

EXHIBIT B

LICENSE

(This document is a license of less than 99 years and not a conveyance subject to Transfer Return and fee per Sec. 77.21(1) Wis. Stats.)

This License is entered into this _____ day of _____, 202__, by and between the **City of Madison**, a Wisconsin municipal corporation, located in Dane County, Wisconsin (“**City**”), and **New Cingular Wireless PCS, LLC**, a Delaware limited liability company (“**Licensee**”).

WITNESSETH:

WHEREAS, the City and Madison SMSA Limited Partnership are parties to that certain License, dated December 5, 2001, as amended, and recorded with the Dane County Register of Deeds on December 14, 2001 as Document No. 3416268 (the “**2001 License**”); and

WHEREAS, the Licensee is the successor to Madison SMSA Limited Partnership; and

WHEREAS, the 2001 License pertains to the placement by the Licensee of telecommunications equipment on the City-owned water tower located at 3518 Cross Hill Drive, Madison, Wisconsin, together with the placement of a telecommunications shelter for housing telecommunications equipment and generator with fenced enclosure on land near the base of the tower; and

WHEREAS, the term of the 2001 License is scheduled to expire on December 4, 2021, and the Licensee desires to continue to operate and maintain its telecommunications equipment at the site, and the City is agreeable to allowing such continued use.

NOW, THEREFORE, the Parties hereby agree as follows:

1. Termination of 2001 License. The 2001 License shall terminate effective as of midnight of the day immediately preceding the “Effective Date” set forth in Paragraph 3.
2. Premises. The City hereby grants to the Licensee the continued right to place telecommunications antennas and ancillary equipment on the City-owned water tower (“**Tower**”) located at 3518 Cross Hill Drive, Madison, Wisconsin, and to place telecommunications equipment within a telecommunications shelter and generator with fenced enclosure on land near the base of the Tower (“**Land**”). The Tower and the Land are located on property (“**Property**”) described on Exhibit A and are depicted on Exhibit B, which exhibits are attached hereto and incorporated herein by reference. The Land and the space on the Tower are hereinafter collectively referred to as the “**Premises**”.
3. Term. This License shall be for an initial term of ten (10) years, subject to early revocation or termination pursuant to the terms of this License. This License shall commence as of December 5, 2021 (the “**Effective Date**”) and expire on December 4, 2031.

RETURN TO: City of Madison
Economic Development Division
Office of Real Estate Services
P.O. Box 2983
Madison, WI 53701-2983

Tax Parcel No.: 251-0810-233-0105-5 (part of)

4. Renewal. This License may be renewed for two (2) subsequent five (5) year terms upon agreement of the parties as to the terms of the renewal. If the Licensee desires to renew this License, the Licensee must give notice in writing to the City a minimum of eighteen (18) months prior to the expiration of the initial term or any renewal term in the manner specified in Paragraph 27. Following receipt of such notice, the City shall indicate by written notice to the Licensee, given within sixty (60) days after receipt of the Licensee's notice, of its approval or denial of the Licensee's request for renewal. The City shall not unreasonably withhold, condition or delay its approval of the Licensee's notice of renewal, and the parties shall negotiate in good faith as to the terms of the renewal.
5. Hold Over. In the event the Licensee shall continue to occupy or use the Premises after the expiration of this License or any extension thereof, such holding over shall be deemed to constitute an occupancy from month to month, upon the same terms and conditions as herein provided except that a License Fee equal to one-twelfth (1/12) of the annual License Fee shall be paid monthly in advance, and in no event shall the occupancy be deemed to be from one (1) year to one (1) year.
6. Use.
 - a. The Licensee's use of the Premises shall be limited to the placement, construction, operation, maintenance, repair, replacement and removal of up to twelve (12) telecommunications antennas ("**Antenna**" or "**Antennas**") on the Tower. The Licensee shall also be permitted to install ancillary equipment (e.g. remote radio units, tower mounted amplifiers, etc.) ("**Ancillary Equipment**") on the Tower. The Antennas and Ancillary Equipment are hereinafter collectively referred to as the "**Equipment**".
 - b. The Licensee shall also be permitted to operate, maintain, repair, replace and remove the existing communications shelter ("**Shelter**") on the Land, together with wiring and conduit necessary to connect the Equipment on the Tower and the Shelter and to provide necessary utility service thereto. The Licensee shall also be permitted to operate, maintain, repair, replace and remove the existing back-up gas generator ("**Generator**") within a fenced enclosure (the "**Enclosure**") on the Land, together with wiring and conduit necessary to connect the Generator to the Equipment on the Tower and the Shelter and to provide necessary utility service thereto. The current as-built construction drawings, which depict a complete and detailed inventory of all Equipment and improvements installed on the Tower and upon the Land, are attached hereto as Exhibit C and made part of this License by reference. The parties acknowledge that this License is non-exclusive and that the City will continue to use the Tower and shall have the right to lease or grant other licenses to one or more entities on the Tower, provided that any such subsequent use, lease, or license shall not interfere with the Licensee's rights under this License.
7. Acceptance of Premises. The Licensee has taken possession of the Premises pursuant to the 2001 License. The taking of possession of the Premises by the Licensee is conclusive evidence that the Licensee:
 - a. accepts the Premises as suitable for the purposes for which it is licensed; and
 - b. accepts the Premises and every part thereof in an as-is condition, with all defects, except for latent defects.

8. Administrative Fees.

- a. The Licensee shall pay to the City a one-time administrative fee of Two Thousand Five Hundred and no/100 Dollars (\$2,500.00), the receipt of which is hereby acknowledged by the City, as payment of the City's costs of negotiating and processing this License.
- b. The Licensee shall pay to the City an administrative fee of Two Thousand and no/100 Dollars (\$2,000.00) for each subsequent amendment to this License, if any except for (i) an amendment requested by City or (ii) necessitated by City's actions.

9. License Fee.

- a. The Licensee shall pay to the City a base annual fee ("**Base Antenna Fee**") of Thirty Thousand and no/100 Dollars (\$30,000.00) for the right to install up to twelve (12) Antennas occupying up to one hundred (100) cubic feet of air space on the Tower and for the use of the Land. The Base Antenna Fee shall increase annually by three percent (3%) effective as of each anniversary of the Effective Date of this License.
- b. The Licensee shall pay an annual "Additional Fee" of Twenty-five and no/100 Dollars (\$25.00) per cubic foot of air space on the Tower occupied by the Equipment in addition to the 100 cubic feet of air space allowed in Paragraph 9.a. above, which Additional Fee shall be indexed at a rate of three percent (3%) annually, calculated retroactively for each full year since the Effective Date.
- c. The Base Antenna Fee and Additional Fee are hereinafter collectively referred to as the "**License Fee**". The License Fee schedule is set forth in attached Exhibit D.
- d. The first payment shall be due upon execution of this License. Subsequent License Fee payments shall be due on or before the anniversary of the Effective Date of this License. All payments are to be made to the City Treasurer, referenced to Real Estate Project No. 7136, and sent or personally delivered to the City's Economic Development Division at the address specified in Paragraph 27.
- e. In addition to the provisions of Paragraph 20, the City shall have the right, under this Paragraph, to send late payments of the License Fee to a collection agency and to the Wisconsin Department of Revenue pursuant to the State Debt Collection program under Wis. Stat. §71.935.

10. Interference.

The Licensee's installation, operation, and maintenance of the Equipment, Shelter, Generator and Enclosure shall not damage or interfere in any way the City's Tower operations or related repair and maintenance activities or with such activities of other licensees. The Licensee agrees to cease all such actions which materially interfere with the City's use of the Tower immediately upon actual notice of such interference, provided however, in such case, the Licensee shall have the right to terminate the License. The City, at all times during this License, reserves the right to take any action it deems necessary, in its sole discretion to repair, maintain, alter or improve the Premises in connection with Tower operations as may be necessary, including licensing part of the Tower and/or the Land to others. Except in cases of emergency, the City will endeavor to

provide the Licensee with written notice in advance of any scheduled repair, maintenance, alteration or improvement of the Premises. The Licensee agrees to reimburse the City for any reasonable costs relating to additional repair, maintenance, alteration or improvement which the City incurs as a result of the Licensee's Equipment being located on the Tower. The City shall attempt to minimize, at no additional expense to the City, any disturbance to the Licensee's operations during such repairs, maintenance, alterations or improvements. Should the City's activities interfere with the Licensee's operation, the City shall, if feasible, allow the Licensee to install temporary facilities, at its sole cost, on the Property until such activities are completed.

Before making any modifications to the existing Equipment, the Licensee shall provide to the City, at the Licensee's expense, an interference study indicating whether the Licensee's modifications will interfere with any existing communications facilities on the Tower and an engineering study indicating whether the Tower is able to structurally support the modifications to the Licensee's Equipment without prejudice to the City's primary use of the Tower.

The City does not guarantee to the Licensee subsequent noninterference with the Licensee's communications operations, provided, however, that in the event any other party except a governmental unit, office or agency requests a license and/or permission to place any type of additional antenna or transmission facility on the Premises, the following procedures shall govern to determine whether such antenna or transmission facility will interfere with the Licensee's transmission operations:

If the City receives any such request, the City shall submit a proposal complete with all technical specifications reasonably requested by the Licensee to the Licensee for review for noninterference; however, the City shall not be required to provide the Licensee with any specifications or information claimed to be of a proprietary nature by the third party. The third party shall be responsible for the reasonable cost of preparing the technical specifications for its proposed transmission facility. The Licensee shall have thirty (30) days following receipt of said proposal to make any objections thereto, and failure to make any objection within said thirty (30) day period shall be deemed consent by the Licensee to the installation of antennas or transmission facilities pursuant to said proposal. If the Licensee gives notice of objection due to interference during such thirty (30) day period and the Licensee's objections are verified by the City to be valid, then the City shall not proceed with such proposal unless the City modifies the proposal in a manner determined, in the City's reasonable judgment, to adequately reduce the interference. In that case, the City may proceed with the proposal.

The Licensee's use and operation of its Equipment shall not interfere with the use and operation of other communication facilities on the Tower which pre-existed the Licensee's Equipment. If the Licensee's Equipment causes interference, the Licensee shall take all measures reasonably necessary to correct and eliminate the interference. If the interference cannot be eliminated within five (5) days after the Licensee has actual notice of this interference, the Licensee shall immediately cease operating its Equipment until the interference has been eliminated (except for periodic testing pursuant to FCC regulations and generally accepted industry standards). If the interference cannot be eliminated within thirty (30) days, the Licensee shall have the right to terminate this License. If the interference cannot be eliminated within one hundred twenty (120) days, the City may revoke this License. In the event of termination or revocation of the License under this Paragraph, any License Fee that has been prepaid for the period following the termination or revocation shall be prorated on a per diem basis and refunded to the Licensee.

11. RF Emissions.

- a. The Licensee shall be responsible for ensuring that the Equipment does not cause radio frequency ("**RF**") emissions that are in excess of the safe limits established by the FCC ("**RF Standards**"). Before installing or making any modifications to the Equipment, the Licensee shall survey the existing RF environment at the Property. By installing the Equipment, the Licensee shall be deemed to have represented to the City that the Equipment shall not itself violate, or, in conjunction with other RF sources located at the Property as of the Effective Date cause to be violated, the RF Standards. The Licensee shall provide the City with safety recommendations that address the protection of those who must be on the Property due to maintenance, repair, or other activities related to the operations carried out at the Property.
- b. The Licensee shall cooperate with the City in reducing RF exposure to maintenance personnel by powering down the Equipment, as necessary, during periods of maintenance at the Property. The City shall provide the Licensee with as much advance notice of any such maintenance as is reasonably available.

12. Construction or Mechanics Liens.

- a. The Licensee shall not suffer or permit any construction or mechanics' liens to be filed, or if filed, to remain uncontested, against the fee of the Premises, nor against the Licensee's interest in the Premises, by reason of work, labor services or materials supplied or claimed to have been supplied to the Licensee or anyone holding the Premises or any part thereof through or under the Licensee; and nothing contained herein shall be deemed or construed in any way as constituting the consent or request of the City, express or implied, by inference or otherwise, to any contractor, subcontractor, laborer or materialman for the performance of any labor or the furnishing of any materials for any specific improvement, alteration or repair of or to the Premises or any part thereof, nor as giving the Licensee any right, power or authority to contract for or permit the rendering of any services or the furnishing of any materials that would give rise to the filing of any mechanics' or construction liens against the fee of the Premises. If any such lien is filed, the Licensee shall immediately cause the same to be discharged or released or shall upon request provide adequate and acceptable security or bond to protect the City's interest.
- b. If any such construction or mechanics' lien shall at any time be filed against the Premises, the Licensee covenants that it will promptly take and diligently prosecute appropriate action to have the same discharged by payment, bonding or otherwise, and that it will hold the City free and harmless of and from any and all liability to any contractor, subcontractor, materialman, laborer or any other person relating to or arising because of any improvements or alterations on or to the Premises, and that it will also defend on behalf of the City, at the Licensee's sole cost and expense, any action, suit or proceeding which may be brought for the enforcement of any such lien, and that it will pay any damages and discharge any judgments entered therein. Upon the Licensee's failure to do any of the foregoing things, the City may take such action as may be reasonably necessary to protect the City's interest, in addition to any other right or remedy which it may have; and any amount paid by the City in connection with such action shall be repaid by the Licensee to the City upon demand, together with interest thereon at the rate of twelve percent (12%) per annum.

13. Special Conditions.

- a. The Licensee shall work to minimize the impact of any and all cable routes on the overall operation of and clearance spaces within the Tower. If the City finds the future cables to be intruding into the City's work or access space, the Licensee shall reroute, resize or eliminate the interfering cable to the satisfaction of the City.
- b. The Licensee shall limit the number of structural penetrations into the Tower to what is reasonably required for Licensee's use of the Premises. Licensee agrees not to make any unnecessary structural penetrations into the Tower. The City may review Licensee's proposed structural penetrations and provide feedback to Licensee. Licensee shall use good faith efforts to attempt to address the City's feedback regarding Licensee's proposed structural penetrations. The City may limit the use of existing structural penetrations and may limit the size and location of any proposed structural penetrations, as long as such limitations do not unreasonably interfere with Licensee's use of the Premises or Licensee's rights under this License. This penetration limit may require the Licensee to reroute or resize some cables to the extent reasonable and practicable for Licensee's use, in order to meet the needs of the City.
- c. No exterior storage of material, equipment or vehicles is permitted on the Property, except the temporary and orderly placement of items in conjunction with maintenance, repair, replacement or removal activities.
- d. The Licensee shall be responsible for maintaining the Equipment, Shelter, Generator and Enclosure.
- e. The Licensee shall have non-exclusive, unlimited access, 24 hours a day, 7 days a week, 365 days a year, to the Land.
- f. Access to the Tower shall be provided to the Licensee at all times upon notice to the City. The Licensee shall arrange for access to the Tower by contacting the City's Water Works Operator at (608) 266-4665 a minimum of two (2) business days in advance of the Licensee's desired access date. In the event of an emergency, shorter advance notice to the Water Works Operator shall be permissible. At all times during which the Licensee has access to the Tower, the Licensee will take all reasonable steps to ensure that all enclosures, gates, ladders and any other access ways to the Tower are properly secured in order to prevent unauthorized access to the Tower. The Licensee shall be assessed a penalty of Two Thousand and no/100 Dollars (\$2,000.00) for each instance of non-compliance with the requirements of this Subparagraph, payable within forty-five (45) days after Licensee's receipt of notice and invoice from the City; provided, however, that the City must provide the Licensee with written evidence that such violation is due to the acts of the Licensee, its employees, contractors, subcontractors, or agents; and, in the event that curing such violation requires the Licensee to access the Premises, the City shall grant the Licensee such access as soon as reasonably possible after providing notice of such violation.
- g. At all times during which the Licensee has access to the Premises, the Licensee will take all reasonable steps to ensure that all enclosures, gates, ladders and any other access ways to the Premises are properly secured when not in use in order to prevent unauthorized access to the Premises. The Licensee shall be assessed a penalty of Two Thousand and

no/100 Dollars (\$2,000.00) for each instance of non-compliance with the requirements of this Subparagraph, payable within forty-five (45) days after Licensee's receipt of notice and invoice from the City; provided, however, that the City must provide the Licensee with written evidence that such violation is due to the acts of the Licensee, its employees, contractors, subcontractors, or agents; and, in the event that curing such violation requires the Licensee to access the Premises, the City shall grant the Licensee such access as soon as reasonably possible after providing notice of such violation.

- h. The City shall not be liable for any damage to the Equipment, Shelter, Generator, Enclosure or other site improvements.
- i. Any modifications to the Equipment, Shelter, Generator or Enclosure shall be subject to the written approval of the City and any other required governmental approvals before the Licensee may begin the modification of the Equipment, Shelter, Generator and/or Enclosure. When requesting modifications, the Licensee shall complete and submit to the City the Equipment Modification Form attached as Exhibit E, together with all requisite studies and reports. The City shall have a minimum of thirty (30) days to review and comment on the Licensee's submission of the Equipment Modification Form. In the event a modification should result in a change to the License Fee calculation set forth in Exhibit D, the parties agree to enter into an amendment to this License for the purpose of updating Exhibit D. The adjustment to the License Fee shall be effective upon the date the City issues a consent letter allowing for the Equipment Modification, regardless of the actual date of installation on the Tower, and shall be prorated for any partial year. Notwithstanding any provision of this Subparagraph to the contrary, without obtaining the City's prior consent, the Licensee shall have the right to: (i) make additions, alterations or improvements to the Licensee's equipment housed within any Shelter on the Premises; and (ii) replace any or all of its Equipment installed on or about the Tower with replacement equipment of the same kind, which is reinstalled in the same place and position and is of the same size and weight as the replaced Equipment.
- j. In the event the City requires the expertise of a third party engineer/consultant to review the installation of the Licensee's Equipment and/or Shelter, or any future modifications to the Licensee's Equipment and/or Shelter, the Licensee shall be required to reimburse the City of Madison Water Utility ("MWU") for costs incurred by the MWU as a result of hiring said engineer/consultant. Such third party review shall include, but not be limited to, the following: the review of plans and specifications; review of structural, interference, and other reports; and on-site inspections and meetings. All fees and invoices must be paid within forty-five (45) days after the MWU sends the Licensee an invoice for the same together with reasonable supporting documentation evidencing such fees.
- k. The Equipment shall remain the exclusive property of the Licensee.
- l. The Licensee shall in no way encumber, or allow to be encumbered, the City's title to the Premises.
- m. Within sixty (60) days following any modification to the Equipment, Shelter or Generator, the Licensee shall provide the City with an as-built construction drawings showing the actual location of the Equipment, Shelter and Generator installed on the Premises.

