

# **Statement of Work-Request for Proposal VHF Radio Equipment and Installation North County Dispatch Joint Powers Authority**

## **1.0 PURPOSE:**

The North County Dispatch Joint Powers Authority, hereafter referred to as the “NCDJPA” or “JPA,” is seeking assistance with a **VHF Radio Equipment Purchase and Installation**, Request for Proposal (RFP), to identify the appropriate VHF Repeater equipment that is P25 capable to include installation costs for each of the eight (8) sites identified in this RFP. Any response to this proposal should include any additional equipment needed to install each repeater/s at each of the eight (8) sites. Any potential options for improved infrastructure need at each site may be provided in separate line items.

The JPA is looking to leverage grant funds; therefore, the equipment purchase will need to be completed, delivered, and invoiced approximately December 1, 2022, and installation of the equipment, system acceptance, and invoicing must be completed by March 1, 2023.

The JPA and the North Zone may leverage this Request for Proposal (RFP) for future phases of the North Zone’s portion of the San Diego Regional VHF Project for VHF equipment, infrastructure needs, installation, and/or consulting-project management services.

### **1.1 Project Goals:**

- A. The goal of this Project is to implement a cost-effective, highly reliable public safety voice radio system that meets the JPA’s needs for the next 15 years. The North County Dispatch JPA VHF Radio System Upgrade Project must provide:
  - 1. A system that allows interoperability among local, County, State and Federal fire agencies during wildland fire and all-hazard incident response
  - 2. Radio system users with at least the same level of functionality and configurability as the existing system
  - 3. Radio system users with improved radio coverage for mobile radios and portable radios on the street
  - 4. A stable, reliable radio infrastructure environment
  - 5. A solution that leverages existing communications infrastructure (sites/facilities) to the greatest extent possible

### **1.2 Project Summary:**

- A. The Selected Vendor must furnish complete fully functional systems for the North zone, which includes:
  - 1. VHF repeaters and associated equipment to include RJ-45 port to interface with IP conventional capability with Motorola GGM 8000 hardware or equivalent. As well as conventional V.24 and E&M ports.
  - 2. Licensed microwave back-haul links and associated equipment where needed. Reference Part 2: Network Infrastructure. Microwave back-haul links will require 99.999% reliability and a minimum of 50% future growth on bandwidth required at each site.
- B. The Selected Vendor must be responsible for:
  - 1. Furnishing and installing new equipment
  - 2. Radio site improvements
  - 3. Engineering and system design
  - 4. Project management
  - 5. Software installation and programming
  - 6. Training
  - 7. Proper labeling of repeaters, cabling, etc.
  - 8. Coverage and acceptance testing
  - 9. Cutover plan and execution
  - 10. Decommissioning, equipment removal, and disposal, if needed,
  - 11. Warranty

12. Provide a Final Report for each site to include diagrams, photos, SATP, FATP reports, and warranties. The Vendor will provide the reports electronically and one (1) hard copy for the JPA and one for the each of the sites

- C. The Selected Vendor must plan, coordinate, and conduct all work with minimal interruption of service to existing systems.
- D. All equipment provided must be in new condition and covered by a full factory or manufacturer's warranty of not less than 3 years.
- E. The system must be complete and operate as specified without any additional hardware or software. Should the system not perform as specified, the Selected Vendor must make all upgrades and additions necessary to make it operate as specified, at no additional cost to the JPA.
- F. If requirements are stated in more than one section and appear to differ, the more stringent requirement must apply.
  - 1. Should the requirements appear to conflict it is the Proposers' responsibility to bring the conflict to the attention of the JPA prior to the deadline for submitting questions. If not brought forward, the JPA will retain the right to enforce the requirements as they see fit

## **2.0 BACKGROUND:**

San Diego County Fire Service members have been participating in local and regional planning at all levels of government to address effective and integrated fire incident communications. This project seeks to expand local government conventional VHF radio system resources and infrastructure in the San Diego Operational Area.

A unified, coordinated approach in the county has been underway to include the use of consolidated legacy conventional VHF resources and emerging resources involving local, state, and federal fire services agencies with the support of the San Diego County Fire Chiefs.

The NCDJPA and North Zone Fire Agencies support and participate in these regional efforts. The Regional VHF project continues to be a primary focus for the North Zone, NCDJPA, and the San Diego County Fire Chiefs Association (SDCFCA). The project focus is to improve communications during major events, not limited to wildfire and to provide redundancy to the Regional 800 MHz radio system in San Diego County.

In San Diego County as a part of the State Master Mutual Aid (MMA) System, the county is divided in to four (4) fire zones: Central, East, Metro, and the North. Each Zone has different and varying situations as it relates to the Regional VHF project. To address the individual needs and to accomplish the regional goal, each Zone is responsible for their portion of the project while working together for the overall outcome. This RFP is for the initial phase of the North Zone and NCDJPA portion of the Regional VHF project.

## **3.0 HISTORY - NORTH ZONE AND NCDJPA:**

The North Zone consists of fire agencies in the northern portion of San Diego County. These include the dispatch centers of NCDJPA, which was formed on June 11, 1984, and is legally organized under the Local Fire District Law of the State of California, and Escondido Fire, which has its own Police and Fire Dispatch Center.

The NCDJPA is governed by a Board of Directors, consisting of eight (8) elected officials from the member agencies who are appointed by their respective governing bodies. The NCDJPA is also governed by a Board of Chiefs from the member agencies to provide operational oversight and direction to the Administrator and Staff of the JPA. Please visit our website at [NCDJPA.org](http://NCDJPA.org) for further information, if desired.

