



Midpeninsula Regional
Open Space District

R-19-92
Meeting 19-18
July 10, 2019

AGENDA ITEM 3

AGENDA ITEM

Award of Contract with Forrest Telecom Engineering, Inc., to provide Radio Communications System Assessment and Master Plan Services for the Radio System Assessment and Upgrade Project

GENERAL MANAGER'S RECOMMENDATIONS *den*

1. Authorize the General Manager to enter into contract with Forrest Telecom Engineering, Inc., to provide services in support of the Radio System Assessment and Upgrade project for a not-to-exceed base amount of \$106,500.
2. Authorize a 4% contingency of \$4,500 to be awarded if necessary to cover unforeseen conditions, for a total contract amount not-to-exceed \$111,000.

SUMMARY

Midpeninsula Regional Open Space District (District) requires a qualified consultant to provide radio system engineering expertise for guiding the Radio System Assessment and Upgrade Project (Radio Project). A Request for Qualifications and Proposals (RFPQ) was issued on April 16, 2019. The General Manager recommends awarding a contract to Forrest Telecom Engineering, Inc., for a base amount not to exceed \$106,500, and authorizing a 4% contingency of \$4,500. The contract work is anticipated to cover multiple fiscal years. There are sufficient funds in the adopted Fiscal Year (FY) 2019–20 budget to cover the anticipated scope of services for this fiscal year. Additional funds will be included in the FY2020–21 and FY2021–22 budgets to fund the second and third years of work, respectively.

BACKGROUND

Current Radio System

In June of 2011, the Board of Directors (Board) approved a contract with Santa Clara County Communications for the design and installation of the current radio system (R-11-57). The radio system came online in 2012. A primary goal of the project was to separate emergency radio traffic from maintenance and administrative radio traffic. The project added the simulcast/microwave system for patrol, implemented vehicle repeaters for patrol, narrow banded frequencies per Federal Communications Commission (FCC) requirements, and obtained a new FCC frequency license. The project was completed for a total cost of approximately \$1,500,000.

The District operates a very high frequency (VHF) conventional simulcast system and a multi-site tone select system that covers most core areas as indicated by the map in Attachment 1. There are some areas within District boundaries that the radio system does not adequately cover.

These are typically deep canyons and other types of extreme topography. As the District acquires additional land, new properties may have limited or no radio coverage depending on where they are located and the topography.

The conventional simulcast system uses microwave infrastructure to link repeater towers (see Attachment 1 for tower locations) allowing radio transmission made at one end of the District to simultaneously be transmitted over all repeater towers in the system. This system allows a person at any location within the District to communicate with others in the District. This simulcast channel is the primary channel used by District Rangers.

An essential function of the simulcast system is the efficient communication and coordination of District Ranger emergency response with our contract emergency dispatch center, Mountain View Dispatch, and other public safety agencies such as Cal Fire, California Highway Patrol, Santa Clara County Fire and Sheriff, San Mateo County Fire and Sheriff, and air ambulances.

Separate from the simulcast system, the District operates a multi-site tone select system. This system utilizes the same repeater towers as the simulcast system, but users must choose the channel based on location. This system is used by District maintenance and administrative staff, as well as for logistical communications by emergency response staff.

Need for System Assessment and Upgrade

The current system is facing three issues: 1) equipment is now reaching end-of-life (EOL), 2) manufacturers are no longer fabricating replacement parts for the equipment, and 3) manufacturers are no longer providing support. However, some parts may be available on the surplus or second-hand (used) equipment market. Therefore, the District is not at any immediate or short-term risk for system failure due to the lack of repair/maintenance parts or support.

Life expectancies for standard radio equipment are listed below. Life expectancy is separate from support life (which is about 7 years after the equipment is no longer produced).

- Repeaters: 10–15 years
- Simulcast Equipment: 10–15 years
- Multiplex: 10–20 years
- Backup batteries: 10 years
- Microwave radios: 20 years
- Microwave antennas: 20 years

The existing repeaters, simulcast, multiplex, and microwave equipment were purchased and installed in 2011 towards the end of their production life (but before newer models came on the market). Therefore, their support life and availability of replacement parts are limited. It is not clear what equipment can be reused until the assessment and master plan are developed; it is likely that the microwave radios and antennas will last another 10+ years and may not need to be upgraded or replaced as part of the Radio System Assessment and Upgrade project.

This Radio Project is separate from the radio replacement for ranger staff. The radio replacement, which is also budgeted for this fiscal year, will provide new hand held and mobile radios for patrol staff to ensure continued capability to communicate with other emergency responders. Other agencies are switching to digital radio systems and our current radios do not have the capability to communicate with the new digital systems. The assessment included in

the Radio Project will ensure that future equipment will be compatible with the new radios purchased for the patrol staff.

