

RFP# 5217

**COUNTYWIDE RADIO COMMUNICATIONS
INTEROPERABILITY AND SYSTEMS
ENGINEERING SERVICES**

Presented to:
Orange County, North Carolina
March 1, 2016



Omnicom Consulting Group, Inc.

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Tallahassee, Florida 32309
Website: www.ocg-usa.com

RFP Contact: Tim Barrentine
President
Telephone: 850-792-4723
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Omicom Consulting Group, Inc.
2927 Habersham Drive
Tallahassee, FL 32309
Tel: 850-792-4705
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COVER LETTER

March 1, 2016

Mr. David Cannell
Purchasing Agent
200 S. Cameron Street
PO Box 8181
Hillsborough, NC 27278

RE: RFP# 5217 Countywide Radio Communications Interoperability and Systems Engineering Services

Dear Mr. Cannell:

Omicom Consulting Group, Inc. (OCG) is pleased to submit this proposal to Orange County, North Carolina (the County) for professional radio communications consulting services to support the replacement and or improvements to the County's public safety radio system. The attached proposal details the tasks required for the successful completion of the project as defined in RFP# 5217 Countywide Radio Communications Interoperability and Systems Engineering Services. OCG is confident that our approach will facilitate the development of a consensus among system stakeholders through a collaborative and interactive process that will be a key part of the success of the radio communications system improvements. OCG understands and accepts the terms and conditions, addendums and all other requirements of the RFP without exception.

While the company and OCG name are new, the personnel and proposed project team are not. OCG's personnel are all former employees of RCC Consultants, Inc., and have over 120 years of combined public safety communications systems consulting experience. Additionally, we have worked together as a team for over 10 years, and two of us have worked together for over 20 years. OCG's personnel have been providing services similar to those required by Orange County for many years. OCG's most recent and current P25 projects include, Prince William County, VA, Athens-Clarke County, GA (which also includes the University of Georgia), the State of Florida SLERS replacement project, the Sarasota County and Manatee County, FL Regional System, Palm Beach County, FL, Charlotte County, FL, Pasco County, FL, and Polk County, IA. The vendors selected in our recent procurements include Airbus DS Communications, Motorola Solutions, and Harris Corporation. The fact that three different vendors were selected in recent proposal evaluations demonstrates our independence and vendor neutrality. This is critically important in a public sector procurement involving millions of dollars.

A key component of the P25 Standard, vendor-neutral technology, enables an unprecedented level of competition between vendors. We understand that our objectivity and unbiased position is of the utmost importance to our clients and the public they serve. Most importantly, OCG has no affiliation or conflict of interest with any vendor, and brings independence and objectivity to the County's project. Our sole focus is to assist our clients in implementing the very best communications solution for their unique needs and requirements.

OCG personnel proposed for this project have extensive experience assisting clients with communication system upgrades from legacy proprietary systems to state-of-the-art interoperable P25 digital systems. The large majority of these systems are wide area simulcast and in the 700/800 MHz frequency band. OCG's proposed Project Manager and project team have extensive public safety radio system experience, as well as the educational, professional engineering, and project management certifications required for this project.

We believe that our proposal demonstrates our extensive qualifications and experience that are directly relevant to that required by the County, and makes OCG uniquely qualified to provide the County with the services required by the RFP.

OCG's project team resources are available and ready to begin this important project once given the notice to proceed by the County. If there are questions regarding OCG's proposal, or if you would like to schedule an oral presentation, please contact:

Tim Barrentine, PMP
President, Omnicom Consulting Group, Inc.
2927 Habersham Drive
Tallahassee, FL 32309
Telephone: 850-792-4723 Fax: 850-894-0950
Email: tbarrentine@ocg-usa.com

As an officer of the company, I am authorized to bind OCG to the services proposed herein.

Respectfully,



Tim Barrentine, PMP
President, Omnicom Consulting Group, Inc.

Enclosures: RFP Response

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4 GENERAL PROPOSAL REQUIREMENTS

4.A. Introduction

OCG understands that the County's primary means for voice radio communications is the State of North Carolina owned and operated, 800 MHz P25, Voice Interoperability Plan for Emergency Responders (VIPER) system. The County utilizes approximately 1,300 radio IDs on the VIPER system and dispatches law enforcement, fire, EMS and all County and local municipality users from 11 radio dispatch console positions at the County Emergency Communications Center.

In conjunction with the VIPER system, the County operates a VHF tone paging system that is utilized to alert fire departments throughout the County. Additionally, there are numerous other distinct radio systems in use within the County including Solid Waste, Orange County Transportation, Orange County Schools, Orange County Water and Sewer Authority, Town of Carrboro, Town of Chapel Hill, and Town of Hillsborough.

The County has multiple problem issues with the VIPER system including a lack of system coverage, lack of system capacity, and lack of a clear system improvements plan to name a few. The other County owned radio systems are old and quickly approaching end of support by their respective manufacturers.

The County has conducted radio system studies in the past but they have failed to provide a clear direction for the policy and decision makers of the County to identify the best path forward. From this project, the County seeks strategic and tactical plans that will review and analyze the current and future communication needs of all system stakeholders. The plan should address short and long term goals, interoperability, RF coverage, and future technology needs of County stakeholders. The ultimate result of OCG's work will be the development of a vendor-neutral Request for Proposals (RFP) document. The RFP will incorporate the recommendations of the Needs Analysis and Alternative Design Report as approved by the County's stakeholders.

There are many upcoming challenges in this process and based upon OCG's experience with similar projects, we believe that some of the challenges that the County may face include the following:

- The cutover of a live radio system, especially if using the existing frequencies
- Adequate space in dispatch locations for parallel operation
- Structural tower loading problems created by parallel antenna systems
- The physical, electrical, and HVAC system capacity within the existing equipment shelters to support parallel systems

- NPSPAC Region 31 compliance: antenna system design and coverage optimization
- Ensuring smooth and seamless interoperability with systems of differing technologies such as legacy analog systems
- Understanding of the local communications environment and how it pertains to the interface requirements of the new P25 system with other local systems

4.B. Organization Capabilities

OCG was formed in March of 2015 by five former RCC Consultants employees, and is incorporated in the State of Florida. OCG is a trusted industry advisor to our clients, including state and local governments, utilities, public works, transportation, public safety, education and healthcare clients. OCG understands and appreciates the unique needs of public sector agencies. OCG corporate and contact information is provided below:

Corporate Headquarters:

Omnicom Consulting Group, Inc.
2927 Habersham Drive,
Tallahassee, FL 32309
Phone: 850-792-4723
Fax: 850-792-4706
EIN: 47-3435197
Florida Corporate Charter Number: P15000024647
Web: www.ocg-usa.com

Contact:

Tim Barrentine, President
2927 Habersham Drive,
Tallahassee, FL 32309
Phone: 850-792-4723
Fax: 850-792-4706
Email: tbarrentine@ocg-usa.com

4.C. Staff Qualifications

About Our People

Our staff has gained the reputation of being a respected leader in all of the markets we serve because of the depth and breadth of our knowledge and experience. Our strategy is to continuously develop and retain the most talented staff in the consulting industry. With a rich variety of experience and qualifications, this talent is carefully matched to projects based on our clients' specific objectives.

We are especially proud of the overall experience of our team. OCG's project team has a total combined 120 years of consulting and communications system experience.

120

The total combined years of consulting experience of OCG's project team

Introduction of Our Project Team

OCG has carefully chosen an expert Project Manager and project team that will allow us to serve the County. Our multi-disciplinary team enables us to match the project's specific needs with the extraordinary and varied experience of our professionals and their proven ability to deliver quality public safety telecommunications consulting and engineering services on time and within budget. Our team has a minimal start-up time based upon prior experience with the technology, thereby saving the County money by avoiding the payment of fees for a consultant to mobilize and ramp up their consulting resource knowledge base.

The proposed core project team consists of five individuals of whom:

- The Project Manager has more than 38 years of experience in the public safety radio communications systems and consulting.
- Four team members hold engineering degrees from accredited engineering schools, one has a Master's Degree, three are professional engineers and four are certified project management professionals (PMP).

Our proposed Project Manager, Lew Phillips, will be the County's primary point of contact and is responsible for the day-to-day management of the project. Mr. Phillips is based in Tallahassee, Florida and his contact information is provided below.

Lew Phillips
2927 Habersham Drive
Tallahassee, FL 32309
lphillips@ocg-usa.com
(Office) 850-792-4714
(Cell) 850-322-0964

Project Team Organization

OCG has significant staff resources specializing in the skill set needed to complete the scope of services described in the County’s RFP. Our staff brings a rich variety of experience and qualifications to the County’s Project and has been working together as a team from 11 to 24 years. We envision addressing the scope of work with a core team who will remain involved for the entire project. The OCG team abbreviated resumes describes the role and qualifications of each member. The team’s extended resumes are provided in the back of our proposal. The following project team organizational chart provides the structure of our project team:

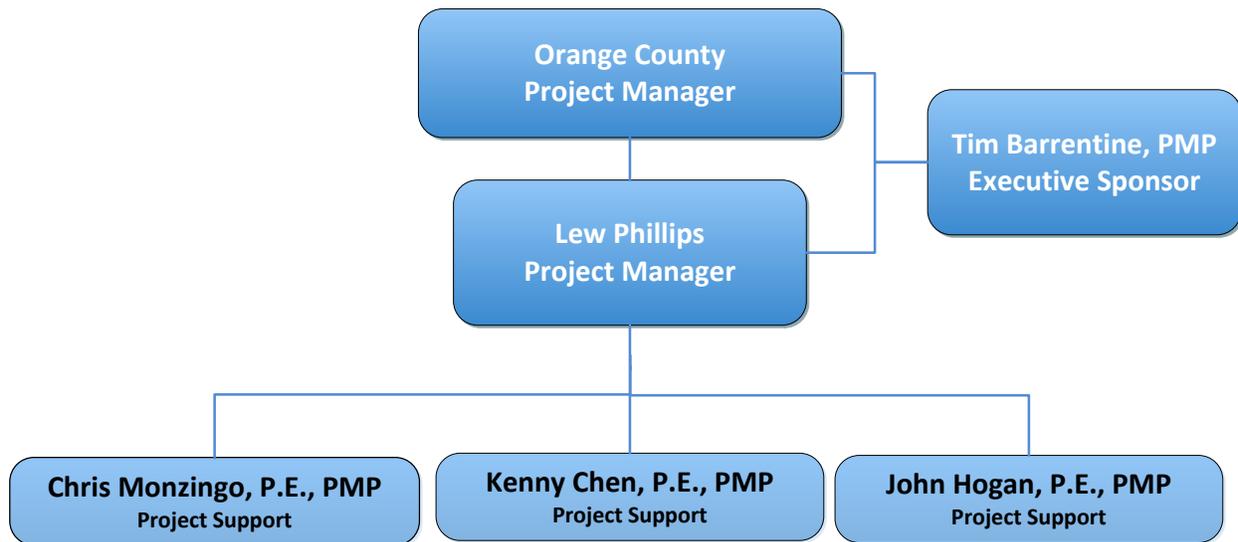


Figure 2 - Project Team Organization Chart

OCG has proposed all personnel at a blended rate of \$140.00/hour plus actual travel expenses.

