



Request for Proposal (RFP)# 21-28
for
New Self Supported 190ft Tower for New River Valley
Emergency Communications Regional Authority
Issue Date: April 13, 2021
Proposal Due Date and Hour: May 17, 2021 3:00 p.m.

Montgomery County Purchasing Department
755 Roanoke Street, Suite 2C
Christiansburg, VA 24073-3179

Table of Contents

1	General Instructions	1
1.1	Purpose	1
1.2	Project Overview	1
1.3	Procurement/Project Schedule	1
	Table 1-1 Procurement/Project Schedule	1
1.4	Questions	1
1.5	Mandatory Pre-Proposal Conference and Site Visit	2
1.6	Answers and Addenda	2
1.7	Instructions	2
1.8	Mandatory Options	3
1.9	Withdrawal of Proposals	3
1.10	Proposal Evaluation	3
1.11	Intent to Award	3
1.12	Public Notice of Award	3
1.13	Contract Negotiations	3
1.14	Contract Execution	3
1.15	RFP Property of NRVECRA	3
1.16	Rights to Submitted Material	3
1.17	Confidentiality	4
1.18	Incurred Costs	4
1.19	Proposal Errors and Irregularities	4
1.20	Open Procurement	4
1.21	Proposal Surety	4
1.22	Contract Security	4
2	Terms and Conditions	5
2.1	PROPOSER Terms and Conditions	5
2.2	Clarification of Terms	5
2.3	Ethics in Public Contracting	5
2.4	Immigration Reform and Control Act Of 1986	5
2.5	Debarment Status	5
2.6	Qualifications of Proposers	5
2.7	Applicable Laws and Courts	5
2.8	Antitrust	6
2.9	Changes to the Contract	6
2.10	Pricing and Payment	6
2.11	Price Guarantee	7
2.12	Transportation and Packaging	8
2.13	Sales Tax Exemption	8
2.14	Contractual Claims	8
2.15	Default	8
2.16	Liquidated Damages	8
2.17	Indemnity	9
2.18	Liability Insurance	9
2.19	Assignment	10
2.20	News Release	10
2.21	Transfer of Title	10
2.22	Nondiscrimination of Contractors	10

2.23	Non-Discrimination in Employment	10
2.24	Drug-Free workplace	11
2.25	EO/AA Statement	11
2.26	Force Majeure	11
2.27	Site Visits	11
2.28	CONTRACTOR Responsibilities	12
2.29	Project Responsibility	12
2.30	Property Damage	12
2.31	Vendor’s Manual	12
2.32	Precedence of Terms	12
3	Statement of Work.....	13
3.1	Scope	13
	Figure 3-1 Price Mountain Tower Site	14
3.2	Project Management	14
3.2.1	Project Manager	14
3.2.2	Subcontractors	15
3.2.3	CONTRACTOR Registration	15
3.2.4	Project Management Plan	15
	3.2.4.1 Project Schedule	15
	3.2.4.2 Action Item List	15
	3.2.4.3 Submittals	15
	Table 3-1 Submittal Schedule	16
	3.2.4.4 Transmittals	16
	3.2.4.5 Email	16
	3.2.4.6 Project Documentation	16
	3.2.4.7 Change Orders	17
	3.2.4.8 Punch List	17
3.3	Planning and Design	17
3.3.1	Detailed Design Review (DDR)	17
3.3.2	Detailed Design Documentation	17
3.3.3	Detailed Design	18
3.4	Implementation	18
3.4.1	Permits and Licensing	18
3.4.2	SHPO and NEPA Studies	18
3.4.3	FAA Notifications	18
3.4.4	FCC Antenna Structure Registration	18
3.4.5	Installation	18
3.4.6	Inspect Excavations	19
3.4.7	Existing AM Radio Station Towers	19
3.5	Tower Acceptance	19
3.5.1	Inspections	19
3.5.2	Final Tower Acceptance	19
3.6	Documentation	19
3.6.1	Tower Facilities As-Built Documentation	19
3.6.2	Warranty	20
3.7	Mandatory Option: Existing Tower Demolition and Removal	20

4	Communications Tower Requirements.....	21
4.1	General Requirements	21
4.2	References	21
4.2.1	Normative References	21
4.2.2	Informative References	22
4.3	Earthwork	22
4.3.1	Geotechnical Investigations	22
4.3.2	Erosion Control	23
4.3.3	Materials for Fill, Sub-Grade Preparation and Backfill.....	23
4.3.4	Clearing and Grubbing	23
4.3.5	Fills	23
4.3.6	Backfilling Beneath and Adjacent to Buildings, Structures and Towers	23
4.3.7	Backfilling Trenches	23
4.3.8	Plastic Marking Tape	24
4.3.9	Compaction	24
4.3.10	Soil Sterilization	24
4.3.11	Fenced Compound	24
4.4	Foundations.....	25
4.4.1	Design	25
4.4.2	Installation	25
4.4.3	Materials.....	25
4.4.4	Concrete Testing.....	25
4.5	Tower	25
4.5.1	Tower Classification.....	25
4.5.2	Loads	25
	Table 4-1 Tower Antenna Load	27
4.5.3	Twist and Sway	27
4.5.4	Analysis of Towers and Antenna Support Structures	27
4.5.5	Materials and Fabrication.....	28
4.5.6	Tower Erection	28
4.5.7	Tower Climbing Facilities	28
4.5.8	Mandatory Option: Safety Climb System.....	28
4.5.9	Obstruction Marking and Lighting	28
4.5.10	Ice Bridges	28
4.5.11	FAA Notifications	28
4.6	Grounding.....	28
4.6.1	Grounding Conductors.....	29
4.6.1.1	Exterior Grounding Conductors	29
4.6.1.2	Grounding Conductor Bends	29
4.6.2	Grounding Equipment	29
4.6.3	Connections	29
4.6.4	Exterior Grounding System.....	30
4.6.4.1	Ground Rods	30
4.6.4.2	Electrolytic Ground Rods	30
4.6.4.3	Ground Plates	30
4.6.4.4	Doping of Ground Systems	30
4.6.4.5	Grounding Electrode System Conductors	30
4.6.4.6	Ground Rings.....	31
4.6.5	Grounding of Towers and Other Antenna Support Structures.....	31
4.6.5.1	Self-Supporting Tower	31
4.6.5.2	Ice Bridge.....	31

4.6.5.3	Tower Ground Bus Bar	31
4.7	Utilities	31
4.7.1	Existing Utilities	31

- Appendix A Evaluation Criteria**
- Appendix B Price Mountain Deed**
- Appendix C Bid Bond Form**

1 General Instructions

1.1 Purpose

The New River Valley Emergency Communications Regional Authority (NRVECRA) is requesting proposals for a New Self-Supporting 190 ft Tower as specified herein. PROPOSERS interested in providing the specified goods and services shall submit a Proposal to NRVECRA as instructed in this RFP.

1.2 Project Overview

New River Valley Emergency Communications Regional Authority (NRVECRA) is replacing its current 175 foot guyed tower, ASR 1286084, located at 2080 Oilwell Road on Price Mountain in Montgomery County, Virginia. The existing tower has a mixture of LMR and Microwave antennas for the regional public safety radio system. The tower also carries the antennas for a local wireless internet service provider. The lot for the site is a little over 1 acre and has been marked. The deed for the site is included in Appendix B.

1.3 Procurement/Project Schedule

The anticipated schedule for this procurement is found in Table 1-1. NRVECRA reserves the right to postpone the date and time for submission of Proposals at any time prior to the Proposal deadline, all changes will be made via the addendum process and posted to the procurement website <https://www.montva.com/departments/purchasing/current-bids-rfps>.

Scheduled Event	Date
RFP Release	April 13, 2021
Mandatory Pre-Proposal Conference 9:00 AM Mandatory Site Visit 10:00 AM	April 21, 2021
Deadline for PROPOSER Questions	April 23, 2021
Deadline for Proposal Submission	May 17, 2021, 3:00 PM
Contract Execution	June 2021
Project Completion	180 days

Table 1-1 Procurement/Project Schedule

1.4 Questions

Questions or comments must be received by the date indicated in Table 1-1. All questions regarding this RFP shall be submitted in writing to:

Heather M. Hall, Purchasing Director, hallhm@montgomerycountyva.gov

Questions not submitted at least three (3) days prior to the mandatory pre-proposal conference may not be fully addressed at the conference.

PROPOSERS shall not communicate with any other representatives of NRVECRA or its member agencies/jurisdiction regarding this RFP unless directed by Heather M. Hall, Purchasing Director.

1.5 Mandatory Pre-Proposal Conference and Site Visit

A mandatory pre-proposal conference will be held at the following location:

Public Safety Building, 1 East Main Street, Christiansburg, VA

A mandatory site visit will occur immediately following the mandatory pre-proposal conference, at the following location:

2080 Oilwell Road on Price Mountain in Montgomery County, Virginia

1.6 Answers and Addenda

NRVECRA will disseminate all questions and answers to all prospective PROPOSERS. Should changes to the RFP become necessary, the changes will be contained in an addendum issued by NRVECRA and provided to all potential PROPOSERS who attended the mandatory pre-proposal conference and mandatory site visit. Receipt of all Addenda must be acknowledged in the Transmittal Letter.

Verbal responses to questions are not official until the questions have been submitted in writing by the prospective PROPOSER and a written response has been distributed by NRVECRA to all potential PROPOSERS who attended the mandatory pre-proposal conference and mandatory site visit.

1.7 Instructions

PROPOSERS shall submit a response to the following address:

Heather M. Hall, Purchasing Director, 755 Roanoke Street, Suite 2C, Christiansburg, VA 24073

Proposals are due by the date and time indicated in Table 1-1. Proposals submitted after this deadline will not be accepted. PROPOSERS shall submit the following quantities:

- [one] original paper copy
- [two] paper copies
- [one] electronic copy

Proposals shall describe in detail the PROPOSER's:

- Project Understanding
- Organization Experience - five references of similar work
- Project Management Plan
- Implementation Plan - tower design to include figures, tables, photographs, etc.
- Pricing - major component line item pricing broken out by goods and services.

NRVECRA reserves the right to decide, on a case by case basis, in its sole discretion, whether to reject a proposal that does not provide the required line item pricing for both goods and services as nonresponsive.

LATE PROPOSALS: To be considered for selection, proposals must be received by the Montgomery County Purchasing Department, 755 Roanoke Street, Suite 2C, Christiansburg, Virginia 24073-3179, by the designated date and hour. The official time used in the receipt of proposals is that time on the automatic time stamp machine in the Montgomery County Purchasing Department. Proposals received in the Montgomery County Purchasing Department after the date and hour designated are automatically disqualified and will not be considered. Montgomery County or NRVECRA are not responsible for delays in the delivery of mail by the U.S. Postal Service, private couriers, or another means of delivery. It is the sole responsibility of the Offeror to ensure that its proposal reaches the Montgomery County Purchasing Department by the designated date and hour.

1.8 Mandatory Options

All Mandatory Options described in the Scope of Work and Tower Requirements sections are required to be proposed. NRVECRA, at their sole discretion, will decide if the Mandatory Option will be included in the contract. The PROPOSER shall provide a price for each Mandatory Option as a separate line item for NRVECRA consideration.

1.9 Withdrawal of Proposals

PROPOSERS may withdraw Proposals by written notice sent to Heather M. Hall, Purchasing Director any time prior to the Proposal submission deadline.

1.10 Proposal Evaluation

NRVECRA will evaluate PROPOSALS, based upon the evaluation criteria described in Appendix A to determine the most responsive design and best value to the NRVECRA. All Proposals will be ranked based upon best value to NRVECRA.