#### 4.0 PROJECT DESCRIPTION:

The North Zone and NCDJPA is in the process of identifying VHF radio equipment, infrastructure, resources, and installation needs for the next phase of work to support the Regional VHF radio systems buildout within the county of San Diego.

#### **PART 1**

##### **Part 1A: VHF Sites - Equipment\***

The North Zone and NCDJPA identified eight (8) sites as a priority:

- **North Zone-NCDJPA Site: Fire Mountain-City of Oceanside owned PL Tone 3**
  - XSD CMD 5: 153.8900 TX RPTR-150.8050 RX RPTR
  - XSD CMD 7: 154.2350 TX RPTR-158.9850 RX RPTR
  - XSD CMD 8: 155.6850 TX RPTR-158.8050 RX RPTR
  - XSDCMD21: 153.8150 TX RPTR-151.1000 RX RPTR
  - **Tower Addition: Add 10 feet to existing tower**
- **North Zone-NCDJPA Site: Harmony Hill-County of San Diego owned PL Tone 9**
  - XSD CMD 5: 153.8900 TX RPTR-150.8050 RX RPTR
  - XSD CMD 7: 154.2350 TX RPTR-158.9850 RX RPTR
  - XSD CMD 8: 155.6850 TX RPTR-158.8050 RX RPTR
  - XSDCMD13: 155.1000 TX RPTR-158.8800 RX RPTR
  - XSDCMD21: 153.8150 TX RPTR-151.1000 RX RPTR
- **North Zone- NCDJPA Site: Hubbard Hill-City of Escondido owned PL Tone 13**
  - **XSD CMD 8: 155.6850 TX RPTR-158.8050 RX RPTR**
- **North Zone-NCDJPA Site: Lake San Marcos Peak-County of San Diego owned PL Tone 3**
  - XSD CMD 5: 153.8900 TX RPTR-150.8050 RX RPTR
  - XSD CMD 6: 154.0250 TX RPTR-158.7450 RX RPTR
  - XSD CMD 7: 154.2350 TX RPTR-158.9850 RX RPTR
  - XSD CMD 8: 155.6850 TX RPTR-158.8050 RX RPTR
  - XSDCMD21: 153.8150 TX RPTR-151.1000 RX RPTR
- **North Zone- NCDJPA Site: Morro Hills-City of Oceanside owned PL Tone 6**
  - XSD CMD 6: 154.0250 TX RPTR-158.7450 RX RPTR
- **North Zone-NCDJPA Site: Mt. Woodson Lower Site-City of San Diego owned PL Tone14**
  - XSD CMD 8: 155.6850 TX RPTR-158.8050 RX RPTR
  - XSDCMD13: 155.1000 TX RPTR-158.8800 RX RPTR
  - XSDCMD16: 155.7750 TX RPTR-158.9100 RX RPTR
  - XSDCMD21: 153.8150 TX RPTR-151.1000 RX RPTR
- **North Zone-NCDJPA Site: Pala-County of San Diego owned PL Tone 6**
  - XSD CMD 5: 153.8900 TX RPTR-150.8050 RX RPTR
  - XSD CMD 7: 154.2350 TX RPTR-158.9850 RX RPTR
  - XSD CMD 8: 155.6850 TX RPTR-158.8050 RX RPTR
  - XSDCMD16: 155.7750 TX RPTR-158.9100 RX RPTR
  - XSDCMD21: 153.8150 TX RPTR-151.1000 RX RPTR
- **North Zone-NCDJPA Site: Palomar-County of San Diego owned PL Tone 4**
  - XSD CMD 3: 153.9950 TX RPTR-159.1125 RX RPTR
  - XSD CMD 5: 153.8900 TX RPTR-150.8050 RX RPTR
  - XSD CMD 7: 154.2350 TX RPTR-158.9850 RX RPTR
  - XSD CMD 8: 155.6850 TX RPTR-158.8050 RX RPTR
  - XSDCMD21: 153.8150 TX RPTR-151.1000 RX RPTR

**Attachments:** PL Tone information located in Attachment 1; site location information located in Attachment 2.

The Contractor must furnish and install new P25 Capable VHF analog conventional repeaters for XSD CMD 5, 6, 7, 8, 13, 16 and 21 channels at the sites listed above. Please refer to the transmit and receive frequencies listed with the command channels at each site. The transmit CTCSS tones must be the same for all repeaters on a channel and the receive CTCSS tones for each repeater must be unique so that a

radio user cannot “key up” multiple repeaters simultaneously. The Contractor must work with the NCDJPA to identify transmit and receive CTCSS tones for each channel/repeater.

Conventional Repeaters shall operate in the VHF frequency band (136 – 174 MHz) in conventional analog mode but shall be software upgradeable (without any hardware changes) to Project 25 Phase 1, conventional digital operation.

The table below shows how all North Zone channels are currently being used and how they will be used with the upgraded system.