- n. The Licensee shall, at its own expense, keep and maintain the Premises in a presentable condition consistent with good business practice and in a manner consistent with the preservation and protection of the general appearance and value of other premises in the immediate vicinity. Maintenance responsibilities include, but shall not be limited to, any required paving, general repairs, removal of garbage and debris, snow removal, landscape and upkeep. No exterior storage of materials, equipment or vehicles is permitted on the Premises, except the temporary and orderly placement of items in conjunction with maintenance, repair or construction activities.
 - o. The Licensee agrees to join and maintain membership in Diggers Hotline and secure and maintain the services of a competent locating service. That membership in Diggers Hotline and contracting of a locating service shall be continuous and uninterrupted throughout the term of this License.
14. Destruction of Premises. If the Tower is damaged or destroyed by fire, winds, flood, lightning or other natural or manmade cause, the City shall have the option to repair or replace the Tower at its sole expense or to revoke the License effective on the date of such damage or destruction. In the event the City revokes the License, the Licensee may install, at its sole expense, temporary facilities to allow the continuation of its telecommunications operations for a period not to exceed one (1) year, unless otherwise agreed to by the City and the Licensee. If the City elects to repair or replace the Tower, the annual License Fee shall be abated until such repair or replacement is completed and any prepaid License Fee for such abatement period shall be a credit against the License Fee for the following year. During the abatement period the Licensee may install, at its sole expense, temporary facilities to allow the continuation of its telecommunication operations. Said temporary facilities shall not interfere with the City's repair or replacement activities. If the City undertakes such repair or replacement but cannot complete the same within a reasonable period of time, which shall not be less than sixty (60) days and not greater than two hundred seventy (270) days, after the damage or destruction occurred, the Licensee may terminate the License upon written notice to the City, effective as of the date that the damage or destruction occurred. In such event, the Licensee shall have no further obligations under this License (except any obligations that by their nature or by their language survive termination). In the event of revocation or termination of the License under this Paragraph, any License Fee that has been prepaid for the period following the revocation or termination shall be prorated on a per diem basis and refunded to the Licensee. The restoration of City services shall be given the highest priority in the event that any of the City's services and the Licensee's telecommunication services are interrupted at the same time, unless otherwise agreed to by the City and the Licensee at the time of restoration.
15. Taxes.
- a. Real Estate Taxes. The City is a tax-exempt entity. Should any City of Madison Ordinance or State of Wisconsin Statute require that the Property be subject to real estate taxes or assessments, the Licensee shall be liable for the Licensee's proportionate share of all such real estate taxes and assessments on a pro rata square foot basis as the area of the Premises bears in relation to the Property with respect to the Land and for all taxes imposed on the full value of the Licensee's improvements, if any, constructed on the Land.
 - b. Personal Property Taxes. The Licensee shall pay, before delinquency, all municipal, county and state or federal taxes assessed against any interest of the Licensee in the Premises or assessed against the Equipment, Shelter, Generator and Enclosure.

16. Utilities. The Licensee shall be responsible for arranging for the installation of all utility services to the Premises for the Licensee's use and shall be responsible for payment of such utility services.
17. Indemnification. The Licensee shall be liable to and agrees to indemnify, defend and hold harmless the City, and its officers, officials, agents, and employees, against all loss or expense (including liability costs and attorney's fees) by reason of any claim or suit, or of liability imposed by law upon the City or its officers, officials, agents or employees for damages because of bodily injury, including death at any time resulting therefrom, sustained by any person or persons or on account of damages to property, including loss of use thereof, arising from, in connection with, caused by or resulting from the acts or omissions of the Licensee and/or its officers, officials, agents, employees, assigns, guests, invitees, or subcontractors, in the performance of this License, whether caused by or contributed to by the negligent acts of the City, its officers, officials, agents, or employees. This Paragraph shall survive termination and assignment or transfer of this License.
18. Insurance. The Licensee shall carry commercial general liability insurance covering as insured the Licensee and naming the City, its officers, officials, agents and employees as additional insureds, with a minimum limit of \$1,000,000 per occurrence. This policy shall also be endorsed for contractual liability in the same amount, apply on a primary and noncontributory basis, and provide the City thirty (30) days advance written notice of cancellation, non-renewal or material changes to the policy during the term of this License. As evidence of this coverage, the Licensee shall furnish the City with a certificate of insurance on a form approved by the City, and if requested by the City Risk Manager, the Licensee shall also provide copies of additional insured endorsements or policy. If the coverage required above expires while this License is in effect, the Licensee shall provide a renewal certificate to the City for approval.
19. Assignment and Sublicensing. The Licensee shall not assign, lease, sublease, or in any way transfer this License or sublicense the Premises, or any portion thereof, or otherwise allow a third party to use the Premises, without the prior written consent of the City. Said consent may be withheld at the sole discretion of the City. Notwithstanding the foregoing, the Licensee shall be permitted to assign this License to any entity which controls, is controlled by, or is under the common control of the Licensee, or to any entity resulting from any merger or consolidation with the Licensee, or to any partner of the Licensee, or to any partnership in which the Licensee is a general partner, or to any person or entity which acquires all of the assets of the Licensee as a going concern. Before an assignment shall be effective, any assignee of this Licensee shall assume in writing all of the obligations of the Licensee under the terms and conditions of this License. The Licensee shall promptly provide to the City documentation of any assignment of this License.
20. Revocation and Termination.
 - a. The City shall have the right, at its sole option, to declare this License void, revoke the same, reenter and take possession of the Premises under the following conditions:
 - (1) By giving the Licensee thirty (30) days written notice, upon or after any one of the following events:

- i. The failure of the Licensee to make any payment due under this License at any time following the filing by the Licensee of a voluntary petition in bankruptcy.
- ii. The institution of proceedings in bankruptcy against the Licensee and the adjudication of the Licensee as bankrupt pursuant to such proceedings.
- iii. The taking by a court of competent jurisdiction of the Licensee's assets pursuant to proceedings brought under the provisions of any federal or state reorganization act.
- iv. The appointment of a receiver of the Licensee's assets.
- v. The divestiture of the Licensee's interest herein by other operation of law, except as permitted in Paragraph 19.
- vi. The abandonment by the Licensee of the Premises.
- vii. The use of the Premises for an illegal purpose.
- viii. In the event the Licensee fails to eliminate interference or to cease its operations as required by Paragraph 10.

In the event of revocation under this Subparagraph, any License Fee that has been prepaid shall be retained by the City as liquidated damages.

- (2) In the event that the Licensee shall fail to maintain insurance as required by this License, the City may elect to: (a) immediately revoke this License and cause the removal of all Equipment installed upon the Premises at the sole expense of the Licensee; or (b) purchase or pay for any insurance coverage required by this License and charge the Licensee the cost of same as an Additional Fee. In the event of revocation under this Subparagraph, any License Fee that has been prepaid shall be retained by the City as liquidated damages.
- (3) By giving the Licensee thirty (30) days written notice specifying the nature of the default in the event the Licensee defaults in the performance of any term or condition of this License other than those as set forth in Subparagraphs 20.a.(1) and 20.a.(2). Notwithstanding the foregoing, if such default is not a health or safety violation and cannot, because of the nature of the default, be cured within said thirty (30) days, then the Licensee shall be deemed to be complying with such notice if, promptly upon receipt of such notice, the Licensee immediately takes steps to cure the default as soon as reasonably possible and proceeds thereafter continuously with due diligence to cure the default within a period of time which, under all prevailing circumstances, shall be reasonable. In the event of revocation under this Subparagraph, any prepaid License Fee shall be prorated on a per diem basis and refunded to the Licensee.
- (4) Effective at any time following the expiration of the initial ten (10)-year term, by giving the Licensee a minimum of one (1) year's prior written notice of revocation in the event the Premises, in the sole discretion of the governing body of the City,

are desired for any public purpose or use, which use shall exclude the Licensee's permitted use under this License and any similar private use by any additional telecommunications provider. Any License Fee that has been prepaid for the period following the date the Equipment is relocated shall be prorated on a per diem basis and refunded to the Licensee. In the event of revocation under this Subparagraph, the City shall use its best efforts to provide the Licensee with a satisfactory alternate location on City-owned property which would allow for comparable telecommunications coverage.

- b. Failure of the City to declare this License revoked upon the breach or default of the Licensee for any reason set forth in Subparagraphs 20.a.(1), 20.a.(2) or 20.a.(3) shall not operate to bar or destroy any right of the City to revoke this License for any subsequent breach or default of any term or condition of this License.
 - c. The Licensee shall have the right to terminate this License at any time during the initial term of this License or any renewal terms by giving the City a minimum of one (1) year's written notice of termination. In the event of termination under this Subparagraph, the date of termination must coincide with the anniversary of the Effective Date.
21. Rights Upon Expiration, Revocation or Termination. Upon the expiration, revocation or termination of this License for any cause, the Licensee's rights in the Premises and its obligations hereunder (except any obligations that by their nature or by their language survive termination) shall cease, and the Licensee shall immediately surrender the Premises, subject to the provisions of Paragraph 24.
22. Compliance. The Licensee shall observe and promptly and effectively comply with all applicable statutes, rules, orders, ordinances, requirements and regulations of the City, the County of Dane, the State of Wisconsin, the federal government and any other governmental authority having jurisdiction over the Premises. The Licensee may, if in good faith and on reasonable grounds, dispute the validity of any charge, complaint or action taken pursuant to or under color of any statute, rule, order, ordinance, requirement or regulation, defend against the same, and in good faith diligently conduct any necessary proceedings to prevent and avoid any adverse consequence of the same. The Licensee agrees that any such contest shall be prosecuted to a final conclusion as soon as possible and that it will hold the City harmless with respect to any actions taken by any lawful governmental authority with respect thereto.
23. Hazardous Substance Indemnification. The Licensee represents and warrants that its use of the Premises herein will not generate any hazardous substance, and it will not store or dispose on the Premises nor transport to or over the Premises any hazardous substance in violation of any applicable federal, state or local law, regulation or rule. The Licensee further agrees to hold the City harmless from and indemnify the City against any release of such hazardous substance and any damage, loss, or expense or liability resulting from such release including all attorneys' fees, costs and penalties incurred as a result thereof, which was caused by the Licensee or any of its employees or agents. "**Hazardous Substance**" shall be interpreted broadly to mean any substance or material defined or designated as hazardous or toxic waste, hazardous or toxic material, hazardous or toxic radioactive substance, or other similar term by any federal, state or local environmental law, regulation or rule presently in effect or promulgated in the future, as such laws, regulations or rules may be amended from time to time; and it shall be interpreted to include, but not be limited to, any substance which after release into the environment will or may reasonably be anticipated to cause sickness, death or disease or damage to or loss of use of

real or personal property. This paragraph shall survive termination and assignment or transfer of this License. The City represents and warrants that it has no knowledge of any Hazardous Substances existing on the Property in violation of any federal, state or local law, regulation or rule.

24. Removal and Disposal of Personal Property. Upon the expiration, revocation or termination of this License, the Licensee, at the Licensee's sole cost, shall remove from the Premises all Equipment installed by the Licensee. The Licensee shall also repair any damages it causes to the Land and Tower to a condition equivalent to that which existed prior to the date that the Licensee first occupied the Land and Tower, except any loss incurred under Paragraph 14. Removal of Equipment and repair of the Land and Tower shall be accomplished within sixty (60) days of expiration, revocation or termination of this License, except as may be adjusted by the City to allow for winter conditions. The expiration or termination of this License shall not become effective until removal and repair have been accomplished to the satisfaction of the City, however, during such removal and repair period the Licensee's right to use the Premises shall be limited to removal and repair activities. In the event the Licensee fails to accomplish said removal and repair, the City may cause the removal and repair to be accomplished at the Licensee's expense and with no liability or cost to the City. The City may waive or alter this removal and repair requirement if, at its sole discretion, it so chooses. Any such waiver or alteration shall not reduce the time allowed for the removal or repair activities or place conditions on the Licensee which are greater than those provided in this Paragraph. To ensure compliance under this Paragraph, the Licensee shall keep in effect throughout the term of this License a surety bond in the amount of \$10,000 with performance payment and maintenance clauses payable to the City.

25. Premises Required By Eminent Domain.

In the event the Premises or any part thereof shall be needed either permanently or temporarily for any public or quasi-public use or purpose by any authority in appropriation proceedings or by any right of eminent domain, the entire compensation award therefor, including, but not limited to, all damages and compensation for diminution of value of this License, and the reversion and fee interests, shall belong to the City without any deduction therefrom for any present or future estate of the Licensee, and the Licensee hereby assigns to the City all of its right, title and interest to any such award. However, the Licensee shall have the right to recover from the condemning authority such compensation as may be separately awarded to the Licensee on account of interruption of the Licensee's business and for moving and relocation expenses.

In the event the whole of the Premises or any part thereof shall be taken or condemned so that the balance cannot be used for the same purpose and with substantially the same utility to the Licensee as immediately prior to such taking, this License shall terminate upon delivery of possession to the condemning authority and any License Fee that has been prepaid for the period following the termination shall be prorated on a per diem basis and refunded to the Licensee unless the Licensee will receive compensation for any prepaid License Fee from the condemning authority.

In the event of a taking of any portion of the Premises not resulting in a termination of this License, the City shall use so much of the proceeds of the City's award for the Premises as is required therefor to restore the Premises to a complete architectural unit, and this License shall continue in effect with respect to the balance of the Premises, with a reduction of the License Fee in proportion to the portion of the Premises taken.

26. Right of Entry. The City or its representatives shall have the right to enter upon the Premises (but shall not have access to the Shelter or the Equipment without prior notice to the Licensee or without allowing the Licensee to have its representative accompany the City) at any reasonable time for the following purposes:
- a. To make any inspection it may deem expedient to the proper enforcement of any term or condition of this License or in the exercise of its police powers.
 - b. For the purpose of performing work related to any public improvement, provided that the City restore the Premises to a condition equivalent to that which existed on the date the City initiated the installation of the public improvement. The Licensee agrees to hold the City harmless for any loss of access to the Premises by the Licensee which may occur during the period of installation of the public improvement.
27. Notices. All notices to be given under the terms of this Lease shall be signed by the person sending the same, and shall be sent by certified mail, return receipt requested and postage prepaid, or by a nationally recognized overnight courier, to be effective when properly sent and received, refused or returned undeliverable, to the address of the parties specified below. If electing to use electronic mail, said emails shall be sent to the email addresses provided below with an active read receipt and shall include a statement that the electronic mail constitutes notice under the terms of this Lease.

For the City: City of Madison
Economic Development Division
Office of Real Estate Services
215 Martin Luther King Jr. Boulevard
P.O. Box 2983
Madison, WI 53701-2983
ores@cityofmadison.com
lvest@cityofmadison.com

For the Licensee: New Cingular Wireless PCS, LLC
Attn: TAG – LA
Cell Site #: WI0196
Cell Site Name: High Crossing (WI)
Fixed Asset #: 10014131
1025 Lenox Park Blvd. NE
3rd Floor
Atlanta, GA 30319

With a courtesy copy to:
(which shall not constitute notice) New Cingular Wireless PCS, LLC
Attn: Legal Department – Network Counsel
Cell Site #: WI0196
Cell Site Name: High Crossing (WI)
Fixed Asset #: 10014131
208 S. Akard Street
Dallas, TX 75202-4206

Any party hereto may, by giving ten (10) business days written notice to the other party in the manner herein stated, designate any other address in substitution of the address shown above to which notices shall be given.

28. Definition of City and Licensee. The terms “City” and “Licensee” when used herein shall mean either singular or plural, as the case may be, and the provisions of this License shall bind the parties mutually, their heirs, personal representatives, successors and assigns.
29. Signs. Any signs on the Premises shall be in conformity with the provisions of Chapter 31, Street Graphics Control, Madison General Ordinances. Signage for advertising purposes shall not be permitted.
30. Severability. If any term or provision of this License or the application thereof to the City or the Licensee or circumstances shall, to any extent, be invalid or unenforceable, the remainder of this License, or the application of such terms or provisions to the City or the Licensee or circumstances other than those as to which it is held invalid or unenforceable, shall not be affected thereby, and each term and provision of the License shall be valid and be enforceable to the fullest extent permitted by law.
31. Non-Discrimination. In the performance of the services under this License, the Licensee agrees not to discriminate because of race, religion, marital status, age, color, sex, disability, national origin or ancestry, income level or source of income, arrest record or conviction record, less than honorable discharge, physical appearance, sexual orientation, gender identity, political beliefs or student status. The Licensee further agrees not to discriminate against any contractor, subcontractor or person who offers to contract or subcontract for services under this License because of race, religion, color, age, disability, sex, sexual orientation, gender identity or national origin.
32. Accessibility. The Premises shall conform where applicable to the accessibility provisions of the Wisconsin Administrative Code, Madison General Ordinance 39.05, the Federal Fair Housing Act as amended, and the Americans with Disabilities Act, regarding accessibility for the use of the Premises by the Licensee’s employees, with all costs of compliance to be paid by the Licensee.
33. Subordination.
 - a. This License is subordinate to rights and privileges granted by the City to public and private utilities across, over or under the Premises.
 - b. The Licensee shall subordinate its rights in this License, without compensation, at the request of the City to provide easements and rights-of-way for all public and private utilities across or along the Premises, provided that neither such subordination nor such easements shall interfere, except temporarily during construction or temporarily pursuant to rights which accrue to such easements or rights-of-way, with the use of the Premises by the Licensee under the terms of this License.
34. No Waiver. No failure to exercise, and no delay in exercising, any right, power or remedy hereunder on the part of the City or the Licensee shall operate as a waiver thereof, nor shall any single or partial exercise of any right, power or remedy preclude any other or further exercise

thereof or the exercise of any other right, power or remedy. No express waiver shall affect any event or default other than the event or default specified in such waiver, and any such waiver, to be effective, must be in writing and shall be operative only for the time and to the extent expressly provided by the City or the Licensee therein. A waiver of any covenant, term or condition contained herein shall not be construed as a waiver of any subsequent breach of the same covenant, term or condition.

35. Authorized Agent. The Director of the City's Economic Development Division or the Director's designee is hereby designated as the official representative of the City for the enforcement of all provisions of this License, with authority to administer this License lawfully on behalf of the City.
36. Entire Agreement. All terms and conditions with respect to this License are expressly contained herein, and this License supersedes any and all oral contracts and negotiations between the parties.
37. Amendment. No alteration, amendment, change, or addition to this License shall be binding upon the parties unless in writing and signed by them.
38. Conflict of Interest.
 - a. The Licensee warrants that it and its agents and employees have no public or private interest, and will not acquire directly or indirectly any such interest, which would conflict in any manner with the performance of the services under this License.
 - b. The Licensee shall not employ or contract with any person currently employed by the City for any services included under the provisions of this License.
39. Law Applied. This License shall be governed by and construed, interpreted and enforced in accordance with the laws of the State of Wisconsin and Wisconsin Courts.
40. Third Party Rights. This License is intended to be solely between the parties hereto. No part of this License shall be construed to add, supplement, amend, abridge or repeal existing rights, benefits or privileges of any third party or parties, including but not limited to employees of either of the parties.
41. Goodwill. Any and all goodwill arising out of this License inures solely to the benefit of the City; the Licensee waives all claims to benefit of such goodwill.
42. Quiet Enjoyment. Pursuant to this License and subject to the rights and privileges retained by the City and granted to other licensees, the City hereby covenants and agrees that if the Licensee shall perform all of the covenants and agreements herein to be performed on the Licensee's part, the Licensee shall, at all times during the continuance hereof, have the peaceable and quiet enjoyment and possession of the Premises without any manner of hindrance from the City or any person lawfully claiming the Premises.
43. Public Record. This License will be recorded by the City at the office of the Dane County Register of Deeds after it is executed by the parties.
44. Counterparts, Electronic Signature and Delivery. This Contract may be signed in counterparts,

each of which shall be taken together as a whole to comprise a single document. Signatures on this License may be exchanged between the parties by facsimile, electronic scanned copy (.pdf) or similar technology and shall be as valid as original; and this License may be converted into electronic format and signed or given effect with one or more electronic signature(s) if the electronic signature(s) meets all requirements of Wis. Stat. ch. 137 or other applicable Wisconsin or Federal law. Executed copies or counterparts of this License may be delivered by facsimile or email and upon receipt will be deemed original and binding upon the parties hereto, whether or not a hard copy is also delivered. Copies of this License, fully executed, shall be as valid as an original.

[Signatures on following three pages]

IN WITNESS WHEREOF, the parties have entered into this License as of the date first set forth above.

