth of the co-polarized main beam.
Front-to-Back Ratio	Denotes highest radiation relative to the main beam, at 180° ±40°, across the band. Production antennas do not exceed rated values by more than 2 dB unless stated otherwise.
Return Loss	The figure that indicates the proportion of radio waves incident upon the antenna that are rejected as a ratio of those that are accepted.
VSWR	Maximum; is the guaranteed Peak Voltage-Standing-Wave-Ratio within the operating band.
Radiation Pattern Envelope Reference (RPE)	Radiation patterns define an antenna's ability to discriminate against unwanted signals. Under still dry conditions, production antennas will not have any peak exceeding the current RPE by more than 3dB, maintaining an angular accuracy of +/-1° throughout
Wind Speed, operational	For VHLP(X), SHP(X), HX and USX antennas, the wind speed where the maximum antenna deflection is 0.3 x the 3 dB beam width of the antenna. For other antennas, it is defined as a deflection is equal to or less than 0.1 degrees.
Wind Speed, survival	The maximum wind speed the antenna, including mounts and radomes, where applicable, will withstand without permanent deformation. Realignment may be required. This wind speed is applicable to antenna with the specified amount of radial ice.
Axial Force (FA)	Maximum forces exerted on a supporting structure as a result of wind from the most critical direction for this parameter. The individual maximums specified may not occur simultaneously. All forces are referenced to the mounting pipe.
Side Force (FS)	Maximum side force exerted on the mounting pipe as a result of wind from the most critical direction for this parameter. The individual maximums specified may not occur simultaneously. All forces are referenced to the mounting pipe.
Twisting Moment (MT)	Maximum forces exerted on a supporting structure as a result of wind from the most critical direction for this parameter. The individual maximums specified may not occur simultaneously. All forces are referenced to the mounting pipe.

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7.3 Subscribers

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APX ™ 4500 PROJECT 25 MOBILE RADIO

BE BETTER EQUIPPED TO BE MISSION READY

A downed power line or the city transit system coming to a halt during rush hour, when the unexpected strikes, you must interoperate seamlessly and securely with other agencies and responders — often across multiple Project 25 (P25) systems. You need to instantly connect and be informed to make better decisions and respond effectively. While the advanced technology of APX™ radios expertly equips you for the unexpected, your organization may be challenged to improve operating expenses.

That's where the APX 4500 P25 mobile radio fits the bill perfectly. It delivers all the benefits of TDMA technology in a compact P25 capable mobile. The APX 4500 brings together powerful technology in an easy-to-use radio that's easy on your budget. It seamlessly unifies public works, utility, rural public safety and transportation users to first responders so they can communicate effectively in the moments that matter.

CONVENIENTLY SMALL, EASY TO INSTALL

The APX 4500 is designed to get the job done without getting in the way. A simplified dash mount design makes installation quick and easy, fitting into the existing XTL™ footprint so you can reuse mounting holes and cables.

Count on the APX 4500 to withstand wet, dusty and hazardous conditions, too. Its IP56 durability rating is the highest level of certification for uncompromising durability and world class quality in a mobile performer you can hose down.

KEEPS CREWS IN TOUCH, AND UP TO THE MINUTE

Safety runs in the APX family and the APX 4500 mobile is no exception. Like all our APX P25 radios trusted by responders worldwide, the APX 4500 mobile redefines safety. Your crews can count on quick, seamless interoperability and extended range – whether they are talking from the top of a pole or the bottom of a trench. You can depend on 256-bit AES encryption for secure, tamperproof voice and data communications every time they connect.

With integrated GPS in the APX 4500, you can keep an eye on workers and assets you can't see, tracking their locations continuously. The O2 control head with color display is easy to read and operate in all lighting conditions, from bright sunlight to dark streets. The intelligent lighting on the O2 control head notifies your workers when a call is received, an emergency arises, or when they are out of range. Plus, an enlarged multifunction knob makes it easy to use talk-group and volume settings when they're wearing gloves.

Over-the-air programming on the APX 4500 keeps your crews current in the field. You can update the latest mobile without interrupting voice communications while they work.

SIZED RIGHT FOR YOUR BUDGET

The APX 4500 lets you reuse many accessories which utilize the O5 and O3 control heads on XTL radios, so you can maximize your investment while you benefit from the latest technology. Since the APX 4500 is P25 Phase 2 capable for twice the voice capacity, you can add more users without adding more frequencies or infrastructure. It is backwards and forwards compatible with all Motorola mission critical radio systems, so you can interoperate with confidence while you improve operating expenses.

APX™ 4500 SPECIFICATIONS

FEATURES AND BENEFITS:

Available in 700/800 MHz, VHF, UHFR1, UHFR2, and 900 MHz. Supports NPCS band (901-902 MHz and 940-941 MHz)

Channels: Standard 512

Trunking Standards supported:
- Clear or digital encrypted Trunked Operation
- Capable of SmartZone®, SmartZone Omnilink, SmartNet®

Analog MDC-1200 and Digital APCO P25 Conventional System Configurations

Narrow and wide bandwidth digital receiver (6.25/12.5/25/30 kHz)

Embedded digital signaling (ASTRO and ASTRO 25)

Integrated Encryption Hardware

Integrated GPS/GLONASS for outdoor location tracking

Intelligent lighting

Radio profiles

Unified Call List

Meets applicable MIL-STD 810C, D, E, F, G

Ships standard IP56

Customer Programming Software (CPS) supported on Windows XP, Vista, 7 and 8
(Windows 7 or 8 required for CPS R12.00.00 [June 2014] and later)

- Supports USB Communications
- Built in FLASHport™ support

Re-use of most XTL™ accessories, plus new IMPRES accessories

OPTIONAL FEATURES:

256-bit AES Encryption

Programming over Project 25 (POP25)

Text Messaging

12 character RF ID asset tracking

APX 4500 CONTROL HEAD PORTFOLIO

O2 RUGGED CONTROL HEAD

- Large color display with intelligent lighting
- 3 lines of text 14 characters max / 1 line of icons / 1 line of menus
- Built in 7.5 W speaker
- Multifunction volume/channel knob
- Night/day mode button





TRANSMITTER - TYPICAL PERFORMANCE SPECIFICATIONS

	700 MHz	800 MHz	VHF	UHF Range 1	UHF Range 2	900 MHz
Frequency Range/Bandsplits	764-776 MHz 794-806 MHz	806-824 MHz 851-870 MHz	136-174 MHz	380-470 MHz	450-520 MHz	896-902 MHz 935-941 MHz
Channel Spacing	25/12.5 kHz	25/12.5 kHz	30/25/12.5 kHz	25/12.5 kHz	25/12.5 kHz	12.5 kHz
Maximum Frequency Separation	Full Bandsplit	Full Bandsplit	Full Bandsplit	Full Bandsplit	Full Bandsplit	Full Bandsplit
Rated RF Output Power (Adjustable)*	10-30 W	10-35 W	10-50 W	10-40 W	10-45 W (450-485 MHz) 10-40 W (485-512 MHz) 10-25 W (512-520 MHz)	1-30 W (896-901 MHz) (935-940 MHz) 1-3 W (901-902 MHz) (940-941 MHz)
Frequency Stability* (-30°C to +60°C; +25°C Ref.)	0.8 PPM	±0.8 PPM	±0.8 PPM	±0.8 PPM	±0.8 PPM	±0.8 PPM
Modulation Limiting*	±5/±2.5 kHz	±5/±4 (NPSPAC) /±2.5 kHz	±5/±2.5 kHz	±5/±2.5 kHz	±5/±2.5 kHz	±2.5 kHz
Modulation Fidelity (C4FM) 12.5 kHz Digital Channel	1.5%	1.5%	2.5%	1.1%	1.1%	1.5%
Emissions*	Conducted† -75/-85 dBc Radiated† -20/-40 dBm	Conducted -75 dBc Radiated -20 dBm	Conducted -85 dBc Radiated -20 dBm	Conducted -85 dBc Radiated -20 dBm	Conducted -85 dBc Radiated -20 dBm	Conducted† -70 dBc Radiated† -20 dBm
Audio Response*	+1, -3 dB (EIA)	+1, -3 dB (EIA)	+1, -3 dB (EIA)	+1, -3 dB (EIA)	+1, -3 dB (EIA)	+1, -3 dB (EIA)
FM Hum & Noise 25 & 20 kHz 12.5 kHz	-50 dB -48 dB	-50 dB -48 dB	-53 dB -52 dB	-53 dB -50 dB	-53 dB -50 dB	— -45 dB
Audio Distortion* 25 & 20 kHz 12.5 kHz	0.50% 0.50%	0.50% 0.50%	0.50% 0.50%	0.50% 0.50%	0.50% 0.50%	— 0.80%

RECEIVER – TYPICAL PERFORMANCE SPECIFICATIONS

	700 MHz	800 MHz	VHF	UHF Range 1	UHF Range 2	900 MHz
Frequency Range/Bandsplits	764-776 MHz	851-870 MHz	136-174 MHz	380-470 MHz	450-520 MHz	935-941MHz
Channel Spacing	25/12.5 kHz	25/12.5 kHz	30/25/12.5 kHz	25/12.5 kHz	25/12.5 kHz	12.5 kHz
Maximum Frequency Separation	Full Bandsplit	Full Bandsplit	Full Bandsplit	Full Bandsplit	Full Bandsplit	Full Bandsplit
Audio Output Power 3% distortion, 8/3.2 Ohm speakers	7.5/15 W	7.5/15 W	7.5/15 W	7.5/15 W	7.5/15 W	7.5/15 W
Frequency Stability* (-30°C to +60°C; +25°C Ref.)	±0.8 PPM	±0.8 PPM	±0.8 PPM	±0.8 PPM	±0.8 PPM	±0.8 PPM
Analog Sensitivity* 12 dB SINAD Digital Sensitivity 5% BER	-121 dBm (0.199 µV) -121.5 dBm (0.210 µV)	-121 dBm (0.199 µV) -121.5 dBm (0.210 µV)	Pre-Amp -123 dBm (0.158 µV) -123 dBm (0.158 µV) Standard -119 dBm (0.251 µV) -119 dBm (0.251 µV)	Pre-Amp -123 dBm (0.158 µV) -123 dBm (0.158 µV) Standard -119 dBm (0.251 µV) -119 dBm (0.251 µV)	Pre-Amp -123 dBm (0.158 µV) -123 dBm (0.158 µV) Standard -119 dBm (0.251 µV) -119 dBm (0.251 µV)	Standard -120dBm (0.224 µV) -121dBm (0.200 µV)
Intermodulation 25 kHz 12.5 kHz	82 dB 82 dB	82 dB 82 dB	84 dB 86 dB 85 dB 86 dB	82 dB 86 dB 83 dB 85 dB	82 dB 86 dB 83 dB 85 dB	— 82 dB
Spurious Rejection	91 dB	91 dB	95 dB	93 dB	93 dB	91 dB
Audio Distortion at rated*	2%	2%	2%	2%	2%	2%
Selectivity* 25 kHz 12.5 kHz 30 kHz	85 dB 75 dB —	85 dB 75 dB —	89 dB 77 dB 90 dB	83 dB 72 dB —	83 dB 72 dB —	— 74dB —

DIMENSIONS

	Inches	Millimeters
Mid Power Radio Transceiver	2 x 7 x 6.4	50.8 x 178 x 163
O2 Control Head	2.7 x 8.1 x 2.1	69 x 207 x 53
Mid Power Radio Transceiver and O2 Control Head - Dash Mount	2.7 x 8.1 x 8.8	69 x 207 x 223
Mid Power Radio Transceiver and O2 Control Head Weight	5.28 lbs	2.45 kg

RADIO MODELS

700/800 (763-870 MHz)	M22URS9PW1AN
VHF (136-174 MHz)	M22KSS9PW1AN
UHF Range 1 (380-470 MHz)	M22QSS9PW1AN
UHF Range 2 (450-520 MHz)	M22SSS9PW1AN

SIGNALING (ASTRO MODE)

Signaling Rate	9.6 kbps
Digital ID Capacity	10,000,000 Conventional / 48,000 Trunking
Digital Network Access Codes	4,096 network site addresses
ASTRO® Digital User Group Addresses	4,096 network site addresses
Project 25 – CAI Digital User Group Addresses	65,000 Conventional / 4,094 Trunking
Error Correction Techniques	Golay, BCH, Reed-Solomon codes
Data Access Control	Slotted CSMA: Utilizes infrastructure-sourced data status bits embedded in both voice and data transmissions.

GPS SPECIFICATIONS

Channels	12
Tracking Sensitivity	-153 dBm
Accuracy**	<10 meters (95%)
Cold Start	<60 seconds (95%)
Hot Start	<10 seconds (95%)
Mode of Operation	Autonomous (Non-Assisted) GPS

POWER AND BATTERY DRAIN

Model Type	136-174 MHz, 380-470 MHz, 450-520 MHz, 764-870 MHz, 896-941 MHz					
Minimum RF Power Output	2-30 W (764-776 MHz), 2-30 W (794-806 MHz), 2-35 W (806-824 MHz), 2-35 W (851-870 MHz), 1-50 W (136-174 MHz). 1-40 W (380-470 MHz), 1-45 W (450-485 MHz), 1-40 W (485-512 MHz), 1-25 W (512-520 MHz), 1-30 W (896-901 MHz), 1-3 W (901-902 MHz), 1-30 W (935-940 MHz), 1-3 W (940-941 MHz)					
Operation	13.8V DC ±20% Negative Ground					
Standby at 13.8V	0.85A (764-870 MHz), 0.85A (136-174 MHz), 0.85A (380-470 MHz), 0.85A (450-520 MHz)					
Receive Current at Rated Audio at 13.8V	3.2A (764-870 MHz), 3.2A (136-174 MHz), 3.2A (380-470 MHz), 3.2A (450-520 MHz)					
Transmit Current (A) at Rated Power	136-174 MHz (10-50 W) 380-470 MHz (10-40 W) 380-470 MHz (10-40 W)	13A (50 W) 11A (40 W) 11A (45 W)	8A (15 W) 8A (15 W) 8A (15 W)	764-870 MHz (2-35 W) 896-901 MHz (1-30 W) 935-940 MHz(1-30 W) 901-902 MHz(1-3 W) 940-941 MHz(1-3 W)	12A (35 W) 10A (30 W) 10A (30 W) 5A (3 W) 5A (3 W)	8A (15 W) 7A(15 W) 7A(15 W)

MOBILE MILITARY STANDARDS 810 C, D, E , F, G

	MIL-STD 810C		MIL-STD 810D		MIL-STD 810E		MIL-STD 810F		MIL-STD 810G	
	Method	Proc./Cat.	Method	Proc./Cat.	Method	Proc./Cat.	Method	Proc./Cat.	Method	Proc./Cat.
Low Pressure	500.1	I	500.2	II	500.3	II	500.4	II	500.5	II
High Temperature Storage	501.1	I	501.2	I/A1	501.3	I/A1	501.4	I/Hot	501.5	I/A1
High Temperature Operation	501.1	II	501.2	II/A1	501.3	II/A1	501.4	II/Hot	501.5	II
Low Temperature Storage	502.1	I	502.2	I/C3	502.3	I/C3	502.4	I/C3	502.5	I/C3
Low Temperature Operation	502.1	I	502.2	II/C1	502.3	II/C1	502.4	II/C1	502.5	II
Temperature Shock	503.1	-	503.2	I/A1-C3	503.3	I/A1-C3	503.4	I/Hot-C3	503.5	I/C
Solar Radiation	505.1	II	505.2	I	505.3	I	505.4	I	505.5	I/A1
Rain Blowing	506.1	I	506.2	I	506.3	I	506.4	I	506.5	I
Rain Steady	506.1	II	506.2	II	506.3	II	506.4	III	506.5	III
Humidity	507.1	II	507.2	II	507.3	II	507.4	-	507.5	II-Aggravated
Salt Fog	509.1	-	509.2	-	509.3	-	509.4	-	509.5	1 Proc
Blowing Dust	510.1	I	510.2	I	510.3	I	510.4	I	510.5	I
Blowing Sand		-	510.2	II	510.3	II	510.4	II	510.5	II
Vibration Min. Integrity	514.2	VIII/F, Curve-W	514.3	I/10	514.4	I/10	514.5	I/24	514.6	I-Cat.24
Vibration Loose Cargo	514.2	XI	514.3	II/3	514.4	II/3	514.5	II/5	514.6	-
Shock Functional	516.2	I	516.3	I	516.4	I	516.5	I	516.6	I, V, VI

ENCRYPTION

Supported Encryption Algorithms	256-bit AES and ADP
Encryption Algorithm Capacity	Single
Encryption Keys per Radio	Module capable of storing 1024 keys. Programmable for 64 Common Key Reference (CKR) or 16 Physical Identifier (PID)
Encryption Frame Re-sync Interval	P25 CAI 300 mSec
Encryption Keying	Key Loader
Synchronization	XL – Counter Addressing, OFB – Output Feedback
Vector Generator	National Institute of Standards and Technology(NIST) approved random number generator
Encryption Type	Digital
Key Storage	Tamper protected volatile or non-volatile memory
Key Erasure	Keyboard command and tamper detection
Standards	FIPS 140-2 Level 3 FIPS 197

* Measured in the analog mode per TIA/EIA 603 under nominal conditions
** Accuracy specs are for long-term tracking (95th percentile values >5 satellites visible at a nominal -130 dBm signal strength)
† Specs includes performance for the non-GNSS/GNSS bands

Specifications subject to change without notice. All specifications shown are typical. Radio meets applicable regulatory requirements.

ENVIRONMENTAL SPECIFICATIONS

Operating Temperature	-30°C/+60°C
Storage Temperature	-40°C/+85°C
Humidity	Per MIL-STD
ESD	IEC 801-2 KV
Water and Dust Intrusion	IP56, MIL-STD

TRANSMITTER CERTIFICATION

700/800 (764-775, 793-805, 806-824, 851-869 MHz)	AZ492FT7055
VHF (136-174 MHz)	AZ492FT3826
UHF R1 (380-470 MHz)	AZ492FT4915
UHF R2 (450-520 MHz)	AZ492FT4916
900 MHz (896-901, 901-902, 935-940, 940-941 MHz)	AZ492FT5865 109U-92FT5865

FCC EMISSIONS DESIGNATORS

FCC Emissions Designators	8K10F1D, 8K10F1E, 8K10F1W, 11K0F3E, 16K0F3E, 20K0F1E, 10K0F3E (for AZ492FT5865 only)

MOTOROLA SOLUTIONS

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APX 1500

Single-band P25 mobile radio



P25 connectivity. Exceptional price.

Your city infrastructure represents a large investment and its users depend on that investment every day. Why not protect it by giving your team the tools they need to operate and maintain it efficiently? Equip them with the affordable APX™ 1500 P25 mobile radio so they can get work done.

The APX 1500 mobile is designed to provide reliable P25 radio communication at an affordable price while standing up to the riggers of every day work. The rugged simplicity of the O2 control head includes an easy to read color display and a built-in 7.5 watt speaker for efficient and confident communication. P25 radio capability enables seamless interoperability with first responders and other P25 radio users.

Communicate with ease and confidence at an affordable price on the APX 1500 mobile radio.

Great value

Do more, don't pay more
Just because you have a limited budget doesn't mean you have to limit your communication. The APX 1500 gives you dependable voice and data communication, P25 collaboration and all the features you need to connect your team - all at a great price.

Rugged and reliable

Respond With Confidence
The APX 1500 is purpose-built for those who get things done. Get efficient and confident communication with the rugged simplicity of an oversized knob, easy-to-read color screen and a loud high-density speaker.



P25 Collaboration

Collaborate seamlessly
Although you are out of the office, you still need to communicate with others to get the job done. As a P25 mobile radio, the APX 1500 allows you to seamlessly collaborate with other P25 radio uses in other departments and organizations.

Device management services

The support you need
Choose the maintenance service level that suits you best to keep your radio optimized and operating.



APX 1500 Control head

O2 Control head

Extreme usability
The O2 control head provides rugged simplicity for efficient and confident communication. Oversized controls with an easy to read color display and a built-in 7.5 watt speaker provides clear visual and audible user experiences.





Features

General features	
Channel Capacity	512 channels
Wireless Connectivity	GPS/GLONASS

Operating modes
Digital Trunking: 9600 Baud APCO P25 Phase 1 FDMA and Phase 2 TDMA
Digital Conventional: APCO 25

Data connectivity
ASTRO 25 Integrated Voice and Data
Enhanced Data[1]
Integrated GPS/GLONASS for Outdoor Location Tracking
Mission Critical Geofence[1]
Bluetooth version 4.2 compatible with HSP, PAN, DUN and SPP Profiles found in the Off-the shelf Bluetooth accessories. Supports up to 6 data connections and 1 audio connection.

Management
Customer Programming Software (CPS)
Radio Management
Over-the-air Programming (OTAP)[1]

Security
P25 Authentication
Software Key
Single-key ADP Encryption Programmable for 8 Common Key Reference (Available with no encryption for public safety)
Multikey for 8 keys
256-bit AES software encryption

GPS/GNSS specifications	
Channels	12
Tracking Sensitivity	-164 dBm
Accuracy[2]	<5 meters (95%)
Cold Start[2]	<60 seconds (95%)
Hot Start[2]	<5 seconds (95%)
Mode of Operation	Autonomous (Non-Assisted) GNSS or SBAS

[1] Optional
[2] Measured conductively with >6 satellites visible at a nominal -130 dBm signal strength

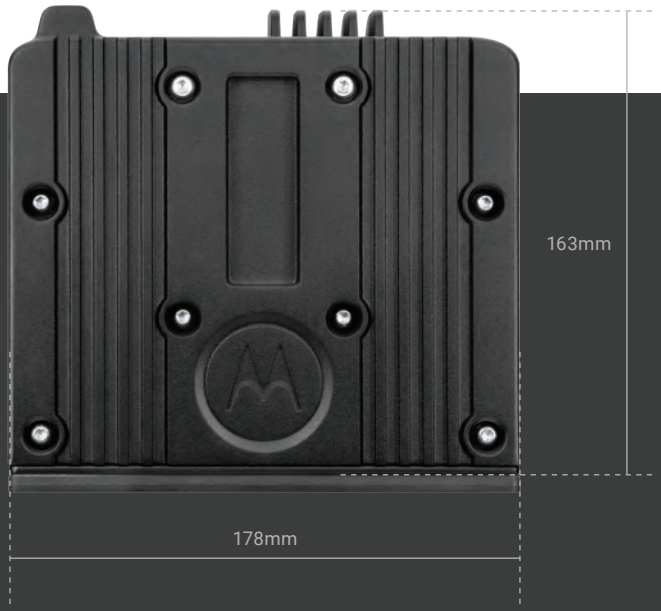


Other features
Text Messaging[1]
Radio Profiles
Dynamic Zone
Intelligent Priority Scan
Unified Call List
Instant Recall
12 Character RFID Asset Tracking[1]
Digital Tone Signaling[1]

Signaling (ASTRO 25 mode)	
Signalling Rate	9.6 kbps
Digital ID Capacity	10,000,000 Conventional / 48,000 Trunking
Digital Network Access Codes	4,096 network site addresses
ASTRO Digital User Group Addresses	4,096 network site addresses
Project 25 – CAI Digital User Group Addresses	65,000 Conventional / 4,094 Trunking
Error Correction Techniques	Golay, BCH, Reed-Solomon codes
Data Access Control	Slotted CSMA: Utilizes infrastructure-sourced data status bits embedded in both voice and data transmissions

Dimensions and weight		
Radio Transceiver	50.8 x 178 x 163 mm (2.0 x 7.0 x 6.4 in)	2.18 kg (4.80 lbs)
Radio Transceiver and O2 Control Head - Dash Mount	69 x 207 x 223 mm (2.7 x 8.1 x 8.8 in)	2.43 kg (5.36 lbs)





[1] Optional

Performance and regulatory

Transmitter

	VHF		UHF R1		UHF R2		700 MHz		800 MHz	
Frequency Range/Bandsplits	136-174 MHz		380-470 MHz		450-520 MHz		764-776, 94-806 MHz		806-825, 851-870 MHz	
Rated RF Output Power (Adjustable)	1-50 W 1-25 W[3]		1-40 W 1-25 W[3]		1-45 W 1-25 W[3]		3-30 W		3-35 W	
Frequency Stability (-30°C to +60°C; +25°C Ref.)	± 0.8 PPM		±0.8 PPM		±0.8 PPM		±0.8 PPM		±0.8 PPM	
Emissions	Conducted -85 dBc	Radiated -10 dBm	Conducted -85 dBc	Radiated -20 dBm	Conducted -85 dBc	Radiated -20 dBm	Conducted -75/-85 dBc	Radiated -20/-40 dBm	Conducted -75 dBc	Radiated -20 dBm
Modulation Limiting (12.5/20/25 kHz)	±5/±2.5 kHz		±5/±2.5 kHz		±5/±2.5 kHz		±5/±2.5 kHz		±5/±2.5 kHz	
Modulation Fidelity (C4FM) 12.5 kHz Digital Channel	2.5%		1.50%		1.50%		1.50%		1.50%	
Audio Response	+1, -3 dB (EIA)		+1, -3 dB (EIA)		+1, -3 dB (EIA)		+1, -3 dB (EIA)		+1, -3 dB (EIA)	
FM Hum & Noise (12.5 kHz/25 kHz)	-52 dB / -53 dB		-50 dB / -53 dB		-50dB / -53dB		-48 dB / -50 dB		-48 dB / -50 dB	
Audio Distortion (12.5 kHz/25 kHz)	0.50%		0.50%		0.50%		0.50%		0.50%	

Receiver

	VHF		UHF R1		UHF R2		700 MHz	800 MHz
Frequency Range/Bandsplits	136-174 MHz		380-470 MHz		450-520 MHz		764-776 MHz	851-870 MHz
Channel Spacing	12.5/25 kHz		12.5/25 kHz		12.5/25 kHz		12.5/25 kHz	12.5/25 kHz
Maximum Frequency Separation	Full Bandsplit		Full Bandsplit		Full Bandsplit		Full Bandsplit	Full Bandsplit
Audio Output Power at Rated/Max	7.5 / 15 W		7.5 / 15 W		7.5 / 15 W		7.5 / 15 W	7.5 / 15 W
Frequency Stability (-30 °C to +60 °C; +25 °C Ref.)	±0.8 PPM		±0.8 PPM		±0.8 PPM		±0.8 PPM	±0.8 PPM
Analog Sensitivity (12db SINAD)	Pre-Amp -123 dBm (0.158 µV)	Standard -119 dBm (0.251 µV)	Pre-Amp -123 dBm (0.158 µV)	Standard -119 dBm (0.251 µV)	Pre-Amp -123 dBm (0.158 µV)	Standard -119 dBm (0.251 µV)	-121 dB (0.199 µV)	-121 dB (0.199 µV)
5% BER	Pre-Amp -123 dBm (0.158µV)	Standard -119 dBm (0.251µV)	Pre-Amp -123 dBm (0.158µV)	Standard -119 dBm (0.251µV)	Pre-Amp -123 dBm (0.158µV)	Standard -119 dBm (0.251µV)	-121.5 dB (0.188 µV)	-121.5 dB (0.188 µV)
Selectivity (12.5 kHz / 25 kHz / 30 kHz)	77 dB / 89 dB / 90 dB		72 dB / 83 dB / -		72 dB / 83 dB / -		75 dB / 85 dB / -	75 dB / 85 dB / -
Intermodulation Rejection	Pre-Amp 84 dB	Standard 86 dB	Pre-Amp 82 dB	Standard 86 dB	Pre-Amp 82 dB	Standard 86 dB	82 dB	82 dB
Spurious Rejection	95 dB		93 dB		93 dB		91 dB	91 dB
FM Hum & Noise (12.5 kHz / 25 kHz)	-50 dB / -59 dB		-50 dB / -55 dB		-50 dB / -55 dB		-50 dB / -59 dB	-50 dB / -59 dB
Audio Distortion (12.5 kHz / 25 kHz)	1.20%		1.50%		1.50%		1.20%	1.20%

Power and battery drain

	VHF	UHF R1	UHF R2	700/800 MHz
Model Type	136-174 MHz	380-470 MHz	450-520 MHz	764-870 MHz
Minimum RF Power Output	1-50 W 1-25 W[3]	1-40 W 1-25 W[3]	450-485 MHz: 1-45 W 485-512 MHz: 1-40 W 512-520 MHz: 1-25 W	2-30 W (764-776 MHz) 2-30 W (794-806 MHz) 2-35 W (806-824 MHz) 2-35 W (851-870 MHz)
Operation	13.8 V DC ±20% Negative Ground	13.8 V DC ±20% Negative Ground	13.8 V DC ±20% Negative Ground	13.8 V DC ±20% Negative Ground
Standby at 13.8 V	0.85 A	0.85 A	0.85 A	0.85 A (764-870 MHz)
Receive Current at Rated Audio at 13.8 V	3.2 A	3.2 A	3.2 A	3.2 A (764-870 MHz)
Transmit Current (A) at Rated Power	8 A @ 15 W 13 A @ 50 W	11 A @ 40 W 8A @ 15 W	11 A @ 40 W 8A @ 15 W	12A @ 35 W 8A @ 15 W

[3] 1-25W applies to countries with a 25W maximum limit.



Environmental	
Operating Temperature	-30°C/+60°C
Storage Temperature	-40°C/+85°C
Humidity	Per MIL-STD
ESD	IEC 61000-4-2
Water and Dust Intrusion	IP56, MIL-STD

Radio model number	
VHF	M36KSS9PW1BN
UHF R1	M36QSS9PW1BN
UHF2 R2	M36SSS9PW1BN
700/800	M36URS9PW1BN

FCC/IC Type acceptance ID	
FCC/IC ID	Band and Power Level
FCC ID: AZ492FT7130 IC ID: 109U-92FT7130	136-174 MHz (1-50 W)
FCC ID: AZ492FT7129 IC ID: 109U-92FT7129	380-470 MHz (1-40 W)
FCC ID: AZ492FT4967 ISED ID: 109U-92FT4967	450-520 MHz (1-45 W) 485-512 MHz (1-40 W) 512-520 MHz (1-25 W)
FCC ID: AZ492FT7124 IC ID: 109U-92FT7124	764-776 MHz (2-30 W) 794-806 MHz (2-30 W) 806-824 MHz (2-35 W) 851-870 MHz (2-35 W)

Red certification	
Type Designator	Band and Power Level
MMCR308PE	136-174 MHz (1-50 W)
MMCR508PE	380-470 MHz (1-40 W)

Mobile military standards 810, C, D, E, F, G & H

	MIL-STD 810C		MIL-STD 810D		MIL-STD 810E		MIL-STD 810F		MIL-STD 810G		MIL-STD 810H	
	Method	Proc./Cat.	Method	Proc./Cat.	Method	Proc./Cat.	Method	Proc./Cat.	Method	Proc./Cat.	Method	Proc./Cat.
Low Pressure	500.1	I	500.2	II	500.3	II	500.4	I/II	500.6	II	500.6	II
High Temperature	501.1	I, II	501.2	I/A1, II/A1	501.3	I/A1, II/A1	501.4	I/Hot, II/Hot	501.6	I/A1, II/A1	501.7	I/A1, II/A1
Low Temperature	502.1	I	502.2	I/C3, II/C1	502.3	I/C3, II/C1	502.4	I/C3, II/C1	502.6	I/C3, II/C1	502.7	I/C3, II/C1
Temperature Shock	503.1	I	503.2	1/A1C3	503.3	1/A1C3	503.4	I	503.6	I/C	503.7	I/C
Solar Radiation	505.1	II	505.2	I	505.3	I	505.4	I	505.6	I/A1	505.7	I/A1
Rain	506.1	I, II	506.2	I, II	506.3	I, II	506.4	I, III	506.6	I, III	506.6	I, III
Humidity	507.1	II	507.2	II	507.3	II	507.4	-	507.6	II/Aggravated	507.6	II/Aggravated
Salt Fog	509.1	I	509.2	I	509.3	I	509.4	-	509.6	-	509.7	-
Blowing Dust	510.1	I	510.2	I	510.3	I	510.4	I	510.6	I	510.7	I
Blowing Sand	-	-	510.2	II	510.3	II		II	510.6	II	510.7	II
Vibration	514.2	VIII, F, W	514.3	I/10, II/3	514.4	I/10, II/3	514.5	I/24	514.7	I/24	514.8	I/24, II/5
Shock	516.2	I, III, V	516.3	I, V, VI	516.4	I, V, VI	516.5	I, V, VI	516.7	I, V, VI	516.8	I, V, VI



For more information, please visit
www.motorolasolutions.com/apx

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TLK 150 MOBILE TWO-WAY RADIO

RAPID, RELIABLE DEPLOYMENT. USE NATIONWIDE.



EASY TO USE AND MANAGE
BUILT FOR THE JOB - SAFELY OPERATE IN VEHICLE
NATIONWIDE PUSH-TO-TALK

Get your team up and running quickly. Combine the broad coverage of a nationwide cellular network with the ease of two-way radio communications.

Safely operate while driving with one button push-to-talk. Manage talk groups and subscriptions in real time. Increase coverage, connections, and productivity without expanding infrastructure.

You can even use the TLK 150 with your current compatible MOTOTRBO systems, LMR and smartphones. There's no costly or time-consuming FCC or spectrum licensing, or manual programming required.

FEATURE HIGHLIGHTS

- Private and group push-to-talk
- Over-the-air device management
- Wi-Fi connectivity
- GPS Location tracking
- Loud and clear audio
- Real-time presence
- Bluetooth enabled

GENERAL SPECIFICATIONS	
Network	4G LTE, 3G
Channel Capacity	96 Channels
Contact List	300 contacts
Dimensions (H x W x L)	6.65 in x 1.73 in x 3.66 in (169mm x 44mm x 93mm)
Weight	1.41 lbs.
Voice Codec	OPUS
Wi-Fi	802.11 a/b/g/n - 2.4 / 5.0 GHz
Bluetooth	Bluetooth V4.2 BR/EDR + BLE
GPS	GNSS / A-GPS (GPS, GLONASS, Galileo, BeiDou)
IP Rating	IP54 IEC60529
Apps Supported	Powered by WAVE
Antennas	LTE antennas - External GNSS antenna - External Wi-Fi/Bluetooth antenna - Internal
Connectors	Front RJ45 connector for wired mobile microphone Back antenna SMA connectors Back 20-pin MAP connector for other accessories
Rated Audio	4 W (Internal) 16 W (External - 4 ohms)
Audio Distortion @ Rated Audio	3% (Typical)

ENVIRONMENTAL SPECIFICATIONS	
Operating Temperature	-4°F /+ 140°F (-20°C / +60°C)
Storage Temperature	-40°F /+ 185°F (-40°C / +85°C)
Thermal Shock	Per MIL-STD 810
Humidity	Per MIL-STD 810
ESD	IEC61000 - 4-2 Level 4
Dust and Water Intrusion	IEC60529 - IP54 Cat 2
Packaging Test	Per MIL-STD 810

APPLICABLE U.S. MILITARY SPEC RATINGS		
MIL 810G STANDARD*	**METHOD**	**PROCEDURES**
Low Pressure	500.5	I, II
High Temperature	501.5	I, II
Low Temperature	502.5	I, II
Temperature Shock	503.5	I, II
Solar Radiation	505.5	I-C
Rain Blowing	506.5	I
Dust Blowing	510.5	I
Immersion	512.5	I
Vibration	514.6	I
Shock	516.6	I,IV

*Also meets equivalent MIL-STD-810-C, -D, -E and -F





TLK 150 MOBILE TWO-WAY RADIO ACCESSORIES


GMMN4065


RLN4856


RLN4856


PMMN4129


RLN4857

PUSH-TO-TALK SOLUTIONS

Make communicating easier and safer with these optional accessories from a simple PTT microphone to a complete hands free solution.

PMMN4129	Wideband Compact Mobile Microphone
GMMN4065	Visor Microphone
RLN4856	Remote Mount Footswitch Push-to-Talk
RLN4857	Remote Mount Pushbutton Push-to-Talk
RLN4836	Emergency Footswitch


PMMN4127


PMLN8123


PMLN8298

WIRELESS AUDIO ACCESSORIES

PMMN4127	WM500 Wireless PoC/Radio Remote Speaker Microphone
PMLN8123	EP910W Bluetooth™ Earpiece with Push-To-Talk
PMLN8298	WP300 Wireless Bluetooth Control Pod*

ANTENNAS

AN000359A01	GNSS Dash Mount Antenna
AN000358A01	LTE Antenna


RLN6468


FTN6083


RLN6466


RLN6467

MOUNTING ACCESSORIES

Choose where to mount the radio without compromising safety. Extend the value of your previous purchases by using XPR 2500 mounting kits

RLN6466	Low Profile Trunnion Kit
RLN6467	High Profile Trunnion Kit
RLN6468	Key Lock Trunnion Mount
FTN6083	In-Dash Mounting Kit - DIN


AC000240A01

EXTERNAL SPEAKER

Boost audio at your workstation or in your vehicle.

AC000240A01	Wideband External Speaker, 16 W

CABLES AND ACCESSORIES

HKN4137	Mobile Power Cable 10 FT, 14 AWG, 15A
PMLN8153	PS Adaptor and Cable
HKN9327	Ignition Sense Cable
HLN9457A	16 Pin MAP Connector Kit

*Only supported with a compatible earpiece attached, (PMLN8077, PMLN8125, & PMLN8190). Will not function as standalone PTT device

YOUR PATH TO NATIONWIDE* PTT

PLACE YOUR ORDER, GET YOUR RADIO AND START TALKING



PLACING ORDER

Opening an account and placing an order are simple and quick:

- Create account
- Select subscription plan
- Provide billing information

CONFIGURING ACCOUNT

Configure your account and team settings from any computer or smartphone:

- Add / modify users
- Create / assign talkgroups

ACTIVATING SERVICE

Activating your TLK 150:

- Install your TLK 150 into a vehicle
- Power on device and PTT

*Coverage will vary. See user guide for details.

WARRANTY AND REPAIRS

ESSENTIAL SERVICES

Support when you need it

When the unpredictable happens to your two-way radio, Essential Services provide you access to Motorola's Technical Support teams and resources for troubleshooting and maintenance. Three year extended warranty included from the date of end user purchase.

Learn more at www.motorolasolutions.com/TLKSERIES

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Data Sheet

TLK 110

A device designed for you and built to last

The TLK 110 combines the flexibility of push-to-talk communication via broadband with the reliability of a rugged, purpose-built radio. With its effortless device management capabilities, the TLK 110 can be optimized for seamless operations, leaving your business safer, smarter and better connected.



Communication without limits

- Nationwide push-to-talk via broadband
- 4G network speed
- Wi-Fi calling over 2.4 + 5 GHz networks
- Intelligent VOX PTT
- Ergonomically designed
- AI-based noise suppression
- Wideband speaker

Designed for you, built to last

- Emergency calling
- Dedicated emergency button
- Man down/fall alert
- Lone worker
- 18-hour battery life
- Ergonomically designed
- 2-Line monochrome display IP67 rating
- Antimicrobial housing

Devices managed with ease

- Centralised device provisioning
- Remote software updates
- Remote talkgroup setup
- GPS/GNSS location tracking
- Location-based talkgroups
- Interoperable with smartphones/ tablets via WAVE PTX™
- WAVE PTX dispatch compatible

GENERAL SPECIFICATIONS

Network	3G B1, B2, B4, B5, B8 4G FDD-B2, B4, B5, B7, B12, B13, B17, B25, B26, B66, TD-B41	
Channel capacity	96 channels	
Contact list	1000 contacts	
Dimensions	Without antenna:	Height: 5.3” (134mm) Width: 2.3” (58mm) Depth: 1.0” (24mm)
	With antenna:	Height: 6.7” (171mm) Width: 2.3” (58mm) Depth: 1.0” (24mm)
Weight with battery	6.95 oz (197g)	
Battery capacity	3.7V (Nominal) 2500 mAh with PMNN4578	
Battery (2500mAh Li-Ion battery) Operating hours 5:5:90 Duty cycle[1]	18 hours	
IP rating	IP67	
Ports	USB Type-C (use for charging) 2.5mm audio jack with mechanical lock (use for audio accessories)	
Sensor	Accelerometer	
SIM	1x 3FF-Micro SIM	
Apps	Powered by WAVE PTX	
Encryption	AES 256	
Models available	Pre-installed SIM included in WAVE PTX subscription[2]	

AUDIO SPECIFICATIONS

Digital vocoder type	AMR-WB, OPUS
Audio Response (3GPP TS 26.131)	5.4.6
Audio Output Power (Rated/Max)	1W/2.5W
Audio Distortion at Rated Audio	<5%
Maximum Speech Loudness by Default (ISO532B)	96 phon

WI-FI SPECIFICATIONS

Frequency range	2.4 GHz, 5GHz
Standards supported	802.11 a, b, g, n, ac
Security protocol supported	WPA2 (personal and enterprise), WPA3 (personal)
Maximum number of SSIDs	5

BLUETOOTH + GNSS SPECIFICATIONS

Version	v4.2 (BR/EDR+BLE)
Range	10m
Supported profiles	BLE, SPP, HSP
Simultaneous connections	1 per profile
Constellation support	GPS, GLONASS, galileo, beidou, A-GNSS
Time to first fix, cold start	60s
Time to first fix, hot start	10s
Horizontal accuracy	5m

ENVIRONMENTAL SPECIFICATIONS

Operating temperature	-20°C to 60°C (radio) / -10°C to 60°C (with battery)
Storage temperature	-40°C to 85°C
Thermal shock	Per MIL-STD 810
Humidity	Per MIL-STD 810
Electrostatic discharge	Per MIL-STD 810
Dust and water intrusion	IP67
Packaging test	Per MIL-STD 810

[1] Battery life may vary depending on use and conditions.
[2] Coverage limited to NA and CA separately, will vary depending on conditions.

MILITARY STANDARD (MIL-STD 810)

	MIL-STD810C		MIL-STD810D		MIL-STD 810E		MIL-STD 810F		MIL-STD 810G		MIL-STD 810H	
	Method		Method		Method		Method		Method		Method	
Low Pressure	500.1	I	500.2	II	500.3	II	500.4	II	500.6	II	500.6	II
High Temp	501.1	I, II	501.2	I/A1, II/A1	501.3	I/A1, II/A1	501.4	I/Hot, II/Hot	501.6	I/A1, II/A1	501.7	I/A1, II/A1
Low Temp	502.1	I	502.2	I, II	502.3	I, II	502.4	I, II	502.6	I, II	502.7	I, II
Temp Shock	503.1	I	503.2	A1/C3	503.3	A1/C3	503.4	I	503.6	I-C	503.7	I-C
Solar Radiation	505.1	II	505.2	I/A1	505.3	I/A1	505.4	I/A1	505.6	I/A1	505.7	I/A1
Rain	506.1	I, II	506.2	I, II	506.3	I, II	506.4	I, III	506.6	I, III	506.6	I, III
Humidity	507.1	II	507.2	II	507.3	II	507.4	-	507.6	II/ Aggravated	507.6	II/ Aggravated
Salt Fog	509.1	I	509.2	I	509.3	I	509.4	-	509.6	-	509.7	-
Blowing Dust & Sand	510.1	I/-	510.2	I, II	510.3	I, II	510.4	I, II	510.6	I, II	510.7	I, II
Vibration	514.2	VIII/CatF, XI	514.3	I/Cat10, II/Cat3	514.4	I/Cat10, III/Cat3	514.5	I/Cat24, II/Cat5	514.7	I/Cat24, II/Cat5	514.8	I/Cat24, II/Cat5
Shock	516.2	I, II	516.3	I, IV	516.4	I, IV	516.5	I, IV	516.7	I, IV	516.8	I, IV
Contamination by Fluids	-	-	-	-	-	-	-	-	504.2	II	504.3	2.2.6 b





TLK 110 accessories

Further improve your organisation's flexibility with the TLK 110's accessory offerings. The TLK 110 is compatible with a variety of accessories from earpieces and headphones to batteries, power supplies and antennas, so you can find the product that works best for you and your workforce.

Audio

PMLN7159
Adjustable D-style earpiece with in-line microphone and push-to-talk



PMLN8298
WP300 wireless bluetooth control pod with PTT button[3]



Energy

PMLN8569
TLK 110 6-pocket multi-unit charger



PMNN4578
Lithium Ion 2500 mAh battery



Carry

PMLN7128
Heavy duty swivel belt clip



Antenna



32012144001	Grey antenna ID, pack of 10 units
32012144002	Yellow antenna ID, pack of 10 units
32012144003	Green antenna ID, pack of 10 units
32012144004	Blue antenna ID, pack of 10 units
32012144005	Purple antenna ID, pack of 10 units



[3] WP300 requires compatible earpiece: PMLN8190, PMLN8077 or PMLN8125

Additional compatible accessories for TLK 110

WIRED AUDIO ACCESSORIES	
PMLN7156	Mag One Earbud with In-Line Microphone and Push-To-Talk, Black
PMLN7189	Swivel Earpiece with In-Line Microphone and Push-To-Talk
PMLN7157	2-Wire Surveillance Kit, Black
PMLN7158	1-Wire Surveillance Kit, Black
PMLN8191	1-Wire Clear Tube Earpiece, 2.5mm Angled Single Pin
PMMN4125	RM250 Wired Remote Speaker Microphone, Large (IP67)

WIRELESS AND SECONDARY AUDIO ACCESSORIES	
PMMN4127	WM500 Wireless Remote Speaker Microphone
PMLN8123	EP910W Wireless Earpiece PTT
PMLN7560	Receive-Only Earpiece with Translucent Tube and Rubber Eartip for RM250 and WM500 RSMs
PMLN8077	Single Pin Over-the-Ear Earpiece for WP300 Bluetooth Control Pod
PMLN8125	Single Pin Short Cord Earpiece for WP300 Bluetooth Control Pod
PMLN8190	1-Wire Clear Tube Earpiece, 2.5mm Straight Single Pin for WP300 Bluetooth Control Pod
RLN6242	Low Noise Kit with Translucent Tube and 1 Clear Rubber Eartip
5080384F72	Replacement Foam Plugs for RLN6242. Noise Reduction = 24 dB. Pack of 50 Pairs
RLN6282	Replacement Standard Clear Rubber Eartip for RLN6242, Pack of 50
RLN6242	Low Noise Kit with Translucent Tube and 1 Clear Rubber Eartip

POWER ACCESSORIES	
PS000150A31	USB-A Wall Charger, 5V/1.5A, 240VAC (NA/Japan Plug)[4]
PS000150A32	USB-A Wall Charger, 5V/1.5A, 240VAC (Euro Plug)[4]
PMKN4294	USB-C to USB-A Cable
HKLN4690	TLK 110 Battery Cover

CARRY ACCESSORIES	
PMLN8439	Swivel Carry Holster
PMLN6074	Nylon Wrist Strap for Securely Carrying Motorola Two-Way Radios

ANTENNAS	
HKAN4005	NA Stubby Antenna

[4] USB cable for wall adapters sold separately

To learn more, visit: **www.motorolasolutions.com**

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Brochure



APX N70 XE

single -band P25 smart radio

Keeping firefighters safe,
focused and always in touch

MOTOROLA SOLUTIONS



Equipping fire crews with smart, rugged, reliable communications, streamlined management and simplified ownership

When lives are threatened, your radio can be the lifeline that keeps teams safe, focused and in touch during critical moments. The APX N70 XE radio helps your personnel be ready for any challenge — even in extreme environments.

Made for firefighters and EMS personnel on the front line, the APX N70 XE combines high tier adaptive audio with sure, intuitive operation, advanced connectivity and streamlined device management.

Every element of the radio's tough, ergonomic design is focused on maximizing task performance. Large control knobs and buttons can be operated while wearing thick gloves. The 3" touch screen lets firefighters view critical information and interact with smart apps, via a clear user interface.

Adaptive audio monitors the surrounding environment and adjusts the radio's sound settings for maximum clarity. High Dynamic Range mics handle extremes in speech volume – from a whisper to an urgent scream for assistance – without distortion.

Advanced processing filters out noise and suppresses feedback, so firefighters can always hear and be heard loud and clear.

The APX N70 XE goes beyond boundaries with Wi-Fi and optional LTE connectivity, keeping crew members in touch even when they are outside regular radio coverage. Optional smart apps and services further enhance performance, heightening situational awareness and enabling more effective collaboration.

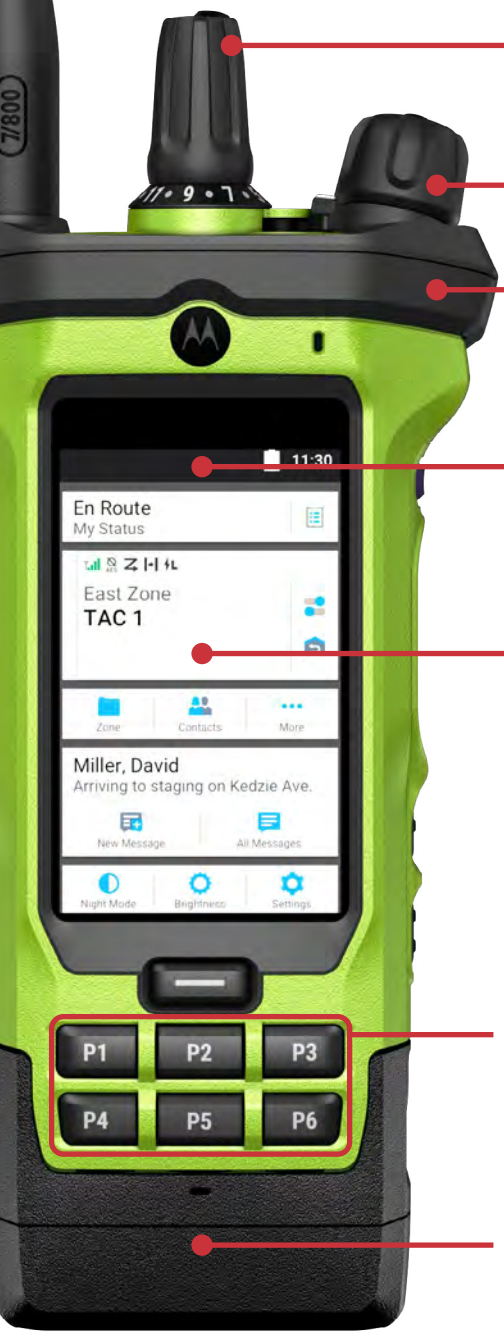
A superior ownership experience helps amplify the return on investment, while reducing the burden on time-stretched radio managers. An entire fleet of radios can be provisioned and updated over the air – ensuring secure, reliable operation and giving access to new apps and functions, without needing to take radios out of service for manual maintenance.



Rugged performer

Tough, familiar, and ready to handle any challenge, even in harsh conditions.

Refined through Motorola Solutions' decades of experience in the public safety space, the APX N70 XE maintains an unwavering focus on reliable operations, even when wearing heavy gloves.



Large channel knob

Easy to access and operate, feels different from volume knob

Angled power/volume knob

Stands out from other controls, for optimal access

Ergonomic T-grip design

Helps ensure the radio stays in the hand

3-inch Corning® Gorilla® Glass screen

See and interact with critical information at a glance

SmartTouch interface

- Focused on essential needs
- Large, intuitive icons
- Easy to use wearing gloves
- Quick switching between tasks

Programmable buttons

Nine programmable buttons for one-touch quick access

HAZLOC-rated Div I battery

Safe to use where flammable or explosive gases may be present





Maximum clarity

Adaptive audio that's responsive to your environment

Firefighters and EMS personnel are dependent on being able to hear and be heard clearly.

The APX N70 XE smart radio delivers the loudest and most intelligible audio possible, so crucial messages always get through without seconds wasted re-adjusting the radio's audio settings.

The advanced **Adaptive audio engine** manages gain, equalization, noise suppression and other sound parameters. The result: optimal speech quality, either in whisper-quiet conditions or challenging environments where loud extraneous noise can make it hard to hear or be heard.

Dual High Dynamic Range (HDR) microphones on the radio's front and rear ensure that the firefighter's voice is always picked up clearly from either direction. Advanced beam-forming technology can even "steer" mic sensitivity to track the user's voice. Higher saturation level handles extremely loud voices, minimizing distortion even when the incident commanders' shouting or screaming in stressful situations.