**North Zone XSD Channels**

<b>Channels</b>	<b>Current Use</b>	<b>Future</b>
XSD CMD 5	Zone wide dispatch	Entire North Zone
XSD CMD 6	West Area of North Zone	West area of North Zone
XSD CMD 7	Central Area of North Zone	Central area of North Zone
XSD CMD 8	Central area of North Zone	Central area of North Zone
XSD CMD 13	Escondido Fire Area	Escondido
XSD CMD 16	East Area of North Zone	East area of North Zone
XSD CMD 21	Mutual Threat Zone on Camp Pendleton	West area and Entire North Zone

**Part 1B: Antenna Systems**

**A.** The repeater systems shall include all antenna system equipment necessary for a complete design, including but not limited to:

1. Antennas
  - a. Transmit and/or receive, as applicable
  - b. Omnidirectional or directional, as applicable
2. Transmission line
  - a. Transmission line type shall be appropriate given the radio band and required length, to provide the required coverage
  - b. Transmission line length shall be appropriate per proposed antenna height(s) and VHF equipment rack placement
3. RF filtering
  - a. VHF duplexer at single-channel sites
  - b. VHF transmit combiners at multi-channel sites
  - c. VHF receive multi-couplers at multi-channel sites
4. Grounding kits and lightning protection devices, per Contractor selected standard in Section 1.2.C
5. Mounting hardware for antennas, transmission lines, RF filter products, grounding kits, and lightning protection devices

**B.** The Contractor shall supply and install a new VHF transmit combiner and receive multi-coupler system at sites that will have multiple channels.

**C.** The Contractor shall fully describe expansion capacity for new combiner and multi-coupler systems, including an intermodulation report indicating sufficient separation and isolation from intermodulation distortion.

**D.** Antenna systems shall:

1. Provide the required guaranteed coverage
2. Match the antenna design used for all coverage modeling
3. Meet applicable FCC rules and regulations

**E.** Antennas shall be selected to perform in and endure the anticipated environmental conditions. High elevation mountain, desert, high wind and/or salt air locations shall be considered.

**F.** Structural survivability of antennas shall meet specification based on ANSI/TIA-222, latest revision, or the latest revision adopted by the jurisdiction.

G. Some existing NCDJPA repeaters are licensed for and use directional and/or down tilt transmit antennas. The Contractor shall not alter the existing antenna's radiation pattern without the NCDJPA's prior written concurrence.

**Part 1C: VHF Equipment-Installation\***

Installation costs should be identified on a separate line item for each site. In addition to the equipment and installation costs. The proposal may include other infrastructure needs outlined separately for each site. Due to the complexity of the project, experience in VHF equipment, infrastructure needs immediate and future for planning and design is essential criterion for this project. The North Zone is seeking a proposal that demonstrates the needed knowledge and experience with radio frequency (RF) radio procurement and installation projects, specifically related to VHF radio systems, analog and digital, equipment P25 capable, site analysis and infrastructure needs.

Proposed Design: Proposers must submit a comprehensive Proposed Design if one is not provided that contains the following:

- System Description that describes in great detail the proposed system, including equipment, software, design, and implementation services to be provided for the following:
  - VHF system, including radio coverage and frequency plan
  - Microwave or ethernet backhaul links
  - Site infrastructure/improvements
  - Additional subsystems
  - Block diagrams, equipment layouts and equipment list for the proposed system.
- A copy of the Proposer's detailed itemized pricing information (including part numbers) provided as part of the pricing proposal except with all the pricing redacted.
- Detailed equipment specification sheets for all proposed equipment.
- A list of standards or guidelines that cannot be met and an explanation as to why they cannot.
- Talk-in and talk-out coverage maps for mobile and on-street portable radios on street portable radios for each XSD Command (CMD) channel in the North zone.
- A list and description of the coverage models and parameters used to produce the predicted radio coverage results.
- A list of sites that will employ Tower Top Amplifiers (TTAs).
- A description of the frequency coordination and Federal Communications Commission (FCC) licensing procedures that the Proposer will follow to comply with the spectrum and licensing requirements. Proposers will work with the JPA to identify licensing plan.
- Evidence that the design meets tower height restrictions, as well as output and Effective Radiated Power (ERP) levels permitted by the Regional Planning Committee and FCC rules and regulations.
- A description of the procedures that the Proposer will follow to meet the interference mitigation requirements and FCC Maximum Permissible Exposure (MPE) standards.
- The JPA or their designated agent must approve final placement of all equipment, cable routing, and antenna mounting configurations.
- All installation activity shall be conducted under the supervision of the JPA personnel or designated agent.

**Part 1D: VHF System Coverage\***

Coverage design, implementation, and testing for the system shall adhere to TIA Telecommunications Systems Bulletin (TSB)-88: Wireless Communications Systems Performance in Noise and Interference-Limited Situations, current version.

The Contractor shall complete coverage testing with witnesses from the NCDJPA, utilizing non-automated subjective DAQ testing for each XSD CMD channel.

**DAQ Values and Definitions**

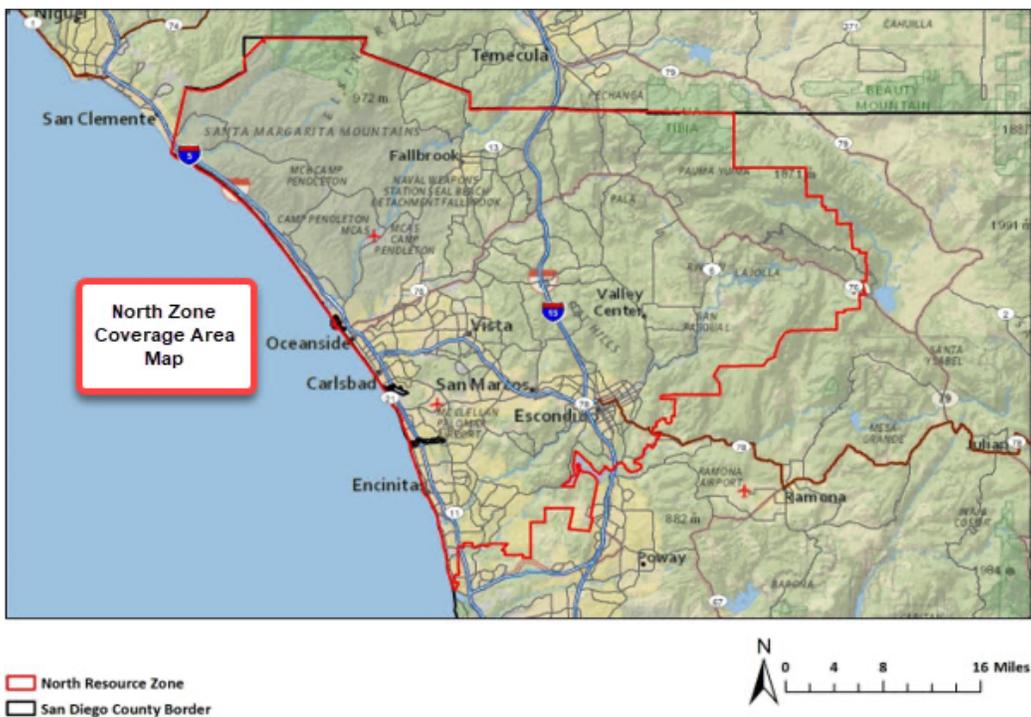
DAQ	Subjective Performance Description
1	Unusable, Speech Present, but unreadable