New Cingular Wireless PCS, LLC,
a Delaware limited liability company

By: AT&T Mobility Corporation
Its: Manager

By: _____
(signature)

(print or type name)

(print or type title)

State of _____)
)ss.
County of _____)

Personally came before me this _____ day of _____, 2021,
_____ (name), _____ (title), of AT&T Mobility
Corporation, Manager of the above named New Cingular Wireless PCS, LLC, a Delaware limited
liability company, known to be the person who executed the above foregoing instrument and
_____ (title) of said limited liability company, and acknowledged that he/she
executed the foregoing instrument as such _____ (title) as the deed of said limited liability
company by its authority.

Notary Public, State of _____

(Print or Type Name)
My Commission expires: _____

CITY OF MADISON,
A Wisconsin municipal corporation

By: _____
Satya Rhodes-Conway, Mayor

By: _____
Maribeth Witzel-Behl, City Clerk

AUTHENTICATION

The signatures of Satya Rhodes-Conway, Mayor, and Maribeth Witzel-Behl, Clerk, on behalf of the City of Madison, are authenticated on this _____ day of _____, 2022.

Kevin Ramakrishna, Assistant City Attorney
Member of the Wisconsin Bar

Approved

Date

Approved

Date

David Schmiedicke, Finance Director

Eric Veum, Risk Manager

Approved as to Form

Date

Michael Haas, City Attorney

Execution of this License by the City of Madison is authorized by Resolution Enactment No. _____, File ID No. _____, adopted by the Common Council of the City of Madison on _____, 2022.

Drafted by the City of Madison Office of Real Estate Services

Project No. 7136

EXHIBIT A

Legal Description

The Property:

Lot 1, Certified Survey Map No. 7127, as recorded with the Dane County Register of Deeds in Volume 36, Page 102, of Certified Survey Maps, except that part used as Cross Hill Drive right of way.

Note: The Land is located as shown on Exhibit B to the License. The Licensee's use of the Land includes the non-exclusive right to locate underground facilities within the easement corridors shown on Exhibit B.

EXHIBIT B

Site Plan

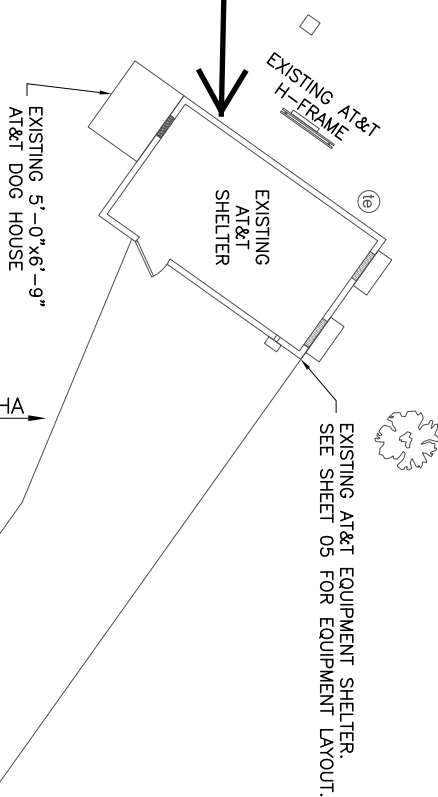
See attached Exhibit B comprising three pages. The first page is the Site Plan dated 3/13/19 prepared by Apex Engineers. The second page is the Site Plan prepared by Madden and McMillian Architects in 2001. The third page is the Site Plan dated 9/10/2014 prepared by Ramaker.

(SEE NEXT SHEET)

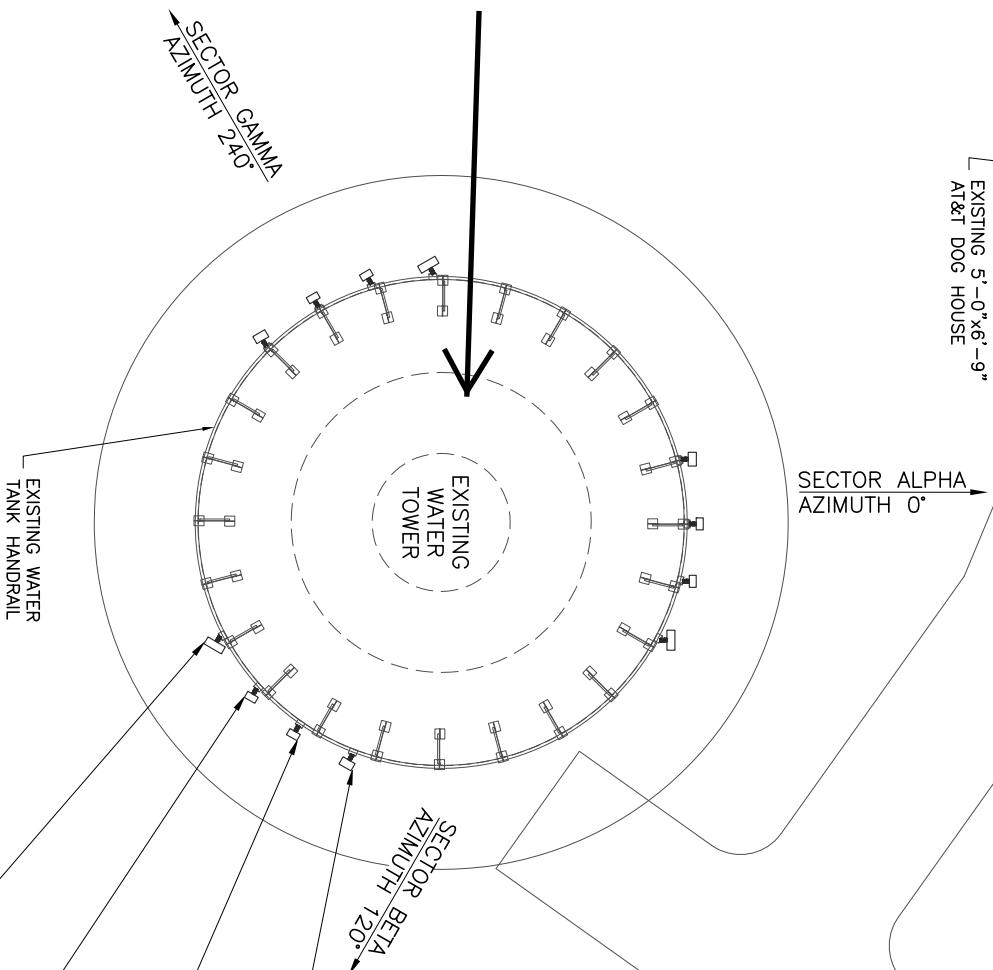
EXHIBIT B

The Premises

The Land



The Tower



1 SITE PLAN
SCALE: 1/16"=1'-0"



SEE SHEET 04 FOR DETAILED EXISTING/PROPOSED ANTENNA LAYOUT

- POSITION 1:
 - (3) EXISTING ANTENNAS W/
 - (3) EXISTING AWS RRUS32 B66 (TYP.1 PER SECTOR) TO REMAIN.
- POSITION 2:
 - (3) EXISTING ANTENNAS W/
 - (3) EXISTING 700 RRUS11 &
 - (3) EXISTING 1900 RRUS32 B2 (TYP.1 PER SECTOR) TO REMAIN.
- POSITION 3:
 - (3) EXISTING ANTENNAS W/
 - (3) EXISTING 850 RRUS12 &
 - (3) EXISTING WCS RRUS32 B30 (TYP.1 PER SECTOR) TO REMAIN.
 - INSTALL (3) NEW ION-M23 SDARS REMOTE UNITS &
 - (3) NEW SDARS-WCS DIPLEXER CBC23SR-43 (TYP.1 PER SECTOR)
- POSITION 4:
 - (3) EXISTING ANTENNAS W/
 - (3) EXISTING 700 FNET RRUS 4478 B14 (TYP.1 PER SECTOR).

ANTENNA LEGEND:	
	PROPOSED ANTENNA
	RELOCATED ANTENNA
	EXISTING ANTENNA
	REMOVED ANTENNA

Viewers are advised to ignore the illegible text on this map. It is presented to show spatial relationships only.

Lance Vest

Authorized by: Lance Vest, City of Madison Real Estate Specialist

Mastec
Network Solutions
1351 E. Irving Park Rd
Itasca, IL 60143



Apex Engineers, Inc.
Structural & Civil Engineers
500 East 22nd Street, Suite B
Lombard, Illinois 60148
Ph. (630) 627-1800
Fax. (630) 627-1165
APEX JOB NO. GM10-063

HIGH CROSSING
SITE NO. WI0196
SITERA NO. 64287-A
3518 CROSS HILL DRIVE
MADISON, WI 53718



AT&T

NO.	DATE	ISSUED FOR REVIEW	BY	CHK	APP'D
A	03/13/19		YA	EK	SP
SCALE: AS SHOWN		DESIGNED BY: XX	DRAWN BY: XX		

AT&T MOBILITY

SITE PLAN

DRAWING NUMBER

WI0196-02

6

5

4

3

2

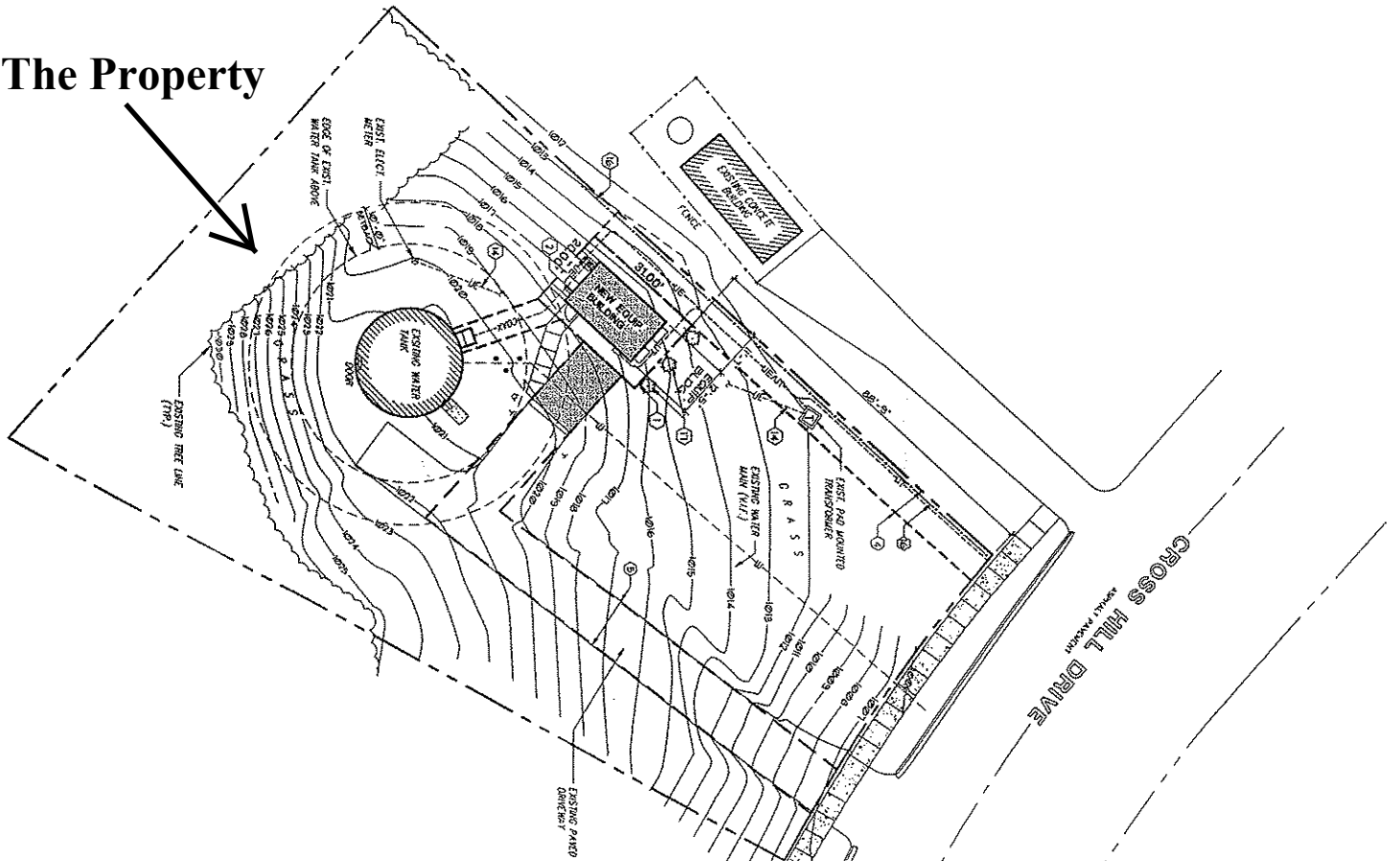
11 x 17 SITE

A

D

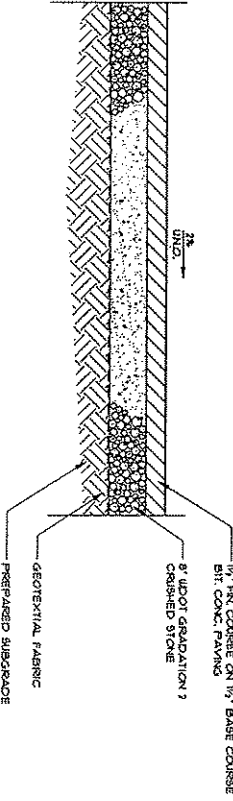
The Property

1 SITE PLAN
SCALE: 1" = 20'-0"
NORTH



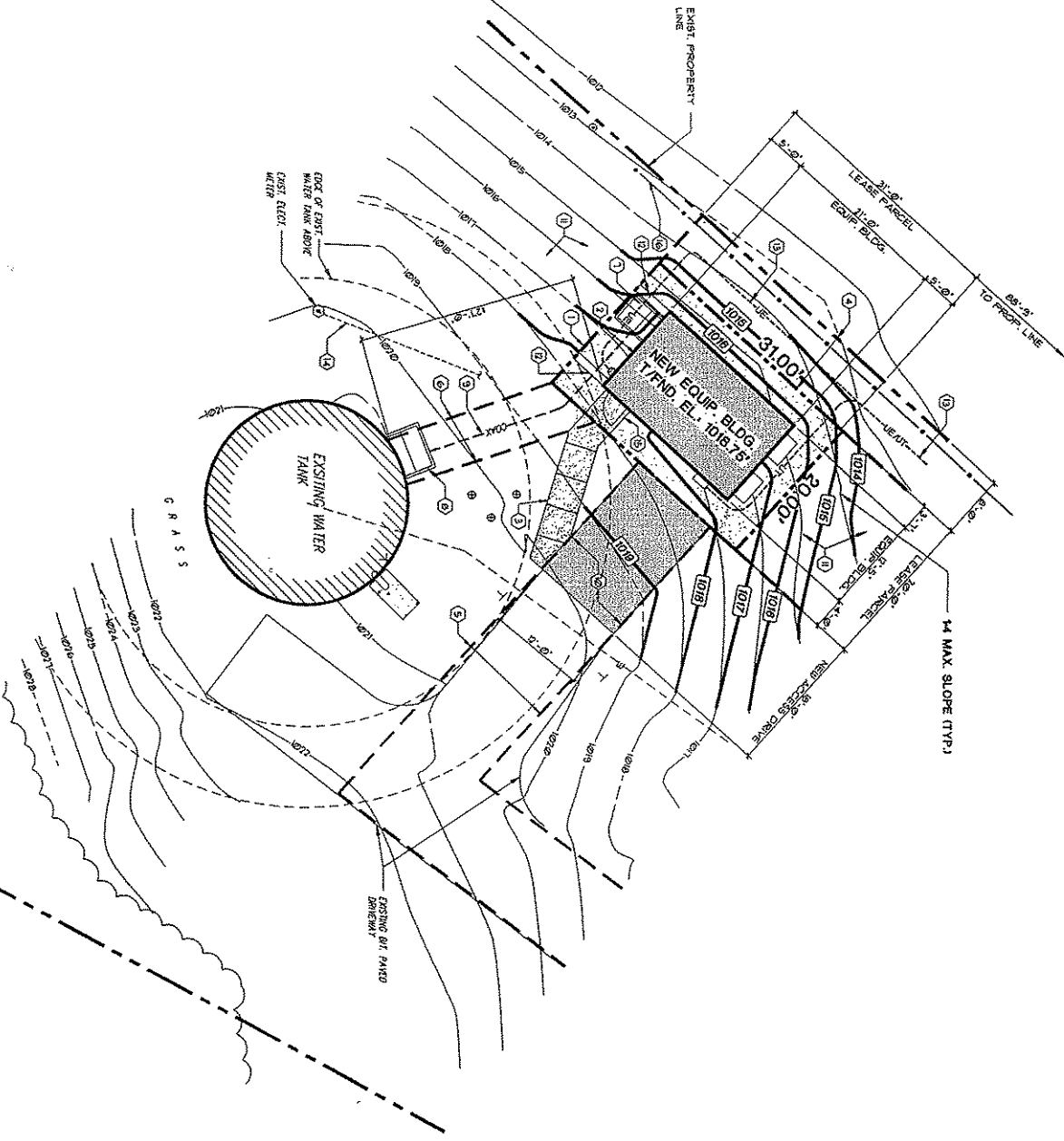
KEY PLAN NOTES

- 1 NEW CONCRETE AS BUILT, 899' LEASE PARCEL.
- 2 NEW CONCRETE W/REINFORCED UNPAVED EQUIP. PAD - SEE ARCHITECTURAL DRAWINGS.
- 3 NEW 4'-0" WIDE CONCRETE SIDEWALK - 4" P.C.C. ON 6" GRANULAR BASE (18'-0" LF).
- 4 NEW 8'-0" WIDE NON-EXCLUSIVE UTILITY EASEMENT.
- 5 NEW 8'-0" WIDE NON-EXCLUSIVE ACCESS EASEMENT.
- 6 NEW 6'-0" WIDE NON-EXCLUSIVE COAXIAL CABLE EASEMENT.
- 7 NEW ANTENNA CABLE ENTRY SHROUD - BUILDING - SEE DETAIL B, SHEET A-1.
- 8 NEW COAXIAL CABLE ENTRY AT EXISTING WATER TANK - SEE DETAIL 2, SHEET A-3.
- 9 1/2" x 1/2" DIA. 60' P.C. CONDUIT AT 4'-0" DIA. BELOW GRADE 10' x 5' OF RADIUM AND PROVIDE FILL PIPES FOR ANTENNA CONTRACTOR DETAIL, THIS SHEET.
- 10 NEW BITUMINOUS CONC. PAVEMENT (1215 LF) SEE DETAIL, THIS SHEET.
- 11 RESTORE EXISTING GRASSES SURROUNDING SITE AND RESEED FOR GENERAL NOTES SHEET C-2.
- 12 EXPOSED FOUNDATION WALL FOR RUNNER MASONRY SCREEN WALLS - SEE SHEET B-1.
- 13 NEW UNDERGROUND UTILITY SERVICE - SEE ELECTRICAL DRAWINGS.
- 14 EXISTING BURIED UTILITY SERVICE TO BE RELOCATED SEE ELECTRICAL DRAWINGS.
- 15 NEW 5'-0" x 5'-0" CONC. STUMP - SEE SHEET B-1.
- 16 RENTAL BIT FENCE ALONG NORTH PROPERTY LINE SEE DETAIL B, SHEET C-2 (1150 LF).
- 17 NEW LANDSCAPING - (2) 6'-0" HIGH ARBORVITAE (TULIA OCCIDENTALIS).