Project Team Roles and Expertise

TIM BARRENTINE, PMP – Executive Sponsor

Mr. Barrentine, President of OCG, is the assigned OCG Executive Sponsor. In this role, he will be intimately involved with the project from start to finish and will be readily available to the County. While day-to-day operations will be maintained by the OCG's Project Manager, Mr. Barrentine's role will be to ensure project success by assuring that appropriate resources are available to the project at all times.

Mr. Barrentine has personally been involved in numerous large trunked system, microwave, and P25 projects in his 24-year career. Mr. Barrentine is currently the Project Manager for the Sarasota-Manatee County P25 Project with Airbus, the Polk County, IA P25 Project with RACOM-Harris, and is winding down as the Project Manager for the Prince William County, VA P25 Project with Motorola.

Mr. Barrentine is a certified Project Management Professional by the Project Management Institute, and holds certifications in the Incident Command System (ICS), National Incident Management System (NIMS), and Homeland Security Exercise and Evaluation (HSEEP) Program. Mr. Barrentine's technical expertise include interoperable communications system assessments, design and implementation, exercises and training programs, MPLS IP and TDM microwave systems, IP network design, grounding systems, AC/DC power systems, and communications site development. Mr. Barrentine has Bachelor of Science Degrees in both Electrical Engineering and Geology from Florida State University.

Education, Licenses, Certifications: BSEE, PMP, NIMS, HSEEP, ICS

Total years of experience: 24

Lew Phillips – Project Manager

Mr. Phillips is a Senior Consultant with OCG and has more than 38 years of experience in public safety and public service communication systems and is assigned the role of Project Manager for this Project. Lew will be the single point of contact for the County, and will be assisted on the project as needed by the rest of the OCG team.

He is responsible for assisting OCG clients in the design, procurement and implementation of voice and data communications systems. For the past several years, he has been leading large-scale public safety migration projects, most of which involve the migration to P25 technologies. Mr. Phillips is currently providing project support for the Polk County, IA project, and is the Project Manager for Charlotte, FL for their upgrade from Motorola SmartNet to a P25 Phase 1 and 2, 7-site simulcast, 16-channel, trunked radio system. Additionally, he has just completed his work as the Project Manager for Athens-Clarke County, GA for their upgrade from a Motorola SmartNet to a Motorola P25, 4-site simulcast, 12-channel, Phase 1-2 radio system. His areas of expertise include needs assessment, communications system assessment and design, FCC licensing, development of system procurement specifications, proposal/bid evaluation,

negotiations, implementation assistance, and acceptance testing. Mr. Phillips has experience with various communications systems technologies and their associated infrastructure including multisite/simulcast, P25 Phase 1 and 2, VHF, UHF, 700/800/900 MHz conventional and trunked, analog and digital land mobile radio systems, SCADA systems, microwave backhaul systems, mobile data systems, communications facilities planning, transportation communications systems, and antenna site development, implementation, and grounding and bonding. His in-depth experience in on-going system maintenance and optimization foster his understanding of system performance issues from the client's perspective.

Education, Licenses, Certifications: Penn State University, Allegheny Technical Institute, FCC General Radiotelephone License, Motorola National Service Training, Motorola R56 FNE Standard, PMI Project Management Training

Total years of experience: 38

CHRIS MONZINGO, P.E., PMP – Project Support

Mr. Monzingo is a Senior Consultant with OCG and is assigned the role of Project Support for this Project. Mr. Monzingo has actively participated in the design and engineering of many of the P25 projects that OCG personnel have worked over the recent past, including the St. Johns County, Athens Clarke County, Prince William County, City of Pensacola, Pasco County, Sarasota County and Manatee County radio systems.

Mr. Monzingo is responsible for assisting OCG clients with the design and implementation of wireless communications systems. Mr. Monzingo has participated in the planning, analysis and design of wireless systems including hands on experience in engineering design and development for VHF/UHF/700/800 MHz P25, conventional and trunking, simulcast and multi-site land/mobile radio systems and licensed and unlicensed microwave systems in all frequency bands.

Mr. Monzingo's areas of expertise include project management, needs assessment, microwave system design, RF coverage analysis, proposal/bid evaluation, electrical system design, communication shelter design, NIMS, ICS, HSEEP Exercise Design and the NEC expertise.

Mr. Monzingo has over 22 total years of professional experience and is a Professional Engineer in the State of Florida (PE#73902), in the State of Georgia (PE#037855), in the State of South Carolina (31931) and in the State of Alabama (34784-E). Mr. Monzingo is also a registered model law engineer with NCEES (52245) and is a Project Management Professional (PMP #1385992). He received his bachelor's degree in electrical engineering and MBA from Florida State University. Mr. Monzingo also holds certifications in NIMS, ICS, exercise design and evaluation.

Education, Licenses, Certifications: BSEE, MBA, PE, PMP, NIMS, ICS

Total years of experience: 22

KENNY CHEN, P.E., PMP – Project Support

Mr. Chen is a Senior Consultant with OCG and has over 15 years of experience providing expert communications consulting services to public safety and public service agencies around the country. He is responsible for assisting OCG clients in the design and implementation of voice and data communications systems, multisite/simulcast, P25 digital, VHF, UHF, 700/800 MHz conventional and trunked land mobile radio systems, SCADA systems, microwave backhaul systems, mobile data systems, and antenna site installation and grounding and bonding. For the past several years, he has been leading large-scale public safety migration projects, most of which involve P25. Mr. Chen is currently the Assistant Project Manager for the Palm Beach County 800 MHz P25 Project, and is winding down as the Project Manager for the City of Coral Springs, FL P25 Project with Motorola. Also as a Project Manager, Mr. Chen recently completed work on a 700 MHz P25 Project in Glynn County, GA for a Motorola system..

Mr. Chen's areas of expertise include project management, needs assessment, communications system design, FCC licensing, development of system procurement specifications, proposal/bid evaluation, contract negotiations, implementation assistance, including Construction Engineering & Inspection (CE&I) and acceptance testing. Mr. Chen has assisted clients in reviewing, analyzing, and filing FCC applications, as well as preparing supporting engineering, technical and regulatory information to maintain structure compliance within the FAA/FCC guidelines.

Mr. Chen holds a BSEE from Florida State University. Mr. Chen is registered as a Professional Engineer in the State of Florida (PE#63057) and as a Project Management Professional (PMP #1453253). He holds certifications in NIMS and ICS.

Education, Licenses, Certifications: BSEE, PE, PMP, NIMS, ICS
Total years of experience: 15

John Hogan, P.E., PMP – Project Support

Mr. Hogan, Vice President of OCG, is responsible for assisting OCG clients with the needs assessment, analysis and design of communications systems, including 800 MHz P25 Phase 1 and 2, microwave systems and network management systems. His responsibilities include technical management, budget planning, program scheduling, technical planning, system engineering and resource allocation.

Mr. Hogan has more than 23 years of experience with project management, interoperable communication system design, communications facilities design, land mobile radio system design, local area and wide area computer/telephone network design and lightning protection system designs. Mr. Hogan recently has assisted Palm Beach County, FL with the development of a competitive, vendor-neutral RFP for the replacement of the County's legacy 800 MHz Motorola SmartZone radio system. Mr. Hogan has also assisted the Florida Department of Transportation (FDOT) in the upgrade of its statewide microwave system and is currently assisting the FDOT in their selection between MPLS and SPB for their next generation network.

His tasks have included needs assessment, system design, development of specifications documents, participation in the implementation and management of such systems. Mr. Hogan has participated in training and exercises and is NIMS and ICS certified.

Education, Licenses, Certifications: BSEE, PE, PMP, NIMS, ICS

Total years of experience: 23

Resumes of Team Members

The following pages contain full resumes of all proposed OCG team members.

Tim Barrentine, PMP

President

Technical Expertise

Land Mobile Radio
Ethernet/IP/MPLS
Microwave Design
System Design and Optimization
Wireless Voice and Data Networks
Wide Area System Design Engineering
Fiber Optic Cable Systems
Dispatch Center Design
Fire Alerting Systems
Capture Management
Program Management
Process Development
Procurement Support
Budget Planning

Education

BS, Florida State University, Geology
BSEE, Florida State University

Awards, Affiliations and Certifications

Project Management Professional (PMP #534431)
Incident Command / Incident Management (ICS-100, 200, 300, 400, 700, 800)
Fiber Optic Network Design and Installation
Harris Network Management System
Harris Microwave Network Design

Mr. Barrentine is responsible for business development and management of engineering personnel at OCG, as well as assisting OCG clients with the project management, design and implementation of wireless communications systems. His areas of expertise include project management, needs assessment, communications system design, staffing analysis, consolidation studies, system procurement specifications, proposal evaluation, implementation assistance, communications site development, and acceptance testing. Mr. Barrentine has over 24 years of experience with 800-MHz, UHF, and VHF trunked and conventional digital/analog, voice radio systems, mobile data systems, commercial wireless mobile data systems, automatic vehicle location systems (AVL), digital microwave radio systems, fiber optic systems, fire alerting systems, equipment shelter planning, tower planning and communications site grounding systems. In 1991, Mr. Barrentine began his career at Omnicom Inc. As a Senior Consultant in 2000, he commenced his employment with RCC Consultants and advanced to Director of the Southeast Region. In April of 2015, he and a team of engineers separated from RCC to form Omnicom Consulting Group, Inc.