2	Understandable with considerable effort. Frequent repetition due to noise/distortion
3	Speech understandable with slight effort. Occasional repetition required due to noise/distortion
3.4	Speech understandable with repetition only rarely required. Some noise/distortion
4	Speech easily understood. Occasional noise/distortion
4.5	Speech easily understood. Infrequent noise/distortion
5	Speech easily understood

Coverage design, implementation, and testing for the system shall adhere to TIA Telecommunications Systems Bulletin (TSB)-88: Wireless Communications Systems Performance in Noise and Interference-Limited Situations, current version.

The Contractor shall complete coverage testing with witnesses from the NCDJPA, utilizing non-automated subjective DAQ testing for each XSD CMD channel.

The VHF radio system upgrade shall serve the geographical boundaries of the North Zone as shown in Map Figure below (shown in red).



The Contractor shall perform composite mobile and on-street portable coverage analyses (talk-out and talk-in) for each channel in the North Zone using the sites and site parameters in Table 6 to show what areas can be covered.

After system installation, the Contractor will be required to perform coverage testing to confirm specified coverage.

The Contractor shall specify the guaranteed talk-in and talk-out coverage that the that will be provided for each channel for mobile radios and on-street portable radios worn at hip level in a swivel case, with 95% reliability and a minimum DAQ of 3.4 within the Contractor’s guaranteed coverage area boundary. The guaranteed coverage shall be the composite of all repeaters on a channel.

For new sites, the Contractor shall assume 100 watts ERP.

Site	XSD CMD Channel	Coordinates		Antenna	
		Latitude	Longitude	TX Antenna Height (ft)	RX Antenna Height (ft)
Fire Mountain	5, 6, 7, 8 ,21	33.19281	-117.33911	40	40
Harmony Hill	5,7,8,13 21	33.09188	-117.14328	65	65
Hubbard Hill	7,8,13,16 21	33.15224	-117.07853	60 / 80	60 / 80
Lake San Marcos Peak	5,6,7,8,21	33.11129	-117.20225	50	50
Morro Hills	5,6, 11 or 7, 21	33.29496	-117.27190	45	45
Mt. Woodson	8, 13,16, 21	33.00909	-116.97262	100	100
Pala RCS	5,7,8,16 21	33.36586	-117.10616	80	100
Palomar Mountain (Co.)	5,7,8 21	33.31947	-116.88281	40	40

### North Zone Radio Site Parameters

#### Coverage Analysis:

Coverage analyses shall adhere to the following specifications for determining the proposed system's ability to meet individual channel coverage requirements. All coverage analyses and maps shall be developed using these specifications.

The target device, usage and location are:

Outbound (talk-out) and inbound (talk-in) to/from mobile radios mounted in vehicle with a roof-top unity-gain antenna, with 50 watts maximum transmit power.

Outbound (talk-out) and inbound (talk-in) to/from portable radios worn at hip level with proposed antenna, swivel case and speaker mic, with 5 watts maximum transmit power.

Basic coverage design for mobile radios shall accommodate vehicles at speeds up to 75 mph.

Required reliability within the guaranteed coverage area for each XSD CMD channel is 95%

#### Coverage Maps:

The Contractor shall provide a detailed description of the propagation models used and the assumptions made in preparation of the coverage maps.

The Contractor shall provide talk-out and talk-in maps for each XSD CMD channel showing the composite coverage of all repeaters on the channel for mobile and on-street portables.

The Contractor shall provide talk-out and talk-in maps showing the coverage for all individual repeaters for all channels for mobile and on-street portables.

All coverage maps shall be clearly labeled and show system gain/loss factors for each of the following:

1. Mobile radios mounted in vehicle using roof-top unity gain antenna
2. Portable radios outdoors (on-street):
  - a. Talk-out to a portable radio on hip with swivel case and remote speaker/microphone
  - b. Talk-in from a portable radio on hip with swivel case and speaker/mic

All maps shall clearly delineate the difference between areas predicted to be equal to or greater than DAQ 3.4 equivalent coverage and areas where coverage is less than DAQ 3.4

Coverage maps shall be provided in two formats:

1. 8.5"x11" (minimum) full color hardcopy format
2. In PDF file format with sufficient resolution to discern roadways and similar detail.

All maps shall include a background layer suitable for the NCDJPA's reference (e.g., topographic map, roads, and rivers).

