

**Memorandum
Public Works Department**



To: City Manager
Subject: Water Tower Leases
Date: August 4, 2015
Number: 2015-139

SPEEDConnect would like to install high-speed wireless internet on four (4) City water towers located at:

- 36th Street 14th Avenue
- 24th Street 16th Avenue
- 24th Street 31st Avenue
- 38th Street 31st Avenue

Lease agreements have been negotiated for each of the above mentioned water tower locations with an initial term of five (5) years. Each lease will be automatically renewed for four (4) successive five (5) year renewal terms with the following fees:

- \$700 per month for the first year
- 4% annual increases
- \$1,000 landscaping fee per term (every five years)
- \$1,000 one-time administrative fee

Recommendation

The Public Works Department recommends that the City Council direct the City Manager to sign the attached lease agreements with SPEEDConnect to lease antenna space on the City's water towers.

Submitted by: Randall D. Tweet, Public Works Director
Michelle Martin, Assistant to the Public Works Director

Approved by: Thomas Thomas, City Manager

SITE LICENSE AGREEMENT (Municipal Water Tower Attachments)

THIS LICENSE AGREEMENT (the "License"), made this ____ day _____, by and between City of Rock Island, an Illinois Municipal Corporation ("Licensor") and _____ SpeedConnect _____, ("Licensee").

1. License of Premises.

Subject to the terms and conditions of this License and the provisions of Division 76 of Article II of the Illinois Municipal Code (65 ILCS 11-76), Licensor hereby licenses to Licensee on a non-exclusive basis a portion of the real property described on Exhibit A ("the Property") consisting of (a) a ground space area, (b) space on the structure for the installation of antennas and related equipment, and (c) such easements as are necessary for the initial installation as described on attached Exhibit E, and for ingress and egress and the installation of utilities (collectively, the "Premises"). The nature and the extent of the utility installation shall be specified on the site plan and attached as Exhibit E.

2. Term.

- a. The initial term of this License shall be five (5) years (the "Initial Term"), commencing on the date commercial operations commence or ninety (90) days from the day and year first written above whichever first occurs ("Commencement Date").
- b. This License shall be automatically renewed for four (4) successive five (5) year renewal terms ("Renewal Term(s)"), upon the same terms and conditions, unless Licensee notifies Licensor in writing of Licensee's intention not to renew this Agreement at least one hundred and twenty (120) days prior to the expiration of the existing term. The Licensor may terminate agreement upon giving Licensee one hundred and twenty (120) days notice.

3. License Fees.

- a. From and after the Commencement Date, Licensee shall pay Licensor Seven Hundred Dollars (\$700) per month.
- b. The License Fee shall increase annually during the initial and Renewal Term, effective as of each anniversary of the Commencement Date, by an amount equal to four percent (4%) per annum above the amount of the License Fees in effect immediately prior to such increase. The License Fees shall be payable monthly in advance without demand, offset, abatement, diminution or reduction, to Licensor, at Licensor's address specified below or any other person or firm as Licensor may from time to time, designate in writing at least sixty (60) days in advance of any License Fees payment date.
- c. Upon execution of this License, and at the Commencement Date of each Renewal Term, the Licensee will pay Licensor a One Thousand Dollar (\$1,000) landscaping fee.
- d. Licensee shall pay to Licensor a one-time non-refundable administrative fee in the amount of One Thousand Dollars (\$1,000) for the negotiation of this Lease.
- e. All fee payments must have the City of Rock Island lease number on them in order to be processed.

The Premises may be used for (i) the transmission and reception of communications signals within or utilizing such frequency band or frequencies which are within those for which Licensee, or any entity which controls, is controlled by or is under common control with Licensee, is duly licensed by the Federal Communications Commission, and (ii) the attachment, installation, operation, alteration, maintenance, repair, replacement and relocation of any approved antennas and related equipment, cables and facilities and improvements related thereto, and (iii) activities related to any of the foregoing, provided such activities do not require an expansion of the Premises or violate Licensee's duties on non-interference set forth herein.