Automatic acoustic feedback suppression enables team members to work closely together without needing to manually lower their radio's audio volume or distancing themselves from each other to avoid the audio feedback howl.

Receive volume leveling ensures that both loud and soft talkers can be heard clearly at one consistent volume, cutting the need to constantly adjust the radio volume to accommodate different voices.

The **Noise sensing volume control** 'listens' to noise levels in the user's surrounding environment, automatically adjusting the radio's receive volume for comfortable listening in varying background conditions.

Beyond noise cancellation, is **Intelligent Noise Reduction** (INR). As the 4th generation of our noise suppression technology, INR is an advanced software algorithm embedded directly on your radio that removes background noise for users transmitting in noisy environments such as PASS alarms, sirens, water pumps and road noise.

Essential accessories

Audio

The XVE500m Remote Speaker Microphone is the next generation mission-critical RSM, designed specifically for extreme and challenging environments. This RSM is ideal for Firefighters, Emergency Response Personnel, and other public safety personnel. *This Remote Speaker Microphone utilizes the GCAI-Mini.



Energy

Work with confidence knowing your radios will be ready. Our IMPRES 2 batteries and charging solutions let you be flexible while also ensuring your safety with HAZLOC rated, UL Div 1 certified equipment.



Carry

Keep your device safe from the elements. Choose from a wide variety of carry options including belt clips, holsters, and leather cases.



Antennas

The latest antennas from Motorola Solutions are crafted for comfort while still delivering high performance. Their compact and adaptable design suits the needs of mission-critical environments.



For a complete list of compatible accessories, please visit:
motorolasolutions.com/apxaccessories



Intelligence beyond P25



Smart apps and services to enhance firefighters' task performance

The role of the firefighter's radio is evolving.The APX N70 XE radio provides firefighters with reliable voice and data connectivity, and access to a powerful ecosystem of feature-rich applications that increase situational awareness and collaboration. It also supports broadband LTE networks for high-speed data transfers, device updates, and remote radio provisioning.

SmartConnect automatically switches connectivity between regular radio coverage and LTE/Wi-Fi networks, maintaining dependable voice communications beyond short-range P25 coverage. The speed and wide-area network coverage of LTE also connects firefighters with a rich ecosystem of apps by Motorola Solutions, boosting situational awareness and streamlining workflow for frontline personnel.

SmartLocate leverages LTE high-speed broadband for more frequent first responder position updates over GPS. Giving crew members and controllers an even quicker fix on colleagues' physical locations, it can mean seconds saved – and the difference between positive knowledge and uncertainty about a firefighter's situation during life-threatening incidents.

SmartIncident keeps firefighters informed and on top of the situation, enhancing their situational awareness with key information including assignment notifications, incident updates, CAD comments, map views of deployed units and hazards in the vicinity.

SmartMessaging complements a first responder's voice communications with instant text, photo and video clips, giving a more complete view of an unfolding incident.

SmartProgramming allows super-speed over-the-air device updates wherever LTE cellular network coverage is available – so radios can stay out in the field where they're needed as a lifeline for firefighters, rather than being recalled to base.

SmartMapping keeps everyone in the picture, displaying the location of personnel in the vicinity to keep incident commanders appraised of the situation and allowing firefighters to summon support quickly. SmartIncident keeps firefighters informed and on top of the situation, enhancing their situational awareness with key information including assignment notifications, incident updates, CAD comments, map views of deployed units and hazards in the vicinity.



Streamlined ownership

Superior connectivity and management with lowered ownership costs

Managing a fleet of radios can be a significant cost and time burden for fire services and public safety agencies.

RadioCentral saves valuable time and effort for busy radio managers, simplifying fleet set-up and day-to-day management – reducing IT hassles and delivering a welcome reduction in lifetime ownership costs.

Radio updates can be pushed out over the air to all devices in the field, over Wi-Fi or LTE. Everything is accomplished in minutes via an efficient web-based user interface, delivering big time savings for radio managers and eliminating the need to recall radios from the field for one-by-one manual device updates.

Touchless Key Provisioning is a quick one-time process that securely delivers initial encryption keys plus subsequent key updates over the air to each radio, ensuring that critical voice and data communications are never at risk of interception.

To learn more, visit:
motorolasolutions.com/APXN70XE

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Brochure

APX N70

single -band P25 smart radio

Reliable. Ready for it all.

MOTOROLA SOLUTIONS



Focused. Forward.

Safety and focus on the front line are paramount. Reliable and intuitive communication devices, that are rugged and easy to use, are non negotiable for first responders. Clear communications have proven to be lifesaving in critical moments.

Reliable P25 radios must offer sophisticated features that work within a larger public safety ecosystem while maintaining mission-critical operation. They must deliver actionable intelligence to provide increased situational awareness during an incident.

We've designed our APX N70 smart radio explicitly for this purpose. It provides first responders and other public safety personnel the evolving mission-critical communications and real-time information they need to stay connected and respond safely in any situation.

providing first responders and other public safety personnel the mission-critical communications and real-time information they need.

Ready for the mission. Made for the environment

Design is more than just being tough. It's also about being simple to use in the most challenging situations that require you to stay focused and ready.

APX N70 is a mission-critical radio, designed and built with legendary APX ruggedness for extreme conditions. It's tested to military standards, rated IP68, supports immersion in 2 meters of water for up to 4 hours, and includes multiple sensors for improved collaboration and tracking. It's the radio public safety responders can rely on as their lifeline on the front line today and tomorrow.

APX N70 is rugged and ready for everyday abuse. But should it fail, we will make it right. Rely on us to help get your radios fixed and back in the field where they belong. Our Hardware Repair and Accidental Damage Protection services deliver predictable costs, to give you peace of mind.

APX N70 thrives with three different ways to interact. In different situations, one method is better than the others – but that's for you to decide.

3 ways to interact.







Hard Controls

Large tactile buttons and controls are set in a familiar layout. Easy to grip and easy to operate, yet protected against accidental activation. Six programmable buttons are placed under the touchscreen allowing users to access their most critical presets.

Touch

Snow, rain and dirt friendly 3" tough glass touchscreen recognizes interaction with gloves and rejects false touches from the elements. With a transflective display, APX N70 is set for indoor and outdoor readability. An intuitive user interface with an easy-to-navigate menu, purpose-built for public safety, keeps interactions simple to be informed while staying focused on their tasks.

Voice

ViQi reduces the time to perform simple radio functions with the touch of a button. It can be used to enable radio operation in low or high noise environments – helping maintain eyes-up awareness. The ViQi button allows for quick access to voice controls – enabling first responders to perform actions such as changing zones, channels, checking battery status, and adjusting volume without breaking focus.

Advanced accessories



Audio

With superior audio, the SVX video remote speaker microphone features the ViQi button to enable the same ViQi commands as those supported on the radio. Additional wired or Bluetooth® audio accessories are available.



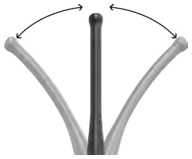
Carry

Choose from carry cases and belt clips, all designed for easy yet secure access to the APX N70 radio when wearing it on the waist or vest— so your team can stay hands free and focused on the task ahead.



Energy

If the battery dies, it jeopardizes everything. We offer a selection of IMPRES 2 batteries to provide energy for a full shift and a UL DIV 1 option for safety in HAZLOC environments. A choice of charging solutions enables you to charge one or up to six batteries simultaneously, so your radios are always ready for the next shift.



Antennas

Motorola Solutions' redesigned antennas are designed for comfort without compromising performance. Short and flexible, these antennas conform to the users' mission-critical environments.



Adaptive audio that is second to none.

Being able to hear and be heard clearly is vital for the safety of the responder and the success of the response. The APX N70 smart radio and XVP remote speaker microphone provide the loudest and most intelligible audio possible, whatever the environment, so crucial messages always get through.

High Dynamic Range Microphones (HDR)

You can talk into either side of the radio and RSM with strategically placed HDR microphones, which improve intelligibility with extremely loud and soft inputs, and reduce noise and distortion across the range. Even in stressful situations that may lead to screaming, you will transmit more intelligible speech.

Custom Speaker

The custom speaker delivers not only loud, but clear audio for when chaos ensues — because every syllable counts. And due to more intelligible inputs from HDR microphones, the audio emitting from the speaker is clearer as well.

Adaptive Audio Engine

Building upon the latest architecture is our proven APX Adaptive Audio Engine. It dynamically adjusts to give you the best audio in any environment. Sophisticated algorithms filter out unpredictable background noise and wind while working in tandem with the multiple microphones that track your voice from every angle, allowing you to speak into the radio without degrading speech quality.

Audio that responds to your environment

Receive Volume Leveling and Noise Sensing Volume Control, keeps your hands off the volume knob and your attention forward. Set the volume once and the APX N70 radio will automatically adjust for loud or soft talkers, and the changing ambient noise loudness in your surroundings — giving you the right volume at the right time.

Intelligent Noise Reduction

As the 4th generation of our noise suppression technology, Intelligent Noise Reduction (INR) is an advanced software algorithm embedded directly on your radio that removes background noise for users transmitting in noisy environments such as sirens, barking dogs and loud crowds.



Connectivity Maximized.

In order to be ready for the mission, you must have a radio that can interoperate with a variety of systems, devices, sensors and other personnel while keeping communications organized and secure.

Everywhere you operate

Connect to your system's frequency. Operate on any mode or protocol including Analog, Digital P25, Conventional or Trunked. Interop between 3600 and 9600 baud. Connect seamlessly with accessories, sensors and other devices via Bluetooth 5.0 or Wi-Fi. GNSS/GPS enables location tracking for officer safety and efficient task assignment.

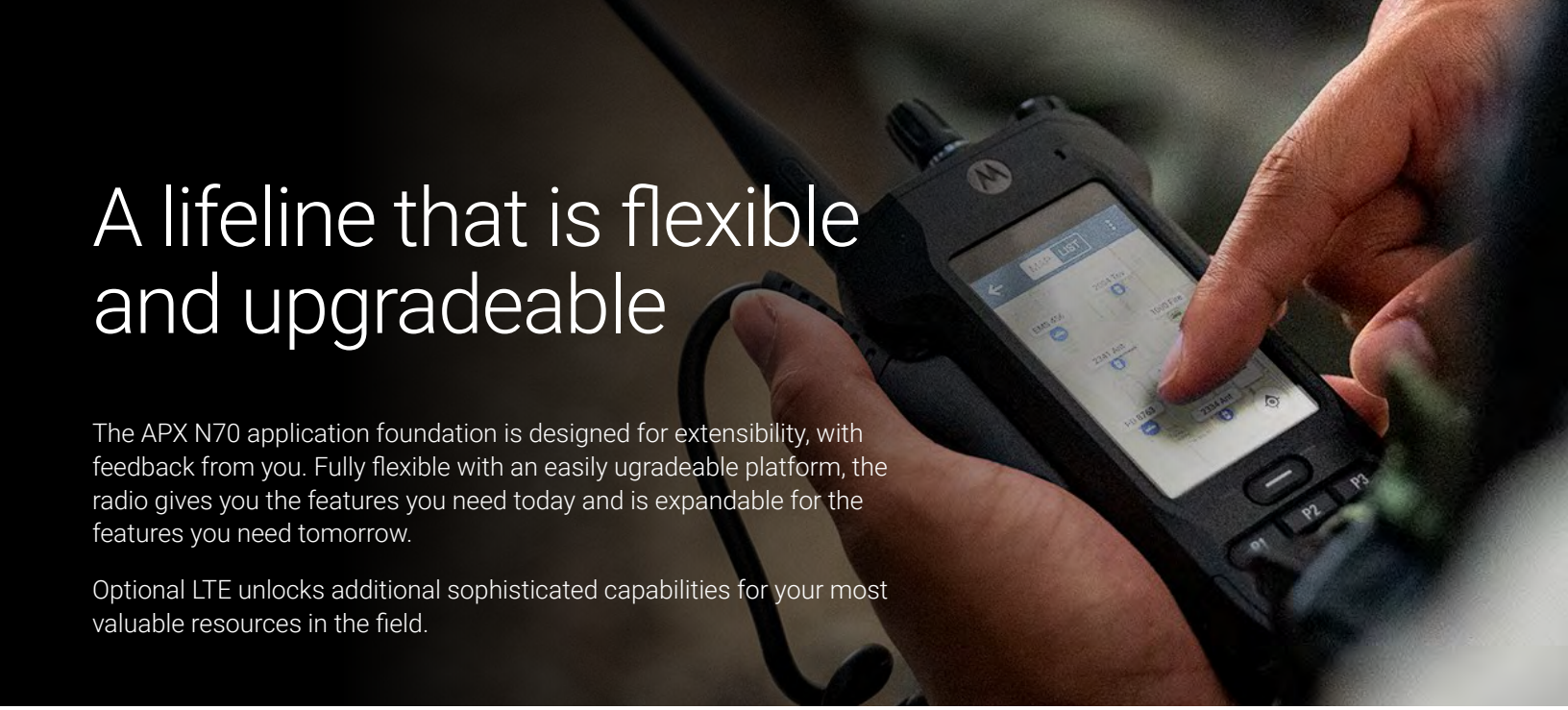
Protect sensitive information

Multiple hardware encryption algorithms including 256-bit AES, DES and ADP can be loaded to a MACE hardware encryption module that stores up to 128 keys and meets FIPS 140-3 level 1, level 3 and FIPS 197 standards. Easily, efficiently and securely load and update encryption keys with Touchless Key Provisioning and over-the-air rekeying to protect against eavesdroppers.

Efficient batch programming

Managing a large fleet of radios can be complex, especially when your team requests changes to fielded radios. Leverage RadioCentral or Radio Management to view your entire fleet from a single interface and efficiently push batch programming changes in minutes. Our team of experts is here to guide your transition from CPS to our advanced software programming platforms, whether you use a cable, Wi-Fi or LTE SmartProgramming. We also offer an array of support services to ensure your fleet can be conveniently managed to optimize your communications.





A lifeline that is flexible and upgradeable

The APX N70 application foundation is designed for extensibility, with feedback from you. Fully flexible with an easily ugradeable platform, the radio gives you the features you need today and is expandable for the features you need tomorrow.

Optional LTE unlocks additional sophisticated capabilities for your most valuable resources in the field.

SmartConnect

When you move beyond the limits of your radio system's coverage, you shouldn't have to leave your lifeline behind. Whether the demands of a call take you in the depths of an urban canyon, or providing mutual aid in the neighboring county, SmartConnect ensures your lifeline is always in reach. Automatic switching between P25 and broadband LTE or Wi-Fi maintains voice communications regardless of radio coverage. SmartConnect P25 packet routing preserves your authentication, status, talkgroups and encryption without interruptions or resets.

SmartLocate

Cutting-edge location routing services sends your radio location data over broadband LTE or Wi-Fi for faster updates and increased efficiency, while expanding the number of devices that can be tracked simultaneously. SmartLocate automatically triangulates radio location using nearby cell towers and Wi-Fi access points for greater accuracy when indoors, deep urban canyons, or forested areas.

SmartIncident

SmartIncident provides this critical information on the radio that responders already carry, reducing the burden of managing multiple devices. Reducing voice traffic between dispatchers and units in the field, SmartIncident frees up radio bandwidth for critical conversations between personnel during an unfolding incident. It also minimizes ambiguity in voice communications, reducing the risk of a misunderstanding or missed information.

SmartMapping

When a call quickly unfolds, keeping track of the big picture can help you stay safe and protect others. Get precise location information on a modern map interface - right on your radio. See your location, find an address, drop waypoints, and stay in touch with the situation. View the location of other units and responders at a glance. Quickly pinpoint colleagues in distress.

SmartMessaging

Turn your radio into a multimedia toolkit. Securely share texts, images, videos and voice notes across your extended team - either with individuals or groups on other radios or smartphones. Need information about an incident? Send a text. Have a citizen who sent in pictures while reporting an incident? Dispatch can share with others responding to the call for better preparation. SmartMessaging is designed specifically for public safety, built right into the APX N70 home screen for quick, intuitive use, while keeping content securely stored for future reference.

SmartProgramming

SmartProgramming coupled with RadioCentral allows initial programming, software, security updates and radio data collection to be sent over LTE. Updates can be sent at anytime, anywhere.



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Brochure



APX N30

Single-band P25 portable two-way radio

MOTOROLA SOLUTIONS



Easy. Efficient. Essential.

Seamless communication from a sleek radio. Easy to use and simple to manage. The APX N30 single-band P25 portable radio connects your teams to reliable P25 radio networks with all the essential features they need and nothing that they don't. The radio solution for mobile workers in public works, government services, and other municipal roles looking for APX performance in a pared down, cost effective package.

The radio solution for APX performance in a pared down, cost effective package.

Slim and sleek. Tough and powerful.

The APX N30 is a small and sleek P25 radio that's easy to carry and simple to use.



Expedite radio operation

A layout that expedites radio operation in the field. Classic large tactile controls, programmable buttons for quick access to favorite presets, a 2.4" front display with intuitive menus and a large keypad that prioritizes situational awareness and quick response.

Control with your voice

ViQi[1] Basic Voice Control makes changing radio settings as simple as talking, with a touch of a button and simple and specific voice commands. Easily switch to the home channel or your favorite presets. Adjust the volume, change an audio profile, check battery, or scan multiple channels without taking your eyes off your surroundings.

Operate in tough conditions

Despite its size and simplicity, the APX N30 retains the built-in toughness of the APX line with a modern industrial design featuring familiar control placement and T-grip for easily holding in wet conditions. With an IP68 rating, submersible in up to 2 meters of water for 2 hours, and a design tested to military standards, it's ready to operate safely and reliably in everyday environments.

Sometimes accidents happen. Rely on us to help get your radios fixed and back in the field where they belong, with predictable costs to give you peace of mind, by choosing hardware repair and accidental damage services.

Work confidently

Loud and clear audio ensures crucial messages get through. Man Down/ Fall Alert gives peace of mind to workers working in isolated conditions and a suite of accessories meets a variety of user needs and working environments.

[1] ViQi Basic Voice Control is available in English only.



Advanced accessories



Audio

Wired and wireless audio accessories that fit your needs and environment. Choose between remote speaker mics, surveillance kits, headsets and more.



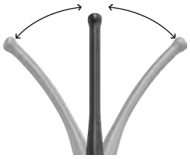
Carry

Belt clips designed for a secure hold yet easy access to the radio when worn on the waist or uniform - so your team can keep its hands free and stay focused on the task ahead.



Energy

If the battery dies, it jeopardizes everything. We offer a selection of IMPRES 2 batteries to provide energy for a full shift and a UL DIV 1 option for safety in HAZLOC environments. A choice of charging solutions enables you to charge one or up to six batteries simultaneously, so your radios are always ready for the next shift.



Antennas

Our redesigned antennas are built for comfort without compromising performance. Short and flexible antennas stay out of the way and not get snagged on uniforms.









Communication essentials

Communicate reliably

Connect and collaborate without complexity. The APX N30 is a pared-down P25 radio that provides rock-solid communications in a form that's easy to master.

Communicate reliably on your system's frequencies, modes and protocols including Analog, Digital P25, Conventional or Trunked to suit your needs. With SmartConnect[2], APX N30 automatically switches between the P25 radio system and available broadband networks, using Wi-Fi hotspots to extend voice channel reach to help mobile users retain connection when moving out of P25 coverage.

Collaborate easily

The APX N30 also connects seamlessly with accessories, sensors and other devices via Bluetooth 4.2 or Wi-Fi. Communications are secured and sensitive information protected by multiple FIPS 140-3 level 1 software encryption algorithms, including 256-bit AES. Essential features designed to keep users safe and efficient in the field include GPS location tracking, preloaded message responses and instant recall of last transmissions.

Streamlining fleet management

The support you need

Protect your investment by ensuring your APX N30 radios are as safe, secure and efficient as the day you took delivery. With ever-evolving risks and needs, it's essential for radios to be updated with system updates and security patches, as well as new features that can help your personnel work more productively.

[2] Please check with your local representative for availability in your country.

Optimize fleet management

The APX N30 optimizes fleet management by programming radios in batches over Wi-Fi with Radio Management, with zero downtime. You can also program them offline using Customer Programming Software (CPS).

Your entire APX fleet is supported by a range of software services and technical support to help keep your communications on the cutting edge. With the APX N30, you get a radio that's designed to operate at the max throughout its lifetime.



To learn more, visit:
www.motorolasolutions.com/APXN30

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Motorola Solutions, Inc. 500 West Monroe Street, Chicago, IL 60661 U.S.A.

This device is available globally. Check with your local Motorola Solutions representative for availability in your country.

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MOTOROLA SOLUTIONS

Proposal

Morgan County, GA

P25 Simulcast Radio Sites

PROPOSAL FOR FOUR-SITE SYSTEM

August 14, 2026

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PS-000230080

Motorola Solutions, Inc.
500 Monroe Street; Suite 4400
Chicago, IL 60661

August 14, 2026

Morgan County Board of Commissioners
Attn: Mark Williams, Assistant County Manager/Procurement Director
150 E. Washington Street
Madison, GA 30650

Subject: P25 Radio System Proposal

Dear Mr. Williams:

Motorola Solutions, Inc. is pleased to present this amendment for the Morgan County APCO P25 Simulcast Radio System upgrade. We deeply appreciate the opportunity and understand how vital this infrastructure is for your first responders and public works personnel. This solution reinforces the robustness of land mobile radio operations while accommodating WiFi and LTE backup alternatives should the County decide to implement them.

This amendment introduces the following key components:

- Tower Site Optimization: Transitioning from the originally planned new tower at the Morgan County Public Safety Center to an existing tower location, eliminating the expense of erecting a completely new structure.
- Two-Site Expansion: Adding two simulcast sites to the original proposed two tower site infrastructure, resulting in a four-site network designed to achieve 95% portable outdoor on-street coverage countywide.
- Microwave Interconnectivity: Supplying necessary services for system connectivity and resilience, featuring a ring topology for enhanced redundancy.
- Warranty and Outyear Support: Including a 1-year baseline warranty paired with maintenance, support, SUA II, and Smart Services Subscriptions for six subsequent outyears.

For review, the original proposal scope comprised of a P25 Public Safety Simulcast Radio System Infrastructure including Oconee Areawide Radio System (OARS) Connectivity, Virtual Prime equipment, Subscriber Replacements, and required DBR M12 base radios to safeguard operations for many years to come, as well as utilization of the OARS tower site located at United Tower (Jones Wood Road) in Bostwick, GA.

Please note that all time-bound proposal incentives extended by Motorola Solutions are valid through September 4, 2026. These remain subject to the Motorola Solutions Customer Agreement (MCA), Sourcewell Agreement #020625-MOT, and the Communications System and Services Agreement.

Should you have any questions regarding this proposal, please contact Jared Smith, Motorola Senior Account Executive, at (678) 725-2190, or Jarrod Shupe, Motorola Strategic Projects Area Sales Manager, at (386) 227-7675.

Sincerely,
Motorola Solutions, Inc.

Janet Fernandez
Regional Vice President, Southeastern Territory
North America Government Markets

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Section 1

System Description

1.1 Solution Summary

Motorola is pleased to offer Morgan County, GA, a four-site simulcast system to address its Public Safety mobile radio communications needs.

This System will be integrated with OARS (Oconee Areawide Radio System), in order to leverage the existing infrastructure and coverage provided by this System.

1.1.1 Proposed System Components

The four (4) site simulcast system will include the following components:

- **Virtualized Prime Site:** One (1) Virtualized Prime Site at the United Tower.
- **Simulcast RF Sites:**
  - One (1) 4-Channel Simulcast RF Site at the Prime Site ASR 1019729.
  - One (1) 4-Channel Simulcast RF Site at the United Tower ASR 1286534.
  - One (1) 4-Channel Simulcast RF Site at the Buckhead Site ASR 1318896.
  - One (1) 4-Channel Simulcast RF Site at the Rutledge Site ASR 1310563.
- **Civil Infrastructure:**
  - One (1) 12 x 16.5’ Motorola-proprietary Shelter Package with required UPS, grounding, and Generator at the Prime Site.
  - One (1) Eaton 9PXM 16KVA / 14.4 KW UPS for the OARS shelter located at the United Tower.
  - One (1) 12 x 16.5’ Motorola-proprietary Shelter Package with required UPS, grounding, and Generator at the Buckhead Site.
  - One (1) 12 x 16.5’ Motorola-proprietary Shelter Package with required UPS, grounding, and Generator at the Rutledge Site.
- **Subscribers:**
  - One hundred ninety-two (192) Mobile Radios.
  - Three hundred fifty (350) Portable Radios.
  - Eight (8) Control Stations.
- **Microwave:**
  - One (1) Loop Microwave system linking the Prime Site, United Tower, Buckhead and Rutledge sites.

1.1.2 Key Products and Benefits

Imagine a scenario where a large-scale emergency unfolds in Morgan County. Multiple agencies respond, but their communication systems are incompatible. First responders struggle to coordinate efforts, leading to delays and potential risks to both the public and themselves. This lack of interoperability can hinder effective response and put lives at stake.

Motorola Solutions addresses this critical need with a comprehensive suite of communication solutions. The ASTRO 25 Trunked Simulcast System ensures seamless communication across a wide coverage area, while the Virtualized Simulcast Prime Site offers centralized fault management and easy expansion. The use of Morgan County's existing Dispatch Consoles provide dispatchers with the tools they need to efficiently manage resources and respond to emergencies. Together, these solutions create a unified communication network that enhances coordination, improves response times, and ultimately makes Morgan County a safer place.

- **ASTRO 25 Trunked Simulcast System:** The ASTRO 25 trunked IP simulcast subsystem consists of an IP simulcast prime site and simulcast remote sites. Two (2) sites have been proposed to Morgan County, but the system is capable of integrating up to thirty-two (32) sites to provide radio coverage to a large area.
- **Virtualized Simulcast Prime Site:** Motorola Solutions deploys prime sites as Virtualized Prime Sites. In this configuration, the Site Controller and Comparator voting applications are virtualized onto a common hardware platform: the DSC 8000 Site Controller.
- **Trunked Repeater Site:** The ASTRO 25 Radio Frequency (RF) site supports a wide variety of configurations to meet critical communications requirements for present and future communication needs.
- **APX Two-Way Radios:** ASTRO radio systems and APX radios are tested and certified via the P25 Compliance Assessment Program, supporting P25 voice and data communications. APX radios properly provisioned on the same ASTRO radio system can enable mission-critical communication between dispatch and field teams.

1.2 ASTRO 25 Trunked Simulcast System

- The ASTRO 25 trunked IP simulcast subsystem consists of an IP simulcast prime site and four (4) IP simulcast remote sites to provide radio coverage to a large area. In addition to supporting simulcast operations, an IP simulcast subsystem can also support voting, data steering, and console interface operations.
- Simulcast operation is a multi-site radio system topology that uses multiple transmitters on the same frequency in separate locations to transmit the same signal. Simulcast operation is desirable in areas where frequencies are scarce and in areas where physical barriers (such as mountains and buildings) can cause deficiencies in signal coverage.
- An IP simulcast subsystem can have up to thirty (30) channels. As designed, four (4) channels operating in the 700 MHz frequency band have been proposed.
- Each of the voice channels will be equipped with ASTRO 25 TDMA, enabling two simultaneous,

yet distinct conversations per RF channel.

- This system offering has been designed to provide mobile radio coverage throughout the County. Additionally, limited portable coverage will also be realized. This coverage, along with LTE-enabled radios that are operable with SmartConnect, will provide ample county coverage. Although RF coverage is not guaranteed, an informational-only coverage map depicting the predicted mobile RF, not including LTE, footprint has been included.

Motorola Solutions deploys Virtualized Prime Sites. In this configuration, the Site Controller and Comparator voting applications are virtualized onto a common hardware platform: the DSC 8000 Site Controller. This consolidates Fault Management and Configuration capabilities into a centralized location and allows for easier implementation and maintenance. Virtualization also enables remote, software-only expansion. For example, when adding base stations to a simulcast sub-system, the Prime Site only needs to add voting software licenses to expand the capacity.

This fully redundant platform offers a new, web-based configuration tool and access to critical applications for more advanced support without the need for additional hardware. With less equipment to maintain, less power consumed, and a smaller physical footprint, the Virtualized Simulcast Prime Site lowers the total cost of ownership.

The DSC 8000 assigns voice and data channels, manages and reports alarms, provides Ethernet switching capabilities, and offers a timing reference for simulcast synchronization. An internal GPS reference with rubidium backup is integrated into the DSC 8000.

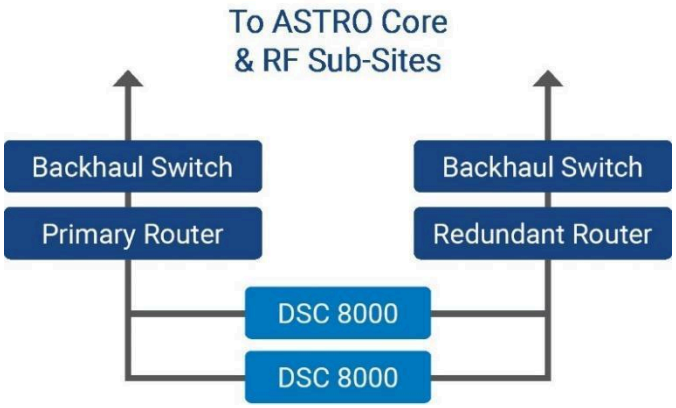


Figure 1.1: Virtualized Prime Site Architecture

The DSC 8000 also provides an IP-based voting and simulcast operation for trunking channels, receiving audio from multiple sites, and performing a frame-by-frame analysis to build a high-quality composite audio package for transmission. The DSC 8000 is provided in a redundant configuration, which means no single point of failure will cause the loss of any functionality or capacity at the Prime Site.

1.2.1 DBR M12

Mission-critical communications are paramount to Morgan County's needs, and modern radio sites are a key component to delivering on that need. The DBR M12 (DBR) Radio Site integrates the key ASTRO radio site components into a single, easy-to-deploy unit. Built on the flexibility of modern hardware and software architectures, the DBR M12 is designed to minimize downtime and provide ease of operation while allowing for cybersecurity updates.

The DBR M12 contains the site processors, transceivers, RF distribution systems, and DC power distribution for up to 12 carriers in a single rack. Multiple racks of up to three (3) can create a site with up to 28 site repeater carriers or 30 simulcast carriers. DBR M12 sites can support up to 12 carriers per transmit antenna and up to 30 carriers per receive antenna. This proposal includes four (4) DBR M12 channels, one (1) DBR rack, and one (1) transmit antenna.

The DBR M12 is supported on ASTRO 25 Systems starting with the A2021.x release.

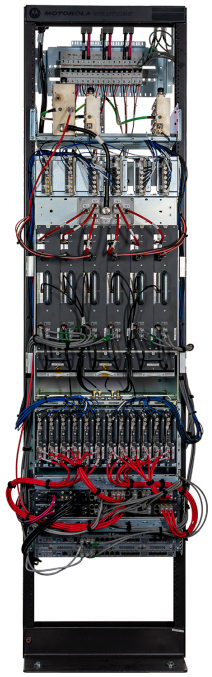


Figure 1.2: DBR M12

1.2.1.1 Improving Uptime

The DBR M12 is designed to minimize downtime from failure, maintenance, or site updates. The DBR M12 can dynamically allocate resources across available hardware, thereby improving resiliency and overall uptime. Critical functions are deployed in pairs so that a redundant component can take over functions if needed. The major hardware components of the DBR M12 are hot swappable to ensure repairs cause minimal disruptions.

The multicarrier amplifier bank amplifies all channels simultaneously from a pool of amplifier resources. Upon a Power Amplifier (PA) module failure, the remaining PA modules can continue to

service the channels. Depending on the configuration and transmit power requirements, this can be with no loss in channel capacity or no more than one (1) channel lost. The multicarrier amplifier architecture enables the possibility of an N+1 transceiver redundancy feature. N+1 transceiver (XCVR) redundancy equips the unit with an extra XCVR module. Upon a failure of one of the XCVRs, the idle XCVR will tune to the frequency of the failed channel and take over. This effectively restores full channel capacity of the site without a site visit to manually replace a failed XCVR (some restrictions apply). This proposal does not include optional N+1 redundancy; however, should Morgan desire, this option may be quoted and added to this proposal.

As proposed, one (1) DBR rack will be installed at each simulcast remote site. The DBR will be programmed with four (4) channels, and each DBR will be configured with one (1) transmit antenna, one (1) receive antenna, and the capability to add one (1) additional diversity receive antenna.

1.2.1.2 Simplifying Ownership

Offering up to 12 carriers per rack, the DBR M12 can reduce the impact on space-constrained sites and ease channel expansions within the capacity of the unit. The built-in Radio Frequency Distribution System (RFDS) of multicouplers, preselectors, and filters connects the DBR M12 to the receive and transmit antennas. With a narrow adjacent frequency spacing requirement of only 50 kHz, the DBR M12 offers greater flexibility than typical 150 kHz equipment, easing frequency acquisition where spectrum availability is an issue.

The DSC 8500 Site Processor provides a single point of connectivity for all of the DBR M12 components at the site. Configuration, fault management, and software upgrades are managed at the site level, rather than addressing each component individually. This provides a streamlined, intuitive user experience.

1.2.1.3 Modernizing Cybersecurity

The DBR M12 is designed to offer protection against an ever-evolving threat landscape, following recommendations of the NIST Cybersecurity Framework guidelines to help identify and detect cyber-attacks, and then how to respond, prevent, and recover from such events.

1.2.1.4 Key DBR M12 Components

DSC 8500 Site Processor – The site processor contains and runs the software used throughout the radio site, including the site controller and base radios. Connections to the base radio transceivers and PAs are provided via the integrated IP switch, which has additional capacity for connecting external RF equipment at the site, such as conventional stations. The DSC 8500 provides integrated Ethernet LAN switching, eliminating the need for external switches at the simulcast sub-site, and provides an integrated site reference. It provides site Ethernet switching, frequency reference, and GPS signal timing. The integrated time/frequency reference uses Global Navigation Satellite System (GNSS) receivers and a Rubidium module as a backup reference, eliminating the need for a TRAK time and frequency reference. The site processor is equipped with integrated redundant GPS references for the ability to maintain timing for a minimum of four (4) hours without a GNSS signal. The rubidium module

is included for an extended holdover time of 72-hours. The redundant configuration provides two reference distribution modules. One unit acts as the active unit, and the second is the standby unit.

Multicarrier Amplifier Bank – The DBR M12 pools PA resources into a multicarrier amplifier bank. PA resources within this bank can be sized to provide ample power for the active carriers as well as additional capacity to cover for a PA failure in many channel configurations. The bank dynamically amplifies all channels simultaneously. The multicarrier amplifier bank eliminates the need for traditional cavity combiners. The overall result is a small and power-efficient system, resilient to failure without the need for periodic combiner tuning.

DC Power System – The DBR M12 offers integrated DC power as standard (+/- 48 VDC) throughout. Designed to be powered by a site DC power system, the DBR M12 rack includes multiple breakers to distribute power to the various components, ensuring a single breaker trip will not disable the entire site.

AC Power System – The AC power system is a modular design. Utilizing an N+1 redundancy scheme, the number of modules is sized to meet the power needs of each DBR M12 configuration. The loss of an AC circuit to the DBR M12 unit will not result in the loss of channel capacity.

Remote Site Router – The Juniper SRX routers provide a WAN interface to the Simulcast Virtualized Prime site, performing the following tasks:

- Carries all of the voice and network management traffic for the site.
- Provides IP traffic prioritization for packets departing the site.
- Interfaces between the RF Subsystem and Simulcast Prime Site.

This proposal includes four (4) Juniper SRX routers.

1.2.2 TDMA

This proposal includes FDMA and TDMA licenses for all of the voice stations at the four (4) simulcast remote sites.

1.2.3 Antenna and Line Systems

This proposal includes the following antennas and antenna line systems to support the system:

Prime Site

- One (1) RFI CC807-11-T3 transmit antennas located at the 300-foot level with $1^{1}/_{4}$-inch coaxial cable.
- One (1) RFI CC807-11-P receive antennas located at the 330-foot level, with ⅞-inch coaxial cable in a diversity receive configuration.
- One (1) Diversity Receive Tower-top Amplifier and Control Unit (CU) with ½-inch coaxial cable test line.

United Tower

- One (1) BPA7496-120-12 transmit antenna located at the 230-foot level with $1^{1}/_{4}$-inch coaxial cable.
- One (1) BPA7496-120-12 receive antenna located at the 250-foot level, with ⅞-inch coaxial cable in a diversity receive configuration.
- One (1) Diversity Receive Tower-top Amplifier and Control Unit (CU) with ½-inch coaxial cable test line.

Buckhead

- One (1) DS7C08PPVU-D transmit antenna located at the 280-foot level with $1^{1}/_{4}$-inch coaxial cable.
- One (1) CC807-11-P receive antenna located at the 300-foot level, with ⅞-inch coaxial cable in a diversity receive configuration.
- One (1) Diversity Receive Tower-top Amplifier and Control Unit (CU) with ½-inch coaxial cable test line.

Rutledge

- One (1) DS8M12PH2U2D transmit antenna located at the 295-foot level with $1^{1}/_{4}$-inch coaxial cable.
- One (1) CC807-11-P receive antenna located at the 310-foot level, with ⅞-inch coaxial cable in a diversity receive configuration.
- One (1) Diversity Receive Tower-top Amplifier and Control Unit (CU) with ½-inch coaxial cable test line.

Motorola understands that Morgan County has made, or will make, the requisite arrangements with the owners/managers of the United Tower antenna site and all other applicable site owners to construct and place simulcast remote site equipment, services, and facilities on the property.

1.2.4 MC-Edge Intelligent Gateway

The MC-Edge® is an intelligent gateway designed for IoT applications. It is a general-purpose Remote Terminal Unit (RTU) enabling users to remotely control and monitor end node devices.

It can be used as an Auxiliary Input/Output (I/O) Server at ASTRO dispatch sites and as a Network Fault Management (NFM) Remote Terminal Unit (RTU) at ASTRO RF sites. The MC-Edge replaces the legacy SDM 3000 device for similar applications.

The MC-Edge device comprises a CPU Host board, a plug-in board, and supports up to 16 SPE I/O modules, while five out of them can be CAN bus I/O expansion modules. The device is enclosed in a compact, protective plastic housing. The CPU front panel provides easy access to connectors and ports. It includes a power LED, status LEDs for onboard DIs/DOs, and status LEDs on the communication ports.



Figure 1.3: MD-Edge Intelligent Gateway

The I/O module front panel includes terminal block connectors for sensor/device wire connection. There are 5 plug-in board options for each MC-Edge configuration. Each plug-in board has a panel with different entrances.

The MC-Edge can be ordered with an external AC/DC power supply. If the supply input power is 12 or 24 V, then no power supply is needed, and only a DC power cable is required. If an AC power input is required, an external power supply can be ordered.

The MC-Edge provides support in many protocols: DNP, Modbus, MQTT, and more SCADA protocols.

As proposed an MC-Edge RTU has been proposed at each of the two simulcast remote sites. Each MC-Edge is configured with AC power and equipped with twelve digital and eight analog inputs.

MC-Edge as an NFM RTU

The MC-Edge can be used to report remote site digital sensor states and analog sensor values to the ASTRO Unified Event Manager (UEM) fault management application. The UEM can control digital outputs to activate equipment at remote sites. The MC-Edge NFM is able to monitor analog inputs, useful for applications such as monitoring fuel tank levels or making analog environmental measurements.

Up to five modules in total (DI/AI, Mixed I/O, Digital Mix I/O) can be ordered in any combination. Various module types are available based on customer needs. Each module provides different input and output capabilities. Both MC-Edge units are configured with AC power and equipped with twelve digital and eight analog inputs each.

No special UEM license is required for basic UEM operation with MC-Edge. However, some UEM functionality for monitoring MC-EDGE is only enabled when the UEM Enhanced Navigation option is purchased.

1.3 RF Coverage

1.3.1 Overview

Motorola is pleased to present to Morgan County the first phase of Morgan's ASTRO 25 simulcast RF network. This phase is designed with four (4) simulcast RF sites to provide extensive mobile radio coverage throughout the County. As this simulcast system is expanded, mobile RF coverage will be increased, and overall radio performance will be enhanced, enabling greater portable radio coverage outside and within specified building densities bounded by Morgan County.

RF Coverage predictions based upon design details making up the four (4) proposed simulcast sites are presented below. These maps were developed using Motorola's advanced design tool, Hydra^{SM}. As this is only the initial phase of the larger simulcast system build-out, these coverage prediction maps are presented for "informational purposes only". No coverage guarantee is included in this proposal.

Hydra^{SM} is an innovative software tool developed by Motorola to accurately predict coverage, model traffic (voice and data), analyze interference, plan channel re-use, and perform other design tasks for Motorola's diverse portfolio of radio networks. This description concentrates on Hydra's coverage planning aspects.

1.3.2 Hydra Development

Hydra's coverage prediction tool was developed to provide accurate coverage simulations by applying proven models to detailed system and environmental data across large geographical areas.

To accurately create a picture of the predicted radio coverage, many elements must be considered. Some of these elements, called system factors, are related to the system design parameters. System factors affecting coverage performance include the following: frequency, distance, transmitter power, receiver sensitivity, antenna height, and antenna gain. Other factors, called environmental factors, vary according to the path taken by the radio signal and the environment surrounding the receiver. Environmental factors include the following: terrain variations, obstructions, vegetation, buildings, ambient noise, and interference.

All coverage prediction methods try to account for both types of factors and incorporate them into a computational model. In general, the currently accepted models, such as Okumura and Longley-Rice, provide excellent portrayals of radio coverage when used within their respective ranges of applicability.

In the past, signal strength analysis was adequate for the type of basic systems that were available. However, today's complex technologies, such as digital voice radios, simulcast, packet data systems, and broadband data, such as LTE, require a much more comprehensive analysis of signal and system characteristics to create a cost-effective design. This makes it necessary to use the appropriate coverage and loading models, provide an accurate representation of the environmental factors, and apply the analysis method to every location within the service area.

Recognizing these facts, Motorola has developed Hydra, a multi-purpose radio network design tool that includes both coverage and traffic analysis models. Taking advantage of the knowledge gained from Motorola's many years of practical experience and coverage testing, Hydra provides a superior means for analyzing system coverage and capacity. This program, unique to Motorola, employs a technique of computing coverage on every tile in a service area. Hydra computes “layers” of these tiles, with each layer containing the values of propagation model losses, coverage simulation results, or datasets. Layers can be displayed separately or in any combination as maps of the service area.

1.3.3 Hydra Detailed Description

1.3.3.1 Inputs and Outputs

Inputs to Hydra’s simulations include system architecture, equipment characteristics, service area boundaries, areas of various building losses, subscriber unit distribution density for Traffic analysis, etc.

Hydra’s coverage map outputs are created and displayed using ESRI’s shapefiles, an industry-standard GIS file format. Shapefiles from many sources (GIS vendors, the Internet, your own GIS department, etc.) can be loaded, displayed, and used in Hydra to enhance mapping and to define polygons for service areas, building loss areas, and subscriber placement. Hydra’s coverage analyses can be limited to specified service area polygons (e.g., a county, a city, or a dispatch territory), so coverage reliability can be analyzed exclusively within the boundaries of your operating area.

In addition to showing coverage reliability, Hydra maps can display terrain, land cover, roads and boundaries, signal strength and field strength, interference predictions, etc.

Hydra, together with Motorola’s Voyager^{SM} coverage acceptance testing tool, provides closed-loop integration between predicting and verifying coverage. Field survey measurements – signal strength, Bit Error Rate (BER), data throughput, and message success information – can be loaded into Hydra for analysis, display, and printing.

1.3.3.2 Tile Method

Hydra uniformly divides the entire geographical area to be analyzed into small, distinct areas called tiles. The resolution (size) of the tiles can be as fine as one arc-second (approximately 100-feet at U.S. latitudes). At each tile, Hydra models propagation from each site in the system.

The tile method is of particular importance in the calculation of simulcast coverage and interference analysis. Information from every site and all datasets is available in every tile, providing the most accurate results for multi-site analyses (simulcast, voting, interference, best server, etc.).

1.3.3.3 Datasets

For propagation prediction, Hydra uses four (4) types of geophysical datasets:

- Hypsographic (terrain elevations) - to determine shadow loss and elevation morphological (land use) - for environmental clutter loss.

With the proper datasets, Hydra produces accurate results. Because propagation prediction accuracy is directly dependent on the quality of the digitized datasets, Motorola uses high-quality datasets for its analyses. These datasets originate from commercial or government sources such as the U.S. Geological Survey in the United States, and equivalent geodata providers worldwide.

Even the best datasets contain a certain amount of errors, caused by several factors that are difficult to completely overcome due to the massive amount of data involved. Dataset errors can originate in the source information or in the dataset development process. Old datasets can also contribute to errors due to physical changes that have taken place since the development of the dataset.

Hydra, like all terrain-based propagation tools, provides coverage predictions that are only as accurate as the available datasets permit. In the U.S., Motorola uses high-quality terrain and land cover data derived from USGS 30-meter DEM and NLCD sources.

Other datasets that Hydra can use include the following:

- Planimetric (mapping) – roads, water features, political boundaries, feature names, etc.
- U.S. Radio Site Locations – coordinates of existing radio sites, including FCC Wireless Licenses, FCC Antenna Site Registry, and some commercial site providers.
- U.S. Frequencies – potentially available channels in geographic areas, per FCC Wireless Licenses.

1.3.3.4 Propagation Model

For each tile, Hydra predicts signal strength using an improved algorithm based on the industry-accepted Okumura model[1].

1.3.3.5 Coverage Reliability

Hydra predicts Area reliability, defined as the probability of achieving a specified performance criterion within a geographical area of interest. The area of interest is either the Covered Area (the painted area on a Hydra coverage map) or the entire Service Area. Possible criteria include voice Delivered Audio Quality (DAQ), data throughput, or data Message Success Rate (MSR).

Since system coverage can never be one-hundred percent reliable, there will always be particular times and locations where the signal strength or BER does not meet that needed to reach the performance criterion. These locations of unsatisfactory performance are often predictable in a coverage study. However, there are also areas of unsatisfactory coverage that cannot be predicted due to unknown circumstances such as unusual structures, tree density, ambient noise, atmospheric conditions, dataset errors, and interference from co-channel or adjacent channel units operating outside their normal service area. Because these conditions exist and signals fade due to these environmental and terrain factors, coverage must be described statistically in terms of a percentage of locations that exhibit the minimum acceptable criterion.

[1] Okumura, Yoshihisa et al, “Field Strength and Its Variability in VHF and UHF Land-Mobile Radio Service”, Review of the Electrical Communication Laboratory, 16(9-10), Sept-Oct 1968, pp 825-873.

To provide radio systems with acceptably few communications failures throughout the Covered Area, Motorola designs coverage at high Area reliabilities. It is also important to note that locations outside of a Hydra-covered area map may still provide usable communications, even though such locations do not achieve the minimum acceptable reliability.

1.3.4 Hydra Capabilities

Hydra provides a detailed performance simulation of the following Motorola wireless network architectures:

Voice coverage and traffic (Analog FM, ASTRO®, SECURENET™, etc.) ASTRO 25 Integrated Voice & Data coverage and trafficHigh Performance Data coverage and traffic, Dimetra® coverage, and voice traffic

1.3.4.1 Voice Systems

Hydra's coverage models use proven Okumura-based prediction methods and Monte Carlo simulation techniques to provide coverage reliability maps. Voice coverage models (Voice, Dimetra®, ASTRO 25) provide systemwide coverage maps, as well as subsystem maps (when applicable, e.g., for Simulcast cells and Receiver Voting), and individual site maps.

1.3.4.2 Simulcast Coverage Performance

For a simulcast system, merely providing coverage maps of individual sites (separately or on the same map) does not accurately represent the total system performance, which depends upon differential delays and aggregate signal levels. Therefore, Motorola has developed Hydra's simulcast model, which uses the delay spread methodology to simulate aggregate signal strength and power-weighted delay throughout the entire predicted coverage area. All locations within the predicted coverage area are analyzed for the combined effect of signal strengths and differential delays from the simulcast transmitters in the system. Hydra's simulcast coverage maps will show any areas predicted to have coverage problems caused by out-of-phase signals and/or inadequate signal strengths. Hydra allows modeling with varied transmitter launch delays to predict optimized simulcast coverage within the area being evaluated.

1.3.4.3 Narrowband Data Systems (HPD, ASTRO 25 IV&D)

Wireless data network performance is highly dependent on RF coverage reliability, network protocol, and network traffic load. Hydra accurately predicts the coverage and traffic performance of Motorola data systems by modeling the automatic protocol retry mechanisms of data protocols. Hydra integrates RF coverage prediction, network protocol modeling, and traffic engineering into a single simulation and utilizes Monte Carlo simulations as well as discrete event simulation techniques to provide a tool that accurately predicts wireless network system performance.

Hydra uses the Okumura model for terrain-based propagation prediction, and adds the modeling of the protocol behavior (try-based coverage) via a detailed protocol simulation. Hydra models the relevant

layers of the OSI protocol stack, from the physical layer of the air interface to the application layer of the host and subscriber entities.

Using this modeling approach, Hydra can account for all the elements that impede network performance, from packet loss on the wireless link due to co-channel interference to packet latencies in the fixed end equipment introduced by protocol behavior. Hydra's modeling architecture allows true end-to-end system modeling.

1.3.4.4 Summary

Hydra is continually updated for the latest technologies by Motorola's Resource Development Engineering team to create the most accurate and up-to-date coverage and traffic prediction tool. It is used extensively in the design and testing phases of Motorola's radio networks. Hydra provides accurate, easy-to-read maps of the predicted coverage for your radio system.

1.3.5 Coverage Maps

The following coverage maps are included for informational purposes:

- **Figure 1: four-site Simulcast Mobile Roundtrip Coverage.** This map shows mobile round-trip coverage realized from the proposed Morgan County four-site simulcast system.
- **Figure 1: four-site Simulcast Portable with RSM Roundtrip Coverage.** This map shows portable with RSM round-trip coverage realized from the proposed Morgan County four-site simulcast system.