Selected Professional Experience

- **Sarasota and Manatee County, FL** – Project Manager for the needs analysis, procurement support, and implementation of two 9-site simulcast 800 MHz P25 Phase 1 radio systems connected by a common redundant network core, associated Ethernet/IP based microwave system, and greenfield site development.
- **Pasco County, FL** – Project Manager for proposal review and vendor selection for a P25 phase 2 800 MHz 6 site simulcast trunked radio system upgrade.
- **Polk County, IA** - Project Manager for the needs analysis, procurement support, and implementation of 5-site simulcast / 3-site 800 MHz P25 Phase 1 radio systems connected by a common redundant network core, and the associated Ethernet/IP based microwave system.
- **Prince William County, VA** – Project Manager for the needs analysis, procurement support, and implementation for a 10-site simulcast 800 MHz P25 Phase 1 and 2 radio system, and MPLS based microwave system.

Selected Professional Experience (Previous Employment with RCC Consultants, Inc., 1991 to 2015)

- **Caddo Parish, LA 800 MHz P25 Migration Project**
- **St. Johns County, FL 800 MHz P25 Migration Project**
- **City of Des Moines, IA Interoperability Project**
- **Florida Turnpike, Microwave System Relocation**

Lewis C. Phillips

Senior Consultant

Technical Expertise

VHF, UHF, 800 & 900 MHz
Conventional and Trunked
Communication Systems
APCO Project 25 Digital
Communication Systems
Mobile Data Systems
Infrastructure Equipment and
Site Development and
Implementation
Microwave Backhaul Systems
Communications Facilities
Planning
Site Grounding and Bonding
Installation Standards
Propagation and Interference
Analysis
Radio Coverage and Functional
Field Testing
SCADA Telemetry Systems
Intelligent Transportation
Systems
Field Site Surveys
Backup Power Systems
Maintenance/Warranty Plans &
Contracts

Education

Allegheny Technical Institute
Penn State University
Motorola National Service
Training
Motorola R56 FNE Standard

Awards, Affiliations and Certifications

FCC General Radiotelephone
License. PG-3-4946

Mr. Phillips has 38 years of experience in public safety communication systems and assists clients with the design and implementation of voice and data communications systems. His expertise include needs assessment, communications system design, FCC licensing, development of procurement specs, proposal/bid evaluation, implementation assistance, and acceptance testing. He has extensive experience with communications infrastructure including analog and digital, simulcast, P25, 700/800/900 MHz conventional and trunked land mobile radio, VHF and UHF conventional, microwave backhaul, mobile data systems, facilities planning, intelligent transportation communications, backup power systems, and antenna site implementation grounding and bonding. In-depth experience in system maintenance and optimizations foster his understanding of system issues from the client's perspective.

Selected Professional Experience

- **Athens-Clarke County, GA** – Project Manager for specification development and procurement for a P25 radio system upgrade and implementation of an 4-site 800 MHz simulcast trunked system and backhaul.
- **St. Johns County, FL** – VHF to 800 MHz upgrade. Project Manager for the design, site selection, procurement, and implementation of a new 11-site 800 MHz simulcast trunked P25 communications system.
- **Pinellas County, FL** – Performed a system review of a 10-site, 3-zone, 800 MHz simulcast trunked SmartZone/P25 network and HPD mobile data system and provided recommendations for REDUNDANCY AND DISASTER RECOVERY enhancements.
- **Genesee County, MI** – Performed functional, specification testing and radio coverage acceptance testing of a Countywide P25 system.

Previous Public Safety Wireless Communications Experience

- **RCC Consultants, Inc.** – Managing Consultant – Technical consulting for public safety, utilities, and transportation markets and systems. Developed technical specifications and procurement documents. Communication system wireless coverage and design.
- **Motorola C&E** – Field Support Manager – Responsible for a highly technical team in S. Florida that provided direct technical support to complex trunked communications and microwave systems.

Chris Monzingo, P.E., PMP

Senior Consultant

Technical Expertise

VHF, UHF, 700/800 MHz
P25 Phase I and II,
Conventional and Trunking
Systems
Microwave System Design
Training and Exercise
Development
Electrical System Design
Technical Drawing
National Electric Code
RF Coverage Modeling
Communication Shelter
Design
Project Management
Site Grounding Systems

Education

MBA, Florida State
University
BSEE, Florida State
University

Awards, Affiliations and Certifications

Professional Engineer State
of Georgia (PE037855)
Professional Engineer State
of Florida (PE #73902)
Professional Engineer State
of Alabama (PE34784-E2)
Professional Engineer State of
South Carolina (PE31931)
Model Law Engineer NCEES
(52245)
Project Management
Professional (PMP
#1385992)
Incident Command / Incident
Management (ICS-100,
200, 300, 400, 700, 800)
Journeyman Electrician

Mr. Monzingo is responsible for assisting Omnicom clients in the design and implementation of wireless communications systems. Mr. Monzingo's areas of expertise include project management, needs assessment, microwave system design, RF coverage analysis, proposal/bid evaluation, electrical system design, technical drawing, communication shelter design and the NEC.

Mr. Monzingo has participated in the planning, analysis and design of wireless systems including VHF/UHF/700/800 MHz P25 Phase I and II, conventional and trunking, simulcast and multi-site land/mobile radio systems and 5.8, 11, 18, 23, 24, 28 and 60 GHz microwave systems.

Mr. Monzingo received his bachelor's degree in electrical engineering from Florida State University in 2007 and received his master's degree in business administration from Florida State University in December of 2009. Mr. Monzingo is registered as a Professional Engineer in the State of Georgia (PE037855) and Florida (PE#73902) and as a Project Management Professional (PMP #1385992).

Selected Professional Experience

- **Athens-Clarke County, GA** – Deputy Project Manager for specification development and procurement for a P25 radio system upgrade and implementation of an 4-site 800 MHz simulcast trunked system and backhaul.
- **St. Johns County, FL** – VHF to 800 MHz upgrade. Project Engineer for the design, site selection, procurement, and implementation of a new 11-site 800 MHz simulcast trunked P25 communications system.
- **Talquin Electric Cooperative** – Project Manager for specification development and procurement for the development of 5 new communication sites including new self-supporting towers and shelters. Procurement and implementation of a 310Mbps loop protected microwave network and 23 unlicensed point-to-multipoint hops for substation connectivity.
- **Talquin Electric Cooperative** – Project Manager for specification development and procurement for a UHF DMR radio system upgrade and implementation of an 5-site UHF multisite trunked system

Previous Public Safety Wireless Communications Experience

- **RCC Consultants, Inc.** – Managing Consultant – Technical consulting for public safety, utilities, and transportation markets and systems. Developed technical specifications and procurement documents. Communication system wireless coverage and design.
- **Tarpon Electric, Inc.** – Operations Manager – Managed all day to day business including 50 full time employees and completing over \$6.5 million in contracting business in a 3 year period.

Kenny Chen, P.E., PMP

Senior Consultant

Technical Expertise

VHF, UHF, 800 & 900 MHz
Conventional and Trunked
Communication Systems
APCO Project 25 (P25)
Digital Communication
Systems
Mobile Data Systems
Automatic Vehicular
Location Systems
Microwave Backhaul Systems
RF Propagation and
Interference Analysis
Radio Coverage and
Functional Field Testing
SCADA Telemetry Systems
Intelligent Transportation
Systems
Infrastructure Equipment and
Site Development and
Implementation
Communications Facilities
Planning
Backup Power Systems
Field Site Surveys
Site Grounding and Bonding
Installation Standards
Maintenance/Warranty Plans
& Contracts
Training and Exercise
Development
Project Management

Education

BSEE, Florida State
University

Awards, Affiliations and Certifications

Professional Engineer
License, Florida #63057
Project Management
Professional #1453253

Mr. Chen has 15 years of experience in public safety communication systems and assists clients with the design and implementation of voice and data communications systems. His areas of expertise include needs assessment, communications system design, FCC licensing, development of procurement specifications, proposal/bid evaluation, implementation assistance, including Construction Engineering & Inspection (CE&I), and acceptance testing. He has extensive experience with communications infrastructure including analog and digital, simulcast, P25, 700/800/900 MHz conventional and trunked land mobile radio, VHF and UHF conventional, microwave backhaul, mobile data systems, facilities planning, SCADA, intelligent transportation communications, backup power systems, and antenna site implementation grounding and bonding. In-depth experience in system maintenance and optimizations foster his understanding of system issues from the client's perspective.

Mr. Chen fluently speaks, reads and writes Spanish.

Selected Professional Experience

- **Palm Beach County, FL** - 700/800 MHz P25 Upgrade. Project Manager for the assessment, design, specification development and competitive procurement of an 11-site 800 MHz simulcast trunked and a single site 700 MHz trunked repeater/aviation site communications system, with a geo-redundant Network Core configuration.
- **Glynn County, GA** - 700 MHz P25 Upgrade. Project Manager for the assessment, design, specification development, sole-source procurement and implementation of a 4-site 700 MHz simulcast trunked P25 communications system using an existing 7-county regional shared Master Site (SEGARRN).
- **Coral Springs, FL** - 800 MHz P25 Upgrade. Project Manager for the assessment, design, specification development, sole-source procurement and implementation of a 3-site 800 MHz simulcast trunked P25 communications system using a Motorola-hosted Master Site.
- **Sarasota-Manatee Counties, FL** - 800 MHz P25 Upgrade. Project Support for the assessment, design, specification development and competitive procurement of a 9-site 800 MHz simulcast trunked P25 communications system per County, with a geo-redundant (one per County) Network Core configuration.

Previous Public Safety Wireless Communications Experience

- **RCC Consultants, Inc.** - Managing Consultant - Technical consulting for public safety, utilities, and transportation markets and systems. Developed technical specifications and procurement documents. Communication system wireless coverage and design.