LICENSOR AND LICENSEE AGREE THAT THE PRIMARY FUNCTION OF THE WATER TOWER IS TO PROVIDE WATER SERVICE TO THE MUNICIPAL WATER CUSTOMERS. SHOULD THE LICENSOR DETERMINE, IN ITS SOLE DISCRETION, THAT THE PERFORMANCE OF THIS AGREEMENT INTERFERES WITH THAT PRIMARY FUNCTION, THE LICENSOR MAY TERMINATE THIS AGREEMENT WITH ONE HUNDRED TWENTY (120) DAYS WRITTEN NOTICE TO LICENSEE. LICENSEE SHALL HAVE THE RIGHT DURING SAID ONE HUNDRED TWENTY (120) DAY PERIOD TO CURE THE INTERFERENCE PROBLEM TO THE SATISFACTION OF THE LICENSOR; PROVIDED, HOWEVER, THAT IF SAID CURE IS NOT ACHIEVED IN THE SOLE JUDGEMENT OF THE LICENSOR, LICENSEE MUST HAVE COMPLETELY VACATED THE TOWER BY THE EXPIRATION OF SAID ONE HUNDRED TWENTY (120) DAY PERIOD. IF LICENSEE DETERMINES, IN ITS SOLE JUDGEMENT, THAT THE OPERATION OF THE TOWER BY LICENSOR IS CREATING INTERFERENCE WITH LICENSEE'S USE AND OPERATION OF ITS FACILITIES AT THE TOWER, LICENSEE MAY TERMINATE THIS AGREEMENT BY GIVING THE LICENSOR ONE HUNDRED TWENTY (120) DAYS WRITTEN NOTICE. LICENSEE'S RIGHT TO TERMINATE THIS AGREEMENT IS SUBJECT TO ALL OF THE TERMS HEREOF REGARDING LICENSEE'S OBLIGATION TO REMOVE EQUIPMENT AND BUILDING AT THE EXPIRATION OR TERMINATION OF THIS AGREEMENT.

4 Installation and Maintenance.

Licensee shall install, construct and maintain the antenna facilities on the Premises at its sole cost and expense in compliance with approved plans and the installation and maintenance criteria listed on the attached Exhibit D.

5. Access.

Licensee and its authorized employees, engineers, technicians, or properly authorized contractors of Licensee or personnel under their direct supervision shall be entitled to twenty-four (24) hour, seven (7) days per week access to the Premises. All access to the Premises by Licensee shall be subject in each instance to the reasonable security requirements and reasonable rules and regulations from time to time in effect at the Property, of which Licensor shall inform Licensee in writing. (Please see attached Exhibit B.) Notwithstanding the foregoing, in the event Licensee requires or requests Licensor or Licensor's representative to be present in order for Licensee to gain access to the Premises outside of Licensor's normal business hours, Licensee will be responsible for any reasonable out-of-pocket costs incurred by Licensor in providing such access to the Premises.

6. Interference.

Licensee further agrees that it will supply Licensor with a twenty-four (24) hour contact phone number, so that in the event that the Licensee's equipment interferes with the normal and proper operation of Licensor's and/or any prior lessee's facilities on the Property, the Licensee be notified. Licensee agrees to install and operate only equipment that does not cause interference to Licensor's or other lessees or licensees of the Property ("Pre-Existing User"); provided that their installations and use predate that of the Licensee's installation. In the event that the Licensee's equipment cause such interference or any permitted subsequent modification or addition causes such interference, Licensee shall take all steps necessary to correct and eliminate the interference. If the interference is substantial then Licensee shall have forty-eight (48) hours to resolve the interference problem. If the interference is substantial and cannot be resolved within 48 hours, Licensee shall power down its equipment and/or cease operations in order to correct and eliminate such interference provided that Licensee may operate its equipment intermittently during off-peak hours for testing purposes only. If the interference is not substantial, Licensee shall work diligently and take all necessary and appropriate action to cure such interference as promptly as possible without having to power down its equipment unless the interference becomes substantial. In all cases of interference if Licensee is unable to eliminate the interference, or reduce it to a level acceptable to the affected Pre-Existing User, within a period of thirty (30) days, then either party may terminate this License. Licensor agrees not to allow any lessee of the Property whose equipment is installed or modified subsequent to Licensee's then current operation of Licensee's equipment ("Subsequent User") to interfere with the operation of Licensee. In the event Licensee is subject to any such interference, Licensor shall (or shall cause other Subsequent Users) take all steps necessary to correct and eliminate the interference. If such interference is not eliminated within forty-eight (48) hours after Licensor's receipt of notice of such interference from Licensee, Licensor shall (or shall cause such other Subsequent User) to cease operations if requested by Licensee until the interference is eliminated. If such Subsequent User is unable to eliminate the interference, or reduce it to a level acceptable to Licensee, within a period of thirty (30) days, then