Link budgets shall be provided, clearly defining the following minimum information, relating to each map and each site:

1. Propagation model
2. Design target
3. Vendor-proposed ATP target (if different than design target)
4. Faded performance criteria
5. Inferred noise floor
6. Repeater transmit power output
7. Antenna gain (transmit and receive)
8. Antenna down tilt (if applicable)
9. Antenna azimuth
10. Antenna height
11. Transmit site effective radiated power (ERP)
12. Receiver sensitivity
13. Tower top amplifier and/or receive mutlicoupler gain, presented as both the gain setting on the unit and the "net" system gain
14. Total antenna system gains, or losses
15. Calculations utilized to determine antenna system gains, or losses
16. Mobile and portable antenna height for talk-out and talk-in
17. Mobile and portable transmit output power
18. Loss factors used for portable radios (i.e., body loss)

The Contractor shall use 30-meter elevation and land use/land clutter data, at a minimum, for coverage simulations.

**PART 2**

**Part 2: Networking infrastructure\***

In addition to the equipment needs, the North Zone is seeking last mile network backhaul connection to the County of San Diego's Microwave System. The network portion is separate from the equipment needs. The vendors should include network costs as a separate line item for each site with a total.

All VHF analog conventional repeaters for the XSD CMD 5, 6, 7, 8, 13, 16 and 21 channels must be connected to an existing RCS microwave backhaul at each site. The sites in Table 4 are currently connected to the RCS microwave backhaul system, therefore, the Contractor does not need to provide new microwave links to these sites but will need to ensure connectivity for any spur link requirements.

- The Proposed Design must describe how the proposed system will integrate with the RCS microwave backhaul system.
- Microwave path profiles and path calculations for all microwave links.

**North Zone Sites on the RCS Backhaul**

RCS Site
Black Mountain
Boucher Hill
Ellery
Harmony Hill

Hubbard Hill
Lake San Marcos Peak
Mt. Woodson
Pala
Palomar Mountain (County Site)
Rainbow Peak
Red Mountain (State)
San Marcos Mountain
Sierra Rojo

The Contractor must furnish and install the following licensed spur links:

- Big Black Mountain to Volcan North
- Buffalo Bump to Red Mountain (State)
- Del Mar to Lake San Marcos Peak
- Fallbrook Minnesota Site to Valley Center Water Tank or Red Mountain State
- Fire Mountain to San Marcos Mountain or Red Mountain State
- Oak Crest Reservoir/Encinitas to Lake San Marcos Peak
- Morro Hills to Red Mountain (State)
- Mt. Woodson City Site to Mt. Woodson County Site (ATC)
- Palomar PVT: Palomar County or Pala sites
- San Onofre Mountain to Red Mountain (State)
- Valley Center Water Tank to Sierra Rojo

The spur links listed above were identified using microwave path design software to verify adequate clearance above terrain and obstructions, however, site and physical path surveys were not conducted. The Contractor must conduct site and physical path surveys and validate that each of the links listed above will meet the following specifications:

Minimum capacity of 64 Kbps for each VHF repeater (i.e., 128 Kbps for two repeaters, 192 Kbps for three repeaters, etc.)

- Minimum two-way availability of 99.999%

If any of the links will not meet the minimum capacity and availability specifications, the Contractor must identify an alternate path to another RCS microwave backhaul site that will.

All links must be unprotected spurs and use Ethernet/IP-based technology

If the same link is used to connect VHF repeaters to the RCS microwave backhaul system for multiple zones, the Contractor must furnish one link that will meet the capacity needs for all zones.

The Contractor must coordinate with the NCDJPA for the connection of new microwave radios at the RCS microwave backhaul sites to existing switch or router.

**\*Bids may be submitted for either Part 1 and 2 together or each part separately.**

**5.0 PHASE I - EQUIPMENT PURCHASE:**

The JPA is looking to identify the appropriate P25 capable equipment needed at each of the six (6) sites, specifically VHF repeaters and base station radios that are in line or compatible with existing North Zone VHF radio equipment to minimize future support challenges. The proposal should detail the reason for the equipment proposed. The proposal should include, but is not limited to, the following:

- P25 capable equipment, repeaters, and base stations
- Antennas should be included to replace existing antennas

- Other equipment needs for installation of proposed equipment including any P25 capable components may be proposed
- Other equipment recommendations and options may be included as a separate line item for consideration
- Other infrastructure recommendations should be separately proposed and identified as additional options
- Tower Addition-Fire Mountain Site: The tower addition at Fire Mountain should be a separate line item to include cabling replacement if needed at this site with this option only. The tower addition must meet industry standards and be appropriate for the site location.
  - A solid time frame to complete this line item should be identified. The timeline should reflect the ability to purchase, pull permits, and complete installation by March 1, 2023.

## **6.0 PHASE II – INSTALLATION OPTIONS:**

The system shall comply with the applicable portions of the following standards, rules, regulations, and industry guidelines (presented here in alphabetical order; not reflective of priority):

- American National Standards Institute (ANSI)
- American Society of Testing Materials (ASTM)
- Federal Aviation Administration (FAA)
- Federal Communications Commission (FCC)
- Institute of Electrical and Electronics Engineers (IEEE)
- International Building Code (IBC)
- National Electrical Code (NEC) (NFPA-70)
- National Electrical Manufacturer's Association (NEMA)
- National Fire Protection Association (NFPA) 1221
- Telecommunications Distribution Methods Manual (TDMM)
- Telecommunications Industry Associations (TIA)
- Underwriters Laboratories, Inc. (UL)

The system must comply with industry best practices for system installation, grounding, bonding, and transient voltage surge suppression (TVSS).