3 BIT. CONC. PAVING DETAIL
NOT TO SCALE

2 SITE PLAN DETAIL
SCALE: 1" = 20'-0"
NORTH



SITE PLAN
PROJECT: **MAD-WO 196, HIGH CROSSING**
3518 CROSS HILL DRIVE
MADISON, WISCONSIN

cingular
WIRELESS
1055 NORTH MAYFAIR ROAD, SUITE 200
WAUWATOSA, WISCONSIN
53226

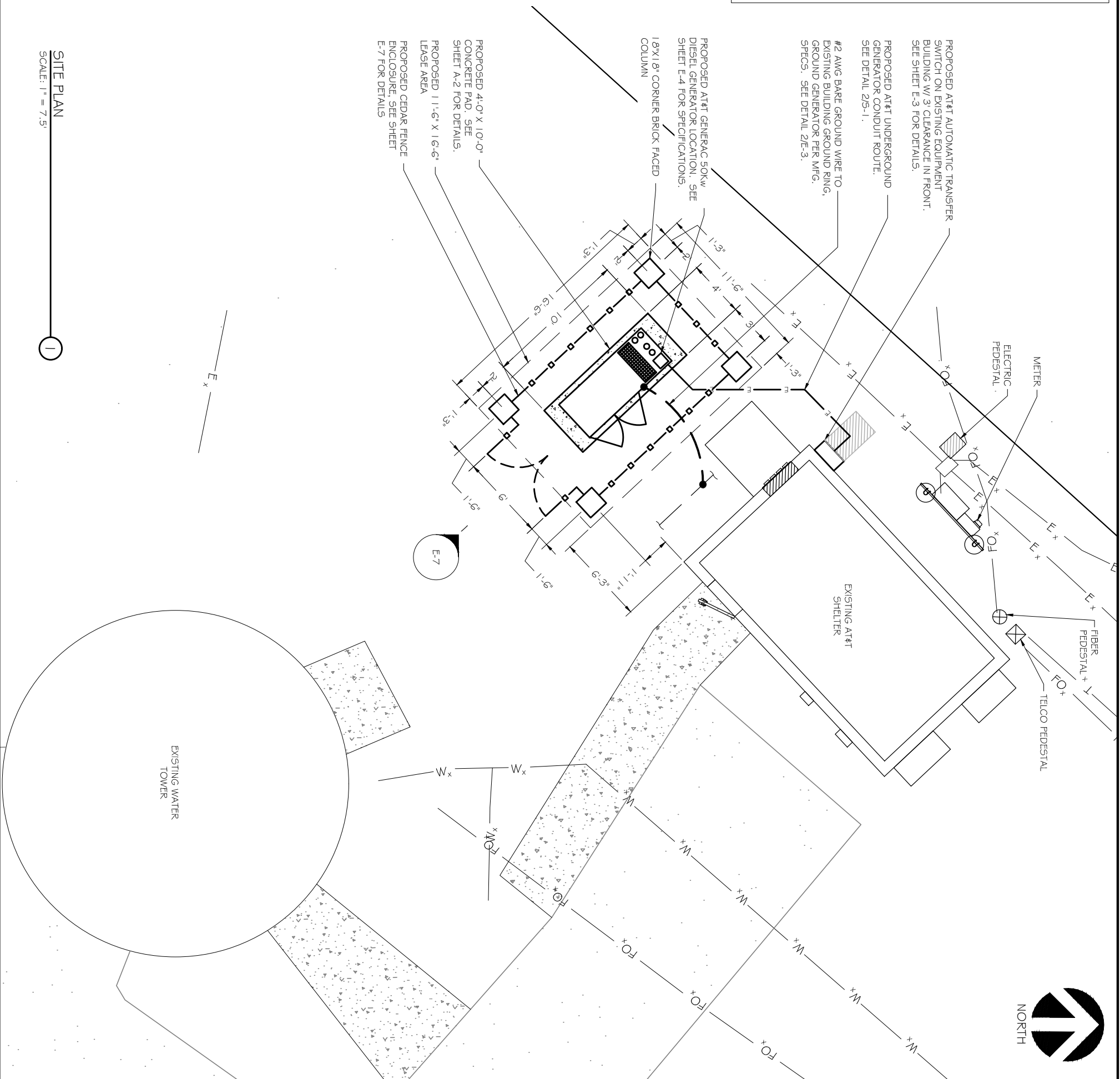
REV	DATE	ISSUED FOR PERMIT + BID	BY
2	10-26-01		PT1

Madden + McMillan Architects
Architecture Engineering
2198 Gladstone Court, Suite C
Glendale Heights, IL 60139
(630) 539-8100 Fax: (630) 539-1287

DATE: 0-3-01
DRAWN: JT
CHECKED: PT1
SHEET NUMBER
C-1

SCOPE OF WORK DETAILS

- GENERAL:**
- NEW GENERAC DIESEL GENERATOR PROVIDED BY GENERAL DYNAMICS & INSTALLED BY GENERAL CONTRACTOR. SEE E-4.
 - NEW 4'-0" X 10'-0" CONCRETE PAD PROVIDED & INSTALLED BY GENERAL CONTRACTOR (AS REQUIRED) SEE S-1
 - NEW GENERAC AUTOMATIC TRANSFER SWITCH PROVIDED BY GENERAL DYNAMICS & INSTALLED BY CONTRACTOR (AS REQUIRED) SEE E-3 & E-5.
 - CONTRACTOR TO VERIFY ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION
 - CONTRACTOR SHALL RESTORE & REPAIR ANY DAMAGED AREAS CAUSED BY CONSTRUCTION TO ORIGINAL OR BETTER CONDITION
- CONDUITS:**
- INSTALL PULL STRING IN EACH CONDUIT
 - (1) NEW 2" AND (1) NEW 1" ELECTRICAL CONDUITS WITH CONDUCTORS TO RUN FROM NEW GENERATOR TO NEW ATS. CONDUIT PROVIDED AND INSTALLED BY GENERAL CONTRACTOR. SEE E-1, E-2 & E-3.
 - (2) NEW 1" ELECTRICAL CONDUIT WITH CONDUCTORS TO RUN FROM NEW GENERATOR TO AC PANEL. CONDUIT PROVIDED & INSTALLED BY GENERAL CONTRACTOR. SEE E-1, E-2 & E-3.
 - (1) NEW 1" ALARM CONDUIT & CABLING PROVIDED & INSTALLED BY GENERAL CONTRACTOR. SEE E-1, E-2 & E-3.
- GROUNDING:**
- NEW EXOTHERMIC CONNECTION FROM EXISTING GROUND RING TO NEW MECHANICAL CONNECTION AT GENERATOR CHASSIS. GENERAL CONTRACTOR TO VERIFY LOCATION IN FIELD. LOCATE GROUND RODS NO MORE THAN 8'-0" APART.



at&t

1120 Dallas Street, Sank City, WI 53583
 Phone: 608-643-4100 Fax: 608-643-7999
 www.Ramaker.com

RAMAKER & ASSOCIATES, INC.

GENERAL DYNAMICS
 Information Technology, Inc.
 12906 SHELBYVILLE ROAD, SUITE 230
 LOUISVILLE, KY 40243

Professional Engineer

MICHAEL L. PINSKE
 36387 MIDDLETON, WI

Signature: *Michael L. Pinske* Date: 9/10/2014

PROJECT INFORMATION:
 3518 CROSS HILL DRIVE
 MADISON, WI 53783
 DANIE COUNTY

PROJECT TITLE:
 HIGH CROSSING
 WI0196
 FA ID# 10014131

SHEET TITLE:
 SITE PLAN & EQUIPMENT LAYOUT

MARK | **DATE** | **DESCRIPTION** | **DATE**

ISSUE | CONST. | DRAWINGS | 04/04/2014

PHASE | ISSUED

PROJECT NUMBER: 28622

SHEET NUMBER: A-1

SCALE: 1" = 7.5'

0 3.75' 7.5' 15'

1.1" x 17" - 1" = 7.5'

2.2" x 34" - 1" = 3.75'

PROJECT INFORMATION

APPLICANT: AT&T
 930 NATIONAL PARKWAY
 SCHAUMBURG, IL 60173
 10014131

PROPOSED USE: TELECOMMUNICATIONS FACILITY

STRUCTURE TYPE: WATER TANK
 3518 CROSS HILL DRIVE
 MADISON, WI 53718

PROPERTY OWNER: CITY OF MADISON
 215 MARTIN LUTHER KING JR. BLVD.
 MADISON, WI 53201
 PUBLIC WORKS
 (608) 266-4630

CONTACT PERSON: 251-0810-233-0105-5

PARCEL NUMBER: 251-0810-233-0105-5

JURISDICTION: DANE COUNTY

LATITUDE: 43° 08' 29.602" N
 LONGITUDE: 89° 16' 59.999" W

LAT / LONG TYPE: NAD 83

GROUND ELEVATION: 1,021 FT MSL

POWER COMPANY: WE ENERGIES
 (800) 714-7777

PHONE: AT&T

TELEPHONE COMPANY: AT&T
 (800)-257-0902

APPROVED

By Al Larson at 11:30 am, May 13, 2019



AT&T

SITE NUMBER: W10196

SITE NAME: HIGH CROSSING

PROJECT:
 IP REPEATER -TYPE 1

PROJECT DESCRIPTION:

INSTALL (3) NEW REMOTE UNITS ION-M23 SDARS &
 (3) NEW DIPLEXERS SDARS-WCS CBC23SR-43 ON TOWER.
 INSTALL (1) NEW ION-M23 MAIN UNIT & (1) NEW RMC1900 IN SHELTER.
 INSTALL (2) NEW DC POWER CABLES, (2) NEW RAYCAP DC2 & (1) NEW RAYCAP DC6.

VICINITY MAP

DIRECTION: (FROM OHARE INTERNATIONAL AIRPORT)
 TURN RIGHT (EAST) ONTO ZEMKE BLVD, THEN IMMEDIATELY TURN LEFT (NORTH) ONTO US-12 [US-45]
 0.3 MI. TURN RIGHT (EAST) ONTO SR-72 [w HIGGINS RD] 0.6 MI. TURN LEFT ONTO RAMP 0.2 MI
 TOLL ROAD. MERGE ONTO I-90 [NORTHWEST TOLLWAY] 59.7 MI *TOLL ROAD*. ROAD NAME CHANGES
 TO I-39 [I-90] 14.4 MI. AT EXIT 3, STAY ON I-39 [I-90] (NORTH) 54.3 MI. AT EXIT 135A-B-C,
 TURN RIGHT ONTO RAMP 0.3 MI. KEEP RIGHT TO STAY ON RAMP 0.3 MI. TURN RIGHT (NORTH-EAST)
 ONTO HIGH CROSSING BLVD 0.7 MI. TURN RIGHT (SOUTH-EAST) ONTO CROSS HILL DR 142 YDS. TURN
 RIGHT (SOUTH-WEST) ONTO LOCAL ROAD(S) 65 YDS. ARRIVE AT 43.14156°N 89.28333°W.



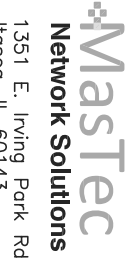
SITE QUALIFICATION PARTICIPANTS

NAME	COMPANY	NUMBER
A/E SATISHKUMAR C. PATEL	APEX ENGINEERS, INC.	(630) 627-1800
SA MANUEL M. FERRA	MASTEC	(847) 463-5957
PM LAURA FERHMAN	MASTEC	(847) 634-4949
CM	MASTEC	

THESE DRAWINGS ARE PREPARED
 BASED ON INFORMATION PROVIDED BY
 MASTEC NETWORK SOLUTION. GENERAL
 CONTRACTOR TO VERIFY AND
 INCORPORATE MOST RECENT VERSION
 OF RFDs PRIOR TO CONSTRUCTION.

TO OBTAIN LOCATION OF
 PARTICIPANTS' UNDERGROUND
 FACILITIES BEFORE YOU DIG IN
 WISCONSIN,
 MEMBER

ONE CALL SYSTEMS INTERNATIONAL
 CALL DIGGERS HOT LINE
1-800-242-8511
 TOLL FREE
 FAX A LOCATE 1-800-338-3860
 TDD (FOR HEARING IMPAIRED)
 1-800-542-2289



1351 E. Irving Park Rd
 Itasca, IL 60143



Apex Engineers, Inc.
 Structural & Civil Engineers
 500 East 22nd Street, Suite B
 Lombard, Illinois 60148
 Ph. (630) 627-1800
 Fax. (630) 627-1165

HIGH CROSSING
 SITE NO. W10196
SITERRA NO. 64287-A
 3518 CROSS HILL DRIVE
 MADISON, WI 53718



AT&T

NO.	DATE	ISSUED FOR REVIEW	BY	CHK	APP'D
A	03/13/19		YA	EK	SP
DESIGNED BY: XX					
DRAWN BY: XX					

AT&T APPROVAL

SITE ACQUISITION MANAGER:	Date
MASTEC CONSTRUCTION MANAGER:	Date
MASTEC SA PROJECT MANAGER:	Date
MASTEC SA SPECIALIST:	Date
MASTEC COMPLIANCE MANAGER:	Date
AT&T RF PROJECT MANAGER:	Date
AT&T PROJECT MANAGER:	Date

AT&T MOBILITY APPROVAL

Real Estate	Date
RF	Date
Operation	Date

LTE PROJECT

<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
700	AWS	1900	850	WCS/ FNET
				Sirius XM 700

APPLICABLE BUILDING CODES AND STANDARDS

CONTRACTOR'S WORK SHALL COMPLY WITH ALL APPLICABLE NATIONAL, STATE, AND LOCAL CODES AS ADOPTED BY THE LOCAL AUTHORITY HAVING JURISDICTION (AHJ) FOR THE LOCATION. THE EDITION OF THE AHJ ADOPTED CODES AND STANDARDS IN EFFECT ON THE DATE OF CONTRACT AWARD SHALL GOVERN THE DESIGN.

BUILDING CODE:
 [INTERNATIONAL BUILDING CODE (IBC), 2018 AS ADOPTED BY LOCAL BUILDING AUTHORITY]

ELECTRICAL CODE:
 [NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) 70-2002;
 2017 NATIONAL ELECTRICAL CODE, AS ADOPTED BY LOCAL BUILDING AUTHORITY]

LIGHTNING PROTECTION CODE:
 [NFPA 780 - 2000, LIGHTNING PROTECTION CODE]
 CONTRACTOR'S WORK SHALL COMPLY WITH THE LATEST EDITION OF THE FOLLOWING STANDARDS.
 AMERICAN CONCRETE INSTITUTE (ACI) 318, BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE
 AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC), MANUAL OF STEEL CONSTRUCTION, ASD, NINTH EDITION
 TELECOMMUNICATIONS INDUSTRY ASSOCIATION (TIA) 222-H, STRUCTURAL STANDARDS FOR STEEL ANTENNA TOWER AND ANTENNA SUPPORTING STRUCTURES;
 TIA 607, COMMERCIAL BUILDING GROUNDING AND BONDING REQUIREMENTS FOR TELECOMMUNICATIONS INSTITUTE FOR ELECTRICAL AND ELECTRONICS ENGINEERS (IEEE) 81, GUIDE FOR MEASURING EARTH RESISTIVITY, GROUND IMPEDANCE, AND EARTH SURFACE POTENTIALS OF A GROUND SYSTEM
 IEEE 1100 (1999) RECOMMENDED PRACTICE FOR POWERING AND GROUNDING OF ELECTRONIC EQUIPMENT
 IEEE C62.41, RECOMMENDED PRACTICES ON SURGE VOLTAGES IN LOW VOLTAGE AC POWER CIRCUITS (FOR LOCATION CATEGORY "C3" AND "HIGH SYSTEM EXPOSURE")
 TELCORDIA GR-1275, GENERAL INSTALLATION REQUIREMENTS
 TELCORDIA GR-1503, COAXIAL CABLE CONNECTIONS

ANSI T1.311, FOR TELECOM - DC POWER SYSTEMS - TELECOM, ENVIRONMENTAL PROTECTION FOR ANY CONFLICTS BETWEEN SECTIONS OF LISTED CODES AND STANDARDS REGARDING MATERIAL, METHODS OF CONSTRUCTION, OR OTHER REQUIREMENTS, THE MOST RESTRICTIVE REQUIREMENT SHALL GOVERN. WHERE THERE IS CONFLICT BETWEEN A GENERAL REQUIREMENT AND A SPECIFIC REQUIREMENT, THE SPECIFIC REQUIREMENT SHALL GOVERN.

I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED UNDER MY DIRECT SUPERVISION AND TO THE BEST OF MY PROFESSIONAL KNOWLEDGE THEY COMPLY WITH THE REQUIREMENT OF ALL APPLICABLE CODES AND ORDINANCES.

SATISHKUMAR C. PATEL, S.E.
 WISCONSIN P.E. LICENSE #E-25581
 EXPIRES 07-31-2020
 DATE: 03/13/19



AT&T MOBILITY

TITLE SHEET	REV
DRAWING NUMBER	
W10196-01	A

6

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



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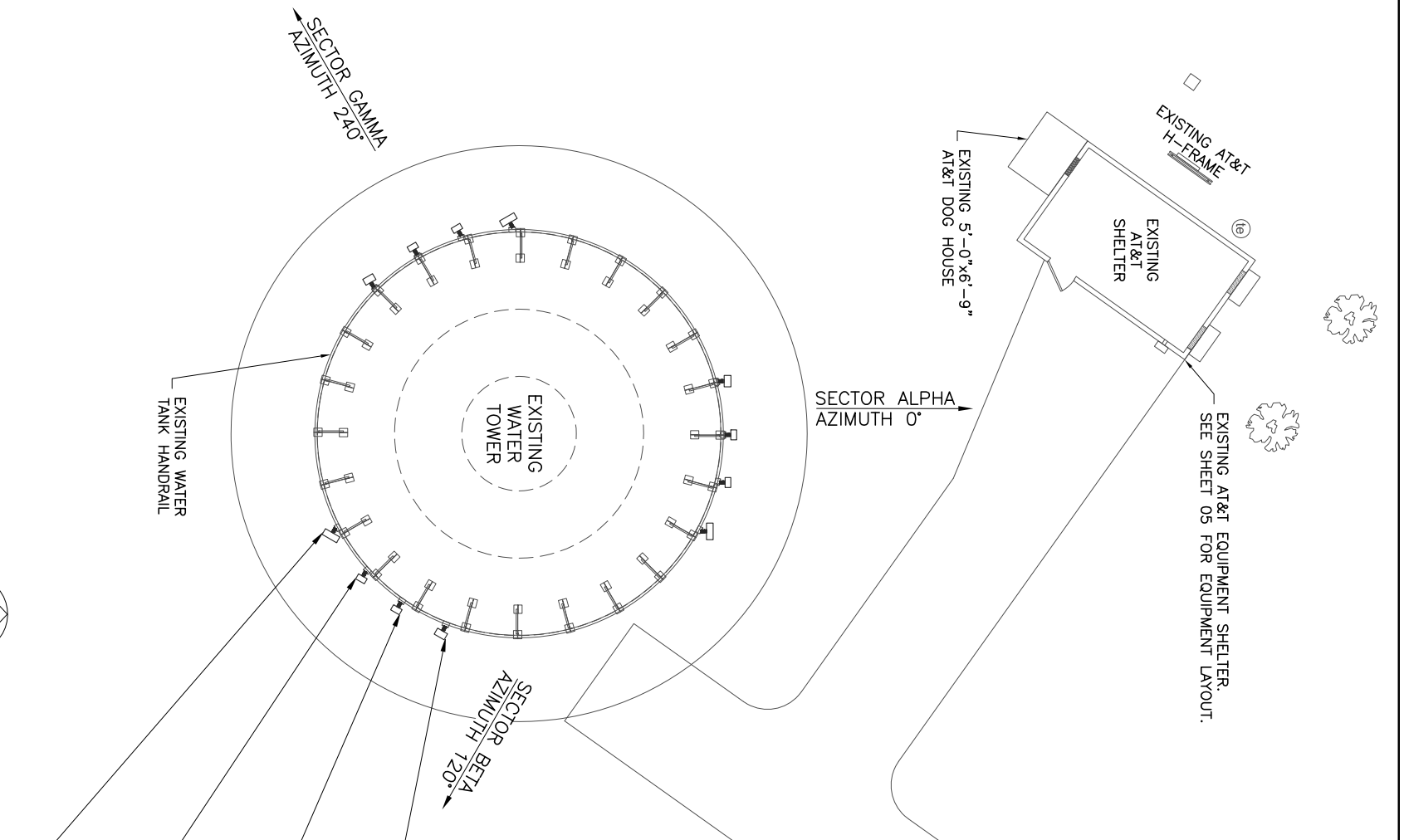
3

2

11 x 17" SITE

ANTENNA LEGEND:

	PROPOSED ANTENNA
	RELOCATED ANTENNA
	EXISTING ANTENNA
	REMOVED ANTENNA



SEE SHEET 04 FOR DETAILED EXISTING/PROPOSED ANTENNA LAYOUT

- POSITION 1:**
 (3) EXISTING ANTENNAS W/
 (3) EXISTING AWS RRUS32 B66 (TYP.1 PER SECTOR) TO REMAIN.
- POSITION 2:**
 (3) EXISTING ANTENNAS W/
 (3) EXISTING 700 RRUS11 &
 (3) EXISTING 1900 RRUS32 B2 (TYP.1 PER SECTOR) TO REMAIN.
- POSITION 3:**
 (3) EXISTING ANTENNAS W/
 (3) EXISTING 850 RRUS12 &
 (3) EXISTING WCS RRUS32 B30 (TYP.1 PER SECTOR) TO REMAIN.
 INSTALL (3) NEW ION-M23 SDARS REMOTE UNITS &
 (3) NEW SDARS-WCS DIPLEXER CBC23SR-43 (TYP.1 PER SECTOR)
- POSITION 4:**
 (3) EXISTING ANTENNAS W/
 (3) EXISTING 700 FNET RRUS 4478 B14 (TYP.1 PER SECTOR).