Licensee may, in addition to any other rights it may have, terminate this License. Nothing in this section shall be deemed or interpreted to authorize Licensee to illegally transmit on any frequencies or to provide any protection to Licensee from interference from any other person in the event that Licensee is operating on any unlicensed frequency spectrum. Licensor shall impose upon future lessees of the Property a similar duty to refrain from interfering with Licensee.

Notwithstanding the provisions contained herein, if Licensee's equipment interferes with Licensor's 911 System, Non emergency radio system, or Fire Rescue Emergency Radio Systems, Licensee shall either cure such interference or shut down its equipment immediately, but in no event later than two (2) hours from notice of such interference, and if Licensee fails to take such action, Licensor may shut down Licensee's equipment and Licensee shall have no recourse against Licensor as a result of such action.

Contact numbers:

7. Assignment.

Licensee will have the right to assign, sell or transfer its interest under this Agreement without the approval or consent of Licensor, to the Licensee's principal, affiliates, subsidiaries, subsidiaries of its principal. Upon notification to Licensor of such assignment, Licensee will be relieved of all future performance, liabilities and obligations under this Agreement.

8. Taxes and Assessments.

Upon presentation of sufficient and proper documentation, Licensee shall pay any and all increased ad valorem and personal property taxes, assessments, charges, fees, or Licenses levied upon the Property and the Premises as a result of Licensee's use thereof.

9. Insurance.

Licensee shall, at Licensee's sole cost and expense, procure and continue in force during the term of this License, including any Renewal Term, the Insurance Policies listed on Exhibit C hereto with the policy limits stated thereon.

10. Release and Hold Harmless.

- a. Licensee hereby releases Licensor, and their respective agents, employees, officers, directors, shareholders and partners (collectively the "Releasees") from, and shall not hold Releasees liable for, any liability for personal injury, consequential damages, loss of income or damage to or loss of property or persons, or loss or use of any property in or about the Premises from any cause whatsoever unless such damage, loss or injury directly results from the negligence or willful misconduct of the Releasees.
- b. Further, the Releasees shall not be liable to Licensee for any such damage or loss to the extent Licensee is compensated or would have been compensated by the insurance which Licensee is obligated to maintain pursuant to Section 11. Licensee agrees to indemnify, defend and hold Releasees harmless from and against injury, loss, damage or liability (or any claims in respect of the foregoing), costs or expenses (including reasonable attorneys' fees and court costs) which may arise or be imposed upon or incurred by or asserted against Releasees occurring during the term of this License, or during any period of time when Licensee is conducting business activity on the Premises pursuant to this Agreement, whether before the Commencement Date hereof or after the expiration date hereof, arising from:
 - (i) any work or act done in, on or about the Premises or any part thereof, including the installation, use, maintenance, repair or removal of the antenna facilities, at the direction of Licensee, its agents, contractors, subcontractors, servants, employees, Licensees invitees, except if such work or act is done or performed by Licensor or its agents or employee;

- (i) any negligence or other wrongful act or omission on the part of Licensee or any of its agents, contractors, subcontractors, servants, employees, subtenants, invitees, or Licensees;
- (ii) any accident, injury or damage to any person or property occurring in, on or about the Premises or any part thereof, unless caused by the negligence or willful misconduct of Licensor, its employees or agents; and
- (iii) any failure on the part of Licensee to perform or comply with any of the covenants, Licenses, terms, provisions, conditions or limitations contained in this License on its part to be performed or complied with.

c. Licensor agrees to indemnify, defend and hold Licensee harmless from and against any and all injury, loss, damage or liability (or any claims in respect of the foregoing), costs or expenses (including reasonable attorneys' fees and court costs) arising from any willful act or omission or the negligence of Licensor or its employees or agents, or the breach of this Agreement, except to the extent attributable to the negligence or intentional act or omission of Licensee and except to the extent that the licensor would be immune under the Illinois Municipal Tort Immunity Act, its employees, agents or independent contractors.