At a minimum, the system must comply with at least one of the following standards:

- Motorola R56 - Standards and Guidelines for Communication Sites (latest revision)
- Harris Site Grounding and Lightning Protection Guidelines (AE/LZT - 123 4618/1 - latest revision)
- MIL-STD-188-124B - Grounding, Bonding, and Shielding for Common Long Haul/Tactical Communications Systems Including Ground Based Communications-Electronics Facilities and Equipment

In addition to meeting the minimum requirements, the system must comply with all recommended and/or optional specifications included in the selected standard(s).

Other vendor-specific and/or industry published standard(s) recommended by the Contractor must be submitted to the NCDJPA for review and approval.

If the requirements of this RFP differ with those of the governing codes and regulations, then the more stringent of the two must apply.

If the requirements of this RFP conflict with those of the governing codes and regulations, the Contractor is responsible for identifying the conflict and resolving it to the satisfaction of the NCDJPA.

If the Contractor cannot meet any of the standards or guidelines, the Contractor must list all deviations in their proposal, for approval by NCDJPA.

Site assessment should allow for immediate and future infrastructure needs identifying the most appropriate approach if applicable to the site.

The site should meet FCC standards or other industry standards, when applicable.

The following considerations should be included:

- Personnel-Safety, access, and environment
- Equipment needs for immediate installation of priority equipment needs, repeaters, and base stations
- Antenna placement for maximum and appropriate coverage
- Any potential building/construction recommendations should indicate immediate solution and future needs to ensure installation deadline is met, but also identify future infrastructure needs.
- Any items that will not meet the installation deadline of March 1, 2023, need to be identified in the proposal with a detailed explanation.

## **7.0 PROPOSAL:**

A cover letter introducing the company and providing the name of one individual who will be the primary point of contact with the JPA, the company name, address, and telephone numbers of corporate headquarters and a local office, if applicable, should be included in addition to the following:

- Executive Summary
  - A summary containing highlights of the vendor qualifications to provide the services described in this RFP, including a statement of its understanding of the project and services required.
- Client References
  - A minimum of five (5) client references is required.
- List of Similar Project Experience
- Vendor is specially trained and possess certain skills, experience, education, and competency to perform these services.
- Other Pertinent Information to aid the JPA in assessing the vendors qualifications and experience
  - Proposed plan for quality and cost control to enhance the service and responsiveness to the project needs, to reduce total project costs, and to complete the project on time.
  - Provide a listing of the information and/or assistance that the vendor will require from the JPA or its members.
- Travel Expenses
- Estimated On-site Visits
- Warranty Information on Equipment and Installation must be included.
- Shipping and Warehousing
  - A. The Contractor shall ship and warehouse all equipment and materials at its own expense. The NCDJPA will not store equipment.
  - B. The Contractor shall be responsible for transporting LMR and backhaul equipment to and from the Contractor's warehouse(s) and the NCDJPA sites.
  - C. The Contractor maintains all liability and risk for all equipment until it has been installed at the site.
- Payment Schedule
- Estimated project timeline to meet the required timeline of completion of March 1, 2023.
  - Respondents shall provide a detailed project schedule, including, at least, the following elements

- Project start date, timeline, work plan and end date
  - Written progress reports at the completion of a phase, task, or section (assume no less than one per month)
  - Formal progress meetings (assume one per month at minimum and as necessary).
  - Written final report completion date shall be March 16, 2023.
  - The installation costs should be a separate line item from the equipment costs. Installation costs should be broken into two parts. Installation costs for each site should be a separate line item with detailed explanation of work to be completed at each site.
- Additional Services
    - Indicate what services, if any, your firm would add to the “Scope of Services” to make the project more meaningful and complete. This section should propose enhancement to the “Scope of Services” and options.
    - Propose and estimate the costs of these recommendations and separate them from the general proposal.

The Vendor shall submit their proposal in accordance with the following requirements:

- Cost-Total proposal cost and detailed pricing breakdown:
  - Vendors shall provide total proposal cost and itemized pricing for both equipment and services by site. Each line item shall indicate the Vendor’s list cost and discount offered. Costs for OPTIONAL items shall also be provided.
  - The Price Proposal must include all tax and fees associated.
  - The Price Proposal must be submitted in a SEPERATELY SEALED ENVELOPE labeled “Price Proposal”
  - Table of contents
  - Section 1: Description of Pricing Proposal
  - Section 2: Pricing Schedule
  - The JPA will evaluate proposals with consideration given to the best overall cost of ownership. Proposers must provide detailed cost of ownership information for the proposed LMR and microwave equipment for 10 years. Proposers must provide individual pricing for the proposed products and services in sufficient detail to allow the JPA to verify that all major components are included. The JPA may elect to purchase all, some, or none of the items offered
  - Proposers must submit the proposed system pricing by completing a pricing form in an MS Excel®. Individual components should be identified on the pricing form in a way the reviewers can easily understand what is being provided (i.e., VHF repeater, microwave radio, omnidirectional antenna, uninterruptable power supply, etc.) and should be separated by site
  - Proposers must submit a proposed milestone payment schedule with each milestone and/or deliverable for which payment will be due. Payment for all deliverables or milestones is dependent on JPA acceptance
  - Warranty and Support
    - Proposers must provide a copy of any standard support agreements (e.g., warranty, maintenance, software licensing) requiring the JPA’s review and signature
  - Post-Warranty Support
    - Proposers must submit a proposed fee schedule and contract discount (if applicable) for the hardware, software, and services following the warranty period