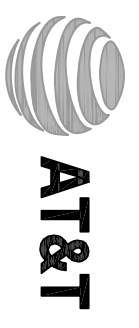
1 SITE PLAN
 SCALE: 1/16"=1'-0"



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 Structural & Civil Engineers
 500 East 22nd Street, Suite B
 Lombard, Illinois 60148
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 Fax. (630) 627-1165
 APEX JOB NO. GM10-063

HIGH CROSSING
 SITE NO. WI0196
SITERA NO. 64287-A
 3518 CROSS HILL DRIVE
 MADISON, WI 53718



NO.	DATE	ISSUED FOR REVIEW	BY	CHK	APP'D
A	03/13/19		YA	EK	SP
SCALE: AS SHOWN		DESIGNED BY: XX	DRAWN BY: XX		

AT&T MOBILITY

SITE PLAN	
DRAWING NUMBER	WI0196-02
REV	A

6

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4

3

2

11 x 17" SITE

NOTE:
 REFER TO RF DESIGN SHEET / SCOPING FORM & INSTALL AS REQUIRED ION-M23, RMC 1900, DIPLEXER, DC/FC BOX, XMU, FIBER BOX 6601, DUS41, PATCH PANEL, TELECT 5216, BREAKERS & MISC. EQUIPMENT. ALSO, DECOM GSM/UMTS EQUIPMENT/COAX AS SHOWN ON SCOPING FORM.

NOTE:
 ANY UNIVERSAL CLAMPS THAT MIGHT BE ADDED NEED TO BE ATTACHED WITH RUBBER STRIPS TO PREVENT METAL ON METAL CONTACT

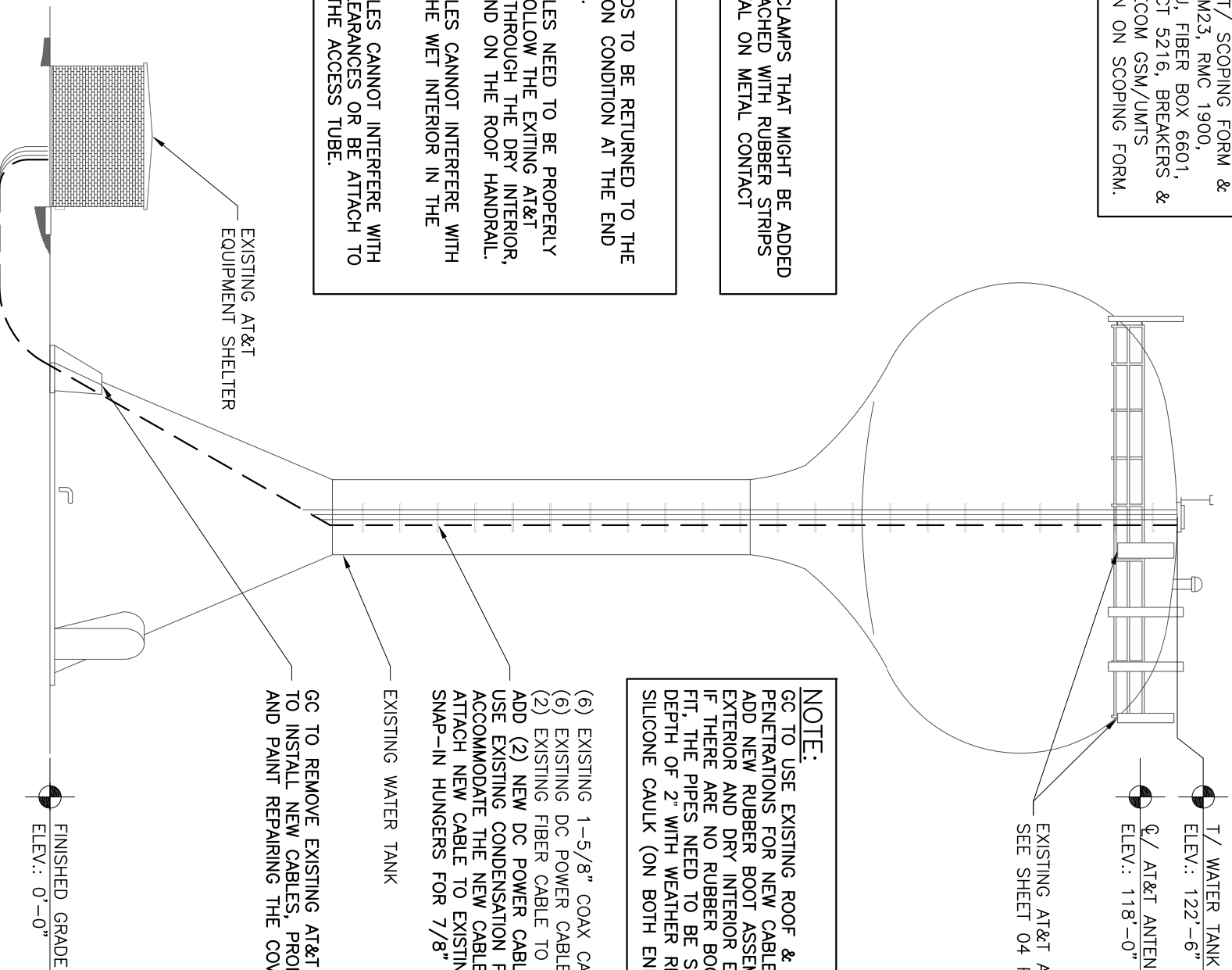
NOTES:

1. THE SITE NEEDS TO BE RETURNED TO THE PRE-CONSTRUCTION CONDITION AT THE END OF THE PROJECT.
2. THE NEW CABLES NEED TO BE PROPERLY ATTACHED AND FOLLOW THE EXISTING AT&T CABLES ROUTED THROUGH THE DRY INTERIOR, ON THE ROOF, AND ON THE ROOF HANDRAIL.
3. THE NEW CABLES CANNOT INTERFERE WITH THE HATCH TO THE WET INTERIOR IN THE ACCESS TUBE.
4. THE NEW CABLES CANNOT INTERFERE WITH OSHA LADDER CLEARANCES OR BE ATTACH TO THE LADDER IN THE ACCESS TUBE.

NOTE:
 GC TO USE EXISTING ROOF & BASECONE PENETRATIONS FOR NEW CABLES. ADD NEW RUBBER BOOT ASSEMBLIES ON THE EXTERIOR AND DRY INTERIOR ENDS. IF THERE ARE NO RUBBER BOOTS THAT FIT, THE PIPES NEED TO BE SEALED TO A DEPTH OF 2" WITH WEATHER RESISTANT CLEAR SILICONE CAULK (ON BOTH ENDS)

(6) EXISTING 1-5/8" COAX CABLES
 (6) EXISTING DC POWER CABLES &
 (2) EXISTING FIBER CABLE TO REMAIN.
 ADD (2) NEW DC POWER CABLES TO FOLLOW EXISTING RUN. USE EXISTING CONDENSATION PLATFORM OPENING TO ACCOMMODATE THE NEW CABLES.
 ATTACH NEW CABLE TO EXISTING BRACKETS USING NEW SNAP-IN HUNGERS FOR 7/8" LINES

GC TO REMOVE EXISTING AT&T DOGHOUSE TO INSTALL NEW CABLES, PROPERLY REINSTALL AND PAINT REPAIRING THE COVER PIECES AS REQUIRED.



1 ELEVATION
 SCALE: 1/16"=1'-0"

PICTURES TAKEN ON 03/12/2019



SECTOR ALPHA



SECTOR BETA



SECTOR GAMMA



EXISTING TOWER

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HIGH CROSSING
 SITE NO. W10196
SITERA NO. 64287-A
 3518 CROSS HILL DRIVE
 MADISON, WI 53718



NO.	DATE	ISSUED FOR REVIEW	BY	CHK	APP'D
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AT&T MOBILITY
 ELEVATION
 DRAWING NUMBER
 W10196-03

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2

11 x 17" SIZE

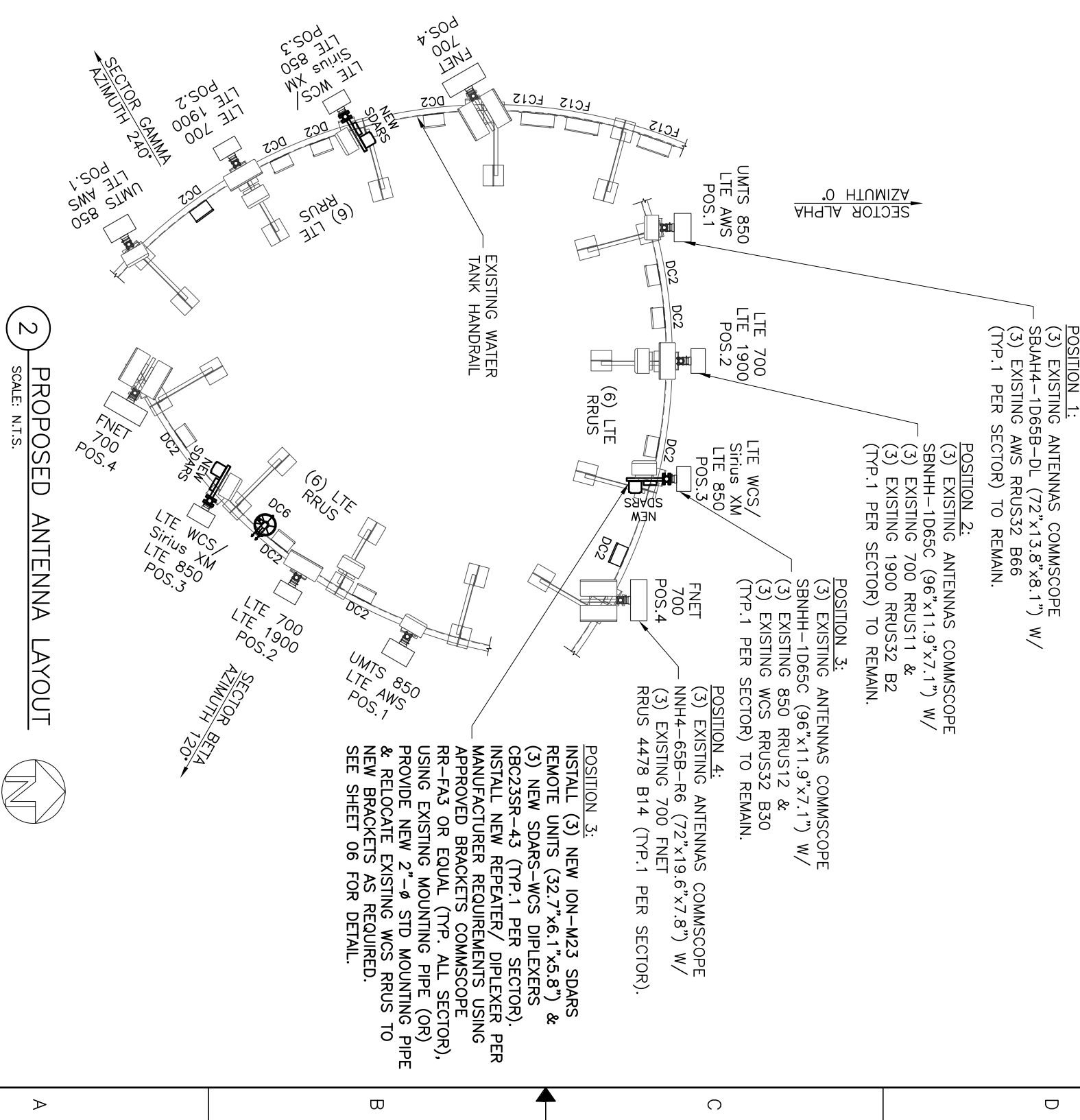
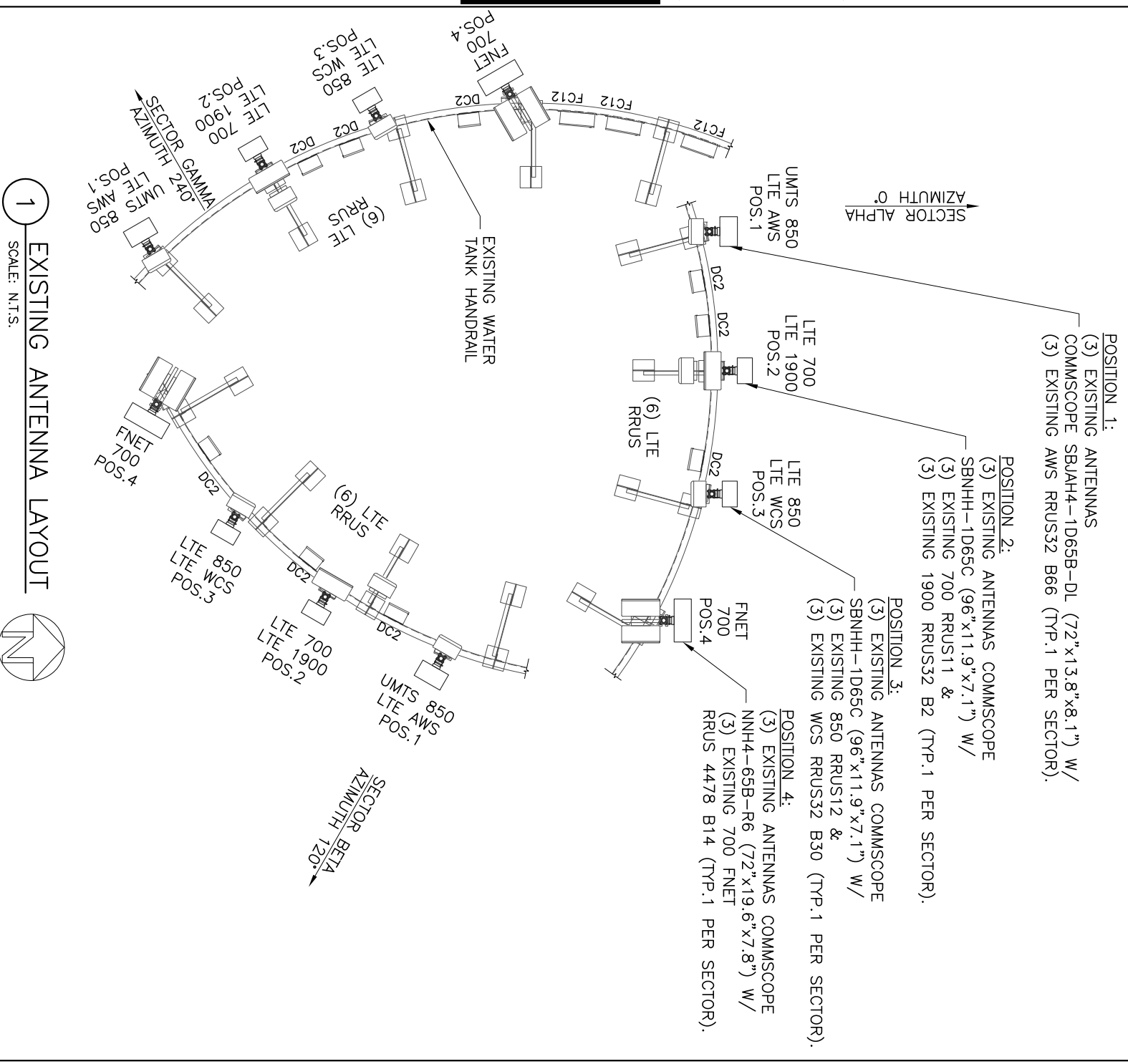
EXHIBIT C (Sheet 4 of 10)

(9) EXISTING RAYCAP DC2-48-60-0-9E &
(3) EXISTING RAYCAP FC12-PC6-10E.

EXISTING ANTENNA MODELS, POSITIONS & AZIMUTHS ARE ASSUMED BASED ON RFDS. CONTRACTOR TO VERIFY PRIOR TO CONSTRUCTION & COORDINATE WITH AT&T ENGINEER FOR ANY DISCREPANCY.
REFER TO RF DESIGN SHEET FOR ADDITIONAL INFORMATION ON TMA'S/DIPLEXERS/DC&FIBER BOX/SQUID

(9) EXISTING RAYCAP DC2-48-60-0-9E &
(3) EXISTING RAYCAP FC12-PC6-10E TO REMAIN.
ADD (2) NEW RAYCAP DC2-48-60-0-9E &
(1) NEW RAYCAP DC6-48-60-0-8C-EV.

RELOCATE/ ADD/ REPLACE MOUNTING PIPES AS REQUIRED TO ACCOMMODATE NEW ANTENNAS



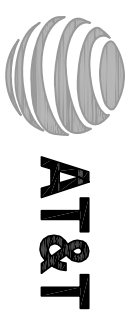
1 EXISTING ANTENNA LAYOUT
SCALE: N.T.S.