John M. Hogan, P.E., PMP

Vice President

Technical Expertise

Interoperable Communications Systems
Independent Verification and Validation
RF Propagation Analysis and Modeling
Facilities, Lightning Protection, Grounding Systems
Network Management
Data Networks
Broadband Systems
Project Management
Business Case Modeling and Analyses
Contract Negotiations
Training and Exercises
Software Development

Education

BSEE, Florida State University
Project Management Training 2000, 2010
Presentations and Public Speaking

Awards, Affiliations and Certifications

Professional Engineer
Florida # 51969
Tennessee # 114641
Project Management Professional
NIMS, ICS certified
IEEE
APCO

Presentations and Publications

IEEE Guide for Microwave Communications System Development

Mr. Hogan is responsible for assisting clients with implementation and management of large-scale operations and systems. Mr. Hogan provides both technical and management consulting including needs assessment, design, business case modeling and analyses, contract negotiations, implementation oversight and independent verification. His responsibilities include management, budget planning, program scheduling, technical planning, and system engineering.

Mr. Hogan has more than 23 years of experience with project management, migration and consolidation planning, process and performance analyses and optimization, alternative analyses, business case development and independent verification and validation. Mr. Hogan has participated in incident management training and exercises, and is NIMS and ICS certified.

Professional Experience (Omnicom Consulting Group, Inc., 2015)

- **Palm Beach County, FL – 800 MHz P25 Phase I / II Radio System Migration** Mr. Hogan was the Project Director and Lead Engineer for the County's procurement of its migration from a legacy Motorola SmartZone system to a new P25 Phase I / II radio system. Mr. Hogan developed an update to the County's Migration Path Recommendation Report that provided a technical basis for a fair-and-level competitive procurement process, even with an existing radio system that utilized a P25-capable network core. Mr. Hogan developed the alternative designs, final system design and the technical specifications for the Request for Proposal. Both the Migration Path Recommendation Report and the draft RFP were reviewed by the vendors prior to their approvals by the Board of County Commissioners. Mr. Hogan performed the detailed analyses of the Harris and Motorola proposals and led the technical evaluation committee.

Selected Professional Experience (Previous Employment with RCC Consultants, Inc., 1992 to 2015)

- **State of Florida Statewide Law Enforcement Radio System (SLERS) Assessment Project.**
- **Seminole County, FL 800 MHz P25 Migration Project**
- **Florida Department of Transportation Telecommunications General Consultant**
- **Florida Department of Transportation Microwave System Upgrade Project**
- **Miami-Dade County, FL 800 MHz Rebanding**

4.D. Experience



Omnicom Consulting Group, Inc. (OCG) is a professional consulting firm focused on providing our clients with personal and exceptional technical leadership and services to exceed their unique requirements for mission-critical public safety and critical-infrastructure, private sector communication systems. Our staff is highly respected by clients and vendors alike and have decades of experience in the communications industry. This expertise enables us to offer fully informed and effective solutions to our clients.

Our mission is to provide solutions that allow our clients to exceed their objectives through the application of communication system technologies, and to be the most respected, fiscally responsible, and technically competent provider of consulting, engineering, and system integration services for wireless communications systems.

OCG stands above our competitors in four major aspects of our business:

- Experience** Our personnel have combined experience in excess of 120 years and have been at the forefront of management, strategy and technology consulting. Our communication system solutions are used by agencies and organizations across the Country.
- Team** Our full-time staff represent some of the most respected and sought-after specialists in their fields. Our team has three registered professional engineers and four certified project management professionals.
- Approach** We believe in forming strong relationships with our clients, and our record of repeat business over the years is testimony to our focus on complete client satisfaction. We approach every project with time-proven project management strategies that enable our clients to implement the optimal, long-term solutions that most effectively meet their needs.
- Independence** We deliver unbiased professional services to our clients ensuring that they receive vendor-neutral solutions. We will never accept any form of compensation or payment from manufacturers, distributors or suppliers for recommending their products.

While the company and the OCG name are new, the personnel and proposed project team are not. OCG's personnel are all former employees of RCC Consultants' Southeast Region, and have over 120 years of combined public safety and public sector communications systems consulting experience. The proposed project team has been working together as a cohesive unit for over ten years, sharing and combining the merits of our individual knowledge and experiences to deliver our clients the very best professional services in the industry.

For our clients around the Country, OCG personnel have provided solutions through wireless and wired voice/data communications technologies. Our consultants and engineers are experts in strategic planning and direction, business analysis, system design, procurement, implementation, systems integration, monitoring, system acceptance and maintenance of communications systems. OCG provides consulting services in the following technology areas:

Radio Communications Systems

- P25 Radio Networks in all frequency bands
- All frequency bands HF, VHF, UHF, 700 MHz, 800 MHz, 900 MHz and microwave
- Digital and Analog Systems
- Conventional, Trunked and Simulcast Systems
- Cellular and Other Roaming Technologies
- Coverage Prediction Modeling
- Interference Control and Analysis
- Coverage Measurement and Verification

Microwave and Fiber Optic Transmission Systems

- Point to Point and Point to Multipoint
- Digital – IP/Ethernet and MPLS Microwave Design
- Analog/Digital Application Interface Conversion
- Alarm and Monitoring Systems
- Microwave Propagation Modeling
- SCADA
- DC Power System

Intelligent Transportation Systems

- Traffic Management Systems

Communications/Dispatch Center Planning, Facilities Design and Cost Estimating

- Consolidation/Co-location Studies
- Floor Plan Layout
- Space Planning
- Ergonomic Recommendations
- Environmental Controls
- Dispatch Console Furniture Design
- Console System Radio and Data Interfaces
- Dispatch Center Staffing and Management Operations Studies

Communications Site Planning

- Tower Specifications
- Site Development, Planning, Zoning, Acquisition
- Lightning Protection, Grounding, Bonding
- Equipment Shelter and Room Design
- Security and Alarm Systems
- Backup Power and Fuel Systems
- Automatic Fire Suppression Systems
- Surveillance Cameras

Relevant P25 Experience

In addition to VHF, UHF, 700/800 MHz conventional and trunking, simulcast and multi-site LMR expertise, the proposed OCG team has extensive experience with standards based P25 system upgrades including design, procurement, implementation, testing, and cutover.

OCG's personnel have been providing services to nearby Prince William County, VA for two generations of radio systems including the implementation of the current 800 MHz, P25 Phase 1 and 2 system from Motorola. Additionally, OCG is in the final stages of completing a new 800

MHz P25 project for Athens-Clarke County, GA which also includes the University of Georgia (UGA). Other current and recent P25 projects include the State of Florida SLERS replacement project, Sarasota and Manatee Counties, FL (Regional System), Palm Beach County, FL, Charlotte County, FL, Pasco County, FL, Polk County, IA, St. Johns County, FL, Seminole County, FL, the City of Coral Springs, FL, Glynn County, GA, Caddo Parish, LA, and Pinellas County, FL.

We believe that experience and qualifications coupled with the ability to help stakeholders reach consensus are the most important traits that a consultant can bring to its clients.



OCG Staff P25 Project Experience

Microwave Radio Experience

OCG’s engineers conduct microwave path engineering and system design including MW beam propagation, multipath, refractions, diffraction and reflections, antenna configuration, line of site verification, system testing, system optimization, and system implementation.

OCG’s staff designed and assisted with implementation of the Florida Department of Transportation’s (FDOT) 70+ site statewide microwave system that supports the FDOT’s Intelligent Transportation System. We have also performed microwave system engineering and interference analysis for the South Florida Water Management District SONET microwave network which includes 50+ sites.

Other relevant microwave projects include assisting Palm Beach County with the upgrade of a 10-site analog 6 GHz microwave system to a digital microwave system. In Prince William County, VA, OCG assisted in the implementation of a Multiprotocol Label Switching (MPLS) overlay on the existing SONET microwave and fiber backhaul network.

Emergency Communications Planning Experience

OCG’s staff has extensive experience in every aspect of emergency communications planning and implementation across all lanes of the SAFECOM Interoperability Continuum. To demonstrate the depth and breadth of our experience, a partial list summarizing our accomplishments is shown below.

Governance

- State of Florida Governance Framework Assessment and Recommendations

Statewide Communications Interoperability Plans (SCIPs)

- State of Florida (SCIP update)

Tactical and Regional Interoperability Communications Plans

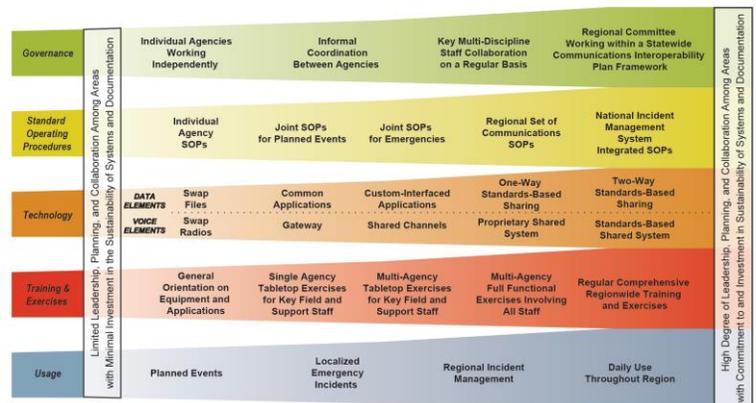
- Seven Florida Regional Domestic Security Task Force (RDSTF) TICPs

Standard Operating Procedures, MOUs

- State of Florida and all RDSTFs Assessments and Recommendations



Interoperability Continuum



Training and Exercises

- Tampa Bay Regional Planning Council (TBRPC) – Functional exercise for NECP Goal 2 Compliance
- East Texas Council of Governments (ETCOG) – Tabletop and full-scale exercise for NECP Goal 2 Compliance
- California Statewide Interoperability Executive Committee Central (CalSIEC)

Our Project Management Methodology

At the foundation of our relationship with every client is a strategic, disciplined approach to providing long-term solutions. OCG’s staff has developed comprehensive engineering and project management practices to create our time-tested approach that ensures success for our clients.

All of our staff has participated in more than 50 hours of project management training and four members are registered project management professionals with PMI. The training teaches the best practices from PMI as well as the specific and practical application of those practices for engineering projects.

OCG’s project management methodology ensures consistent and efficient delivery for our clients. This methodology focuses on defining customer needs and functional requirements early in the development cycle, documenting requirements, and then proceeding with the design, procurement, system implementation and validation.