1.11 Intent to Award

The highest ranked PROPOSER will be notified of the intent to award and begin the process of negotiating a contract.

1.12 Public Notice of Award

Public notice of the purchase order/contract award will be posted on the Public Information Board located in the lobby of the Montgomery County Purchasing Department, 755 Roanoke Street, Suite 2C, Christiansburg, Virginia. Award information may also be obtained by contacting the buyer whose name appears on the solicitation.

1.13 Contract Negotiations

NRVECRA will negotiate with the highest ranked PROPOSER. If NRVECRA determines that negotiations have reached an impasse, NRVECRA at its discretion may terminate negotiations with the selected PROPOSER and commence negotiations with the second highest-ranked PROPOSER.

1.14 Contract Execution

Upon the successful completion of contract negotiations, NRVECRA will prepare and submit a final negotiated contract to the awarded PROPOSER at the address provided in the Proposal. The awarded PROPOSER shall execute the contract within 7 days after the receipt of the contract.

1.15 RFP Property of NRVECRA

This RFP in its entirety is the property of NRVECRA. The PROPOSER shall not copy or disseminate any portion of these specifications without express written authorization of NRVECRA except as necessary in the preparation of the Proposal. Any authorized copies of these specifications or portions thereof shall include a similar paragraph prohibiting further copying or dissemination.

1.16 Rights to Submitted Material

All materials submitted by the PROPOSER in response to this RFP shall become the property of NRVECRA.

1.17 Confidentiality

Proposals will not be opened publicly. All Proposals shall be kept confidential and not disclosed to competing PROPOSERS or any outside individuals until the evaluation process is finished.

If a PROPOSER believes that any portion of its Proposal contains proprietary information exempt from public disclosure, the PROPOSER shall clearly identify such portions in its Proposal and NRVECRA will make a determination as to the validity of the non-disclosure claim. Identifying the Proposal as trade secret, confidential or otherwise exempt from disclosure is not acceptable.

NRVECRA shall not be liable for disclosure of any proprietary information that is not clearly identified as such in the Proposal.

1.18 Incurred Costs

NRVECRA shall not be liable for any costs incurred by the PROPOSER in preparing, submitting, or presenting Proposals; or in anticipation of being awarded the contract under this RFP.

Claims for additional compensation or additional time for completion which are based on lack of knowledge or lack of understanding of any part of the RFP shall not be permitted.

1.19 Proposal Errors and Irregularities

NRVECRA reserves the right to waive minor errors or irregularities in any Proposal if it appears to NRVECRA that such errors or irregularities were inadvertent. Any such errors or irregularities shall be corrected in the Proposal prior to contract execution. **Proposals with major irregularities may be considered inadequate and may be rejected immediately.**

1.20 Open Procurement

NRVECRA reserves the right to accept or reject any or all Proposals. NRVECRA may allow a PROPOSER the opportunity to clarify its Proposal prior to rejection.

NRVECRA may reject any or all Proposals in whole or in part and may cancel this RFP or procurement at any time when the rejection or cancellation is in the best interest of, and as determined by NRVECRA. NRVECRA is not liable to any PROPOSER for any loss or expense caused by or resulting from the rejection or cancellation of this RFP, Proposal, or award. All timely submitted Proposals will become property of NRVECRA.

1.21 Proposal Surety

The Proposal shall be accompanied by a Proposal deposit in the form of a bid bond. The amount of the deposit shall be five (5) percent of the base Proposal price. A PROPOSER must complete, sign, and submit the bid bond form located in Appendix C.

1.22 Contract Security

A Performance Bond and a Labor and Material Payment Bond, each in a sum equal to 100% of the negotiated price and duly executed by the successful PROPOSER as principal and by a surety company qualified to do business under the laws of Virginia and satisfactory of NRVECRA, as surety, will be required for the faithful performance of the contract, the payment from labor and materials, and for the guarantee and maintenance of the work. The successful PROPOSER shall furnish the Performance and Labor and Material Payment Bonds with the executed contract.

2 Terms and Conditions

2.1 PROPOSER Terms and Conditions

PROPOSER may provide additional terms and conditions for consideration by NRVECRA. Proposed terms and conditions may not conflict, restate, or otherwise alter the terms and conditions as set forth in Section 2 of this RFP. PROPOSER agrees that the terms and conditions contained in NRVECRA 's RFP prevail over contrary terms and conditions contained in the Offeror's response.

2.2 Clarification of Terms

If any prospective Offeror has questions about the specifications or other solicitation documents, the prospective Offeror should contact the buyer whose name appears on the face of the solicitation no later than five working days before the due date. Any revisions to the solicitation will be made only by addendum issued by the buyer.

2.3 Ethics in Public Contracting

By submitting their proposals, PROPOSERS certify that their proposals are made without collusion or fraud and that they have not offered or received any kickbacks or inducements from any other bidder, supplier, manufacturer or subcontractor in connection with their bid, and that they have not conferred on any public employee having official responsibility for this procurement transaction any payment, loan, subscription, advance, deposit of money, services or anything of more than nominal value, present or promised unless consideration of substantially equal or greater value was exchanged.

2.4 Immigration Reform and Control Act Of 1986

By submitting their proposals, the Offerors certify that they do not and will not during the performance of this contract employ illegal alien workers or otherwise violate the provisions of the federal Immigration Reform and Control Act of 1986.

2.5 Debarment Status

By submitting their proposals, PROPOSERS certify that they are not currently debarred by the Commonwealth of Virginia from submitting bids or proposals on contracts for the type of goods and/or services covered by this solicitation, nor are they an agent of any person or entity that is currently so debarred.

2.6 Qualifications of Proposers

NRVECRA may make such reasonable investigations as deemed proper and necessary to determine the ability of the PROPOSERS to perform the work/furnish the item(s) and the PROPOSER shall furnish to NRVECRA all such information and data for this purpose as may be requested. NRVECRA reserves the right to inspect PROPOSER'S physical facilities prior to award to satisfy questions regarding the PROPOSER'S capabilities. NRVECRA further reserves the right to reject any proposal if the evidence submitted by, or investigations of, such Offeror fails to satisfy NRVECRA that such PROPOSER is properly qualified to carry out the obligations of the contract and to complete the work/furnish the item(s) contemplated therein.

2.7 Applicable Laws and Courts

This solicitation and any resulting contract shall be governed in all respects by the laws of the Commonwealth of Virginia and any litigation with respect thereto shall be brought in the courts of the Commonwealth. The CONTRACTOR shall comply with applicable federal, state and local laws and regulations.

2.8 Antitrust

By entering into a contract, the CONTRACTOR conveys, sells, assigns, and transfers to NRVECRA and the Commonwealth of Virginia all rights, title and interest in and to all causes of the action it may now have or hereafter acquire under the antitrust laws of the United States and the Commonwealth of Virginia, relating to the particular goods or services purchased or acquired by NRVECRA and the Commonwealth of Virginia under said contract.

2.9 Changes to the Contract

Changes can be made to the Contract in any of the following ways:

- A. The parties may agree in writing to modify the scope of the contract. An increase or decrease in the price of the contract resulting from such modification shall be agreed to by the parties as a part of their written agreement to modify the scope of the contract.
- B. NRVECRA may order changes within the general scope of the contract at any time by written notice to the CONTRACTOR. Changes within the scope of the contract include, but are not limited to things such as the method of packing or shipment and the place of delivery or installation. The CONTRACTOR shall comply with the notice upon receipt. The CONTRACTOR shall be compensated for any additional costs incurred as the result of such order and shall give NRVECRA a credit for any savings. Said compensation shall be determined by one of the following methods:
 - 1) By mutual agreement between the parties in writing; or
 - 2) By agreeing upon a unit price or using a unit price set forth in the contract, if the work to be done can be expressed in units, and the CONTRACTOR accounts for the number of units of work performed, subject to NRVECRA's right to audit the Contractors records and/or to determine the correct number of units independently; or
 - 3) By ordering the CONTRACTOR to proceed with the work and to keep a record of all costs incurred and savings realized. A markup for overhead and profit may be allowed if provided by the contract. The same markup shall be used for determining a decrease in price as the result of savings realized. The CONTRACTOR shall present NRVECRA with all vouchers and records of expenses incurred and savings realized. NRVECRA shall have the right to audit the records of the CONTRACTOR as it deems necessary to determine costs or savings. Any claim for an adjustment in price under this provision must be asserted by written notice to NRVECRA within thirty (30) days from the date of receipt of the written order from NRVECRA. If the parties fail to agree on an amount of adjustment, the question of an increase or decrease in the contract price or time for performance shall be resolved in accordance with the procedures for resolving disputes provided by the Disputes Clause of this contract or, if there is none, in accordance with the disputes provisions of the Agency Procurement and Surplus Property Manual. Neither the existence of a claim or a dispute resolution process, litigation or any other provision of this contract shall excuse the CONTRACTOR from promptly complying with the changes ordered by NRVECRA or with the performance of the contract generally.

2.10 Pricing and Payment

- A. TO PRIME CONTRACTOR:
 - 1) Payment milestones will be agreed upon prior to contract execution.
 - 2) The CONTRACTOR may bill monthly with an invoice and attach the required Application for Payment. Invoices for items ordered, delivered and accepted shall be submitted by the CONTRACTOR directly to

the payment address shown on the purchase order/contract. All invoices shall show the Montgomery County or state contract number and/or purchase order number; social security number (for individual contractors) or the federal employer identification number (for proprietorships, partnerships, and corporations).

- 3) Any payment terms requiring payment in less than 45 days will be regarded as requiring payment 45 days after invoice or delivery, whichever occurs last. This shall not affect offers of discounts for payment in less than 45 days, however.
- 4) All goods or services provided under this contract or purchase order, that are to be paid for with public funds, shall be billed by the CONTRACTOR at the contract price, regardless of which public agency is being billed.
- 5) The following shall be deemed to be the date of payment: the date of postmark in all cases where payment is made by mail, or the date of offset when offset proceedings have been instituted as authorized under the Virginia Debt Collection Act.
- 6) Unreasonable Charges. Under certain emergency procurements and for most time and material purchases, final job costs cannot be accurately determined at the time orders are placed. In such cases, contractors should be put on notice that final payment in full is contingent on a determination of reasonableness with respect to all invoiced charges. Charges which appear to be unreasonable will be researched and challenged, and that portion of the invoice held in abeyance until a settlement can be reached. Upon determining that invoiced charges are not reasonable, the Commonwealth shall promptly notify the contractor, in writing, as to those charges which it considers unreasonable and the basis for the determination. A CONTRACTOR may not institute legal action unless a settlement cannot be reached within thirty (30) days of notification. The provisions of this section do not relieve an agency of its prompt payment obligations with respect to those charges which are not in dispute (*Code of Virginia, § 2.2-4363*).

B. TO SUBCONTRACTORS:

- 1) A CONTRACTOR awarded a contract under this solicitation is hereby obligated:
 - a) To pay the subcontractor(s) within seven (7) days of the contractor's receipt of payment from the Commonwealth for the proportionate share of the payment received for work performed by the subcontractor(s) under the contract; or
 - b) To notify NRVECRA and the subcontractor(s), in writing, of the CONTRACTOR'S intention to withhold payment and the reason.

The CONTRACTOR is obligated to pay the subcontractor(s) interest at the rate of one percent per month (unless otherwise provided under the terms of the contract) on all amounts owed by the CONTRACTOR that remain unpaid seven (7) days following receipt of payment from the Commonwealth, except for amounts withheld as stated in b. above. The date of mailing of any payment by U.S. Mail is deemed to be payment to the addressee. These provisions apply to each sub-tier contractor performing under the primary contract. A CONTRACTOR'S obligation to pay an interest charge to a subcontractor may not be construed to be an obligation of the Commonwealth.