2 PROPOSED ANTENNA LAYOUT
SCALE: N.T.S.

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HIGH CROSSING
SITE NO. WI0196
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MADISON, WI 53718



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SCALE: AS SHOWN
DESIGNED BY: XX
DRAWN BY: XX

AT&T MOBILITY	
ANTENNA LAYOUT	
DRAWING NUMBER	WI0196-04
REV	A

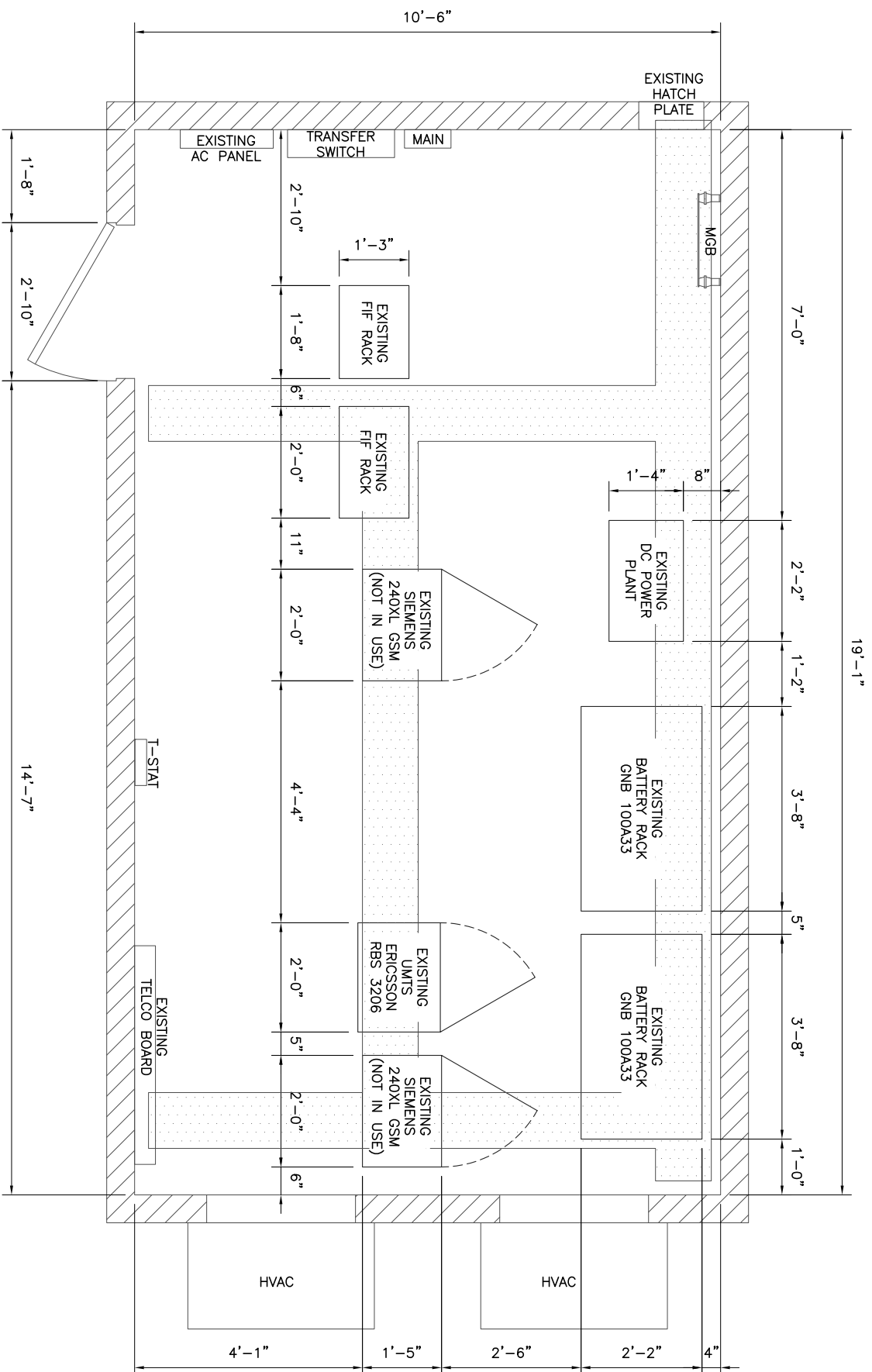
6 5 4 3 2 11 x 17" SIZE

- NOTES:**
1. EXISTING SPACE FOR PROPOSED EQUIPMENT ASSUMED TO BE ADEQUATE, PRIOR TO INSTALLATION, COORDINATE FINAL LOCATION WITH CONSTRUCTION MANAGER.
 2. COORDINATE WITH CONSTRUCTION MANAGER FOR THE PROVISION OF DC CIRCUIT BREAKERS AND OTHER ANCILLARY ITEMS TO SUPPORT THE NEW EQUIPMENT.
 3. PROPERLY BOND ALL EQUIPMENT AND CONDUCTIVE SURFACES TO EXISTING GROUND PER NEC AND AT&T STANDARDS.

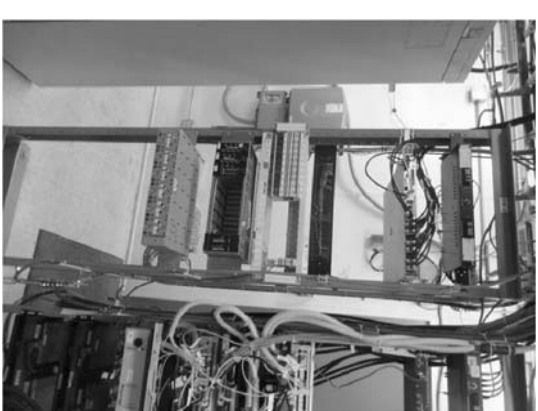
- FINAL BBU CONFIGURATION:**
- (1) NEW ION-M23 MU, (1) NEW RMC1900,
 - (2) EXISTING 5216, (2) EXISTING XMU & (2) EXISTING 6601, ADD (3) 10 AMP BREAKERS.

DECOM UMTS/GSM AS SHOWN ON SCOPING FORM.

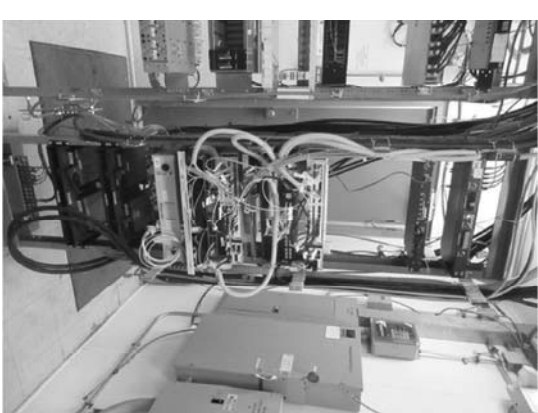
INSTALL (1) NEW ION-M23 MAIN UNIT & (1) NEW RMC1900 IN AVAILABLE SPACE ON RACK AS REQUIRED.
(2) EXISTING DC12-48-60-RM TO REMAIN.



1 EQUIPMENT LAYOUT
SCALE: 3/8"=1'-0"

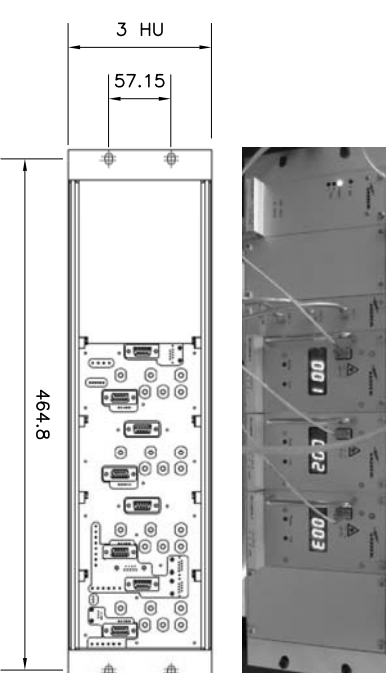


EXISTING FIF RACK



PICTURES TAKEN ON 03/12/2019

2 MAIN UNIT (MU)



MECHANICAL
HEIGHT/WIDTH/DEPTH (19" TECHNOLOGY) 44.5 X 483 X 359 mm
(1.75 (1HU) X 19 X 14.1 inch)
WEIGHT 3.0 kg (6.6 lbs)
ENVIRONMENTAL AND SAFETY
OPERATING TEMPERATURE RANGE -5° C TO +50° C
ETS 300 019
POWER SUPPLY 12 Vdc (MIN 11 V - MAX 14 V)

3 COMMSCOPE RMC1900 (RACK MASTER CONTROLLER)

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AT&T MOBILITY
EQUIPMENT LAYOUT
DRAWING NUMBER
W10196-05

6

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2

11 x 17" SITE



ELECTRICAL

MAINS POWER, VAC	100 TO 240
NOMINAL	85 TO 264
OPERATING	
MAINS POWER, VDC	48 TO 60
NOMINAL	36 TO 72
OPERATING	
POWER CONSUMPTION, WATTS	
MAX. TEMP., FULLY LOADED	215
ROOM TEMP., IDLE	90

OPTICAL LINK

OPTICAL LINK CONNECTORS	E2000/APC 8 μ
OPTICAL RETURN LOSS, dB	45 MIN.
FIBER TYPE	SINGLE MODE E9/125
OPTICAL LINK BUDGET, dB	0 TO 10

ADDITIONAL GAIN FUNCTIONALITY ALLOWS TO MODIFY SYSTEM GAIN WITHOUT AFFECTING SYSTEM PERFORMANCE. NOMINAL GAIN OF 37.5 DB CAN BE INCREASED UP TO 37.5 DB + 19 DB (IN STEPS OF 0.5 DB) COMPOSITE INPUT POWER @ OTRX MASTER SIDE, DBM
2324 - 2341.5 MHZ 0 NOMINAL
-19 @ MAX GAIN (56.5 dB)

RF INTERFACE

MASTER SIDE CONNECTORS	SMA
ANTENNA PORT CONNECTORS	
1-SECTOR	1X 4.3-10 FEMALE
3-SECTOR	3X 4.3-10 FEMALE

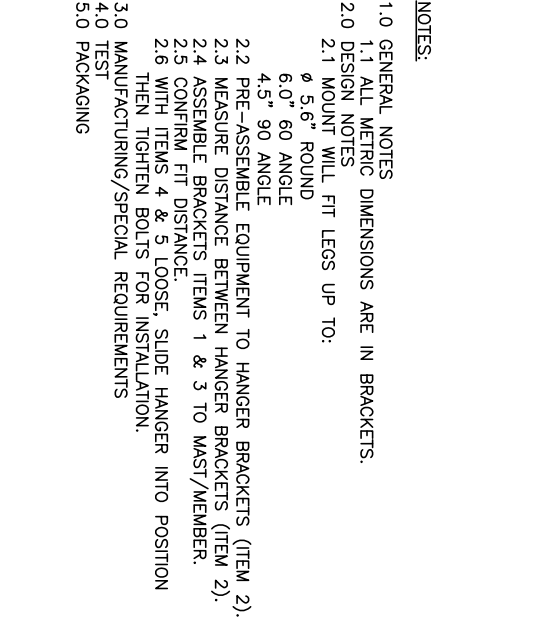
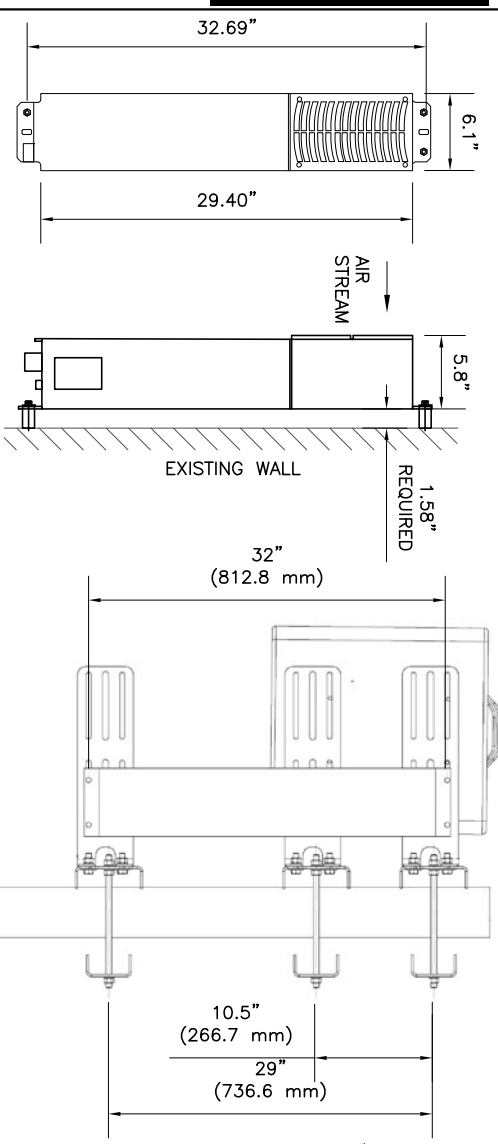
ION-M23 SDARS 1-SECTOR

FREQUENCY RANGE, MHZ	2324 TO 2341.5
RF OUTPUT POWER PER CARRIER @ ANTENNA PORT, DBM*	
NUMBER OF CARRIERS	2
COFDM/OFDM	37.5 34.5
DL OUTPUT TOLERANCE, dB	
OVER FREQUENCY	±1.1
OVER TEMPERATURE	±0.5
IN BAND SPURIOUS EMISSIONS @ ANTENNA PORT	
WITHIN 2324 - 2341.5 MHZ	< -20 DBM / 1 MHZ FOR CARRIER BANDWIDTH ≥ 4 MHZ
GROUP DELAY	220 NS @ CENTER FREQUENCY AND 1 M FIBER LENGTH

ION-M23 SDARS 3-SECTOR

FREQUENCY RANGE, MHZ	2324 TO 2341.5
RF OUTPUT POWER PER CARRIER @ ANTENNA PORT, DBM*	
NUMBER OF CARRIERS	2
OFDM	33 30
DL OUTPUT TOLERANCE, dB	
OVER FREQUENCY	±0.8
OVER TEMPERATURE	±0.5
IN BAND SPURIOUS EMISSIONS @ ANTENNA PORT	
WITHIN 2324 - 2341.5 MHZ	< -25 DBM / 1 MHZ FOR CARRIER BANDWIDTH ≥ 4 MHZ
GROUP DELAY	220 NS @ CENTER FREQUENCY AND 1 M FIBER LENGTH

1 ION-M23 SDARS 3-SECTOR OPTICAL REMOTE UNIT
SCALE: N.T.S.

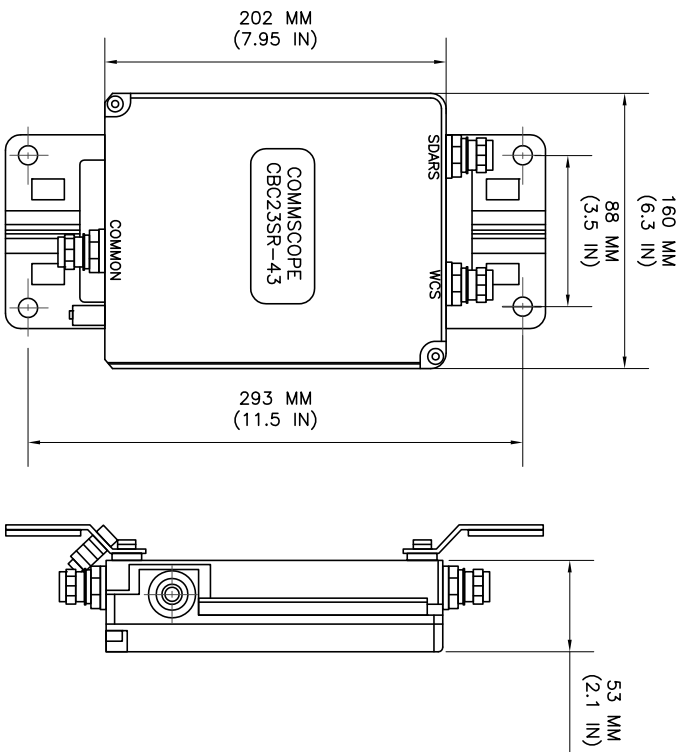


- NOTES:**
- GENERAL NOTES
 - ALL METRIC DIMENSIONS ARE IN BRACKETS.
 - DESIGN NOTES
 - 1.1 MOUNT WILL FIT LEGS UP TO:
 - Ø 5.6" ROUND
 - 6.0" 60 ANGLE
 - 4.5" 90 ANGLE
 - PRE-ASSEMBLE EQUIPMENT TO HANGER BRACKETS (ITEM 2).
 - MEASURE DISTANCE BETWEEN HANGER BRACKETS (ITEM 2).
 - ASSEMBLE BRACKETS ITEMS 1 & 3 TO MAST/MEMBER.
 - CONFIRM FIT DISTANCE.
 - WITH ITEMS 4 & 5 LOOSE, SLIDE HANGER INTO POSITION THEN TIGHTEN BOLTS FOR INSTALLATION.
 - MANUFACTURING/SPECIAL REQUIREMENTS
 - TEST
 - PACKAGING

- INSTALLATION NOTES (WALL OR POLE):**
- DUE TO POWER DISSIPATION, THE REMOTE UNIT MAY REACH A VERY HIGH TEMPERATURE. ENSURE SUFFICIENT AIRFLOW FOR VENTILATION.
 - A MAXIMUM TILT ANGLE OF 25° FROM A VERTICAL POSITION MUST BE KEPT
 - A SPACING OF 40 MM (1.58 INCH) AROUND THE UNIT IS REQUIRED
 - DEPENDING ON THE INSTALLATION TYPE (WALL OR POLE), THE CORRESPONDING MOUNTING KITS MUST BE ORDERED FROM THE MANUFACTURER. IF ANY DIFFERENT OR ADDITIONAL MOUNTING MATERIAL IS USED, ENSURE THAT THE MOUNTING REMAINS AS SAFE AS THE MOUNTING DESIGNED BY THE MANUFACTURER. THE SPECIFICATIONS FOR STATIONARY USE OF THE REMOTE UNIT MUST NOT BE EXCEEDED. ENSURE THAT THE STATIC AND DYNAMIC STRENGTHS ARE ADEQUATE FOR THE ENVIRONMENTAL CONDITIONS OF THE SITE. THE MOUNTING ITSELF MUST NOT VIBRATE, SWING OR MOVE IN ANY WAY THAT MIGHT CAUSE DAMAGE TO THE REMOTE UNIT.