4.E. Statement of Objectivity

OCG understands that our objectivity and unbiased position is of the utmost importance to our clients and the public they serve. Most importantly, OCG has no affiliation or conflict of interest with any vendor, and brings independence and objectivity to the County’s project. Our sole focus is to assist our clients in implementing the very best communications solution for their unique needs and requirements.

The fact that three different vendors, Airbus DS Communications, Harris and Motorola Solutions, were selected in three recent OCG proposal evaluations demonstrates our independence and vendor neutrality. This is a critically important in a public sector procurement involving millions of dollars.

4.F. Project Schedule and Work Plan

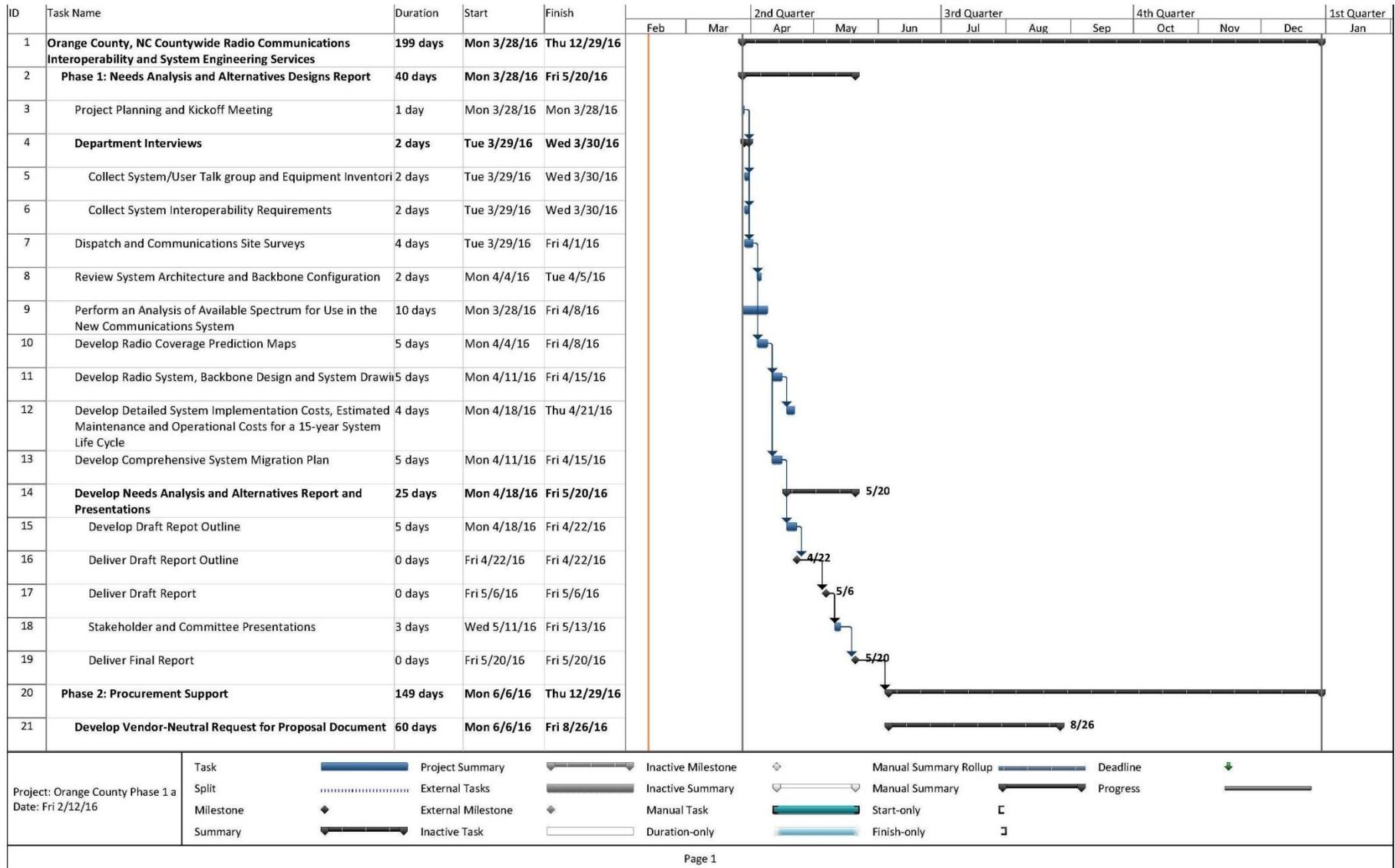
The County has indicated that OCG should develop the proposed project schedule based upon the County's budget (CIP) process. The County's fiscal year begins on July 1 and ends on June 30, of the following year. The County's staff prepares their budget request in the winter and spring with the County Manger presenting the requested changes to the Board of County Commissioners (BOCC) in May. The BOCC conducts multiple work sessions and public hearings before final budget approval in June.

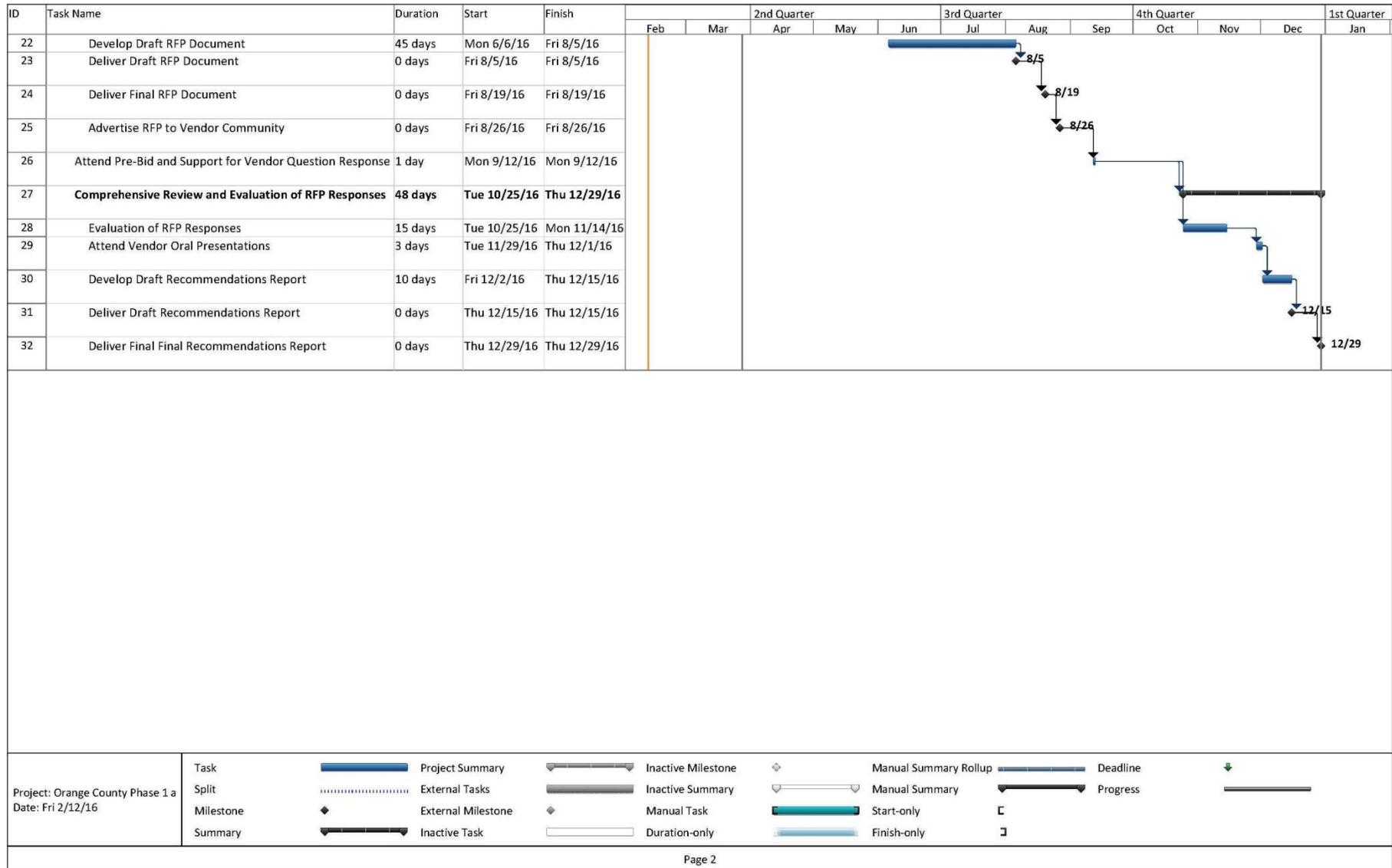
Given that the anticipated contract award for this project per the County's RFP is in April 2016, it will require an aggressive but achievable project schedule to present recommendations for this year's budgeting process. If awarded this project, OCG would like to receive the notice to proceed as early as possible in order to meet the required project schedule. OCG has assumed a March 28, 2016 start date in order to complete the Needs Analysis and Alternatives Report by May 20, 2016.

OCG has proposed an aggressive schedule to meet project goals, and is fully committed to meeting all target dates for this project. OCG's proposed schedule milestones are as follows:

1. Final Needs Assessment and Alternatives Report for upgrade or system replacement to be submitted no more than 40 calendar days after notice to proceed;
2. Solicitations for upgrades/replacement systems should be issued no more than 60 calendar days following the County's notice to proceed with this phase of the project.

OCG acknowledges and accepts that the actual project schedule may vary depending upon the County's requirements, timetables, and meeting schedules. OCG's resources stand ready and available to accommodate any such changes to the schedule based upon the evaluation, selection, and procurement timetable, as determined by the County, to help ensure a timely and successful project outcome.





4.G. Project References

OCG's staff is both highly regarded and respected by our clients and the vendor community. Our approach is unique in that we look at the project from a holistic perspective that includes all aspects involved in system lifecycle planning: interoperability, technology, operations, and governance. This approach helps ensure that the maximum value is derived from a technology investment.