11. Removal of the Equipment Upon Termination.

Following any termination or expiration of this License, Licensee shall remove all of its equipment. Footings, foundations, and concrete will be removed to a depth of one (1) foot below grade. In performing such removal, Licensee shall restore the Premises and any personal property and fixtures thereon to as good a condition as they were prior to the installation or placement of the equipment, reasonable wear and tear excepted. If Licensee fails to remove such equipment within sixty (60) days after expiration or earlier termination of this License, Licensor may, upon thirty (30) days prior written notice to Licensee, remove and dispose of the equipment and Licensee shall reimburse Licensor for the costs of such removal and restoration of the Premises. Moreover, Licensor may, after said thirty (30) day notice, deem the equipment abandoned in which event the equipment shall become Licensor's property.

12. Hazardous Substances.

Licensee agrees that it will not use, generate, store or dispose of any Hazardous Material on, under, about or within the Premises in violation of any law or regulation. Licensor represents, warrants and agrees (1) that to Licensor's best knowledge, neither Licensor nor any third party has used, generated, stored or disposed of, or permitted the use, generation, storage or disposal of, any Hazardous Material on, under, about or within the Premises in violation of any law or regulation, except as disclosed herein, and (2) that Licensor will not, and will not permit any third party to use, generate, store or dispose of any Hazardous Material on, under, about or within the Premises in violation of any law or regulation. Licensor and Licensee each agree to defend, indemnify and hold harmless the other and the other's partners, affiliates, agents and employees against any and all losses, liabilities, claims and/or costs arising from any breach of any representation, warranty or License contained in this paragraph. In addition, Licensor shall defend, indemnify and hold harmless Licensee from all other losses, liabilities, claims and/or costs arising from or related to the environmental condition, including costs of remediation, which are not the result of any act of Licensee. As used in this paragraph, "Hazardous Material" shall mean hazardous or radioactive material, polychlorinated biphenyls, friable asbestos or other hazardous or medical waste substances as defined by the Comprehensive Environmental Response, Compensation and Liability Act, as amended, or by any other federal, state or local law, statute, rule, regulation or order (including any Governmental Requirements) concerning environmental matters, or any matter which would trigger any employee or community "right-to-know" requirements adopted by any such body, or for which any such body has adopted any requirements for the preparation or distribution of a material safety data sheet. This paragraph shall survive the termination of this License.

13. Termination by Licensee.

Provided Licensee is not in default hereunder, Licensee shall have the right to terminate this License after the Initial Term without cause by giving Licensor at least one hundred and eighty (180) days prior written notice and Licensee shall not be required to make any further payment of License Fees.

14. Utilities.

Licensee shall contract directly with the local utility company to install a separate utility meter(s) for its utility service(s) and Licensee shall pay all costs related to such installation(s) and utility service(s). The utility meter(s) will be required to use remote read technology at the cost of the licensee.

15. Notices.

All notices, demands, requests and other communications hereunder shall be in writing either personally delivered or mailed, via certified mail, return receipt requested, or sent by overnight courier to the following addresses:

If to Licensor, to:

City of Rock Island
ATTN: City Manager
1528 Third Avenue
Rock Island, IL 61201

With a copy to:

City of Rock Island
Public Works Department
c/o Public Works Administration
1309 Mill Street
Rock Island, IL 61201

If to the Licensee, to:

SpeedConnect, LLC
Attn: Tony Jaboro/Leigh Ann Spellman
455 North Main Street
Frankenmuth, MI 48734
(866) 297-2900

With a copy to:

Leigh Ann Spellman
Contracts Manager
1015 Central Ave Ste C
Kearney, NE 68845

Notices will be deemed to have been given upon either receipt or rejection. Unless or until either of the respective addresses is changed by notice in writing sent to the other party as set forth above, thereafter to the address

contained in such notice. Any notice herein, which is required by Licensor, may be given by City's designated Manager and shall be deemed effective for all purposes herein.