2.11 Price Guarantee

The CONTRACTOR shall guarantee the quoted prices for all equipment and services purchased under the contract (including prices quoted for optional items), and all additional equipment purchased prior to final system acceptance, shall remain valid for a period of one years.

2.12 Transportation and Packaging

By submitting their proposals, all Offerors certify and warrant that the price(s) offered are for FOB Destination and include only the actual freight rate costs at the lowest and best rate and is based upon the actual weight of the goods to be shipped. Except as otherwise specified herein, standard commercial packaging, packing and shipping containers shall be used. All shipping containers shall be legibly marked or labeled on the outside with purchase order number, commodity description, and quantity.

2.13 Sales Tax Exemption

Sales to NRVECRA and the Commonwealth of Virginia are normally exempt from State sales tax, State sales and use tax certificates of exemption, Form ST-12, will be issued upon request. Deliveries against the contract shall be free of Federal excise and transportation taxes. The Commonwealth's excise tax exemption registration number is 54-73-0076K.

2.14 Contractual Claims

Contractual claims, whether for money or other relief, shall be submitted in writing to NRVECRA, no later than 60 calendar days after final payment; however, written notice of the CONTRACTOR's intention to file such claim shall have been given at the time of the occurrence or beginning of the work upon which the claim is based. The NRVECRA shall issue a decision regarding such claim, in writing, no later than 60 calendar days subsequent to notification to the NRVECRA. A CONTRACTOR may not institute legal action prior to receipt of NRVECRA's decision on the claim, unless that office fails to render such decision within sixty (60) days. Failure of the NRVECRA to render a decision within sixty (60) days shall not result in the CONTRACTOR being awarded the relief claimed or in any other relief or penalty. The sole remedy for the NRVECRA's failure to render a decision within sixty (60) shall be the CONTRACTOR'S right to institute immediate legal action. The decision of the NRVECRA shall be final and conclusive unless the CONTRACTOR, within six (6) months of the date of the final decision on the claim, institutes legal action as provided in the Code of Virginia, Section 2.2-4364.

For good cause and as consideration for executing this contract, the PROPOSER acting herein by and through the person signing this Proposal on behalf of the PROPOSER as duly authorized agent, hereby conveys, sells, assigns, and transfers to NRVECRA all rights, title and interest in and to all causes of action it may now or hereafter acquire under the anti-trust laws of the United States and the State of Virginia, relating to the particular goods or services purchased or acquired by the NRVECRA.

2.15 Default

In case of failure to deliver goods or services in accordance with the contract terms and conditions, NRVECRA, after due oral or written notice, may procure them from other sources and hold the CONTRACTOR responsible for any resulting additional purchase and administrative costs. This remedy shall be in addition to any other remedies which NRVECRA may have.

2.16 Liquidated Damages

For each and every day the installation of the agreed upon equipment shall fail to be complete beyond the date set for completion of installation and any extensions granted under the contract, the CONTRACTOR shall pay to NRVECRA the total amount of all costs resulting from the delay as liquidated damages and not as a penalty. Liquidated damages may be deducted by NRVECRA from any money due or to become due to the CONTRACTOR as compensation under the contract. Liquidated Damages shall not exceed 5 percent of the total amount of the contract per incident/delay. The total of Liquidated Damages shall not exceed the total cost of the contract.

2.17 Indemnity

The CONTRACTOR shall indemnify and save harmless Montgomery County and NRVECRA, its officials and employees from all losses, claims, demands, payments, suits, actions, recoveries, and judgments of every nature and description brought or recoverable against NRVECRA, or by reason of any act or omission of the CONTRACTOR, its agent, or its employees, in the execution of the work, or in consequence of any negligence or carelessness in guarding the same, including all liability for, or growing out of any infringement of letter patent or copyright of the United States, in respect to the normal use of the proposed and installed system. NRVECRA will promptly give the CONTRACTOR notice of any such claim.

The successful PROPOSER shall assume all risk and bear any loss or injury to the property or persons occasioned by neglect or accident during the progress of work until the same shall be completed and accepted. The CONTRACTOR shall also assume all blame or loss by reason of neglect or violation by CONTRACTOR of any state or federal law, NRVECRA or Virginia code, or municipal rule regulation, or order. The CONTRACTOR shall give to the proper authorities all required notices relating to the work and shall be responsible for ensuring all official construction permits and licenses are obtained prior to the beginning of work, and for paying all proper fees. NRVECRA will sign permit requests as required and as submitted by the CONTRACTOR. The CONTRACTOR shall make good any injury that may have occurred to any adjoining building, structure, or utility in consequence of this work.

2.18 Liability Insurance

The successful PROPOSER shall carry public liability insurance in the amounts specified below, including the contractual liability assumed by the CONTRACTOR, and shall deliver a Certificate of Insurance to NRVECRA with a 30 calendar day cancellation notice provision from carriers acceptable to NRVECRA and licensed to do business in Virginia. The certificate shall be delivered in conjunction with delivery of the executed contract to NRVECRA.

A. Worker's Compensation and Employer's Liability

Coverage A - Statutory Requirements
Coverage B - \$100,000 per Occurrence
Coverage C - \$100,000 Accident and/or Disease
All States Endorsement

B. Automobile Liability, Including Owner, Non-Owner and Hired Car Coverage

\$1,000,000 per accident to include Bodily Injury & Property Damage

C. Commercial General Liability

\$1,000,000 per occurrence / \$2,000,000 aggregate

Commercial General Liability is to include bodily injury and property damage, personal injury, advertising injury, contractual liability, and products and completed operations coverage. NRVECRA, their officers, employees, agents, and volunteers must be named as additional insureds and be so endorsed on the policy, as evidenced by the certificate of insurance.

D. Professional Liability (Errors and Omissions)

\$2,000,000 limit per claim and aggregate

2.19 Assignment

Assignment by the successful PROPOSER to any third party of any contract based on this RFP or any monies due shall be absolutely prohibited and will not be recognized by NRVECRA unless approved by NRVECRA in writing. Approval will not be unreasonably withheld.

2.20 News Release

The PROPOSER shall at no time make any news or advertising releases pertaining to this RFP for any purpose without the prior written approval of Heather M. Hall, Purchasing Director and then only in coordination with the NRVECRA.

2.21 Transfer of Title

The CONTRACTOR shall assume full financial responsibility until the project is complete and accepted by the NRVECRA. Under no circumstances, shall any warranty begin until final acceptance of the project by NRVECRA.

2.22 Nondiscrimination of Contractors

An offeror or a contractor shall not be discriminated against in the solicitation or award of this contract because of race, religion, color, sex, national origin, age, or disability or against faith-based organizations. If the award of this contract is made to a faith-based organization and an individual, who applies for or receives goods, services, or disbursements provided pursuant to this contract objects to the religious character of the faith-based organization from which the individual receives or would receive the goods, services, or disbursements, the public body shall offer the individual, within a reasonable period of time after the date of his objection, access to equivalent goods, services, or disbursements from an alternative provider.

2.23 Non-Discrimination in Employment

By submitting their proposals, Offerors certify to the Commonwealth that they will conform to the provisions of the Federal Civil Rights Act of 1964, as amended, as well as the Virginia Fair Employment Contracting Act of 1975, as amended, where applicable, the Virginians With Disabilities Act, the Americans With Disabilities Act, and Section 2.2-4311 of the Virginia Public Procurement Act. If the award is made to a faith-based organization, the organization shall not discriminate against any recipient of goods, services, or disbursements made pursuant to the contract on the basis of the recipient's religion, religious belief, refusal to participate in a religious practice, or on the basis of race, age, color, gender or national origin and shall be subject to the same rules as other organizations that contract with public bodies to account for the use of the funds provided; however, if the faith-based organization segregates public funds into separate accounts, only the accounts and programs funded with public funds shall be subject to audit by the public body. (Code of Virginia, § 2.2-4343.1 E).

In every contract over \$10,000 the provisions in A. below apply:

A. During the performance of this contract, the CONTRACTOR agrees as follows:

- 1) The CONTRACTOR will not discriminate against any employee or applicant for employment because of race, religion, color, sex, national origin, age, disability, or any other basis prohibited by state law relating to discrimination in employment, except where there is a bona fide occupational qualification reasonably necessary to the normal operation of the Contractor. The CONTRACTOR agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the provision of this nondiscrimination clause.
- 2) The Contractor, in all solicitations or advertisements for employees placed by or on behalf of the

Contractor, will state that such CONTRACTOR is an equal opportunity employer.

- 3) Notices, advertisements and solicitations placed in accordance with federal law, rule or regulation shall be deemed sufficient for the purpose of meeting the requirements of this Section.

The CONTRACTOR will include the provisions of A. above in every subcontract or purchase order over \$10,000, so that the provisions will be binding upon each subcontractor or vendor.

2.24 Drug-Free workplace

In every contract over \$10,000 the following provisions apply: During the performance of this contract, the CONTRACTOR agrees to (i) provide a drug-free workplace for the Contractor's employees; (ii) post in conspicuous places, available to employees and applicants for employment, a statement notifying employees that the unlawful manufacture, sale, distribution, dispensation, possession, or use of a controlled substance or marijuana is prohibited in the Contractor's workplace and specifying the actions that will be taken against employees for violations of such prohibition; (iii) state in all solicitations or advertisements for employees placed by or on behalf of the CONTRACTOR that the CONTRACTOR maintains a drug-free workplace; and (iv) include the provisions of the foregoing clauses in every subcontract or purchase order of over \$10,000, so that the provisions will be binding upon each subcontractor or vendor.

For the purposes of this section, "*drug-free workplace*" means a site for the performance of work done in connection with a specific contract awarded to a CONTRACTOR the employees of whom are prohibited from engaging in the unlawful manufacture, sale, distribution, dispensation, possession or use of any controlled substance or marijuana during the performance of the contract.

2.25 EO/AA Statement

NRVECRA, an equal opportunity, affirmative action institution covered by presidential executive order 11246 as amended, advises all contractors, subcontractors, vendors and suppliers that direct receipt of federal funds may require appropriate action on their part.

2.26 Force Majeure

Neither party will be liable to the other for any failure or delay in rendering performance arising out of causes beyond its reasonable control and without its fault or negligence. Such causes may include, but are not limited to, acts of God or the public enemy, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes and unusually severe weather; but the failure or delay must be beyond reasonable control and without fault or negligence. If the CONTRACTOR's failure to perform is caused by the default of a subcontractor, and if such default arises out of causes beyond the reasonable control of both the CONTRACTOR and subcontractor, and without the fault or negligence of either of them, the CONTRACTOR shall not be liable for any excess costs for failure to perform, unless the equipment or services to be furnished by the subcontractor were obtainable from other sources in sufficient time to permit the PROPOSER to meet the required delivery schedule. Dates or time of performance will be extended to the extent of delays excused by this section, provided that the party whose performance is affected notifies the other promptly of the existence and nature of such delay.

2.27 Site Visits

Ignorance of site conditions shall not relieve the CONTRACTOR of any liability or obligations under the contract.

2.28 CONTRACTOR Responsibilities

The CONTRACTOR shall assume total responsibility for delivery, installation, acceptance, of goods and services offered in the Proposal, whether the PROPOSER is the manufacturer, producer, author, or supplier of them.

The CONTRACTOR shall be the sole point of contact regarding all contractual matters, including the service, and payment of any and all charges resulting from installation and all other services performed. Failure to meet these obligations shall result in the cancellation of any contracts.

2.29 Project Responsibility

The PROPOSER shall be responsible for verifying the completeness and suitability of all work or equipment proposed for this project. The CONTRACTOR shall provide any additional equipment or labor required in order to meet these specifications, without claim for additional payment.