Reference #1	
Athens-Clarke County Unified Government, GA 800MHz P25 Phase 1/2 System Upgrade	
Client Name Address	ACCUG 301 South College Ave. Suite 101 Athens, GA 30601
Clients Contact Information	Keith D. Sanders, SPLOST Project Administrator 301 South College Ave. Suite 101 Athens, GA 30601 (706) 613-3025
Description of Services	Replace a 3-site simulcast 800 MHz Motorola SmartNet system with a 4-site simulcast 800 MHz, 12 channel, P25 Phase 1/2 communications system and incorporate the University of Georgia's into the new shared system
Contract Start Date	4/2011 as RCC and 4/2015 as OCG
Project Status	Active

Reference #2	
Prince William County, VA 800 MHz P25 Phase 1/2 System Upgrade	
Client Name Address	Prince William County, VA Office of Information Technology 1 County Complex Court Prince William, VA 22192-9201
Clients Contact Information	Sam Somers (703) 792-6271 ssomers@pwcgov.org
Description of Services	Needs assessment, procurement assistance, and implementation assistance to upgrade an existing Motorola SmartZone system to a 10-site simulcast, 800 MHz, P25, Phase 1 and 2 capable system. Additionally, upgrade TDM to MPLS and IP/Ethernet microwave system. Currently working to add 10 th site to design.
Contract Start Date	1/2010 as RCC and 7/2015 as OCG
Project Status	Active for the addition of the 10 th simulcast site

Reference #3 Sarasota County, FL 800 MHz P25 Phase 1 System Upgrade	
Client Name Address	Sarasota County, FL 6050 Porter Way Sarasota, FL 34232
Clients Contact Information	Gerald Wheeler (941) 861-5482 gwheeler@scgov.net
Description of Services	Replace an 800 MHz SmartNet 8 site system with a new 9-site 800 MHz P25 Phase I system. Project includes Ethernet/IP microwave system, DC power systems, greenfield site development and equipment shelters.
Contract Start Date	1/2014 as RCC and 6/2015 as OCG
Project Status	Active

Reference #4 Manatee County, FL 800 MHz P25 Phase 1 System Upgrade	
Client Name Address	Manatee County, FL 2101 47 th Terrace East Bradenton, FL 34203
Clients Contact Information	Willie Miranda 941-749-3500 Ext. 5503 Wilfredo.miranda@mymanatee.org
Description of Services	Replace an 800 MHz EDACS 7 site system with a new 800 MHz P25 Phase I system. Project includes Ethernet/IP microwave system, DC power systems, greenfield site development and equipment shelters.
Contract Start Date	1/2014 as RCC and 6/2015 as OCG
Project Status	Active

Reference #5 Palm Beach County, FL 800MHz P25 Phase I / II Upgrade Project	
Client Name Address	Palm Beach County, FL 2633 Vista Parkway West Palm Beach, FL 33411
Clients Contact Information	Richard Avery Project Manager 2633 Vista Parkway West Palm Beach, FL 33411 (561) 233-0208 ravery@pbcgov.org
Description of Services	Replacement of a 10-site simulcast 800 MHz Motorola SmartZone system to P25 Phase I / II system
Contract Start Date	10/2014 as RCC and 4/2015 as OCG
Project Status	Active

5.0 RESPONSE TO TECHNICAL REQUIREMENTS

5.A. Work to be Performed

Based upon the County's stated objectives in RFP #5217, OCG proposes the following tasks to successfully complete this project.

Phase 1: Needs Analysis and Alternative Designs Report

OCG proposes the following scope of work to address the requirements of the County's RFP. The items addressed in Phase 1 of the project include the following:

1. Meet with system management personnel and end users to conduct a comprehensive needs analysis addressing functionality, capability, and the needs of all current infrastructure users. A draft needs analysis shall be presented to the end-users for validation in at least two group meetings, and then to the committee for final approval.
2. In order to understand the present status of our communications capabilities, OCG will gather, analyze, and document operational, functional, and specific technical information of existing fixed sites and associated equipment for various emergency service departments that serve Orange County residents (may be an Orange County based agency or a Department in a County adjacent to Orange County that serves/protects geography within Orange County), and Orange County emergency service departments that serve residents outside Orange County.
3. Review the interoperability needs with all agencies serving citizens and/or territory within the county and those law and fire/EMS agencies bordering Orange County. OCG's interoperability analysis will include interoperability gateways or P25 ISSI connectivity requirements for users that roam out of the Orange County area.
4. Conduct and analyze coverage studies of proposed infrastructure based on multiple tower sites in order to provide countywide coverage. This will include potential new communications sites, additional "satellite" receiver sites, and/or paging sites as required.
5. Develop a comprehensive migration plan for all current infrastructure users.
6. Recommend and submit a planned acquisition and implementation process based on the option approved by the review committee.
7. Create and submit computer aided design (CAD) drawings as required.
8. Obtain and submit budgetary costs for the alternatives presented, and assist the review committee to prioritize acquisitions and implementation.

Task 1: Project Planning and Kickoff Meeting

As a first step in the project planning process, the OCG team will schedule a teleconference with the County's assigned project manager and/or project team. During this initial teleconference, OCG will introduce its team, gain an understanding of the County's team, exchange contact information, establish communications protocols, discuss survey documents, establish the kickoff meeting, interview and site survey schedules,

OCG proposes to begin this project with a kickoff meeting with all County stakeholders. The kickoff meeting typically begins with a presentation to introduce the OCG team, followed by an explanation of the scope of the project and the tasks to be performed, review of the project schedule, and discuss any questions the stakeholders may have regarding the project.

During the presentation, OCG will cover the current technologies available for public safety voice and wireless data communications along with relevant trends in the marketplace. Additionally, OCG will review the available procurement options with the County including Request for Proposals (RFP), sole source negotiations, Invitation to Bid (ITB), and Invitation to Negotiate (ITN) methods.

Task 2: Department Interviews

To better understand the needs and expectations of the stakeholders, OCG will conduct interviews with key department personnel. The purpose of the interviews is to review, update, and obtain current information and specific details for each department that may affect the design or operational features and functionality of the new/upgraded communications system. OCG will coordinate the interview sessions with the County's Project Manager in advance, and begin interviews immediately after the kickoff meeting.

During the interviews, all functional and operational requirements including radio system coverage and interoperability will be discussed in detail. Radio system coverage is one of the most important factors in the design of a communications system and directly correlates to user satisfaction with the proposed new radio system. Existing radio coverage problems and issues will be discussed in detail during the interviews. The requirements for in-building radio coverage along with a list of "must cover" buildings will be developed for inclusion in the communication system RFP. Additionally, OCG personnel will verify the total subscriber radio counts, document radio equipment configurations and accessories, and define requirements for fire alerting or other ancillary systems.

Task 3: Collect System/User Talk group and Equipment Inventories

OCG personnel will collect information such as the fleet mapping, talk-group configurations, and radio equipment inventories for each department during the surveys and users interviews.

Task 4: Collect System Interoperability Requirements

OCG understands that the County currently has mutual aid agreements in place with bordering Counties (Durham, Alamance, Person, Chatham, Caswell and VIPER) and with agencies within Orange County itself. OCG also understands that the County must maintain this interoperability both during and after migration to the upgraded/replacement radio system. OCG will investigate interoperability agreements and their interdependencies to document the tradeoffs between interoperability interface options such as radio-to-radio patches, gateways, talk-group sharing and ISSI connections to recommend the best options to the County.

Task 5: Collect Ancillary System Requirements

OCG understands that the County currently has several ancillary radio systems in operation to support other communication requirements such as fire station alerting, tone paging, mobile data (commercial LTE) and a SCADA system for OWASA. During the interview process, OCG will gather information as it pertains to these and other ancillary systems so that they can be properly addressed in the proposed system design.

Task 6: Dispatch and Communication Site Surveys

System infrastructure components such as shelters, towers, backup power, dispatch facilities, grounding and environmental control systems are some of the most important parts of any land mobile radio (LMR) system. If these systems are deficient in any fashion it could cripple the operation of the most redundant modern well designed LMR system.

OCG personnel will conduct surveys of the County's dispatch and radio communication sites and other relevant facilities to review the physical, technical and equipment needs of each facility.

OCG staff will photograph and document the site configuration, general overall physical and electrical condition, and the facilities and systems in place at each location. OCG will examine the site location, compound security, tower structure, grounding systems, surge protection systems, equipment shelter and HVAC, primary and auxiliary power systems, fuel supply, radio communications equipment and site backhaul connectivity equipment.

OCG will evaluate the suitability of the existing supporting system components and make a recommendation as to which components can and should be reused for the upgraded/replacement radio system.

Task 7: Review System Architecture and Backbone Configuration

The upgraded/replacement communications system will most likely require an IP-based backbone network. OCG will document the County's existing microwave, fiber and other possible network links during the needs assessment task, and provide recommendations on how to update/replace the backbone network.

Task 8: Perform an Analysis of Available Spectrum for Use in the New Communications System

OCG is very familiar with all the available frequency bands that the County may choose to implement the new/upgraded communications system. OCG will analyze all the frequency bands available for use in a Public Safety communications system and make recommendations as to what the best band will be. OCG will consider such things as spectrum availability, co-channel environment, interoperability, FCC rules and regulations (current and future requirements), environmental RF noise levels and propagation characteristics when making this recommendation.

Task 9: Develop Radio Coverage Prediction Maps

OCG will develop radio coverage maps for the existing VIPER 800 MHz radio system and other systems in use within the County. At a minimum, this will include mobile, portable and paging receivers on all systems. These coverage maps will be used as a baseline of existing system coverage which will be used as a basis to compare the radio coverage delivered by the proposed system design.

Once the baseline coverage is established, OCG will develop the upgraded/replacement system coverage designs that meet the coverage requirements established during the needs assessment. OCG will present the coverage maps with options available to the County such as a single system to meet the needs of all County stakeholders or two or more systems to service the needs of the County's stakeholders. These options will give the County flexibility in purchasing the system(s).

OCG will develop coverage map scenarios as determined during the needs analysis, and typically includes portable radios operating outdoors and in-buildings within the County. OCG will work with the County to define polygons for in-building radio coverage that meets the needs of the County users.

Task 10: Develop Radio System, Backbone Design and System Drawings

OCG will develop a preliminary communications system design and drawings that identifies the communication system tower sites and backup power systems, transmit and receive antenna systems, backhaul network, dispatch center consoles, system redundancy features and equipment, and interoperability options.