ITEM	PART NO.	DESCRIPTION	QTY.	WEIGHT	NOTE NO.
1	MT-C378912	WELDED FRONT BRACKET	3	4.18 LBS	
2	MT-C378909	RRU HANGER	6	3.97 LBS	
3	MT-C378903	REAR BRACKET	3	3.10 LBS	
4	GW-F04	1/2" GALV FLAT WASHER	12	0.03 LBS	
5	GB-04145	1/2" X 1-1/2" GALV BOLT KIT	12	0.13 LBS	
6	GW-L04	1/2" GALV LOCK WASHER	18	0.01 LBS	
7	GN-04	1/2" GALV HEX NUT	18	0.04 LBS	
8	MT-379	1/2" X 1/2" GALV THREADED ROD	6	0.66 LBS	

COMMSCOPE RR-FA3 (FAST ACCESS TRIPLE RRU MOUNT)



MECHANICAL & ENVIRONMENTAL

DIMENSIONS	202 X 160 X 53 MM
WEIGHT	2.45 KG (5.4 LBS)
FINISH	GRAY PAINT
RF CONNECTORS	4.3-10 FEMALE
GROUND TERMINAL DIAMETER	6 MM (0.25 INCH)
OPERATING TEMPERATURE RANGE	-40 TO +65 °C
INGRESS PROTECTION	IP67
LIGHTNING PROTECTION	10 KA, 8/20 MS

3 CBC23SR-43 DIPLEXER FOR WCS ABCD & SIRIUS XM REPEATER
SCALE: N.T.S.

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HIGH CROSSING
SITE NO. W10196
SITERRA NO. 64287-A
3518 CROSS HILL DRIVE
MADISON, WI 53718

NO.	DATE	ISSUED FOR REVIEW	BY	CHK	APP'D
A	03/13/19		YA	EK	SP
REVISIONS					
DESIGNED BY: XX					
DRAWN BY: XX					

AT&T MOBILITY
NEW EQUIPMENT SPECIFICATIONS
DRAWING NUMBER
W10196-06

11 x 17" SIZE



RRUS 32 B2

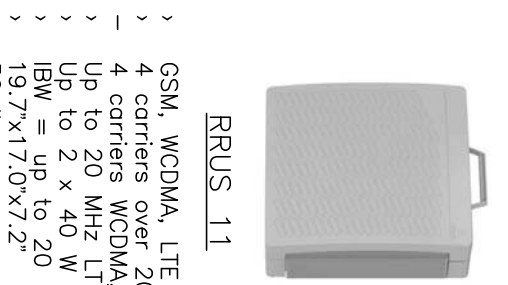
- > PCS
 - TX = 1930 - 1990 MHz
 - RX = 1850 - 1910 MHz
 - > CPRI 2 ports x 10 Gbps. Install 2 SFPs and connect 2 fiber pairs to the RRUS32 during initial install.
 - > Only use Ericsson supplied and approved SFPs, RDH10247/3
 - > 6 external alarm inputs
 - > Max wind load @ 50m/sec = 350N
 - > Breaker size = 30A, DC Power Consumption = 910W (for dimensioning)
 - > 200mm horizontal separation required for side by side mounting
 - > 200mm separation required from antenna backplane to radio
 - > 600mm/800mm vertical outdoor/indoor separation required
 - > Min. Max DC cable size from squid to radio = 10, 8 AWG.
 - > Adapter is required for 2-wire connection
 - > Shielded DC cable is required
 - > Ground cable size = 2AWG
 - > Dimensions (incl. handles, feet and sunshield)
 - Height: 27.2" (690 mm)
 - Width: 12.1" (306 mm)
 - Depth: 7.0" (178 mm)
 - Weight, excl. mounting hardware = 53 lbs (24 kg)

RRUS 32 B30

- > WCS A+B blocks
 - TX = 2350 - 2360 MHz
 - RX = 2305 - 2315 MHz
 - > CPRI 2 ports x 10 Gbps
 - > Only use Ericsson supplied and approved SFPs
 - > 6 external alarm inputs
 - > Max wind load @ 50m/sec = 350N
 - > Breaker size = 20A, DC Power Consumption = 800W
 - > 200mm horizontal separation required for side by side mounting
 - > 200mm separation required from antenna backplane to radio
 - > 600mm/800mm vertical outdoor/indoor separation required
 - > Min. Max DC cable size from squid to radio = 8AWG
 - > Adapter is required for 2-wire connection
 - > Shielded DC cable is required
 - > Ground cable size = 2AWG
 - > Dimensions (incl. handles, feet and sunshield)
 - Height: 27.2" (690 mm)
 - Width: 12.1" (306 mm)
 - Depth: 7.0" (178 mm)
 - Weight, excl. mounting hardware = 53 lbs (24 kg)

RRUS 32 B66

- > AWS
 - TX = 2110 - 2180 MHz
 - RX = 1710 - 1780 MHz
 - > CPRI 2 ports x 10 Gbps. Install 2 SFPs and connect 2 fiber pairs to the RRUS32 during initial install.
 - > Only use Ericsson supplied and approved SFPs RDH10247/3
 - > 6 external alarm inputs
 - > Max wind load @ 50m/sec = 350N
 - > Breaker size = 30A, DC Power Consumption = 880W (for dimensioning)
 - > 200mm horizontal separation required for side by side mounting
 - > 200mm separation required from antenna backplane to radio
 - > 600mm/800mm vertical outdoor/indoor separation required
 - > Min. Max DC cable size from squid to radio = 10,8 AWG
 - > Adapter is required for 2-wire connection
 - > Shielded DC cable is required
 - > Ground cable size = 2AWG
 - > Dimensions (incl. handles, feet and sunshield)
 - Height: 27.2" (690 mm)
 - Width: 12.1" (306 mm)
 - Depth: 7.0" (178 mm)
 - Weight, excl. mounting hardware = 53 lbs (24 kg)



RRUS 11

- > GSM, WCDMA, LTE
 - > 4 carriers over 20 MHz IBW
 - 4 carriers WCDMA, LTE
 - > Up to 20 MHz LTE
 - > Up to 2 x 40 W
 - > IBW = up to 20 MHz
 - > 19.7"x17.0"x7.2"
 - > 50 lbs
- > GSM, WCDMA, LTE
 - > 8 carriers over 40 MHz IBW
 - 4 carriers WCDMA, LTE
 - > Up to 20 MHz LTE
 - > Up to 2 x 60 W
 - > IBW = up to 40 MHz
 - > 20.4"x18.5"x7.5"
 - > 50 lbs

RRUS 12



1 **RRUS32 SPECIFICATIONS**
SCALE: N.T.S.

2 **RRUS11 & RRUS12 SPECIFICATIONS**
SCALE: N.T.S.



RRUS 4478 B5

- B5
 - TX = 889 - 894 MHz
 - RX = 824 - 849 MHz
 - CPRI 2 ports x 2.5/4.9/9.8/10.1 Gbps. Install 2 SFPs and connect 2 fiber pairs to the RRUS 4478 during initial install.
 - Only use Ericsson supplied and approved SFPs
 - 2x SFPs RDH 10247/25 for cellular A OR B block
 - 2xSFP7 RDH 10265/25 for cellular A AND B block
 - Exception cases:
 - 2xSFP7 RDH 10265/3 for CPRI Length 1.4 -10km
 - 2xSFP7 RDH 10270/1 & RDH 10270/2 for CPRI length > 10km
 - 2 external alarm inputs
 - Max wind load @ 50m/sec = 260N g
 - Breaker size = 25A, DC Power Consumption = 805W (for dimensioning)
 - 200mmhorizontal separation required for side by side mounting
 - 200mmseparation required from antenna backplane to radio
 - 400mmvertical outdoor/indoor separation required between 2 radios
 - 500mmvertical separation below antenna Min. Max DC cable size from squid to radio = 10,8 AWG
 - Adapter is required for 2-wire connection
 - Shielded DC cable is required
 - Ground cable size = 2AWG
 - Dimensions (incl. handles, feet and sunshield, w/o fan unit)
 - Height: 16.5" (420 mm)
 - Width: 13.4" (340 mm)
 - Depth: 7.7" (196 mm)
 - Weight, excl. mounting hardware = 59.9 lbs (27.2 kg)

RRUS 4415 B25

- B25
 - TX = 1930 -1995 MHz
 - RX = 1850 -1915 MHz
 - CPRI 2 ports x 2.5/4.9/9.8/10.1 Gbps. Install 1 SFP and connect 1 fiber pair to the RRUS 4415 during initial install.
 - Only use Ericsson supplied and approved SFPs RDH10265/25
 - 2 external alarm inputs
 - Max wind load @ 50m/sec = 260N
 - Breaker size = 20A, DC Power Consumption = 670 W (for dimensioning)
 - 200mm horizontal separation required for side by side mounting
 - 200mm separation required from antenna backplane to radio
 - 400mm vertical outdoor/indoor separation required between 2 radios
 - 500mm vertical separation below antenna
 - Min. Max DC cable size from squid to radio = 10,8 AWG
 - Adapter is required for 2-wire connection
 - Shielded DC cable is required
 - Ground cable size = 2AWG
 - Dimensions (incl. handles, feet and sunshield, w/o fan unit)
 - Height: 14.96" (380 mm)
 - Width: 13.19" (335 mm)
 - Depth: 5.39" (137 mm)
 - Weight, excl. mounting hardware = 46 lbs (21 kg)

RRUS 4415 B66

- B66
 - TX = 2110 -2180 MHz
 - RX = 1710 -1780 MHz
 - CPRI 2 ports x 2.5/4.9/9.8/10.1 Gbps. Install 1 SFP and connect 1 fiber pair to the RRUS 4415 during initial install.
 - Only use Ericsson supplied and approved SFPs RDH10265/25
 - 2 external alarm inputs
 - Max wind load @ 50m/sec = 260N
 - Breaker size = 20A, DC Power Consumption = 670 W (for dimensioning)
 - 200mmhorizontal separation required for side by side mounting
 - 200mm separation required from antenna backplane to radio
 - 400mm vertical outdoor/indoor separation required between 2 radios
 - 500mm vertical separation below antenna
 - Min. Max DC cable size from squid to radio = 10,8 AWG
 - Adapter is required for 2-wire connection
 - Shielded DC cable is required
 - Ground cable size = 2AWG
 - Dimensions (incl. handles, feet and sunshield, w/o fan unit)
 - Height: 14.96" (380 mm)
 - Width: 13.19" (335 mm)
 - Depth: 5.39" (137 mm)
 - Weight, excl. mounting hardware = 46 lbs (21 kg)

RRUS 4426 B66

- B66
 - TX = 2110 -2180 MHz
 - RX = 1710 -1780 MHz
 - CPRI 2 ports x 2.5/4.9/9.8/10.1 Gbps. Install 2 SFPs and connect 2 fiber pair to the RRUS 4426 during initial install.
 - Only use Ericsson supplied and approved SFPs RDH10265/25
 - Install 2 SFP RDH 10265/3 for CPRI length 1.4 km -10 km
 - Install SFP7 (port): RDH 102 70/1 and RDH 102 70/2(b)-directional SFP7 for CPRI length > 10 km
 - 2 external alarm inputs
 - Max wind load @ 50m/sec = 260N
 - Breaker size = 25A, DC Power Consumption = 670 W (for dimensioning)
 - 200mmhorizontal separation required for side by side mounting
 - 200mmseparation required from antenna backplane to radio
 - 400mmvertical outdoor/indoor separation required between 2 radios
 - 500mmvertical separation below antenna
 - Min. Max DC cable size from squid to radio = 10,8 AWG
 - Adapter is required for 2-wire connection
 - Shielded DC cable is required
 - Ground cable size = 2AWG
 - Dimensions (incl. handles, feet and sunshield, w/o fan unit)
 - Height: 14.96" (380 mm)
 - Width: 13.19" (335 mm)
 - Depth: 5.39" (137 mm)
 - Weight, excl. mounting hardware = 48.4 lbs (22 kg)



RADIO 4449 DUAL BAND B5 & B12

- 4TX/4RX per Band (B5 & B12)
- 320 W of total power
 - 4x40 W per band (414R in each band)
- Full IBW in each band
- Carrier BW: - 5, 10 MHz
- LTE: Max 6 carriers per port (DL), max 6 carriers per port (UL)
- CPRI Support: -2.5 ; 4.9; 9.8; 10.1
- - 48 VDC 3-wire (2-wire with adapter)
- - Two DC power ports of - 20A
- ASIG TMA & RET support via RS-485 or RF connectors
- Bics-I only be supported on antenna port A and C.
- Four antenna connectors: 4 x 4.3-10 plus (f)
- 2 external alarm
- ~ 75 lb.
- ~ 33L (14.96" x 13.19" x 10.43") (Preliminary, final figures in Mar 18 pending B12 filter design)
- IP 65, -40 to +55 °C

RADIO 8843 DUAL BAND B2 & B66A

- 4TX/4RX per Band (B2 & B66A)
- 320 W of total power with three configuration options
 - 4x40 W per band (414R in each band)
 - Or 4x20W for B2 and 4x80W for B66A
 - Or 2x60W for B2 and 2x80W for B66A (214R in each band)
- Full IBW in each band
- Carrier BW: - 5, 10, 15, 20 MHz
- LTE: Max 3 carriers per port (DL), max 3 carriers per port (UL)
- CPRI Support: -2.5; 4.9; 9.8; 10.1
- -48 VDC 3-wire (2-wire with adapter)
- Two DC power ports of 20A
- ASIG TMA & RET support via RS-485 or RF connectors
- Bics-I only be supported on antenna port A and E.
- Eight antenna connectors: 8 x 4.3-10 plus (f)
- 4 ports dedicated to B2 and 4 ports dedicated to B66A
- 2 external alarm
- ~ 75 lb.
- ~36L (14.96" x 13.19" x 11.1")
- IP 65, -40 to +55 °C

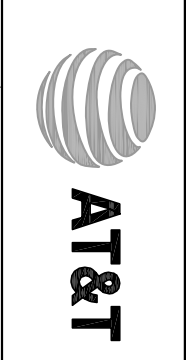
3 **RRUS SPECIFICATIONS**
SCALE: N.T.S.

4 **RRUS DB SPECIFICATIONS**
SCALE: N.T.S.

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APEX JOB NO. GM10-063

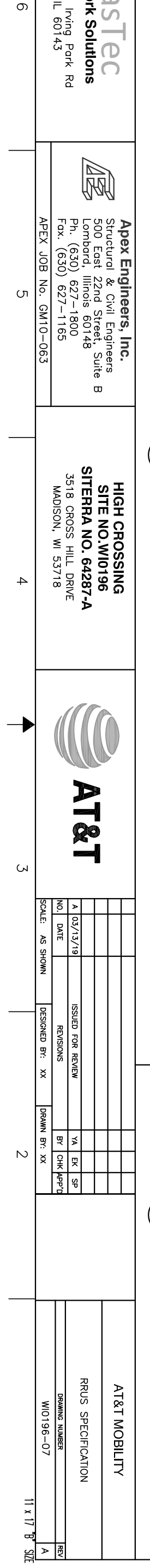
HIGH CROSSING
SITE NO. WI0196
SITERRA NO. 64287-A
3518 CROSS HILL DRIVE
MADISON, WI 53718



NO.	DATE	ISSUED FOR REVIEW	REVISIONS
A	03/13/19		
DESIGNED BY: XX DRAWN BY: XX			

BY	CHK	APPD
YA	EK	SP

AT&T MOBILITY
RRUS SPECIFICATION
DRAWING NUMBER
WI0196-07
REV A



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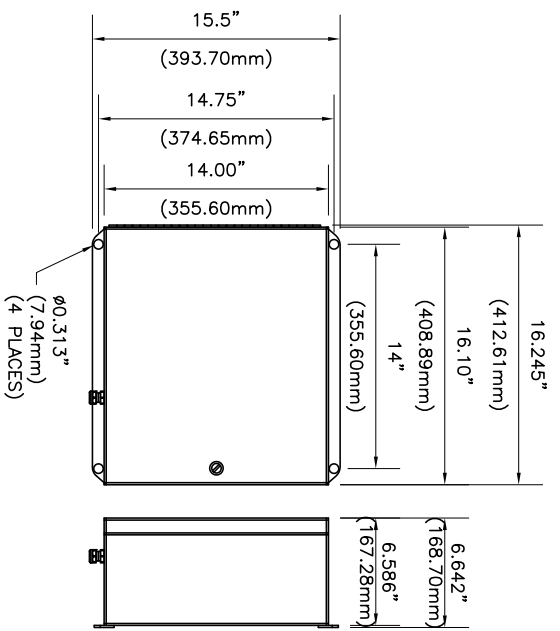
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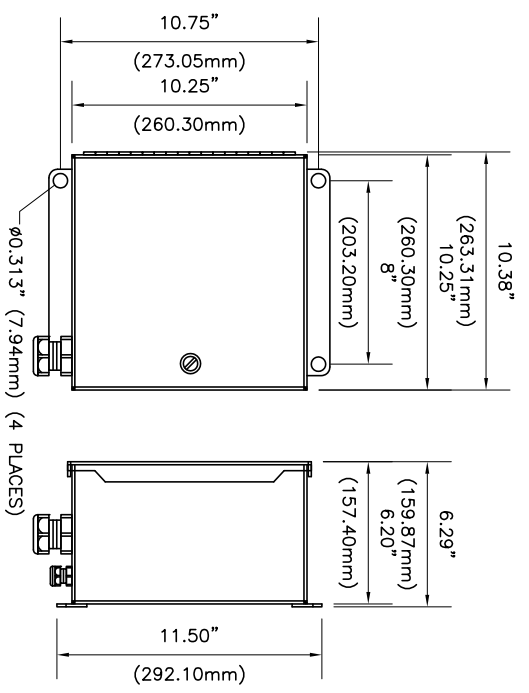
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11 x 17' SITE



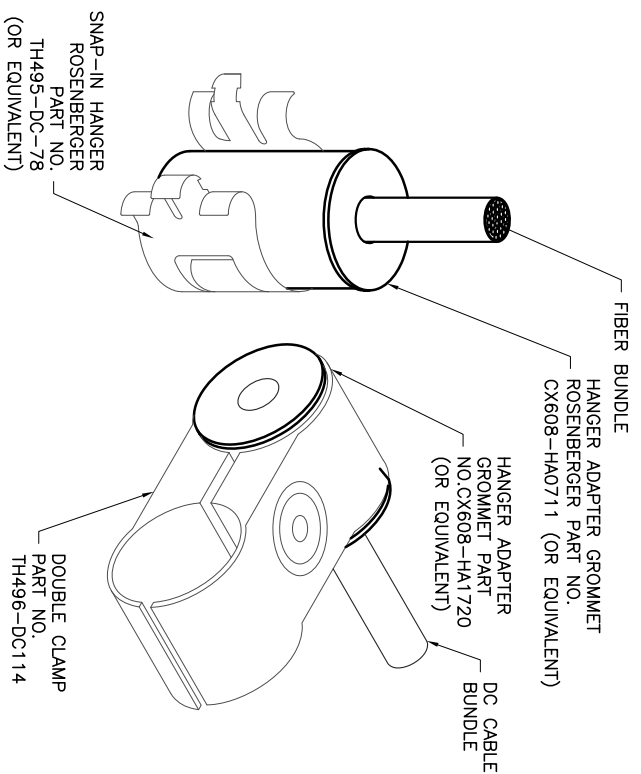
FEATURES:
 PROVIDES SIMPLIFIED CONNECTIVITY AND CABLE MANAGEMENT FOR DC POWER AND FIBER OPTIC CABLES, OFFERING A CENTRAL POINT OF CONNECTIVITY DESIGNED FOR ROOF-TOP INSTALLATIONS OF REMOTE * RADIO HEADS (RRH) OR DISTRIBUTED NODEB SYSTEMS CONNECTS 12 PAIR OF FIBER AND 6 DC POWER * CIRCUITS FLEXIBLE DESIGN UTILIZES A NEMA 4 ENCLOSURE, * ALLOWING FOR INDOOR OR OUTDOOR INSTALLATION ON A ROOF OR TOWER TOP ENCLOSURE IS RATED FOR -40° C TO +80° C * INPUT FOR CONDUIT AND THREE 2 " ONE 2½" OUTPUTS FOR SECTOR DISTRIBUTION

1 FC12 CENTRAL FIBER OPTIC & DC POWER CONNECTION



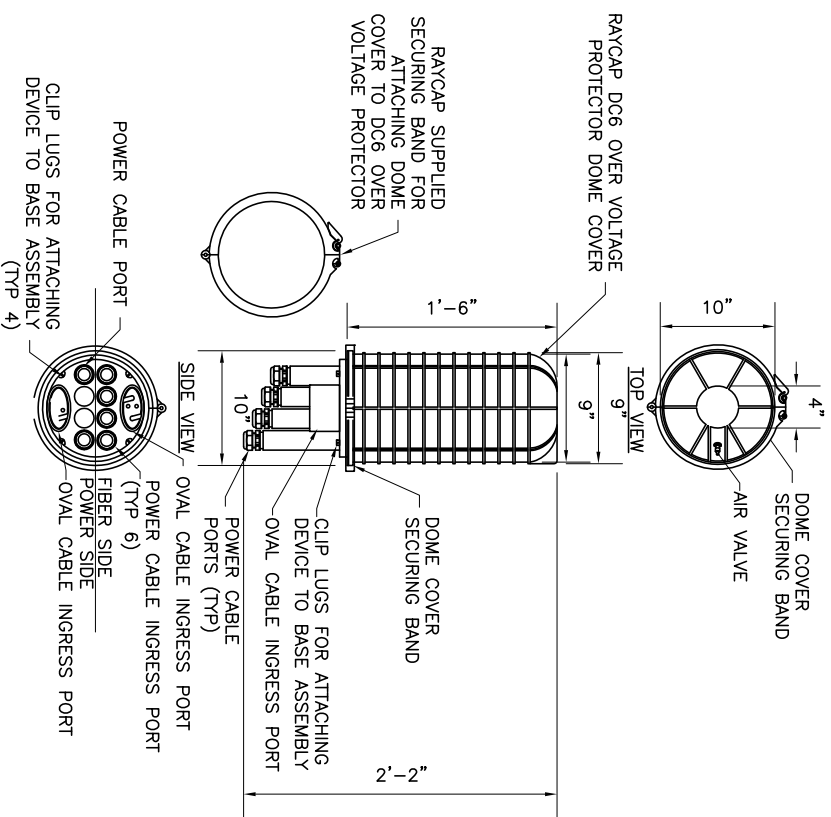
FEATURES:
 PROVIDES PROTECTION FOR TWO (2) 48 VDC CIRCUITS * ROBUST DC SURGE PROTECTION OF 60 KA 8/20 MS * IEC 61643-1 CLASS II PROTECTION * NEMA 4 RATED ENCLOSURE * FORM C RELAY CONTACTS * SUPPRESSOR STATUS ALARM FEATURES

2 DC2 SECTOR FIBER & POWER DISTRIBUTION BOX



NOTES:
 1. REFER TO USA DOCUMENT FOR EXACT CABLE MODEL NUMBERS AND MANUFACTURER SPECIFICATIONS FOR PROPER GROMMETS AND HANGERS TO SUPPORT THE FIBER AND DC CABLE BUNDLES.
 2. REFER TO STRUCTURAL ANALYSIS FOR EXACT CABLE ROUTING AND MOUNTING CONFIGURATION.