2.30 Property Damage

The CONTRACTOR shall be responsible for any loss or damage to property caused by their operations or personnel. Damages will be settled with the owner of the property by the CONTRACTOR in the company of an agent of the NRVECRA. The CONTRACTOR shall submit a signed damage release for all sites concerned within 30 days after the recommendation of cutover.

2.31 Vendor's Manual

This contract is subject to the provisions of the Commonwealth of Virginia Vendor's Manual and any revisions thereto, which are hereby incorporated into this contract in their entirety. A copy of the manual is available from the Division of Purchases and Supply in Richmond, VA www.dgs.state.va.us/dps

2.32 Precedence of Terms

Paragraphs 2.2, 2.3, 2.4, 2.5, 2.7, 2.8, 2.10, 2.22, 2.23, and 2.31 of these General Terms and Conditions shall apply in all instances. In the event there is a conflict between any of the other General Terms and Conditions and any Special Terms and Conditions in this solicitation, the Special Terms and Conditions shall apply.

3 Statement of Work

The statement of work applies to all equipment and services specified in this RFP.

3.1 Scope

NRVECRA will replace its existing guyed tower at its Price Mountain site, shown in Figure 3-1, with a new 190 foot self-supporting class III tower. The new tower and foundation shall be designed to meet the loads listed in Section 4 this specification plus 25% for growth. The CONTRACTOR shall:

- Furnish and erect a new 190 foot self-supporting class III tower
- Design and install a foundation for the new 190 foot tower, foundation design shall be based on a geotechnical survey.
- File for and obtain all required building, construction, and zoning permits needed to erect the new tower
- Verify with the FAA the height of tower, 190 foot. This does not include the lightning rod and lighting system to be installed at the top of the tower.
- Perform any studies required by the FAA to erect this new tower
- File all forms required by the FAA to erect this new tower
- Mount a lightning rod at the top of the tower
- Install marking lights and paint the tower per FAA requirements
- Perform a geotechnical survey at the designated tower location
- Install an ice bridge from the new tower to the new communication shelter
- Provide and file all necessary FCC applications and perform all studies necessary to receive an Antenna Structure Registration (ASR) for the new tower.
- Install grounding of the new tower per Motorola R56 requirements, including installing the tower ground bus and grounding to the ice bridge.



Figure 3-1 Price Mountain Tower Site

3.2 Project Management

The CONTRACTOR shall have experience, in the Commonwealth of Virginia, with projects of similar size and scope for design and erection of a new 190-foot self-supported tower.

3.2.1 Project Manager

The CONTRACTOR shall designate a single project manager to supervise and coordinate the CONTRACTOR's work. The project manager shall direct the CONTRACTOR's personnel and subcontractors in the project and assist in resolving project problems.

The CONTRACTOR shall provide the project manager's contact information after NRVECRA issues the notice to proceed (NTP). The contact information shall include the following:

- Name
- Mailing address
- Shipping address
- Office phone number
- Cell phone number
- Email address

3.2.2 Subcontractors

The CONTRACTOR shall notify the NRVECRA of any subcontractor(s) to be used to perform tasks and/or provide equipment on the project. NRVECRA has the right to reject proposed subcontractors.

3.2.3 CONTRACTOR Registration

The CONTRACTOR (or its subcontractors) shall be licensed at the time of the submission of the Proposal and must remain licensed through the completion of the work.

3.2.4 Project Management Plan

3.2.4.1 Project Schedule

The CONTRACTOR shall maintain a master project schedule for the design, implementation, and acceptance of the tower. Provide schedule updates to the NRVECRA monthly, or more frequently as needed, to address changing circumstances.

The project schedule shall provide a breakdown of each task, including the following details:

- Start and end dates
- Predecessors and successors
- Responsible party or parties
- Percentage completed
- Critical path

The CONTRACTOR shall update the project schedule monthly to reflect actual task completion dates.

3.2.4.2 Action Item List

The CONTRACTOR shall develop and maintain an action item list. The action item list shall include the following items:

- Item Number
- Date Identified
- Description of the Item
- Responsible Party
- Resolution
- Date Resolved

3.2.4.3 Submittals

The CONTRACTOR shall provide project submittals according to the submittal schedule. A preliminary submittal schedule is found in Table 3-1 (calendar days unless specifically listed business days).

NRVECRA will expect the submittal schedule to identify deliverables submitted timely and complete. The schedule will include the following for each item:

- Contract reference
- Document description
- Scheduled submittal date
- Actual submittal date
- Approval date
- Notes

RFP Section	Submittal	Scheduled Delivery Date
3.2.1	Project Manager's contact information	within 7 days after NTP
3.3.1	Detailed Design Review (DDR)	within 30 days after NTP
3.3.2	Detailed Design Documentation	at the DDR
3.4.3	FAA Notifications	within 30 days after Approved DDR
4.3.2	Earthwork (Erosion Control, Fills, etc.)	within 30 days after Approved DDR
4.6	Grounding Plan Documentation	within 30 days after Approval DDR
4.5.4	Structural Analysis - New Tower, include drawings	within 30 days after Geotechnical Study Report
4.3.1	Geotechnical Investigations	within 30 days after performed borings
4.4.1	Design Foundations	30 days after Geotechnical Study Report
4.4.4	Concrete Testing Results	45 days after collection of concrete samples
3.4.7	AM Radio Tower Interference Report	at the DDR
3.6.1	As-Built Documentation	Upon completion of the new tower

Table 3-1 Submittal Schedule

3.2.4.4 Transmittals

The CONTRACTOR shall assign a unique transmittal identification number to each submittal listed in Table 3-1 and to other significant documentation, memoranda, reports and change order requests. The transmittal ID number shall consist of an identifier for the sending party and a consecutive serial number for the transmittal. Each transmittal shall include the following information:

- Transmittal ID number
- Date
- Sender
- Organization
- Recipient(s)
- Subject
- List of documents delivered

The CONTRACTOR shall maintain a log of its transmittals and shall provide to NRVECRA.

3.2.4.5 Email

Electronic mail may be used for the development of decisions and documentation, and transmission of files. Actual decisions and documentation transmittals shall be transmitted in signed PDF form.

3.2.4.6 Project Documentation

The CONTRACTOR shall provide and maintain all the project documentation, sharing with NRVECRA from the beginning to the end of Tower Acceptance. At the end of the project, the CONTRACTOR will hand-off the documentation to NRVECRA for future maintenance.

Documentation shall be provided in soft copy. USB drive or DVD/CD-ROM copies are preferable and shall be supplied without copy protection. When submitted for approval or information, documents shall be clearly marked with the name of this project, date, and other tracking information, e.g., contract

information, site name and/or drawing/document number. The CONTRACTOR may develop a Web-based “cloud drive” to safely store and share documents, drawings, maps, photos with the new tower.

3.2.4.7 Change Orders

The CONTRACTOR shall submit change order requests to the NRVECRA's Project Manager that modifies quantity, equipment, services, schedule, cost, operation, or performance. A separate change order for each request shall include:

- Customer name
- Project number and title
- Issue date
- Tracking number
- CONTRACTOR name
- Reason for change
- Description of change
- Cost impact
- Schedule impact
- Operational or performance impact

No changes to the work shall commence until the change order request has been approved by NRVECRA in writing.

3.2.4.8 Punch List

The CONTRACTOR shall establish and maintain a punch list for inspections and tests. The list will be published monthly to include a sequential punch list item number, site reference, date identified, description of the item, resolution date, and notes. NRVECRA will be responsible to review and approve the resolution of each item.

3.3 Planning and Design

The CONTRACTOR shall design, engineer, supply all materials, deliver, construct, erect, mount, test, and warranty the new tower and install equipment required by the technical specifications.

3.3.1 Detailed Design Review (DDR)

The CONTRACTOR shall conduct the Detailed Design Review (DDR) at a location provided by NRVECRA.

Provide an agenda at least 10 business days prior to the DDR.

- Project Schedule
- Technical Design
 - Tower Design
 - Foundation Design
 - Grounding Design
- Site Design
 - Site Plans

3.3.2 Detailed Design Documentation

The CONTRACTOR shall prepare and submit the detailed design documentation to NRVECRA with at least two (2) paper copy and one (1) electronic copy prior to ordering any items. Each paper copy shall

be provided in an appropriate ring binder and include large-scale drawings. All copies shall be provided not less than five (5) business days prior to the DDR.

NRVECRA will return comments within 5 business days after the DDR. CONTRACTOR shall make appropriate changes within 5 business days after receiving NRVECRA's comments. Once NRVECRA is satisfied with the resolution of all comments, NRVECRA will approve the Design.

3.3.3 Detailed Design

The CONTRACTOR shall provide the detailed design information for the new tower includes, but not limited to the following:

- Tower Design
- Tower Foundation Design
- Site Plans
- Grounding Plans
- Lighting System Design

The CONTRACTOR shall design and engineer new tower based on the requirements in Section 2 and includes the following:

- Site Clearing and Grading
- Tower
- Grounding
- Lighting System

3.4 Implementation

3.4.1 Permits and Licensing

The CONTRACTOR is responsible to obtain the appropriate federal, state, and local zoning, environmental, special use and construction approvals, permits and licenses necessary for the construction of physical facilities. The CONTRACTOR shall pay all fees and costs associated with obtaining all approvals, permits and licenses.

3.4.2 SHPO and NEPA Studies

The CONTRACTOR shall perform SHPO and NEPA studies where required.

3.4.3 FAA Notifications

The CONTRACTOR shall notify FAA of proposed or actual construction or alteration by completing FAA Forms 7460-1 and 7460-2 and providing supporting data. The CONTRACTOR shall provide all necessary FAA applications necessary to receive FAA approval for the new tower construction.

3.4.4 FCC Antenna Structure Registration

The CONTRACTOR shall provide all necessary FCC applications and perform all studies necessary to receive an Antenna Structure Registration (ASR) for the new tower.

3.4.5 Installation

The CONTRACTOR shall install all systems and equipment required by this specification.

The CONTRACTOR shall leave the site in a neat, presentable condition throughout the project. The CONTRACTOR shall remove all rubbish, temporary structures, and equipment generated or used by the CONTRACTOR after installation and prior to acceptance.

3.4.6 Inspect Excavations

The CONTRACTOR shall notify NRVECRA of any excavation at a site 15 days prior to completion of the excavation. NRVECRA reserves the right to inspect excavations, rock, socket, and reinforcement placement.

3.4.7 Existing AM Radio Station Towers

The CONTRACTOR shall ensure that tower construction or alteration shall not disturb the antenna radiation patterns of existing AM broadcast stations.

The CONTRACTOR shall provide a report identifying existing non-directional AM stations within 1 km of the new tower and directional AM stations within 3 mi of the new tower.

The CONTRACTOR is responsible for pre-construction analysis, and/or remediation of interference resulting from the construction of the new tower.

The CONTRACTOR shall provide documentation either guaranteeing no interference with existing broadcast antenna patterns or detail the tower detuning required and the test results confirm that detuning corrected the problem.

3.5 Tower Acceptance

3.5.1 Inspections

NRVECRA will conduct multiple inspections during construction and a Final Inspection. Deficiencies identified by inspections will be recorded as punch-list items. If an inspection cannot be completed during the agreed upon scheduled visit, due to site incompleteness, all costs for additional inspections, including those incurred by NRVECRA for its personnel, and other CONTRACTORS, and any direct expenses (including travel, lodging, meals, etc.), shall be borne by the CONTRACTOR.

The CONTRACTOR shall notify NRVECRA when complete and ready for inspection with the foundation, excavation, or tower.