The preliminary system design option will be a stand-alone system design including the critical core equipment. At the County's request, optional configurations will include redundant or shared system core equipment with neighboring counties to improve overall system reliability and interoperability, reduce capital and on-going maintenance costs and the option for County agencies to enhance system coverage to meet their specific needs that are above and beyond that of the County's.

Task 11: Develop Detailed Systems Implementation Costs, Estimated Maintenance and Operational Costs for a 15-year System Life Cycle

OCG will develop budgetary costs for operations and maintenance costs over the 15-year estimated life cycle for the upgraded/replacement communication system and supporting infrastructure equipment for all options. The cost of maintenance may depend heavily upon the County's internal resources and capabilities. It is critical that maintenance tasks, system monitoring, factory support, and hardware refresh issues are clearly defined in the needs analysis phase of work. This will allow OCG to clearly define the maintenance requirements in the procurement process.

Once the review committee has selected an alternative, OCG will develop a final comprehensive budgetary cost analysis.

Task 12: Develop a Comprehensive System Migration Plan

OCG will work with County stakeholders to develop the migration plan. The migration plan will be designed to ensure that no loss of use, functionality and/or capabilities during the transition.

Task 13: Develop Needs Analysis and Alternatives Designs Report and Presentations

The report will compile all the work completed and will also consider previous studies that the County has conducted and will include all voice and paging communications system within the County. The report at a minimum will cover the assessment of the existing communications systems, analysis of interoperability gaps, coverage prediction maps for all proposed alternative designs, a comprehensive transition plan, a planned acquisition and implementation process, pros and cons for each alternative, and a detailed cost analysis for each alternative as well.

OCG will provide a draft version of the report outline to the County for a review within thirty calendar days after award date of the contract. The draft outline will delineate the main topics and subtopics that will be covered in detail in the final version of the report. OCG will provide a brief narrative of the subject matter that will be included in each of these topic areas in this draft outline. The County's project team will review and modify this draft as they deem necessary.

OCG will submit the draft version of the Needs Analysis and Alternative Designs Report to the County's Project Manager at least two weeks prior to the due date of the final report. Once the draft report is submitted, OCG will work with the County's Project Manager to schedule at least two group meetings with the stakeholder group and then to the Committee for final approval.

OCG will incorporate any requested changes to the report including the committee approved alternative and submit the final version the County's Project Manager.

Phase 2: Procurement Support

OCG will address the requirements of the County's RFP in the following task descriptions. The items specifically addressed in Phase 2 of the project will be:

1. Development of a vendor-neutral Request for Proposal (RFP) suitable to be released to the vendor community for the purposes of procuring the approved alternative.
2. Facilitation of the RFP process, including staff support to the County in conducting a comprehensive evaluation of the RFP responses received.

Task 1: Develop Vendor-Neutral Request for Proposals Document

Based upon the work performed and the County approved option, OCG will develop a vendor-neutral RFP document to procure the equipment and services for the upgraded/replacement of the communications system including the required ancillary systems.

The RFP will build upon the recommendations contained in the Needs Analysis and Alternatives Report, stakeholder input, and the preliminary design work. Performance and functional requirements for the systems will be established and the RFP will be structured to enable each vendor to submit their most appropriate technology and system configuration. The RFP will address specific technical and procedural areas, as well as support areas such as training and maintenance. These areas will include:

- RFP response procedures
- System functional and operational requirements
- System performance requirements
- System reliability and redundancy requirements
- System/vendor information and qualifications
- Compliance with current and emerging standards
- Optional capabilities and equipment
- Maintenance options and local support
- User and technical training requirements
- System installation and acceptance testing requirements
- Interoperability requirements
- End user training requirements

Upon completion of the draft RFP, OCG will submit the document to the County's team for review and discussion. Feedback and suggestions from the County's team will be incorporated into the final document. OCG will then finalize the RFP and provide it to the County for issuance to the bidder/vendor community. OCG will identify a list of qualified bidders/vendors that could potentially respond to the RFP.

The County may wish to consider requiring the bidders to submit their proposed cost information separately from their technical proposal to enable the project team to evaluate the technical responsiveness apart from the proposed cost. This approach may help improve objectivity during the vendor evaluations.

Task 2: Attend Pre-Bid and Support for Vendor Question Response

Within a reasonable time frame after the solicitation for proposals has been released, a pre-bid conference shall be conducted to ensure that potential proposers understand and can respond to the specifications. OCG will assist the County with the scheduling of the pre-bid conference and participate in the pre-bid conference to assist the County in responding to vendor questions. In addition, OCG will assist in the response to written vendor questions and the issuance of amendments following the proposers' conference.

Task 3: Comprehensive Review and Evaluation of RFP Responses

OCG proposes to assist the County's project team in the analysis and evaluation of the proposals received by the County in response to the RFP. The proposal evaluation process typically can be divided into five (5) sub-tasks:

1. Develop the minimum response criteria and evaluation matrix.
2. County evaluation team performs the initial review of vendor proposals.
3. County/OCG perform detailed proposal evaluation and recommendations.
4. Host vendor oral presentations if needed.
5. Prepare the evaluation report.

Proposal Evaluation Step 1 – To ensure that the most compliant and responsive proposals are selected, and to minimize potential protests by unsuccessful vendors, a structured approach should be employed for the evaluation of the proposals. OCG will facilitate a structured evaluation process by developing a set of minimum response criteria and a detailed evaluation matrix that will be used to evaluate each vendor proposal. These two matrices will permit the County evaluation team and OCG personnel to evaluate the proposals on an objective basis.

Proposal Evaluation Step 2 - After receipt of the proposals, the County's evaluation team will make a "first pass" review looking for gross errors and omissions. The evaluation team will utilize the minimum response criteria matrix previously developed by OCG to reduce the number of proposals to four. OCG has proposed to assist the County in performing a detailed evaluation of four vendor proposals, and to develop a list of questions in preparation for vendor oral presentations. The County evaluation committee will provide OCG with a "short list" of the proposals for detailed evaluation.

Proposal Evaluation Step 3 – The County and OCG teams will utilize the formal proposal evaluation matrix constructed from the RFP document for the final evaluation of proposals. The evaluation matrix will be designed to indicate the degree of conformance or nonconformance of each proposer's submittal.

Proposal Evaluation Step 4 – OCG personnel will attend the vendor oral presentations to assist the County's project team in understanding each vendor's offering. OCG will prepare a list of questions as required to clarify certain issues not fully explained in the proposals.

Proposal Evaluation Step 5 – The result of the County/OCG evaluation process is an Evaluation and Recommendation Report (deliverable) that may include a ranking of each evaluated proposal, a set of recommendations with supporting justifications and other information deemed necessary by the County. OCG will provide the County with a draft report that will be followed by a final report after receiving feedback from the County team. This report will document the entire proposal evaluation, and will aid in avoiding protest action by losing proposers. Any protest activity can cause extensive delays in system implementation and may increase system costs.

6.0 COST PROPOSAL

SEE THE SEPARATE COST PROPOSAL DOCUMENT

8.0 REQUIRED FORMS

Attachment A Signature Affidavit

Attachment A

SIGNATURE AFFIDAVIT

In signing this proposal, we also certify that we have not, either directly or indirectly, entered into any agreement or participated in any collusion or otherwise taken any action in restraint of free competition; that no attempt has been made to induce any other person or firm to submit or not to submit a proposal; that this proposal has been independently arrived at without collusion with any other proposer competitor or potential competitor; that this proposal has not been knowingly disclosed prior to the opening of proposals to any other proposer or competitor; that the above statement is accurate under penalty of perjury.

The undersigned, submitting this proposal, hereby agrees with all the terms, conditions and specifications required by the County in this Request for Proposal, and declares that the attached proposal and pricing are in conformity therewith.

<u>Tim Barrentine</u>	<u>President</u>	
Name (Type or Print)	Title	
<u></u>	<u>Omnicom Consulting Group, Inc.</u>	
Signature	Firm	
<u>2927 Habersham Drive Tallahassee, FL 32309</u>		
Address: (Street, City, State, Zip Code)		
<u>850-792-4705</u>	<u>850-894-0950</u>	<u>tbarrentine@ocg-usa.com</u>
Telephone	Fax	E-Mail
<u>February 16, 2016</u>		
Date		

Attachment B Vendor Data Sheet

Attachment B

VENDOR DATA SHEET

- 1. Proposing Company Name** Omnicom Consulting Group, Inc.

Telephone 850-792-4705 Toll Free Telephone N/A Fax 850-894-0950

Address: 2927 Habersham Drive

City: Tallahassee State: FL Zip + Four: 32309
- 2. Contact Person in the event there are questions about your proposal**

Name: Tim Barrentine Title: President

Telephone: 850-792-4723 Toll Free Telephone: N/A

Address: 2927 Habersham Drive

City: Tallahassee State: FL Zip + Four: 32309
- 3. Mailing address where County purchase orders/contracts are to be mailed and person the Department can contact concerning orders and billing.**

Name: Tim Barrentine Title: President

Telephone: 850-792-4723 Toll Free Telephone: N/A

Address: 2927 Habersham Drive

City: Tallahassee State: FL Zip + Four: 32309

Attachment C References

Attachment C

REFERENCES

Provide company name, address, contact person, telephone number, and appropriate information on the product(s) and/or service(s) used for three (3) or more installations/services with requirements similar to those included in this solicitation document. If vendor is proposing any arrangement involving a third party, the named references should also be involved in a similar arrangement.

Company Name: Athens-Clarke County Unified Government, Georgia
Company Address: 301 South College Ave. Suite 101 Athens, GA 30601
Telephone/email: 706-613-3025 / keith.sanders@athensclarkecounty.com
Contact Person: Keith D. Sanders, SPLOST Project Adminsitrator

Services provided by proposer/vendor: Needs Assessment, Procurement Support, and Implementation support for the replacement of a Motorola SmartNet radio system to a Motorola P25 Phase 1/2 system.

Company Name: Prince William County, VA

Company Address: 1 County Complex Court Prince William, VA 22192-9201
Telephone/email: 703-792-6271 / ssomers@pwcgov.org
Contact Person: Sam Somers

Services provided by proposer/vendor: Needs Assessment, Procurement Support, and Implementation support for the replacement of a Motorola SmartZone radio system to a Motorola P25 Phase 1/2 system.

