STATE OF HAWAII

SCOPE OF SERVICES

This is an emergency procurement. CONTRACTOR is to perform deconstruction, removal, and disposal of one guyed communications tower and its cable tray/ice bridge. This includes the removal, and disposal of the dilapidated communications equipment shelter, antennas, and cables installed on or associated with the tower. This tower is believed to be structurally deficient, and is to be removed because of this structural deficiency. This is to mitigate the risks of harm to other structures and infrastructure within the fall radius of the tower. The tower structure has been compromised by corrosion. Corrosion has progressed to the point that the tubing of the tower has several visible holes in each tower leg at the base of the tower. The tower located near Pepeekeo Hawaii.

CONTRACTOR shall detail a project plan in their proposal which facilitates the deconstruction of the tower and mitigates the hazard to nearby communication towers, communication equipment buildings, accessory buildings, fences, foundations, power utility lines and poles, and any other asset of any government, any corporation, trust, organization, or person. This guyed tower is immediately adjacent to another guyed tower. Their guy lines overlap the same foot print, and their fall radii overlap significantly. There are two self-supporting towers on this site. Both of which are within the fall radius of the structurally deficient tower. These towers are served by several communication equipment containing buildings. All of which are within the fall radius of the structurally deficient tower. Some of which include critical infrastructure assets.

Due to the risks, destructive demolition methods, such as cutting the guy lines and allowing the tower to fall, will not be permitted. Due to the structural deficiency, no persons will be permitted to climb the tower at any time, for any reason. Persons may be permitted to climb the tower if the tower itself is not used in any way to protect from falls. If the CONTRACTOR intends to allow persons to climb the tower, the CONTRACTOR must detail a safety plan in their proposal detailing the alternative means of fall protection. Proposals which intend to use climbing personnel which do not adequately detail the safety plan for their fall protection will be rejected without further review.

Due to the presence of the guy lines of this, and the adjacent tower, and the proximity of the aerial plant of the electrical utility, and other of communications carriers, it is unknown if Mobile Elevating Work Platforms (MEWPs) of any type, including boom lifts and articulating lifts, can safely be used at this location. Similarly, it is unknown if elevated material handling equipment, such as telehandlers and/or cranes, can safely be used at this location. The intended use of these devices must be detailed in the CONTRACOR's proposal. If the use of any of these elevated devices is intended, the CONTRACTOR must detail a safety plan in their proposal detailing steps to mitigate these hazards. Proposals which intend to use elevated devices of any kind which do not adequately detail the safety plan for use will be rejected without further review.

Because of the structural deficiency of the tower, the possibility of a collapse of the structure exists. This risk is believed to be greater during the deconstruction process. The CONTRACTOR must detail a safety plan in their proposal detailing steps to mitigate the hazards of a structural collapse to persons working on the site. This must include hazard mitigation for persons not involved in the deconstruction project who may come to the site. Proposals which do not adequately detail the safety plan for their use will be rejected without further review.

Because of the nature of the condition of this tower, and because of the restrictions the that the nature of

its location impose, a high degree of uncertainty is likely to exist in the success of any particular plan for a controlled deconstruction. Proposals contain detailed contingency planning, for individual steps, and for the project as a whole, will be given preference to those which no not detail plans for contingencies.

Because of the structural deficiency, this work must be performed under the management of a type "A" General Engineering Contractor, as defined in section 16-77-32(a) of the Hawaii Administrative Rules. Any "Specialty Contractor," such as a type "C-68" TN Communications Tower Contractor license does not supervise the work in place of the required General Engineering Contractor.

A portion of this scope involves altering one or more existing grounding electrode systems. It also includes the installation of new cabling and the installation of one or more new antennas. Because of the modifications to the existing grounding electrode system(s,) this work must be performed under the management of a type "C-13" electrical contractor.

Subcontracting individual tasks is permitted, so long as the proposing CONTRACTOR identifies subcontracting contractors in their proposal, and specifically identifies tasks each subcontracting contractor will assume.

Due to the age of this tower, minimal documentation is available concerning its construction. This includes any information about which specific model the tower might be, who manufactured it, and who constructed it. Drawings are also not available. The construction of this tower pre-dates county permit records. There is no known Federal Communications Commission (FCC) Antenna Structure Registration (ASR) for this tower. The tower is believed to be 35 meters in height. This is based off of the FCC license for the single transmitter using this tower. This license, for location 2 of call sign WQN730, provides the location as Lat (NAD83): 19-50-07.0 N Long (NAD83): 155-06-32.0 W.