3.5.2 Final Tower Acceptance

NRVECRA will provide "Final Tower Acceptance" when the tower construction has completed, all punch-list items are resolved and approved, all submittals (including as-built documentation, maintenance & operational manuals, etc.) are delivered and accepted, and all services have been satisfactorily performed. All remaining monies will be released to the CONTRACTOR, and the project will be closed.

3.6 Documentation

3.6.1 Tower Facilities As-Built Documentation

The CONTRACTOR shall submit two (2) draft paper copies of all tower as-built documentation to NRVECRA for review and approval.

Tower construction as-built drawings include, but are not limited to, the following:

- Site layout drawings

- Foundation details for the tower
- Tower design detail drawings including light controller wiring

The CONTRACTOR shall provide the final tower as-built documentation:

- Two sets in paper copy, including large-scale drawings
- One set in electronic copy as PDF files

3.6.2 Warranty

The CONTRACTOR shall warrant 5 years for the new tower, including its foundation and grounding system.

The CONTRACTOR shall repair, replace, or otherwise correct defective tower, foundation, or grounding system during the warranty period at no cost to NRVECRA.

3.7 Mandatory Option: Existing Tower Demolition and Removal

The CONTRACTOR shall demolish the existing guy tower on the tower site, after the new tower is erected and the existing antennas are relocated to the new tower. After demolition, The CONTRACTOR shall remove the existing tower from the site and dispose of the existing tower per state and local regulations.

Mandatory Options described are required to be proposed. NRVECRA, at their sole discretion, will decide if the Mandatory Option will be included in the contract. The PROPOSER shall provide a price for each Mandatory Option as a separate line item for NRVECRA consideration.

4 Communications Tower Requirements

4.1 General Requirements

The new communications tower shall be designed and installed in accordance with applicable current codes, ordinances and regulations imposed by authorities having jurisdiction; these current standards; and the manufacturer's design and installation current revision standards. Where there is a conflict between requirements, the more stringent requirement shall apply.

4.2 References

4.2.1 Normative References

The following documents, either in whole or in part, are referenced in this physical facilities specification:

American Association of State and Highway Transportation Officials (AASHTO)

- AASHTO HB, Standard Specifications for Highway Bridges

American Concrete Institute (ACI)

- ACI 301-05, Specifications for Structural Concrete
- ACI 302.1R-04, Guide for Concrete Floor and Slab Construction
- ACI 318-08, Building Code Requirements for Structural Concrete and Commentary

American National Standards Institute (ANSI)

- ANSI J-STD-607-A-2002, Commercial Building Grounding (Earthing) and Bonding Requirements for Telecommunications.

American Society of Safety Engineers

- ANSI/ASSE Z359, Fall Protection Code

ASTM International

- ASTM A 615-08a, Standard Specifications for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement
- ASTM C 31-08a, Practice for Making and Curing Concrete Test Specimens in the Field
- ASTM C 33-01a, Standard Specifications for Concrete Aggregates
- ASTM C 39-05e1, Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens
- ASTM C150-00, Standard Specification for Portland Cement
- ASTM D 420-98, Standard Guide to Site Characterization for Engineering Design and Construction Purposes
- ASTM D1556-07, Standard Test Method for Density and Unit Weight of Soil in Place by Sand-Cone Method
- ASTM D 1557-07, Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000-ft-lbf/ft³ (2,700 kN-m/m³))
- ASTM D 2487-06e1, Standard Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System)
- ASTM D 6938-08a, Standard Test Method for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth)
- ASTM G 57-06, Standard Test Method for Field Measurement of Soil Resistivity Using the Wenner Four-Electrode Method

Federal Aviation Administration (FAA)

- Advisory Circular 70/7460-1K, Obstruction Marking and Lighting
- Advisory Circular 150/5245-43F, Specification for Obstruction Lighting Equipment

Federal Communications Commission (FCC)

- Code of Federal Regulations, Title 47, Telecommunications (47 CFR)

Institute of Electrical and Electronics Engineers (IEEE)

- IEEE Std. 81-1983, IEEE Guide for Measuring Earth Resistivity, Ground Impedance and Earth Surface Potentials of a Ground System
- ANSI/IEEE Std. 81.2-1991, IEEE Guide to Measurement of Impedance and Safety Characteristics of Large, Extended or Interconnected Grounding Systems

National Electrical Contractors Association (NECA)

- NECA 1, Standard Practices for Good Workmanship in Electrical Contracting

National Fire Protection Association (NFPA)

- NFPA 780, Standard for the Installation of Lightning Protection Systems

Telecommunications Industry Association (TIA)

- TIA-222, Structural Standard for Antenna Supporting Structures

Underwriters Laboratories (UL)

- UL 467, Grounding and Bonding Equipment

4.2.2 Informative References

The following references provide additional useful information but are not included in this document:

Alliance for Telecommunications Industry Solutions (ATIS)

- ATIS 0600334, Electrical Protection of Communications Towers and Associated Structures

American Society of Civil Engineers (ASCE)

- ASCE 7, Minimum Design Loads for Buildings and Other Structures

Illuminating Engineering Society (IESNA)

- IESNA HB, Lighting Handbook Reference & Application

Institute of Electrical and Electronics Engineers (IEEE)

- IEEE C2, National Electrical Safety Code (NESC)
- IEEE Std. 142, Grounding of Industrial and Commercial Power Systems

International Code Council

- International Building Code

4.3 Earthwork

4.3.1 Geotechnical Investigations

Geotechnical investigations shall be performed at the site involving earthwork. Geotechnical investigations and reporting shall be performed in accordance with ASTM D 420. Geotechnical reports shall be prepared and sealed by a professional engineer.

4.3.2 Erosion Control

An erosion control system shall be utilized to protect adjacent property in accordance with federal, state, and local standards and specifications for soil erosion and sediment control.

All areas disturbed by construction activities shall be seeded or vegetated with grass or other plants that are indigenous to the local area. All seeded areas shall be covered with straw. Erosion control measures shall be removed when the site has been stabilized and erosion control measures are no longer necessary.

4.3.3 Materials for Fill, Sub-Grade Preparation and Backfill

Soils shall be classified by test procedures outlined in ASTM D 2487. Moisture-density relations shall be established in accordance with ASTM D 1557 for all fill material to ensure its suitability.

Material for fill and backfill beneath buildings, structures, and towers; for backfill adjacent to buildings, structures, and towers; for trench backfill in every location; and for sub-grade preparation shall be GW, GP, GM, GC, SW, SP, SM, or SC. The largest particles in this fill and backfill shall be no greater than 2 in. diameter.

Fill material for non-structural applications shall consist of unclassified material from the excavations.

4.3.4 Clearing and Grubbing

Fenced compound area shall be cleared and grubbed of trees and other vegetation, stumps, roots and other material or structures that would hinder the installation of the foundation. Such materials shall be removed to a depth of at least 18 in. Depressions made by grubbing shall be filled with suitable material and compacted as required.

Materials unsuitable for fill shall be removed from the site and disposed of in accordance with local, state, and federal regulations.

4.3.5 Fills

Where fill is required to raise the subgrade for concrete slabs, fill material shall be placed in horizontal layers not exceeding 6 in compacted thickness. Frozen material shall not be used for this purpose.

4.3.6 Backfilling Beneath and Adjacent to Buildings, Structures and Towers

For depths greater than 5 ft, select fill shall be used from the top of the footing to a point 5 ft below finished grade. The select fill, defined as GW or SW material in ASTM D2487, shall extend from the outside and inside faces of the wall to the faces of the excavation if the excavation is sheeted and braced or 5 ft from the outside and inside faces of the wall if the excavation is un-sheeted.

4.3.7 Backfilling Trenches

Trenches shall be backfilled with suitable materials free from large clumps of earth and rock fragments. Material shall be deposited in 6-in horizontal layers and thoroughly and carefully tamped until pipe and conduit have a cover of not less than 1 ft. Wrapped, coated and plastic material shall be backfilled 6 in above the utility line with sand or other finely graded material. For trenches in open areas, remainder of backfill material shall then be placed in the trench in one-foot horizontal layers.

Trenches shall be backfilled simultaneously on opposite sides and compacted simultaneously without dislocating the utility line from installed positions. For trenches beneath pavement, buildings and structures, the entire depth of the trench shall be filled in 6-in horizontal layers. Each layer shall be moistened or dried and compacted. Trenches improperly backfilled or where settlement occurs shall be reopened to depth required for proper compaction, refilled, and compacted with surface restored to required grade and compaction, mounded over in open areas, and smoothed off.

4.3.8 Plastic Marking Tape

Warning tapes shall be installed directly above pipe and conduit at a depth of 6 in below finished grade unless otherwise indicated. Tape color shall be as specified and shall bear a continuous printed inscription, identifying the specific utility.

Utility	Color
Electric	Red
Water	Blue
Telephone	Orange
Sewer	Green

4.3.9 Compaction

The degree of compaction required is expressed as a percentage of the maximum density obtained by the test procedure presented in ASTM D1557. Fill and backfill material shall be moistened or aerated as necessary to provide a moisture content that falls within 3 percent of either side of optimum.

The minimum compaction effort required for various fills, backfills, and sub-grades shall be as follows:

Fill, Backfill and Sub-Grade Compaction	Percent of Maximum Density
Under buildings, structures, towers, or adjacent to buildings, structures, or towers	95
Under exterior concrete slabs, including related utility trench backfill and scarified sub-grades	90
Under utility trench backfill in other areas	85

If required, field density tests shall be performed in accordance with ASTM D 1556 or ASTM D 6938.

4.3.10 Soil Sterilization

Areas specified to receive cover material shall be sterilized with a pre-emergent herbicide solution. Treatment shall be applied on the subgrade prior to placing cover material. Application shall be in accordance with the manufacturer's recommendations.

4.3.11 Fenced Compound

Inside the site fence (and guy anchor locations), geotextile fabric shall be installed in areas not covered by concrete. The geotextile fabric shall extend 18 in outside the fence. The fabric shall be installed in

accordance with manufacturer's instructions. The area under the fabric shall be cleared and sterilized. The top covering over the fabric shall be 6 in of #57 aggregate compacted by roller.

4.4 Foundations

Concrete foundations for the tower shall be designed and installed in accordance with ACI 318, ACI 301 and ACI 302 and other applicable standards of ACI.

4.4.1 Design

Foundation design shall be based on the geotechnical conditions at the site. Foundations for towers shall be designed in accordance with TIA-222. All foundation engineering design documentation shall be prepared and sealed by a professional engineer.

4.4.2 Installation

Forms shall be used to ensure proper pouring and forming of foundations. Forms shall be true, rigid, and strong enough to carry loads to which they will be subjected. Steel reinforcement, anchor bolts and other embedded items shall be held rigidly in place during pouring and curing of concrete. Concrete shall be vibrated during pours to eliminate air pockets. Care shall be taken to ensure that concrete does not freeze before curing.

4.4.3 Materials

Cement shall meet the requirements of ASTM C150. Aggregates shall meet the requirements of ASTM C33. Reinforcing steel shall meet the requirements for Grade 60 reinforcing steel as defined in ASTM A615. Minimum compressive strength of concrete shall be 3000 psf at 28 days or higher as specified by foundation design documentation.

4.4.4 Concrete Testing

During concrete pours, four test cylinders shall be poured in accordance with ASTM C31 for each 25-cu yd concrete poured. Concrete tests and test reports shall be in accordance with ASTM C39. If tests indicate that concrete strength is not adequate, the concrete shall be removed and replaced.

4.5 Tower

New tower shall be designed and installed according to TIA-222 and codes, ordinances and regulations of authorities having jurisdiction. Where these standards contain conflicting requirements, the more stringent requirements shall apply.