16. Marking and Lighting Requirements.

Licensee shall construct, install and maintain the antenna facilities at the Premises in compliance with all marking and lighting requirements of the Federal Aviation Administration ("FAA") and the Federal Communications Commissions ("FCC"). Licensee shall hold harmless Licensor against any penalty or citation resulting from Licensee's failure to maintain required lighting of its equipment, unless such failure is the result of Licensor's gross negligence or willful misconduct.

17. Default and Right to Cure.

The following will be deemed a default by Licensee and a breach of this Agreement: (i) non-payment of the License Fee if such License Fee remains unpaid for more than thirty (30) days after receipt of written notice from Licensor of such failure to pay; or (ii) Licensee's failure to perform any other term or condition under this Agreement within forty-five (45) days after receipt of written notice from Licensor specifying the failure. If Licensee remains in default beyond any applicable cure period, Licensor will have the right to exercise any and all rights and remedies available to it under law and equity.

18. Warranties.

Licensee and Licensor each acknowledge and represent that it is duly organized, validly existing and in good standing and has the right, power and authority to enter into this Agreement and bind itself hereto through the party set forth as signatory for the party below.

Licensor represents and warrants that: (i) Licensor solely owns the Property as a legal lot in fee simple, or controls the Property and structure by lease or license; (ii) the Property is not encumbered by any liens, restrictions, mortgages, covenants, conditions, easements, leases, or any other agreements of record or not of record, which would adversely affect Licensee's permitted use and enjoyment of the Premises under this Agreement; (iii) as long as Licensee is not in default then Licensor grants to Licensee sole, actual, quiet and peaceful use, enjoyment and possession of the Premises; (iv) Licensor's execution and performance of this Agreement will not violate any laws, ordinances, covenants or the provisions of any mortgage, lease or other agreement binding on the Licensor; and (v) if the Property is or becomes encumbered by a deed to secure a debt, mortgage or other security interest, Licensor will use best efforts to provide promptly to Licensee a mutually agreeable Subordination, Non-Disturbance and Attornment Agreement.

19. Condemnation.

In the event Licensor receives notification of any condemnation proceedings affecting the Property, Licensor will provide notice of the proceeding to Licensee within forty-eight (48) hours. If a condemning authority takes all of the Property, or a portion sufficient, in Licensee's reasonable determination, to render the Premises unsuitable for Licensee, this Agreement will terminate as of the date the title vests in the condemning authority. The parties will each be entitled to pursue their own separate awards in the condemnation proceeds, which for Licensee will include, where applicable, the value of its Communication Facility, moving expenses, prepaid License Fees, and business dislocation expenses, provided that any award to Licensee will not diminish Licensor's recovery. Licensee will be entitled to reimbursement for any prepaid License Fee on a prorata basis.

20. Casualty.

Licensor will provide notice to Licensee of any casualty affecting the Property within forty-eight (48) hours of the casualty. If any part of the antenna facilities or Property is damaged by fire or other casualty so as to render the Premises unsuitable, in Licensee's sole determination, then Licensee may terminate this Agreement by providing written notice to the Licensor, which termination will be effective as of the date of such damage or destruction. Upon such termination, Licensee will be entitled to collect all insurance proceeds payable to Licensee on account thereof and to be reimbursed for any prepaid License Fee on a prorata basis.

21. Waiver of Licensor's Liens.

Licensor waives any and all lien rights it may have, statutory or otherwise, concerning the antenna facilities or any portion thereof. The antenna facilities shall be deemed personal property for purposes of this Agreement, regardless of whether any portion is deemed real or personal property under applicable law, and Licensor consents to Licensee's right to remove all or any portion of the antenna facilities from time to time in Licensee's sole discretion and without Licensor's consent.