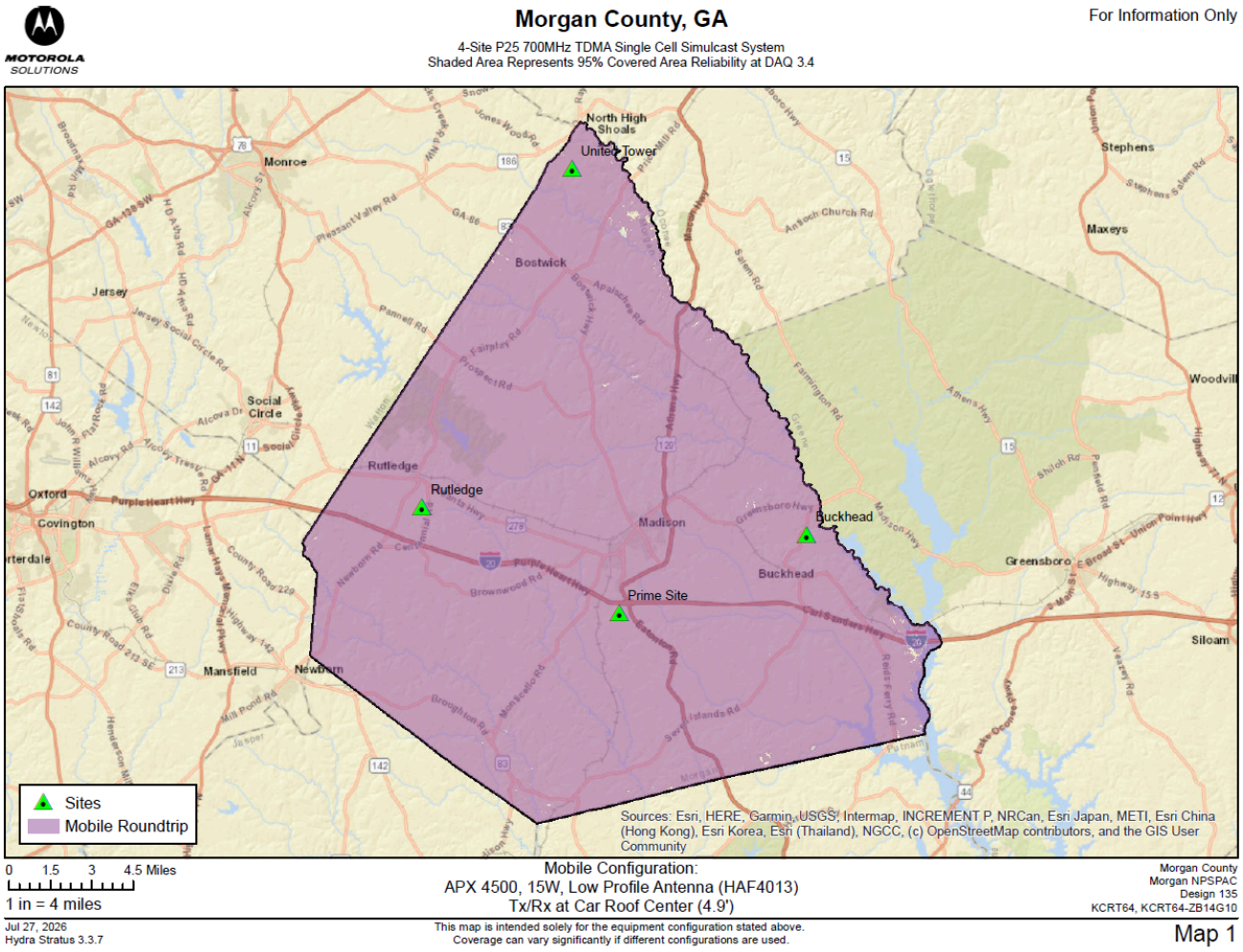


Figure 1.4: Four-site Simulcast Mobile Roundtrip Coverage

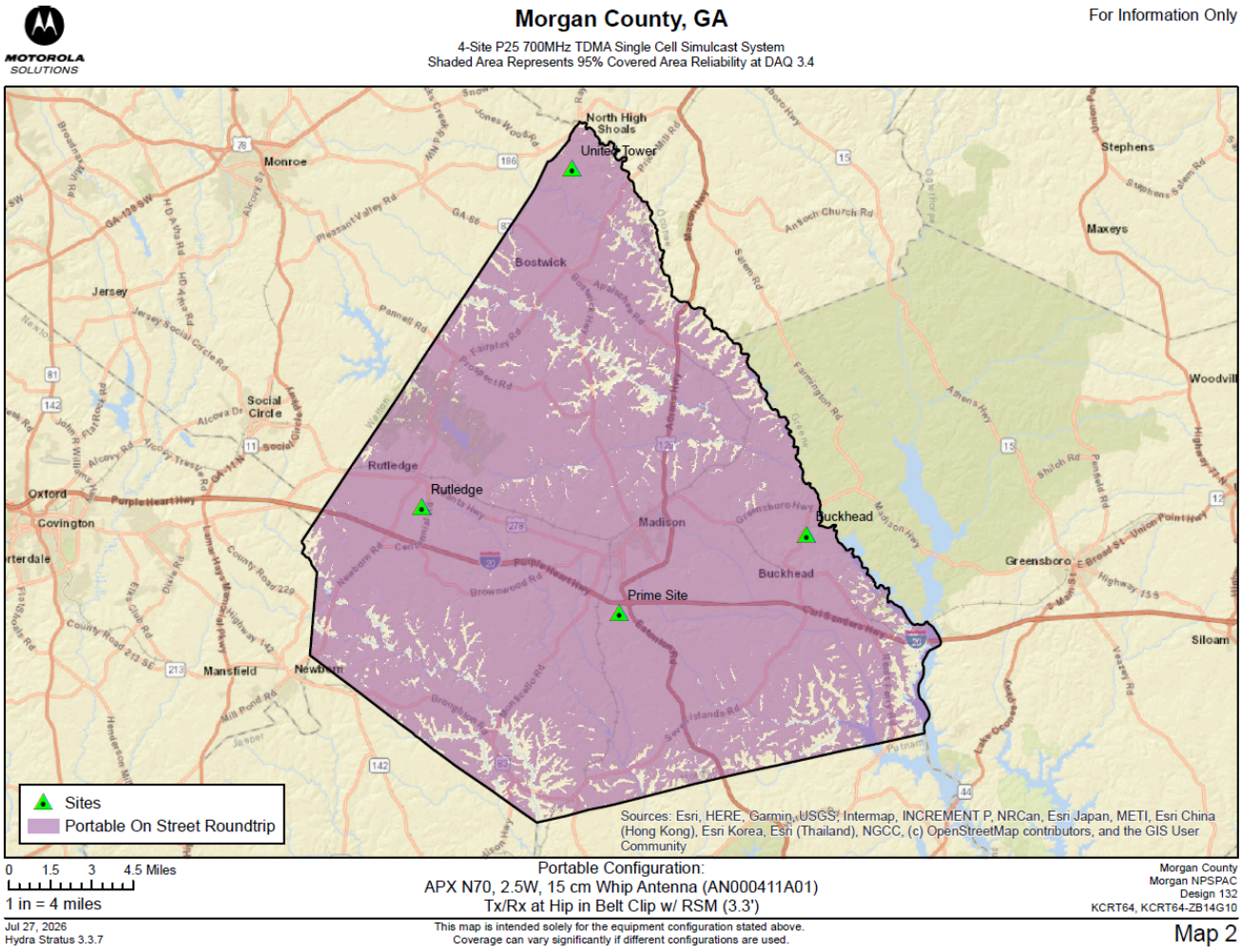


Figure 1.5: Four-site Simulcast Portable Roundtrip Outside Coverage

These maps were developed using the following design parameters considered for this proposal:

Prime Site - Site Data

Table 1.1: Prime Site Data

Prime Site	Site Data
Site Name	Prime Site
Latitude	33°32'58.41"N
Longitude	83°28'47.57"W
Elevation Used	656.17 ft

Prime Site - Transmit Antenna System

Table 1.2: Prime Site - Transmit Antenna System

Tx Antenna System	Value
Antenna Gain	10.50 dBd
Antenna Height	300.00 ft
Jumper from Antenna	1/2" 10 ft
Main Line	1 1/4"
Room Jumper	1/2" Flex 30 ft

Prime Site - Receive Antenna System

Table 1.3: Prime Site - Receive Antenna System

Rx Antenna System	Value
Antenna Gain	10.50 dBd
Antenna Height	330 ft
Main Line	7/8"
Room Jumper	1/2" Flex 30 ft
Tower Top Amp	Yes

United Tower - Site Data

Table 1.4: United Tower Center Site Data

United Tower	Site Data
Site Name	United Tower
Latitude	33°47’32.2” N
Longitude	83°30’38.7” W
Elevation Used	757.87

United Tower - Transmit Antenna System

Table 1.5: United Tower Transmit Antenna System

Tx Antenna System	Value
Antenna Gain	10.00 dBd
Antenna Height	230.00 ft
Jumper from Antenna	1/2" 10 ft
Main Line	1 1/4"
Room Jumper	1/2" Flex 30 ft

United Tower - Receive Antenna System

Table 1.6: United Tower Receive Antenna System

Rx Antenna System	Value
Antenna Gain	10.00 dBd
Antenna Height	250.00 ft
Main Line	7/8"
Room Jumper	1/2" Flex 30 ft
Tower Top Amp	Yes

Buckhead - Site Data

Table 1.7: Buckhead Center Site Data

Buckhead	Site Data
Site Name	Buckhead
Latitude	33°35'33.03"N
Longitude	83°21'25.46"W
Elevation Used	534.77

Buckhead - Transmit Antenna System

Table 1.8: Buckhead Transmit Antenna System

Tx Antenna System	Value
Antenna Gain	7.8 dBd
Antenna Height	280.00 ft
Jumper from Antenna	1/2" 10 ft
Main Line	1 1/4"
Room Jumper	1/2" Flex 30 ft

Buckhead - Receive Antenna System

Table 1.9: Buckhead Receive Antenna System

Rx Antenna System	Value
Antenna Gain	10.5 dBd
Antenna Height	280.00 ft
Main Line	7/8"
Room Jumper	1/2" Flex 30 ft
Tower Top Amp	Yes

Rutledge- Site Data

Table 1.10: Rutledge Site Data

Rutledge	Site Data
Site Name	Rutledge
Latitude	33°36'26.51"N
Longitude	83°36'32.08"W
Elevation Used	695.54

Rutledge- Transmit Antenna System

Table 1.11: Rutledge Transmit Antenna System

Tx Antenna System	Value
Antenna Gain	11.9 dBd
Antenna Height	275.00 ft
Jumper from Antenna	1/2" 10 ft
Main Line	1 1/4"
Room Jumper	1/2" Flex 30 ft

Rutledge- Receive Antenna System

Table 1.12: Rutledge Receive Antenna System

Rx Antenna System	Value
Antenna Gain	10.5 dBd
Antenna Height	290.00 ft
Main Line	7/8"
Room Jumper	1/2" Flex 30 ft
Tower Top Amp	Yes

1.4 Microwave Link

Interconnecting the ASTRO 25 simulcast sites to the Virtualized Prime Site controller can be accomplished by utilizing microwave hops, as well as an optional customer-owned and maintained fiber optic backhaul system. This proposal includes microwave hops between the Prime and simulcast remote sites.

The following tables show the characteristics of the Microwave hops for both sides of each path:

Table 1.13: Prime Site - Buckhead

Prime Site	Characteristics
Location	33 32 58.41 N, 083 28 47.57 W
TR Antenna	VHLP6-6W (TR)
Height (ft)	200-foot
DR Antenna	VHLP6-6W
Height (ft)	170-foot

Table 1.14: Rutledge - United Tower

Buckhead	Characteristics
Location	33 35 33.03 N 083 21 25.46 W
TR Antenna	VHLP6-6W (TR)
Height (ft)	240-foot
DR Antenna	VHLP6-6W
Height (ft)	210-foot

Table 1.15: Buckhead - United Tower

United Tower	Characteristics
Location	33 47 32.20 N 083 30 38.70 W
TR Antenna	VHLP6-6W (TR)
Height (ft)	220-foot
DR Antenna	VHLP6-6W
Height (ft)	190-foot

Table 1.16: Rutledge - United Tower

Buckhead	Characteristics
Location	33 35 33.03 N 083 21 25.46 W
TR Antenna	VHLP6-6W (TR)
Height (ft)	250-foot
DR Antenna	VHLP6-6W
Height (ft)	190-foot

Table 1.17: Prime Site - Rutledge

Prime Site	Characteristics
Location	33 32 58.41 N, 083 28 47.57 W
TR Antenna	VHLP6-6W (TR)
Height (ft)	195-foot
DR Antenna	VHLP6-6W
Height (ft)	170-foot

Table 1.18: Rutledge - United Tower

Rutledge	Characteristics
Location	33 36 26.51 N 083 36 32.08 W
TR Antenna	VHLP6-6W (TR)
Height (ft)	165-foot
DR Antenna	VHLP6-6W
Height (ft)	170-foot

Table 1.19: Rutledge - United Tower

United Tower	Characteristics
Location	33 47 32.20 N 083 30 38.70 W
TR Antenna	VHLP6-6W (TR)
Height (ft)	220-foot
DR Antenna	VHLP6-6W
Height (ft)	190-foot

Table 1.20: Rutledge - United Tower

Rutledge	Characteristics
Location	33 36 26.51 N 083 36 32.08 W
TR Antenna	VHLP6-6W (TR)
Height (ft)	250-foot
DR Antenna	VHLP6-6W
Height (ft)	220-foot

The paths are designed with Nokia Wavence UBT-I all indoor radios, hot-standby (HSB) microwave radios. The Nokia 7705 Service Aggregation Router (SAR-8) will provide microwave awareness (MWA) for the Wavence microwave transceivers.

The microwave path is designed in the L6 GHz band with a fixed modulation of 1024 QAM and a data throughput of 226 Mbps. The path is designed to provide a minimum 2-way availability of 99.9999%.



Figure 1.8: Nokia 7705 Service Aggregation Router (SAR-8)

CommScope microwave dishes, elliptical waveguides, and dehydrators will be provided. An Eltek -48 VDC DC power and battery plant will be provided for each of the sites. Each DC plant and battery plant is designed to provide 8-hours of backup power time and a battery recharging period of 24-hours.

1.4.1 Feasibility Studies

The feasibility study of the proposed microwave radio path was performed, including information provided by or on behalf of Morgan County. Feasibility studies are preliminary in nature and are not intended to represent a final design. Results of the feasibility study provided may include:

- System map.
- Path profiles.
- Path calculations.
- Availability calculations.

This report is intended to establish the feasibility of constructing a microwave system to meet the customer's needs as outlined within this proposal. It is based on customer-supplied data unless noted otherwise. This information should be used solely to determine if a more formal engineering effort is worthwhile. A field path survey must be performed to confirm path clearances, to verify site and critical point coordinates and elevations, to establish actual tree, building, and tower heights, and to identify any other conditions that can affect path performance. Without a field path survey, the path clearances and, therefore, viability cannot be warranted.

1.4.2 Field Path Surveys

Microwave path surveying services are used to determine or verify the following:

- Site coordinates.
- Ground elevation.
- On-path obstruction location and height.
- Tower information.
- Other parameters required to engineer and implement a microwave radio link.

The present and anticipated future effect of on-path obstructions, such as tree growth, is evaluated and incorporated into the path design where applicable. The results of the path survey are documented, and a formal survey report or technical report, as required, is delivered to the customer. Motorola only warrants the actual path surveyed.

1.4.3 Path Design

The path designs are based on formal field survey data gathered by path surveyors qualified and chosen by Motorola. Data collected during the survey will be used to design the path's final parameters, including antenna centerline requirements, and antenna and radio types necessary to meet the availability objective.

Antenna centerlines based on the range of K-factors expected to occur during an average year will be developed. The Fresnel zone clearance criteria used for various K-factors are in line with current industry standards. In addition, paths are checked for susceptibility to obstruction, fading outages using a standard Obstruction Fading model. Paths are also analyzed for ground-based reflections. After these calculations are completed, if the path availability objective has not been met, various countermeasures are recommended to improve path availability.

Path availability is determined using current industry-accepted models for predicting outage times and diversity improvement factors associated with normal atmospheric multipath fading, up-fading, rain fading, and obstruction fading. Every effort is made by Infinity to anticipate the probable occurrence of abnormal propagation conditions based on historical documentation, experience, geographical location, and field survey data.

The final path design documentation will include one or more of the following:

- System map.
- Final path profile(s).
- Final path calculations.

All radio paths using the proposed equipment and installed based on the recommended path design are warranted and shall conform to the availability listed for normal atmospheric multipath fading. Motorola will not be responsible for excessive outages or degraded performance due to abnormal fading conditions. Abnormal fading conditions include, but are not limited to:

Formation of extreme radio refractivity gradients associated with:

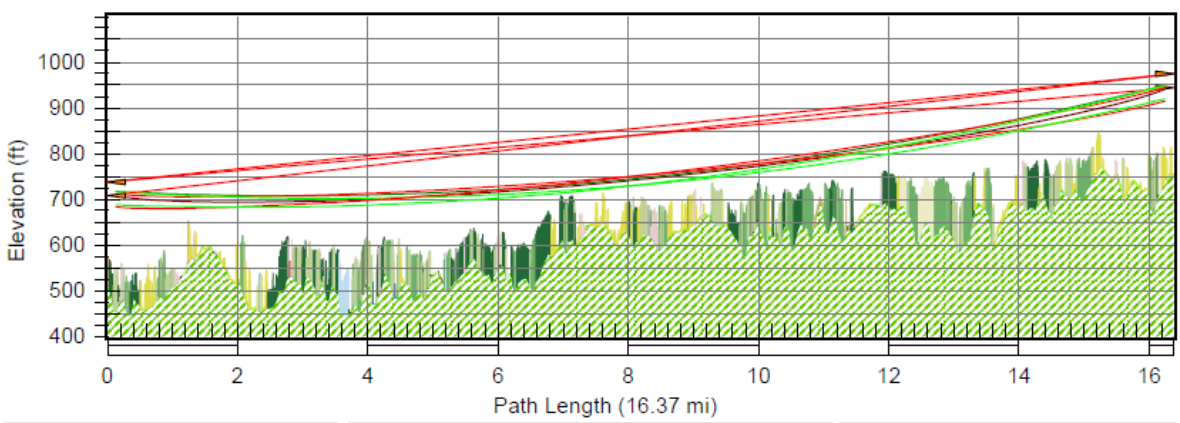
- Exceptionally large temperature inversions.
- Abnormal temperature/humidity layers.
- Fog formation.
- Signal trapping caused by surface or atmospheric ducting.
- Reflections from unidentifiable off-path terrain features or physical structures.
- Rain fading due to rainfall rates that are in excess of the published rates or charts used to predict rain-induced outages.

If abnormal propagation conditions are suspected to be the cause of degraded system performance, Motorola will assist Morgan County in verifying the conditions leading to the degraded system performance. After the problem has been identified, Motorola will support the Customer in identifying possible solutions to the problem and assessing the incremental improvement expected from corrective actions.

The following assumptions were used in the path design:

- Site latitudes and longitudes were provided by the customer.
- Existing tower heights were provided by the customer.
- Ground elevations are from the National Elevation Dataset (NED) with a 1/3 arc-sec resolution in the Continental US (~10 m resolution).
- Land cover is from the National Land Cover Dataset 2019.
- Tree heights used in the design are based on a database of previously measured trees in the area. Tree, building, and other potential obstructions heights are cross-referenced as best as possible in Google Earth when street view and 3D building views are available.
- A tree height growth factor of 20-feet.
- Profiles use the Vigants-Barnett multi-path algorithm, the Vigants space diversity algorithm, and the 2003 Crane model with city rates for rain attenuation.
- The path was designed for a poor propagation area (Climatic factor = 2.0).
- The clearance criteria for all main antenna centerlines are the higher of:
    - 100% 1st Fresnel zone over K=4/3
    - Grazing over K=0.5
- The clearance criteria for any space diversity antennas centerline are:
    - 60% 1st Fresnel zone over K=4/3
- The microwave radio type used for path design is the Nokia MPT-HLC indoor transceiver.
- All transmit antennas meet FCC Part 101 Category A standards.
- All non-ring paths are designed to meet an annual availability objective is 99.9999% (2-way multipath + Rain) at 10-6 BER.
- Paths were designed for a minimum fade margin of 30 dB.

1.4.4 Path Profiles



Buckhead	
Latitude	33 35 33.03 N
Longitude	083 21 25.46 W
Azimuth	327.30°
Elevation	518 ft ASL
Antenna CL	220.0, 190.0 ft AGL

Frequency (MHz) = 6100.0
Main 1 K = 1.330 %F1 = 100.00 FH = 20.00 ft
Main 2 K = 0.500 %F1 = 0.00 FH = 20.00 ft
Divr 1 K = 1.330 %F1 = 60.00 FH = 20.00 ft
Divr 2 K = 0.500 FH = 20.00 ft

United Tower	
Latitude	33 47 32.20 N
Longitude	083 30 38.70 W
Azimuth	147.21°
Elevation	754 ft ASL
Antenna CL	220.0, 190.0 ft AGL

Transmission details (Buckhead-United Tower.pl6)

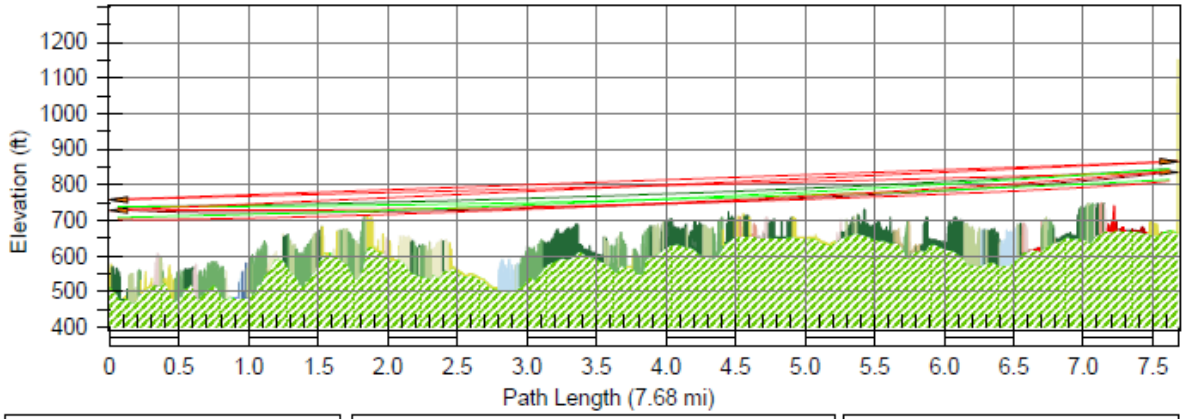
	Buckhead	United Tower
Latitude	33 35 33.03 N	33 47 32.20 N
Longitude	083 21 25.46 W	083 30 38.70 W
True Azimuth (°)	327.30	147.21
Vertical Angle (°)	0.07	-0.25
Elevation (ft)	518.14	754.36
ASR	1318896	1286534
Tower height (ft)	300.00	250.00
Tower Type	Guyed	Guyed
Antenna Model	VHLP6-6W (TR)	VHLP6-6W (TR)
Antenna Filename	vhlp6-6w	vhlp6-6w
Antenna Gain (dBi)	39.30	39.30
Antenna Height (ft)	220.00	220.00
TX Line Model	EW52	EW52
TX Line Unit Loss (dB/100 ft)	1.19	1.19
TX Line Length (ft)	250.00	250.00
TX Line Loss (dB)	2.97	2.97
Connector Loss (dB)	0.50	0.50
Extender Loss (dB)	0.50	0.50
TX Filter Loss (dB)	1.30	1.30
RX Filter Loss (dB)	1.60	1.60
Antenna Model	VHLP6-6W (DR)	VHLP6-6W (DR)
Antenna Filename	vhlp6-6w	vhlp6-6w
Antenna Gain (dBi)	39.30	39.30
Antenna Height (ft)	190.00	190.00
TX Line Model	EW52	EW52
TX Line Unit Loss (dB/100 ft)	1.19	1.19
TX Line Length (ft)	220.00	220.00
TX Line Loss (dB)	2.61	2.61
Connector Loss (dB)	0.50	0.50
Extender Loss (dB)	0.50	0.50
RX Filter Loss (dB)	1.60	1.60
Frequency (MHz)	6100.00	
Polarization	Vertical	
Path Length (mi)	16.370	
Free Space Loss (dB)	136.59	

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	Buckhead	United Tower
Atmospheric Absorption Loss (dB)	0.39	
Diffraction loss (dB)	0.00	
Main Net Path Loss (dB)	69.21	69.21
Diversity Net Path Loss (dB)	68.86	68.86
Configuration	NSB-SD Diplexer Main	NSB-SD Diplexer Main
Radio Model	WVCE61-J2-1024F30S-226	WVCE61-J2-1024F30S-226
Radio Filename	wvce61_j_1024f30s_226	wvce61_j_1024f30s_226
TX Power (dBm)	36.00	36.00
Emission Designator	30M0D7W	30M0D7W
EIRP (dBm)	70.03	70.03
RX Threshold Criteria	1E-6 BER	1E-6 BER
RX Threshold Level (dBm)	-65.50	-65.50
Main Receive Signal (dBm)	-33.21	-33.21
Diversity Receive Signal (dBm)	-32.86	-32.86
Thermal Fade Margin (dB)	32.64	32.64
Dispersive Fade Margin (dB)	54.00	54.00
Dispersive fade occurrence factor	1.00	
Effective Fade Margin (dB)	32.64	32.64
Climatic factor	2.00	
Terrain roughness (ft)	60.68	
C factor	1.56	
Average annual temperature (°F)	60.57	
Fade occurrence factor (Po)	1.040E-01	
SD Improvement Factor	44.52	44.52
Worst month multipath availability (%)	99.99987	99.99987
Worst month multipath unavailability (sec)	3.48	3.48
Annual multipath availability (%)	99.99996	99.99996
Annual multipath unavailability (sec)	12.65	12.65
Annual 2 way multipath availability (%)	99.99992	
Annual 2 way multipath unavailability (sec)	25.30	

Multipath fading method - Vigants - Barnett

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Buckhead	
Latitude	33 35 33.03 N
Longitude	083 21 25.46 W
Azimuth	247.36°
Elevation	518 ft ASL
Antenna CL	240.0, 210.0 ft AGL

Frequency (MHz) = 6100.0
Main 1 K = 1.330 %F1 = 100.00 FH = 20.00 ft
Main 2 K = 0.500 %F1 = 0.00 FH = 20.00 ft
Divr 1 K = 1.330 %F1 = 60.00 FH = 20.00 ft
Divr 2 K = 0.500 FH = 20.00 ft

Prime Site	
Latitude	33 32 58.41 N
Longitude	083 28 47.57 W
Azimuth	67.29°
Elevation	666 ft ASL
Antenna CL	200.0, 170.0 ft AGL

Transmission details (Buckhead-Prime Site.pl6)

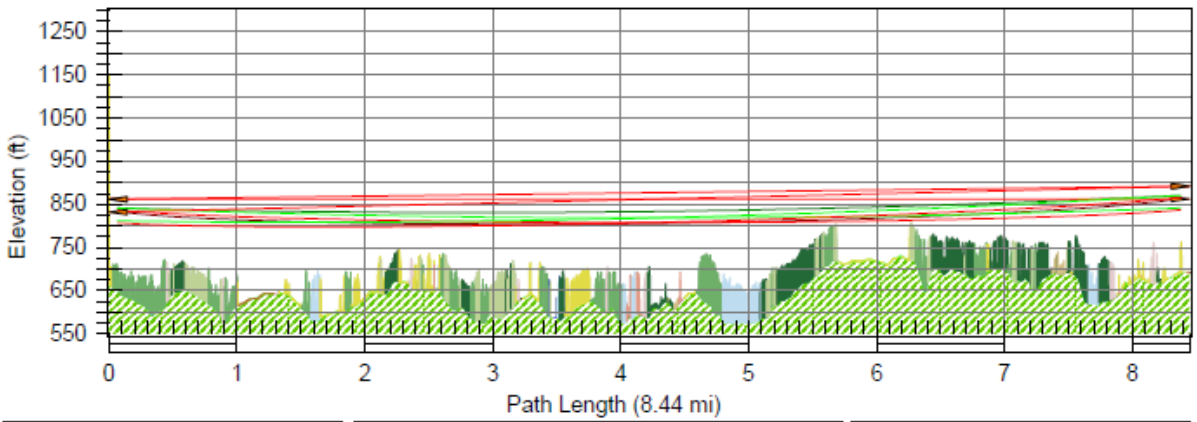
	Buckhead	Prime Site
Latitude	33 35 33.03 N	33 32 58.41 N
Longitude	083 21 25.46 W	083 28 47.57 W
True Azimuth (°)	247.36	67.29
Vertical Angle (°)	0.11	-0.19
Elevation (ft)	518.14	666.34
ASR	1318896	1019729
Tower height (ft)	300.00	482.00
Tower Type	Guyed	Guyed
Antenna Model	VHLP6-6W (TR)	VHLP6-6W (TR)
Antenna Filename	vhlp6-6w	vhlp6-6w
Antenna Gain (dBi)	39.30	39.30
Antenna Height (ft)	240.00	200.00
TX Line Model	EW52	EW52
TX Line Unit Loss (dB/100 ft)	1.19	1.19
TX Line Length (ft)	270.00	230.00
TX Line Loss (dB)	3.21	2.73
Connector Loss (dB)	0.50	0.50
Extender Loss (dB)	0.50	0.50
TX Filter Loss (dB)	1.30	1.30
RX Filter Loss (dB)	1.60	1.60
Antenna Model	VHLP6-6W (DR)	VHLP6-6W (DR)
Antenna Filename	vhlp6-6w	vhlp6-6w
Antenna Gain (dBi)	39.30	39.30
Antenna Height (ft)	210.00	170.00
TX Line Model	EW52	EW52
TX Line Unit Loss (dB/100 ft)	1.19	1.19
TX Line Length (ft)	240.00	200.00
TX Line Loss (dB)	2.85	2.37
Connector Loss (dB)	0.50	0.50
Extender Loss (dB)	0.50	0.50
RX Filter Loss (dB)	1.60	1.60
Frequency (MHz)	6100.00	
Polarization	Vertical	
Path Length (mi)	7.679	
Free Space Loss (dB)	130.01	

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	Buckhead	Prime Site
Atmospheric Absorption Loss (dB)	0.18	
Diffraction loss (dB)	0.00	
Main Net Path Loss (dB)	62.43	62.43
Diversity Net Path Loss (dB)	62.08	62.08
Configuration	NSB-SD Diplexer Main	NSB-SD Diplexer Main
Radio Model	WVCE61-J1-1024F30S-226	WVCE61-J1-1024F30S-226
Radio Filename	wvce61_j_1024f30s_226	wvce61_j_1024f30s_226
TX Power (dBm)	34.00	34.00
Emission Designator	30M0D7W	30M0D7W
EIRP (dBm)	67.79	68.27
RX Threshold Criteria	1E-6 BER	1E-6 BER
RX Threshold Level (dBm)	-65.50	-65.50
Main Receive Signal (dBm)	-28.43	-28.43
Diversity Receive Signal (dBm)	-28.08	-28.08
Thermal Fade Margin (dB)	37.42	37.42
Dispersive Fade Margin (dB)	54.00	54.00
Dispersive fade occurrence factor	1.00	
Effective Fade Margin (dB)	37.42	37.42
Climatic factor	2.00	
Terrain roughness (ft)	47.25	
C factor	2.15	
Average annual temperature (°F)	60.84	
Fade occurrence factor (Po)	1.487E-02	
SD Improvement Factor	200.00	200.00
Worst month multipath availability (%)	100.00000	100.00000
Worst month multipath unavailability (sec)	0.04	0.04
Annual multipath availability (%)	100.00000	100.00000
Annual multipath unavailability (sec)	0.13	0.13
Annual 2 way multipath availability (%)	100.00000	
Annual 2 way multipath unavailability (sec)	0.27	

Multipath fading method - Vigants - Barnett

Infinity Technology Solutions August 5, 2026



Prime Site	
Latitude	33 32 58.41 N
Longitude	083 28 47.57 W
Azimuth	298.19°
Elevation	666 ft ASL
Antenna CL	195.0, 165.0 ft AGL

Frequency (MHz) = 6100.0
Main 1 K = 1.330 %F1 = 100.00 FH = 20.00 ft
Main 2 K = 0.500 %F1 = 0.00 FH = 20.00 ft
Divr 1 K = 1.330 %F1 = 60.00 FH = 20.00 ft
Divr 2 K = 0.500 FH = 20.00 ft

Rutledge	
Latitude	33 36 26.51 N
Longitude	083 36 32.08 W
Azimuth	118.12°
Elevation	692 ft ASL
Antenna CL	200.0, 170.0 ft AGL

Transmission details (Prime Site-Rutledge.pl6)

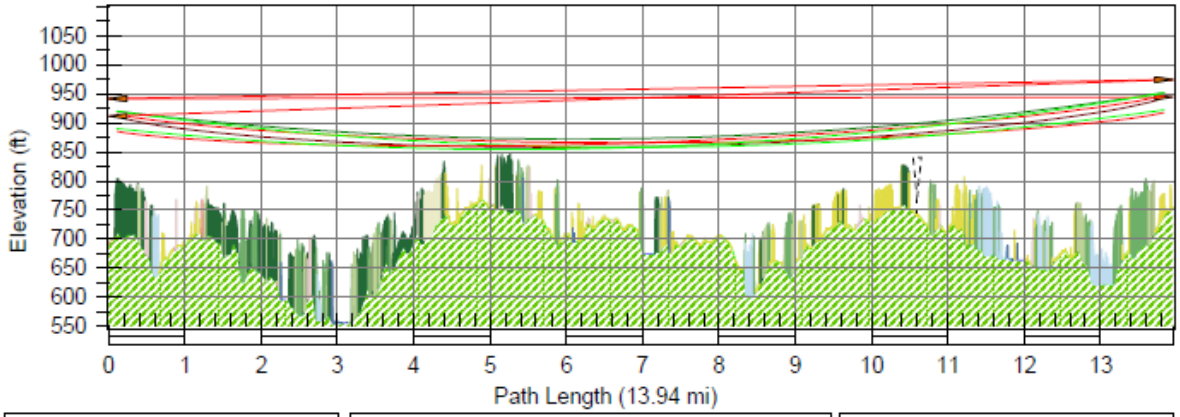
	Prime Site	Rutledge
Latitude	33 32 58.41 N	33 36 26.51 N
Longitude	083 28 47.57 W	083 36 32.08 W
True Azimuth (°)	298.19	118.12
Vertical Angle (°)	-0.01	-0.09
Elevation (ft)	666.34	691.79
ASR	1019729	1310563
Tower height (ft)	482.00	300.00
Tower Type	Guyed	Guyed
Antenna Model	VHLP6-6W (TR)	VHLP6-6W (TR)
Antenna Filename	vhlp6-6w	vhlp6-6w
Antenna Gain (dBi)	39.30	39.30
Antenna Height (ft)	195.00	200.00
TX Line Model	EW52	EW52
TX Line Unit Loss (dB/100 ft)	1.19	1.19
TX Line Length (ft)	225.00	230.00
TX Line Loss (dB)	2.67	2.73
Connector Loss (dB)	0.50	0.50
Extender Loss (dB)	0.50	0.50
TX Filter Loss (dB)	1.30	1.30
RX Filter Loss (dB)	1.60	1.60
Antenna Model	VHLP6-6W (DR)	VHLP6-6W (DR)
Antenna Filename	vhlp6-6w	vhlp6-6w
Antenna Gain (dBi)	39.30	39.30
Antenna Height (ft)	165.00	170.00
TX Line Model	EW52	EW52
TX Line Unit Loss (dB/100 ft)	1.19	1.19
TX Line Length (ft)	195.00	200.00
TX Line Loss (dB)	2.32	2.37
Connector Loss (dB)	0.50	0.50
Extender Loss (dB)	0.50	0.50
RX Filter Loss (dB)	1.60	1.60
Frequency (MHz)	6100.00	
Polarization	Vertical	
Path Length (mi)	8.443	
Free Space Loss (dB)	130.84	

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	Prime Site	Rutledge
Atmospheric Absorption Loss (dB)	0.20	
Diffraction loss (dB)	0.00	
Main Net Path Loss (dB)	62.74	62.74
Diversity Net Path Loss (dB)	62.38	62.38
Configuration	NSB-SD Diplexer Main	NSB-SD Diplexer Main
Radio Model	WVCE61-J1-1024F30S-226	WVCE61-J1-1024F30S-226
Radio Filename	wvce61_j_1024f30s_226	wvce61_j_1024f30s_226
TX Power (dBm)	34.00	34.00
Emission Designator	30M0D7W	30M0D7W
EIRP (dBm)	68.33	68.27
RX Threshold Criteria	1E-6 BER	1E-6 BER
RX Threshold Level (dBm)	-65.50	-65.50
Main Receive Signal (dBm)	-28.74	-28.74
Diversity Receive Signal (dBm)	-28.38	-28.38
Thermal Fade Margin (dB)	37.12	37.12
Dispersive Fade Margin (dB)	54.00	54.00
Dispersive fade occurrence factor	1.00	
Effective Fade Margin (dB)	37.12	37.12
Climatic factor	2.00	
Terrain roughness (ft)	44.53	
C factor	2.33	
Average annual temperature (°F)	60.73	
Fade occurrence factor (Po)	2.134E-02	
SD Improvement Factor	200.00	200.00
Worst month multipath availability (%)	100.00000	100.00000
Worst month multipath unavailability (sec)	0.06	0.06
Annual multipath availability (%)	100.00000	100.00000
Annual multipath unavailability (sec)	0.20	0.20
Annual 2 way multipath availability (%)	100.00000	
Annual 2 way multipath unavailability (sec)	0.41	

Multipath fading method - Vigants - Barnett

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Rutledge	
Latitude	33 36 26.51 N
Longitude	083 36 32.08 W
Azimuth	23.90°
Elevation	692 ft ASL
Antenna CL	250.0, 220.0 ft AGL

Frequency (MHz) = 6100.0
Main 1 K = 1.330 %F1 = 100.00 FH = 20.00 ft
Main 2 K = 0.500 %F1 = 0.00 FH = 20.00 ft
Divr 1 K = 1.330 %F1 = 60.00 FH = 20.00 ft
Divr 2 K = 0.500 FH = 20.00 ft

United Tower	
Latitude	33 47 32.20 N
Longitude	083 30 38.70 W
Azimuth	203.95°
Elevation	754 ft ASL
Antenna CL	220.0, 190.0 ft AGL

Transmission details (Rutledge-United Tower.pl6)

	Rutledge	United Tower
Latitude	33 36 26.51 N	33 47 32.20 N
Longitude	083 36 32.08 W	083 30 38.70 W
True Azimuth (°)	23.90	203.95
Vertical Angle (°)	-0.05	-0.10
Elevation (ft)	691.79	754.36
ASR	1310563	1286534
Tower height (ft)	300.00	250.00
Tower Type	Guyed	Guyed
Antenna Model	VHLP6-6W (TR)	VHLP6-6W (TR)
Antenna Filename	vhlp6-6w	vhlp6-6w
Antenna Gain (dBi)	39.30	39.30
Antenna Height (ft)	250.00	220.00
TX Line Model	EW52	EW52
TX Line Unit Loss (dB/100 ft)	1.19	1.19
TX Line Length (ft)	280.00	250.00
TX Line Loss (dB)	3.32	2.97
Connector Loss (dB)	0.50	0.50
Extender Loss (dB)	0.50	0.50
TX Filter Loss (dB)	1.30	1.30
RX Filter Loss (dB)	1.60	1.60
Antenna Model	VHLP6-6W (DR)	VHLP6-6W (DR)
Antenna Filename	vhlp6-6w	vhlp6-6w
Antenna Gain (dBi)	39.30	39.30
Antenna Height (ft)	220.00	190.00
TX Line Model	EW52	EW52
TX Line Unit Loss (dB/100 ft)	1.19	1.19
TX Line Length (ft)	250.00	220.00
TX Line Loss (dB)	2.97	2.61
Connector Loss (dB)	0.50	0.50
Extender Loss (dB)	0.50	0.50
RX Filter Loss (dB)	1.60	1.60
Frequency (MHz)	6100.00	
Polarization	Vertical	
Path Length (mi)	13.943	
Free Space Loss (dB)	135.19	

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	Rutledge	United Tower
Atmospheric Absorption Loss (dB)	0.33	
Diffraction loss (dB)	0.00	
Main Net Path Loss (dB)	68.12	68.12
Diversity Net Path Loss (dB)	67.76	67.76
Configuration	NSB-SD Diplexer Main	NSB-SD Diplexer Main
Radio Model	WVCE61-J2-1024F30S-226	WVCE61-J2-1024F30S-226
Radio Filename	wvce61_j_1024f30s_226	wvce61_j_1024f30s_226
TX Power (dBm)	36.00	36.00
Emission Designator	30M0D7W	30M0D7W
EIRP (dBm)	69.68	70.03
RX Threshold Criteria	1E-6 BER	1E-6 BER
RX Threshold Level (dBm)	-65.50	-65.50
Main Receive Signal (dBm)	-32.12	-32.12
Diversity Receive Signal (dBm)	-31.76	-31.76
Thermal Fade Margin (dB)	33.74	33.74
Dispersive Fade Margin (dB)	54.00	54.00
Dispersive fade occurrence factor	1.00	
Effective Fade Margin (dB)	33.74	33.74
Climatic factor	2.00	
Terrain roughness (ft)	50.00	
C factor	2.00	
Average annual temperature (°F)	60.44	
Fade occurrence factor (Po)	8.267E-02	
SD Improvement Factor	66.78	66.78
Worst month multipath availability (%)	99.99995	99.99995
Worst month multipath unavailability (sec)	1.43	1.43
Annual multipath availability (%)	99.99998	99.99998
Annual multipath unavailability (sec)	5.18	5.18
Annual 2 way multipath availability (%)	99.99997	
Annual 2 way multipath unavailability (sec)	10.35	

Multipath fading method - Vigants - Barnett

Infinity Technology Solutions August 5, 2026

Figure 1.9: Microwave Path Profile

1.4.5 Assumptions

This proposal assumes the following:

- Morgan County will add these sites at system release A2025.x.
- There is space available at all sites for the proposed equipment, services, and facilities.
- The FCC approves and licenses the County's request to license and broadcast four 700 MHz channels at the four (4) RF sites.
- Any deviation from the design parameters upon which the coverage predictions are based will require a rerun of the coverage maps and a possible change in the coverage maps included in this proposal.
- Motorola understands that Morgan County has made the requisite arrangements with the owners/managers of the four sites to construct and place simulcast remote site equipment, services, and facilities on the property.
- Utility power at the RF sites must be ordered and maintained by Morgan County.
- A physical path study will be required to verify that there are no obstructions in the line-of-sight "Path Profile" section of Morgan County Revised Proposal between all paths.
- A 30 MHz channel is available to license in the lower 6 GHz band for the microwave paths.
- The towers are structurally capable of handling the load of microwave dishes at the proposed heights. No tower remediation is included in this proposal.
- Morgan County shall obtain the appropriate SUA, if any, required by the owner/operator of the partnered Core.
- No coverage guarantee is included in this proposal.

Section 2

Implementation Statement of Work

2.1 Overview

This Statement of Work (SOW) describes the deliverables to be furnished to Morgan County. The tasks described herein will be performed by Motorola Solutions, its subcontractors, and Morgan County to implement the solution described in the System Description. It describes the actual work involved in installation, identifies the installation standards to be followed, and clarifies the responsibilities for Motorola Solutions and Morgan County during the project implementation. Specifically, this SOW provides:

- A description of the responsibilities for Motorola Solutions and Morgan County.
- The assumptions taken into consideration during the development of this project.

This SOW provides the most current understanding of the work required by all parties to ensure a successful project implementation. In particular, Motorola Solutions has made assumptions about the sites to be used for the new system. Should any of the sites change, a revision to the SOW and associated pricing will be required. It is understood that this SOW is a working document and that it will be revised as needed to incorporate any changes associated with contract negotiations, and any other change orders that may occur during the execution of the project.

2.2 Responsibility Matrix

Motorola will use a phased approach to successfully implement Morgan County's system.

These phases are broken down by:

- Project Initiation
- Site Preparation and Development
- System Installation
- System Optimization and Testing

Tasks	Motorola Solutions	Morgan County
PROJECT INITIATION		
Contract Finalization and Team Creation		
Execute the contract and distribute the contract documents.	X	X
Assign a Project Manager as a single point of contact.	X	X
Assign resources.	X	X
Schedule project kickoff meeting.	X	X
Deliverable: Signed contract, defined project team, and scheduled project kickoff meeting.		
Project Administration		
Ensure that project team members attend all meetings relevant to their role on the project.	X	X
Set up the project in the Motorola Solutions information system.	X	
Record and distribute project status meeting minutes.	X	
Maintain responsibility for third-party services contracted by Motorola Solutions.	X	
Complete assigned project tasks according to the project schedule.	X	X
Submit project milestone completion documents.	X	
Upon completion of tasks, approve project milestone completion documents within 7 to 10 business days.		X
Conduct all project work Monday through Friday, 8 a.m. to 5:00 p.m. local time, except for Motorola Solutions' and the Customer's holidays.	X	
Execute the necessary agreements with core share partner(s), including colocating in equipment shelters and towers, as applicable.		X
Deliverable: Completed and approved project milestones throughout the project.		
Project Kickoff		
Introduce the team, review roles, and decision authority.	X	X
Present project scope and objectives.	X	
Review SOW responsibilities and project schedule.	X	X
Schedule Design Review. Customer Design Review will take place within 14 days of contract execution.	X	X
Deliverable: Completed project kickoff and scheduled Design Review.		
Design Review		
Review the Customer's operational requirements.	X	X
Present the system design and operational requirements for the solution.	X	
Present installation plan.	X	

Tasks	Motorola Solutions	Morgan County
Present preliminary cutover plan and methods to document final cutover process.	X	
Present configuration and details of sites required by system design.	X	
Validate that Customer sites can accommodate the proposed equipment.		X
Provide all approvals required to add the proposed equipment at the proposed sites.		X
Review safety, security, and site access procedures.	X	
Present equipment layout plans and system design drawings.	X	
Provide backhaul performance specifications and demarcation points.	X	
Provide heat load and power requirements for new equipment.	X	
Provide information on existing system interfaces.		X
Provide frequency and radio information for each site.		X
Assume liability and responsibility for providing all information necessary for complete installation.		X
Assume responsibility for issues outside of Motorola Solutions' control.		X
Complete the required forms for frequency coordination and licensing.	X	
Ensure that frequency availability and licensing meet project requirements, and pay licensing and frequency coordination fees.	X	
Review and update design documents, including System Description, Statement of Work, Project Schedule, and Acceptance Test Plan, based on Design Review agreements.	X	
Provide minimum acceptable performance specifications for customer-provided hardware, software, LAN, WAN, and internet connectivity.	X	
Execute Change Order in accordance with all material changes to the Contract resulting from the Design Review.	X	
Deliverable: Finalized design documentation based upon "frozen" design, along with any relevant Change Order documentation.		
SYSTEM INSTALLATION		
Equipment Order and Manufacturing		
Create an equipment order and reconcile it to the contract.	X	
Manufacture the Motorola Solutions-provided equipment necessary for the system based on the equipment order.	X	
Procure non-Motorola Solutions equipment necessary for the system.	X	
Deliverable: Equipment procured and ready for shipment.		
System Staging		
Ship all equipment needed for staging to Motorola Solutions' factory for staging.	X	
Provide information on existing system interfaces, room layouts, or other information		X

Tasks	Motorola Solutions	Morgan County
necessary for the assembly to meet field conditions.		
Set up and rack the solution equipment on a site-by-site basis, as it will be configured in the field at each of the sites.	X	
Cut and label the cables with to/from information to specify interconnection for field installation and future servicing needs.	X	
Complete the cabling/connecting of the subsystems to each other ("connectorization" of the subsystems).	X	
Assemble required subsystems to assure system functionality.	X	
Power up, load application parameters, program, and test all staged equipment.	X	
Confirm system configuration and software compatibility with the existing system.	X	
Inventory the equipment with serial numbers and installation references.	X	
Review and approve the proposed Factory Acceptance Test Plan.		X
Pay for travel, lodging, meals, and all incidental expenses for Customer personnel and representatives to witness the Factory Acceptance Testing.		X
Perform factory functional acceptance tests of system features.	X	
Conduct site and system-level testing.	X	
Perform system burn-in 24-hours a day during staging to isolate and capture any defects.	X	
Pack and ship the racked equipment to the field to finalize the staging of equipment. Field staging will be completed at the facility.	X	
Deliverable: System staged and ready for shipment.		
Equipment Shipment and Storage		
Provide a secure location, temperature-controlled for solution equipment.		X
Pack and ship the solution equipment to the identified or site locations.	X	
Receive solution equipment.		X
Inventory solution equipment.	X	
Deliverable: Solution equipment received and ready for installation.		
General Installation		
Deliver solution equipment to the installation location.	X	
Coordinate receipt of and inventory solution equipment with the designated contact.	X	
Install all proposed fixed equipment as outlined in the System Description based upon the agreed-upon floor plans, connecting audio, control, and radio transmission cables to connect equipment to the power panels or receptacles, and audio/control line connection points. Installation performed in accordance with R56 standards and state/local codes.	X	
Provide connectivity test results to confirm specification compliance before	X	

Tasks	Motorola Solutions	Morgan County
equipment installation. • Provide 24-hour test compliance, per Motorola specification. • Provide an IT contact representative for backhaul-related requirements.		
Provide system interconnections that are not specifically outlined in the system design, including dedicated phone circuits, microwave links, or other types of connectivity.		X
Install and terminate all network cables between site routers and network demarcation points, including microwave, leased lines, and Ethernet.	X	
Provide, install, and terminate all cabling between MC-Edge and punch blocks installed on the wall or in the rack. Perform wiring for the Aux I/O controls, such as Doors, Gates, Environmental alarm closures, etc., to the control punch block.	X	
Connect existing, pre-wired auxiliary input/outputs to the proposed Motorola MC-Edge input/output box, as needed. NOTE: The customer will provide wiring to allow for the connection in the dispatch room. NOTE: If any new wiring for input/outputs is needed at the dispatch site, an additional quote can be provided.		X
Ensure that Type 1 and Type 2 AC suppression is installed to protect installed equipment.		X
Connect the installed equipment to the provided ground system within 15-feet.	X	
Label Motorola-supplied equipment, racks, and cables.	X	
Perform preliminary audit of installed equipment to ensure compliance with requirements and R56 standards.	X	
Note any required changes to the installation for inclusion in the “as-built” system documentation.	X	
Remove, transport, and dispose of old equipment.		X
Deliverable: Equipment installed.		
Site Link Assessment		
Verify site link performance prior to the interconnection of the solution equipment to the link equipment. Site links will be tested once. If the links do not pass the audit, a change order will be processed to perform link audits a second time after the customer resolves the link issues and before cutover.	X	
Motorola Solutions will not perform any work on non-Motorola Solutions-owned equipment.		X
Provide information on the customer's public Internet connection for evaluation purposes.		X
Evaluate the customer’s network from an IT perspective.	X	
Deliverable: Site Link Assessment completed, and findings are presented to the Customer.		
ASTRO 25 Site Installation and Configuration		
Install fixed equipment contained in the equipment list and system description.	X	

Tasks	Motorola Solutions	Morgan County
Provide backhaul connectivity and associated equipment for all sites to meet latency, jitter, and capacity requirements.		X
Configure the ASTRO 25 system to support the new RF sites.	X	
Provide a list of subscriber IDs for loading into the Zone Controller.		X
Load subscriber IDs in the Zone Controller.	X	
Provide the required radio ID and alias information to enable the alias database setup for the interface to consoles.		X
Integrate the RF sites into the system to ensure proper operation.	X	
Deliverable: ASTRO 25 core and remote site equipment installation completed.		
SYSTEM OPTIMIZATION AND TESTING		
R56 Site Audit		
Perform R56 site-installation quality audits, verifying proper physical installation and operational configurations.	X	
Create a site evaluation report to verify the site meets or exceeds requirements, as defined in Motorola Solutions' R56 Standards and Guidelines for Communication Sites.	X	
Deliverable: R56 Standards and Guidelines for Communication Sites audits completed successfully.		
Electromagnetic Interference (EMI) Analysis		
Perform EMI analysis for the Motorola Solutions-supplied equipment. Note: Motorola Solutions is only responsible for interference caused by Motorola Solutions-provided transmitters to the Motorola Solutions-provided receivers. Should the proposed equipment experience interference, Motorola Solutions can be contracted to investigate the source and recommend solutions to mitigate the issue.	X	
Resolve any interference caused by equipment not supplied by Motorola Solutions.		X
Deliverable: EMI analysis completed.		
Solution Optimization		
Verify that all equipment is operating properly and that all electrical and signal levels are set accurately.	X	
Verify that all audio and data levels are at factory settings.	X	
Verify communication interfaces between devices for proper operation.	X	
Ensure that functionality meets manufacturers' specifications and complies with the final configuration established during design review or system staging.	X	
Reconfigure and re-optimize third-party equipment that is not part of the Motorola Solutions scope of work.		X
Deliverable: Completion of System Optimization.		
Functional Acceptance Testing		

Tasks	Motorola Solutions	Morgan County
Verify the operational functionality and features of the solution supplied by Motorola Solutions, as contracted.	X	
Witness the functional testing.		X
Document all issues that arise during the acceptance tests.	X	
If any major task for the system as contractually described fails during the Customer acceptance testing or beneficial use, repeat that particular task after Motorola Solutions determines that corrective action has been taken.	X	
Resolve any minor task failures before Final System Acceptance.	X	
Document the results of the acceptance tests and present for review.	X	
Review and approve final acceptance test results.		X
If any major task as contractually described fails, repeat that particular task after Motorola Solutions determines that corrective action has been taken.	X	
Document all issues that arise during the acceptance tests.	X	
Document the results of the acceptance tests and present them to the Customer for review.	X	
Resolve any minor task failures before Final System Acceptance.	X	
Deliverable: Completion of functional testing and approval by Customer.		
30-Day Burn-in Testing		
Turn on the complete system and monitor for the entire test duration.	X	
Categorize failures as major and minor, based upon agreed definitions.	X	
If a major failure occurs, correct the problem and restart the test.	X	
If a minor failure occurs, correct the problem and continue the 30-day burn-in.	X	
Complete the 30-day burn-in test successfully and prepare the required reports.	X	
Review and approve the results of the test. Execute the 30-day burn-in test progress milestone.	X	X
Deliverable: Completion of 30-Day Burn-in testing and approval by Customer.		
Cutover		
Finalize Cutover Plan.	X	X
Calibrate and tune existing mobile and portable radios to ensure good working order.		X
Provide Motorola Solutions with user radio information for input into the system database and activation, as required.		X
Provide programming of user radios and related services (i.e., template building, re-tuning, testing, and installations), as needed, during the cutover period.		X
Conduct a cutover meeting with relevant personnel to address both how to mitigate technical and communication problem impacts to the users during cutover and during the general operation of the system.	X	

Tasks	Motorola Solutions	Morgan County
Notify the personnel affected by the cutover of the date and time planned for the cutover.		X
Provide ongoing communication with users regarding the project and schedule.	X	X
Cut over users and ensure that user radios are operating on the system.		X
Resolve punch list items, documented during the Acceptance Testing phase, to meet all the criteria for final system acceptance.	X	
Assist Motorola Solutions with the resolution of identified punch list items by providing support, such as access to the sites, equipment, and system, and approval of the resolved punch list items.		X
Deliverable: Migration to the new system completed, and punch list items resolved.		
Transition to Warranty		
Review the items necessary for transitioning the project to warranty support and service.	X	
Motorola Solutions to provide services during the year 1 warranty, which aligns with the proposed services.	X	
Provide a Customer Support Plan detailing the warranty support associated with the contract equipment.	X	
Participate in the Transition Service/Project Transition Certificate (PTC) process.		X
Deliverable: Service information delivered and approved by Customer.		
Finalize Documentation and System Acceptance		
Provide manufacturer's installation material, part list, and other related material to Customer upon project completion.	X	
Provide an electronic as-built system manual on CD or other customer-preferred electronic media. The documentation will include the following: • Site Block Diagrams. • Site Floor Plans. • Site Equipment Rack Configurations. • Antenna Network Drawings for RF Sites (where applicable). • ATP Test Checklists. • Functional Acceptance Test Plan, Test Sheets, and Results. • Equipment Inventory List. • Maintenance Manuals (where applicable). • Technical Service Manuals (where applicable). • Drawings will be delivered in Adobe PDF format.	X	
Receive and approve documentation.		X
Execute Final Project Acceptance.	X	X
Deliverable: All required documents are provided and approved. Final Project Acceptance.		