4.5.1 Tower Classification

Towers for the use of public safety or critical infrastructure industry communications systems shall meet the requirements of Class III structures as defined in TIA-222.

4.5.2 Loads

The tower shall be designed by a professional engineer in accordance with TIA-222 so that its design strength exceeds the loading of the tower, antennas, and appurtenances (antenna support hardware, waveguides and transmission lines, grounding kits, tower lighting systems, tower climbing systems, etc.), ice, wind, and seismic loads. As practical, transmission lines shall be evenly distributed on tower faces to distribute loads.

All proposed current and future loads, including antennas and appurtenances being relocated from existing structure, shall be carefully verified before tower analysis is performed. The following information for each proposed antenna shall be provided to the structural engineer:

- Manufacturer, model, size, weight, and effective projected area of the following:
 - Antennas
 - Antenna support hardware
 - Transmission lines or waveguide.
- Antenna mounting height.
- Tower leg or face on which the antenna will be mounted.
- Routing of transmission lines or waveguide

Tower shall be designed for the future installation of up 125% of proposed load.

Table 4-1 contains the expected loads for the new tower:

<u>Elevation</u> (ft)	<u>Antenna</u> <u>Qty</u>	<u>Antenna</u> <u>Model</u>	<u>Radome</u> <u>Y / N</u>	<u>Freq.</u>	<u>Sector</u> <u>Azimuths</u>	<u>TX Line</u> <u>Qty</u>	<u>TX Line</u> <u>Size</u>
190	1	(Beacon/Spur)	-	-	Top	190	power cable
190	1	5' lightning rod	-	-	-	-	-
180	1	CommScope DB408	N	450 MHz	Leg A	185	LDF5-50
180	1	CommScope DB408	N	450 MHz	Leg B	185	LDF5-50
180	1	900 MHz Omni	N	929 MHz	Leg C	185	LDF5-50
160	1	CommScope DB636-C	N	450 MHz	Leg A	165	LDF5-50
160	1	CommScope DB636-C	N	450 MHz	Leg B	165	LDF5-50
160	1	CommScope DB636-C	N	450 MHz	Leg C	165	LDF5-50
140	1	CommScope DB224	N	155 MHz	Leg A	145	LDF4-50
140	1	CommScope DB636-C	N	450 MHz	Leg B	145	LDF5-50
140	1	CommScope DB636-C	N	450 MHz	Leg C	145	LDF5-50
128	1	AF24HD	Y		Leg B	135	CAT-6
120	1	Ice Shield	-	-	Leg A	-	-
119	1	12" Sector Antenna	Y		Leg C	125	CAT-6
115	1	2' Dish	Y		Leg A	120	CAT-6
115	1	6' Solid MW Dish			Leg A		
110	1	3' Solid MW Dish			Leg A		
115	1	Ice Shield	-	-	Leg B	-	-
111	1	2' Sector Antenna	Y		Leg B	116	CAT-6
110	1	6' Solid MW Dish			Leg B		
108	1	2' Sector Antenna	Y		Leg C	113	CAT-6
105	1	3' Solid MW Dish			Leg B		
110		Ice Shield	-	-	Leg C	-	-
105	1	3' Solid MW Dish			Leg C		
100	1	3' Solid MW Dish			Leg C		
95	1	Daylight Markers	-	-	-	95	power cable
80	1	CommScope DB636-C	N	450 MHz	Leg A	85	LDF5-50
80	1	CommScope DB636-C	N	450 MHz	Leg B	85	LDF5-50
80	1	CommScope DB636-C	N	450 MHz	Leg C	85	LDF5-50
60	1	CommScope DB636-C	N	450 MHz	Leg A	65	LDF5-50
60	1	CommScope DB636-C	N	450 MHz	Leg B	65	LDF5-50
60	1	CommScope DB636-C	N	450 MHz	Leg C	65	LDF5-50

Table 4-1 Tower Antenna Load

4.5.3 Twist and Sway

Towers for the support of microwave antennas shall be designed to meet the twist and sway requirements of the microwave system design as defined in TIA-222.

4.5.4 Analysis of Towers and Antenna Support Structures

A structural analysis shall be performed in accordance with TIA-222 on the new tower. The analysis shall be based on actual geotechnical conditions, not on “typical” soil parameters. The analysis shall state the

model and all assumptions used and shall be prepared and sealed by a professional engineer.

4.5.5 Materials and Fabrication

Materials and fabrication of all towers and foundations shall meet the specifications of TIA-222.

4.5.6 Tower Erection

All work associated with the construction of towers shall be inspected and approved by a professional engineer. The erection of towers shall be in accordance with TIA-222. The tower shall be grounded continuously during erection.

4.5.7 Tower Climbing Facilities

A climbing ladder or other climbing facility shall be provided for each new tower in accordance with TIA-222.

4.5.8 Mandatory Option: Safety Climb System

Each climbing facility shall be equipped with a safety climb system. Each tower shall be furnished with two personnel belts compatible with the safety climb system. Safety climb system and personnel belts shall meet the requirements of ANSI/ASSE Z.359.

4.5.9 Obstruction Marking and Lighting

Towers shall be marked and lighted in accordance with FAA Advisory Circular AC 70/7460-1K. Where tower marking or lighting is required, dual lighting systems are preferred. Tower lighting systems shall meet the standards of FAA Advisory Circular AC 150/5245-43E.

Lighting control systems shall be mounted inside the equipment building and shall have alarm outputs for connecting to remote alarm systems. Alarm outputs shall be wired to the radio system alarm system and displayed at the associated alarm system workstations.

4.5.10 Ice Bridges

An ice bridge shall be installed between the communications shelter and the tower to support and protect transmission lines and other cables. The ice bridge shall be self-supporting.

4.5.11 FAA Notifications

The FAA shall be notified of proposed or actual construction or alteration by completing FAA Forms 7460-1 and 7460-2 and providing supporting data.

4.6 Grounding

All site grounding and lightning protection shall be in accordance with the National Electric Code and the grounding and surge protection requirements of Motorola R56 – Standards and Guidelines for Communication Sites.

4.6.1 Grounding Conductors

All grounding conductor sizes specified are minimum sizes. Flat metal straps or bars may be used in place of wire where the cross-sectional area of the strap or bar meets or exceeds the cross-sectional area of the specified wire.

Grounding-conductor insulation shall be green, green with a yellow stripe or marked with green tape or adhesive labels or otherwise colored green at termination points.

Grounding conductors shall be supported or secured at intervals of 3 ft or less.

Grounding conductors shall not be run in metal conduit unless the wire is permanently bonded at both ends of the conduit. PVC conduit is preferred.

4.6.1.1 Exterior Grounding Conductors

Unless otherwise stated, exterior grounding conductors shall be solid or stranded, bare copper. Solid conductors are preferred.

Conductors installed below grade or partially below grade shall be #2 AWG solid. Below-grade conductors larger than #2 AWG may be stranded. If below-grade conductors are stranded, tinned copper conductors are recommended.

Unless otherwise stated, exterior conductors installed entirely above grade shall be #6 AWG. Insulated conductors are preferred for above-grade conductors.

Conductors bonded to galvanized steel shall be tinned, bare copper.

4.6.1.2 Grounding Conductor Bends

Grounding conductor lengths shall be kept as short as possible with the minimum number of bends. Conductor bends shall exceed an 8-in radius with an included angle of at least 90 degrees. Bends made at connection points shall turn in the direction of earth ground.

4.6.2 Grounding Equipment

Where a product is commercially available as a UL-listed device, a UL-listed device shall be used.

4.6.3 Connections

Below-grade connections to the grounding electrode system shall be made by exothermic welding or irreversible high-compression connectors.

Above-grade connections shall be made using exothermic welding, lugs, compression connectors, clamps, or other approved means. Connectors shall be designed for the size and type of grounding conductor(s), the surface being grounded, and the metals being bonded. An anti-oxidation compound shall be applied to the surfaces of all mechanical connections. Exothermic welding or irreversible high-compression connections are the preferred connection types.

Where lugs are used, two-hole lugs are preferred. Lugs may not be stacked; each lug shall be in direct contact with the surface to which it is being bonded.

The removal of galvanization for the purpose of grounding is strictly prohibited.

When making connections between dissimilar metals, precautions must be taken to prevent deterioration of grounding surfaces or protective surfaces.

4.6.4 Exterior Grounding System

An exterior grounding system consists of a grounding electrode system, tower ground bar, towers, and cable bridges.

4.6.4.1 Ground Rods

Ground rods shall be solid copper, copper-clad steel, or stainless steel, at least 5/8 in diameter and 8 ft. long.

Ground rods shall be driven into the earth using appropriate tools. The depth of the upper end of the ground rod shall be at the same depth as the ground ring, at least 30 in below grade. If a ground rod cannot be driven straight down the total length of the ground rod, it shall be driven at an angle not greater than 45 degrees. Auguring and backfilling are not permissible unless used in conjunction with doping.

Maximum distance between ground rods shall be twice the length of a single ground rod.

4.6.4.2 Electrolytic Ground Rods

Electrolytic ground rods may be used in locations with poor soil conductivity or limited space where standard ground rods are insufficient to provide a low-impedance ground. Electrolytic ground rods should be considered for use in locations where the grounding electrode system will be covered by pavement or concrete. Electrolytic ground rods shall be UL-listed, maintenance-free and shall meet all federal, state, and local environmental regulations.

4.6.4.3 Ground Plates

Ground plates may be used in special locations where conditions prevent the use of standard ground rods. Ground plates shall be at least 0.06 in thick with a surface area of at least 2 sq ft. They shall be installed at least 30 in below grade.

4.6.4.4 Doping of Ground Systems

Doping of the soil may be necessary to enhance soil conductivity or protect the grounding electrode system from highly acidic soils. The doping material is added around the ground rod in an augured hole or around a conductor in a trench. The doping material shall have a constant cured resistivity of 12 ohm-cm or less. It shall set up to a hard, permanent material and shall not decompose or dissolve over time. It shall not require any maintenance after installation. It shall not accelerate corrosion of the grounding system. The doping material shall meet all federal, state, or local environmental regulations.

4.6.4.5 Grounding Electrode System Conductors

Grounding electrodes shall be interconnected by grounding electrode system conductors to create the grounding electrode system. Grounding electrode system conductors shall be #2 AWG. Grounding electrode system conductors shall be installed at least 30 in below grade.

4.6.4.6 Ground Rings

Ground rods shall be interconnected to form a ground ring around the tower. Tower ground ring shall be installed at least 2 ft beyond tower foundations.

The new tower ground ring shall be connected to the existing communication shelter ground ring with at least two #2 AWG wire.

4.6.5 Grounding of Towers and Other Antenna Support Structures

The following sections provide general instructions for grounding towers and other antenna support structures. Special situations, such as the use of cathodic protection systems, shall be designed by a professional engineer specializing in the design of these systems.

Drilling holes in towers or using tower bolts to install grounding is strictly prohibited.

4.6.5.1 Self-Supporting Tower

Each leg of a self-supporting steel lattice tower shall be bonded to a tower ground ring by #2 AWG wire. The ground ring shall consist of at least one ground rod per leg with additional ground rods as required to keep the distance between ground rods to less than twice the length of a single ground rod.

4.6.5.2 Ice Bridge

Each support post of an ice bridge shall be bonded to the grounding electrode system by a #2 AWG wire. The ice bridge shall be bonded to each support post by #6 AWG wire. If the ice bridge consists of more than one section, the sections shall be bonded together by #6 AWG jumpers.

The ice bridge shall not be connected or supported by the tower or communication shelter.