- The proposal shall be transmitted with a cover letter that conforms to the following format:
  - Signed by a person authorized to bind the Vendor contractually.
  - Provides the name, title, address, and telephone number of the individual to whom correspondence and other contacts should be directed.
  - Provides the name, title, address, and telephone number of the individual who will negotiate with the JPA.
  - All submittals become property of the JPA.
- Other proposal information:
  - Proposals must be clear and concise with sufficient detail and be presented in the order specified below. Although the weight of the proposal requirements vary, Proposers must provide all required elements.
  - Proposers may provide samples, literature, graphic aids, and other materials in appendices to help describe how the Proposer will accomplish the specified work.
  - Proposers may be requested to present their proposed solutions and respond to JPA questions for clarification at a date, time, and location determined by the JPA.
  - Proposal format should be organized by section to include but not limited to the following:
    - Cover Page
    - Table of Contents
    - Section 1: Executive Summary
    - Section 2: Organization Information
      - Organizational Chart
      - Staff resumes - Provide resumes for all key personnel, including subcontractors, in the staffing chart that provide sufficient information to determine that the person is qualified for their assigned position, including history of relevant education and experience, emphasizing work similar to this project
    - Section 4: Project References: List of similar projects with point of contact information
    - Section 5: Proposed Equipment and Services by site with any proposed options
    - Section 6: Equipment warranty and specification sheets proposed
    - Section 7: Proof of Insurance

Vendor Agreement:

- A Vendor agreement may require the JPA Board Approval.

Consequences of Submission of Response:

- The RFP does not commit the JPA to pay any costs incurred in the submission of a response, or in making any necessary studies or designs for the preparation thereof, nor the purchase or contract for such services. Costs for developing the RFP are entirely the responsibility of the proposer and will not be chargeable to or reimbursable by the JPA.
- Any information contained in this RFP is for informational purposes only. The JPA will not be responsible for its completeness or accuracy.

The JPA reserves the right to contact individual Proposer's for clarifying information at any time during the process.

Acceptance or Rejection of Response:

- The JPA reserves the right to reject any or all proposals, to award a contract based on the RFP process in whole or in part, or to modify, delay, or delete the entire project. The JPA also reserves the right to waive irregularities in any statement, accept, or reject all or any part of any statement, and waive any requirements of the proposals as may be deemed in the best interest of the JPA.
- The JPA for any reason may decide not to award a Vendor Agreement as a result of the RFP.

Evaluation Criteria:

- The following criteria will be used to help determine which bid is most responsive and meets the needs of the proposal:

- Capabilities and resources available to perform the contract work
- Successful history of providing mission-critical radio systems to public safety agencies
- Compatibility with other digital and analog VHF systems inside San Diego County
- Ability to conform with contract terms and conditions
- Cost

Nondiscrimination / No-preferential Treatment:

- The successful Vendor or Vendors in the performance of the Vendor Agreement shall be required to comply with all applicable federal, state, and county nondiscrimination/no preference laws and regulations.
- Compliance with Applicable Laws and Regulations and Prevailing Wages
- The successful Vendor or Vendors shall stay informed of and comply with all applicable federal, state, and local laws, statutes, codes, ordinances, regulations, and rules in effect during the term of this Agreement. This shall include, but not limited to, all California Labor Code laws regarding payment of prevailing wages and all OSHA regulations
- Pursuant to section 1770 et seq. of the California Labor Code, Proposer agrees that a prevailing rate and scale of wages, in accordance with applicable State and Federal Law, will be paid in carrying out this work. The prevailing rate and scale to be paid shall be the same as the 'General Prevailing Wage Rates' approved by the Department of Industrial Relations as of the date of this RFP.

Indemnification:

The successful vendor will be required to comply with the following indemnity and insurance requirements, which will be included in the final agreement between the parties (Agreement):

- During all phases of this Agreement, and to the fullest extent permitted by law, Vendor must defend, indemnify and hold harmless the JPA and its members, including their elected and appointed officials, officers, directors, agents, officials, representatives, and employees (the "JPA Indemnitees"), together with the JPA Indemnitees, the "Indemnitees"), from and against any and all claims, loss, cost, damage, injury, expense, and liability of every kind, nature and description (including, without limitation, incidental and consequential damages, court costs, attorney's fees, litigation expenses and fees of expert consultants or expert witnesses and costs of investigation) that arise out of, pertain to, or relate to the negligence, recklessness, or willful misconduct of Vendor in the course of Vendor's performance under the terms of this Agreement. The insurance provisions of this Agreement must not limit Vendor's indemnification obligations. The parties expressly agree that this section will survive the expiration or early termination of this Agreement.
- Without limiting, vendor indemnification, it is agreed that the vendor shall maintain in force at all times during the performance of this Agreement the following policy or policies of insurance covering its operations:
  - Comprehensive General Liability, including contractual liability, business automobile liability, and products and completed operations, all of which shall include coverage for both bodily injury and property damage with coverage in the amount of \$2,000,000.00 per occurrence and subject to an annual aggregate of \$4,000,000.00.
  - Workers' Compensation coverage at statutory limits.
  - Professional Liability in the amount \$1,000,000.00 per claim and annual aggregate of \$3,000,000.00.
  - Vendor/s liability insurance policy shall contain the following clauses:
    - "The North County Dispatch JPA is named as an additional insured as respects operations of the named insured performed under contract with the JPA."
    - "It is agreed that any insurance maintained by the JPA shall apply in excess of, and not contribute with insurance provide by this policy."
  - All insurance policies required by this Section shall contain the following clause:
    - "This insurance shall not be canceled, limited, or non-renewed until after thirty days written notice has been given the JPA."

- The Vendor/s shall furnish the JPA with original certificates and amendatory endorsements effecting coverage required by the Agreement.