2.3 Assumptions

The following assumptions remain in need of review and verification as of the submission of this proposal. These assumptions affect the scope of responsibilities to ensure ancillary systems and facilities are fully prepared to support the solution contained in this proposal. Motorola will work with the customer to determine the validity of these assumptions and determine the increased scope for which Motorola and/or the customer is responsible. Should the customer prefer Motorola to assume responsibility for the increased scope, Motorola will prepare and submit to the customer a revised proposal or change order reflecting the revised scope, cost, and project implementation.

- A Performance Bond is not required.
- Union Labor is not required.
- Prevailing Wages are not required.
- All existing sites or equipment locations will have sufficient space available for the system described as required/specified by R56.
- All existing sites or equipment locations will have adequate electrical power in the proper phase and voltage, and site grounding to support the requirements of the system described.
- All existing towers will have adequate space and size to support the antenna network requirements of the system described.
- Any site/location upgrades or modifications are the responsibility of the Customer.
- All Communication Sites can be accessed with a 4-wheel drive vehicle. Anything beyond the use of a 4-wheel drive vehicle will require a change order to capture the additional cost.
- Interfacing with third-party equipment or applications is not a part of this proposal.
- Approved FCC licensing is the responsibility of Morgan County.
- Approved local, State, or Federal permits as may be required for the installation and operation of the proposed equipment are the responsibility of the Customer.
- Any required system interconnections not specifically outlined here will be provided by the Customer. This may include dedicated phone circuits, microwave links, or other types of connectivity.
- Training is not included in this proposal.
- Motorola Solutions is not responsible for interference caused or received by the Motorola Solutions-provided equipment except for interference that is directly caused by the Motorola Solutions-provided transmitter(s) to the Motorola Solutions-provided receiver(s). Should the Customer’s system experience interference, Motorola Solutions can be contracted to investigate the source and recommend solutions to mitigate the issue.
- All sites are assumed to be land-accessible, and no special transportation, such as a helicopter and the like, is required to gain site access.

2.4 Site Development Statement of Work

2.4.1 Overview

Motorola Solutions offers a tailored site development solution for the Morgan County's project, which includes a high-level summary of civil scope, proposed architectural and engineering services, and a site development scope of work for each site proposed.

2.4.2 Civil Scope High Level Summary

Site Name	Rutledge	Buckhead	Prime Site	United Tower
Site Acquisition	Customer Responsibility	Customer Responsibility	Customer Responsibility	Customer Responsibility
A&E, Drawings, Regulatory	Included	Included	Included	Not Included
Permitting	Included	Included	Included	Included
Zoning	Not Included	Not Included	Not Included	Not Included
Existing or New Tower Type/Height	Existing	Existing	Existing	Existing
Existing or New Shelter Type/Size	New -MSB-12x12	New -MSB-12x12	New -MSB-12x12	Existing
Existing or New Fuel Tank Type/Size	Diesel above-ground,132 gal	Diesel above-ground,132 gal	Diesel above-ground,132 gal	Existing
Existing or New Generator Type/Size	Outdoor,50 kw	Outdoor,50 kw	Outdoor,50 kw	Existing
RF Antenna Installation	3 Stick, 1 TTA	3 Stick, 1 TTA	3 Stick, 1 TTA	3 Stick, 1 TTA

2.4.3 Proposed A/E (Civil Design) Services

A/E Scope Proposed	Rutledge	Buckhead	Prime Site	United Tower
Site design visit to collect pertinent information from the sites	X	X	X	X
Prepare a lease exhibit / sketch of the site to communicate to the property owner the proposed lease space and planned development at the particular site location	X	X	X	N/A
Prepare site construction drawings, showing the layout of various new and existing site components	X	X	X	N/A
Prepare record drawings of the site showing the as-built information	X	X	X	N/A
Conduct Limited NEPA compliance/FCC checklist	X	X	X	N/A
Structural Analysis	X	X	X	X
Site Survey	X	X	X	N/A
Construction Material Testing	X	X	X	N/A
Soil Resistivity Testing (at time of site visit)	X	X	X	N/A

2.4.3.1 Rutledge



Site Information					
Ground Elevation (Ft.)	**Latitude**	**Longitude**	**Site Owner**	**EXISTING Tower Ht. (Ft.)**	**EXISTING Tower Type**
751 ft	33 36 26.51 N	83 36 32.08 W	K2 Towers	290 ft	Guyed Tower

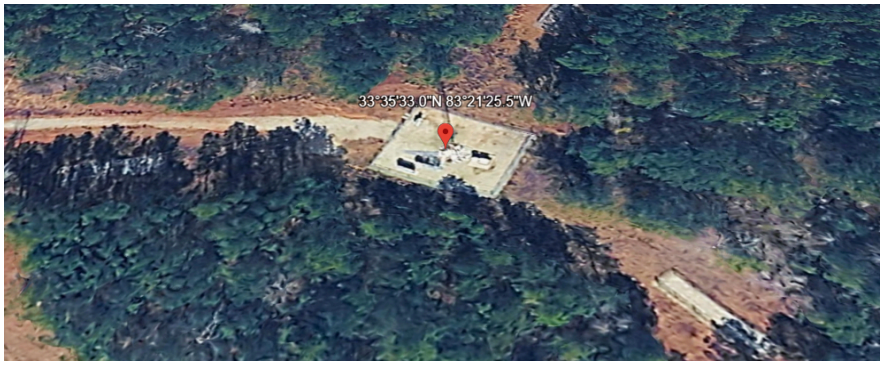
Site Improvements					
Access Road			**Compound/ Expansion Size**		
Width (Ft.)	**Length (Ft.)**	**Clearing Type**	**Width (Ft.)**	**Length (Ft.)**	**Clearing Type**
N/A	N/A	Light	N/A	N/A	Light
Ice Bridge	**NEW Shelter**			**Fuel Tank**	
Length (Ft.)	**Type**	**Width (Ft.)**	**Length (Ft.)**	**Gal.**	**Type**
20	MSB	12	16	132	Diesel above-ground

Generator		Electrical Circuits		
Transfer Switch	**Type**	**Amps/Volts**	**Type**	**Cable (Ft.)**
50	Outdoor	200-amp - 120/240-volt, single-phase	Underground	50

Antenna: RF	Antenna: TTA	MW Dish:
3 Stick,	1	N/A

RF Lines (Linear Ft.)				
1/2-inch	**7/8-inch**	**1-1/4-inch**	**1-5/8-inch**	**EW63**
345	690	N/A	325	N/A

2.4.3.2 Buckhead



Site Information					
Ground Elevation (Ft.)	**Latitude**	**Longitude**	**Site Owner**	**EXISTING Tower Ht. (Ft.)**	**EXISTING Tower Type**
524 ft	33 35 33.03 N	83 21 25.46 W	Vertical Bridge	280ft	Guyed Tower

Site Improvements					
Access Road			**Compound/ Expansion Size**		
Width (Ft.)	**Length (Ft.)**	**Clearing Type**	**Width (Ft.)**	**Length (Ft.)**	**Clearing Type**
N/A	N/A	Light	N/A	N/A	Light
Ice Bridge	**NEW Shelter**			**Fuel Tank**	
Length (Ft.)	**Type**	**Width (Ft.)**	**Length (Ft.)**	**Gal.**	**Type**
20	MSB	12	16	132	Diesel above-ground

Generator		Electrical Circuits		
Transfer Switch	**Type**	**Amps/Volts**	**Type**	**Cable (Ft.)**
50	Outdoor	200-amp - 120/240-volt, single-phase	Underground	80

Antenna: RF	Antenna: TTA	MW Dish:
3 Stick,	1	N/A

RF Lines (Linear Ft.)				
1/2-inch	**7/8-inch**	**1-1/4-inch**	**1-5/8-inch**	**EW63**
350	700	N/A	330	N/A

2.4.3.3 Prime Site



Site Information					
Ground Elevation (Ft.)	**Latitude**	**Longitude**	**Site Owner**	**EXISTING Tower Ht. (Ft.)**	**EXISTING Tower Type**
669 ft	33 32 58.41 N	83 28 47.57 W	American Natural Resources	330 ft	Guyed Tower

Site Improvements					
Access Road			**Compound/ Expansion Size**		
Width (Ft.)	**Length (Ft.)**	**Clearing Type**	**Width (Ft.)**	**Length (Ft.)**	**Clearing Type**
N/A	N/A	Light	N/A	N/A	Light
Ice Bridge	**NEW Shelter**			**Fuel Tank**	
Length (Ft.)	**Type**	**Width (Ft.)**	**Length (Ft.)**	**Gal.**	**Type**
20	MSB	12	16	132	Diesel above-ground

Generator		Electrical Circuits		
Transfer Switch	**Type**	**Amps/Volts**	**Type**	**Cable (Ft.)**
50	Outdoor	200-amp - 120/240-volt, single-phase	Underground	100

Antenna: RF	Antenna: TTA	MW Dish:
3 Stick,	1	N/A

RF Lines (Linear Ft.)				
1/2-inch	**7/8-inch**	**1-1/4-inch**	**1-5/8-inch**	**EW63**
370	740	N/A	350	N/A

2.4.3.4 United Tower



Site Information					
Ground Elevation (Ft.)	**Latitude**	**Longitude**	**Site Owner**	**EXISTING Tower Ht. (Ft.)**	**EXISTING Tower Type**
757 ft	33 47 32.2 N	83 30 38.7 W	United Tower	250 ft	Guyed Tower

Site Improvements				
Antenna: RF	**Antenna: TTA**			**MW Dish:**
3 Stick,	1			N/A
RF Lines (Linear Ft.)				
1/2-inch	**7/8-inch**	**1-1/4-inch**	**1-5/8-inch**	**EW63**
300	600	N/A	280	N/A

Site Specific Requirements

- 100A Breaker panel with capacity for 20 circuits.
- Install 20A single pole breakers in the panel and wire to simplex outlets located on an average within 35 cable feet.
- Install new single phase Uninterruptible Power Supply (UPS) equipment (14 to 18 KVA), make before break switch, transformer, 100 Amp disconnect, wire output to breakers and connect to alarm punch block.

2.4.4 General Customer Responsibilities

- Provide personnel to observe construction progress and testing of site equipment according to the schedule provided by Motorola.
- As applicable (based on local jurisdictional authority), the Customer will be responsible for any installation or upgrades of the electrical system in order to comply with NFPA 70, Article 708.
- As required, provide property deed or lease agreement, and boundary survey, along with existing as-built drawings of the site and site components to Motorola for conducting site engineering.

Site Acquisition

- Provide property deed or lease agreement, and boundary survey, along with existing as-built drawings of the site and site components to Motorola for conducting site engineering.
- Provide a right of entry letter from the site owner for Motorola to conduct field investigations.
- Maintain existing access road in order to provide clear and stable entry to the site for heavy-duty construction vehicles, cement trucks and cranes. Sufficient space must be available at the site for these vehicles to maneuver under their own power, without assistance from other equipment.

Existing Structure Responsibilities

- Arrange for space on the structure for installation of new antennas at the proposed heights on designated existing antenna-mounting structures.

2.4.5 General Site Development Assumptions

- No prevailing wage, certified payroll, mandatory union workers or mandatory minority workers are required for this work.
- All work is assumed to be done during normal business hours as dictated by time zone (Monday thru Friday, 7:30 a.m. to 5:00 p.m.).
- All recurring and non-recurring utility costs [including, but not limited to, generator fuel (except first fill), electrical, Telco] will be borne by the Customer or site owner.
- All utility installations shall be coordinated and paid for by the site owner and located at jointly agreed to location within or around the new communications shelter or equipment room.
- Site will have adequate electrical service. Utility transformer, transformer upgrades, line, or pole extensions have not been included.
- Pricing has been based on National codes such IBC or BOCA. Local codes or jurisdictional requirements have not been considered in this proposal.
- Hazardous materials are not present at the work location. Testing and removal of hazardous materials, found during site investigations, construction or equipment installation will be the responsibility of the customer.
- A maximum of 30 days will be required for obtaining approved building permits from time of submission.
- No access road or staging area improvements are required for the heavy construction equipment which could include concrete trucks, drill rigs, semi tractors and trailers, and crane.

- If extremely harsh or difficult weather conditions delay the site work for more than a week, Motorola will seek excusable delays rather than risk job site safety.

Existing Tower Assumptions

- The existing ground system and soil resistivity at the site is sufficient to achieve resistance of 10-ohms or less. Communication site grounding will be designed and installed per Motorola's R56 standards.
- The existing site has adequate room to expand and install the shelter, including lay-down and staging areas, without encroaching on wetlands, easements, setbacks, right-of-ways, or property lines.
- AM detuning or electromagnetic emission studies will not be required.
- Protective grating over microwave dishes or the communications shelter has not been included in this proposal.
- Structural and foundation drawings of the antenna support structure will be made available to preclude the need for ultrasonic testing, geotechnical borings or mapping of existing tower structural members.
- Lead paint testing of existing painted towers has not been included.
- On the existing tower, the antenna locations for the proposed antenna system design will be available at the time of installation.
- The new shelter can be located within 20-feet of the existing tower location and the generator/fuel tank can be located within 25-feet of the shelter.
- Restoration of the site surroundings by fertilizing, seeding, and strawing the disturbed areas will be adequate.
- The site has adequate utility service to support the proposed equipment loading. Utility transformer upgrades or step-up or down transformers will not be required.
- Underground utilities are not present in the construction area and as such no relocation will be required.
- The existing antenna support structure is structurally capable of supporting the new antenna, cables, and ancillary equipment proposed and will not need to be removed or rebuilt at the existing site. The tower or supporting structure meets all applicable EIA/TIA-222 structural, foundation, ice, wind, and twist and sway requirements. Motorola has not included any cost for structural or foundation upgrades to the antenna support structure.
- The existing cable support facilities from the antenna to the cable entry port can be used for supporting the new antenna cables.
- Structural analyses for towers or other structures that have not been performed by Motorola will relinquish Motorola from any responsibility for the analysis report contents and/or recommendation therein.
- Foundations for the compound, shelter, generator and fuel tank are based "normal soil" conditions as defined by TIA/EIA 222-F. Footings deeper than 30-inches, raised piers, rock coring, dewatering, hazardous material removal or wetland mitigation have not been included.

Section 3

Warranty and Maintenance

3.1 Overview

1-year of warranty support is included in the base offering with an optional Maintenance and Support offering for an additional 6 years, for a total of 7 years. Motorola Solutions is proposing the following Warranty and Maintenance Plans for the Equipment included in this proposal:

Table 4.1: Warranty and Maintenance Plans

Equipment	Maintenance Plan	Term
Infrastructure	Infrastructure Advanced Plus Services	7 Years
Microwave Equipment	Microwave Equipment Warranty and Maintenance	7 Years

The following sections explain in more detail the services included in these plans.

3.2 Infrastructure Advanced Plus Services

3.2.1 Overview

Advanced Plus Services for ASTRO 25 infrastructure is a comprehensive program to sustain the long-term performance of Morgan County's network. Advanced Plus Services consists of the following elements:

- ASTRO System Monitoring
  - Network Event Monitoring
- Remote Technical Support
- Network Hardware Repair
- Remote Security Update Service (RSUS)
- On-Site Infrastructure Response
- Annual Preventative Maintenance
- Network Updates
- Microwave Tested Vendor Product Monitoring

Together, these elements will help to avoid operational disruptions and maintain the value of Morgan County's communications investment.

3.2.2 Advanced Plus Services Element Descriptions

The following sections describe the elements proposed for Morgan County's ASTRO 25 infrastructure.

3.2.2.1 ASTRO System Monitoring

ASTRO System Monitoring Service includes advanced network and security monitoring, along with connectivity to deliver these services.

- **Network Event Monitoring**

Real-time, continuous ASTRO 25 radio communications network monitoring and event management. Using sophisticated tools for remote monitoring and event characterization, Motorola will assess events, determine the appropriate response, and initiate that response. Possible responses include remotely addressing the issue, escalation to product technical support groups, and dispatch of designated field technical resources.

3.2.2.2 Remote Technical Support

Motorola Solutions' Centralized Managed Support Operations (CMSO) will provide Remote Technical Support for infrastructure issues that require specific technical expertise. Experienced technical support specialists will be available to consult with Morgan County to help diagnose, troubleshoot, and resolve infrastructure issues. Service Desk maintenance procedures and incident resolution techniques are based on ISO 9001 and TL 9000 standards.

3.2.2.3 Network Hardware Repair

To restore Morgan County's ASTRO 25 network components if they malfunction, Motorola Solutions will repair Motorola Solutions-provided infrastructure equipment. This includes select third-party infrastructure equipment supplied by Motorola Solutions. Motorola Solutions will ship and return repaired equipment and will coordinate the repair of third-party solution components.

If Morgan County prefers to maintain its existing FRU inventory rather than using Motorola Solutions' depot inventory, Motorola Solutions can provide "loaner" FRUs during the repair process.

3.2.2.4 Remote Security Update Service

Commercial security software updates are often designed without consideration for specialized systems like radio communications networks. These updates may inadvertently disrupt ASTRO 25 network operations and functionality.

To minimize cyber risks and software conflicts, Motorola Solutions provides the Remote Security Update Service (RSUS). With this service, Motorola Solutions deploys antivirus and operating system security updates on an ASTRO 25 network in a dedicated information assurance lab to test and validate them for use with ASTRO 25 networks.

Motorola Solutions tests whether applying these security updates degrades network service. If an update degrades performance, Motorola Solutions searches for a solution or workaround to address the issue before releasing that update.

With RSUS, Motorola Solutions will remotely install tested updates on Morgan County's ASTRO 25 network. If there are any recommended configuration changes, warnings, or workarounds, Motorola Solutions will provide detailed documentation on a secure extranet website.

3.2.2.5 On-Site Infrastructure Response

Motorola Solutions will provide repair service from trained and qualified technicians. Once dispatched, technicians will travel to Morgan County's ASTRO 25 network location to diagnose issues and restore functionality. These technicians will run diagnostics on hardware to identify defective components and repair or replace them as appropriate. Infrastructure Response times are based on a given issue's impact on overall system function.

Travel times and service levels are governed by local geography. Motorola Solutions will provide additional information in the Statement of Work for ASTRO 25 Advanced Services and in the Customer Support Plan agreed between Morgan County and Motorola Solutions.

3.2.2.6 Annual Preventive Maintenance

Motorola Solutions will annually test and service network components. Qualified field technicians will perform routine hands-on examination and diagnostics of network equipment to keep them operating according to the original manufacturer specifications.

3.2.2.7 Network Updates

The Network Updates service provides public safety radio system release updates on a consistent, budgeted plan. These updates maintain reliable network operations and cybersecurity protection. In addition, Network Updates keeps Morgan County's ASTRO 25 network compatible with expansion elements, as well as new products or features. With Network Updates, Morgan County's network will remain on a release that qualifies for support services.

Motorola Solutions will deliver updates based on a predefined cadence of upgrade windows, with up to one update in each window. The Network Updates service includes the following:

- Software Release Updates - Motorola Solutions-certified software that improves network functions over previous releases. This also includes commercial operating systems and application software updates.
- Hardware Update – When needed to support a software release update, Motorola Solutions provides new hardware that will support the new software update, as well as maintain existing functions and features.
- Professional Implementation Services – Motorola Solutions will plan and implement updates at Morgan County's site. This includes factory integration, testing, and supply chain management for new software and hardware.

With these services, Morgan County will have access to the technology, support, and planning expertise needed for an effective upgrade.

3.2.2.8 Microwave Tested Vendor Product Monitoring

Motorola Solutions will provide real-time “endpoint” event monitoring of Morgan County's backhaul network components. When an event is detected and classified, Motorola Solutions will notify and dispatch Morgan County's Servicer to resolve the issue.

3.3 System Upgrade Agreement II

The System Upgrade Agreement II (SUA II) service provides public safety radio system release updates on a consistent, budgeted plan. These updates maintain reliable network operations and cybersecurity protection. In addition, SUA II keeps your ASTRO 25 network compatible with expansion elements, as well as new products or features. With SUA II, your network will remain on a release that qualifies for support services.

Motorola Solutions, Inc. will deliver SUA II in two-year periods, with up to one update in each period. The SUA II service includes the following:

- Software Release Updates - Motorola Solutions-certified software that improves network functions over previous releases. This also includes commercial operating system and application software updates.
- Hardware Update – When needed to support a software release update, Motorola Solutions provides new hardware. New hardware will both support the new software update, as well as maintain existing functions and features.
- Professional Implementation Services – Motorola Solutions will plan and implement updates at the Customer site. This includes factory integration, testing, and supply chain management for new software and hardware.

With these services, the Customer will have access to the technology, support, and planning expertise needed for an effective upgrade.

3.4 Microwave Equipment - Warranty and Maintenance

Nokia warrants its Wavence products, for a period of eighteen (18) months from shipment from Nokia when installed by Infinity, that the radio equipment will be free from defects in materials and workmanship and perform in accordance with its specifications. If Infinity does not perform the installation work, the applicable warranty period commences on the date of shipment from Nokia for a period of fourteen (14) months.

During the warranty period, Nokia will repair or replace any Nokia Product that does not substantially conform to Product specifications. The customer is responsible for obtaining a Return Material Authorization (RMA) number from Infinity and for shipping the unit to Infinity's facility in Mooresville, NC. Infinity will return the unit to the Customer as promptly as practicable. Typical turnaround time is thirty (30) Business Days from the time of receipt. Advance Replacement and Emergency Replacement Services are available only for an additional charge at Nokia's then-current rates. At the time of System Acceptance, Infinity will provide the customer with RMA procedures for the repair or replacement of sold products.

Any Non-Nokia Product sold by Infinity shall pass to the reseller with the OEM warranty provided by the manufacturer of the Product.

Infinity's Standard Warranty for the Nokia Hardware shall be limited to either the Repair or replacement - at its sole option - of any defective Part during the Standard Product Warranty Period, provided that such defects can be shown to be due to defective materials or workmanship. Infinity has no obligation to repair or replace any Hardware arising from: (i) normal wear and tear; (ii) the consequences of improper or negligent use, storage, or handling; (iii) repair or modification without prior written authorization from Infinity; (iv) use or installation in connection with other products that do not fit the Specifications of the Product or have not been approved by Nokia/Infinity; (v) use or installation in a manner that does not comply with the technical Specifications of the Product; or (vi) any damage to the Product by power failure, fire, explosion, or any act of God or any other cause beyond Infinity's control.

Nokia offers Customer Technical Assistance Center (CTAC) remote support for an additional charge during the warranty and post-warranty maintenance period. Nokia CTAC will use reasonable commercial efforts to provide effective telephone assistance, which results in timely answers to technical questions involving applications, operations, and maintenance of Nokia equipment. This involves defining, isolating, and reproducing system problems. All calls to Nokia CTAC are logged and tracked. Infinity will quote CTAC prices upon the Customer's request.

Nokia and Infinity offer the Customer the resources of fully staffed Technical Training Centers to provide initial and ongoing Product training. Skilled, qualified instructors offer hands-on experience in the use of every Nokia Product group that goes beyond textbook learning. This service is available only for an additional charge. Infinity will quote training prices upon the Customer's request.

Section 4

Pricing

4.1 Pricing Summary

Table 4.1: Pricing Summary - OARS Join

Description	Price
Equipment (four (4) 4-channel RF sites, one (1) Prime Site, Core and Shelter Share with OARS, three (2) 12x16 Motorola-proprietary Shelter Packages at existing tower site locations, and one MW "ring" connection between four (4) tower locations)	$5,897,437
Subscribers (all subscribers in table 4.4 with 7-year Device Essential Support on all Subscribers, as well as 1-year of SmartConnect and SmartProgramming subscriptions on N70 Subscribers)	$4,440,152
Implementation and 1-Year Warranty Services	$2,995,305
Subtotal	**$13,332,894**
Sourcewell Contract Discount	($1,764,719)
System Upgrade and Trade-In Discount	($3,341,625)
Contract by September 4, 2026	($475,000)
Total – OARS Join	**$7,751,550**

Table 4.2: Annual Support and Maintenance

ANNUAL SERVICE	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
SUAII	$47,545	$48,581	$49,658	$50,779	$51,945	$53,157
Maintenance	$156,095	$162,343	$168,837	$175,591	$182,619	$189,922
MW	$18,502	$19,242	$23,828	$24,781	$28,462	$29,601
TOTAL	**$222,142**	**$230,166**	**$242,323**	**$251,151**	**$263,026**	**$272,680**

Table 4.3: Annual Subscription

ANNUAL SERVICE	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
N70 SmartConnect and SmartProgramming Subscriptions	$83,242	$83,242	$83,242	$83,242	$83,242	$83,242

Table 4.4: Subscriber Itemization

ENTITY	QNTY	UNIT LIST	EXT LIST	UNIT SW DISC	EXT SW DISC	ANNUAL SUB	INSTALL (est)
SO Mobile	56	$7,299	$408,744	$5,451	$305,256	N/A	$76,364
SO Portable	52	$10,698	$556,296	$8,048	$418,496	$16,775	$7,091
SO Detention UHF Portable	35	$1,500	$52,500	$1,500	$52,500	N/A	Inc.
911 Control Station	7	$7,467	$52,269	$5,573	$39,011	N/A	$11,264
911 Portable	5	$10,668	$53,340	$8,025	$40,125	$1,613	$682
Fire Mobile	51	$7,299	$372,249	$5,451	$278,001	N/A	$69,546
Fire Portable	109	$11,916	$1,298,844	$8,967	$977,403	$35,164	$14,864
PW Portable	20	$10,668	$213,360	$8,025	$160,500	$6,452	$2,727
Trans Control Station	1	$6,346	$6,346	$4,755	$4,755	N/A	$1,609
Trans Portable	15	$10,668	$160,020	$8,025	$120,375	$4,839	$2045
Animal Control Portable	3	$10,668	$32,004	$8,025	$24,075	$968	$410
Madison FD Mobile	8	$7,299	$58,392	$5,451	$43,608	N/A	$10,909
Madison FD Portable	36	$11,916	$428,976	$8,967	$322,812	$11,614	$4,909
Madison PD Mobile	17	$7,299	$124,083	$5,451	$92,667	N/A	$23,182
Madison PD Portable	18	$10,668	$192,024	$8,025	$144,450	$5,807	$2,455
MADISON TOTAL					**$603,537**	**$17,421**	**$41,455**
BOE Portable	7	$6,375	$44,625	$4,778	$33,446	N/A	$955
BOE Bus Mobile	60	$6,018	$361,080	$4,516	$270,960	N/A	$65,455
BOE UHF Portable	50	$500	$25,000	$500	$25,000	N/A	Inc.
BOE TOTAL					**$329,406**	**N/A**	**$66,410**

The quote is valid until September 4, 2026.

Due to significant market and tariff volatility, as well as fluctuations in the cost of energy and raw materials, including, but not limited to, steel, copper, finished wood, and concrete, Motorola Solutions reserves the right to equitably adjust the contract price, completion schedule, and/or contract requirements. Additionally, Motorola Solutions reserves the right to apply a fuel surcharge to quoted freight rates based on the prevailing diesel cost at the time of shipment.

4.2 Payment Milestones

Except for a payment that is due on the Effective Date, Customer will make payments to Motorola within thirty (30) days after the date of each invoice. Customer will make payments when due in the form of a check, cashier's check, or wire transfer drawn on a U.S. financial institution. If the Customer has purchased additional Professional or Subscription services, payment will be in accordance with the applicable addenda. Payment for the System purchase will be in accordance with the following milestones.

System Purchase (excluding Subscribers, if applicable)

1. **25% of the System Price due upon contract execution (due upon effective date);**
2. **60% of the System Price due upon shipment of equipment;**
3. **10% of the System Price due upon installation of equipment; and**
4. **5% of the System Price due upon Final Acceptance.**

If Subscribers are purchased, 100% of the Subscriber Contract Price will be invoiced upon shipment (as shipped).

All optional pricing presented must be selected at the time of contract execution. Motorola reserves the right to re-price any option the county may wish to procure in the future.

Motorola shall make partial shipments of equipment and will request payment upon shipment of such equipment. In addition, Motorola shall invoice for installations completed on a site-by-site basis or when professional services are completed, when applicable. The value of the equipment shipped/services performed will be determined by the value shipped/services performed as a percentage of the total milestone value. Unless otherwise specified, contract discounts are based upon all items proposed and the overall system package. Overdue invoices will bear simple interest at the maximum allowable rate by state law.

For Maintenance and Support Plan and Subscription-Based Services: Motorola will invoice Customer annually in advance of each year of the plan.

Due to significant market and tariff volatility, as well as fluctuations in the cost of energy and raw materials, including, but not limited to, steel, copper, finished wood, and concrete, Motorola Solutions reserves the right to equitably adjust the contract price, completion schedule, and/or contract requirements. Additionally, Motorola Solutions reserves the right to apply a fuel surcharge to quoted freight rates based on the prevailing diesel cost at the time of shipment.

Inflation Review

For multi-year agreements, at the end of the first year of the Agreement and each year thereafter, a CPI percentage change calculation shall be performed using the U.S. Department of Labor, Consumer Price Index, "All Items," Unadjusted Urban Areas (CPI-U). Should the annual inflation rate increase by more than 3% during the previous year, Motorola shall have the right to increase all future maintenance prices by the CPI increase amount exceeding 3%. "All Items," not seasonally adjusted, shall be used as the

measure of CPI for this price adjustment. The adjustment calculation will be based upon the CPI for the most recent twelve (12) month increment beginning from the most current month available as posted by the U.S. Department of Labor (http://www.bls.gov) immediately preceding the new maintenance year. For purposes of illustration, if in Year 5 the CPI reported an increase of 8%, Motorola may increase the Year 6 price by 5% (8%-3% base). Any pricing change would be documented in a change order executed with the Customer.

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Section 5

Contractual Documentation

The parties' agree to utilize Source Agreement #020625-MOT for the purchase of products as included in this proposal. The parties further agree to incorporate prior MCA executed on 6/16/2026, along with the included Morgan County Amendment to the MCA contained herein.

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AMENDMENT TO MOTOROLA SOLUTIONS CUSTOMER AGREEMENT

THIS AMENDMENT TO MOTOROLA SOLUTIONS CUSTOMER AGREEMENT (this "***Amendment***") is made and entered into as of the _____ day of August, 2026 (hereinafter called the "***Effective Date***"), between **MORGAN COUNTY**, a political subdivision of the State of Georgia ("***Customer***"), and **MOTOROLA SOLUTIONS, INC.**, a Delaware corporation ("***Motorola***"). Customer and Motorola are each called a "***Party***" and collectively called the "***Parties***".

WHEREAS, the Parties have made and entered into that certain Motorola Solutions Customer Agreement dated June 16, 2026 (such Motorola Solutions Customer Agreement, including all exhibits, schedules, agreements, and addenda attached thereto or referenced or incorporated therein, are hereinafter collectively called the "***Agreement***"); and

WHEREAS, Sourcewell is a State of Minnesota local government unit and service cooperative created under the laws of the State of Minnesota that offers a cooperative purchasing program to governmental and other public entities located in the United States; and

WHEREAS, Motorola and Sourcewell entered into a contract dated November 5, 2025 (contract no. 020625-MOT), for public safety communications technology and hardware systems and services (the "***Sourcewell Contract***"); and

WHEREAS, the Parties desire to supplement and amend the terms and conditions of the Agreement with the additional and amended terms and conditions contained in this Amendment.

NOW, THEREFORE, in consideration of the mutual covenants, promises, and consideration set forth in this Amendment, the receipt and sufficiency of which are hereby acknowledged, the Parties hereby covenant and agree as follows:

1. **Priority of Amendment**. This Amendment is incorporated into and made a part of the Agreement. The provisions of this Amendment control over any contrary provisions found in the Agreement, including, without limitation, any provision of the Agreement which provides otherwise. No provision of the Agreement shall operate to override the provisions of this Amendment.

2. **Defined Terms**. Capitalized terms used in this Amendment and not otherwise defined herein shall have the meanings ascribed to such terms in the Agreement.

3. **Incorporation of the Sourcewell Contract**. Except as otherwise provided in the Agreement, the Parties expressly adopt and incorporate by reference the terms and conditions set forth in the Sourcewell Contract. The Parties further expressly agree that the terms and conditions of the Sourcewell Contract shall govern all transactions between the Parties under the Agreement except to the extent that a term or condition of the Sourcewell Contract is in conflict with the Agreement. In the event of a conflict between a term or condition of the Agreement and the Sourcewell Contract, the terms and conditions of the Agreement shall govern.

4. **Statutory Auto-Termination and Renewal**. Notwithstanding any other provision of the Agreement to the contrary, as required by O.C.G.A. § 36-60-13, the Agreement shall terminate absolutely and without any further obligation on the part of Customer on the last day of each fiscal year of the initial term and any renewal or extended term; provided, however, that the Agreement shall automatically renew on the first day of each subsequent fiscal year within the applicable term, and extend until the conclusion of the applicable term, unless Customer provides written notice of non-renewal to Motorola at least thirty(30) days prior to the end of the then current fiscal year. Additionally, the Agreement shall terminate immediately and absolutely at such time as appropriated and otherwise unobligated funds are no longer available to satisfy Customer's obligations under the Agreement. In the event of such termination, Motorola shall be entitled to compensation for all conforming Products delivered or performed prior to the date of termination.

5. **Termination for Convenience**. Customer may terminate the Agreement for convenience at any time by providing at least thirty (30) days prior written notice to Motorola. Upon any termination, Customer shall have no obligation beyond the date the Agreement is terminated. In the event of such termination, Motorola shall be entitled to compensation for all conforming Products delivered or performed prior to the date of termination.

6. **Confidentiality**. Motorola acknowledges that Customer's disclosure of documentation is governed by Georgia's Open Records Act and the Open Meetings Act, and Motorola further acknowledges that if Motorola submits documents or records, including, without limitation, any document comprising part of the Agreement, containing trade secret information, and if Motorola wishes to keep such documents or records confidential, Motorola must submit and attach to such documents or records an affidavit affirmatively declaring that specific information contained therein constitutes trade secrets pursuant to the Georgia Trade Secrets Act of 1990, O.C.G.A. § 10-1-760 et seq., and the Parties shall follow the requirements of O.C.G.A. § 50-18-72(a)(34) related thereto.

7. **Governing Law; Venue**. This Amendment and the Agreement shall be governed by and construed in accordance with the laws of the State of Georgia without regard to choice of law principles. Any action or suit related to this Amendment or the Agreement shall be brought in the Superior Court of Morgan County, Georgia, and Motorola submits to the jurisdiction and venue of such court.

8. **Nondiscrimination**. In accordance with Title VI of the Civil Rights Act of 1964, as amended, 42 U.S.C. § 2000d, section 303 of the Age Discrimination Act of 1975, as amended, 42 U.S.C. § 6102, section 202 of the Americans with Disabilities Act of 1990, 42 U.S.C. § 12132, and all other provisions of federal law, Motorola agrees that during performance of the Agreement, Motorola, for itself and its affiliates, assignees, and successors in interest, will not discriminate against any employee or applicant for employment, any subcontractor, or any supplier because of race, color, creed, national origin, gender, age, or disability. In addition, Motorola agrees to comply with all applicable regulations.

9. **Sovereign Immunity; Indemnification; Limitation of Liability**. Nothing contained in the Agreement shall be construed to be a waiver of Customer's sovereign immunity or any individual's qualified, good faith, or official immunities. Any provision of the Agreement purporting to require Customer to indemnify or defend Motorola or any related party is only valid to the extent allowed by Georgia law. Further, any provision of the Agreement purporting to limit or eliminate entirely the liability of Motorola for claims or damages arising out of or related to the Agreement is only valid to the extent allowed by Georgia law. The Parties acknowledge and agree that Customer is under no obligation to obtain additional insurance related to the Agreement.

10. **Employment of Unauthorized Aliens Prohibited – E-Verify Affidavit**. Pursuant to O.C.G.A. § 13-10-91, Customer shall not enter into a contract for the physical performance of services unless Motorola shall provide evidence on the forms attached hereto as **Exhibits "A" and "B"** (affidavits regarding compliance with the E-Verify program to be sworn under oath under criminal penalty of false swearing pursuant to O.C.G.A. § 16-10-71), that Motorola and its subcontractors have registered with and are authorized to use and use the federal work authorization program commonly known as E-Verify, or any subsequent replacement program, in accordance with the applicable provisions and deadlines established in O.C.G.A. § 13-10-91, and that they will continue to use the federal work authorization program throughout the term of the Agreement. Motorola hereby verifies that it has, prior to executing this Amendment and the Agreement, executed a notarized affidavit, the form of which is provided in **Exhibit "A"**, and submitted such affidavit to Customer. Further, Motorola hereby agrees to comply with the requirements of the federal Immigration Reform and Control Act of 1986, P.L. 99-603, O.C.G.A. § 13-10-91, and Georgia Department of Labor Rule 300-10-1-.02.

In the event Motorola employs or contracts with any subcontractor to perform services for Customer, Motorola agrees to secure from such subcontractor attestation of the subcontractor's compliance with O.C.G.A. § 13-10-91 and Rule 300-10-1-.02 by the subcontractor's execution of the subcontractor affidavit, the form of which is attached hereto as **Exhibit "B"**, which subcontractor affidavit shall become part of the Motorola subcontractor agreement. The above requirements shall be in addition to the requirements of state and federal law and shall be construed to be in conformity with those laws.

11. **Customer Data Ownership**. Motorola recognizes and agrees that Customer possesses and retains all right, title, and interest in and to the information, data, and documents, including, without

limitation, images, text, videos, and audio, provided to Motorola by, through, or on behalf of Customer and its employees, contractors, agents, customers, and other authorized users and their users, through the use of the Products, Equipment, and Services under the Agreement (collectively, "***Customer Data***"), and Motorola's use and possession thereof is solely on Customer's behalf. Motorola further recognizes and agrees that: (1) Customer Data is valuable property of Customer; (2) Customer Data is an original compilation pursuant to the copyright law of the United States and other jurisdictions; and (3) Customer has dedicated substantial resources to collecting, managing, and compiling Customer Data. Without limiting the generality of its obligations elsewhere in this Amendment and the Agreement, Motorola shall exercise commercially reasonable efforts to prevent unauthorized exposure or disclosure of Customer Data.

12. **Information Security Program**. Motorola shall maintain, implement, and comply with a written data and information security program (the "***Security Program***") that requires administrative, technical, and physical safeguards appropriate: (i) to protect the security and confidentiality of Customer Data; (ii) to protect against anticipated threats or hazards to the security or integrity of Customer Data; and (iii) to protect against unauthorized access to or use of Customer Data. Motorola shall ensure that the Security Program includes and requires compliance with the following: (a) access controls on electronic systems used to maintain, access, or transmit Customer Data; (b) access restrictions at physical locations containing Customer Data; (c) encryption of electronic Customer Data consistent with then-current nationally-recognized encryption standards; (d) regular testing and monitoring of electronic systems accessing or storing Customer Data; and (e) procedures to detect actual and attempted attacks on or intrusions into the systems containing or accessing Customer Data. Motorola shall review the Security Program and all other Customer Data security precautions regularly, but no less than annually, and update them to comply with applicable laws, regulations, technology changes, and best practices.

13. **Employees and Subcontractors**. Motorola shall not permit any of its employees, subcontractors, or subcontractor employees to access Customer Data except to the extent that such individual or company needs access to facilitate the Services and is subject to a reasonable written agreement with Motorola, or in case of employees, a reasonable written employment policy, protecting such data.

14. **Data Incidents**. Motorola shall implement and maintain a program for managing unauthorized use, loss, destruction, alteration, or disclosure of, or access to Customer Data ("***Data Incident***"). In case of a Data Incident, or if Motorola suspects a Data Incident, Motorola shall: (i) promptly, and in any case within 72 hours, notify Customer by telephone, email, , or by other real-time communication; (ii) cooperate with Customer and law enforcement agencies, as applicable, to investigate and resolve the Data Incident; and (iii) otherwise comply with applicable laws governing data breach notification and response. Motorola shall give Customer prompt access to such records related to a Data Incident as Customer may reasonably request. This Section does not limit Customer's other rights or remedies, if any, resulting from a Data Incident, including, without limitation, those provided for in the Agreement.

15. **Insurance**. During the term of the Agreement, Motorola shall maintain in full force and effect: (a) commercial general liability insurance covering personal injury and property damage, including, without limitation, contractual liability, with limits of at least $1,000,000 per occurrence and $2,000,000 in the aggregate; (b) business automobile liability insurance for all vehicles, including those owned or rented by Motorola or its employees, covering personal injury and property damage, with a limit of at least $1,000,000 per occurrence; (c) worker's compensation and employer's liability insurance, with limits of at least $1,000,000; and (d) professional liability insurance, with coverage for claims arising out of professional services and errors, omissions, and negligence in connection with the Services, including, without limitation, the rendering of or failure to render professional technology services, with limits of at least $1,000,000 in the aggregate, including cyber liability and information security and privacy liability, with a sublimit of liability not less than $1,000,000 in the aggregate. Motorola shall maintain all such insurance with carriers rated A- or better by A.M. Best Customer, Inc. and with a financial rating of Class VIII or greater. The insurance policies required pursuant to this Section will stipulate that they are primary insurance and that no insurance policy or self-insurance program of Customer will be called upon to contribute. Before commencement of Services and thereafter upon renewal of any such policy of insurance, Motorola shall provide Customer with certificates of insurance evidencing the above coverages and naming Customer as certificate holder entitled to 30 days' written notice following any cancellation, reduction, or change in coverage.

16. **Fees and Charges**. The pricing for all fees, charges, expenses, and costs are set forth in Tables 5.1, 5.2, and 5.3 of the Proposal. Notwithstanding any provision of the Agreement that purports to allow Motorola to unilaterally add, increase, or otherwise adjust the pricing for fees, charges, expenses, and costs, no additions, increases, surcharges, or other changes to such pricing shall be made by Motorola without the express written consent of Customer as documented in a change order or other amendment to the Agreement duly executed by Customer. Customer's approval of any pricing changes shall be required regardless of market conditions, tariffs, or any other factors.

17. **Taxes**. Customer is a governmental tax-exempt entity and shall not be responsible for paying any taxes or fees related to any Equipment, Products, or Services under the Agreement. Upon request, Customer shall provide documentation of its tax-exempt status.

18. **Delivery, Title, and Risk of Loss**. All Products and Equipment shipped by Motorola to Customer shall be FOB destination at Customer's address specified in the Agreement or in a written notice to Motorola. Title and risk of loss shall pass to Customer upon delivery at Customer's designated address and acceptance of the Products and Equipment by Customer.

19. **Substitutions and Other Changes**. Motorola shall not substitute any item of the Equipment or Products without the express written consent of Customer as documented in a change order or other amendment to the Agreement duly executed by Customer. The Agreement may be modified or amended only by a written change order or other amendment signed by representatives of both Parties with appropriate authorization.

20. **Records, Reports, and Audits**.

a) Records. Books, records, documents, account ledgers, data bases, and similar materials relating to the Products under the Agreement ("***Records***") shall be established and maintained by Motorola in accordance with generally accepted accounting principles and applicable law with respect to all matters covered by the Agreement. Except as otherwise authorized or required, such Records shall be maintained for at least three (3) years from the date that final payment is made to Motorola by Customer under the Agreement. Records that are the subject of audit findings shall be retained for three (3) years or until such audit findings have been resolved, whichever is later.

b) Reports and Information. Upon request, Motorola shall furnish Customer any and all Records related to matters covered by the Agreement in the form requested by Customer. Cost data is considered confidential and proprietary and will not be shared.

c) Audits and Inspections: At any time during normal business hours and as often as Customer may deem necessary, Motorola shall make available to Customer or Customer's representative(s) for examination of all Records with respect to all matters covered by the Agreement. Motorola shall permit Customer or Customer's representative(s) to audit, examine, and make excerpts or transcripts from such Records, and to audit all contracts, invoices, materials, and data relating to all matters covered by the Agreement. Cost data is considered confidential and proprietary and will not be shared.

[SIGNATURES ON FOLLOWING PAGE]

IN WITNESS WHEREOF, the Parties hereto have caused their duly authorized representatives to execute, seal, and deliver this Amendment, all as of the day and year first written above.

MOTOROLA SOLUTIONS, INC:	**MORGAN COUNTY, GEORGIA:**
By: _____	By: _____
Name: Janet Fernandez	Name: Blake McCormack
Title: Regional Vice President	Title: Chairman, Board of Commissioners
Attest:	Attest:
By: _____	By: _____
Name: Jarrod Shupe	Name: _____
Title: Area Sales Manager, SPT	Title: County Clerk

[County Seal]

EXHIBIT "A"

STATE OF _____
COUNTY OF _____

CONTRACTOR AFFIDAVIT AND AGREEMENT

By executing this affidavit, the undersigned contractor verifies its compliance with O.C.G.A. § 13-10-91, stating affirmatively that the individual, firm, or corporation which is engaged in the physical performance of services on behalf of Morgan County, Georgia, has registered with and is authorized to use and uses the federal work authorization program commonly known as E-Verify, or any subsequent replacement program, in accordance with the applicable provisions and deadlines established in O.C.G.A. § 13-10-91. Furthermore, the undersigned contractor will continue to use the federal work authorization program throughout the contract period and the undersigned contractor will contract for the physical performance of services in satisfaction of such contract only with subcontractors who present an affidavit to the contractor with the information required by O.C.G.A. § 13-10-91(b).

Contractor hereby attests that its federal work authorization user identification number and date of authorization are as follows:

_____
Federal Work Authorization User
Identification Number

_____
Date of Authorization

Motorola Solutions, Inc.
Name of Subcontractor

Products and Services Arrangement
Name of Project

Morgan County, Georgia
Name of Public Employer

I hereby declare under penalty of perjury that the foregoing is true and correct.

Executed on _____, 2026 in _____ (city), _____ (state).

_____
Signature of Authorized Officer or Agent

_____
Printed Name and Title of Authorized Officer or Agent

SUBSCRIBED AND SWORN BEFORE ME ON THIS THE _____ DAY OF _____, 2026.

_____
NOTARY PUBLIC

NOTARY SEAL

My Commission Expires:
_____

EXHIBIT "B"

STATE OF _____
COUNTY OF _____

SUBCONTRACTOR AFFIDAVIT

By executing this affidavit, the undersigned subcontractor verifies its compliance with O.C.G.A. § 13-10-91, stating affirmatively that the individual, firm or corporation which is engaged in the physical performance of services under a contract with **Motorola Solutions, Inc.**, on behalf of Morgan County, Georgia, has registered with and is authorized to use and uses the federal work authorization program commonly known as E-Verify, or any subsequent replacement program, in accordance with the applicable provisions and deadlines established in O.C.G.A. § 13-10-91. Furthermore, the undersigned subcontractor will continue to use the federal work authorization program throughout the contract period, and the undersigned subcontractor will contract for the physical performance of services in satisfaction of such contract only with sub-subcontractors who present an affidavit to the subcontractor with the information required by O.C.G.A. § 13-10-91(b). Additionally, the undersigned subcontractor will forward notice of the receipt of an affidavit from a sub-subcontractor to the contractor within five (5) business days of receipt. If the undersigned subcontractor receives notice that a sub-subcontractor has received an affidavit from any other contracted sub-subcontractor, the undersigned subcontractor must forward, within five (5) business days of receipt, a copy of the notice to the contractor.

Subcontractor hereby attests that its federal work authorization user identification number and date of authorization are as follows:

_____
Federal Work Authorization User Identification Number

_____
Date of Authorization

Motorola Solutions, Inc.
Name of Subcontractor

Products and Services Arrangement
Name of Project

Morgan County, Georgia
Name of Public Employer

I hereby declare under penalty of perjury that the foregoing is true and correct.

Executed on _____, 2026 in _____ (city), _____ (state).

_____
Signature of Authorized Officer or Agent

_____
Printed Name and Title of Authorized Officer or Agent

SUBSCRIBED AND SWORN BEFORE ME ON THIS THE _____ DAY OF _____, 2026.

_____
NOTARY PUBLIC

NOTARY SEAL

My Commission Expires:
_____

Motorola P25 Radio System

Year 2 Annual Maintenance Cost Summary. Annual maintenance cost estimated to begin FY29 with 3% annual escalator for years 3 to 7.

Annual maintenance costs for the Motorola ASTRO 25 (P25) radio system, allocated by participating entity and radio type. Costs are shown both with and without APX N70 subscription fees, which apply only to N70-series portables.

Entity	Qty	Radio Type	Annual Total	Annual Total (w/o N70 Subscriptions)	Notes
SO Mobile	56	APX 4500	$31,570.00	$31,570.00	
SO Portable	52	APX N70	$45,649.24	$29,315.00	
SO Detention UHF Portable	35	Mototrbo Ion	Excluded	Excluded	
911 Control Station	7	APX 4500	$3,946.25	$3,946.25	
911 Portable	5	APX N70	$4,389.35	$2,818.75	
Fire Mobile	51	APX 4500	$28,751.25	$28,751.25	
Fire Portable	109	APX N70XE	$95,687.83	$61,448.75	
PW Portable	20	APX N70	$17,557.40	$11,275.00	
Transit Control Station	1	APX 1500	$563.75	$563.75	
Transit Portable	15	APX N70	$13,168.05	$8,456.25	
Animal Control Portable	3	APX N70	$2,633.61	$1,691.25	
Madison FD Mobile	8	APX 4500	$4,510.00	$4,510.00	
Madison FD Portable	36	APX N70XE	$31,603.32	$20,295.00	
Madison PD Mobile	17	APX 4500	$9,583.75	$9,583.75	
Madison PD Portable	18	APX N70	$15,801.66	$10,147.50	
BOE Portable	7	APX N70	$6,145.09	$3,946.25	
BOE Bus Mobile	60	APX 1500	$33,825.00	$33,825.00	
BOE UHF Portable	50	Mototrbo R7	Excluded	Excluded	
GRAND TOTAL — ALL ENTITIES	**$345,385.55**	**$262,143.75**			

Cost Summary by Entity Group

Entity Group	Annual Total	Annual Total (w/o N70 Subscriptions)
Morgan County	$243,916.73	$179,836.25
City of Madison	$61,498.73	$44,536.25
Board of Education	$39,970.09	$37,771.25

Unit Rate Basis

Per-unit annual rates used to calculate entity costs above (SUAII, Maintenance, MW, and OARS apply per radio; N70 Subscriptions apply only to APX N70-series portables).