4.6.5.3 Tower Ground Bus Bar

A tower ground bus bar (TGB) shall be mounted at the base of the tower below the point where transmission lines turn toward the communications building or room. The TGB shall be solid copper at least 2 in wide and 0.25 in thick mounted on 2-in insulators. In locations where the tower is not protected from runoff from the TGB, the TGB shall be tinned. The length of the TGB and the number of conductors mounting holes are determined by the expected current and future number of conductors to be attached.

The TGB shall be bonded to the grounding electrode system by a #2 AWG tinned, solid, bare copper wire in flexible non-metallic conduit. In addition, the TGB may be bonded to the tower either directly using approved hardware or by a jumper.

Additional TGBs may be installed on the tower for the grounding of transmission line grounding kits. These TGBs shall be bonded to the tower by #2 AWG tinned, solid, bare, copper wire.

4.7 Utilities

4.7.1 Existing Utilities

Location of all existing utilities shall be verified before site work begins. Existing utilities must be protected during site work.

Appendix A – Evaluation Criteria

Proposals will be evaluated based on the categories below. Each Proposal may receive up to 100 points, allocated as described below. The Proposal receiving the highest total score will be the recommended Proposal. The final evaluation and recommendation will be made in concert with NRVECRA.

Category	Point Allocation
Organization Experience	20
Project Management Plan	10
Implementation Plan	25
Schedule	10
Pricing	
Goods	15
Services	20
Total Points Possible	100

Grounds for Rejection

A proposal may be rejected for any of the following reasons:

- Failure to provide a complete proposal, based upon the requirements of RFP.
- The proposed design is incomplete.
- The mandatory options are not proposed.
- The PROPOSER'S schedule is unrealistic. A schedule may be deemed unrealistic if *important tasks or milestones are omitted* or if insufficient time is allocated to tasks.
- Pricing is not broken out by major component line items for both goods and services

Final Selection

NRVECRA reserves the right to waive any informalities or irregularities. NRVECRA may cancel the RFP at any time prior to opening proposals. NRVECRA may reject all Proposals, or any portion thereof, if it is deemed in the best interest of NRVECRA.

*Returned to
County Attny
Room 213*

6-12-84

THIS DEED, made and entered into this 15th day of
May, 1984, by and between THE CHESAPEAKE & POTOMAC
TELEPHONE COMPANY OF VIRGINIA, a Virginia corporation, party
of the first part, and THE BOARD OF SUPERVISORS OF MONTGOMERY
COUNTY, VIRGINIA, party of the second part.

W I T N E S S E T H:

THAT WHEREAS, the party of the second part desires to pur-
chase the hereinafter described tract of land in order to erect
thereon an antenna mast and transmission building for use by the
Town of Blacksburg and the Sheriff's Department of Montgomery
County for their respective radio equipment; and

WHEREAS, the party of the first part agrees to sell said
tract of land to the party of the second part, but only upon the
conditions hereinafter stated;

NOW, THEREFORE, WITNESSETH that for and in consideration of
the sum of Ten Dollars (\$10.00), cash in hand paid, and other
good and valuable consideration, the receipt of all of which is
hereby expressly acknowledged, the party of the first part does
hereby bargain, sell, grant and convey, subject to such matters
as are set out herein, with General Warranty and English Cove-
nants of Title unto the party of the second part the following
tract and right-of-way situate in the Price's Fork Magisterial
District of Montgomery County, Virginia, and more particularly
designated and described as follows, to-wit:

JERO &
ROSENTHAL
ATTORNEYS AT LAW
BOX 1089
RADFORD, VA 24141-0089

BEGINNING at a point designated as "ROD FND.," which
point is the southeastern corner of the property here-
in conveyed and which point is on the northern bound-
ary of a 15 foot soil road, as shown on the herein-
after described plat; thence with the northern bound-
ary of said soil road N 71° 18' 17" W 89.30 feet, N
64° 36' 43" W 74.95 feet, and N 57° 56' 32" W 22.01

216

feet to a point designated as "ROD SET"; thence N 08° 41' 57" E 217.08 feet to a point designated as "ROD SET"; thence S 81° 18' 03" E 179.94 feet to a point in the western boundary of property owned by Brush Mountain Coal Co., which point is designated as "ROD FND."; thence with the western boundary of property owned by Brush Mountain Coal Co. S 08° 41' 57" W 262.83 feet to the point of BEGINNING, and containing 1.008 acres as shown on that certain plat entitled "Plat Showing 1.008 Acres Surveyed for Louis Barber, Sheriff of Montgomery County, Virginia, Located in Price's Fork Magisterial District, Montgomery County, Virginia," prepared by Anderson & Associates, Inc., designated as Job No. 3788, dated February 28, 1984, and updated March 1, 1984, which plat is attached hereto and expressly made a part hereof;

TOGETHER WITH, as a perpetual easement appurtenant to the hereinabove described tract, the right of ingress and egress over an existing road from the Price Mountain-Christiansburg Road (Virginia State Route No. 657) through lands of Brush Mountain Coal Co. and the party of the first part to the property herein conveyed (the road continuing onto the old well site and known as the Well Site Road).

SAVING AND EXCEPTING, HOWEVER, the mineral rights under the aforesaid property, which mineral rights have been reserved unto Brush Mountain Coal Co. in the deed described immediately below.

AND BEING a part of the same property conveyed to the party of the first part by deed from Brush Mountain Coal Company, a Virginia corporation, dated February 19, 1964, and recorded March 17, 1964, in the Clerk's Office of the Circuit Court of Montgomery County, Virginia, in Deed Book 248, page 449.

This conveyance is made subject to all recorded easements, conditions, restrictions and agreements as they may lawfully apply to the real estate hereby conveyed or any part thereof, and specifically to that certain agreement dated March 16, 1984, among the Town of Blacksburg, a Municipal corporation, Board of Supervisors of Montgomery County, Virginia, Louis E. Barber, Sheriff of Montgomery County, Virginia, and C & P Telephone Company of Virginia, which agreement is on file with the Town of Blacksburg and the Board of Supervisors of Montgomery County.

The party of the first part presently has located adjacent to the property herein conveyed a tower for the transmission of

JEBO &
ROSENTHAL
ATTORNEYS AT LAW
BOX 1089
RADFORD, VA. 24141-0089

microwaves. As further consideration for the conveyance herein, and as a condition of the sale, the intended use of the site by the party of the second part for a radio microwave tower shall not at any time, either now or in the future, obstruct, impair or interfere with The Chesapeake & Potomac Telephone Company's microwave transmission tower routes as shown on the attached plat, which plat is expressly made a part hereof, nor shall the intended use of the site by the party of the second part for a radio microwave tower cause any objectionable interference to or from any other equipment located in or on The Chesapeake & Potomac Telephone Company's microwave transmission tower. These conditions and restrictions upon the property herein conveyed shall run with the land and shall be binding upon the party of the second part, its grantees, successors and assigns.

The hereinabove referred to plat of the 1.008 acres hereby conveyed locates the proposed communication tower to be constructed by the party of the second part. The party of the first part does hereby approve of the proposed location of the communication tower as shown on said plat. The party of the first part reserves the right to approve any change in the location of the proposed communication tower, and further reserves the right to approve the construction of any additional communication towers that may be placed upon the property by the party of the second part, its grantees, successors or assigns, the purpose of such reservation being to assure the party of the first part that there will not be, at any time, any interference with the microwave transmission tower routes of the party of the first part.

JERO &
ROSENTHAL
ATTORNEYS AT LAW
BOX 1089
RADFORD, VA 24141-0089

WITNESS the signatures and seals of the parties hereto.

THE CHESAPEAKE & POTOMAC TELEPHONE
COMPANY OF VIRGINIA

By: Walter J. Jarman

Vice President - Operations
Title

218

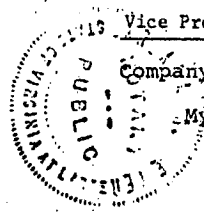
BOARD OF SUPERVISORS OF MONTGOMERY
COUNTY, VIRGINIA

By Betty S. Thomas
Betty S. Thomas
County Administrator

State of Virginia
STATE OF VIRGINIA
~~DISTRICT OF COLUMBIA~~
City/County of Alleghenia County, to-wit:

The foregoing Deed was acknowledged before me this 15th
day of May, 1984, by W. S. Daron

Vice President-Operations, of The Chesapeake & Potomac Telephone
Company of Virginia, a Virginia corporation.



My commission expires: May 30, 1984.

Barbara J. Weser
Notary Public

STATE OF VIRGINIA
City/County of Montgomery, to-wit:

The foregoing Deed was acknowledged before me this 24th
day of May, 1984, by Betty S. Thomas, County Adminis-
trator of Montgomery County, Virginia.

My commission expires: July 1, 1986.

B. Clayton Goodman
Notary Public

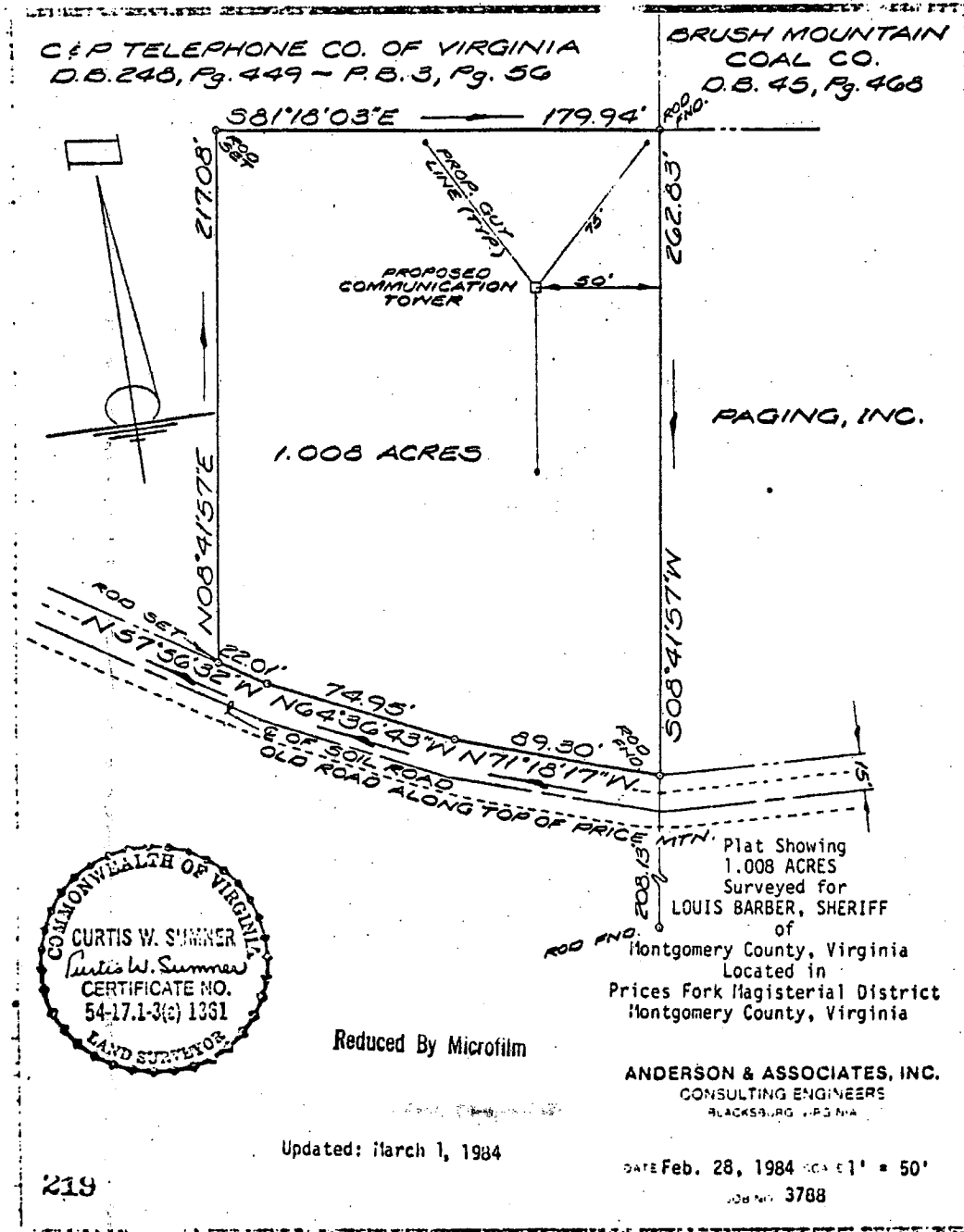
VIRGINIA: In the Office of the Circuit Court of Montgomery County
24th day of May, 19 84 The foregoing
instrument was this day presented in said Office and with certificate
annexed admitted to record at 4:25 o'clock P.M. The taxes
imposed by Sec. 58-54.1 of the Code of Virginia in the amount of
\$ 1.00 have been paid to this office.