The tower is located on a government owned parcel with an address of 28-2892 Alia Street in Pepeekeo Hi. However, this parcel is not open to the public, and the tower is not accessible from any portion of Alia Street. Awarded CONTRACTOR will be required to obtain site access, and facilitate for any subcontractors. Access to this site is controlled by American Tower Corporation of Boston Massachusetts. Access to the site may involve transiting private property.

Scope of work:
This work includes, but is not limited to:

A. All labor, consumables, materials, parts, and other expense necessary to:
    a. Perform a controlled deconstruction of the structurally deficient guyed tower.
    b. Perform deconstruction of the tower appurtenances, including:
        i. The guy line cables and hardware.
        ii. The cable tray and/or "ice bridge."
        iii. Any supports for the cable tray and/or "ice bridge."
        iv. The dilapidated communications equipment shelter located near the base of the tower.
        v. Any antennas and cables.
            1. One omnidirectional UHF antenna is known to be installed at the top of the tower.

2. One 960MHz microwave dish is known to be installed near the top of the tower.
3. Other antennas and cables may exist, however, are not in use at this time.

c. Remove from the site and disposal of the materials comprising the tower.
   i. Materials must be disposed of in accordance with industry best practices and all local, state, and federal laws and regulations governing the disposal of the specific materials to be disposed of.
d. Before deconstruction:
   i. Install a new omnidirectional antenna on the neighboring tower, under an existing agreement with the tower owner, the County of Hawaii. Cable that antenna to the existing State of Hawaii, Department of Health, Emergency Medical Services and Injury Prevention Branch transceiver, located in the County of Hawaii communications equipment building.
      1. This building currently serves both the structurally deficient tower, and the County of Hawaii's tower. The transceiver and related equipment will not require modification or relocation is a part of this project.
      2. The new antenna must be a Telewave ANT440F6, or a substantially equivalent antenna. Equivalency must include:
         a. Coverage of the WQN730 frequencies within the antenna bandwidth.
         b. Must be a fiberglass radome type collinear omni directional antenna.
         c. 6 dB gain, +/- .5dB.
         d. $\geq$ 500w continuous power handling capability.
         e. $\geq$ 150mph wind survivability rating (dry.)
         f. $\leq$ 1.5 ft.^{2} exposed wind area.
      3. The new antenna must be installed with a new standoff and mast, the combination of which locates the antenna not less than 24", and not more than 48" from the tower.
         a. A "stiff arm" support must be included, to mitigate the possibility of the standoff moving during high winds.
      4. All components of the standoff, mast, stiff arm, and their attachments and hardware must be hot dip galvanized steel or stainless steel. All of these components must be painted to mitigate corrosion and/or intermodulation.
      5. The antenna must be cabled to the transceiver filter components using corrugated coaxial cable, such as CommScope AVA5-50 and LDF4-50a, or their equivalent.
      6. The cable must be terminated with series correct connectors, requiring no adapters to connect to the antenna and/or the transceiver's filters.
      7. The insertion loss of the cable path, including the cable itself, the coaxial surge protector, and connectors, must be $\leq$ 1dB.
      8. The cable must be installed, grounded, and terminated in accordance with industry best practices. At a minimum, these practices must meet any requirements detailed in the document titled "Standards and Guidelines for Communication Sites" published by Motorola Solutions Inc., in 2017,

which is available from that source.

9. All connectors and grounding bonds must be sealed using industry best practices to prevent moisture ingress.

B. Any other routine and customary tasks associated with such a project are to be considered included in this scope.

CONTRACTOR selection criteria:

The CONTRACTOR will be selected upon an assessment of the best value to the State of Hawaii, as defined in §103D-104 of the Hawaii Revised Statutes, also known as the Hawaii Public Procurement Code, and in §3-122-1 of the Hawaii Administrative Rules.

The most advantageous offer will be determined by evaluating and comparing all relevant criteria in addition to price so that the offer meeting the overall combination that best serves the State is selected. These criteria shall include, at a minimum:

A. The total cost to the State of Hawaii.
B. Competitiveness and reasonableness of price.
C. Technical capability and approach for meeting performance requirements.
D. Performance history of the CONTRACTOR, including quality of their prior services.
E. Managerial capabilities.
F. Proposed technical performance and qualifications.
G. The completeness, feasibility, and level of detail included in the deconstruction plan included in the CONTRACTOR's proposal.
H. The completeness, feasibility, and level of detail included in the deconstruction contingency plan included in the CONTRACTOR's proposal.
I. The completeness, feasibility, and level of detail included in the safety plan included in the CONTRACTOR's proposal.