Cost Component	Total Cost	# of Units	Cost / Unit
SUAII	$47,545.00	465	$102.25
Maintenance	$156,095.00	465	$335.69
MW	$18,502.00	465	$39.79
OARS	$40,000.00	465	$86.02
N70 Subscriptions	$83,242.00	265	$314.12

Executive Summary: ASTRO® 25 Advanced Plus Services

1. Executive Overview

Under this contract, Motorola Solutions is supplying our latest next-generation site equipment and base stations designed for an operational lifespan exceeding 20 years. To ensure continuous modernization and optimal performance, Motorola will conduct biennial system upgrades to key hardware and software components, bringing them up to the latest releases. As a result, when the 7-year term ends, Morgan County will be fully prepared to renew its ASTRO 25 maintenance coverage without needing additional capital equipment investments based on currently known requirements.

This document outlines the proposal submitted by Motorola Solutions to deliver ASTRO 25 Advanced Plus Services for Morgan County's 4-site P25 Simulcast Radio System. The proposed package provides a fully managed, comprehensive lifecycle sustainment strategy covering fixed radio infrastructure across core, RF, and dispatch locations.
The primary goal of this service package is to maximize system uptime, prevent cybersecurity vulnerabilities, and protect Morgan County's infrastructure investment over a 6-year post-warranty period through proactive monitoring, maintenance, and regular system upgrades.

2. Core Service Components

The Advanced Plus Services package integrates several operational, security, and lifecycle management services:

- **Cybersecurity & System Monitoring:**
  - **Managed Detection and Response (MDR):** 24/7 security event monitoring and threat mitigation powered by specialized analysts at Motorola's Security Operations Center (SOC) and the ActiveEye™ platform via the OARS Core. Includes quarterly external vulnerability scans.
  - **Network Event Monitoring:** 24/7 real-time fault tracking, event logging, and automated incident triage to address network anomalies before operational disruption occurs.
  - **ASTRO Connectivity Service (ACS):** Dedicated, secure connectivity links maintained to enable remote monitoring, patching, and support via the OARS Core.
- **Maintenance & Technical Support:**
  - **Remote Technical Support & Hardware Repair:** Telephone support for technicians with technical specialists and depot repair for Motorola-manufactured infrastructure.
  - **On-Site Infrastructure Response:** Local qualified technicians dispatched to diagnose hardware failures and perform component replacement.
  - **Annual Preventive Maintenance:** Scheduled operational testing, alignment, and site evaluations to ensure compliance with factory specifications.

- **System Upgrades & Patching:**
  - **Security Update Service (SUS) & Remote SUS (RSUS):** Pre-tested pre-validated operating system patches, firmware, and weekly antivirus updates delivered remotely to minimize cyber risk.
  - **System Upgrade Agreement (SUA):** Encompasses continuous software, hardware, and deployment services required for system infrastructure upgrades across eligible release windows.

3. Priority Level Definitions and Response Times

Incident responses are governed by predefined priority definitions to guarantee prompt resolution for critical emergency communications infrastructure:

Priority Level	Impact Definition	Remote/Initial Response	On-Site Arrival Commitment
Critical (P1)	Primary site down, core failure without redundancy, or non-functional security features.	24/7 availability; Response within **30 minutes**.	Technician on-site within **4 hours**.
High (P2)	Redundant core/link failure or 1 RF site down	24/7 availability; Response within **1 hour**.	Technician on-site within **4 hours**.
Medium (P3)	Single channel down or site router/switch failure with redundancy	Business hours; Response within **4 hours**.	Technician on-site within **8 hours**.
Low (P4)	Service requests, minor warnings, or planned maintenance activities.	Business hours; Response within **1 business day**.	Scheduled as needed.

4. System Upgrade Agreement (SUA) Lifecycle Roadmap

To extend operational lifespan and prevent software obsolescence, the agreement commits to execution of up to one system infrastructure upgrade in each eligible window:

- **Coverage Term:** 6 Years Post-Warranty.
- **Planned Upgrade Windows:**
  - **1st Window:** 2028–2029
  - **2nd Window:** 2030–2031
  - **3rd Window:** 2032–2033
- **System Pricing Configuration Base:** Covers 4 MOSCAD NFM RTUs, 1 Network Management Client, 1 Firewall, 1 IP Simulcast Prime Site, 3 RF Sub-Sites, and 16 DBR M12 Base Stations.

5. Key Considerations for Board Decision

1. **Mission-Critical Reliability:** Guarantees continuous coverage and rapid emergency dispatch for local first responders with clear 24/7 response time commitments.
2. **Proactive Risk Mitigation:** Includes robust 24/7 cybersecurity monitoring (MDR) and automated patch management (RSUS) specifically designed to protect municipal infrastructure against cyber threats.
3. **Long-Term Lifecycle Predictability:** The included SUA provides continuous modernization, protecting the County from unexpected capital expenditure "forklift" upgrades by maintaining the system within standard support parameters over the 6-year period.

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MASTER AGREEMENT # 020625
CATEGORY: Public Safety Communications Technology and Hardware Solutions
SUPPLIER: Motorola Solutions, Inc.

This Master Agreement (Agreement) is between Sourcewell, a Minnesota service cooperative located at 202 12th Street Northeast, P.O. Box 219, Staples, MN 56479 (Sourcewell) and Motorola Solutions, Inc., 500 West Monroe Street, Suite 4400, Chicago, IL 60661 (Supplier).

Sourcewell is a local government and service cooperative created under the laws of the State of Minnesota (Minnesota Statutes Section 123A.21) offering a Cooperative Purchasing Program to eligible participating government entities. Participation is open to eligible state/province, and municipal governmental entities, higher education, K-12 education, tribal government, and other public-funded entities located in the United States and Canada.

Under this Master Agreement entered with Sourcewell, Supplier will provide Included Solutions to Participating Entities through Sourcewell's Cooperative Purchasing Program.

Article 1:
General Terms

The General Terms in this Article 1 control the operation of this Master Agreement between Sourcewell and Supplier and apply to all transactions entered by Supplier and Participating Entities. Subsequent Articles to this Master Agreement control the rights and obligations directly between Sourcewell and Supplier (Article 2), and between Supplier and Participating Entity (Article 3), respectively. These Article 1 General Terms control over any conflicting terms. Where this Master Agreement is silent on any subject, Participating Entity and Supplier retain the ability to negotiate mutually acceptable terms.

1) **Purpose.** Pursuant to Minnesota law, the Sourcewell Board of Directors has authorized a Cooperative Purchasing Program designed to provide Participating Entities with access to competitively awarded cooperative purchasing agreements. To facilitate the Program, Sourcewell has awarded Supplier this cooperative purchasing Master Agreement following a competitive procurement process intended to meet compliance standards in accordance with Minnesota law and the requirements contained herein.

2) **Intent.** The intent of this Master Agreement is to define the roles of Sourcewell, Supplier, and Participating Entity as it relates to Sourcewell's Cooperative Purchasing Program.

3) **Participating Entity Access.** Sourcewell's Cooperative Purchasing Program Master Agreements are available to eligible public agencies (Participating Entities). A Participating Entity's authority to access Sourcewell's Cooperative Purchasing Program is determined through the laws of its respective jurisdiction.

4) **Supplier Access.** The Included Solutions offered under this Agreement may be made available to any Participating Entity. Supplier understands that a Participating Entity's use of this Agreement is at the

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Participating Entity's sole convenience. Supplier will educate its sales and service forces about Sourcewell eligibility requirements and required documentation. Supplier will be responsible for ensuring sales are with Participating Entities.

5) **Term.** This Agreement is effective upon the date of the final signature below. The term of this Agreement is four (4) years from the effective date. The Agreement expires at 11:59 P.M. Central Time on July 24, 2029, unless it is cancelled or extended as defined in this Agreement.

   a) **Extensions.** Sourcewell and Supplier may agree to up to three (3) additional one-year extensions beyond the original four-year term. The total possible length of this Agreement will be seven (7) years from the effective date.

   b) **Exceptional Circumstances.** Sourcewell retains the right to consider additional extensions as required under exceptional circumstances.

6) **Survival of Terms.** Notwithstanding the termination of this Agreement, the obligations of this Agreement will continue through the performance period of any transaction entered between Supplier and any Participating Entity before the termination date.

   1. **Scope.** Supplier is awarded a Master Agreement to provide the solutions identified in RFP #020625 to Participating Entities. In Scope solutions include:

      Sourcewell is seeking proposals for Public Safety Communications Technology and Hardware Solutions, including communications technology and hardware designed or primarily intended for use by Public Safety agencies, such as:

      a. In-station Public Safety alerting or paging systems;
      b. Dispatch/control room consoles and associated integrated communications equipment;
      c. Wearable or portable communication devices, including biomonitoring wearables, alerting or paging systems;
      d. Connectivity and interoperability devices, hardware, and equipment for the connection of communication systems and endpoints, including:
         i. Satellite communications equipment;
         ii. Portable and deployable wireless hubs, routers, and networks;
         iii. Mesh networks and mesh radios;
         iv. Land mobile/broadband radios;
         v. Push to talk over Cellular (PoC) handsets; and,
         vi. High Power User Equipment (HPUE) for LTE; and,
      e. Airborne, marine, and underwater communication systems.

   2. Complimentary equipment, accessories, and services directly related to the offering of systems or solutions described in subsections 1. a. – e. above.

7) **Included Solutions.** Supplier's Proposal to the above referenced RFP is incorporated into this Master Agreement. Only those Solutions included within Supplier's Proposal and within Scope (Included Solutions) are included within the Agreement and may be offered to Participating Entities.

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8) **Indefinite Quantity.** This Master Agreement defines an indefinite quantity of sales to eligible Participating Entities.

9) **Pricing.** Pricing information (including Pricing and Delivery and Pricing Offered tables) for all Included Solutions within Supplier's Proposal is incorporated into this Master Agreement.

10) **Not to Exceed Pricing.** All Included Solutions shall be priced as stated in the current Pricing List on file with Sourcewell when offering Included Solutions to Participating Entities. Participating Entities may request adjustments to pricing directly from Supplier during the negotiation and execution of any transaction.

11) **Open Market.** Supplier's open market pricing process is included within its Proposal.

12) Supplier Representations:

i) **Compliance.** Supplier represents and warrants it will provide all Included Solutions under this Agreement in full compliance with applicable federal, state, and local laws and regulations.

ii) **Licenses.** As applicable, Supplier will adhere to the state and local statutes of each jurisdiction and agency when conducting business, including that with Sourcewell. As every state and local agency has different regulations and requirements, Supplier will evaluate and adhere to all applicable legal requirements. Supplier with uphold or obtain any licenses required by states with those designations. Participating Entities may request all relevant documentation directly from Supplier.

iii) Supplier warranties for Included Solutions are set forth in Supplier's then-current Motorola Solutions Customer Agreement found at (https://www.motorolasolutions.com/en_us/about/legal.html).

13) **Bankruptcy Notices.** Supplier certifies and warrants it is not currently in a bankruptcy proceeding. Supplier has disclosed all current and completed bankruptcy proceedings within the past seven years within its Proposal. Supplier must provide notice in writing to Sourcewell if it enters a bankruptcy proceeding at any time during the term of this Agreement.

14) **Debarment and Suspension.** Supplier certifies and warrants that neither it nor its principals are presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from programs operated by the State of Minnesota, the United States federal government, or any Participating Entity. Supplier certifies and warrants that neither it nor its principals have been convicted of a criminal offense related to the subject matter of this Agreement. Supplier further warrants that it will provide immediate written notice to Sourcewell if this certification changes at any time during the term of this Agreement.

15) **Provisions for non-United States federal entity procurements under United States federal awards or other awards (Appendix II to 2 C.F.R § 200).** Participating Entities that use United States federal grant or other federal funding to purchase solutions from this Agreement may be subject to additional requirements including the procurement standards of the Uniform Administrative Requirements, Cost Principles and Audit Requirements for Federal Awards, 2 C.F.R. § 200.

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Participating Entities may have additional requirements based on specific funding source terms or conditions. Within this Section, all references to "federal" should be interpreted to mean the United States federal government. The following list applies when a Participating Entity accesses Supplier's Included Solutions with United States federal funds.

i) **EQUAL EMPLOYMENT OPPORTUNITY.** xcept as otherwise provided under 41 C.F.R. § 60, all agreements that meet the definition of "federally assisted construction contract" in 41 C.F.R. § 60-1.3 must include the equal opportunity clause provided under 41 C.F.R. § 60-1.4(b), in accordance with Executive Order 11246, "Equal Employment Opportunity" (30 FR 12319, 12935, 3 C.F.R. §, 1964-1965 Comp., p. 339), as amended by Executive Order 11375, "Amending Executive Order 11246 Relating to Equal Employment Opportunity," and implementing regulations at 41 C.F.R. § 60, "Office of Federal Contract Compliance Programs, Equal Employment Opportunity, Department of Labor." The equal opportunity clause is incorporated herein by reference.

ii) **DAVIS-BACON ACT, AS AMENDED (40 U.S.C. § 3141-3148).** When required by federal program legislation, all prime construction contracts in excess of $2,000 awarded by non-federal entities must include a provision for compliance with the Davis-Bacon Act (40 U.S.C. § 3141-3144, and 3146-3148) as supplemented by Department of Labor regulations (29 C.F.R. § 5, "Labor Standards Provisions Applicable to Contracts Covering Federally Financed and Assisted Construction"). In accordance with the statute, contractors must be required to pay wages to laborers and mechanics at a rate not less than the prevailing wages specified in a wage determination made by the Secretary of Labor. In addition, contractors must be required to pay wages not less than once a week. The non-federal entity must place a copy of the current prevailing wage determination issued by the Department of Labor in each solicitation. The decision to award a contract or subcontract must be conditioned upon the acceptance of the wage determination. The non-federal entity must report all suspected or reported violations to the federal awarding agency. The contracts must also include a provision for compliance with the Copeland "Anti-Kickback" Act (40 U.S.C. § 3145), as supplemented by Department of Labor regulations (29 C.F.R. § 3, "Contractors and Subcontractors on Public Building or Public Work Financed in Whole or in Part by Loans or Grants from the United States"). The Act provides that each contractor or subrecipient must be prohibited from inducing, by any means, any person employed in the construction, completion, or repair of public work, to give up any part of the compensation to which he or she is otherwise entitled. The non-federal entity must report all suspected or reported violations to the federal awarding agency. Supplier must comply with all applicable Davis-Bacon Act provisions.

iii) **CONTRACT WORK HOURS AND SAFETY STANDARDS ACT (40 U.S.C. § 3701-3708).** Where applicable, all contracts awarded by the non-federal entity in excess of $100,000 that involve the employment of mechanics or laborers must include a provision for compliance with 40 U.S.C. §§ 3702 and 3704, as supplemented by Department of Labor regulations (29 C.F.R. § 5). Under 40 U.S.C. § 3702 of the Act, each contractor must be required to compute the wages of every mechanic and laborer on the basis of a standard work week of 40 hours. Work in excess of the standard work week is permissible provided that the worker is compensated at a rate of not less than one and a half times the basic rate of pay for all hours worked in excess of 40 hours in the work week. The requirements of 40 U.S.C. § 3704 are applicable to construction work and provide that no laborer or mechanic must be required to work in surroundings or under working conditions which are unsanitary, hazardous or dangerous. These requirements do not apply to

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the purchases of supplies, materials, or articles ordinarily available on the open market, or contracts for transportation or transmission of intelligence. This provision is hereby incorporated by reference into this Agreement. Supplier certifies that during the term of an award for all Agreements by Sourcewell resulting from this procurement process, Supplier must comply with applicable requirements as referenced above.

iv) **RIGHTS TO INVENTIONS MADE UNDER A CONTRACT OR AGREEMENT.** f the federal award meets the definition of "funding agreement" under 37 C.F.R. § 401.2(a) and the recipient or subrecipient wishes to enter into a contract with a small business firm or nonprofit organization regarding the substitution of parties, assignment or performance of experimental, developmental, or research work under that "funding agreement," the recipient or subrecipient must comply with the requirements of 37 C.F.R. § 401, "Rights to Inventions Made by Nonprofit Organizations and Small Business Firms Under Government Grants, Contracts and Cooperative Agreements," and any implementing regulations issued by the awarding agency. Supplier certifies that during the term of an award for all Agreements by Sourcewell resulting from this procurement process, Supplier must comply with applicable requirements as referenced above.

v) **CLEAN AIR ACT (42 U.S.C. § 7401-7671Q.) AND THE FEDERAL WATER POLLUTION CONTROL ACT (33 U.S.C. § 1251-1387).** Contracts and subgrants of amounts in excess of $150,000 require the non-federal award to agree to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act (42 U.S.C. § 7401- 7671q) and the Federal Water Pollution Control Act as amended (33 U.S.C. § 1251- 1387). Violations must be reported to the Federal awarding agency and the Regional Office of the Environmental Protection Agency (EPA). Supplier certifies that during the term of this Agreement it will comply with applicable requirements as referenced above.

vi) **DEBARMENT AND SUSPENSION (EXECUTIVE ORDERS 12549 AND 12689).** A contract award (see 2 C.F.R. § 180.220) must not be made to parties listed on the government wide exclusions in the System for Award Management (SAM), in accordance with the OMB guidelines at 2 C.F.R. § 180 that implement Executive Orders 12549 (3 C.F.R. § 1986 Comp., p. 189) and 12689 (3 C.F.R. § 1989 Comp., p. 235), "Debarment and Suspension." SAM Exclusions contains the names of parties debarred, suspended, or otherwise excluded by agencies, as well as parties declared ineligible under statutory or regulatory authority other than Executive Order 12549. Supplier certifies that neither it nor its principals are presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation by any federal department or agency.

vii) **BYRD ANTI-LOBBYING AMENDMENT, AS AMENDED (31 U.S.C. § 1352).** Suppliers must file any required certifications. Suppliers must not have used federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a member of Congress, officer or employee of Congress, or an employee of a member of Congress in connection with obtaining any federal contract, grant, or any other award covered by 31 U.S.C. § 1352. Suppliers must disclose any lobbying with non-federal funds that takes place in connection with obtaining any federal award. Such disclosures are forwarded from tier to tier up to the non-federal award. Suppliers must file all certifications and disclosures required by, and otherwise comply with, the Byrd Anti-Lobbying Amendment (31 U.S.C. § 1352).

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viii) **RECORD RETENTION REQUIREMENTS.** To the extent applicable, Supplier must comply with the record retention requirements detailed in 2 C.F.R. § 200.333. The Supplier further certifies that it will retain all records as required by 2 C.F.R. § 200.333 for a period of 3 years after grantees or subgrantees submit final expenditure reports or quarterly or annual financial reports, as applicable, and all other pending matters are closed.

ix) **ENERGY POLICY AND CONSERVATION ACT COMPLIANCE.** To the extent applicable, Supplier must comply with the mandatory standards and policies relating to energy efficiency which are contained in the state energy conservation plan issued in compliance with the Energy Policy and Conservation Act.

x) **BUY AMERICAN PROVISIONS COMPLIANCE.** To the extent applicable, Supplier must comply with all applicable provisions of the Buy American Act. Purchases made in accordance with the Buy American Act must follow the applicable procurement rules calling for free and open competition.

xi) **ACCESS TO RECORDS (2 C.F.R. § 200.336).** To the extent applicable, Supplier agrees that duly authorized representatives of a federal agency must have access to any books, documents, papers and records of Supplier that are directly pertinent to Supplier's discharge of its obligations under this Agreement for the purpose of making audits, examinations, excerpts, and transcriptions. The right also includes timely and reasonable access to Supplier's personnel for the purpose of interview and discussion relating to such documents.

xii) **PROCUREMENT OF RECOVERED MATERIALS (2 C.F.R. § 200.322).** A non-federal entity that is a state agency or agency of a political subdivision of a state and its contractors must comply with Section 6002 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act. The requirements of Section 6002 include procuring only items designated in guidelines of the Environmental Protection Agency (EPA) at 40 C.F.R. § 247 that contain the highest percentage of recovered materials practicable, consistent with maintaining a satisfactory level of competition, where the purchase price of the item exceeds $10,000 or the value of the quantity acquired during the preceding fiscal year exceeded $10,000; procuring solid waste management services in a manner that maximizes energy and resource recovery; and establishing an affirmative procurement program for procurement of recovered materials identified in the EPA guidelines.

xiii) **FEDERAL SEAL(S), LOGOS, AND FLAGS.** The Supplier cannot use the seal(s), logos, crests, or reproductions of flags or likenesses of Federal agency officials without specific pre-approval.

xiv) **NO OBLIGATION BY FEDERAL GOVERNMENT.** The U.S. federal government is not a party to this Agreement or any purchase by a Participating Entity and is not subject to any obligations or liabilities to the Participating Entity, Supplier, or any other party pertaining to any matter resulting from the Agreement or any purchase by an authorized user.

xv) **PROGRAM FRAUD AND FALSE OR FRAUDULENT STATEMENTS OR RELATED ACTS.** The Contractor acknowledges that 31 U.S.C. § 38 (Administrative Remedies for False Claims and Statements) applies to the Supplier's actions pertaining to this Agreement or any purchase by a Participating Entity.

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xvi) **FEDERAL DEBT.** The Supplier certifies that it is non-delinquent in its repayment of any federal debt. Examples of relevant debt include delinquent payroll and other taxes, audit disallowance, and benefit overpayments.

xvii) **CONFLICTS OF INTEREST.** The Supplier must notify the U.S. Office of General Services, Sourcewell, and Participating Entity as soon as possible if this Agreement or any aspect related to the anticipated work under this Agreement raises an actual or potential conflict of interest (as described in 2 C.F.R. Part 200). The Supplier must explain the actual or potential conflict in writing in sufficient detail so that the U.S. Office of General Services, Sourcewell, and Participating Entity are able to assess the actual or potential conflict; and provide any additional information as necessary or requested.

xviii) **U.S. EXECUTIVE ORDER 13224.** The Supplier, and its subcontractors, must comply with U.S. Executive Order 13224 and U.S. Laws that prohibit transactions with and provision of resources and support to individuals and organizations associated with terrorism.

xix) **PROHIBITION ON CERTAIN TELECOMMUNICATIONS AND VIDEO SURVEILLANCE SERVICES OR EQUIPMENT.** To the extent applicable, Supplier certifies that during the term of this Agreement it will comply with applicable requirements of 2 C.F.R. § 200.216.

xx) **DOMESTIC PREFERENCES FOR PROCUREMENTS.** To the extent applicable, Supplier certifies that during the term of this Agreement, Supplier will comply with applicable requirements of 2 C.F.R. § 200.322.

Article 2:
Sourcewell and Supplier Obligations

The Terms in this Article 2 relate specifically to Sourcewell and its administration of this Master Agreement with Supplier and Supplier's obligations thereunder.

1) **Authorized Sellers**. Supplier must provide Sourcewell a current means to validate or authenticate Supplier's authorized dealers, distributors, or resellers which may complete transactions of Included Solutions offered under this Agreement. Sourcewell may request updated information in its discretion, and Supplier agrees to provide requested information within a reasonable time.

2) **Product and Price Changes Requirements.** Supplier may request Included Solutions changes, additions, or deletions at any time. All requests must be made in writing by submitting a Sourcewell Price and Product Change Request Form to Sourcewell. At a minimum, the request must:
   - Identify the applicable Sourcewell Agreement number;
   - Clearly specify the requested change;
   - Provide sufficient detail to justify the requested change;
   - Individually list all Included Solutions affected by the requested change, along with the requested change (e.g., addition, deletion, price change); and
   - Include a complete restatement of Pricing List with the effective date of the modified pricing, or product addition or deletion. The new pricing restatement must include all Included Solutions offered, even for those items where pricing remains unchanged.

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A fully executed Sourcewell Price and Product Change Request Form will become an amendment to this Agreement and will be incorporated by reference.

3) **Authorized Representative.** Supplier will assign an Authorized Representative to Sourcewell for this Agreement and must provide prompt notice to Sourcewell if that person is changed. The Authorized Representative will be responsible for:
    - Maintenance and management of this Agreement;
    - Timely response to all Sourcewell and Participating Entity inquiries; and
    - Participation in reviews with Sourcewell.

    Sourcewell's Authorized Representative is its Chief Procurement Officer.

4) **Performance Reviews.** Supplier will perform a minimum of one review with Sourcewell per agreement year. The review will cover transactions to Participating Entities, pricing and terms, administrative fees, sales data reports, performance issues, supply chain issues, customer issues, and any other necessary information.

5) **Sales Reporting Required.** Supplier is required as a material element to this Master Agreement to report all completed transactions with Participating Entities utilizing this Agreement. Failure to provide complete and accurate reports as defined herein will be a material breach of the Agreement and Sourcewell reserves the right to pursue all remedies available at law including cancellation of this Agreement.

6) **Reporting Requirements.** Supplier must provide Sourcewell an activity report of all transactions completed utilizing this Agreement. Reports are due at least once each calendar quarter (Reporting Period). Reports must be received no later than 45 calendar days after the end of each calendar quarter. Supplier may report on a more frequent basis in its discretion. Reports must be provided regardless of the amount of completed transactions during that quarter (i.e., if there are no sales, Supplier must submit a report indicating no sales were made).

    The Report must contain the following fields:
    - Participating Entity Name (e.g., City of Staples Highway Department);
    - Participating Entity Physical Street Address;
    - Participating Entity City;
    - Participating Entity State/Province;
    - Participating Entity Zip/Postal Code;
    - Sourcewell Participating Entity Account Number;
    - Transaction Description;
    - Transaction Purchased Price;
    - Sourcewell Administrative Fee Applied; and
    - Date Transaction was invoiced/sale was recognized as revenue by Supplier.

    If collected by Supplier, the Report may include the following fields as available:
    - Participating Entity Contact Name;
    - Participating Entity Contact Email Address;
    - Participating Entity Contact Telephone Number;

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7) **Administrative Fee.** In consideration for the support and services provided by Sourcewell, Supplier will pay an Administrative Fee to Sourcewell on all completed transactions to Participating Entities utilizing this Agreement. Supplier will include its Administrative Fee within its proposed pricing. Supplier may not directly charge Participating Entities to offset the Administrative Fee.

8) **Fee Calculation.** Supplier's Administrative Fee payable to Sourcewell will be calculated as a stated percentage (listed in Supplier's Proposal) of all completed transactions utilizing this Master Agreement within the preceding Reporting Period. For certain categories, a flat fee may be proposed. The Administrative Fee will be stated in Supplier's Proposal.

9) **Fee Remittance.** Supplier will remit fee to Sourcewell no later than 45 calendar days after the close of the preceding calendar quarter in conjunction with Supplier's Reporting Period obligations defined herein. Payments should note the Supplier's name and Sourcewell-assigned Agreement number in the memo; and must be either mailed to Sourcewell above "Attn: Accounts Receivable" or remitted electronically to Sourcewell's banking institution per Sourcewell's Finance department instructions.

10) **Noncompliance.** Sourcewell reserves the right to seek all remedies available at law for unpaid or underpaid Administrative Fees due under this Agreement. Failure to remit payment, delinquent payments, underpayments, or other deviations from the requirements of this Agreement may be deemed a material breach and may result in cancellation of this Agreement and disbarment from future Agreements.

11) **Audit Requirements.** Pursuant to Minn. Stat. § 16C.05, subdivision 5, the books, records, documents, and accounting procedures and practices relevant to this Agreement are subject to examination by Sourcewell and the Minnesota State Auditor for a minimum of six years from the end of this Agreement. Supplier agrees to fully cooperate with Sourcewell in auditing transactions under this Agreement to ensure compliance with pricing terms, correct calculation and remittance of Administrative Fees, and verification of transactions as may be requested by a Participating Entity or Sourcewell. Supplier's books and records provided to Sourcewell and the Minnesota State Auditor pursuant to this provision shall not be used, duplicated or disclosed to any other third party without the express written permission of Supplier. In no circumstances will Supplier be required to create or maintain documents not kept in the ordinary course of Supplier business operations.

12) **Assignment, Transfer, and Administrative Changes.** Supplier may not assign or otherwise transfer its rights or obligations under this Agreement without the prior written consent of Sourcewell. Such consent will not be unreasonably withheld. Sourcewell reserves the right to unilaterally assign all or portions of this Agreement within its sole discretion to address corporate restructurings, mergers, acquisitions, or other changes to the Responsible Party and named in the Agreement. Any prohibited assignment is invalid. Upon request Sourcewell may make administrative changes to agreement documentation such as name changes, address changes, and other non-material updates as determined within its sole discretion.

13) **Amendments.** Any material change to this Agreement must be executed in writing through an amendment and will not be effective until it has been duly executed by the parties.

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14) **Waiver.** Failure by Sourcewell to enforce any right under this Agreement will not be deemed a waiver of such right in the event of the continuation or repetition of the circumstances giving rise to such right.

15) **Complete Agreement.** This Agreement represents the complete agreement between the parties for the scope as defined herein. Supplier and Sourcewell may enter into separate written agreements relating specifically to transactions outside of the scope of this Agreement.

16) **Relationship of Sourcewell and Supplier.** This Agreement does not create a partnership, joint venture, or any other relationship such as employee, independent contractor, master-servant, or principal-agent.

17) **Indemnification.** Supplier must indemnify, defend, save, and hold Sourcewell, including their agents and employees, harmless from any claims or causes of action, including attorneys' fees incurred by Sourcewell, arising out of any act or omission in the performance of this Agreement by the Supplier or its agents or employees; this indemnification includes injury or death to person(s) or property alleged to have been caused by some defect in design, condition, or performance of Included Solutions under this Agreement. Sourcewell's responsibility will be governed by the State of Minnesota's Tort Liability Act (Minnesota Statutes Chapter 466) and other applicable law. Supplier must indemnify, save, and hold Sourcewell, including their agents and employees, harmless from any claims or causes of action, including attorneys' fees, arising out of the performance of this Contract by the Supplier or its agents or employees. Sourcewell will provide prompt written notice to Supplier of any claim or suit, and will cooperate with Supplier in its defense or settlement of the claim or suit. Supplier's maximum liability for damages caused by failure to perform its obligations under this Contract is limited to proven direct damages for all claims arising out of this Contract not to exceed the total net payments of Administrative Fees paid under any twenty-four (24) month period during the Term. Supplier's indemnification obligations under the Contract are excluded from this provision. SUPPLIER WILL NOT BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, OR INDIRECT DAMAGES FOR ANY CAUSE OF ACTION, WHETHER IN CONTRACT OR TORT. CONSEQUENTIAL, INCIDENTAL, AND INDIRECT DAMAGES INCLUDE, BUT ARE NOT LIMITED TO, LOST PROFITS, LOST REVENUES, AND LOSS OF BUSINESS OPPORTUNITY, WHETHER OR NOT THE OTHER PARTY WAS AWARE OR SHOULD HAVE BEEN AWARE OF THE POSSIBILITY OF THESE DAMAGES.

18) **Data Practices.** Supplier and Sourcewell acknowledge Sourcewell is subject to the Minnesota Government Data Practices Act, Minnesota Statutes Chapter 13. As it applies to all data created and maintained in performance of this Agreement, Supplier may be subject to the requirements of this chapter.

19) **Grant of License.**
    a) **During the term of this Agreement:**
        i) **Supplier Promotion.** Sourcewell grants to Supplier a royalty-free, worldwide, non-exclusive right and license to use the trademark(s) provided to Supplier by Sourcewell in advertising, promotional materials, and informational sites for the purpose of marketing Sourcewell's Agreement with Supplier.

        ii) **Sourcewell Promotion.** Supplier grants to Sourcewell a royalty-free, worldwide, non-exclusive right and license to use Supplier's trademarks in advertising, promotional

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materials, and informational sites for the purpose of marketing Supplier's Agreement with Sourcewell.

b) **Limited Right of Sublicense.** The right and license granted herein includes a limited right of each party to grant sublicenses to their respective subsidiaries, distributors, dealers, resellers, marketing representatives, partners, or agents (collectively "Permitted Sublicensees") in advertising, promotional, or informational materials for the purpose of marketing the Parties' relationship. Any sublicense granted will be subject to the terms and conditions of this Article. Each party will be responsible for any breach of this section by any of their respective sublicensees.

c) **Use; Quality Control.**
   i) Neither party may alter the other party's trademarks from the form provided and must comply with removal requests as to specific uses of its trademarks or logos.

   ii) Each party agrees to use, and to cause its Permitted Sublicensees to use, the other party's trademarks only in good faith and in a dignified manner consistent with such party's use of the trademarks. Each party may make written notice to the other regarding misuse under this section. The offending party will have 30 days of the date of the written notice to cure the issue or the license/sublicense will be terminated.

d) **Termination.** Upon the termination of this Agreement for any reason, each party, including Permitted Sublicensees, will have 30 days to remove all Trademarks from signage, websites, and the like bearing the other party's name or logo (excepting Sourcewell's pre-printed catalog of suppliers which may be used until the next printing). Supplier must return all marketing and promotional materials, including signage, provided by Sourcewell, or dispose of it according to Sourcewell's written directions.

20) **Venue and Governing law between Sourcewell and Supplier Only.** The substantive and procedural laws of the State of Minnesota will govern this Agreement between Sourcewell and Supplier. Venue for all legal proceedings arising out of this Agreement between Sourcewell and Supplier will be in court of competent jurisdiction within the State of Minnesota. This section does not apply to any dispute between Supplier and Participating Entity. This Agreement reserves the right for Supplier and Participating Entity to negotiate this term to within any transaction documents.

21) **Severability.** If any provision of this Agreement is found by a court of competent jurisdiction to be illegal, unenforceable, or void then both parties will be relieved from all obligations arising from that provision. If the remainder of this Agreement is capable of being performed, it will not be affected by such determination or finding and must be fully performed.

22) **Insurance Coverage.** At its own expense, Supplier must maintain valid insurance policy(ies) during the performance of this Agreement with insurance company(ies) licensed or authorized to do business in the State of Minnesota having an "AM BEST" rating of A- or better, with coverage and limits of insurance as follows:

a) **Commercial General Liability Insurance.** Supplier will maintain insurance covering its operations, with coverage on an occurrence basis, and must be subject to terms no less broad than the Insurance Services Office ("ISO") Commercial General Liability Form CG0001 (2001 or newer

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edition), or equivalent. Coverage must include liability arising from premises, operations, bodily injury and property damage, products-completed operations including construction defect, contractual liability, blanket contractual liability, and personal injury and advertising injury. All required limits, terms and conditions of coverage must be maintained during the term of this Agreement.

- $1,500,000 each occurrence Bodily Injury and Property Damage
- $1,500,000 Personal and Advertising Injury
- $2,000,000 aggregate for products liability-completed operations
- $2,000,000 general aggregate

b) **Certificates of Insurance.** Prior to execution of this Agreement, Supplier must furnish to Sourcewell a certificate of insurance, as evidence of the insurance required under this Agreement. Upon policy(ies) renewal, updated certificates must be mailed to Sourcewell, 202 12th Street Northeast, P.O. Box 219, Staples, MN 56479 or provided to in an alternative manner as directed by Sourcewell. The certificates must be signed by a person authorized by the insurer(s) to bind coverage on their behalf. Failure of Supplier to maintain the required insurance and documentation may constitute a material breach.

c) **Additional Insured Endorsement and Primary and Non-contributory Insurance Clause.** Supplier agrees to include Sourcewell, its officers, agents, and employees, as an additional insured under the Supplier's commercial general liability insurance policy with respect to liability arising out of activities, "operations," or "work" performed by or on behalf of Supplier, and products and completed operations of Supplier. The policy provision(s) or endorsement(s) must further provide that coverage is primary and not excess over or contributory with any other valid, applicable, and collectible insurance or self-insurance in force for the additional insureds.

d) **Waiver of Subrogation.** Supplier waives and must require (by endorsement or otherwise) all its insurers to waive subrogation rights against Sourcewell and other additional insureds for losses paid under the Commercial General Liability insurance policies required by this Agreement or other insurance applicable to the Supplier or its subcontractors. The waiver must apply to all deductibles and/or self-insured retentions applicable to the required or any other insurance maintained by the Supplier or its subcontractors. Where permitted by law, Supplier must require similar written express waivers of subrogation and insurance clauses from each of its subcontractors.

e) **Umbrella/Excess Liability/SELF-INSURED RETENTION.** The limits required by this Agreement can be met by either providing a primary policy or in combination with umbrella/excess liability policy(ies), or self-insured retention.

23) **Termination for Convenience.** Sourcewell or Supplier may terminate this Agreement upon 60 calendar days' written notice to the other Party. Termination pursuant to this section will not relieve the Supplier's obligations under this Agreement for any transactions entered with Participating Entities through the date of termination, including reporting and payment of applicable Administrative Fees.

24) **Termination for Cause.** Sourcewell may terminate this Agreement upon providing written notice of material breach to Supplier. Notice must describe the breach in reasonable detail and state the intent to terminate the Agreement. Upon receipt of Notice, the Supplier will have 30 calendar days

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in which it must cure the breach. Termination pursuant to this section will not relieve the Supplier's obligations under this Agreement for any transactions entered with Participating Entities through the date of termination, including reporting and payment of applicable Administrative Fees.

Article 3:
Supplier Obligations to Participating Entities

The Terms in this Article 3 relate specifically to Supplier and a Participating Entity when entering transactions utilizing the General Terms established in this Master Agreement. Article 1 General Terms control over any conflict with this Article 3. Where this Master Agreement is silent on any subject, Participating Entity and Supplier retain the ability to negotiate mutually acceptable terms.

1) **Quotes to Participating Entities.** Suppliers are encouraged to provide all pricing information regarding the total cost of acquisition when quoting to a Participating Entity. Suppliers and Participating Entities are encouraged to include all cost specifically associated with or included within the Suppliers proposal and Included Solutions within transaction documents.

2) **Shipping, Delivery, Acceptance, Rejection, and Warranty.** Supplier's proposal may include proposed terms relating to shipping, delivery, inspection, and acceptance/rejection and other relevant terms of tendered Solutions. Supplier and Participating Entity may negotiate final terms appropriate for the specific transaction relating to non-appropriation, shipping, delivery, inspection, acceptance/rejection of tendered Solutions, and warranty coverage for Included Solutions. Such terms may include, but are not limited to, costs, risk of loss, proper packaging, inspection rights and timelines, acceptance or rejection procedures, and remedies as mutually agreed include notice requirements, replacement, return or exchange procedures, and associated costs. Unless negotiated with the Participating Entity, acceptance or rejection shall be communicated to Supplier in writing within five (5) days of delivery. Failure to notify Supplier in writing within five 5) days will deem equipment as accepted by the participating entity.

3) **Applicable Taxes.** Participating Entity is responsible for notifying supplier of its tax-exempt status and for providing Supplier with any valid tax-exemption certification(s) or related documentation.

4) **Ordering Process and Payment.** Supplier's ordering process and acceptable forms of payment are included within its Proposal. Participating Entities will be solely responsible for payment to Supplier and Sourcewell will have no liability for any unpaid invoice of any Participating Entity.

5) **Transaction Documents.** Participating Entity may require the use of its own forms to complete transactions directly with Supplier utilizing the terms established in this Agreement. Supplier's standard form agreements may be offered as part of its Proposal. Supplier and Participating Entity may complete and document transactions utilizing any type of transaction documents as mutually agreed. In any transaction document entered utilizing this Agreement, Supplier and Participating Entity must include specific reference to this Master Agreement by number and to Participating Entity's unique Sourcewell account number.

6) **Additional Terms and Conditions Permitted.** Supplier will require the use of the then-current Motorola Solutions Customer Agreement (MCA) an example of which may be found at (https://www.motorolasolutions.com/en_us/about/legal.html). Participating Entity and Supplier may negotiate and include additional terms and conditions within transaction documentation as mutually

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agreed. Such terms may supplant or supersede this Master Agreement when necessary and as solely determined by Participating Entity. Sourcewell has expressly reserved the right for Supplier and Participating Entity to address any necessary provisions within transaction documents not expressly included within this Master Agreement, including but not limited to transaction cancellation, dispute resolution, governing law and venue, non-appropriation, insurance, defense and indemnity, force majeure, and other material terms as mutually agreed.

Direct US Federal Orders: Motorola contracts with the U.S. Government under 48 CFR (FAR) Part 12 "commercial product and services" procedures and under standard terms set out at http://www.motorolasolutions.com/fedgov/omterms. Federal orders will be subject to MSI's contractual review to address Federal contract provisions incorporated in such orders.

7) **Subsequent Agreements and Survival.** Supplier and Participating Entity may enter into a separate agreement to facilitate long-term performance obligations utilizing the terms of this Master Agreement as mutually agreed. Such agreements may provide for a performance period extending beyond the full term of this Master Agreement as determined in the discretion of Participating Entity.

8) **Participating Addendums.** Supplier and Participating Entity may enter a Participating Addendum or similar document extending and supplementing the terms of this Master Agreement to facilitate adoption as may be required by a Participating Entity.

Sourcewell	Motorola Solutions, Inc.
Signed by: Jeremy Schwartz C0FD2A139D06489...	Signed by: Scott Lees 0D7470799D1A4DF...
By: _____	By: _____
Jeremy Schwartz	Scott Lees
Title: Chief Procurement Officer	Title: Regional Vice President
Date: 11/5/2025 | 9:05 PM CST	Date: 11/5/2025 | 1:38 PM CST

RFP 020625 - Public Safety Communications Technology and Hardware Solutions

Vendor Details

Company Name:	Motorola Solutions, Inc.
Address:	500 W Monroe St Ste 4400 Chicago, IL 60661
Contact:	Larsen Grabenkort
Email:	larsen@motorolasolutions.com
Phone:	971-227-2856
HST#:	36-1115800

Submission Details

Created On:	Friday December 13, 2024 10:15:44
Submitted On:	Thursday February 06, 2025 09:14:26
Submitted By:	Lane Feingold
Email:	lane.feingold@motorolasolutions.com
Transaction #:	6927b475-d407-4c35-8356-cbf4244676be
Submitter's IP Address:	147.243.203.207

Specifications

Table 1: Proposer Identity & Authorized Representatives (Not Scored)

General Instructions (applies to all Tables) Sourcewell prefers a brief but thorough response to each question. Do not merely attach additional documents to your response without also providing a substantive response. Do not leave answers blank; respond "N/A" if the question does not apply to you (preferably with an explanation).

Table 1 Specific Instructions. Sourcewell requires identification of all parties responsible for providing Solutions under a resulting master agreement(s) (Responsible Supplier). Proposers are strongly encouraged to include all potential Responsible Suppliers including any corporate affiliates, subsidiaries, D.B.A., and any other authorized entities within a singular proposal. All information required under this RFP must be included for each Responsible Supplier as instructed. Proposers with multiple Responsible Supplier options may choose to respond individually as distinct entities, however each response will be evaluated individually and only those proposals recommended for award may result in a master agreement award. Unawarded entities will not be permitted to later be added to an existing master agreement through operation of Proposer's corporate organization affiliation.

Line Item	Question	Response *	
1	Provide the legal name of the Proposer authorized to submit this Proposal.	Motorola Solutions, Inc.	*
2	In the event of award, is this entity the Responsible Supplier that will execute the master agreement with Sourcewell? Y or N.	Y	*
3	Identify all subsidiaries, D.B.A., authorized affiliates, and any other entity that will be responsible for offering and performing delivery of Solutions within this Proposal (i.e. Responsible Supplier(s) that will execute a master agreement with Sourcewell).	All Public Safety Radio orders will be made on Motorola Solutions paper with a purchase order made out to Motorola Solutions. All Professional & Commercial Radio orders will be placed with authorized Motorola Solutions Resellers if applicable. A list of Authorized Motorola Solutions Resellers will be provided upon contract award.	*
4	Provide your CAGE code or Unique Entity Identifier (SAM):	78205	*
5	Provide your NAICS code applicable to Solutions proposed.	334300	
6	Proposer Physical Address:	Motorola Solutions, Inc. 500 West Monroe Street, Suite 4400 Chicago, IL 60661	*
7	Proposer website address (or addresses):	www.motorolasolutions.com	*
8	Proposer's Authorized Representative (name, title, address, email address & phone) (The representative must have authority to sign the "Proposer's Assurance of Compliance" on behalf of the Proposer):	Scott Lees Regional Vice President 500 West Monroe Street, Ste 4400 Chicago, IL 60661 scott.lees@motorolasolutions.com 714-553-9003	*
9	Proposer's primary contact for this proposal (name, title, address, email address & phone):	Lane Feingold 7237 Church Ranch Blvd, Suite 406 Westminster, CO 80021 lane.feingold@motorolasolutions.com 720-338-7624	*
10	Proposer's other contacts for this proposal, if any (name, title, address, email address & phone):	N/A	*

Table 2A: Financial Viability and Marketplace Success (50 Points, applies to Table 2A and 2B)

Line Item	Question	Response *	

11	Provide a brief history of your company, including your company's core values, business philosophy, and industry longevity related to the requested Solutions.	Motorola Solutions, Inc. ("Motorola") is a global leader in mission-critical communications. Our technology platforms in communications, command center software, video security & analytics, and managed & support services make cities safer and help communities and businesses thrive. Motorola has created the first and only mission critical ecosystem built for Public Safety and Enterprise. Our mission is to never stop advancing that lifeline. We have a rich history of firsts, including pioneering mobile communications in the 1930s, creating the technology that carried the first words from the moon in 1969, developing the first commercial handheld cellular phone in 1983 and recently revolutionizing public safety by creating the first complete ecosystem acquisition and integration of a number of specialized companies. From its inception to now, Motorola Solutions radio technology leads the industry in public safety and commercial radio. We are not perfect, but we will always remain present to see through the commitments we have made. And we will continue to innovate and push the technology forward to help our customers be their best in the moments that matter.	*
12	What are your company's expectations in the event of an award?	If awarded, Motorola expects to utilize this contract with many of our customers to allow them to purchase equipment and services without going to bid.	*
13	Demonstrate your financial strength and stability with meaningful data. This could include such items as financial statements, SEC filings, credit and bond ratings, letters of credit, and detailed reference letters. Upload supporting documents (as applicable) in the document upload section of your response. DO NOT PROVIDE ANY TAX INFORMATION OR PERSONALLY IDENTIFIABLE INFORMATION.	To demonstrate our financial strength and outlook, Motorola has uploaded our 2024 Q3 earnings press release with consolidated Operations Statement. This document provides the most up-to-date, meaningful data on Motorola's financial position. Additional financial statements, and updated earnings releases are available at https://www.motorolasolutions.com/investors/earnings-and-sec-filings.html#id3532493800 and can also be provided upon request.	*
14	What is your US market share for the Solutions that you are proposing?	Motorola Solutions ("Motorola") is a publicly traded company (NYSE - MSI) with billions of dollars in annual sales globally, employing thousands of workers worldwide, and having tens of thousands of shareholders. Such inquiries may be subject to confidentiality rules, whereby disclosure is prohibited. As a publicly traded company, Motorola files an annual report Form 10-K with the SEC and describes therein certain information that is material for disclosure under SEC rules. Our Annual Report on Form 10-K and Quarterly Reports on Form 10-Q can be found at www.sec.gov or on our website, https://investors.motorolasolutions.com/earnings-sec-filings/QuarterlyResults/default.aspx	*
15	What is your Canadian market share for the Solutions that you are proposing?	We are not including Canada as a part of this RFP Response.	*
16	Disclose all current and completed bankruptcy proceedings for Proposer and any included possible Responsible Party within the past seven years. Proposer must provide notice in writing to Sourcewell if it enters a bankruptcy proceeding at any time during the pendency of this RFP evaluation.	Motorola Solutions, Inc. has never filed a petition in bankruptcy, nor taken any action with respect to receivership, moratorium, or assistance for the benefit of creditors. As a publicly traded company, Motorola files an annual report Form 10-K with the SEC and describes certain material for disclosure under SEC rules. Motorola's most recent 10-K report can be found at: http://investors.motorolasolutions.com/Docs	*

17	How is your organization best described: is it a manufacturer, a distributor/dealer/reseller, or a service provider? Answer the question that best applies to your organization, either a) or b). a) If your company is best described as a distributor/dealer/reseller (or similar entity), provide your written authorization to act as a distributor/dealer/reseller for the manufacturer of the products proposed in this RFP. If applicable, is your dealer network independent or company owned? b) If your company is best described as a manufacturer or service provider, describe your relationship with your sales and service force and with your dealer network in delivering the products and services proposed in this RFP. Are these individuals your employees, or the employees of a third party?	Motorola Solutions is a manufacturer as well as a service provider. We have a direct sales force of 230 people across the United States as well as over400Manufacturer Representative sellers throughout the United States. The Manufacturers Representative (MR) program is designed to improve Motorola Solutions market reach and account coverage by leveraging an integrated distribution strategy to combine MSI's Go-to Market Resources with those of our MR Partners to deliver unparalleled value and ease of doing business with our Customers. The Manufacturer's Representative (MR) Sales Program requires its representatives to be properly trained and up-to-date to ensure that our MRs are familiar with our products/solutions and how those products fit within the needs of our customers. Manufacturer's Representatives (MRs) serve as an extension of the MSI direct account sales team and perform sales functions on behalf of Motorola. Sales facilitated by MRs are considered MSI sales; the end customer would issue a purchase order to Motorola. Likewise for service, we utilize the Field Service Organization (FSO) within Motorola Solutions as well as our certified Motorola Service Partners. Motorola's technical experts have the most cumulative years of experience in the industry. The Field Services Organization (FSO) is a nationwide organization of over 500 trained and certified Motorola technicians. They are responsible for the sustainment of our government and commercial LMR systems and related applications. FSO provides onsite support, preventative maintenance and 24X7 support. They support our customers by providing best in class, highly qualified and trained service delivery. From the Service Shop perspective, Motorola has 450+ registered service locations across the United States and our collective service presence remains significant in the industry. The Motorola Servicer Program is designed to recognize and reward a Servicer's level of commitment and investment in the quality of service provided to our customers. The Servicer program is founded on Motorola's key values and expectations from our Servicers. Members of the Service Partner Program are required to meet a number of requirements to be admitted into the Motorola Service Partner Program. Depending on the service partner level, each service partner is required to have individuals in their company with the training and certifications specific to Motorola ASTRO 25 Systems & Infrastructure, Astro 25 Subscribers, P25, R56, and Motorola's Service Specialist Program.	*

18	If applicable, provide a detailed explanation outlining the licenses and certifications that are both required to be held, and actually held, by your organization (including third parties and subcontractors that you use) in pursuit of the business contemplated by this RFP.	Personnel who would support the equipment and implementation in support of Public Safety Communication system infrastructure products and radios include Project Managers, Engineers, System Technologists, Field Service Engineers, Service Delivery Managers, the System Support Center, and other specialized staff depending on the scope of the project. Motorola Solutions has a full training curriculum as a requirement for each role. Motorola tracks the following training and certifications for the staff tasked with supporting our Public Safety infrastructure in the field: Training Classes: ¬ Antenna System Analysis (SRV2012) ¬ Astro Ethernet Testing ¬ Astro Networking I ¬ Astro Firewalls/CEN ¬ End-to-End Audio ¬ Link Verification ¬ LMR Master Basics ¬ Network+ Bootcamp ¬ Passive Intermodulation ¬ R56 Installer/Auditor (NST9257) ¬ Security+ Bootcamp ¬ Signal Investigation Techniques CompTIA Certifications: ¬ CompTIA Network+ ¬ CompTIA Secuity+ ETA Certifications: ¬ Antenna System Analysis (ASA) ¬ APX Radio Technician (APX) ¬ Associate (CETa) ¬ Astro 25 RF Site Preventative Maintenance (A25-SPM) ¬ Certified Service Manager (CSM) ¬ Communication Site Inspector / Auditor (CSIA) ¬ Communication Site Installer (R56) ¬ Computer Service Technician (CST) ¬ Customer Service Specialist (CSS) ¬ Data Cabling Installer (DCI) ¬ Industrial Electronics (IND) ¬ Information Technology Security (ITS) ¬ General Communications Technician I (GCT1) ¬ General Communications Technician II (GCT2) ¬ GTR 8000 P25 RF Site Performance Verification (GTR-SPV) ¬ GTR 8000 Repeater Site Technician (GTT) ¬ Master CET (CETma) ¬ Master Specialty (CETms(RF or IT)) ¬ M Core Technician (MCT 7.x) ¬ Microwave Radio Technician (MRT) ¬ Mobile Communications and Electronics Installer (MCEI) ¬ Network Computer Technician (NCT) ¬ Network Systems Technician (NST) ¬ PIM ¬ RADAR (RAD) ¬ RF Signal Investigation Techniques (RFSIT) ¬ T1 Link Verification (T1LV) ¬ Telecommunications (TCM) ¬ Wireless (USMSS/TRN/WCN) ¬ Wireless Network Technician (WNT) ¬ PIM ¬ RADAR (RAD) RF Signal Investigation Techniques (RFSIT) ¬ T1 Link Verification (T1LV) ¬ Telecommunications (TCM) ¬ Wireless (USMSS/TRN/WCN) ¬ Wireless Network Technician (WNT)

19	Disclose all current and past debarments or suspensions for Proposer and any included possible Responsible Party within the past seven years. Proposer must provide notice in writing to Sourcewell if it enters a debarment or suspension status any time during the pendency of this RFP evaluation.	Motorola Solutions, Inc. (“Motorola”) asserts that, to the best of its knowledge and belief, that presently, and for the last fifteen (15) years, neither it, its subsidiaries, nor their principals are or have been debarred or suspended from covered transactions by any government entity.	*
20	Describe any relevant industry awards or recognition that your company has received in the past five years.	Company Awards: Forbes Most Trusted Companies in America, 2025 TIME Best Companies for Future Leaders, 2025 Newsweek America's Greenest Companies, 2025 Newsweek America's Most Responsible Companies, 2025 Built In 100 Best Large Companies to Work for in Chicago, 2024 Built In Chicago 100 Best Places to Work in Chicago, 2024 Disability Equality Index Best Places to Work, 2024 Fast Company World’s Most Innovative Companies, 2024 Fast Company Best Workplaces for Innovators, Large Companies and Enterprise Products & Services, 2024 Forbes America's Best Employers for Veterans, 2024 Forbes World's Best Employers, 2024 Forbes World's Top Companies for Women, 2024 Government Technology GovTech 100, 2024 Newsweek America's Most Trusted Companies, 2024 Newsweek World's Most Trustworthy Companies, 2024 Newsweek America's Greatest Workplaces for Diversity, 2024 TIME World's Best Companies, 2024 TIME America's Best Mid-Size Companies, 2024 USA Today America’s Climate Leaders, 2024 Women Tech Council Shatter List, 2024 Wall Street Journal Best Managed Companies, 2024 Technology Awards: iF Design Award, TLK 25 Radio, 2024 Red Dot Design Award, TLK 25 Radio, 2024 Chicago Athenaeum Good Design Award, APX N70 Radio, 2023	*
21	What percentage of your sales are to the governmental sector in the past three years?	Motorola Solutions ("Motorola") is a publicly traded company (NYSE - MSI) with billions of dollars in annual sales globally, employing thousands of workers worldwide, and having tens of thousands of shareholders. Such inquiries may be subject to confidentiality rules, whereby disclosure is prohibited. As a publicly traded company, Motorola files an annual report Form 10-K with the SEC and describes therein certain information that is material for disclosure under SEC rules. Our Annual Report on Form 10-K and Quarterly Reports on Form 10-Q can be found at www.sec.gov or on our website, https://investors.motorolasolutions.com/earnings-sec-filings/QuarterlyResults/default.aspx	*
22	What percentage of your sales are to the education sector in the past three years?	Motorola Solutions ("Motorola") is a publicly traded company (NYSE - MSI) with billions of dollars in annual sales globally, employing thousands of workers worldwide, and having tens of thousands of shareholders. Such inquiries may be subject to confidentiality rules, whereby disclosure is prohibited. As a publicly traded company, Motorola files an annual report Form 10-K with the SEC and describes therein certain information that is material for disclosure under SEC rules. Our Annual Report on Form 10-K and Quarterly Reports on Form 10-Q can be found at www.sec.gov or on our website, https://investors.motorolasolutions.com/earnings-sec-filings/QuarterlyResults/default.aspx	*
23	List all state, cooperative purchasing agreements that you hold. What is the annual sales volume for each of these agreement over the past three years?	Motorola Solutions holds agreements with NASPO, HGAC, Texas DIR, and has numerous other frame agreements and statewide contracts.	*
24	List any GSA contracts or Standing Offers and Supply Arrangements (SOSA) that you hold. What is the annual sales volume for each of these contracts over the past three years?	Motorola Solutions does not have a direct GSA or SOSA contract for Radio Products.	*

Table 2B: References/Testimonials

Line Item 25. Supply reference information from three customers who are eligible to be Sourcewell participating entities.