22. Miscellaneous.

- a. For the purpose of providing constructive notice hereof, Licensor and Licensee hereby agree to execute a Memorandum of License in recordable form and Licensee shall have same recorded in the land records of the appropriate county and state.
- b. If any term of this License is found to be void or invalid, such invalidity shall not affect the remaining terms of this License, which shall continue in full force and effect.
- c. Failure of Licensor to insist on strict performance of any of the conditions or provisions of this License, or to exercise any of Licensor's rights hereunder, shall not waive such rights.
- d. This License shall be governed by and construed in accordance with the laws of the state in which the Premises are located and jurisdiction and venue shall be in Rock Island County, Illinois.
- e. This License constitutes the entire license and understanding of the parties and supersedes all offers, negotiations and other licenses, including that certain _____ between Licensor _____ dated _____, regarding the Property. There are no representations or understandings of any kind not set forth herein. Any amendment to this License must be in writing and executed by both parties.
- f. The terms and conditions contained in this Agreement will run with the Property and bind and inure to the benefit of the parties, their respective heirs, executors, administrators, successors and assigns.

[SIGNATURES APPEAR ON PAGE IMMEDIATELY FOLLOWING.]

IN WITNESS WHEREOF, the parties hereto have executed this License as of the date aforesaid.

LICENSOR:

CITY OF ROCK ISLAND

BY: _____

NAME: Thomas Thomas

TITLE: City Manager

DATE: _____

FEDERAL TAX I.D. NO.: 36-6006077

LICENSEE:

SpeedConnect, LLC

BY: _____

NAME: John Ogren

TITLE: CEO

DATE: _____

EXHIBIT "A"

PROPERTY

The Property known as: Water Tower, 36th Street 14th Avenue, Rock Island, Illinois 61201.

EXHIBIT "B"

WATER TOWER ACCESS GUIDELINES

Following the World Trade Center incident on September 11, 2001, the Department of Homeland Security identified potable water infrastructures as being susceptible to terrorism. Numerous steps have been taken to ensure the safety of our drinking water infrastructure including, but not limited to, modification of storage tower access ladders, security fencing, tamper proof locks, etc.

The City of Rock Island has implemented the following guidelines for accessing water tower facilities:

In the event a City employee needs access to the water tower, the following procedures must be followed:

1. All City employees must notify RICOMM prior to entering any water tower facility (309-732-2511). RICOMM will keep a log of this activity.
2. The employee must state their name, department, and a brief description as to the nature of their business to the on-duty operator at RICOMM.
3. Upon completion of the work and after securing the premises, the employee must notify RICOMM that they are vacating the water tower facility.

In the event a contractor needs access to the water tower, the following procedures must be followed:

1. A new contractor must contact the Police Booking Custodian (309-732-2525) with the City of Rock Island Police Department, 316 16th Street, Rock Island, Illinois, during normal business hours (7:45 a.m. to 10:45 p.m.) to apply for a Water Tower Access Permit.

If a contractor has not been approved for a Tower Access Permit and needs access to the water tower facilities after the Police Department's normal business hours, the contractor must contact RICOMM (309-732-2511) and RICOMM will send an officer to stand-by at the water tower facility while the contractor is present.

2. The contractor will be required to complete a series of paperwork including, but not limited to, a clearance check, scope of work statement on company letterhead, estimate of time on site, a list of names and date of birth for employees that will be on site, a "Liable for Damage" form/contract, access guidelines, etc.
3. A photo ID will be issued by the City of Rock Island Police Department that must be kept on the person at all times while on site.
4. The Police Department will issue the contractor a key to the water tower facilities upon satisfactory completion of this paperwork and clearance check.
5. The contractor will be required to check the key out at the beginning of each workday.
6. The key can be checked out for a period not to exceed 12 hours. If more time is needed, the contractor must notify the City of Rock Island's Police Department and request additional time.
7. The key must be returned to the Police Department within 30 minutes of the contractor leaving the site.

In the event that the key is not returned or is lost, the contractor and/or company will pay the City of Rock Island \$2,000. Another key will not be issued until the \$2,000 is paid in full.

8. In the event a contractor needs to utilize the services of another contractor, a list of the names, sex/race, and dates of birth of the contractors must be submitted to the City of Rock Island Police Department 48 hours in advance for a clearance check. A permitted employee from the primary contractor must be on site with the sub-contractor at all times.