Teste:
JOHN B. MYERS, JR., Clerk
[Signature]
By [Signature] D.C.

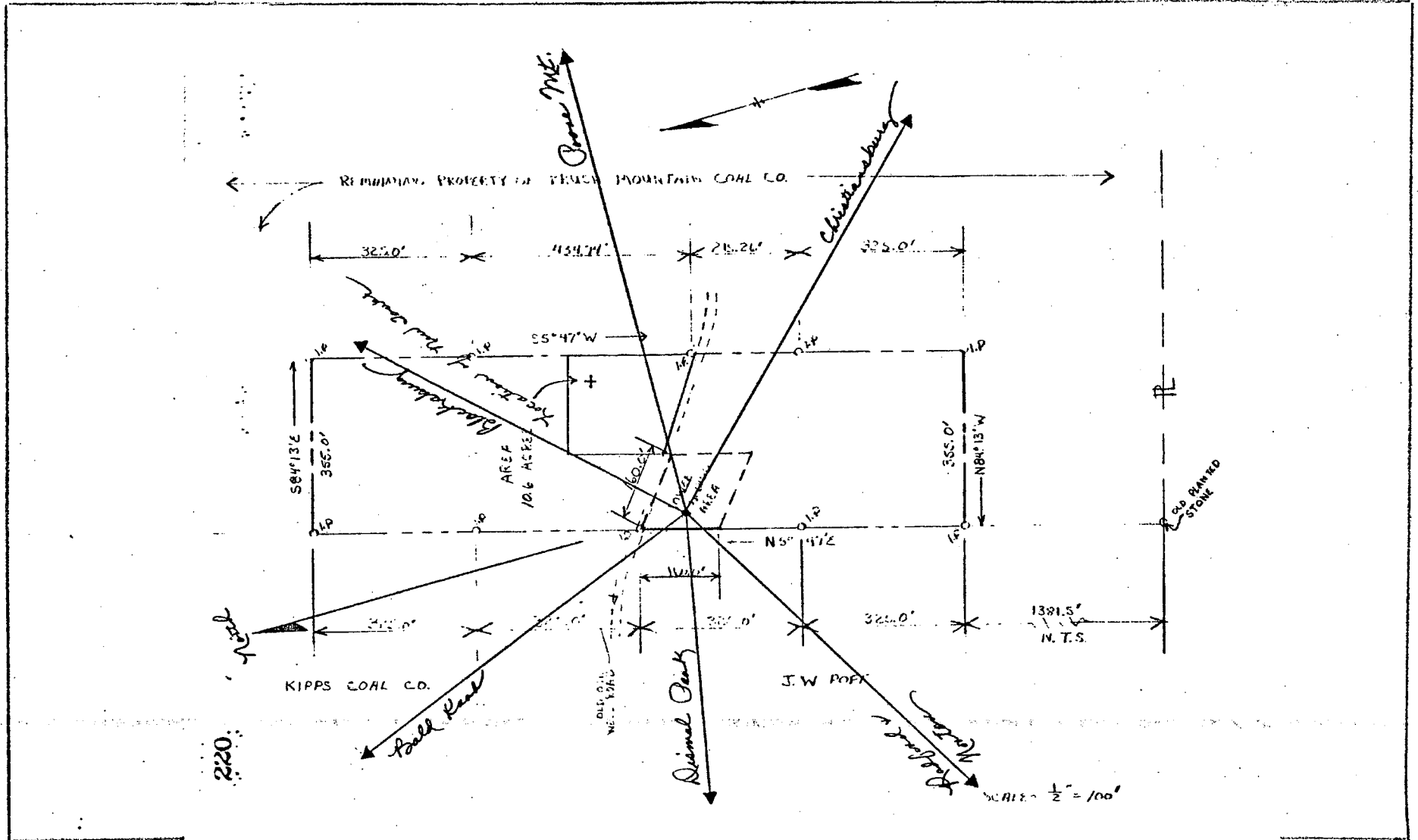
JERO &
ROSENTHAL
ATTORNEYS AT LAW
BOX 1089
RADFORD, VA. 24141-0089

Reduced By Microfilm

References: DB 248 P. 499; PB 3 P. 56; Anderson & Associates, Inc. JN 1795, JN 2163 and JN 1184
Montgomery County Tax Map 66 (A)



Reduced By Microfilm



CERTIFICATE OF TITLE

FOR

COUNTY OF MONTGOMERY, COMMONWEALTH OF VIRGINIA

April 30, 1984

At the request of the County of Montgomery, Commonwealth of Virginia, and pursuant to Section 15.1-285 of the Code of Virginia, 1950, as amended, I have examined the title to the following parcel hereinafter described for the purpose of the purchase of said property with all appurtenances thereunto belonging, by the County of Montgomery from the Chesapeake & Potomac Telephone Company of Virginia, a Virginia corporation.

This certain tract or parcel of land situated, lying and being in the County of Montgomery, Price's Fork Magisterial District and more particularly described as follows:

BEGINNING at a point designated as "ROD FND.," which point is the southeastern corner of the property herein conveyed and which point is on the northern boundary of a 15 foot soil road, as shown on the hereinafter described plat; thence with the northern boundary of said soil road N 71° 18' 17" W 89.30 feet, N 64° 36' 43" W 74.95 feet, and N 57° 56' 32" W 22.01 feet to a point designated as "ROD SET"; thence N 08° 41' 57" E 217.08 feet to a point designated as "ROD SET"; thence S 81° 18' 03" E 179.94 feet to a point in the western boundary of property owned by Brush Mountain Coal Co., which point is designated as "ROD FND."; thence with the western boundary of property owned by Brush Mountain Coal Co. S 08° 41' 57" W 262.83 feet to the point of BEGINNING, and containing 1.008 acres as shown on that certain plat entitled "Plat Showing 1.008 Acres Surveyed for Louis Barber, Sheriff of Montgomery County, Virginia, Located in Price's Fork Magisterial District, Montgomery County, Virginia," prepared by Anderson & Associates, Inc., designated as Job No. 3788, dated February 28, 1984, and updated March 1, 1984, which plat is attached hereto and expressly made a part hereof;

TOGETHER WITH, as a perpetual easement appurtenant to the hereinabove described tract, the right of ingress and egress over an existing road from the Price Mountain-Christiansburg Road (Virginia State Route No. 657) through lands of Brush Mountain Coal Co. and the party of the first part to the property herein conveyed (the road continuing onto the old well site and known as the Well Site Road).

SAVING AND EXCEPTING, HOWEVER, the mineral rights under the aforesaid property, which mineral rights have been reserved unto Brush Mountain Coal Co. in the deed described immediately below.

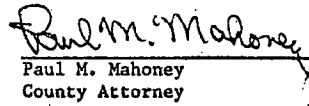
AND BEING a part of the same property conveyed to the party of the first part by deed from Brush Mountain Coal Company, a Virginia corporation, dated February 19, 1964, and recorded March 17, 1964, in the Clerk's Office of the Circuit Court of Montgomery County, Virginia, in Deed Book 248, page 449.

-2-

222

Insofar as the records of the Clerk's Office of the Circuit Court for Montgomery County, Virginia, are properly kept and indexed, and subject to any discrepancies that would be disclosed by a present survey of the property, I am of the opinion that the Chesapeake & Potomac Telephone Company of Virginia is the fee simple owner of the property under examination, and can convey a good and marketable title to the real estate described above, subject to the reservation of mineral rights.

Respectfully submitted,


Paul M. Mahoney
County Attorney

**COMMONWEALTH OF VIRGINIA
STANDARD BID BOND**

KNOW ALL MEN BY THESE PRESENTS: That _____
_____, the Contractor (“Principal”)
whose principal place of business is located at _____
_____ and _____
_____ (“Surety”) whose address for
delivery of ‘Notices’ is located at _____
_____ are held and firmly bound unto the Commonwealth
of Virginia, _____, the
Owner (“Obligee”) in the amount of five percent (5%) of the Total Amount Bid by Principal, for
the payment whereof, Principal and Surety bind themselves, their heirs, executors,
administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal has submitted a bid for _____

NOW, THEREFORE, the conditions of this obligation are as follows. This Bid Bond shall
guarantee that the Principal will not withdraw his bid during the period of thirty (30) days
following the opening of bids; that if his bid is accepted, Principal will enter into a formal
contract with the Owner in accordance with the Contract Between Owner and Contractor,
included as a part of the Invitation for Bids (IFB Documents); that Principal will submit a
properly executed and authorized Standard Performance Bond and Standard Labor and Material
Payment Bond on the forms included in the IFB documents; and that in the event of the
withdrawal of said bid within said period, or failure to enter into said contract and give said
bonds within ten (10) days after Principal has received notice of acceptance of his bid, Principal
and Surety shall be jointly and severally liable to the Owner for the difference between the
amount specified in said bid and such larger amount for which the Owner may contract with
another party to perform the work covered by said bid, up to the amount of the bid guarantee.
This amount represents the damage to the Owner of account of the default of the bidder in any
particular thereof.

The Surety represents to the Principal and to the Obligee that it is legally authorized to do business in the Commonwealth of Virginia.

Signed and sealed this _____ day of _____, 20____.

(SEAL)

Contractor / Principal

Witness

By: _____

Title: _____

(SEAL)

Surety

By: _____

Attorney-in-Fact

Typed Name: _____

AFFIDAVIT AND ACKNOWLEDGEMENT OF ATTORNEY-IN-FACT

COMMONWEALTH OF VIRGINIA

(or, alternatively, Commonwealth or State of _____)

CITY (or) COUNTY (Strike one) of _____

I, the undersigned notary public, do certify that _____, whose name is signed to the foregoing bid bond in the amount of five percent (5%) of the Total Bid Amount and which names the Commonwealth of Virginia, _____

_____, as Obligee, personally appeared before me today in the above jurisdiction and made oath that he is the attorney-in-fact of

_____, a _____

corporation which is the Surety in the foregoing bond, that he is duly authorized to execute on the above Surety's behalf the foregoing bond pursuant to the Power of Attorney noted above, and on behalf of the above Surety, he acknowledged the foregoing bond before me as the above Surety's act and deed. She/he has further certified that her/his Power of Attorney is recorded in the Clerks Office of the Circuit Court of _____, Virginia in Deed Book _____, Page _____, and has not been revoked.

Given under my hand this _____ day of _____, 20____.

Notary Registration No. _____

Notary Public¹ (affix seal)

My name (printed) is: _____ My commission expires: _____

¹ Pursuant to §47.1-15(3) of the Code of Virginia, as amended, the notarial certificate wording must be contained on the same page as the signature being notarized.