Entity Name *	Contact Name *	Phone Number *	
State of Arizona Wireless Systems Bureau	Jeremy Knoll	602-881-3028	*
State of New Mexico Public Safety Communications	Michael Rohrbacher	505-316-5040	*
Douglas County Sheriff's Office (Colorado)	Jeff Vaughn	303-660-7506	*

Table 3: Ability to Sell and Deliver Solutions (150 Points)

Describe your company's capability to meet the needs of Sourcewell participating entities across the US and Canada, as applicable. Your response should address in detail at least the following areas: locations of your network of sales and service providers, the number of workers (full-time equivalents) involved in each sector, whether these workers are your direct employees (or employees of a third party), and any overlap between the sales and service functions.

Line Item	Question	Response *	
26	Sales force.	Motorola Solutions has approximately 230 direct (Motorola badged) sales employees that sell the hardware, software, and services included in this RFP response. Motorola also has a Manufacturer's Representative (MR) channel consisting of over 400+ sellers that cover the United States. These MR sellers conduct sales associated with this contract that will flow directly through Motorola. Motorola direct and MR sellers are able to sell our public safety communication equipment to our customers. Motorola Solutions also has 438 Channel Partners with 1,680 sellers across the US. Motorola Channel Partners are able to sell commercial equipment to our customers. Motorola has direct, MR, and Channel Partners representation in all 50 states.	*
27	Describe the network of Authorized Sellers who will deliver Solutions, including dealers, distributors, resellers, and other distribution methods.	Motorola has approximately 800 direct (Motorola badged) sales employees sales and service representation in all 50 states. If applicable, a list of Authorized Motorola Solutions Resellers will be provided upon contract award.	*
28	Service force.	Motorola utilizes our Field Service Organization (FSO) and a network of 165 Service Partners and 450 Partner locations across all 50 states. Both FSO and our Service Partners are both described in the answer to Line 17.	*
29	Describe the ordering process. If orders will be handled by distributors, dealers or others, explain the respective roles of the Proposer and others.	For our Public Safety communication equipment, only Motorola Solutions and our Manufacturer Representatives will process participating agency purchase orders. Regardless of which of the two processes the order, all purchase orders will be made out to Motorola Solutions. If applicable, All Professional & Commercial Radio orders will be placed with authorized Motorola Solutions Resellers. A list of Authorized Motorola Solutions Resellers will be provided upon contract award. authorized Motorola Solutions Resellers will propose and do business on their own terms and conditions subject to their own liability. They will not produce quotes/proposals or invoices on behalf of Motorola Solutions.	*

30	Describe in detail the process and procedure of your customer service program, if applicable. Include your response-time capabilities and commitments, as well as any incentives that help your providers meet your stated service goals or promises.	Our customer service offers vital support through a customized blend of local field service teams, centralized experts utilizing an advanced service delivery platform, product repair centers, and the MyView Portal. These service components work together seamlessly to quickly assess problems, accurately identify root causes, and efficiently resolve issues, ensuring the prompt restoration of the customer's network to full functionality. Centralized Managed Support Operations The cornerstone of Motorola Solutions' support process is the Centralized Managed Support Operations ("CMSO") organization, which includes the Service Desk and technical support teams. The CMSO is staffed 24x7x365 by experienced personnel, including service desk specialists, security analysts, and operations managers. The Service Desk provides a single point of contact for all service related items, including communications between the Customer, Motorola Solutions, and third-party subcontractors. The Service Desk processes service requests, service incidents, change requests, and dispatching, and communicates with stakeholders in accordance with pre-defined response times. All incoming transactions through the Service Desk are recorded, tracked, and updated through the Motorola Solutions Customer Relationship Management ("CRM") system. The Service Desk also documents Customer inquiries, requests, concerns, and related tickets. The CMSO coordinates with the field service organization that will serve the Customer locally. Customer Support Manager A Motorola Solutions Customer Support Manager ("CSM") will be the Customer's key point of contact for defining and administering services. The CSM's initial responsibility is to create the Customer Support Plan ("CSP") in collaboration with the Customer. The CSP functions as an operating document that personalizes the services described in this document. The CSP contains Customer-specific information, such as site names, site access directions, key contact persons, any tailored case priority level definitions, case handling instructions, and escalation paths for special issues. The CSP also defines the division of responsibilities between the Customer and Motorola Solutions so response protocols are pre-defined and well understood when the need arises. The CSP governs how the services will be performed and will be automatically integrated into this Statement of Work by this reference. The CSM and Customer will review and amend the CSP on a mutually agreed cadence so the CSP remains current and effective in governing the Essential Services. Repair Depot The Motorola Solutions Repair Depot provides the Customer with a central repair location, eliminating the need to send network equipment to multiple vendor locations for repair. All products sent to the Depot are tracked throughout the repair process, from inbound shipment to return, through a case management system that enables Customer representatives to see repair status. MyView Portal Supplementing the CSM and the Service Desk as the Customer points of contact, MyView Portal is a web-based platform that provides network maintenance and operations information. The portal is accessed from a desktop, laptop, tablet, or smartphone web browser. The information available includes: • Remote Technical Support: Manage cases and view self-service reports. Observe incident details by incident priority level, and track the progress of issue resolution. • Network Hardware Repair: Track return material authorizations ("RMA") shipped to Motorola Solutions' repair depot and eliminate the need to call for status updates. In certain countries, customers will also have the ability to create new RMA requests online. • Security Update Service: View available security updates. Access available security update downloads. • Orders and Contract Information: View available information regarding orders, service contracts, and service coverage details. The data presented in MyView Portal is provided to support the services described in the following sections, which define the terms of any service delivery commitments associated with this data. Quality Team Our Quality Team is used as a resource for our customers, and brought in when a customer is having issues with a product or solution that is not being resolved in a timely manner. The Quality team continuously tracks ongoing issues and pushes them to closure when necessary. We have also included the Mission Critical Operations white paper in our attachments for additional information. Response Times Response Times vary depending on the product or system in question, but are in line with the requirements of our customers.

31	Describe your ability and willingness to provide your products and services to Sourcewell participating entities.	We are fully equipped and staffed to provide our products and services to Sourcewell participating agencies across the United States. With a proven track record spanning decades, we are committed to delivering exceptional service and consistently meeting our customers' needs. After participating in this contract for the last four years, our internal process for handling prospective customers through Sourcewell, quoting, and processing orders using Sourcewell is proven and has been solidified.	*
32	Describe your ability and willingness to provide your products and services to Sourcewell participating entities in Canada.	We are not including Canada as a part of our RFP response.	*
33	Identify any geographic areas of the United States or Canada that you will NOT be fully serving through the proposed agreement.	We will not be serving any part of Canada through the proposed agreement.	*
34	Identify any account type of Participating Entity which will not have full access to your Solutions if awarded an agreement, and the reasoning for this.	Within the United States, we will be fully serving all Federal, State, local government and education entities.	*
35	Define any specific requirements or restrictions that would apply to our participating entities in Hawaii and Alaska and in US Territories.	Motorola Solutions, Inc. (“Motorola”) asserts that, to the best of its knowledge and belief, that presently, there are no requirements or restrictions that would apply to the participating entities in Hawaii and Alaska and in US Territories.	*
36	Will Proposer extend terms of any awarded master agreement to nonprofit entities?	Motorola Public Safety equipment is limited to the following participating entities: • State and Local government entities; • Cities, Towns and Counties; • Education service cooperatives; • K-12 and higher education entities; • Tribal government entities; and • Public-funded agencies. If applicable, Professional & Commercial Radio orders could be sold to nonprofit entities with authorized Motorola Solutions Resellers. A list of Authorized Motorola Solutions Resellers will be provided upon contract award	*

Table 4: Marketing Plan (100 Points)

Line Item	Question	Response *	
37	Describe your marketing strategy for promoting this opportunity. Upload representative samples of your marketing materials (if applicable) in the document upload section of your response.	Motorola values the relationships we build with our customers and actively engages with them on a regular basis. We also connect through live events, webinars, and tradeshows. We plan to host webinars to explain the benefits of the Sourcewell contract to all of our sellers. Additionally, plan to run region-specific contract-exclusive promotions through email campaigns to help promote the Sourcewell contract to our customers. These are two things that we have not done much in the last 4 years, but we plan to put effort into them if awarded.	*
38	Describe your use of technology and digital data (e.g., social media, metadata usage) to enhance marketing effectiveness.	Motorola Solutions utilizes its social media platforms—LinkedIn, Facebook, Twitter, and YouTube—to share our values and mission. Through these channels, we promote upcoming product and software launches, showcase customer success stories, and share marketing materials such as videos and documents to emphasize our dedication to public safety. We also sponsor customer-led programs that offer a platform for user feedback..	*
39	In your view, what is Sourcewell’s role in promoting agreements arising out of this RFP? How will you integrate a Sourcewell-awarded agreement into your sales process?	If awarded the contract, we will create collateral for our direct sellers to help promote Sourcewell. We have grown this contract throughout the last four years without much promotional effort, but know that this is something we plan to do to continue to grow the dollars purchased using Sourcewell. Discussing the Sourcewell contract with any/all of our customers is beneficial because they have a contracting vehicle in place that is already competitively bid and priced, and a purchase using Sourcewell can typically be made without the purchasing agency going to bid.	*
40	Are your Solutions available through an e-procurement ordering process? If so, describe your e-procurement system and how governmental and educational customers have used it.	Not all of our products and services are able to be purchased from our e-procurement system (shop.motorolasolutions.com). However, all of our accessories and many of our parts are available through that system for our customers to order at any time. When using the e-procurement system, eligible agencies can select the Sourcewell contract so that the proper discounts, per the contract pricing, are given.	*

Table 5A: Value-Added Attributes (100 Points, applies to Table 5A and 5B)

Line Item	Question	Response *	
41	Describe any product, equipment, maintenance, or operator training programs that you offer to Sourcewell participating entities. Include details, such as whether training is standard or optional, who provides training, and any costs that apply.	Motorola Solutions offers a Learning eXperience Portal (LXP) that provides access to all resources from our Worldwide Learning Services (WLS) team. Through the portal, you can register for training, complete online courses, and track your progress on any required training. We also offer in-person training for select courses. While training is not mandatory, we strongly recommend it for customers using a solution for the first time. You can access our training portal here: https://learning.motorolasolutions.com/.	*
42	Describe your proposed solutions integration and interoperability capabilities with other communication and technology components.	Motorola's public safety radios and radio systems all follow the Project 25 (P25) Standard. The P25 standard was created to allow for the highest level of radio interoperability between public safety agencies. Following the P25 standard allows for other manufacturer's P25 radios to work on our P25 infrastructure, and for our radios to work on other manufacturer's P25 infrastructure. Motorola's commercial radios and radio systems all follow the Digital Mobile Radio (DMR) Standard. The DMR standard was created to allow for interoperability between commercial radio systems when desired. Following the DMR standard allows for other manufacturer's DMR radios to work on our DMR infrastructure, and for our radios to work on other manufacturer's DMR systems. In addition, our radio solutions can communicate with Security Cameras, Body Worn Cameras, Computer Aided Dispatch Systems, and Access Control System, which can improve response times when incidents occur.	*
43	Describe any “green” initiatives that relate to your company or to your Solutions, and include a list of the certifying agency for each.	Please see pages 58-76 of our 2023 Corporate Responsibility Report attached. It can also be found here: https://www.motorolasolutions.com/content/dam/msi/docs/corporate-responsibility/2023-corporate-responsibility-report.pdf	*
44	Identify any third-party issued eco-labels, ratings or certifications that your company has received for the Solutions included in your Proposal related to energy efficiency or conservation, life-cycle design (cradle-to-cradle), or other green/sustainability factors.	We’re proud of the following recognition we received in 2023, demonstrating our commitment to sustainability and the environment: • Investor’s Business Daily 100 Best ESG Companies • Newsweek America’s Most Responsible Companies • Newsweek America’s Greenest Companies • USA Today America’s Climate Leaders All of our sites that produce the equipment that we sell are ISO 14001, ISO 45001 and ISO 9001 certified. Our Chicago, Illinois headquarters continues to maintain the following designations: LEED Gold, Energy Star and BOMA360 More information can be found on pages 58-76 of our 2023 Corporate Responsibility Report attached. It can also be found here: https://www.motorolasolutions.com/content/dam/msi/docs/corporate-responsibility/2023-corporate-responsibility-report.pdf	*
45	What unique attributes does your company, your products, or your services offer to Sourcewell participating entities? What makes your proposed solutions unique in your industry as it applies to Sourcewell participating entities?	Motorola Solutions is a leading provider of public safety solutions with over 90 years of experience. Our core mission is to serve the public safety sector. We’ve invested over $12 billion in organic Research and Development and acquisitions over the last 10 years advancing our technologies. We dedicate our R&D efforts to creating integrated solutions that work seamlessly together. Through this approach, we’ve developed an end-to-end platform that supports the entire incident management process—from the moment someone calls 911 to the closure of the case. Additionally, we offer comprehensive implementation, managed, and support services to ensure our solutions are properly installed and maintained throughout their entire lifecycle. Also, between our direct, MR, and dealer sellers for sales, and our Field Service Organization, Motorola Certified Service Shops, and dealers for service… our presence in the United States is second to none in the industry.	*

Table 5B: Value-Added Attributes

Line Item	Question	Certification	Offered	Comment	
46	Select any Women or Minority Business Entity (WMBE), Small Business Entity (SBE), or veteran owned business certifications that your company or hub partners have obtained. Upload documentation and a listing of dealerships, HUB partners or re-sellers if available. Select all that apply.		○ Yes ◉ No	No	*
47		Minority Business Enterprise (MBE)	○ Yes ◉ No	No	*
48		Women Business Enterprise (WBE)	○ Yes ◉ No	No	*
49		Disabled-Owned Business Enterprise (DOBE)	○ Yes ◉ No	No	*
50		Veteran-Owned Business Enterprise (VBE)	○ Yes ◉ No	No	*
51		Service-Disabled Veteran-Owned Business (SDVOB)	○ Yes ◉ No	No	*
52		Small Business Enterprise (SBE)	○ Yes ◉ No	No	*
53		Small Disadvantaged Business (SDB)	○ Yes ◉ No	No	*
54		Women-Owned Small Business (WOSB)	○ Yes ◉ No	No	*

Table 6A: Pricing (400 Points, applies to Table 6A and 6B)

Provide detailed pricing information in the questions that follow below.

Line Item	Question	Response *	
55	Describe your payment terms and accepted payment methods.	Our standard payment terms are Net 30. Acceptable forms of payment are electronic payments (EFT or ACH), physical check, or credit card.	*
56	Describe any leasing or financing options available for use by educational or governmental entities.	We work with the Motorola Solutions Credit Company to provide financing options for our customers. We have been doing this for over 35 years for our customers to give them a competitive financing option.	*
57	Describe any standard transaction documents that you propose to use in connection with an awarded agreement (order forms, terms and conditions, service level agreements, etc.). Upload all template agreements or transaction documents which may be proposed to Participating Entities.	We have included all standard transaction documents as part of our uploaded response. They include: 1. Exceptions/Clarifications to RFP#020625 2. Master Agreement Document with applicable redlines 3. Motorola Solutions standard contractual documentation to supplement Sourcewell's Master Agreement #020625 We look forward to further discussions regarding all standard transaction documents provided in this proposal.	*
58	Do you accept the P-card procurement and payment process? If so, is there any additional cost to Sourcewell participating entities for using this process?	We do accept the P-Card procurement and payment process. There is not an additional cost to Sourcewell participating agencies to use a P-Card.	*

59	Describe your pricing model (e.g., line-item discounts or product-category discounts). Provide detailed pricing data (including standard or list pricing and the Sourcewell discounted price) on all of the items that you want Sourcewell to consider as part of your RFP response. If applicable, provide a SKU for each item in your proposal. Upload your pricing materials (if applicable) in the document upload section of your response.	The pricing model we are using in this RFP response is showing percentage discounts off of list price for each product category. We are showing discount this way due to the size and complexity of our pricebook. It would be almost impossible to keep our full pricebook to date on the website. The discount details can be found in the pricing page that has been uploaded with our response.	*
60	Quantify the pricing discount represented by the pricing proposal in this response. For example, if the pricing in your response represents a percentage discount from MSRP or list, state the percentage or percentage range.	The pricing page of this response shows all of the different percentage discounts off of list price.	*
61	Describe any quantity or volume discounts or rebate programs that you offer.	Volume discounts and/or system incentives may be applied based on the size and scope of the opportunity. We do not have any volume discounts based on specific quantities.	*
62	Propose a method of facilitating “sourced” products or related services, which may be referred to as “open market” items or "non-contracted items". For example, you may supply such items “at cost” or “at cost plus a percentage,” or you may supply a quote for each such request.	For items that are dropship and not sourced by Motorola Solutions, we supply those items at cost plus. The percentage used varies depending on the item.	*
63	Identify any element of the total cost of acquisition that is NOT included in the pricing submitted with your response. This includes all additional charges associated with a purchase that are not directly identified as freight or shipping charges. For example, list costs for items like pre-delivery inspection, installation, set up, mandatory training, or initial inspection. Identify any parties that impose such costs and their relationship to the Proposer.	Integration and support services may be needed as a part of a Sourcewell member agency purchase. Those are priced on a per day basis. But each opportunity that requires integration and/or support services is unique and will require a custom quote for the necessary scope.	*
64	If freight, delivery, or shipping is an additional cost to the Sourcewell participating entity, describe in detail the complete freight, shipping, and delivery program.	For our public safety grade equipment we do not charge freight, delivery, and shipping to government customers. For our Commercial & Professional grade equipment, customers can be subject to additional costs for delivery.	*
65	Specifically describe freight, shipping, and delivery terms or programs available for Alaska, Hawaii, Canada, or any offshore delivery.	There are no specific or different freight, shipping, or delivery terms for Alaska or Hawaii for government customers. Shipping terms are FOB Shipping. Canada is not a part of our response.	*
66	Describe any unique distribution and/or delivery methods or options offered in your proposal.	We do not have any other distribution and/or delivery methods for the equipment included in this response that have not been discussed in our previous answers.	*
67	Specifically describe any self-audit process or program that you plan to employ to verify compliance with your proposed agreement with Sourcewell. This process includes ensuring that Sourcewell participating entities obtain the proper pricing.	The quoting system that is used by Motorola Solutions requires that you pick the contract being used. When the Sourcewell contract is selected, that assures that the pricing discounts promised as a part of our response to this RFP are applied to the pricing in the quote, and shows that the Sourcewell contract has been used in the heading of the quote given to the customer.	*
68	If you are awarded an agreement, provide a few examples of internal metrics that will be tracked to measure whether you are having success with the agreement.	The best metric that we have is the quarterly report that is run internally to provide to Sourcewell. Our goal would be for the amount sold each quarter to grow. Another metric that we can start tracking for Motorola Direct sellers is to see who is and is not using Sourcewell with any of their customers, with the goal being to bring that number as close to zero as possible.	*
69	Provide a proposed Administration Fee payable to Sourcewell. The Fee is in consideration for the support and services provided by Sourcewell. The propose an Administrative Fee will be payable to Sourcewell on all completed transactions to Participating Entities utilizing this Agreement. The Administrative Fee will be calculated as a stated percentage, or flat fee as may be applicable, of all completed transactions utilizing this Master Agreement within the preceding Reporting Period defined in the agreement.	We propose to keep the Administration Fee at 1%.	*

Table 6B: Pricing Offered

Line Item	The Pricing Offered in this Proposal is: *	Comments	
70	The pricing offered is as good as or better than pricing typically offered through existing cooperative contracts, state contracts, or agencies.	The pricing offered is as good as or better than pricing typically offered through existing cooperative contracts, state contracts, or agencies.	*

Table 7A: Depth and Breadth of Offered Solutions (200 Points, applies to Table 7A and 7B)

Line Item	Question	Response *	
71	Provide a detailed description of all the Solutions offered, including used Solutions if applicable, offered in the proposal.	Below is a list of what is included in our offering. We have also included specification sheets for these solutions. They include technical information, including the applicable safety or regulatory standards or codes. Land Mobile Radio Systems, Solutions, and Services (P25 and DMR) Mobile and Portable radios and accessories (P25 and DMR) Base Stations and accessories (P25 and DMR) Radio Dispatch Consoles (P25 and DMR) Interoperability Solutions Fire Station Alerting Solutions and Services Radio Site Civil Infrastructure (Towers, Shelters, UPSs and Generators) Radio Implementation and Maintenance Services	*
72	Within this RFP category there may be subcategories of solutions. List subcategory titles that best describe your products and services.	We have no sub-categories. All categories of equipment, products, and services are listed in our previous answer.	*

Table 78: Depth and 8readth of Offered Solutions

Indicate below if the listed types or classes of Solutions are offered within your proposal. Provide additional comments in the text box provided, as necessary.

Line Item	Category or Type	Offerings	Offered *	Comments	
73	In-station Public Safety alerting or paging systems;		(•) Yes ( ) No	Mach Alert	*
74	Dispatch/control room consoles and associated integrated communications equipment;		(•) Yes ( ) No	MCC7500e, CommandCentral AXS, and Avtec consoles. Nice and Verint Loggers	*
75	Wearable or portable communication devices, including biomonitoring wearables, alerting or paging systems		(•) Yes ( ) No	The APX and APX N series radio	*
76	Connectivity and interoperability devices, hardware, and equipment for the connection of communication systems and endpoints, including:		(•) Yes ( ) No	See Below	*
77		Satellite communications equipment;	(•) Yes ( ) No	RF Site Backhaul	*
78		Portable and deployable wireless hubs, routers, and networks	(•) Yes ( ) No	Portable and deployable wireless hubs, routers, and networks	*
79		Mesh networks and mesh radios	( ) Yes (•) No	No	*
80		Land mobile/broadband radios	(•) Yes ( ) No	The APX and APX N series radios, TRBO radios, and the Ion	*
81		Push to Talk over Cellular (PoC) handsets	(•) Yes ( ) No	TLK Devices	*
82		High Power User Equipment (HPUE) for LTE	( ) Yes (•) No	No	*
83	Airborne, marine, and underwater communication systems		( ) Yes (•) No	No	*

Exceptions to Terms, Conditions, or Specifications Form

Only those Proposer Exceptions to Terms, Conditions, or Specifications that have been accepted by Sourcewell have been incorporated into the contract text.

Documents

Ensure your submission document(s) conforms to the following:

1. Documents in PDF format are preferred. Documents in Word, Excel, or compatible formats may also be provided.

2. Documents should NOT have a security password, as Sourcewell may not be able to open the file. It is your sole responsibility to ensure that the uploaded document(s) are not either defective, corrupted or blank and that the documents can be opened and viewed by Sourcewell.

3. Sourcewell may reject any response where any document(s) cannot be opened and viewed by Sourcewell.

4. If you need to upload more than one (1) document for a single item, you should combine the documents into one zipped file. If the

zipped file contains more than one (1) document, ensure each document is named, in relation to the submission format item responding to. For example, if responding to the Marketing Plan category save the document as “Marketing Plan.”

- Pricing - MSI Sourcewell Pricing - For RFP Response 020625.pdf - Wednesday February 05, 2025 21:44:53
- Financial Strength and Stability - Financial Strength & Stability - Q3 2024 Financial Report.pdf - Wednesday February 05, 2025 21:47:35
- Marketing Plan/Samples - How to Use Sourcewell - Partners (1).pdf - Wednesday February 05, 2025 21:48:27
- WMBE/MBE/SBE or Related Certificates (optional)
- Standard Transaction Document Samples - Sourcewell 020625_Exceptions & Clarifications.pdf - Wednesday February 05, 2025 21:49:09
- Requested Exceptions - Sourcewell 020625_Exceptions & Clarifications.pdf - Wednesday February 05, 2025 21:49:15
- Upload Additional Document - RFP_020625_Motorola Solutions Full Response.pdf - Thursday February 06, 2025 09:12:44

Addenda, Terms and Conditions

PROPOSER AFFIDAVIT OF COMPLIANCE

I certify that I am an authorized representative of Proposer and have authority to submit the foregoing Proposal:

1. The Proposer is submitting this Proposal under its full and complete legal name, and the Proposer legally exists in good standing in the jurisdiction of its residence.

2. The Proposer warrants that the information provided in this Proposal is true, correct, and reliable for purposes of evaluation for award.

3. The Proposer certifies that:

(1) The prices in this Proposal have been arrived at independently, without, for the purpose of restricting competition, any consultation, communication, or agreement with any other Proposer or competitor relating to-

(i) Those prices;

(ii) The intention to submit an offer; or

(iii) The methods or factors used to calculate the prices offered.

(2) The prices in this Proposal have not been and will not be knowingly disclosed by the Proposer, directly or indirectly, to any other Proposer or competitor before award unless otherwise required by law; and

(3) No attempt has been made or will be made by Proposer to induce any other concern to submit or not to submit a Proposal for the purpose of restricting competition.

4. To the best of its knowledge and belief, and except as otherwise disclosed in the Proposal, there are no relevant facts or circumstances which could give rise to an organizational conflict of interest. An organizational conflict of interest is created when a current or prospective supplier is unable to render impartial service to Sourcewell due to the supplier's: a. creation of evaluation criteria during performance of a prior agreement which potentially influences future competitive opportunities to its favor; b. access to nonpublic and material information that may provide for a competitive advantage in a later procurement competition; c. impaired objectivity in providing advice to Sourcewell.

5. Proposer will provide to Sourcewell Participating Entities Solutions in accordance with the terms, conditions, and scope of a resulting master agreement.

6. The Proposer possesses, or will possess all applicable licenses or certifications necessary to deliver Solutions under any resulting master agreement.

7. The Proposer will comply with all applicable provisions of federal, state, and local laws, regulations, rules, and orders.

8. Proposer its employees, agents, and subcontractors are not:

1. Included on the "Specially Designated Nationals and Blocked Persons" list maintained by the Office of Foreign Assets Control of the United States Department of the Treasury found at: https://www.treasury.gov/ofac/downloads/sdnlist.pdf;
2. Included on the government-wide exclusions lists in the United States System for Award Management found at: https://sam.gov/SAM/; or
3. Presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from programs operated by the State of Minnesota; the United States federal government, as applicable; or any Participating Entity. Vendor certifies and warrants that neither it nor its principals have been convicted of a criminal offense related to the subject matter of this solicitation.

☑ By checking this box I acknowledge that I am bound by the terms of the Proposer's Affidavit, have the legal authority to submit this Proposal on behalf of the Proposer, and that this electronic acknowledgment has the same legal effect, validity, and enforceability as if I had hand signed the Proposal. This signature will not be denied such legal effect, validity, or enforceability solely because an electronic signature or electronic record was used in its formation. - Lane Feingold, Senior Account Manager, Motorola Solutions, Inc.

The Proposer declares that there is an actual or potential Conflict of Interest relating to the preparation of its submission, and/or the Proposer foresees an actual or potential Conflict of Interest in performing the obligations contemplated in the solicitation proposal.

○ **Yes** ◉ **No**

The Bidder acknowledges and agrees that the addendum/addenda below form part of the Bid Document.

Check the box in the column "**I have reviewed this addendum"** below to acknowledge each of the addenda.

File Name	I have reviewed the below addendum and attachments (if applicable)	Pages
Addendum_12_Public_Safety_Communications_Eqpt_RFP_020625 Wed January 29 2025 03:10 PM	☑	4
Addendum_12_Public_Safety_Communications_Eqpt_RFP_020625 Wed January 29 2025 03:09 PM	☑	4
Addendum_11_Public_Safety_Communications_Eqpt_RFP_020625 Tue January 28 2025 01:37 PM	☑	1
Addendum_10_Public_Safety_Communications_Eqpt_RFP_020625 Mon January 27 2025 04:19 PM	☑	1
Addendum_9_Public_Safety_Communications_Eqpt_RFP_020625 Mon January 27 2025 10:15 AM	☑	1
Addendum_8_Public_Safety_Communications_Eqpt_RFP_020625 Tue January 21 2025 09:01 AM	☑	1
Addendum_7_Public_Safety_Communications_Eqpt_RFP_020625 Thu January 16 2025 03:36 PM	☑	1
Addendum_6_Public_Safety_Communications_Eqpt_RFP_020625 Wed January 8 2025 11:08 AM	☑	1
Addendum_5_Public_Safety_Communications_Eqpt_RFP_020625 Fri January 3 2025 03:19 PM	☑	1
Addendum_4_Public_Safety_Communications_Eqpt_RFP_020625 Mon December 30 2024 04:32 PM	☑	1
Addendum_3_Public_Safety_Communications_Eqpt_RFP_020625 Fri December 27 2024 09:56 AM	☑	1
Addendum_2_Public_Safety_Communications_Eqpt_RFP_020625 Tue December 24 2024 01:46 PM	☑	1
Addendum_1_Public_Safety_Communications_Eqpt_RFP_020625 Wed December 18 2024 08:04 AM	☑	1

Motorola Solutions Customer Agreement

This Motorola Solutions Customer Agreement (the "**MCA**") is entered into between Motorola Solutions, Inc., and affiliated companies, with offices at 500 W. Monroe Street, Suite 4400, Chicago, IL 60661 ("**Motorola**") and the entity purchasing Products (as defined below) from Motorola ("**Customer**"). Motorola and Customer will each be referred to herein as a "**Party**" and collectively as the "**Parties**". This Agreement (as defined below) is effective as of the earlier of (a) the first purchase of a Product from Motorola, and (b) the date of the last signature on the Agreement (the "**Effective Date**").

1. Agreement.

1.1. Scope; Agreement Documents. This MCA governs Customer's purchase of Products (as defined below) from Motorola. Additional terms and conditions applicable to specific Products are set forth in one or more agreed upon addenda incorporated within this MCA (each an "**Addendum**", and collectively the "**Addenda**"). This MCA, the applicable Addenda, and Proposal collectively form the Parties' "**Agreement**".

1.2. Order of Precedence. In interpreting this Agreement and resolving any ambiguities each Addendum will control with respect to conflicting terms in the Agreement, but only as applicable to the Products described in such Addendum. The Proposal will control with respect to conflicting terms in the MCA or any Addenda, but only as applicable to the Products and Services described in the Proposal.

2. Definitions.

"**Authorized Users**" means Customer's employees and contractors engaged for the purpose of supporting or using the Products and Services on behalf of Customer, and that are not competitors of Motorola, and the entities (if any) specified in a Proposal or otherwise approved by Motorola in writing (email from an authorized Motorola signatory accepted), which may include affiliates or other Customer agencies.

"**Change Order**" means a written amendment to this Agreement after the Effective Date.

"**Communications System**" is a solution that includes at least one radio Product, whether devices, software, or infrastructure, and requires Integration Services to deploy such radio Product at a Customer Site or onto any Customer-Provided Equipment or Equipment provided to Customer.

"**Contract Price**" or "**Fees**" means the charges applicable to the Products, excluding applicable sales or similar taxes and freight charges.

"**Confidential Information**" means any and all non-public information provided by one Party to the other that is disclosed under this Agreement in oral, written, graphic, machine recognizable, or sample form, being clearly designated, labeled or marked as confidential or its equivalent or that a reasonable business person would consider non-public and confidential by its nature. With respect to Motorola, Confidential Information will also include Products, and Documentation, as well as any other information relating to the Products.

"**Customer Data**" has the meaning given to it in the DPA.

"**Customer-Provided Equipment**" means components, including equipment and software, not provided by Motorola which may be used with the Products.

"**Data Processing Addendum**" or "**DPA**" means the Motorola Data Processing Addendum applicable to processing of data, including Customer Data, as updated, supplemented, or superseded from time to time. The DPA is incorporated into and made a part of this Agreement for all purposes pertaining to the contents of the DPA. Where terms or provisions in the Agreement conflict with terms or provisions of the DPA, the terms or provisions of the DPA will control with respect to the contents of the DPA.

"**Delivery**" means the applicable delivery for a Product as described in Section 5.7 of this Agreement.

"Documentation" means the documentation for the Products, or data, that is delivered or made available with the Products that specifies technical and performance features, capabilities, users, or operation, including training manuals, and other deliverables, such as reports, specifications, designs, plans, drawings, analytics, or other information.

"Equipment" means hardware provided by Motorola.

"Equipment Lease-Purchase Agreement" means the agreement by which Customer finances all or a portion of the Contract Price.

"Feedback" means comments or information, in oral or written form, given to Motorola by Customer or Authorized Users, including end users, in connection with or relating to the Products.

"Integration Services" means the design, deployment, implementation, and integration Services provided by Motorola in order to design, install, set up, configure, and/or integrate the applicable Products as agreed upon by the Parties.

"Licensed Software" means software which is made available to Customer by Motorola (for example software preinstalled on Equipment, accessible via a website provided by Motorola, or software installed on or made available for Customer-Provided Equipment) and is licensed to Customer by Motorola.

"Lifecycle Management Services" or **"LMS"** means upgrade services as set out in the applicable Proposal.

"Maintenance and Support Services" means the break/fix maintenance, technical support, or other Services described in the applicable Proposal.

"Motorola Data" means data owned by Motorola and made available to Customer in connection with the Products;

"Motorola Materials" means proprietary equipment, hardware, content, software, tools, data, and other materials, including designs, utilities, models, methodologies, systems, and specifications, which Motorola has developed or licensed from third parties (including any corrections, bug fixes, enhancements, updates, modifications, adaptations, translations, de-compilations, disassemblies, or derivative works of the foregoing, whether made by Motorola or another party). Products, Motorola Data, Third-Party Data (as defined in the DPA), and Documentation, are considered Motorola Materials.

"Non-Motorola Materials" means collectively, Customer or third-party equipment, software, services, hardware, content, and data that is not provided by Motorola.

"Proposal" means solution descriptions, pricing, equipment lists, statements of work (**"SOW"**), schedules, technical specifications, quotes, order forms, and other documents setting forth the Products to be purchased by Customer and provided by Motorola. The Proposal may also include an Acceptance Test Plan (**"ATP"**); a "Payment" Form (Communications System purchase only); or a "System Acceptance Certificate" (Communications System only), depending on the Products purchased by Customer.

"Products" or **"Product"** is how the Equipment, Licensed Software and Services being purchased by the Customer is collectively referred to in this Agreement (collectively as "Products", or individually as a "Product").

"Professional Services" are services provided by Motorola to Customer under this Agreement, including Integration Services, the nature and scope of which are more fully described in the Proposal.

"Prohibited Jurisdiction" means any jurisdiction in which the provision of such Products is prohibited under applicable laws or regulations.

"Services" means services, including access to services, as described in the Proposal, and includes Integration Services, Subscription Services, Professional Services, Maintenance & Support Services, and Lifecycle Management Services provided by Motorola.

"Service Completion Date" means the date of Motorola's completion of the Services described in a Proposal.

"Service Use Data" has the meaning given to it in the DPA.

"Site" or **"Sites"** means the location where the Integration Services, Lifecycle Management Services, or Maintenance and Support Services will take place.

"Software-as-a-Service" or **"SaaS"** means a solution that includes at least one Subscription Service and associated Licensed Software, which may include, as an example, client software or a web page.

"Software System" means a solution that includes at least one Licensed Software Product and requires Integration Services to deploy such Licensed Software Product at a Customer Site or onto any Customer-Provided Equipment or Equipment provided by or made available to Customer by Motorola.

"Subscription" means a recurring payment for Products, as set out in the Proposal.

"Subscription Services" or **"Recurring Services"** means Services, including access to Services, paid for on a subscription basis. Subscription Services includes services available through SaaS Products.

"Term" means the term of this MCA which will commence on the Effective Date and continue until six (6) months after the later of (a) the termination, expiration, or discontinuance of Services under the last Proposal in effect, or (b) the expiration of all applicable warranty periods, unless the MCA is earlier terminated as set forth herein.

3. Products and Services.

3.1. Products. Motorola will sell (a) Equipment, (b) licenses to Licensed Software, and (c) Services to Customer, to the extent each is set forth in this Agreement. At any time during the Term, Motorola may substitute any Products at no cost to Customer, if the substitute is substantially similar to the Products set forth in this Agreement. All Licensed Software is provided pursuant to the terms of the Software License Agreement.

3.2. Services.

3.2.1. Motorola will provide Services, to the extent set forth in this Agreement.

3.2.2. Integration Services; Maintenance and Support Services. Motorola will provide (a) Integration Services at the applicable Sites, agreed upon by the Parties, or (b) Maintenance and Support Services or Lifecycle Management Services, each as further described in the applicable SOW. Terms applicable to Maintenance, Support and Lifecycle Management can be found in the Maintenance, Support and Lifecycle Management Addendum.

3.2.3. Service Proposals. The Fees for Services will be set forth in Motorola's Proposal. A Customer point of contact may be set forth in the applicable SOW for the Services.

3.2.4. Service Completion. Services described in a Proposal will be deemed complete upon the Service Completion Date, or as Services expire, or are renewed or terminated.

3.2.5. Professional Services

3.2.5.1. Additional Service Terms. If Customer is purchasing Professional Services to evaluate or assess networks, systems or operations; network security assessment or network monitoring; software application development Services; or transport connectivity services, Additional Services Terms apply.

3.3. Additional Product Terms. If the Products include one of the following Products or Product types, additional terms apply as found in the below links:
AI Terms
Comparison Manager
Data licensed from Motorola
Drone related Products
Mobile Video Products, such as LPR cameras, bodycams, or vehicle cameras, and related software

3.4. Non-Preclusion. If, in connection with the Products provided under this Agreement, Motorola performs assessments of its own, or related, products or makes recommendations, including a recommendation to purchase other products, nothing in this Agreement precludes such efforts nor precludes Motorola from participating in a future competitive bidding process or otherwise offering or selling the recommended products to Customer. Customer represents that this paragraph does not violate its procurement standards or other laws, regulations, or policies.

3.5. Customer Obligations. Customer represents that information Customer provides to Motorola in connection with receipt of Products are accurate and complete in all material respects. If any assumptions in the Proposals or information provided by Customer prove to be incorrect, or if Customer fails to perform any of its obligations under this Agreement, Motorola's ability to perform its obligations may be impacted and changes to the Agreement, including the scope, Fees, and performance schedule may be required.

3.6. Documentation. Products may be delivered with Documentation. Documentation is and will be owned by Motorola, unless otherwise expressly stated in a Proposal that certain Documentation will be owned by Customer. Motorola hereby grants Customer a limited, royalty-free, worldwide, non-exclusive license to use the Documentation solely for its internal business purposes in connection with the Products.

3.7. Motorola Tools and Equipment. As part of delivering the Products, Motorola may provide certain tools, equipment, models, and other materials of its own. Such tools and equipment will remain the sole property of Motorola unless they are to be purchased by Customer as Products and are explicitly listed on the Proposal. The tools and equipment may be held by Customer for Motorola's use without charge and may be removed from Customer's premises by Motorola at any time without restriction. Customer will safeguard all tools and equipment while in its custody or control, and be liable for any loss or damage. Upon the expiration or earlier termination of this Agreement, Customer, at its expense, will return to Motorola all such tools and equipment in its possession or control.

3.8. Authorized Users. Customer will ensure its employees and Authorized Users comply with the terms of this Agreement and will be liable for all acts and omissions of its employees and Authorized Users. Customer is responsible for the secure management of Authorized Users' names, passwords and login credentials for access to Products.

3.9. Export Control. Customer, its employees, and any other Authorized Users will not access or use the Products in any Prohibited Jurisdiction, and Customer will not provide access to the Products to any government, entity, or individual located in a Prohibited Jurisdiction. Customer represents and warrants that (a) it and its Authorized Users are not named on any U.S. government list of persons prohibited from receiving U.S. exports, or transacting with any U.S. person; (b) it and its Authorized Users are not a national of, or a company registered in, any Prohibited Jurisdiction; (c) Customer will not permit its Authorized Users to access or use the Products or Services in violation of any U.S. or other applicable export embargoes, prohibitions or restrictions; and (d) Customer and its Authorized Users will comply with all applicable laws regarding the transmission of technical data exported from the U.S. and the country in which Customer, its employees, and the Authorized Users are located.

3.10. Change Orders. Unless a different change control process is agreed upon in writing by the Parties, a Party may request changes to an Addendum or a Proposal by submitting a Change Order to the other Party. If a requested change causes an increase or decrease in the Products, the Parties by means of the Change Order will make appropriate adjustments to the Fees, project schedule, or other matters. Change Orders

are effective and binding on the Parties only upon execution of the Change Order by an authorized representative of both Parties.

4. Term and Termination.

4.1. Term. The applicable Addendum or Proposal will set forth the Term for the Products governed thereby.

4.1.1. Subscription Terms. Unless otherwise specified in the Proposal, if the Products are purchased as a Subscription, the Subscription commences upon Delivery of, or Customer having access to, the first applicable Product ordered under this Agreement and will continue for a twelve (12) month period or such other period identified in a Proposal (the "**Initial Subscription Period**") and, unless otherwise stated in the Proposal, will automatically renew for additional twelve (12) month periods (each, a "**Renewal Subscription Year**"), unless either Party notifies the other of its intent not to renew at least thirty (30) days before the conclusion of the then-current Subscription Term. (The Initial Subscription Period and each Renewal Subscription Year will each be referred to herein as a "**Subscription Term**".) Motorola may increase Fees prior to any Renewal Subscription Year by notifying Customer of the proposed increase no later than thirty (30) days prior to commencement of the Renewal Subscription Year.

4.2. Termination. Either Party may terminate the Agreement or the applicable Addendum or Proposal if the other Party breaches a material obligation under the Agreement and does not cure such breach within thirty (30) days after receipt of notice of the breach or fails to produce a cure plan within such period of time. Each Addendum and Proposal may be separately terminable as set forth therein.

4.3. Termination for Non-Appropriation. In the event any identified funding is not appropriated or becomes unavailable, the Customer reserves the right to terminate this Agreement for non-appropriation upon thirty (30) days' advance written notice to Motorola. In the event of such termination, Motorola shall be entitled to compensation for all conforming Products delivered or performed prior to the date of termination.

4.4. Suspension of Services. Motorola may promptly terminate or suspend any Products under a Proposal if Motorola determines: (a) the related Product license has expired or has terminated for any reason; (b) the applicable Product is being used on a hardware platform, operating system, or version not approved by Motorola; (c) Customer fails to make any payments when due; or (d) Customer fails to comply with any of its other obligations or otherwise delays Motorola's ability to perform.

4.5. Wind Down of Subscription. In addition to the termination rights in this Agreement, Motorola may terminate any Subscription Term, in whole or in part, in the event Motorola plans to cease offering the applicable Licensed Software or Subscription Services to customers.

4.6. Effect of Termination or Expiration. Upon termination for any reason or expiration of this Agreement, an Addendum, or a Proposal, Customer and the Authorized Users will return or destroy (at Motorola's option) all Motorola Materials and Motorola's Confidential Information in their possession or control and, as applicable, provide proof of such destruction, except that Equipment purchased by Customer should not be returned. If Customer has any outstanding payment obligations under this Agreement, Motorola may accelerate and declare all such obligations of Customer immediately due and payable by Customer. Notwithstanding the reason for termination or expiration, Customer agrees to pay Motorola for Products already delivered or performed. Customer has a duty to mitigate any damages under this Agreement, including in the event of default by Motorola and Customer's termination of this Agreement.

4.7. Equipment. In the event that Customer purchases any Product at a price below the published list price for such Product in connection with Customer entering into a fixed- or minimum required-term agreement for Products, and Customer or Motorola terminates the Agreement prior to the expiration of such fixed- or minimum required-term, then Motorola will have the right to invoice Customer for, and Customer will pay, the amount of the discount to the published list price for the Product or such other amount set forth in writing. This Section will not limit any other remedies Motorola may have with respect to an early termination.

5. Payment, Invoicing, Delivery and Risk of Loss

5.1. The Contract Price of $7,263,501 excluding taxes, is fully committed and identified, including all subsequent years of any contracted Services. The Customer will pay all invoices as received from Motorola subject to the terms of this Agreement and any changes in scope will be subject to the change order process as described in this Agreement.

Motorola acknowledges the Customer may require the issuance(s) of a purchase order or notice to proceed as part of the Customer's procurement process. However, Customer agrees that the issuance or non-issuance of a purchase order or notice to proceed does not preclude the Customer from its contractual obligations as defined in this Agreement.

5.2. Fees. Fees and charges applicable to the Products will be as set forth in the applicable Proposal. Changes in the scope of Products described in a Proposal that require an adjustment to the Fees will be set forth in the applicable pricing schedule. The Fees for any Products exclude expenses associated with unusual and costly Site access requirements (e.g., if Site access requires a helicopter or other equipment), tariffs, fluctuations in the costs of energy, raw materials, and fuel. Motorola reserves the right to equitably adjust the Fees for these expenses upon written notice to Customer. Customer will reimburse Motorola for expenses reasonably incurred by Motorola in connection with the Products. The annual Subscription Fee for Products may include certain one-time Fees, such as start-up fees, license fees, or other fees set forth in a Proposal. Motorola may suspend Licensed Software and any Subscription Services if Customer fails to make any payments within thirty (30) days of invoice due date when due.

5.3. Taxes. The Fees do not include any excise, sales, lease, use, property, or other taxes, assessments, duties, or regulatory charges or contribution requirements (collectively, "Taxes"), all of which will be paid by Customer, except as exempt by law, unless otherwise specified in a Proposal. If Motorola is required to pay any Taxes, Customer will reimburse Motorola for such Taxes (including any interest and penalties) within thirty (30) days after Customer's receipt of an invoice therefore. Customer will be solely responsible for reporting the Products for personal property tax purposes, and Motorola will be solely responsible for reporting taxes on its income and net worth.

5.4. Invoicing. Motorola will invoice Customer as described in this Agreement and Customer will pay all invoices within thirty (30) days of the invoice date or as otherwise specified in writing. In the event Customer finances the purchase of the Motorola Products contemplated herein via Motorola Solutions Credit Corporation ("MSCC"), invoices for such purchase will be paid via the disbursement of the financing proceeds pursuant to the Equipment Lease - Purchase Agreement executed between the parties and the payment schedule enclosed therein shall control payment of the related invoices. Late payments will be subject to interest charges at the maximum rate permitted by law, commencing upon the due date. Motorola may invoice electronically via email, and Customer agrees to receive invoices via email at the email address set forth in Section 5.6. Customer acknowledges and agrees that a purchase order or other notice to proceed is not required for payment for Products.

5.5. Payment. Customer will pay invoices for the Products provided under this Agreement in accordance with the invoice payment terms set forth in Section 5.4. Generally, invoices are issued after shipment of Equipment or upon Motorola's Delivery of Licensed Software, Customer access to SaaS, or upon System Completion Date of a Software System, as applicable, but if a specific invoicing or payment schedule is set forth in the Agreement, such schedule will determine the invoicing cadence.

Motorola will have the right to suspend future Deliveries of Products if Customer fails to make any payments when due.

5.6. INVOICING AND SHIPPING ADDRESSES. Invoices will be sent to the Customer at the following address:

Name: Mark Williams
Address: 150 E. Washington St. Madison GA 30650
Phone: 706-342-8583

E-INVOICE. To receive invoices via email:
Customer Account Number: _____
Customer Accounts Payable Email: mark.williams@morgancountyga.gov
Customer CC (optional) Email: _____

The address which is the ultimate destination where the Equipment will be delivered to Customer is:

Name: chief Smith
Address: 1380 Monticello Rd Madison, GA 30650

The Equipment will be shipped to the Customer at the following address (insert if this information is known):

Name: _____
Address: _____
Phone: _____

Customer may change this information by giving written notice to Motorola.