Company Name: Sarasota County, FL

Company Address: 6050 Porter Way Sarasota, FL 34232
Telephone/email: 941-861-5842 / gwheeler@scgov.net
Contact Person: Gerald Wheeler

Services provided by proposer/vendor: Needs Assessment, Procurement Support, and Implementation support for the replacement of a Motorola SmartNet radio system to a Airbus DS Communications P25 Phase 1/2 system.

Company Name: Manatee County, FL

Company Address: 2101 47th Terrace East Bradenton, FL 34203
Telephone/email: 941-749-3500 xt.5503 / wilfredo.miranda@mymanatee.org
Contact Person: Willie Miranda

Services provided by proposer/vendor: Needs Assessment, Procurement Support, and Implementation support for the replacement of a Harris EDACS radio system to a Airbus DS Communications P25 Phase 1/2 system.

Company Name: Palm Beach County, FL

Company Address: 2633 Vista Parkway West Palm Beach, FL 33411
Telephone/email: 561-233-0208 / ravery@pbcgov.org
Contact Person: Richard Avery

Services provided by proposer/vendor: Needs Assessment, Procurement Support, and Implementation support for the replacement of a Motorola SmartZone radio system to a Motorola P25 Phase 1/2 system.

Attachment D Cost Summary Page

SEE THE SEPARATE COST PROPOSAL DOCUMENT

APPENDIX A OPTIONAL SCOPE OF WORK ITEMS

Assist in Negotiation of Contract

OCG will provide on-site and teleconference technical support to help the County negotiate favorable terms and conditions, and pricing with the selected vendor. OCG has not proposed legal representation; therefore, it is recommended that the County's attorney review and approve any contract documents.

OCG will leverage its negotiation experience with industry suppliers along with our detailed technical and operational knowledge and our system procurement data for similar systems to provide comprehensive support to assist the County in its negotiation of an agreement that will maximize value and minimize risk. OCG's proven approach helps clients save money and avoid costly change orders by developing a contract document that completely defines the required equipment and services prior to contract execution.

Project Management, Implementation and Acceptance Testing Support

OCG has proposed the services that are typically required for this type of project. OCG will work with the County to tailor project management and implementation services based upon the County's needs and budget requirements.

Attend and Participate in the Implementation Project Kickoff Meeting with the Vendor

OCG will attend and participate in the implementation project kickoff meeting with the selected vendor and the County. The purpose of the project kickoff meeting is to formally initiate the implementation phase of the upgraded or replacement communications system. The implementation project kickoff meeting attendees will include County stakeholders, OCG personnel, and the selected vendor's team. The purpose of the kickoff meeting is as follows:

- Introductions, communications requirements, and a discussion of roles for the project;
- Review of the scope of work contained in the contract document to make sure there is a clear understanding of County/vendor responsibilities, and discuss/resolve any complex or outstanding issues;
- Review and agree upon the implementation schedule and milestones to be completed along the way;
- Establish reporting requirements and frequencies (e.g., status reports formats, frequency and method);
- Review and discuss payment terms tied to milestone performance;
- Discuss the development of a detailed cutover plan for all systems.

Detailed Design Review and Meetings

A Detailed Design Review (DDR) should be conducted with the selected vendor(s) to thoroughly discuss their proposed system and configuration prior to the ordering and manufacturing of equipment and software. OCG will review all vendor equipment submittals and any request for substitution in this phase of the implementation. The DDR document identifies all required equipment, equipment locations, software, system diagrams and any customization as required by the County. OCG will review the vendor's initial draft of the DDR document and participate in project meetings and discussions to finalize the document.

Attend and Participate in Factory Staging and Acceptance Testing of the Communications System

At the appropriate time, OCG personnel will travel to the vendor's factory location to participate in the Factory Acceptance Test along with County staff and vendor personnel.

System Installation/Implementation Oversight

OCG will perform inspections during site construction, civil work, and equipment installations for compliance with good engineering practice. Inspections will include compliance industry installation, grounding, and lightning protection standards and guidelines. OCG will develop and maintain a punch list of deficiencies for correction by the vendor.

OCG will provide on-site oversight of equipment installation for all new systems being installed to support the upgraded/replacement systems. This will allow for real-time resolution of items that would otherwise be punch list items and will aid in a reducing the project schedule as it minimizes multiple mobilizations by vendor resources. On-site oversight services will ensure that equipment is installed in the correct locations and in a manner that does not result in interference with other systems.

Field Acceptance Testing Development and Execution

OCG personnel will work closely with the County staff to ensure that the new communication system and equipment are thoroughly tested prior to cutover and system acceptance. The detailed acceptance test plans developed during the contract negotiations will serve as the foundation for the acceptance testing process. The acceptance testing process will yield a punch list of various deficiencies that must be corrected prior to final system acceptance by the County. OCG personnel will maintain and monitor the punch list for the County. The punch list should be completely clear prior to final system acceptance including items such as training and the delivery of the final system documentation. OCG personnel will assist the County staff to ensure that all items required for final acceptance and payment are complete and in accordance with the contract prior to recommending final system acceptance. OCG personnel will be on-site to complete this testing.

OCG personnel will guide and participate in the radio coverage verification testing of the upgraded/replacement radio system to ensure that the level of radio coverage specified in the contract has been delivered. The radio coverage testing is the most complex and important testing phase of system acceptance.

Typically, prior to final acceptance, a 30-day reliability period for live system operation is required for final system acceptance. The reliability testing requires the successful operation of the new system for a period of 30 days without a major system failure. The reliability testing ensures that the new systems are stable and ready for acceptance by the County. OCG's on-site participation is not required for the duration of the reliability testing; however, OCG will monitor the test via teleconferences with the vendor and County staff.

Project Management and Teleconferences

The OCG Project Manager will participate in on-site and teleconference meetings with the vendor and County project team throughout the entire project. OCG will monitor the work performance of the vendor and will prepare bi-weekly progress reports per Section VI.B of the County's RFP. OCG's report will provide information outlining the specific accomplishments and tasks completed during the reporting period. The report will also update the project schedule with anticipated completion dates and what tasks remain to be completed. OCG will review and respond to items such as, but not limited to RFIs, change order requests, and other miscellaneous typical construction phase documentation.

Recommendations for problem resolution will be provided on a case-by-case basis. OCG will work with the County staff and the vendor to monitor, track, and resolve issues that may arise during system implementation.



**ORANGE COUNTY
NORTH CAROLINA**

Orange County
Financial Services Department
ADDENDUM #1
February 8, 2016

RFQ 5217
Countywide Radio Communications Interoperability And Systems Engineering Services

To all Vendors:

Modifications to bid documents for the above-named Request for Proposal are made as follows and shall be included in the proposed amount.

Questions received with County's responses are on page 2 of this document

All other terms and conditions shall remain the same

By: David E. Cannell, Purchasing Agent; dcannell@co.orange.nc.us / (919) 245-2651

Acknowledgement of receipt of this addendum shall be included with your submittal

Company Name: Omnicom Consulting Group, Inc.
By: Tim Barrentine, Jim Barrentine 2/26/16
Date Received: February 11, 2016

P.O. Box 8181 200 South Cameron Street Hillsborough, North Carolina 27278
Telephones: Area Code 919-245-2651 Fax: 919-636-4913



ORANGE COUNTY
NORTH CAROLINA

Orange County
Financial Services Department
ADDENDUM #2
February 12, 2016

RFQ 5217
Countywide Radio Communications Interoperability And Systems Engineering Services

To all Vendors:

Modifications to bid documents for the above-named Request for Proposal are made as follows and shall be included in the proposed amount.

The due date has been extended to March 1, 2016 at 5:00 pm. We anticipate issuing at least one additional addendum to address questions received

All other terms and conditions shall remain the same

By: David E. Cannell, Purchasing Agent; dcannell@co.orange.nc.us / (919) 245-2651

Acknowledgement of receipt of this addendum shall be included with your submittal

Company Name: Omnicom Consulting Group, Inc.
By: Tim Barrentine, *Jim Barrentine 2-26-16*
Date Received: February 12, 2016

P.O. Box 8181 200 South Cameron Street Hillsborough, North Carolina 27278
Telephones: Area Code 919-245-2651 Fax: 919-636-4913



**ORANGE COUNTY
NORTH CAROLINA**

Orange County
Financial Services Department
ADDENDUM #3
February 23, 2016

RFQ 5217
Countywide Radio Communications Interoperability And Systems Engineering Services

To all Vendors:

Modifications to bid documents for the above-named Request for Proposal are made as follows and shall be included in the proposed amount.

Questions received with County's responses are on pages 2-4 of this document

All other terms and conditions shall remain the same

By: David E. Cannell, Purchasing Agent; dcannell@co.orange.nc.us / (919) 245-2651

Acknowledgement of receipt of this addendum shall be included with your submittal

Company Name: Omnicom Consulting Group, Inc.
By: Tim Barrentine, *Jim Barrentine 2-26-16*
Date Received: February 23, 2016

P.O. Box 8181 200 South Cameron Street Hillsborough, North Carolina 27278
Telephones: Area Code 919-245-2651 Fax: 919-636-4913



ORANGE COUNTY
NORTH CAROLINA

Orange County
Financial Services Department
ADDENDUM #4
February 24, 2016

RFQ 5217
Countywide Radio Communications Interoperability And Systems Engineering Services

To all Vendors:

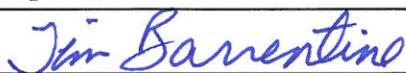
Modifications to bid documents for the above-named Request for Proposal are made as follows and shall be included in the proposed amount.

Questions received with County's responses are on page 2 of this document

All other terms and conditions shall remain the same

By: David E. Cannell, Purchasing Agent; dcannell@co.orange.nc.us / (919) 245-2651

Acknowledgement of receipt of this addendum shall be included with your submittal

Company Name: Omnicom Consulting Group, Inc.
By: Tim Barrentine 
Date Received: February 24, 2016

P.O. Box 8181 200 South Cameron Street Hillsborough, North Carolina 27278
Telephones: Area Code 919-245-2651 Fax: 919-636-4913