DISCUSSION

The Radio Project will conduct a complete assessment of the current radio system, evaluate the equipment based on EOL, parts, and support availability, address current areas of poor radio coverage, evaluate new and emerging technologies in the radio communications industry, and consider the technology upgrades of other local agencies to ensure compatibility. It will also include plans to reuse existing equipment, if possible, or if it possible defer part of the installation for a period of time to phase-in the implementation and associated costs. The Radio Project will be completed over several years: design (Phase I FY19–20), installation (Phase II FY20–21), and testing (Phase III FY21–22 and beyond).

The District is looking into possible land acquisitions over the next several years, so the Radio Project will also assess, model, and incorporate these potential properties as new coverage areas. The assessment may recommend the addition of repeater towers in strategic locations, which may incur increased lease and operational costs.

In support of the Radio Project, staff issued a RFPQ for a Radio Communications System Assessment and Master Plan on April 16, 2019 with the following scope of work requirements:

- Comprehensive needs assessment of the District's two-way radio system, including thorough analysis of user requirements and communications with other agencies.
- Communications coverage assessment within District boundaries, including District-owned property and future coastal lands proposed for acquisition.
- Evaluation of current system, identifying strengths and deficiencies.
- Evaluation of new technologies being adopted by surrounding agencies and how the District's system will include interoperability with those agencies.
- Development of several conceptual design approaches and working with District staff to identify options based upon cost, construction feasibility, licensing, and other criteria.
- Development of a master plan based upon the selected approach, with cost estimates for improvements.
- Preparation of bid specifications, a cost estimate, and a request for proposals for implementation that includes plans, details, and technical specifications for the chosen plan.
- Application for FCC licenses and frequency coordination, if needed.
- Assistance in evaluating engineering and installation vendor(s).
- Oversight for the design, planning, installation, and testing of the system.

Staff circulated the RFPQ through email and posting on the BidSync website. Staff issued an addendum on May 1 to answer questions and clarify the RFPQ. The following five firms submitted proposals by the May 15, 2019 deadline.

Firm	Location	Proposed Fees (over 3 years)
Pallans Associates	North Las Vegas, NV	\$101,828
Forrest Telecom Engineering, Inc.	Pleasanton, CA	\$106,500
ACD Telecom	Lake Mary, FL	\$174,500
Federal Engineering	Fairfax, VA	\$214,320
DELTAWRX	Woodland Hills, CA	\$1,073,292

Evaluation criteria were determined prior to the release of the RFPQ that included the quality of the proposal, project approach, and firm expertise. After careful review of all proposals and contacting references of the top three scoring proposals, Forrest Telecom Engineering, Inc., was deemed most qualified and best suited for the project at a fair and reasonable price. Selection of the consultant was based on their response to the RFPQ, proposed project approach, qualifications, and fee. Forrest Telecom Engineering, Inc., demonstrated expertise in assessing and designing radio systems, as well as oversight of system installation and testing. Additionally, this consultant was involved with the design of the District's current radio system, thereby reducing cost and schedule for the project by avoiding ramp up efforts and background research to gain familiarity of the District's system, operation, stakeholders, and end-users.

FISCAL IMPACT

The FY2019–20 budget includes \$56,000 for the Radio Project (#65407). There are sufficient funds in budget to cover the recommended actions and expenditures this fiscal year. Future fiscal year budgets will be adopted annually as a part of the Budget and Action Plan process.

Radio System Assessment and Upgrade project (#65407)	Prior Year Actuals	FY2019-20 Adopted	FY2020-21 Projected	FY2021-22 Projected	Estimated Future Years	TOTAL
65407 Budget:	\$0	\$56,000	\$640,000	\$523,000	\$0	\$1,219,000
Spent-to-Date (as of 06/05/19):	\$0	\$0	\$0	\$0	\$0	\$0
Encumbrances:	\$0	\$0	\$0	\$0	\$0	\$0
Consultant Engineering Services Contract:	\$0	(\$53,700)	(\$28,800)	(\$24,000)	\$0	(\$106,500)
4% Contract Contingency:	\$0	(\$2,300)	(\$1,200)	(\$1,000)	\$0	(\$4,500)
Budget Remaining (Proposed):	\$0	\$0	\$610,000	\$498,000	\$0	\$1,108,000

BOARD COMMITTEE REVIEW

There was no prior Committee review for this agenda item.

PUBLIC NOTICE

Public notice was provided as required by the Brown Act. No additional notice is required.

CEQA COMPLIANCE

No environmental review is required as the recommended action is not a project under the California Environmental Quality Act (CEQA).

NEXT STEPS

Following Board approval, the General Manager will execute a multi-year contract with Forrest Telecom Engineering, Inc.

Attachment

1. Map of District Boundaries and Repeater Tower Locations

Responsible Department Heads:

Michael Jurich, Land and Facilities Manager

Matt Anderson, Visitor Services Manager/Chief Ranger (project transitioning to Visitor Services FY2019–20)

Prepared by:

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Attachment 1. Map of District Boundaries and Repeater Tower Locations