3 FIBER CABLE SUPPORT SCALE: NTS



4 RAYCAP DC6-48-60-18-8C DC POWER OVER VOLTAGE PROTECTOR (OVP)

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HIGH CROSSING
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 SITERRA NO. 64287-A
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AT&T

NO.	DATE	ISSUED FOR REVIEW	BY	CHK	APP'D
A	03/13/19		YA	EK	SP
SCALE: AS SHOWN		DESIGNED BY: XX	DRAWN BY: XX		

AT&T MOBILITY
 CONSTRUCTION DETAILS
 DRAWING NUMBER
 W10196-08

6

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4

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2

11 x 17" SIZE

A

B

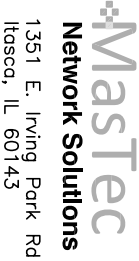

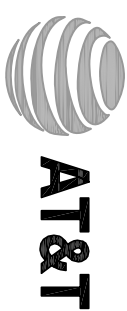
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D

SECTOR	ANTENNA NUMBER	POLARITY/PORT	TOP AND BOTTOM JUMPER COLOR	ANTENNA MODEL NUMBER	ANTENNA VENDOR	TMA/ RRU MODEL NUMBER	AZIMUTH	MECHANICAL DOWNTILT	ELECTRICAL DOWNTILT	ANTENNA CENTERLINE FROM GROUND	ANTENNA TIP HEIGHT	COAXIAL FEEDER		ANTENNA TYPE
												SIZE	LENGTH	
A	A1	AWS	CONTRACTOR TO VERIFY COLOR CODING REQUIREMENT WITH AT&T CONSTRUCTION MANAGER PRIOR TO INSTALLATION	SBJAH4-1D65B-DL	COMMSCOPE	(1) RRUS32 B66	0°	-	-	118'-0"	121'-0"	(2) 1-5/8" & FIBER	±200'	LTE AWS
		UMTS 850												
	A2	700		SBHH-1D65C	COMMSCOPE	(1) RRUS11	0°	-	-	118'-0"	122'-0"	FIBER	±200'	LTE 700
		1900		WCS	(1) RRUS32 B30 (1) ION-M23 SDARS REMOTE UNIT (1) SDARS-WCS DIPLEXER CBG233SR-43	0°	-	-	118'-0"	122'-0"	FIBER	±200'	LTE WCS/ Sirius XM LTE 850	
A3	850	Sirius XM	NNH4-65B-R6	COMMSCOPE	(1) RRUS12	0°	-	-	118'-0"	121'-0"	FIBER	±200'	FNET 700	
		850											LTE 700	
B	B1	AWS	CONTRACTOR TO VERIFY COLOR CODING REQUIREMENT WITH AT&T CONSTRUCTION MANAGER PRIOR TO INSTALLATION	SBJAH4-1D65B-DL	COMMSCOPE	(1) RRUS32 B66	120°	-	-	118'-0"	121'-0"	(2) 1-5/8" & FIBER	±200'	LTE AWS
		UMTS 850												
	B2	700		SBHH-1D65C	COMMSCOPE	(1) RRUS11	120°	-	-	118'-0"	122'-0"	FIBER	±200'	LTE 700
		1900		WCS	(1) RRUS32 B2 (1) ION-M23 SDARS REMOTE UNIT (1) SDARS-WCS DIPLEXER CBG233SR-43	120°	-	-	118'-0"	122'-0"	FIBER	±200'	LTE WCS/ Sirius XM LTE 850	
B3	850	Sirius XM	NNH4-65B-R6	COMMSCOPE	(1) RRUS12	120°	-	-	118'-0"	121'-0"	FIBER	±200'	FNET 700	
		850											LTE AWS	
C	C1	AWS	CONTRACTOR TO VERIFY COLOR CODING REQUIREMENT WITH AT&T CONSTRUCTION MANAGER PRIOR TO INSTALLATION	SBJAH4-1D65B-DL	COMMSCOPE	(1) RRUS32 B66	240°	-	-	118'-0"	121'-0"	(2) 1-5/8" & FIBER	±200'	LTE AWS
		UMTS 850												
	C2	700		SBHH-1D65C	COMMSCOPE	(1) RRUS11	240°	-	-	118'-0"	122'-0"	FIBER	±200'	LTE 700
		1900		WCS	(1) RRUS32 B2 (1) ION-M23 SDARS REMOTE UNIT (1) SDARS-WCS DIPLEXER CBG233SR-43	240°	-	-	118'-0"	122'-0"	FIBER	±200'	LTE WCS/ Sirius XM LTE 850	
C3	850	Sirius XM	NNH4-65B-R6	COMMSCOPE	(1) RRUS12	240°	-	-	118'-0"	121'-0"	FIBER	±200'	FNET 700	
		850											LTE AWS	

THESE ANTENNA MATRIX TABLE IS PREPARED BASED ON INFORMATION PROVIDED BY MASTEC NETWORK SOLUTIONS. GENERAL CONTRACTOR TO VERIFY AND INCORPORATE MOST RECENT VERSION OF RFDS PRIOR TO CONSTRUCTION.

1 ANTENNA MATRIX
NTS

 <p>1351 E. Irving Park Rd Itasca, IL 60143</p>	 <p>Structural & Civil Engineers 500 East 22nd Street, Suite B Lombard, Illinois 60148 Ph. (630) 627-1800 Fax. (630) 627-1165 APEX JOB NO. GM10-063</p>	<p>HIGH CROSSING SITE NO. W10196 SITEREA NO. 64287-A 3518 CROSS HILL DRIVE MADISON, WI 53718</p>		<p>SCALE: AS SHOWN</p>	<p>DESIGNED BY: XX</p>	<p>DRAWN BY: XX</p>	<p>ISSUED FOR REVIEW</p>	<p>REVISIONS</p>	<p>NO. DATE</p>	<p>BY: YA</p>	<p>CHK: EK</p>	<p>APP'D: SP</p>	<p>DATE: 03/13/19</p>
				<p>AT&T MOBILITY</p>		<p>ANTENNA MATRIX</p>		<p>DRAWING NUMBER</p>		<p>W10196-09</p>		<p>REV</p>	

GENERAL NOTES (USE WHERE APPLICABLE)

GENERAL NOTES

1. FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:
CONTRACTOR – GENERAL CONTRACTOR (CONSTRUCTION)
OWNER – AT&T
OEM – ORIGINAL EQUIPMENT MANUFACTURE
2. PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING CONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF OWNER.
3. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. CONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS, AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK.
4. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.
5. DRAWINGS PROVIDED HERE ARE NOT TO SCALE AND ARE INTENDED TO SHOW OUTLINE ONLY.
6. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
7. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
8. IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY THE OWNER.
9. CONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF CONDUIT, POWER AND T1 CABLES, GROUNDING CABLES AS SHOWN ON THE POWER, GROUNDING AND TELCO PLAN DRAWING.
10. THE CONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE TO THE SATISFACTION OF OWNER.
11. CONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.
12. CONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION.
13. ALL WORK SHALL BE IN COMPLIANCE WITH CURRENT VERSION OF AT&T CONSTRUCTION SPECIFICATIONS INCLUDING UPDATES. IF CONTRACTOR DOES NOT HAVE A COPY OF SPECS, NOTIFY AT&T IMMEDIATELY.

GROUNDING NOTES

1. COAX CABLE SHALL BE GROUNDED AT ANTENNA LEVEL WITHIN 5' OF ANTENNA. COAX WILL ADDITIONALLY BE GROUNDED AT THE BASE OF THE TOWER 18" BEFORE THE CABLE REACHES A HORIZONTAL PLANE. IF EQUIPMENT CABINET IS MORE THAN 15' FROM THE TOWER AN ADDITIONAL GROUND KIT WILL BE ADDED 24" BEFORE CABLE ENTERS CABINET.
2. ALL COAX GROUND KITS WILL BE ANDREW "COMPACT SURE GROUND" OR APPROVED EQUAL.
3. VERIFY THE GROUNDING CONTINUITY BETWEEN THE TOWER BASE AND THE NEW AT&T CABINET GROUND BAR. CONTRACTOR SHALL ENSURE THAT ALL METALLIC OBJECTS WITHIN 6" FROM CABINET HAVE GROUNDING CONTINUITY. THE CONTRACTOR SHALL CORRECT ANY DEFECTS BY ADDING GROUNDING CONDUCTOR TO ENSURE CONTINUITY.
4. CONTRACTOR SHALL PERFORM A GROUND IMPEDANCE TEST PRIOR TO CONSTRUCTION TO ENSURE SITE IS LOWER THAN 5-OHM. IF SITE HAS A RESISTANCE HIGHER THAN 5 OHM REPORT TO AT&T FOR FURTHER DIRECTION.
5. GROUNDING CONDUCTORS SHALL BE COPPER ONLY. EITHER SOLID OR STRANDED CONDUCTORS ARE PERMITTED. ALL EXTERNAL BURIED CONDUCTORS MUST BE BARE. EQUIPMENT GROUND LEADS IN CABLE TRAYS MUST BE GREEN INSULATED.
6. CONTRACTOR TO PROVIDE GROUND WIRES, BARS AND CONNECTIONS AS SHOWN ON GROUNDING RESER DIAGRAM.
7. ROUTE GROUNDING CONDUCTORS ALONG THE SHORTEST AND STRAIGHTEST PATH POSSIBLE, EXCEPT AS OTHERWISE INDICATED. RADIUS BENDS OF GROUNDING LEADS TO BE A MINIMUM OF 12". #6 WIRE MAY BE BENT WITH 6" RADIUS BEND WHERE FIELD CONDITIONS PROHIBIT WIDER SWEEPS.
8. GROUNDING CONNECTIONS SHALL BE EXOTHERMIC TYPE ("CADWELD") TO ANTENNA MASTS, FENCE POSTS, AND GROUND RODS. REMAINING GROUNDING CONNECTIONS SHALL BE COMPRESSION/ MECHANICAL FITTINGS.

ELECTRICAL NOTES

1. ALL ELECTRICAL WORK SHALL CONFIRM TO THE 2017 NATIONAL ELECTRIC CODE.
2. ALL ELECTRICAL ITEMS SHALL BE U.L. APPROVED OR LISTED.
3. POWER WIRES AND CABLES SHALL BE COPPER WITH TYPE XHHW, THWN, OR THHN INSULATION. SOLID CONDUCTORS FOR #10 AWG AND SMALLER, STRANDED FOR LARGER THAN #10 AWG. MINIMUM SIZE #12 AWG.
4. POWER WIRES OUTSIDE CABINET AND CABLES SHALL BE INSTALLED IN CODE COMPLIANT RIGID CONDUIT OR FLEXIBLE LIQUID TIGHT CONDUIT AS INDICATED ON DRAWING.
5. CONTRACTOR TO OBTAIN ALL PERMITS, PAY PERMIT FEES, AND BE RESPONSIBLE FOR SCHEDULING INSPECTIONS.
6. CONTRACTOR TO OBTAIN LOCAL POWER AND TELEPHONE COMPANY APPROVAL AND COORDINATE WITH UTILITY COMPANIES SERVICE ENTRANCE REQUIREMENTS.

COAX NOTES

1. MINIMUM SEPARATION BETWEEN ANTENNAS IS 36" IF CONTRACTOR CAN NOT MAINTAIN MINIMUM DISTANCE CONTACT ENGINEER FOR SOLUTION / ALTERNATE DESIGN.
2. COAX CABLE LENGTH SHOWN IS APPROXIMATE. CONTRACTOR IS REQUIRED TO MAKE ACTUAL FIELD MEASUREMENT PRIOR TO PURCHASE AND BE RESPONSIBLE FOR SAME.
3. COAX CABLE SHALL BE RAISED / SUPPORTED WITH HOISTING GRIP AT APPROPRIATE POINTS PER MANUFACTURER REQUIREMENTS.
4. CONTRACTOR WILL PROVIDE COAX CABLE, RF CONNECTORS AND RF GROUNDING KITS.
5. CONTRACTOR SHALL SUPPORT COAX CABLE PER MANUFACTURER REQUIREMENTS. SUPPORT SHALL BE STAINLESS STEEL SNAP IN OR NON-COMPRESSING BUTTERFLY CLAMP. NO NYLON OR PLASTIC "ZIP-TIES" WILL BE ALLOWED. COAX MAY BE UNSUPPORTED INSIDE MONOPOLE INSTALLATIONS.
6. NO COAX SHALL BE OUTSIDE THE POLE MORE THAN 20'-0" (UNLESS OTHERWISE DIRECTED). TO GET FROM AN EXISTING PORTHOLE TO ANTENNA HEIGHT IF DISTANCE IS GREATER THAN 20'-0" A NEW 6"x9" PORTHOLE SHALL BE INSTALLED. PORTHOLE SHALL BE INSTALLED PER TOWER MANUFACTURER REQUIREMENTS. NO HOLES WILL BE CUT WITH A TORCH. ALL HOLES WILL BE CUT WITH DIAMOND WHEEL. NO NEW PORTHOLES SHALL BE INSTALLED UNLESS PRIOR WRITTEN APPROVAL IS GIVEN BY "AT&T".

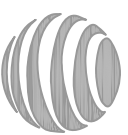


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HIGH CROSSING
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AT&T

NO.	DATE	ISSUED FOR REVIEW	BY	CHK	APP'D
A	03/13/19		YA	EK	SP
SCALE: AS SHOWN		DESIGNED BY: XX	DRAWN BY: XX		

AT&T MOBILITY

GENERAL NOTES

DRAWING NUMBER
WI0196-10

6

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3

2

11 x 17" SITE

EXHIBIT D

License Fee Schedule

	License Year	License Period	Base Antenna Fee*	Additional Equipment Occupancy Area (cu. ft.)**	Additional Fee (per cu. ft.)***	Total Additional Fee	TOTAL LICENSE FEE
Initial Term	1	12/05/2021 - 12/04/2022	\$30,000.00	182.00	\$25.00	\$4,550.00	\$34,550.00
	2	12/05/2022 - 12/04/2023	\$30,900.00	182.00	\$25.75	\$4,686.50	\$35,586.50
	3	12/05/2023 - 12/04/2024	\$31,827.00	182.00	\$26.52	\$4,827.10	\$36,654.10
	4	12/05/2024 - 12/04/2025	\$32,781.81	182.00	\$27.32	\$4,971.91	\$37,753.72
	5	12/05/2025 - 12/04/2026	\$33,765.26	182.00	\$28.14	\$5,121.07	\$38,886.33
	6	12/05/2026 - 12/04/2027	\$34,778.22	182.00	\$28.98	\$5,274.70	\$40,052.92
	7	12/05/2027 - 12/04/2028	\$35,821.57	182.00	\$29.85	\$5,432.94	\$41,254.51
	8	12/05/2028 - 12/04/2029	\$36,896.22	182.00	\$30.75	\$5,595.93	\$42,492.14
	9	12/05/2029 - 12/04/2030	\$38,003.10	182.00	\$31.67	\$5,763.80	\$43,766.91
	10	12/05/2030 - 12/04/2031	\$39,143.20	182.00	\$32.62	\$5,936.72	\$45,079.91
First Renewal Term	11	12/05/2031 - 12/04/2032	\$40,317.49	182.00	\$33.60	\$6,114.82	\$46,432.31
	12	12/05/2032 - 12/04/2033	\$41,527.02	182.00	\$34.61	\$6,298.26	\$47,825.28
	13	12/05/2033 - 12/04/2034	\$42,772.83	182.00	\$35.64	\$6,487.21	\$49,260.04
	14	12/05/2034 - 12/04/2035	\$44,056.01	182.00	\$36.71	\$6,681.83	\$50,737.84
	15	12/05/2035 - 12/04/2036	\$45,377.69	182.00	\$37.81	\$6,882.28	\$52,259.97
Second Renewal Term	16	12/05/2036 - 12/04/2037	\$46,739.02	182.00	\$38.95	\$7,088.75	\$53,827.77
	17	12/05/2037 - 12/04/2038	\$48,141.19	182.00	\$40.12	\$7,301.41	\$55,442.61
	18	12/05/2038 - 12/04/2039	\$49,585.43	182.00	\$41.32	\$7,520.46	\$57,105.89
	19	12/05/2039 - 12/04/2040	\$51,072.99	182.00	\$42.56	\$7,746.07	\$58,819.06
	20	12/05/2040 - 12/04/2041	\$52,605.18	182.00	\$43.84	\$7,978.45	\$60,583.63

* **Base Antenna Fee:** Allows for attachment of up to 100 cu. ft. of Equipment; fee escalates 3%/yr.

** **License Fee based on total Equipment Occupancy Area of 282 cubic feet of air space.**

*** **Additional Fee:** Calculated on a per cu. ft. basis; fee escalates 3%/yr.

EXHIBIT E

(page 1 of 2)

EQUIPMENT MODIFICATION REQUEST FORM

A. GENERAL INFORMATION

1. Date of Request: _____
2. Address: 3518 Cross Hill Drive, Madison, WI 53718
3. City Real Estate Project No.: 7136
4. Licensee's Site Reference Name & Number: _____
5. Full corporate name of Licensee: _____
 - a. Licensee's Corporate Designation: _____
 - b. Licensee Address: _____
 - c. Licensee Contact: _____
 - i. Office Phone: _____
 - ii. Mobile: _____
 - iii. Email: _____

B. SCOPE OF WORK

1. Description of proposed work (Example: Install 3 new radio units, relocate 3 antennas, add 3 tower mounted amplifiers): _____

2. Proposed timeframe for installation activities
 - a. Start date: _____
 - b. Completion date: _____
3. Specific equipment to be used (e.g., man-lift, crane, etc.): _____

4. Specify any potential disturbance or damage to City property and indicate proposed restoration plan and timeline (e.g., landscape disturbance, fence disturbance, etc.): _____

5. (If needed, include additional information as attachment)

C. REQUIRED REPORTS AND STUDIES

The following documents must be submitted to the City along with this Equipment Modification Form:

1. Completed Equipment Inventory Form (attached)
2. Updated Structural Analysis
3. Updated Site Safety/RF Emissions Report
4. Updated Interference Study (if applicable)
5. Construction drawings/plans and specifications of the proposed work, stamped by a professional engineer licensed in the State of Wisconsin
6. Any other information relevant to the proposed equipment modification activities.

Forward completed form and required reports, etc. via e-mail to:

City of Madison – Office of Real Estate Services
Attention: Lance Vest, Real Estate Specialist 2
lvest@cityofmadison.com
Phone: 608-245-5794