5.7. Delivery, Title and Risk of Loss. Motorola will provide to Customer the Products set forth in a Proposal, in accordance with the terms of the Agreement. Motorola will, using commercially reasonable practices, pack the ordered Equipment and ship such Equipment to the Customer address set forth in **Section 5.6** or otherwise provided by Customer in writing, using a carrier selected by Motorola.

Notwithstanding the foregoing and unless otherwise stated in a Equipment Lease - Purchase Agreement, Delivery of Equipment (and any incorporated Licensed Software) will occur, and title and risk of loss for the Equipment will pass to Customer, upon shipment by Motorola in accordance with ExWorks, Motorola's premises (Incoterms 2020). Customer will pay all shipping costs, taxes, and other charges applicable to the shipment and import or export of the Products and Services, as applicable, and Customer will be responsible for reporting the Products for personal property tax purposes.

Delivery of Licensed Software for installation on Equipment or Customer-Provided Equipment will occur upon the earlier of (a) electronic delivery of the Licensed Software by Motorola, or (b) the date Motorola otherwise makes the Licensed Software available for download or use by Customer. If agreed upon in a Proposal, Motorola will also provide Services related to such Products. Title to Licensed Software will not pass to Customer at any time. Delivery of SaaS Products will occur when the Services are made available to Customer.

5.8. Delays. Any shipping dates set forth in a Proposal are approximate. While Motorola will make reasonable efforts to ship Products by any such estimated shipping date, Motorola will not be liable for any delay or related damages to Customer. Time for Delivery will not be of the essence, and delays will not constitute grounds for cancellation, penalties, termination, or a refund.

5.9. Future Regulatory Requirements. The Parties acknowledge and agree that certain Products (for example, cyber services) are in evolving technological areas and therefore, laws and regulations regarding Products may change. Changes to existing Products required to achieve regulatory compliance may be available for an additional fee. Any required changes may also impact the price for Products.

5.10. Resale of Equipment. Equipment may contain embedded Licensed Software. If Customer desires to sell its used Equipment to a third party, Customer must first receive prior written authorization from Motorola, which will not be unreasonably denied, and obtain written acceptance of the applicable Licensed Software license terms, including the obligation to pay relevant license fees, from such third party. Customer will take appropriate security measures when disposing of Equipment, including the deletion of all data stored in the Equipment.

6. Sites; Customer-Provided Equipment; Non-Motorola Materials.

6.1. Access to Sites. Customer will be responsible for providing all necessary permits, licenses, and other approvals necessary for the performance, installation and use of the Products at each applicable Site, including for Motorola to perform its obligations hereunder, and for facilitating Motorola's access to the Sites. No waivers of liability will be imposed on Motorola or its subcontractors by Customer or others at Customer facilities or other Sites, but if and to the extent any such waivers are imposed, the Parties agree such waivers are void.

6.2. Site Conditions. Customer will ensure that (a) all Sites are safe and secure, (b) Site conditions meet all applicable industry and legal standards (including standards promulgated by OSHA or other governmental or regulatory bodies), (c) to the extent applicable, Sites have adequate physical space, air conditioning, and other environmental conditions, electrical power outlets, distribution, equipment, connections, and telephone or other communication lines (including modem access and interfacing networking capabilities), and (d) Sites are suitable for the installation, use, and maintenance of the Products. This Agreement is predicated upon normal soil conditions as defined by the version of E.I.A. standard RS-222 in effect on the Effective Date.

6.3. Site Issues. Upon its request, which will not be unreasonably denied, Motorola will have the right to inspect the Sites and advise Customer of any deficiencies or non-conformities with the requirements of this **Section 6 – Sites; Customer-Provided Equipment; Non-Motorola Materials**. If Motorola or Customer identifies any deficiencies or non-conformities, Customer will promptly remediate such issues or the Parties will select a replacement Site. If a Party determines that a Site identified in a Proposal is not acceptable or desired, the Parties will cooperate to investigate the conditions and select a replacement Site or otherwise adjust the installation plans and specifications as necessary. A change in Site or adjustment to the installation plans and specifications may cause a change in the Fees or performance schedule under the applicable Proposal.

6.4. Customer-Provided Equipment. Customer will be responsible, at its sole cost and expense, for providing and maintaining the Customer-Provided Equipment in good working order. Customer represents and warrants that it has all rights in Customer-Provided Equipment to permit Motorola to access and use the applicable Customer-Provided Equipment to provide the Products under this Agreement, and such access and use will not violate any laws or infringe any third-party rights (including intellectual property rights). Customer (and not Motorola) will be fully liable for Customer-Provided Equipment, and Customer will immediately notify Motorola of any Customer-Provided Equipment damage, loss, change, or theft that may impact Motorola's ability to provide the Products under this Agreement, and Customer acknowledges that any such events may cause a change in the Fees or performance schedule under the applicable Proposal.

6.5. Non-Motorola Materials. In certain instances, Customer may be permitted to access, use, or integrate Non-Motorola Materials with or through the Products. If Customer accesses, uses, or integrates any Non-Motorola Materials with the Products, Customer will first obtain all necessary rights and licenses to permit Customer's and its Authorized Users' use of the Non-Motorola Materials in connection with the Products. Customer will also obtain the necessary rights for Motorola to use such Non-Motorola Materials in connection with providing the Products, including the right for Motorola to access, store, and process such Non-Motorola Materials (e.g., in connection with SaaS Products), and to otherwise enable interoperation with the Products. Customer represents and warrants that it will obtain the foregoing rights and licenses prior to accessing, using, or integrating the applicable Non-Motorola Materials with the Products, and that Customer and its Authorized Users will comply with any terms and conditions applicable to such Non-Motorola Materials. If any Non-Motorola Materials requires access to Customer Data, Customer hereby authorizes Motorola to allow the provider of such Non-Motorola Materials to access Customer Data, in connection with the interoperation of such Non-Motorola Materials with the Products.

6.6. Customer acknowledges and agrees that Motorola is not responsible for, and makes no representations or warranties with respect to, the Non-Motorola Materials (including any disclosure, modification, or deletion of Customer Data resulting from use of Non-Motorola Materials or failure to properly interoperate with the Products). If Customer receives notice that any Non-Motorola Materials must be removed, modified, or disabled within the Products, Customer will promptly do so. Motorola will have the right to

disable or remove Non-Motorola Materials if Motorola believes a violation of law, third-party rights, or Motorola's policies is likely to occur, or if such Non-Motorola Materials poses or may pose a security or other risk or adverse impact to the Products, Motorola, Motorola's systems, or any third party (including other Motorola customers).

6.7. Motorola may provide certain Non-Motorola Materials as an authorized sales representative of a third party as set out in a Proposal. As an authorized sales representative, the third party's terms and conditions will apply to any such sales. Any orders for such Non-Motorola Materials will be fulfilled by the third party.

6.8. End User Licenses. Notwithstanding any provision to the contrary in the Agreement, certain Non-Motorola Materials software are governed by a separate license, EULA, or other agreement, including terms governing third-party equipment or software, such as open-source software, included in the Products. Customer will comply, and ensure its Authorized Users comply, with any such additional terms applicable to third-party equipment or software. Certain third party flow-down terms applicable to Motorola Products may apply.

6.9. Prohibited Use. Customer will not integrate or use, or permit a third party or an Authorized User to integrate or use, any Non-Motorola Materials with or in connection with a Software System or other Licensed Software provided by Motorola under this Agreement, without the express written permission of Motorola.

6.10. API and Client Support. Motorola will use reasonable efforts to maintain its Application Programming Interfaces (APIs) for each Software System, understanding that APIs will evolve. Motorola will support each API version for 6 months after introduction but may discontinue support with reasonable notice or without notice if a security risk is present. For Licensed Software requiring a local client installation, Customer is responsible for installing the current version. Motorola will support each client version for 45 days after its release but may update the client at any time, and does not guarantee support for prior client versions.

7. Representations and Warranties.

7.1. Mutual Representations and Warranties. Each Party represents and warrants to the other Party that (a) it has the right to enter into, and execute, the Agreement and perform its obligations hereunder, and (b) the Agreement will be binding on such Party.

7.2. System Warranty. Subject to the disclaimers and exclusions below, Motorola represents and warrants that, on the date of System Acceptance (for Communications Systems), System Completion Date (for Software Systems), or Delivery, as applicable (a) the Communications System will perform in accordance with the descriptions in the applicable Proposal in all material respects, (b) the Software System will perform in accordance with the descriptions in the applicable Proposals in all material respects, and (c) if Customer has purchased any Licensed Software (but, for clarity, excluding SaaS Products) as part of such Communications System or Software System, the warranty period applicable to such Licensed Software will continue for a period of one (1) year commencing upon System Acceptance, System Completion, or date the Licensed Software is delivered (the "**Warranty Period**").

7.3. Communications Systems. During the Warranty Period, in addition to warranty services, Motorola will provide Maintenance and Support Services for the Equipment and support for the Motorola Licensed Software in Communication Systems pursuant to the applicable maintenance and support Proposal. Support for the Licensed Software will be in accordance with Motorola's established Software Support Policy ("SwSP"). If Customer wishes to purchase (a) additional Maintenance and Support Services during the Warranty Period; or (b) continue or expand maintenance, software support, installation, and/or Motorola's LMS after the Warranty Period, Motorola will provide the description of and pricing for such services in a separate proposal document and such terms will be agreed upon in a Proposal. Unless otherwise agreed by the Parties in writing, the terms and conditions of the MSLMA referenced in Section 3.2.2 will govern the provision of such Services.

7.4. SaaS. SaaS Products do not qualify for the System Warranty above.

7.5. Motorola Warranties - Services. Subject to the disclaimers and exclusions below, Motorola represents and warrants that (a) Services will be provided in a good and workmanlike manner and will conform in all material respects to the descriptions in the applicable Proposal; and (b) for a period of ninety (90) days commencing upon the Service Completion Date for one-time Services, the Services will be free of material defects in materials and workmanship. Other than as set forth in subsection (a) above, recurring Services are not warranted but rather will be subject to the requirements of the applicable Addendum or Proposal.

7.6. Motorola Warranties - Equipment. Subject to the disclaimers and exclusions set forth below, (a) for a period of one (1) year commencing upon the Delivery of Motorola-manufactured Equipment under **Section 5.7 – Delivery, Title and Risk of Loss**, Motorola represents and warrants that such Motorola-manufactured Equipment, under normal use, will be free from material defects in materials and workmanship; and (b) the warranties applicable to Motorola-manufactured Equipment set forth in herein shall be applicable to all radio Equipment purchased hereunder whether or not such Equipment was manufactured by Motorola.

7.7. Warranty Claims; Remedies. To assert a warranty claim, Customer must notify Motorola in writing of the claim prior to the expiration of any warranty period set forth in this Agreement. Unless a different remedy is otherwise expressly set forth herein, upon receipt of such claim, Motorola will investigate the claim and use commercially reasonable efforts to repair or replace any confirmed materially non-conforming Product or re-perform any non-conforming Service, at its option. Such remedies are Customer's sole and exclusive remedies for Motorola's breach of a warranty. Motorola's warranties are extended by Motorola to Customer only, and are not assignable or transferable.

7.8. Pass-Through Warranties. Notwithstanding any provision of this Agreement to the contrary, Motorola will have no liability for third-party software or hardware provided by Motorola; provided, however, that to the extent offered by third-party providers of software or hardware and to the extent permitted by law, Motorola will pass through express warranties provided by such third parties.

7.9. WARRANTY DISCLAIMER. EXCEPT FOR THE EXPRESS AND PASS-THROUGH WARRANTIES IN THIS AGREEMENT, PRODUCTS AND SERVICES PURCHASED HEREUNDER ARE PROVIDED "AS IS" AND WITH ALL FAULTS. WARRANTIES SET FORTH IN THE AGREEMENT ARE THE COMPLETE WARRANTIES FOR THE PRODUCTS AND SERVICES AND MOTOROLA DISCLAIMS ALL OTHER WARRANTIES OR CONDITIONS, EXPRESS OR IMPLIED, INCLUDING IMPLIED WARRANTIES OF MERCHANTABILITY, NON-INFRINGEMENT, FITNESS FOR A PARTICULAR PURPOSE, TITLE, AND QUALITY. MOTOROLA DOES NOT REPRESENT OR WARRANT THAT USE OF THE PRODUCTS AND SERVICES WILL BE UNINTERRUPTED, ERROR-FREE, OR FREE OF SECURITY VULNERABILITIES, OR THAT THEY WILL MEET CUSTOMER'S PARTICULAR REQUIREMENTS.

7.10. ADDITIONAL WARRANTY EXCLUSIONS. NOTWITHSTANDING ANY PROVISION OF THE AGREEMENT TO THE CONTRARY, MOTOROLA WILL HAVE NO LIABILITY FOR (A) DEFECTS IN OR DAMAGE TO PRODUCTS RESULTING FROM USE OTHER THAN IN THE NORMAL AUTHORIZED MANNER, OR FROM ACCIDENT, LIQUIDS, OR NEGLECT; (B) TESTING, MAINTENANCE, REPAIR, INSTALLATION, OR MODIFICATION BY PARTIES OTHER THAN MOTOROLA; (C) CUSTOMER'S OR ANY AUTHORIZED USER'S FAILURE TO COMPLY WITH INDUSTRY AND OSHA OR OTHER LEGAL STANDARDS; (D) DAMAGE TO RADIO ANTENNAS, UNLESS CAUSED BY DEFECTS IN MATERIAL OR WORKMANSHIP; (E) EQUIPMENT WITH NO SERIAL NUMBER; (F) BATTERIES OR CONSUMABLES; (G) FREIGHT COSTS FOR SHIPMENT TO REPAIR DEPOTS; (H) COSMETIC DAMAGE THAT DOES NOT AFFECT OPERATION; (I) NORMAL WEAR AND TEAR; (J) ISSUES OR OBSOLESCENCE OF LICENSED SOFTWARE DUE TO CHANGES IN CUSTOMER OR AUTHORIZED USER REQUIREMENTS, EQUIPMENT, OR SYSTEMS; (K) TRACKING AND LOCATION-BASED SERVICES; OR (L) BETA SERVICES.

8. **Indemnification.**

8.1. General Indemnity. Motorola will defend, indemnify, and hold Customer harmless from and against any and all damages, losses, liabilities, and expenses (including reasonable fees and expenses of attorneys) arising

from any actual third-party claim, demand, action, or proceeding ("Claim") for personal injury, death, or direct damage to tangible property to the extent caused by Motorola's negligence, gross negligence or willful misconduct while performing its duties under this Agreement, except to the extent the claim arises from Customer's negligence or willful misconduct. Motorola's duties under this **Section 8.1 – General Indemnity** are conditioned upon: (a) Customer promptly notifying Motorola in writing of the Claim; (b) Motorola having sole control of the defense of the suit and all negotiations for its settlement or compromise to the extent allowed by applicable law; and (c) Customer cooperating with Motorola and, if requested by Motorola, providing reasonable assistance in the defense of the Claim.

8.2. Intellectual Property Infringement. Motorola will defend Customer against any third-party claim alleging that a Motorola-developed or manufactured Product (the "Infringing Product") directly infringes a United States patent or copyright ("Infringement Claim"), and Motorola will pay all damages finally awarded against Customer by a court of competent jurisdiction for an Infringement Claim, or agreed to in writing by Motorola in settlement of an Infringement Claim. Motorola's duties under this **Section 8.2 – Intellectual Property Infringement** are conditioned upon: (a) Customer promptly notifying Motorola in writing of the Infringement Claim; (b) Motorola having sole control of the defense of the suit and all negotiations for its settlement or compromise; and (c) Customer cooperating with Motorola and, if requested by Motorola, providing reasonable assistance in the defense of the Infringement Claim.

8.2.1. If an Infringement Claim occurs, or in Motorola's opinion is likely to occur, Motorola may at its option and expense: (a) procure for Customer the right to continue using the Infringing Product; (b) replace or modify the Infringing Product so that it becomes non-infringing; or (c) grant Customer (i) a prorated refund of any amounts pre-paid for the Infringing Product (if the Infringing Product is Licensed Software) or (ii) a credit for the Infringing Product, less a reasonable charge for depreciation (if the Infringing Product is Equipment, including Equipment with embedded Licensed Software).

8.2.2. In addition to the other damages disclaimed under this Agreement, Motorola will have no duty to defend or indemnify Customer for any Infringement Claim that arises from or is based upon: (a) Customer Data, Customer-Provided Equipment, Non-Motorola Materials, or third-party equipment, hardware, software, data, or other third-party materials; (b) the combination of the Product with any products or materials not provided by Motorola; (c) a Product designed, modified, or manufactured in accordance with Customer's designs, specifications, guidelines or instructions; (d) a modification of the Product by a party other than Motorola; (e) use of the Product in a manner for which the Product was not designed or that is inconsistent with the terms of this Agreement; or (f) the failure by Customer to use or install an update to the Product that is intended to correct the claimed infringement. In no event will Motorola's liability resulting from an Infringement Claim extend in any way to any payments due on a royalty basis, other than a reasonable royalty based upon revenue derived by Motorola from Customer from sales or license of the Infringing Product.

8.2.3. This **Section 8.2 – Intellectual Property Infringement** provides Customer's sole and exclusive remedies and Motorola's entire liability in the event of an Infringement Claim.

8.3. Customer Indemnity. To the extent allowed by applicable law, Customer will defend, indemnify, and hold Motorola and its subcontractors, subsidiaries and other affiliates harmless from and against any and all damages, losses, liabilities, and expenses (including reasonable fees and expenses of attorneys) arising from any actual or threatened third-party claim, demand, action, or proceeding arising from or related to (a) Customer-Provided Equipment, Customer Data, or Non-Motorola Materials, including any claim, demand, action, or proceeding alleging that any such equipment, data, or materials (or the integration or use thereof with the Products) infringes or misappropriates a third-party intellectual property or other right, violates applicable law, or breaches the Agreement; (b) Customer-Provided Equipment's failure to meet the minimum requirements set forth in the applicable Documentation or match the applicable specifications provided to Motorola by Customer in connection with the Products; (c) Customer's (or its service providers, agents, employees, or Authorized User's) negligence or willful misconduct; and (d) Customer's or its Authorized User's breach of this Agreement. This indemnity will not apply to the extent any such claim is

caused by Motorola's use of Customer-Provided Equipment, Customer Data, or Non-Motorola Materials in violation of the Agreement. Motorola will give Customer prompt, written notice of any claim subject to the foregoing indemnity. Motorola will, at its own expense, cooperate with Customer in its defense or settlement of the claim. Notwithstanding anything to the contrary herein, Customer is not required or obligated to indemnify or defense Motorola from or against any claim which, if brought against Customer, would be barred by sovereign immunity or official immunity.

9. Limitation of Liability.

9.1. EXCEPT FOR PERSONAL INJURY OR DEATH, THE TOTAL AGGREGATE LIABILITY OF MOTOROLA, ITS AFFILIATES, AND ITS AND THEIR RESPECTIVE OFFICERS, DIRECTORS, EMPLOYEES, SUBCONTRACTORS, AGENTS, SUCCESSORS, AND ASSIGNS (COLLECTIVELY, THE "MOTOROLA PARTIES"), WHETHER BASED ON A CLAIM IN CONTRACT OR IN TORT, LAW OR EQUITY, RELATING TO OR ARISING OUT OF THE AGREEMENT WILL NOT EXCEED THE FEES, OR PORTION OF FEES, RELATED TO THE PRODUCT UNDER WHICH THE CLAIM AROSE. WITH RESPECT TO ANY RECURRING SERVICES, THE MOTOROLA PARTIES' TOTAL AGGREGATE LIABILITY FOR ALL CLAIMS RELATED TO SUCH RECURRING SERVICES WILL NOT EXCEED THE TOTAL FEES PAID FOR THE APPLICABLE PRODUCT DURING THE CONSECUTIVE TWELVE (12) MONTH PERIOD IMMEDIATELY PRECEDING THE EVENT FROM WHICH THE FIRST CLAIM AROSE. EXCEPT FOR PERSONAL INJURY OR DEATH, THE MOTOROLA PARTIES WILL NOT BE LIABLE IN CONNECTION WITH THIS AGREEMENT (WHETHER UNDER MOTOROLA'S INDEMNITY OBLIGATIONS, A CAUSE OF ACTION FOR BREACH OF CONTRACT, UNDER TORT THEORY, OR OTHERWISE) FOR ANY INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, PUNITIVE, OR CONSEQUENTIAL DAMAGES OR DAMAGES FOR LOST PROFITS OR REVENUES, EVEN IF MOTOROLA HAS BEEN ADVISED BY CUSTOMER OR ANY THIRD PARTY OF THE POSSIBILITY OF SUCH DAMAGES OR LOSSES AND WHETHER OR NOT SUCH DAMAGES OR LOSSES ARE FORESEEABLE.

9.2. EXCLUSIONS FROM LIABILITY. NOTWITHSTANDING ANY OTHER PROVISION OF THIS AGREEMENT, MOTOROLA WILL HAVE NO LIABILITY FOR DAMAGES ARISING OUT OF (A) CUSTOMER DATA, INCLUDING ITS TRANSMISSION TO MOTOROLA, OR ANY OTHER DATA AVAILABLE THROUGH THE PRODUCTS; (B) CUSTOMER-PROVIDED EQUIPMENT OR SITES; NON-MOTOROLA MATERIALS; THIRD-PARTY EQUIPMENT, HARDWARE, SOFTWARE, DATA, OR CONTENT; OR UNKNOWN OR UNAUTHORIZED COMBINATION OF PRODUCTS AND SERVICES; (C) LOSS OF DATA, HACKING, RANSOMWARE, THIRD-PARTY ATTACKS OR DEMANDS; (D) MODIFICATION OF PRODUCTS NOT AUTHORIZED BY MOTOROLA; (E) RECOMMENDATIONS PROVIDED IN CONNECTION WITH THE PRODUCTS PROVIDED UNDER THIS AGREEMENT; (F) DATA RECOVERY SERVICES OR DATABASE MODIFICATIONS; OR (G) CUSTOMER'S OR ANY AUTHORIZED USER'S BREACH OF THIS AGREEMENT OR MISUSE OF THE PRODUCTS.

IN ADDITION TO THE FOREGOING EXCLUSIONS FROM DAMAGES, AND NOTWITHSTANDING ANY PROVISION OF THE AGREEMENT TO THE CONTRARY, MOTOROLA WILL HAVE NO LIABILITY FOR (A) INTERRUPTION OR FAILURE OF CONNECTIVITY, VULNERABILITIES, OR SECURITY EVENTS; (B) DISRUPTION OF OR DAMAGE TO CUSTOMER'S OR THIRD PARTIES' SYSTEMS, EQUIPMENT, OR DATA, INCLUDING DENIAL OF ACCESS TO USERS, OR SHUTDOWN OF SYSTEMS CAUSED BY INTRUSION DETECTION SOFTWARE OR HARDWARE; (C) AVAILABILITY OR ACCURACY OF ANY DATA AVAILABLE THROUGH SOFTWARE-AS-A-SERVICE, OR INTERPRETATION, USE, OR MISUSE THEREOF; (D) TRACKING AND LOCATION-BASED SERVICES; OR (E) BETA SERVICES.

9.3. Statute of Limitations. Customer may not bring any claims against a Motorola Party in connection with this Agreement or the Products and Services more than one (1) year after the date of accrual of the cause of action.

10. Confidentiality.

10.1. Confidential Information. Customer and Motorola agree that, subject to any applicable freedom of information or public records legislation, Motorola's Confidentiality Terms apply to information shared between the Parties.

11. Proprietary Rights; Data; Feedback.

11.1. Motorola Materials. Customer acknowledges that Motorola may use or provide Customer with access to "Motorola Materials". Except when Motorola has expressly transferred title or other interest to Customer in writing, the Motorola Materials are the property of Motorola or its licensors, and Motorola or its licensors retain all right, title and interest in and to the Motorola Materials (including, all rights in patents, copyrights, trademarks, trade names, trade secrets, know-how, other intellectual property and proprietary rights, and all associated goodwill and moral rights).

This Agreement does not grant to Customer any shared development rights in or to any Motorola Materials or other intellectual property, and Customer agrees to execute any documents and take any other actions reasonably requested by Motorola to effectuate the foregoing. Motorola and its licensors reserve all rights not expressly granted to Customer, and no rights, other than those expressly granted herein, are granted to Customer by implication, estoppel or otherwise. Customer will not modify, disassemble, reverse engineer, derive source code or create derivative works from, merge with other software, distribute, sublicense, sell, or export the Products and Services or other Motorola Materials, or permit any third party to do so.

11.2. Ownership of Customer Data. Customer retains all right, title and interest, including intellectual property rights, if any, in and to Customer Data. Motorola acquires no rights to Customer Data except those rights granted under this Agreement including the right to Process (as defined in the DPA) and use the Customer Data as set forth in the DPA.

11.3. Feedback. Any Feedback provided by Customer is entirely voluntary, and will not create any confidentiality obligation for Motorola, even if designated as confidential by Customer. Motorola may use, reproduce, license, and otherwise distribute and exploit the Feedback without any obligation or payment to Customer or Authorized Users and Customer represents and warrants that it has obtained all necessary rights and consents to grant Motorola the foregoing rights.

11.4. Improvements; Products and Services. The Parties agree that, notwithstanding any provision of this Agreement to the contrary, all fixes, modifications and improvements to the Services or Products conceived of or made by or on behalf of Motorola that are based either in whole or in part on the Feedback, Customer Data, or Service Use Data (or otherwise) are the exclusive property of Motorola and all right, title and interest in and to such fixes, modifications or improvements will vest solely in Motorola. Customer agrees to execute any written documents necessary to assign any intellectual property or other rights it may have in such fixes, modifications or improvements to Motorola.

12. Acceptance

12.1. Communications System Acceptance. Unless further defined in the applicable Proposal or Statement of Work, System Acceptance for a Communications System occurs upon successful completion of Acceptance Tests as detailed in the Acceptance Test Plan. Motorola will provide ten days' notice before testing begins, and upon successful completion, both parties will sign an acceptance certificate. If the plan includes tests for subsystems or phases, acceptance occurs upon successful completion of those tests and separate certificates will be issued. If Customer believes the system has failed, they must provide a detailed written notice within thirty days; otherwise, System Acceptance is deemed to have occurred. Minor, non-material issues will not delay acceptance but will be addressed per a mutually agreed schedule. Customer use of the system before System Acceptance requires Motorola's written authorization and transfers responsibility for system operation to the Customer. Software System Completion is defined by Customer's Beneficial Use of each Product within the system, with "Beneficial Use" defined to occur thirty days after functional demonstration if not otherwise defined in the Proposal.

13. Force Majeure; Delays Caused by Customer.

13.1. Force Majeure. Except for Customer's payment obligations hereunder, neither Party will be responsible for nonperformance or delayed performance due to events outside of its reasonable control. If performance

will be significantly delayed, the affected Party will provide notice to the other Party, and the Parties will agree (in writing) upon a reasonable extension to any applicable performance schedule.

13.2. Delays Caused by Customer. Motorola's performance of the Products will be excused for delays caused by Customer or its Authorized Users or subcontractors, or by failure of any assumptions set forth in this Agreement (including in any Addendum or Proposal). In the event of a delay under this **Section 13.2 – Delays Caused by Customer**, (a) Customer will continue to pay the Fees as required hereunder, (b) the Parties will agree (in writing) upon a reasonable extension to any applicable performance schedule, and (c) Customer will compensate Motorola for its out-of-pocket costs incurred due to the delay (including those incurred by Motorola's affiliates, vendors, and subcontractors).

14. **Disputes.** The Parties will use the following procedure to resolve any disputes relating to or arising out of this Agreement (each, a "Dispute"):

14.1. Governing Law. All matters relating to or arising out of the Agreement are governed by the laws of the State of Georgia. The terms of the U.N. Convention on Contracts for the International Sale of Goods and the Uniform Computer Information Transactions Act will not apply.

14.2. Negotiation; Mediation. The Parties will attempt to timely resolve the Dispute promptly through good faith negotiations. Either Party may initiate dispute resolution procedures by sending a notice of Dispute ("Notice of Dispute") to the other Party. The Parties will choose an independent mediator within thirty (30) days of such Notice of Mediation. Neither Party may unreasonably withhold consent to the selection of a mediator, but if the Parties are unable to agree upon a mediator, either Party may request that the American Arbitration Association nominate a mediator. Each Party will bear its own costs of mediation, but the Parties will share the cost of the mediator equally. Unless otherwise agreed in writing, all in person meetings under this **Section 14.2 – Negotiation; Mediation** will take place in the State of Georgia, and, unless disclosure is required by law, all communication relating to the Dispute resolution will be maintained in strict confidence by the Parties. Notwithstanding the foregoing, any Dispute arising from or relating to Motorola's intellectual property rights must be decided by a court of competent jurisdiction, in accordance with **Section 14.3 – Litigation, Venue, Jurisdiction** below.

14.3. Litigation, Venue, Jurisdiction. If the Dispute has not been resolved by mediation within sixty (60) days from the Notice of Mediation, either Party may submit the Dispute exclusively to a court in Morgan County, Georgia. Each Party expressly consents to the exclusive jurisdiction of such courtfor resolution of any Dispute and to enforce the outcome of any mediation.

15. **General.**

15.1. Compliance with Laws. Each Party will comply with applicable laws in connection with the performance of its obligations under this Agreement, including that Customer will ensure its and its Authorized Users' use of the Products complies with law (including privacy laws), and Customer will obtain any FCC, FAA, and other licenses or authorizations (including licenses or authorizations required by foreign regulatory bodies) required for its and its Authorized Users' use of the Products. Motorola may, at its discretion, cease providing or otherwise modify Products (or any terms related thereto in an Addendum or Proposal), in order to comply with any changes in applicable law.

15.2. Audit; Monitoring. Motorola will have the right to monitor and audit use of the Products, including an audit of total user licenses credentialed by Customer for any Licensed Software or SaaS Products, which may also include access by Motorola to Customer Data and Service Use Data. Customer will provide notice of such monitoring to its Authorized Users and obtain any required consents, including individual end users, and will cooperate with Motorola in any monitoring or audit. Customer will maintain during the Term, and for two (2) years thereafter, accurate records relating to any licenses granted under this Agreement to verify compliance with this Agreement. Motorola or a third party ("Auditor") may inspect Customer's and, as applicable, Authorized Users' premises, books, and records. Motorola will pay expenses and costs of the Auditor, unless Customer is found to be in violation of the terms of the Agreement, in which case Customer will be responsible for such expenses and costs. In the event Motorola determines that Customer's usage

of the Licensed Software or SaaS Product exceeded the number of licenses purchased by Customer at a given time, Motorola may invoice Customer for the additional licenses used by Customer, pro-rated for each additional license from the date such license was activated, and Customer will pay such invoice in accordance with the payment terms in the Agreement.

15.3. Assignment and Subcontracting. Neither Party may assign or otherwise transfer this Agreement without the prior written approval of the other Party. Motorola may assign or otherwise transfer this Agreement or any of its rights or obligations under this Agreement without consent (a) for financing purposes, (b) in connection with a merger, acquisition or sale of all or substantially all of its assets, (c) as part of a corporate reorganization, or (d) to a subsidiary corporation. Subject to the foregoing, this Agreement will be binding upon the Parties and their respective successors and assigns. Motorola may subcontract any of the work, but subcontracting will not relieve Motorola of its duties under this Agreement.

15.4. Waiver. A delay or omission by either Party to exercise any right under this Agreement will not be construed to be a waiver of such right. A waiver by either Party of any of the obligations to be performed by the other, or any breach thereof, will not be construed to be a waiver of any succeeding breach or of any other obligation. All waivers must be in writing and signed by the Party waiving its rights.

15.5. Severability. If any provision of the Agreement is found by a court of competent jurisdiction to be invalid, illegal, or otherwise unenforceable, such provision will be deemed to be modified to reflect as nearly as possible the original intentions of the Parties in accordance with applicable law. The remaining provisions of this Agreement will not be affected, and each such provision will be valid and enforceable to the full extent permitted by applicable law.

15.6. Independent Contractors. Each Party will perform its duties under this Agreement as an independent contractor. The Parties and their personnel will not be considered to be employees or agents of the other Party. Nothing in this Agreement will be interpreted as granting either Party the right or authority to make commitments of any kind for the other. This Agreement will not constitute, create, or be interpreted as a joint venture, partnership, or formal business organization of any kind.

15.7. Third-Party Beneficiaries. The Agreement is entered into solely between, and may be enforced only by, the Parties. Each Party intends that the Agreement will not benefit, or create any right or cause of action in or on behalf of, any entity other than the Parties. Notwithstanding the foregoing, a licensor or supplier of third-party software included in the software Products will be a direct and intended third-party beneficiary of this Agreement.

15.8. Interpretation. The section headings in this Agreement are included only for convenience The words "including" and "include" will be deemed to be followed by the phrase "without limitation". This Agreement will be fairly interpreted in accordance with its terms and conditions and not for or against either Party.

15.9. Notices. Notices required under this Agreement to be given by one Party to the other must be in writing and either personally delivered or sent to the address provided by the other Party by certified mail, return receipt requested and postage prepaid (or by a recognized courier service, such as FedEx, UPS, or DHL), and will be effective upon receipt.

15.10. Cumulative Remedies. Except as specifically stated in this Agreement, all remedies provided for in this Agreement will be cumulative and in addition to, and not in lieu of, any other remedies available to either Party at law, in equity, by contract, or otherwise. Except as specifically stated in this Agreement, the election by a Party of any remedy provided for in this Agreement or otherwise available to such Party will not preclude such Party from pursuing any other remedies available to such Party at law, in equity, by contract, or otherwise.

15.11. Survival. The following provisions will survive the expiration or termination of this Agreement for any reason: Section 3.5 – Customer Obligations; Section 4.6 – Effect of Termination or Expiration; Section 5 – Payment and Invoicing; Section 7.9 – Warranty Disclaimer; Section 7.10 - Additional Warranty Exclusions; Section 8.3 – Customer Indemnity; Section 9 – Limitation of Liability; Section 10 – Confidentiality; Section

11 – Proprietary Rights; Data; Feedback; Section 13 – Force Majeure; Delays Caused by Customer; Section 14 – Disputes; and Section 15 – General.

15.12. Entire Agreement. This Agreement, including all Addenda, and Proposals, constitutes the entire agreement of the Parties regarding the subject matter hereto, and supersedes all previous agreements, proposals, and understandings, whether written or oral, relating to this subject matter. This Agreement may be executed in multiple counterparts, and will have the same legal force and effect as if the Parties had executed it as a single document. The Parties may sign in writing or by electronic signature. An electronic signature, facsimile copy, or computer image of a signature, will be treated, and will have the same effect as an original signature, and will have the same effect, as an original signed copy of this document. This Agreement may be amended or modified only by a written instrument signed by authorized representatives of both Parties. The preprinted terms and conditions found on any Customer purchase order, acknowledgment, or other form will not be considered an amendment or modification or part of this Agreement, even if a representative of each Party signs such document.

The Parties hereby enter into this MCA as of the Effective Date.

Motorola Solutions, Inc.	**Customer: Morgan County**
By: J. Fernandez	By: Blake McCormack
Name: Janet Fernandez	Name:
Title: Regional Vice President, Southeast Region	Title: Chairman
Date: June 16, 2026	Date: 6-16-26

AMENDMENT TO MOTOROLA SOLUTIONS CUSTOMER AGREEMENT

THIS AMENDMENT TO MOTOROLA SOLUTIONS CUSTOMER AGREEMENT (this "***Amendment***") is made and entered into as of the _____ day of August, 2026 (hereinafter called the "***Effective Date***"), between **MORGAN COUNTY**, a political subdivision of the State of Georgia ("***Customer***"), and **MOTOROLA SOLUTIONS, INC.**, a Delaware corporation ("***Motorola***"). Customer and Motorola are each called a "***Party***" and collectively called the "***Parties***".

WHEREAS, the Parties have made and entered into that certain Motorola Solutions Customer Agreement dated June 16, 2026 (such Motorola Solutions Customer Agreement, including all exhibits, schedules, agreements, and addenda attached thereto or referenced or incorporated therein, are hereinafter collectively called the "***Agreement***"); and

WHEREAS, Sourcewell is a State of Minnesota local government unit and service cooperative created under the laws of the State of Minnesota that offers a cooperative purchasing program to governmental and other public entities located in the United States; and

WHEREAS, Motorola and Sourcewell entered into a contract dated November 5, 2025 (contract no. 020625-MOT), for public safety communications technology and hardware systems and services (the "***Sourcewell Contract***"); and

WHEREAS, the Parties desire to supplement and amend the terms and conditions of the Agreement with the additional and amended terms and conditions contained in this Amendment.

NOW, THEREFORE, in consideration of the mutual covenants, promises, and consideration set forth in this Amendment, the receipt and sufficiency of which are hereby acknowledged, the Parties hereby covenant and agree as follows:

1. **Priority of Amendment**. This Amendment is incorporated into and made a part of the Agreement. The provisions of this Amendment control over any contrary provisions found in the Agreement, including, without limitation, any provision of the Agreement which provides otherwise. No provision of the Agreement shall operate to override the provisions of this Amendment.

2. **Defined Terms**. Capitalized terms used in this Amendment and not otherwise defined herein shall have the meanings ascribed to such terms in the Agreement.

3. **Incorporation of the Sourcewell Contract**. Except as otherwise provided in the Agreement, the Parties expressly adopt and incorporate by reference the terms and conditions set forth in the Sourcewell Contract. The Parties further expressly agree that the terms and conditions of the Sourcewell Contract shall govern all transactions between the Parties under the Agreement except to the extent that a term or condition of the Sourcewell Contract is in conflict with the Agreement. In the event of a conflict between a term or condition of the Agreement and the Sourcewell Contract, the terms and conditions of the Agreement shall govern.

4. **Statutory Auto-Termination and Renewal**. Notwithstanding any other provision of the Agreement to the contrary, as required by O.C.G.A. § 36-60-13, the Agreement shall terminate absolutely and without any further obligation on the part of Customer on the last day of each fiscal year of the initial term and any renewal or extended term; provided, however, that the Agreement shall automatically renew on the first day of each subsequent fiscal year within the applicable term, and extend until the conclusion of the applicable term, unless Customer provides written notice of non-renewal to Motorola at least thirty(30) days prior to the end of the then current fiscal year. Additionally, the Agreement shall terminate immediately and absolutely at such time as appropriated and otherwise unobligated funds are no longer available to satisfy Customer's obligations under the Agreement. In the event of such termination, Motorola shall be entitled to compensation for all conforming Products delivered or performed prior to the date of termination.

5. **Termination for Convenience**. Customer may terminate the Agreement for convenience at any time by providing at least thirty (30) days prior written notice to Motorola. Upon any termination, Customer shall have no obligation beyond the date the Agreement is terminated. In the event of such termination, Motorola shall be entitled to compensation for all conforming Products delivered or performed prior to the date of termination.

6. **Confidentiality**. Motorola acknowledges that Customer's disclosure of documentation is governed by Georgia's Open Records Act and the Open Meetings Act, and Motorola further acknowledges that if Motorola submits documents or records, including, without limitation, any document comprising part of the Agreement, containing trade secret information, and if Motorola wishes to keep such documents or records confidential, Motorola must submit and attach to such documents or records an affidavit affirmatively declaring that specific information contained therein constitutes trade secrets pursuant to the Georgia Trade Secrets Act of 1990, O.C.G.A. § 10-1-760 et seq., and the Parties shall follow the requirements of O.C.G.A. § 50-18-72(a)(34) related thereto.

7. **Governing Law; Venue**. This Amendment and the Agreement shall be governed by and construed in accordance with the laws of the State of Georgia without regard to choice of law principles. Any action or suit related to this Amendment or the Agreement shall be brought in the Superior Court of Morgan County, Georgia, and Motorola submits to the jurisdiction and venue of such court.

8. **Nondiscrimination**. In accordance with Title VI of the Civil Rights Act of 1964, as amended, 42 U.S.C. § 2000d, section 303 of the Age Discrimination Act of 1975, as amended, 42 U.S.C. § 6102, section 202 of the Americans with Disabilities Act of 1990, 42 U.S.C. § 12132, and all other provisions of federal law, Motorola agrees that during performance of the Agreement, Motorola, for itself and its affiliates, assignees, and successors in interest, will not discriminate against any employee or applicant for employment, any subcontractor, or any supplier because of race, color, creed, national origin, gender, age, or disability. In addition, Motorola agrees to comply with all applicable regulations.

9. **Sovereign Immunity; Indemnification; Limitation of Liability**. Nothing contained in the Agreement shall be construed to be a waiver of Customer's sovereign immunity or any individual's qualified, good faith, or official immunities. Any provision of the Agreement purporting to require Customer to indemnify or defend Motorola or any related party is only valid to the extent allowed by Georgia law. Further, any provision of the Agreement purporting to limit or eliminate entirely the liability of Motorola for claims or damages arising out of or related to the Agreement is only valid to the extent allowed by Georgia law. The Parties acknowledge and agree that Customer is under no obligation to obtain additional insurance related to the Agreement.

10. **Employment of Unauthorized Aliens Prohibited – E-Verify Affidavit**. Pursuant to O.C.G.A. § 13-10-91, Customer shall not enter into a contract for the physical performance of services unless Motorola shall provide evidence on the forms attached hereto as **Exhibits "A" and "B"** (affidavits regarding compliance with the E-Verify program to be sworn under oath under criminal penalty of false swearing pursuant to O.C.G.A. § 16-10-71), that Motorola and its subcontractors have registered with and are authorized to use and use the federal work authorization program commonly known as E-Verify, or any subsequent replacement program, in accordance with the applicable provisions and deadlines established in O.C.G.A. § 13-10-91, and that they will continue to use the federal work authorization program throughout the term of the Agreement. Motorola hereby verifies that it has, prior to executing this Amendment and the Agreement, executed a notarized affidavit, the form of which is provided in **Exhibit "A"**, and submitted such affidavit to Customer. Further, Motorola hereby agrees to comply with the requirements of the federal Immigration Reform and Control Act of 1986, P.L. 99-603, O.C.G.A. § 13-10-91, and Georgia Department of Labor Rule 300-10-1-.02.

In the event Motorola employs or contracts with any subcontractor to perform services for Customer, Motorola agrees to secure from such subcontractor attestation of the subcontractor's compliance with O.C.G.A. § 13-10-91 and Rule 300-10-1-.02 by the subcontractor's execution of the subcontractor affidavit, the form of which is attached hereto as **Exhibit "B"**, which subcontractor affidavit shall become part of the Motorola subcontractor agreement. The above requirements shall be in addition to the requirements of state and federal law and shall be construed to be in conformity with those laws.

11. **Customer Data Ownership**. Motorola recognizes and agrees that Customer possesses and retains all right, title, and interest in and to the information, data, and documents, including, without

limitation, images, text, videos, and audio, provided to Motorola by, through, or on behalf of Customer and its employees, contractors, agents, customers, and other authorized users and their users, through the use of the Products, Equipment, and Services under the Agreement (collectively, "***Customer Data***"), and Motorola's use and possession thereof is solely on Customer's behalf. Motorola further recognizes and agrees that: (1) Customer Data is valuable property of Customer; (2) Customer Data is an original compilation pursuant to the copyright law of the United States and other jurisdictions; and (3) Customer has dedicated substantial resources to collecting, managing, and compiling Customer Data. Without limiting the generality of its obligations elsewhere in this Amendment and the Agreement, Motorola shall exercise commercially reasonable efforts to prevent unauthorized exposure or disclosure of Customer Data.

12. **Information Security Program**. Motorola shall maintain, implement, and comply with a written data and information security program (the "***Security Program***") that requires administrative, technical, and physical safeguards appropriate: (i) to protect the security and confidentiality of Customer Data; (ii) to protect against anticipated threats or hazards to the security or integrity of Customer Data; and (iii) to protect against unauthorized access to or use of Customer Data. Motorola shall ensure that the Security Program includes and requires compliance with the following: (a) access controls on electronic systems used to maintain, access, or transmit Customer Data; (b) access restrictions at physical locations containing Customer Data; (c) encryption of electronic Customer Data consistent with then-current nationally-recognized encryption standards; (d) regular testing and monitoring of electronic systems accessing or storing Customer Data; and (e) procedures to detect actual and attempted attacks on or intrusions into the systems containing or accessing Customer Data. Motorola shall review the Security Program and all other Customer Data security precautions regularly, but no less than annually, and update them to comply with applicable laws, regulations, technology changes, and best practices.

13. **Employees and Subcontractors**. Motorola shall not permit any of its employees, subcontractors, or subcontractor employees to access Customer Data except to the extent that such individual or company needs access to facilitate the Services and is subject to a reasonable written agreement with Motorola, or in case of employees, a reasonable written employment policy, protecting such data.

14. **Data Incidents**. Motorola shall implement and maintain a program for managing unauthorized use, loss, destruction, alteration, or disclosure of, or access to Customer Data ("***Data Incident***"). In case of a Data Incident, or if Motorola suspects a Data Incident, Motorola shall: (i) promptly, and in any case within 72 hours, notify Customer by telephone, email, , or by other real-time communication; (ii) cooperate with Customer and law enforcement agencies, as applicable, to investigate and resolve the Data Incident; and (iii) otherwise comply with applicable laws governing data breach notification and response. Motorola shall give Customer prompt access to such records related to a Data Incident as Customer may reasonably request. This Section does not limit Customer's other rights or remedies, if any, resulting from a Data Incident, including, without limitation, those provided for in the Agreement.

15. **Insurance**. During the term of the Agreement, Motorola shall maintain in full force and effect: (a) commercial general liability insurance covering personal injury and property damage, including, without limitation, contractual liability, with limits of at least $1,000,000 per occurrence and $2,000,000 in the aggregate; (b) business automobile liability insurance for all vehicles, including those owned or rented by Motorola or its employees, covering personal injury and property damage, with a limit of at least $1,000,000 per occurrence; (c) worker's compensation and employer's liability insurance, with limits of at least $1,000,000; and (d) professional liability insurance, with coverage for claims arising out of professional services and errors, omissions, and negligence in connection with the Services, including, without limitation, the rendering of or failure to render professional technology services, with limits of at least $1,000,000 in the aggregate, including cyber liability and information security and privacy liability, with a sublimit of liability not less than $1,000,000 in the aggregate. Motorola shall maintain all such insurance with carriers rated A- or better by A.M. Best Customer, Inc. and with a financial rating of Class VIII or greater. The insurance policies required pursuant to this Section will stipulate that they are primary insurance and that no insurance policy or self-insurance program of Customer will be called upon to contribute. Before commencement of Services and thereafter upon renewal of any such policy of insurance, Motorola shall provide Customer with certificates of insurance evidencing the above coverages and naming Customer as certificate holder entitled to 30 days' written notice following any cancellation, reduction, or change in coverage.

16. **Fees and Charges**. The pricing for all fees, charges, expenses, and costs are set forth in Tables 5.1, 5.2, and 5.3 of the Proposal. Notwithstanding any provision of the Agreement that purports to allow Motorola to unilaterally add, increase, or otherwise adjust the pricing for fees, charges, expenses, and costs, no additions, increases, surcharges, or other changes to such pricing shall be made by Motorola without the express written consent of Customer as documented in a change order or other amendment to the Agreement duly executed by Customer. Customer's approval of any pricing changes shall be required regardless of market conditions, tariffs, or any other factors.

17. **Taxes**. Customer is a governmental tax-exempt entity and shall not be responsible for paying any taxes or fees related to any Equipment, Products, or Services under the Agreement. Upon request, Customer shall provide documentation of its tax-exempt status.

18. **Delivery, Title, and Risk of Loss**. All Products and Equipment shipped by Motorola to Customer shall be FOB destination at Customer's address specified in the Agreement or in a written notice to Motorola. Title and risk of loss shall pass to Customer upon delivery at Customer's designated address and acceptance of the Products and Equipment by Customer.

19. **Substitutions and Other Changes**. Motorola shall not substitute any item of the Equipment or Products without the express written consent of Customer as documented in a change order or other amendment to the Agreement duly executed by Customer. The Agreement may be modified or amended only by a written change order or other amendment signed by representatives of both Parties with appropriate authorization.

20. **Records, Reports, and Audits**.

a) Records. Books, records, documents, account ledgers, data bases, and similar materials relating to the Products under the Agreement ("***Records***") shall be established and maintained by Motorola in accordance with generally accepted accounting principles and applicable law with respect to all matters covered by the Agreement. Except as otherwise authorized or required, such Records shall be maintained for at least three (3) years from the date that final payment is made to Motorola by Customer under the Agreement. Records that are the subject of audit findings shall be retained for three (3) years or until such audit findings have been resolved, whichever is later.

b) Reports and Information. Upon request, Motorola shall furnish Customer any and all Records related to matters covered by the Agreement in the form requested by Customer. Cost data is considered confidential and proprietary and will not be shared.

c) Audits and Inspections: At any time during normal business hours and as often as Customer may deem necessary, Motorola shall make available to Customer or Customer's representative(s) for examination of all Records with respect to all matters covered by the Agreement. Motorola shall permit Customer or Customer's representative(s) to audit, examine, and make excerpts or transcripts from such Records, and to audit all contracts, invoices, materials, and data relating to all matters covered by the Agreement. Cost data is considered confidential and proprietary and will not be shared.

[SIGNATURES ON FOLLOWING PAGE]

IN WITNESS WHEREOF, the Parties hereto have caused their duly authorized representatives to execute, seal, and deliver this Amendment, all as of the day and year first written above.

MOTOROLA SOLUTIONS, INC:	**MORGAN COUNTY, GEORGIA:**
By: _____	By: _____
Name: Janet Fernandez	Name: Blake McCormack
Title: Regional Vice President	Title: Chairman, Board of Commissioners
Attest:	Attest:
By: _____	By: _____
Name: Jarrod Shupe	Name: _____
Title: Area Sales Manager, SPT	Title: County Clerk

[County Seal]

INTERGOVERNMENTAL AGREEMENT
Among the Political Subdivisions of
Greene County, Georgia
Morgan County, Georgia
Oconee County, Georgia
Walton County, Georgia

Regarding the
Oconee Areawide Radio System (OARS)

This Agreement is made on this 30th day of June, 2026 (the "Effective Date") by and among Greene County, Morgan County, Oconee County, and Walton County, political subdivisions of the State of Georgia (collectively referred to hereafter as the "Parties" or the "Oconee Areawide Radio System" or "OARS").

WITNESSETH:

WHEREAS, the Parties to this Agreement are all governmental entities; and

WHEREAS, pursuant to Article IX, Section ill, Paragraph I of the Constitution of the State of Georgia, the Parties are authorized to enter into Intergovernmental Agreements for periods not exceeding fifty (50) years in connection with activities these governments are authorized to undertake; and

WHEREAS, grant funds may be made available through the United States Department of Homeland Security, for homeland security and law enforcement terrorism prevention to the Georgia Emergency Management Agency ("GEMA"); and

WHEREAS, GEMA may award funds from this or other grants to enable the Parties to purchase and install a digital radio system that will enhance interoperable radio communication between multiple jurisdictions (the "Project"); and

WHEREAS, Walton County has purchased the Smart Zone switch and will be capable of directly inte1facing with Federal, State, and local governments, including the Parties; and

WHEREAS, it is anticipated that the State of Georgia will be involved with OARS, and Georgia will be intrinsically involved in and affected by an interoperable communication system between multiple governmental public safety agencies; and

WHEREAS, it is advisable for the Parties to form a collaborative team to design, develop, implement and sustain a secure real-time interoperable communications network with the goal of achieving increased public safety through direct seamless communication.

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged and in consideration of the mutual promises and undertakings contained herein, the Parties hereto do hereby agree and consent to the following:

I. CREATION OF CONSORTIUM/MEMBERS

The Parties agree by their signatures hereto to create and be a member of the collaborative team for the purposes set out in this Agreement and any other purposes related thereto. The group shall be known as the "Oconee Areawide Radio System" or "OARS".