Vendor Not an Agent:

Except as the JPA may specify in writing, vendor shall have no authority, expressed or implied, to act on behalf of the JPA in any capacity whatsoever as an agent.

Consultant shall have no authority, expressed or implied, pursuant to the Agreement to bind the JPA to any obligation whatsoever.

Vendor:

Any questions regarding the RFP should be submitted in writing via email by August 1, 2022, by 4:00 pm to Larissa Patros via email at ([lpatros@ncdjpa.org](mailto:lpatros@ncdjpa.org)). The JPA will do its best to respond but reserves the right to not respond to any questions that are deemed clear as described in this document. Site pictures and plans will be emailed to interested vendors upon request.

Timeline:

The timeline below is provided a general guideline and is subject to change. Unless stated otherwise, consider the dates below “on or about” date.

<b>Event Description:</b>	<b>Date</b>	<b>Time</b>
Site Location Information requests due	08/01/2022	5:00 pm
Vendor Questions submitted	08/08/2022	5:00 pm
Response to Questions (if required)	08/15/2022	5:00 pm
Bid Opening Date (Due Date)	09/08/2022	5:00 pm
Notice of Intent to Award	09/19/2022	5:00 pm

Award of Contract:

A contract may be negotiated with the Respondent/s whose proposal is determined to be the most responsive to the JPA’s needs and most advantageous to the JPA, considering costs as well as other factors based on the criteria described herein, all as solely determined by the JPA.

The RFP deadline is September 8, 2022 by 5:00 p.m. Provide an electronic version of your proposal to Larissa Patros at [lpatros@ncdjpa.org](mailto:lpatros@ncdjpa.org) with the **Pricing Proposal contained in a separate document or file attached to the email.**

Alternatively, to submit a physical proposal, please provide three (3) hard copies of your proposal. The Price Proposal should be **submitted in a separately sealed envelope** labeled “Price Proposal.”

Please mail the hard copies of the proposal:

North County Dispatch Joint Powers Authority  
 Attention: Larissa Patros  
 P.O. Box 1206  
 Rancho Santa Fe, CA 92067-1206

<b>CALIFORNIA STANDARD 32 TONES / 16 NACs</b>
---

TONE #	CTCSS	NAC
1	110.9	Tone 1 110.9
2	123.0	Tone 2 123.0
3	131.8	Tone 3 131.8
4	136.5	Tone 4 136.5
5	146.2	Tone 5 146.2
6	156.7	Tone 6 156.7
7	167.9	Tone 7 167.9
8	103.5	Tone 8 103.5
9	100.0	Tone 9 100.0
10	107.2	Tone 10 107.2
11	114.8	Tone 11 114.8
12	127.3	Tone 12 127.3
13	141.3	Tone 13 141.3
14	151.4	Tone 14 151.4
15	162.2	Tone 15 162.2
16	192.8	Tone 16 192.8
17	67.0	Tone 17 67.0
18	71.9	Tone 18 71.9
19	74.4	Tone 19 74.4
20	77.0	Tone 20 77.0
21	79.7	Tone 21 79.7
22	82.5	Tone 22 82.5
23	85.4	Tone 23 85.4
24	88.5	Tone 24 88.5
25	91.5	Tone 25 91.5
26	94.8	Tone 26 94.8
27	97.4	Tone 27 97.4
28	118.8	Tone 28 118.8
29	173.8	Tone 29 173.8
30	179.9	Tone 30 179.9
31	186.2	Tone 31 186.2
32	203.5	Tone 32 203.5

<b>Network Access Code (NAC)</b>	<b>\$293</b>	<b>"Default" NAC</b>
<b>Network Access Code (NAC)</b>	<b>\$F7E</b>	<b>Rx EVERYTHING regardless of NAC</b>

## Attachment 2

### North Zone RFP SITES

#### PHYSICAL ADDRESS WITH LATITUDE & LONGITUDE

FIRE MOUNTAIN: 2570 FIRE MOUNTAIN City: Oceanside County: San Diego State: CA  
(NAD83) Lat. 33-11-34.0 N Long. 117-20-21.0 W ASR NO.:1258076 Ground Elev. 93.8

HARMONY HILL: 8864 HARMONY GROVE RD City: Escondido County: San Diego State: CA  
(NAD83) Lat. 33-05-30.1 N Long. 117-08-36.1 W Ground Elev. 335.0

HUBBARD HILL: 1225 Hubbard Ave. City: Escondido County: San Diego State: CA  
(NAD83) Lat. 33-09-08.3N Long. 117-04-43.4 W Ground Elev. 310.9"

LAKE SAN MARCOS PEAK: 1510 La Plaza Dr. City: San Marcos County: SD State: CA  
(NAD83) Lat. 33-06-40.1 N Long. 117-12-07.1 W ASR No.:1061509 Ground Elev. 372.0

MORRO HILLS: 1535 WILSHIRE ROAD City: Fallbrook-Oceanside County: San Diego State: CA  
(NAD83) Lat. 33-17-41.9 N Long. 117-16-18.8 W Ground Elev. 207

MT. WOODSON: 17136 Mt. Woodson Trail City: Ramona County: San Diego State: CA  
(NAD83) 32-00'-32.45"N 116-58'-26.05"W Elev. 2740

PALA: 10690 Highway 76 City: Pala County: San Diego State: CA  
(NAD83) Lat. 33-21'-54.70"N Long. 117-06'-22.09"W

PALOMAR: 20814 State Park Rd. City: Palomar Mountain County: San Diego State: CA  
(NAD83) Lat. 33-19-10N Long. 116-52-58W