A. PURPOSE: OARS is created for the following purposes:

1. To establish interoperable communications

a. Among the First Responder Providers for the designated geographic area as set forth in the regional strategic plan,

b. To plan for future real-time interoperable communication needs to enhance public safety, and

c. With the goal of expanding the scope of voice and data communications so that in the future surrounding counties may become a part of a larger interoperable communications network.

2. To cooperate in the application for, acceptance, and use of federal, state, local, and private grants, with the proviso that all such applications and contracts and commitments of local matching funds required as a condition of grant funding shall be subject to approval by the governing body of each participating jurisdiction.

3. To share the annual maintenance expense associated with the Smart Zone controller (master switch) owned and operated by Walton County among the participating jurisdictions, including Walton County, as follows:

a. The proportionate allocation of annual maintenance expense of the Smart Zone controller shall be determined in January of each year by the Walton County representative on the consortium and communicated by that representative to all consortium members in writing by January 31 of each year, accompanied by an invoice to be paid within thirty (30) days.

b. Each county in the consortium shall be responsible for its proportionate allocation of the annual maintenance expense of the Smart Zone controller beginning on January 1 of the year following its connection of one or more mobile or portable radios to the Smart Zone controller.

c. Each county's proportionate allocation of annual maintenance expense of the Smart Zone controller shall be determined by the Walton County representative on the consortium based on the ratio of the total number of

portable and mobile radios the county has connected to the Smart Zone controller on January 1 of each year to the total number of portable and mobile radios all consortium counties have connected to the Smart Zone controller on January 1 of that same year.

4. To create and participate in established committees and assign sufficient and knowledgeable personnel to ad hoc committees to carry out the goals and specific projects of OARS.

5. To carry out any other related objectives and goals associated with achieving interoperable communications for public safety purposes among various agencies.

II. CREATION OF COMMITTEES AND DESCRIPTION OF MUTUAL RESPONSIBILITIES

A. THE EXECUTIVE COMMITTEE:

1. Members shall be: the Chairpersons of the governing bodies of Greene County, Morgan County, Oconee County, Walton County, Georgia or each of these officers' designee.

2. The Executive Committee shall meet when necessary to discuss issues relative to the goals of OARS, organize themselves as they deem necessary, and do whatever else is in the interest of achieving the goals of OARS.

3. Each member of the Executive Committee shall appoint an individual to a standing Steering Committee. The appointments should occur as soon as practicable after full execution of this Agreement, and it is anticipated members of this Steering Committee will have firsthand knowledge about the needs of their agency and the technologies available and currently used;

B. Members of the Steering Committee shall:

1. Create ad hoc committees as needed, such as technical and operational committees,

2. Work together to negotiate contracts in which grant monies are to be expended, and all such contracts shall be subject to the approval of the Executive Committee and the governing bodies of each of the member counties, as appropriate;

3. Plan for future communication needs of the members of OARS and any future members;

4. Meet with the frequency necessary (and at least annually), and organize themselves as they deem necessary to perform these tasks and to advise

the Executive Committee members on the current issues regarding the matters referenced herein;

5. Cooperate in the day-to-day issues of implementing the various contracts negotiated and entered hereunder and upgrading and testing the communication equipment purchased and used by their governmental units; and

6. Do anything else necessary or advisable to carry out the objectives and goals associated with achieving interoperable communications among various agencies.

III. TERM

This Agreement shall commence on the effective date set forth herein and will terminate on December 31, 2018, unless otherwise set forth herein.

IV. NOTICE

All notices and written requests required herein shall be sent via U.S. Mail to the address for written notices provided on the signature page for each participating political subdivision, including, if desired, an address for a copy to be sent to the county attorney. All notices sent to the addresses provided by each participating political subdivision shall be effective when received unless said address is changed in writing to the other parties.

V. EXECUTION OF THIS AGREEMENT; EFFECTIVE DATE

Each party to this Agreement shall sign five (5) signature pages in blue ink. This Agreement shall become effective on the date the last party executes this Agreement.

VI. LIMITATION OF LIABILITY

No member of the Executive Board, Steering Committee, any ad hoc committee, or any party to this Agreement or member of its governing body, or any party acting on any of their behalf shall be liable to any person for any damages arising out of any act or omission related to this Agreement.

VII. TERMINATION

Any party may terminate this Agreement, in whole or in part, for any reason whatsoever after two years from the Effective Date. The terminating party shall terminate by delivering to the other Parties a Notice of Termination specifying the nature, extent, and effective date of termination, which shall be no sooner than 30 days from receipt of the Notice of Termination.

VIII. NO THIRD PARTY BENEFICIARIES

This Agreement is for the benefit of the Parties hereto only and is not intended to benefit any third party or to give rise to any duties to or causes of action for any third party.

IX. GOVERNING LAW

This Agreement shall be governed by, construed, and enforced in accordance with the laws of the State of Georgia.

X. SUCCESSORS AND ASSIGNS

No party shall assign, sublet or transfer its interest in this Agreement without the written consent of the other parties hereto. Nothing herein shall be construed as creating any personal liability on the part of any officers or employees or members of the governing body, agents or officials of any Party.

XI. ENTIRE AGREEMENT

This Agreement constitutes the entire Agreement between the Parties hereto as to all matters contained herein. No representation, oral or written, not set forth and incorporated herein shall be binding upon the Parties hereto. All subsequent changes to this Agreement must be signed by all Parties.

XII. SEVERABILITY

In the event any section of this Agreement is declared and adjudged invalid or unconstitutional, such declaration or adjudication shall not affect the remaining portions of this Agreement.

IN WITNESS WHEREOF, the Parties hereto have caused this Agreement to be executed in five counterparts, each to be considered as an original by their authorized representative, on the day and date hereinabove written.

ADDENDUM TO AN
INTERGOVERNMENTAL AGREEMENT
Among the Political Subdivisions of
Greene County, Georgia
Morgan County, Georgia
Oconee County, Georgia
Walton County, Georgia

Regarding the
Oconee Areawide Radio System (OARS)

This Addendum is made on this 30th day of June,2026 (the "Effective Date") by and among Greene County, Morgan County, Oconee County, and Walton County political subdivisions of the State of Georgia (collectively referred to hereafter as the "Parties" or the "Oconee Areawide Radio System" or "OARS")

WITNESSETH:

WHEREAS, the Parties to the November 12, 2008 Intergovernmental Agreement Regarding the Oconee Areawide Radio System have received notification that other jurisdictions and instrumentalities of the State of Georgia have express an interest in joining OARS: and

WHEREAS, it is advisable to expand membership in OARS so as to more fully realize OARS' purpose to create and sustain a regional, interoperable public safety communications system: and

WHEREAS, additional OARS members enable the consortium to operate more cost-effectively inasmuch as annual maintenance expenses of the Smart Zone controller (master switch) will be apportioned among a larger number of members.

NOW, THEREFORE, the Parties hereto do hereby agree and consent to the following:

1. The OARS Executive Committee shall be empowered to approve the membership of additional jurisdictions or instrumentalities of the State of Georgia which have executed the Intergovernmental Agreement of November 12, 2008 and this Addendum.
2. Article I, A. PURPOSE, 3. C. shall be deleted and replaced by the following: Each OARS member entity shall pay an equal fraction of the annual maintenance expense of the Smart Zone Controller.
3. Article II, A. THE EXECUTIVE COMMITTEE, 1. Shall be deleted and replaced by the following: Members shall be: the Chairpersons of the governing bodies of member jurisdictions or instrumentalities of the State of Georgia or each of these officers' designee.

IN WITNESS WHEREOF, the Parties hereto have caused this Agreement to be executed in five counterparts, each to be considered as an original by their authorized representative, on the day and date hereinabove written.

MORGAN COUNTY AGENDA REQUEST

Department: Administration

Presenter(s): Adam Mestres

Meeting Date: mm/dd/yyyy 8/18/2026

Type of Request: New Business

Wording for the Agenda:

Hospital Authority Board Applications

Background/History/Details:

Sara Burbach resigned from the Hospital Authority Board effective June 30, 2026. The unexpired vacancy was advertised in the Morgan County Citizen and on the Morgan County website. The deadline to submit applications was August 7, 2026.

The unexpired term will end on June 30, 2028.

Two applications were received:

Mitchell Copelan
Paul Davis

What action are you seeking from the Board of Commissioners?

Review the applications and appoint an individual to fill the unexpired term ending June 30, 2028.

If this item requires funding, please describe:

Has this request been considered within the past two years? No

If so, when?

Is Audio-Visual Equipment Required for this Request?* No

Backup Provided with Request? Yes

* ***All audio-visual material must be submitted to the County Clerk's Office no later than 48 hours prior to the meeting. It is also your department's responsibility to ensure all third-party audio-visual material is submitted at least 48 hours in advance.***

Approved by Finance: Not Applicable

Approved by Purchasing: Not Applicable

Manager's Approval: No

Staff Notes:

Morgan County Advisory Board Application

Morgan County Hospital Authority

Applicant Information:

Mitchell Copelan

Full Name

[redacted] Madison, GA 30650

Address

Mailing Address (If different)

[redacted] [redacted]

Telephone-Home Telephone-Work

I reside in Commission District# 2

Board interested in serving on:

Hospital Authority

Background Information:

Occupation/Employer

SVP, Senior Lender at the Bank of Madison

Education:

Morgan County High School / UGA Bachelor of Science Agribusiness

Do you have any experience in the field you are applying? If so explain.

My professional and community service experiences have developed my ability to evaluate complex financial matters, make sound decisions, and provide strategic leadership - skills that I believe are essential for effective board goverance

Contribution/Intentions:

What do you feel will be your biggest contribution if appointed to this board/position?

Financial stewardship, leadership, community roots, strategic thinking and public service. And an understanding of economoc development and the financial challenges facing rural communities

Other Comments or Information:

This board meets the last Thursday of each month at 5:30 P.M. in the Education Room, at 1740 Lions Club Road, Madison, GA. In addition, there are Special Called Meetings on an as needed basis.

Policy:

I understand the obligations and commitments required by this board/position. If appointed by the Morgan County Board of Commissioners, I agree to serve and faithfully execute the obligations and commitments of said board/position for the duration of the term of appointment. In all respects, I will uphold the ordinances and policies of Morgan County and all municipalities in a professional and courteous manner and fully divulge any and all potential conflicts of interest.

Signature

7/30/2026

Date

Mitchell Copelan is a lifelong resident of Morgan County whose career in banking and finance, combined with a longstanding record of community leadership, has prepared him to help guide the strategic and fiscal direction of the hospital board. A graduate of Morgan County High School, Mitchell earned a Bachelor of Science in Agribusiness from the University of Georgia before returning home to build his career and invest in the community that shaped him.

Mitchell serves as Senior Vice President and Senior Lender at Bank of Madison, where he oversees the bank's lending function. He has held this position since August 2024. Prior to assuming this role, he served as a Commercial Loan Officer at Bank of Madison's Lake Oconee Loan Production Office, which he helped establish in 2019. Throughout his career, he has developed extensive expertise in commercial and consumer lending, financial analysis, credit and risk management, economic development, and fiscal oversight. These experiences have equipped him with the financial acumen, strategic perspective, and sound judgment essential for effective hospital board governance.

Mitchell's commitment to Morgan County extends well beyond his profession. He is an active member of Madison Presbyterian Church and is the Founder and President of the Morgan County Quarterback Club. He also serves as Co-Chairman of the Morgan County Ducks Unlimited Chapter, is a member of the Morgan County Primary School Governance Team, and serves on the Board of Directors of the Morgan County High School College and Career Academy. He is especially passionate about financial literacy education and enjoys helping young people develop the knowledge and skills needed to make sound financial decisions. His dedication to strengthening educational opportunities and investing in future generations reflects the same commitment to community well-being that is central to hospital governance.

Mitchell and his wife, Daniela, are raising their three daughters in Morgan County, where they remain deeply invested in the community's long-term health and vitality. His combination of financial expertise, executive leadership, risk management experience, and demonstrated commitment to public service positions him to provide thoughtful oversight, strategic guidance, and responsible stewardship as a member of the hospital board.

Morgan County Advisory Board Application

Morgan County Hospital Authority

Applicant Information:

Paul Davis

Full Name

[redacted]

Address

Madison, GA 30650

Mailing Address (If different)

[redacted]

Telephone-Home *Telephone-Work*

I reside in Commission District#_____1_____

Board interested in serving on:

Hospital Authority

Background Information:

Occupation/Employer

Retired Healthcare Executive

Education:

United States Naval Academy; University of Richmond, M.B.A.; Medical College of Virginia, Healthcare Management

Do you have any experience in the field you are applying? If so explain.

Executive experience in hospital and health administration in the private, public, and nonprofit sectors.

Contribution/Intentions:

What do you feel will be your biggest contribution if appointed to this board/position?

Searching for opportunities to expand new services for revenue, building physician relationships and other healthcare providers.

Other Comments or Information:

My career in health care administration, including serving on the Boards of Directors of health insurance companies and physician group practice organizations, would help guide the Medical Center's continued growth.

This board meets the last Thursday of each month at 5:30 P.M. in the Education Room, at 1740 Lions Club Road, Madison, GA. In addition, there are Special Called Meetings on an as needed basis.

Policy:

I understand the obligations and commitments required by this board/position. If appointed by the Morgan County Board of Commissioners, I agree to serve and faithfully execute the obligations and commitments of said board/position for the duration of the term of appointment. In all respects, I will uphold the ordinances and policies of Morgan County and all municipalities in a professional and courteous manner and fully divulge any and all potential conflicts of interest.

Paul Davis July 31, 2026

Signature Date

PAUL DAVIS

[redacted]
Madison, GA 30650

Cell: [redacted]

August 4, 2026

Kim Cox
County Clerk
Morgan County Board of Commissioners
150 East Washington Street / P.O. Box 168
Madison, Georgia 30650

Dear Ms. Cox:

I am writing to apply for appointment to the Morgan County Hospital Authority Board, and I have enclosed my completed application.

I chose a career in healthcare administration to serve my community and improve the health and lives of others. That commitment has included board service with Multi Group Healthcare, a large HMO in Boston, where I served as Treasurer; Harvard Community Health Plan, the 8th largest insurance plan in the United States; the University Internal Medicine Foundation at the Medical College of Virginia — the first nonprofit faculty practice plan in the country — where I served as Secretary-Treasurer; the Joint Policy Board for several multi-state physician group practices, where I served as Regional Vice President; and Safe Passages, a regional domestic violence organization. I see this appointment as an opportunity to bring that governance and financial experience to Morgan County and help position the Medical Center for continued growth and excellence.

My work has included turning around near-bankrupt medical groups, negotiating payor and management contracts, building physician and hospital governance structures, and leading organizations through significant growth in revenue and operating performance. I believe this combination of hands-on healthcare operations and financial leadership would be of direct value to the Hospital Authority Board as it works to expand services, strengthen physician relationships, and grow revenue for the Medical Center.

Thank you for your consideration. I would welcome the opportunity to discuss my qualifications further and am happy to provide any additional information the Board of Commissioners may need.

Sincerely,

Paul Davis

MORGAN MEDICAL CENTER

August 11, 2026

Adam Mestres, MPA, CPM, County Manager
Morgan County Board of Commissioners
150 East Washington Street
Madison, GA 30650

RE: Hospital Authority Vacancy and Recommendation for Appointment

Dear Adam Mestres,

This letter acknowledges the resignation of Sarah Burbach from the Morgan County GA Hospital Authority, effective June 30, 2026, and the resulting vacancy for the remainder of her unexpired term. On behalf of the Authority, we extend our sincere appreciation to Mrs. Burbach for her many years of dedicated services and contributions to Morgan Medical Center and our community.

In accordance with Article III, Section 2 of the Morgan County Hospital Authority Bylaws, the Authority, and having previously provided notice of vacancy, the Authority respectfully recommends Mitchell Copelan of Madison GA, for appointment to fill the vacancy and serve the remainder of the unexpired term.

The Authority believes Mr. Copelan possesses the qualifications, experience, and commitment to community service necessary to effectively serve the citizens of Morgan County and support the continued mission of Morgan Medical Center.

We respectfully submit this recommendation for your consideration and for the appropriate action necessary to complete the appointment process.

Should you require any additional information, please do not hesitate to contact me.

Sincerely,

Ralph A. Castillo, CPA
Chief Executive Officer

Attachments: Mitch Copeland Bio | Sarah Burbach Resignation Letter

Sarah Burbach

Ralph Castillo, CEO
Morgan Medical Center
1740 Lions Club Road
Madison, GA 30650

June 22, 2026

Dear Mr. Castillo:

After much thought and reflection, I am writing to submit my resignation from the Morgan Medical Center Hospital Authority, effective June 30, 2026.

Serving on this Board for more than twenty years has been one of the greatest honors of my professional and personal life. Throughout these years, I have had the privilege of working alongside dedicated Morgan County leaders, physicians, staff members, and fellow board members who share a deep commitment to providing exceptional healthcare and service to our community.

I am profoundly grateful for the opportunities I have been given to contribute to the hospital's mission and growth. Watching the organization evolve (especially in the quality of care), overcome financial challenges, embrace innovation, and expand its impact across the county and beyond has been both inspiring and rewarding. I have been especially proud to witness the unwavering dedication of those who serve our patients and their families each day.

While stepping away from Board service is not an easy decision, I do so with confidence in the hospital's future and in the capable leadership guiding it forward. Morgan Medical is well-positioned to continue its tradition of excellence and to meet the healthcare needs of our community for many years to come. You have brought us such a long way!

Thank you for your leadership, friendship, and partnership throughout my years of service. It has been a privilege to work with you and so many others who care deeply about our hospital and community. You know that I will always remain a strong supporter of our hospital and its mission, and I hope you call on me for fundraising or any other needs that may arise. I will continue to be the MMC's best cheerleader!

With sincere gratitude and best wishes,

Sarah Burbach

Sarah Burbach

MORGAN COUNTY AGENDA REQUEST

Department: Administration

Presenter(s): Mark Williams

Meeting Date: mm/dd/yyyy 8/18/2026

Type of Request: New Business

Wording for the Agenda:

Purchasing Policy Updates

Background/History/Details:

Revisions to the purchasing policy are needed due to new procedures related to financial software and changes to state law. The policy was last updated in August 2023.

What action are you seeking from the Board of Commissioners?

Approval of the updated purchasing policy.

If this item requires funding, please describe:

Has this request been considered within the past two years? No

If so, when?

Is Audio-Visual Equipment Required for this Request?* No

Backup Provided with Request? Yes

** All audio-visual material must be submitted to the County Clerk's Office no later than 48 hours prior to the meeting. It is also your department's responsibility to ensure all third-party audio-visual material is submitted at least 48 hours in advance.*

Approved by Finance Not Applicable

Approved by Purchasing Not Applicable

Manager's Approval No

Staff Notes:

MORGAN COUNTY PURCHASING POLICY

Objective

Morgan County's purchasing policies and procedures have been established to ensure that tax dollars are spent in the most economical way. The County uses competitive means for the purchase of all products and services when possible and if required. The County believes in open, fair competition. The purchasing levels in this policy are subject to periodic review and may be changed with County Commission approval based on inflation and other factors.

Definitions

Bid Bond – a bond that guarantees the bidder will honor the terms of the bid. If the bidder defaults, the bonding company will pay the County the difference between the defaulting low bid and the next highest bid.

Capital Purchases – purchases to acquire, restore or upgrade assets such as property, buildings, or equipment.

Competitive Sealed Bid Process – term used to encompass bidding, request for proposals, or request for qualifications when trying to get the best price or contractor for a project. All bids are received in a sealed package. All sealed bids received by the stated submission deadline are opened at a specified time.

Contract Labor – labor performed by an individual or business who performs work on a project-by-project basis for a set fee.

House Account – A credit account established by a vendor for which all purchases made by any department are charged. The vendor sends a monthly billing statement to the Finance Department for payment.

Local Vendor – a vendor whose business address is within Morgan County, within a 15-mile radius of the Administration Building, or whose primary owner resides in Morgan County.

Payment Bond – a bond obtained by a contractor to guarantee that its subcontractors and material suppliers on a project will be paid.

Performance Bond – a bond to guarantee satisfactory completion of a project by a contractor. A performance bond protects the County against possible losses in case a contractor fails to perform or is unable to complete a project as established in the contract.

Professional Services – Those services within the scope of the practice of architecture, engineering, professional land surveying, industrial hygiene, legal counsel, financial advisers, accountants/auditors, business consultants, recruiters, lobbyists, and banks.

Public Works Construction Projects– the building, altering, repairing, improving, or demolishing of any public structure or building or other public improvements of any kind to any public real property. Such term does not include the routine operation, repair, or maintenance of existing structures, buildings, or real property, or any energy savings performance contract or any improvements or installations performed as part of an energy

savings performance contract. (Per O.C.G.A. 36-91-2)

Purchase Order – A document which authorizes the delivery of specified merchandise or the rendering of services at an authorized cost.

Request for Proposals (RFP) – An invitation for suppliers, companies, or individuals, through a competitive process, to submit a proposal on a specific commodity or service.

Request for Qualifications (RFQ) – An invitation for suppliers, companies, or individuals to identify and delineate their qualifications for a specific project.

Purchasing Agent

The County Manager is designated as the Chief Purchasing Officer. The County Manager shall designate a Purchasing Director. The Purchasing Director shall manage the operations of the Procurement Department. One or more Purchasing Officers may be appointed. The Finance Director shall also have the same approval authority as the Purchasing Director. The Purchasing Director shall ensure that purchases are made within the thresholds listed below.

Purchase of Items for Personal Use

The purchase of equipment, material, or supplies for personal use is strictly prohibited. The use of County credit accounts, purchase orders or reimbursable cash for personal use is prohibited and unlawful. All instances of unlawful activity will be reported to the proper authorities.

Ethics

Morgan County officers, employees and public body members may not have an interest in a contract with the County, unless the interest is disclosed, and that person ~~is recused~~ recuses themselves from, and does not participate ~~from participating~~ in the decision process. Further, Morgan County officers, employees, or public body members with an interest in a contract may not attempt to influence any County employee or decision maker who has influence or decision-making power over the contract.

Spending Thresholds

Department Heads are authorized to make non-centralized purchases that do not exceed ~~$1,500.~~$4,999.99. No purchase order is required, but the Department Head should make a diligent effort to obtain the lowest price for items or services purchased. Receipts/Invoices must be submitted and approved by the Department Head.

~~Purchases between $1,500.01 and $5,000.00 do not require a purchase order but must be pre-approved by a Purchasing Officer or the Purchasing Director unless the purchase is from an existing State or Local contract. The Purchasing Director may choose to require additional quotes for such purchases.~~

Purchases between $5,000.01 and $10,000.00 require 3 verbal or written quotes and must be approved by the Purchasing Director. Verbal quotes must be documented to include vendor name, contact person, date/time of quote, and cost. If 3 quotes cannot be obtained, valid justification must be

provided. A purchase order must be issued prior to the purchase being made.

Purchases between $10,000.01 and $25,000.00 require 3 written quotes and must be approved by the Purchasing Director, and County Manager. If 3 quotes cannot be obtained, valid justification must be provided. A purchase order must be issued prior to the purchase being made.

Purchases between $25,000.01 and $100,000 require 3 written quotes and must be approved by the Purchasing Director, County Manager, and Board of Commissioners. If 3 quotes are not obtained, valid justification must be provided. A purchase order must be issued prior to the purchase being made.

Purchases above $100,000 require a competitive sealed bid process. ~~The Department Head/Elected Official, Purchasing Director and County Manager will review bids and make a recommendation to the Board of Commissioners.~~ The Purchasing Director and Department Head will establish a committee to review and evaluate bids. If the item was not itemized in the approved budget, or if the amount is greater than the approved budget, the Board of Commissioners must approve the purchase. The Board of Commissioners reserves the right to meet with prospective vendors in an open meeting to assist in the award of the purchase.

Purchases may not be split up between multiple invoices to avoid a higher approval requirement.

Purchasing under a State, National Contract, or purchasing Co-op is authorized in lieu of obtaining quotes/competitive bidding when it is to the advantage of the County. The same spending approval levels and purchase order requirements ~~thresholds~~ stated above apply to such purchases.

Capital purchases shall not require approval of the Board of Commissioners, if the purchase was itemized in the capital budget approved by the Board of Commissioners and does not exceed the approved budgeted amount. Capital purchases must comply with all other quote/bid, spending approval level and purchase order requirements. ~~requirements of this policy~~.

Purchases for the following items shall not require approval of the Board of Commissioners provided adequate funding is available in the approved budget:

- Utilities
- Employee payroll
- Employee benefits and tax payments
- Insurance premiums for coverage not related to employee benefits
- Professional services and contract labor associated with an approved project
- Purchases that will be reimbursed by external sources (grants, donations, etc…)
- Payments for renewal of services

For any purchase requiring verbal or written quotes, each quote must be for the same product, or a comparable product made by another company. The purchase shall be made from the offeror whose proposal is determined to be the most advantageous to the County. Preference will be given to local vendors whose bid is within 5% of the lowest bid unless prohibited by State Law.

Budget Allocation

All purchases must be included within the requesting Department's general fund budget, capital budget,

TSPLOST budget, or SPLOST budget. If funds for any purchase are not available, a request for a budget amendment must be made by the requesting Department Head/Elected Official to the Finance Director. Budget amendments must be approved by the Board of Commissioners if the amendment exceeds the legal level of control prior to the purchase being made.

Centralized Purchases and Price Agreements

Whenever it is in the best interest of Morgan County, centralized purchasing will be utilized for common items used by multiple departments. When purchasing items approved for centralized purchasing, Department Heads and Elected Officials will submit their requests to the Purchasing Officer~~.~~ The Purchasing Officer will place the order and notify Department Heads when items have been received. Department Heads will receive a copy of the invoice for their records.

The Purchasing Director may establish user accounts for department heads, elected officials and/or their designee for on-line vendors, such as Amazon and Staples Advantage, to purchase items utilizing a common contract. Such purchases should be made using a p-card. Approval paths for such online vendors may be established, and approval thresholds may vary by site.

The Purchasing Director may seek bids to obtain a contract for goods or services used by one or more departments on a regular and continuing basis. The Purchasing Director shall conduct the competitive bid process for such identified purchases. If a contract is awarded, departments would make purchases throughout the contract term without obtaining additional quotes.

Purchase Orders

Purchase orders are required for all purchases above $5,000.00. ~~A Purchase Order Request Form accompanied by 3 quotes must be submitted to a Purchasing Officer for approval~~. A requisition request must be entered into the financial software. All quotes should be uploaded as an attached document to the requisition. Purchase orders must be obtained prior to placing an order for goods or services. Purchase orders are not required for:

- Utilities
- Employee payroll
- Employee benefits and tax payments
- Payments made pursuant to Board of Commissioners approved contracts and intergovernmental agreements
- Payments for renewal of services approved in the budget
- Annual appropriations to external agencies approved in the budget
- Professional services or contract labor retained on an ad hoc basis
- Insurance premiums for coverage not related to employee benefits
- Land acquisition pursuant to contract approved by the Board of Commissioners
- Lease payments pursuant to lease agreement approved by the Board of Commissioners
- Debt service

Receipt and Payment for Purchases

It shall be the responsibility of the receiving department to ensure that shipped goods are received as ordered and in good condition. Invoices and receipts should be reviewed to verify correct pricing and tax

exemptions. Invoices received directly by the receiving department shall up uploaded, coded and approved in the financial system. Invoices received by accounts payable will be uploaded to the financial system and assigned to the Department for coding and approval. Invoices must be submitted and approved in the financial system by 12 noon on Wednesday for payment on Thursday. ~~and approved Request for Purchases, if applicable, should be remitted to Accounts Payable within 5 days of receipt. Invoices/Check Requests must be submitted by 5 p.m. Monday for payment on Thursday.~~ If there are any issues with goods received and/or discrepancies with an invoice, the Department Head/Elected Official will contact the vendor to have corrected and notify Accounts Payable of the issue. Department heads/Elected officials must follow up with vendors until the issue is corrected and notify Accounts Payable when payment can be submitted.

Invoice/House Accounts

The preferred payment method is for vendors to submit invoices. Department heads/Elected Officials should contact the Finance Department for any assistance needed to establish a new account with vendors. Invoices should be stamped "Approved", signed by the Department Head/Elected Official and appropriate account code notated.

P-Card

P-Cards may be used for purchases when there is no house account, or the vendor will not invoice. P-Cards may be used to pay for lodging for approved travel, provided there are no charges for room upgrades, room service, amenities, sales tax, and/or hotel motel tax. P-Cards may only be used by the card holder. Card holders are responsible to ensure that sales tax is not charged. The card holder shall attach a P-Card Expense Log and receipts with the monthly statement. P-Cards may be suspended or revoked for improper use.

Check Requests

A Check Request Form should be submitted for non-travel related reimbursements and purchases without an invoice. Reimbursements for travel-related expenses should be submitted via the Travel Request. Receipts or other documentation must be submitted with the Check Request.

Competitive Bids

Purchases of more than $100,000 require a competitive sealed bid process; however the County Manager or Purchasing Director reserve the right to call for competitive bids without regard to amount. As used herein, "bidding" shall include requests for bids, requests for proposals (RFP) and requests for qualifications (RFQ). All competitive bids shall be advertised on the County website. Bids shall be advertised on the Georgia Procurement Registry and in the local organ as required by law. All bids will be advertised for at least one week or as required by law.

Public works constructions projects estimated to exceed ~~$100,000~~ 250,000 (O.C.G.A. 36-91-22(a)) require a sealed bid process. The project must be advertised in the legal organ of the county a minimum of two times or on the County's website in accordance with O.C.G.A. 36-91-20. If advertised in the legal organ it shall be advertised a minimum of two times, the first advertisement occurring at least four

weeks prior to the opening of the sealed bids. The second advertisement shall follow no earlier than two weeks from the first advertisement. Bid requests solely advertised on the Internet shall be posted continuously for at least four weeks prior to opening of sealed bids. The request shall also be posted on the Georgia Procurement Registry.

Public road construction projects estimated to exceed ~~200,000~~ $250,000 must be awarded via sealed bid. The project must be advertised for at least two weeks in the legal organ of the County per O.C.G.A. 32-4-65. The first advertisement shall be two weeks prior to the bid opening and the second to follow one week after the first. Projects will also be posted on the County's web page and the Georgia Procurement Registry. Emergency maintenance requiring immediate repairs to a public road do not require a sealed bid per O.C.G.A. 32-4-63. For public road construction projects under $250,000 the County may negotiate a contract instead of using a competitive bid process but must obtain at least two estimates (O.C.G.A. 32-4-63).

If necessary, pre-bid meetings will be conducted with potential vendors. No bid will be accepted if it is received after the advertised deadline. Sealed bids shall be opened publicly at the prescribed date, time and place in accordance with O.C.G.A. 36-91-21

The County reserves the right to reject any bid that does not meet all conditions, requirements, and specifications. If no qualified bid is received, the County can reject all bids and rebid the project. ~~Preference will be given to local vendors whose bid is within 5% of the lowest bid.~~

The Purchasing Director ~~and~~ or the County Manager will recommend the vendor to be selected to the Board of Commissioners. The Board of Commissioners will select the vendor by majority vote. The Board of Commissioners shall authorize the Chairman to sign any necessary contracts to proceed with the purchase. If the low bidder is not selected, justification must be submitted.

Bonds and Insurance

In accordance with O.C.G.A. 36-91-50 and 36-91-51, construction projects valued over $100,000 shall require a bid bond to guarantee the bid will be maintained in full force and effect for 60 days. The bid bond should be at least 5% of the bid price. At the County Manager's discretion, the bid bond requirement may be satisfied by receipt of a certified bank check or an irrevocable letter of credit.

A performance bond is required for all public works construction contracts with an estimated value greater than $100,000 per O.C.G.A. 36-91-70. A performance bond is required for any public roads contract exceeding $5,000 per O.C.G.A. 32-4-69. The County may require performance bonds for other capital projects. Performance bonds shall be for the amount equal to one hundred percent of the price specified in the contract, or any other higher amount determined by the County to be in the best interest of the County.

A payment bond shall be required for all public works construction contracts awarded in excess of $100,000 per O.C.G.A. 36-91-90 and for public roads contracts in excess of $5,000 per O.C.G.A. 32-4-69. The payment bond shall be in an amount equal to one hundred percent of the price specified in the contract, or any other higher amount determined by the County to be in the best interest of the County.

All contractors are required to provide certificates of insurance with the County named as additional insured for all capital projects. The minimum coverage limits are $1,000,000 general liability, $150,000

automobile liability and current statutory limits for Workers' Compensation.

Sole Source Purchases

Sole source purchases allow for procuring goods or services from a single source without soliciting bids from multiple sources. Sole source purchases may be accomplished when the vendor of goods or provider of services is:

- Another unit of government, educational institution, or a division of county government
- A professional service
- The only source of an item that has been determined to be specifically suited to the needs of the county. Justification that there is only one source available to meet the specifications is required

Emergency Purchases

In the event of a natural disaster or other situation that severely hampers a department's operations or in which the preservation of life, health, safety, or property may be at risk, the County Manager and Purchasing Director shall have the authority to make purchases that exceed the normal thresholds. The County Manager will consult with the Chairman of the Board for emergency purchases exceeding $50,000.

Capital Assets

Purchases of capital assets valued over $10,000 and having a useful life greater than one year or infrastructure projects valued over $50,000 must be recorded on asset inventory. When capital assets are sold, they must be removed from the asset inventory.

Surplus/Disposal of County Owned Property

Personal Property/Equipment that is no longer ~~necessary~~ utilized, is in unusable condition, or has been replaced ~~that~~ and has a salvage value of more than ~~$100~~ $1,000 shall be presented to the Board of Commissioners to be declared surplus property. The County Manager or Procurement Director can approve property with salvage value up to $1,000 as surplus. Once declared surplus property, the Purchasing Officer shall attempt to sell via live or online auction or sell scrap metal. Items that don't sell shall be destroyed and disposed of properly. The County Manager is also authorized to approve the sale of items to other units of government or educational institutions for a negotiated price. Items that have a salvage value of less than $100 shall be destroyed and disposed of properly. Sale of real property shall be in compliance with applicable State Law.

ATTACHMENTS

Samples of forms referenced in the policy are attached. All are also available in electronic format.

1. Procurement Reference Chart
2. ~~Purchase Order Request Form~~

3. P-Card Expense Log
4. Check Request

Morgan County Procurement Quick Reference Chart

The Chart below outlines the general polices and requirements for purchases. Refer the the policy for limited exceptions to the requirements.

Cost	Quote/Bid Requirements	Approvals Needed
$0 - $4,999.00	Single Quote	Department Head
$5,000 to $10,000.00	3 verbal or written quotes Purchase Order Required	Department Head, Purchasing Director
$10,000.01 to $25,000.00	3 written quotes Purchase Order Required	Department Head, Purchasing Director, County Manager
$25,000.01 to $100,000.00	3 written quotes Purchase Order Required	Department Head, Purchasing Director, County Manager, Board of Commissioners
Greater than $100,000.00	Competitive Sealed Bids	Board of Commissioners

Purchasing under a State, National Contract, or purchasing Co-op is authorized in lieu of obtaining quotes/competitive bidding when it is to the advantage of the County. The same spending approval levels and purchase order requirements stated above apply to such purchases.

For any purchase requiring verbal or written quotes, each quote must be for the same product, or a comparable product made by another company. The purchase shall be made from the offeror whose proposal is determined to be the most advantageous to the County. Preference will be given to local vendors whose bid is within 5% of the lowest bid unless prohibited by State Law.

CREDIT EXPENSE LOG

Card Holder ____________________
Department ____________________
Month ____________________
Account Visa

Receipt #	DATE	VENDOR	DESCRIPTION/JUSTIFICATION	DEPT/EQUIPMENT	AMOUNT	ACCOUNT CODE

TOTAL $0.00

____
Account Holder
I certify the above statements are true and funds were expended in performance of official duties

____
Supervisor
I certify the above funds were expended in accordance with County Policy.

MORGAN COUNTY, GEORGIA

REQUEST FOR CHECK

DATE: _____

PAYABLE TO: _____

ADDRESS: _____

CITY, STATE, ZIP _____

_____

ACCOUNT #	DESCRIPTION	AMOUNT
Enter Appropriate Acct #		

The above expenditure is necessary for the operation of the County and a purchase order has not been issued for same.

TOTAL **$0.00**

_____

Department Head/Elected Official

This request for voucher has been reviewed by the Finance Department for conformance to purchasing rules.

The amounts stated on this REQUEST FOR VOUCHER have been verified as being available from unencumbered County Funds.

_____ _____

Initials **Date**

MORGAN COUNTY AGENDA REQUEST

Department: Administration

Presenter(s): P. Jaugstetter

Meeting Date: mm/dd/yyyy 8/18/2026

Type of Request: New Business

Wording for the Agenda:

Discussion of Draft Legislation Re-Establishing the Board of Commissioners of Morgan County

Background/History/Details:

The Board has directed the county attorney to create draft legislation to clean up outdated language of the Board of Commissioners, its duties and powers, as well as positions of county manager, county clerk, and county attorney.

Legal will discuss this draft legislation and facilitate discussion and answer and questions of the Board.

What action are you seeking from the Board of Commissioners?

Discussion and consideration to advance.

If this item requires funding, please describe:

N/A

Has this request been considered within the past two years? No

If so, when?

Is Audio-Visual Equipment Required for this Request?* No

Backup Provided with Request? Yes

* ***All audio-visual material must be submitted to the County Clerk's Office no later than 48 hours prior to the meeting. It is also your department's responsibility to ensure all third-party audio-visual material is submitted at least 48 hours in advance.***

Approved by Finance: Not Applicable

Approved by Purchasing: Not Applicable

Manager's Approval: Yes

Staff Notes:

ARTICLE I. BOARD OF COMMISSIONERS

Section 1. Created.

There is hereby created in and for the County of Morgan, a Board of Commissioners to be elected and organized as hereinafter provided, which Board of Commissioners, also known as the "Board", shall constitute the governing authority of said County and shall exercise the powers, duties, and responsibilities specified herein and imposed upon said officers by the laws of the State of Georgia. At the first meeting of the Board in January each year, the Board shall elect one of its members as Chairperson. Such member shall serve as Chairperson through December 31 of said year and until a new Chairperson is elected in the following year.

Section 2. Membership; composition.

(a) The Board of Commissioners of Morgan County shall consist of five members. For the purpose [of] electing such members, Morgan County shall be divided into five commissioner districts. The districts shall be and correspond to those five numbered districts described in and attached to and made a part of this Act and further identified as

……..

WE WILL NEED THE ASSISTANCE OF THE GENERAL ASSEMBLY'S REAPPORTIONMENT OFFICE FOR THIS SECTION

(b) There shall be one member of the Board from each commissioner district. A commissioner must reside in the commissioner district such person represents. A candidate shall designate the district from which such candidate offers for election. Beginning with the general election in 2010 and continuing in subsequent elections, members of the Board shall be elected by the electors of their respective districts and not by the voters of the entire county. The election of members of the Board shall be conducted in accordance with the provisions of Chapter 2 of Title 21 of the O.C.G.A., the "Georgia Election Code."

(c) The members of the Board who were elected at the general election in November _____ shall continue in office for the terms to which they were elected and until successors are elected and qualified as provided in this Act. The members of the Board who were elected at the general election in November _____ shall continue in office for the terms to which they were elected and until successors are elected and qualified as provided in this Act

(d) The first members of the reconstituted Board of Commissioners of Morgan County from Commissioner Districts __, ___ and ___ shall be elected at the general election in November ____. Such members shall take office on January 1 following their election for terms of four years and until their successors are elected and qualified.

(e) The first members of the reconstituted Board of Commissioners of Morgan County from Commissioner Districts ___, ___, and ___shall be elected at the general election in November _____. Such members shall take office on January 1 following their election for terms of four years and until their successors are elected and qualified.

(f) Successors to members elected under subsections (e) and (f) of this section shall be elected at the November general election next preceding the expiration of such terms of office and shall take office on January 1 following their election for terms of four years and until their successors are elected and qualified.

(g) Commissioner Districts 1, 2, 3, 4, and 5 as they existed on January 1, 2025, shall continue to be designated as Commissioner Districts 1, 2, 3, 4, and 5, respectively, but as newly described under this Act, and, on and after the effective date of this Act, such members of the Board serving from those former commissioner districts shall be deemed to be serving from and representing their respective districts as newly described under this section.

……..

WE WILL NEED THE ASSISTANCE OF THE GENERAL ASSEMBLY'S REAPPORTIONMENT OFFICE FOR THIS SECTION

Section 4. Qualifications.

The Commissioners shall be citizens of this State who have attained the age of twenty-five (25) years and who have been residents of Morgan County not less than two (2) years next preceding their election, and they shall hold no other office of the county, or of any municipality within or whose boundary abuts the county, or the State of Georgia. If a commissioner accepts a sworn position with a municipality (i.e., a paid or volunteer municipal police officer), the commissioner shall disclose same to the Board of Commissioners within a reasonable time.

Section 5. Oath and Bond.

Before entering upon the discharge of their duties, the Chairperson, and other members of the Board shall subscribe an oath before Judge of the Probate Court of Morgan County for the true and faithful performance of their duties and that they are not the holders of any unaccounted for public funds. Their Chairperson shall give a satisfactory surety bond to be approved by the Judge of the Probate Court of Morgan County, payable to the said Judge or his successor in office and filed in the office of the Judge of the Probate Court, in the sum of twenty-five thousand dollars ($25,000.00), conditioned upon the faithful performance of the duties of his office. In addition, each of the other members of the Board shall give a satisfactory surety bond to be approved by the Judge of the Probate Court of Morgan County, payable to said Judge or his successor in office and filed in the office of Judge of the Probate Court, in the sum of ten thousand dollars ($10,000.00), conditioned upon the faithful performance of the duties of their respective offices. The premiums for said bonds shall be paid out of the County treasury.

Section 7. Salary.

The salary, compensation, expenses, and expenses in the nature of compensation payable to the Morgan County Board of Commissioners may be established and amended from time to time in accord with the procedures established in O.C.G.A. § 36-5-24.

Section 8. Powers and Authority of Board of Commissioners.

(a) The Board of Commissioners of Morgan County, Georgia, in addition to such power and authority granted to it by local law, general statute, the Constitution of the State of Georgia, or the now existing ordinances of Morgan County, Georgia, shall have the power to:
    1. Appoint, by majority vote, a County Manager, County Clerk, and County Attorney for Morgan County, Georgia;
    2. Establish, consistent with the provisions of this Act, the compensation and job description of the County Manager and assistant County Managers;
    3. Establish, consistent with the provisions of this Act, the compensation and job description of the County Clerk and such assistant County Clerks as deemed necessary; provided, however, that, in addition to any additional duties and responsibilities, the County Clerk shall be the official custodian of records for Morgan County and shall keep and maintain the minutes of meetings of the Board of Commissioners of Morgan County;

4. Establish, consistent with the provisions of this Act, the compensation of such attorney or attorneys designated to serve as County Attorney who shall serve as legal counsel to the chairperson and the Board of Commissioners.

(b) The chairperson of the Board of Commissioners of Morgan County shall:

1. Serve as presiding officer over all meetings of the Morgan County Board of Commissioners;
2. Serve as a full voting member of the Board of Commissioners.

OR

1. Refrain from casting a vote on matters coming before the Board of Commissioners except to break a tie vote.
2. Execute documents and instruments on behalf of the county;
3. Coordinate intergovernmental activity between the County and municipalities, other counties, other political subdivisions, and state and federal agencies;
4. Represent or designate an individual to represent Morgan County at ceremonial functions; and
5. Approve all expense, reimbursement, or other non-salary payments to Commissioners.

Section 8. Police powers.

(a) In addition to any other powers or authority granted to the Board of Commissioners herein, The Board of Commissioners of Morgan County is hereby delegated the police powers of the State with respect to persons and property situated within the County of Morgan, except with respect to those persons or property situated within the territorial limits of any municipality in such county, and in the exercise of such powers is expressly authorized and empowered to make and establish by ordinance or resolution such rules and regulations respecting persons or property and all other matters and things affecting the good government of the County as it shall deem requisite and proper for the security, welfare, health, and convenience of said County and for the preservation of the peace and good order of the same.

(b) Any person, firm, or corporation violating any rule, regulation, ordinance, or resolution made by said Board of Commissioners and established pursuant to the powers authorized by subsection (a) of this Section shall be guilty of a Code violation and, upon conviction of same, shall be punished in accord with O.C.G.A. § 36-1-20.

(c) The powers herein conferred are not to be construed as exhaustive of or in conflict with other powers heretofore conferred upon the Board of Commissioners of Morgan County but, on the contrary, shall be construed as cumulative and in aid of such other powers.

Section 9. Meetings.

(a) The Board shall hold regular meetings on the first and third Tuesday of each month commencing at 5:00pm. The Board may designate one such regular meeting as a Workshop Meeting.

(b) Special and emergency meetings may be held upon call by the Chairperson of the Board of Commissioners or by no fewer than three Board members which may include the Chairperson. Notice of such meetings shall be in accordance with O.C.G.A. §50-14-1.

(c) The Board of Commissioners shall, from time to time, establish rules and regulations governing the conduct of business at its meetings.

Section 10. Vacancies.

In the event a vacancy occurs on the Board for any reason whatsoever other than the expiration of a member's term of office, such vacancy shall be filled in the following manner. It shall be the duty of the election superintendent of Morgan County to call and hold an election as soon after the date such vacancy occurs as general law permits, for the purpose of electing a person to serve the unexpired term; except that if the vacancy occurs within 90 days from the date of the regular election to elect a successor, then no special election shall be held and the person elected at the regular election shall also serve for the unexpired term. A person elected to fill a vacancy on the Board shall be a resident of the district from which the original Board member was elected.

Section 11. Quorum.

Three (3) members of the Board shall constitute a quorum for the transaction of all business which may come before them.

Section 12. Financial statements.

The Board shall have prepared annually by a certified public accountant an audit of the financial affairs and transactions of all funds and activities of the County for each fiscal year in accord with O.C.G.A. § 36-81-7, which audit shall be forwarded to the state auditor within 180 days after the close of the county's fiscal year and a copy of which shall be maintained as a public record for public inspection during the regular office hours of the county.

Section 13. County Clerk.

(a) The Board is hereby empowered and authorized to appoint, employ and engage the services of County Clerk. The salary of said clerk shall be established pursuant to the Morgan County personnel policies and otherwise at the discretion of the Board. Said clerk shall perform all duties as directed by the Board, keep all records, and generally do and perform all other clerical or other duties as he may be directed by the Board. The clerk shall not be vested with any judicial powers or duties and shall perform his duties as directed by the Board.
(b) The clerk shall keep a proper and accurate book of minutes, wherein shall appear all orders and proceedings had and passed with reference to County matters and accurate financial records in accord with the laws of the State of Georgia and any locally adopted purchasing, accounting, financing or audit procedures.

Section 14. County Attorney.

The Board is hereby empowered and authorized to appoint, employ and engage a County Attorney and fix his compensation, which shall be paid in such manner as the Board shall determine from the funds of Morgan County. In the event of litigation, the Board shall be authorized to pay any additional sum that may be reasonable and shall also have the authority to

employ additional counsel to aid in such litigation if the Board deems the same to be necessary and expedient.

Section 15. County manager.

(a) Creation of County Manager Position. There is created in Morgan County, the position of County Manager. The County Manager shall be appointed by and serve at the pleasure of the Board.
(b) Qualifications. No person shall be chosen as County Manager before he shall have attained his/her twenty-first birthday. Such person shall be of good character and of proven executive ability and experience. The County Manager shall be chosen by the Board of Commissioners solely on the basis of his/her executive and administrative qualifications with special reference to such person's actual experience in or knowledge of accepted practice with respect to the duties of the office as may be prescribed by the Board of Commissioners by way of job description, contractual agreement or Board.
(c) Salary| and Compensation. The Board shall establish, from time to time, the salary and other compensation due and payable to the County Manager.
(d) Employment Contract. The Board of commissioner may enter into a contract with the County Manager to define (i) the terms and conditions of employment; (ii) the County Manager's compensation; (iii) the duties and responsibilities of the county; and (iv) such other matters as the Board of Commissioners deems appropriate, provided that the terms of such employment contract shall not conflict with the terms hereof.
(e) Duties and Responsibilities. Consistent with O.C.G.A. §36-5-22, the County Manager shall is the chief administrative and operational officer of the County and is responsible to the Board of Commissioners for the efficient and orderly administration of County government. The County Manager shall implement the policies, ordinances, resolutions, and directives adopted by the Board and shall supervise the day-to-day operations of all County departments, offices, and functions placed under the Manager's authority. The County Manager's duties and authority include:

1. **Administration.** Direct and coordinate the daily operations of County government and ensuring that County services are provided efficiently, professionally, and in accordance with applicable law and Board policy.
2. **Personnel.** Appoint, supervise evaluate, discipline, and remove County department heads and employees under the jurisdiction of the Board, subject to the County's local act, personnel policies, merit-system requirements, and any appointments reserved to the Board.
3. **Budget.** Prepare and submit a proposed annual budget and capital-improvement program to the Board; administer the budget adopted by the Board; monitor revenues and expenditures; and keep the Board informed concerning the County's financial condition.

4. **Board support.** Attend meetings of the Board, providing information and recommendations requested by the Board, prepare or coordinate agenda materials, and ensure that actions approved by the Board are carried out.
5. **Contracts and purchasing.** Administer County purchasing and contracting in accordance with the adopted budget and purchasing ordinance, including executing contracts and approving expenditures when expressly authorized by the Board or by duly adopted policy.
6. **Organizational management.** Recommend the establishment, consolidation, reorganization, or elimination of County departments and positions when necessary to improve County operations, subject to Board approval where required.
7. **Intergovernmental relations.** Represent the County in administrative dealings with municipalities, other counties, regional commissions, state and federal agencies, and other governmental entities, consistent with policies established by the Board.
8. **Property and facilities.** Supervise the maintenance and use of County property, equipment, buildings, and facilities under the Board's jurisdiction.
9. **Compliance and reporting.** Ensure that County operations comply with applicable laws, ordinances, regulations, financial controls, and Board policies, and providing periodic operational and financial reports to the Board.
10. **Emergency administration.** Coordinate County administrative operations during emergencies and exercising such emergency authority as may be granted by law, ordinance, or resolution.
11. **Additional duties.** Perform other administrative duties assigned by the Board that are consistent with the County's local act and applicable law.

OR (AS SPELLED OUT IN THE PREVIOSLY ADOPTED ORDINANCE ESTABLISHING THE OFFICE AND POSITION OF THE COUNTY MANAGER

1. Oversee the management and operation of all Morgan County Departments and Personnel.
2. Oversee the financial affairs of Morgan County and take all necessary steps to improve Morgan County's financial situation.
3. Provide professional leadership in the operations of all Morgan County Departments and Personnel.
4. Promote a healthy, professional, and effective working relationship with all employees, Constitutional officers and their employees.
5. Prepare an agenda for and present reports on the status of all Morgan County operations at each regularly scheduled Meeting of the Board of Commissioners and adequately respond to questions from members of the Board of Commissioners at such Meetings.
6. Manage the development activities of Morgan County, including the preparation of ordinances and the negotiation of appropriate agreements related thereto.
7. Plan for future Morgan County programs and community needs.

8. Participate in appropriate local government affairs.
9. Strictly adhere to and ensure strict adherence by all Departments and employees to all Federal, State, and County laws, rules and regulations, and avoiding neglect, criminal offenses and unauthorized disclosures of business records and financial information.
10. Take such actions as are reasonably necessary and appropriate to carry out the polices, ordinances and directive of the Board of Commissioners of Morgan County, Georgia.
11. Such other and further duties and responsibilities as are normally undertaken by a County Manager in Georgia.

Section 16. Effective dates.

The provisions of this Act and any amendment thereto shall become effective in accordance with governing law.

Section 17. Severability.

In the event any section, subsection, sentence, clause or phrase of this Act shall be declared or adjudged invalid or unconstitutional, such adjudication shall in no manner affect the other sections, subsections, sentences, clauses or phrases of this Act, which shall remain of full force and effect, as if the section, subsection, sentence, clause or phrase so declared or adjudged invalid or unconstitutional was not originally a part hereof. The General Assembly hereby declares that it would have passed the remaining parts of this Act if it had known that such part or parts hereof would be declared or adjudged invalid or unconstitutional.

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