EXHIBIT "C"

INSURANCE REQUIREMENTS

The Licensee may not use the premises or commence work until it has obtained all insurance required under this Exhibit C and until the insurance has been approved by the owner in its reasonable discretion. The Licensee may not allow any contractor or subcontractor to commence work on his or her contract or subcontract until all similar insurance required by the contractor or subcontractor has been so obtained and approved. Insurance required consists of the following:

- (a) Worker's Compensation Insurance for all of the Licensee's employees engaged in work at the work site. Licensees will guarantee that all contractors and subcontractors shall obtain Worker's Compensation Insurance for their employees.
- (b) Public Liability and Property Damage Insurance with Licensor named as an additional insured taken out and maintained for the duration of the contract by the Licensee, contractor pursuant to Licensee's indemnity obligations hereunder. The amounts of insurance must be at least as follows:
 - (i) Public Liability Insurance. Not less than two million dollars (\$2,000,000) for injuries including wrongful death to any one person and subject to the same limits for each person, in an amount not less than two million dollars (\$2,000,000) on account of one accident.
 - (ii) Property Damage Insurance. Not less than two million dollars (\$2,000,000).
 - (iii) All insurance acquired under the terms of this article must be obtained through an insurance company authorized to do business in the State of Illinois, and certificates of insurance must be filed with the City Clerk on January 1st of each year of the agreement.

EXHIBIT "D"

INSTALLATION AND MAINTENANCE CRITERIA

- A. Licensee shall, at Licensee's expense, keep and maintain the Premises in a commercially reasonable condition and repair during the term of this License. Licensee agrees to maintain the antenna facilities in proper operating condition and within industry accepted safety standards. All installations and operations in connection with this License by Licensee must be in compliance with all federal, state, and local laws, codes and regulations, including but not limited to local zoning requirements. Licensor assumes no responsibility for the licensing, operation and/or maintenance of the antenna facilities. Licensee shall comply with all of the terms of its FCC License.
- B. Prior to installing or allowing any antenna facilities to be installed in or on the Premises, Licensee shall submit detailed engineering plans and specifications of the planned installation to Licensor, with an additional copy to the City's designated Manager for Licensor's written approval, which approval shall not be unreasonably withheld or delayed. Licensor's review of Licensee's plans shall include a review of the appearance of the planned installation. Licensor's approval of any installation is not a representation that such installation of the antenna facilities is in compliance with all applicable laws, ordinances, rules and regulations or that it will not cause interference with other communications operations on the Property. All construction activities must have prior approval and supervision of the City of Rock Island Public Works Department. Licensee will notify Licensor to arrange a mandatory pre-construction meeting on the site. No work shall begin on the site until after this pre-construction meeting.
- C. All installation and other work to be performed by Licensee hereunder will be done in such a manner so as not to interfere materially with, delay, or impose any additional expense upon Licensor in maintaining the Premises. In no event will Licensor be required to consent to any installation or other work by Licensee, which would, in Licensor's sole judgment, adversely affect any part of the Premises. All cable runs, conduit and sleeving shall be installed in a good workmanlike manner. Cables and transmission lines shall be routed and attached in accordance with current, state of the art, industry practices. The antenna facilities shall be identified with permanently marked, weather proof tags at the following locations: (i) each antenna bracket; (ii) at the transmission line Premises entry point; (iii) at the interior wall feed through or any other transmission line exit point; and (iv) at any transmitter combiner, duplexer, or multifed receive port. In addition, all Licensee telephone blocks, demarcs, and cables shall be clearly identified with the Licensee's name, type of line, and circuit number.
- D. Licensee shall at all times obtain and maintain any Licenses, permits, and approvals necessary for the installation or operation of the antenna facilities at its sole cost and expense.
- E. Licensee shall install a solid cedar fence around all outside ground equipment. This fence must visually hide the outside ground equipment from the right-of-way and private property owners. Inside the cedar fence there must contain a vegetation barrier to prevent unsightly vegetation growth.
- F. If the Licensee installs a pre-fabricated building to enclose its ground equipment it must seek prior approval from the City of Rock Island.
- G. Licensee shall abide by the "Installation Guidelines for Small Antenna Systems on Water Tanks", unless they have written approval to deviate from those guidelines.

EXHIBIT "D"

(Continued)

COMMUNICATIONS EQUIPMENT

1. The Tower shall contain the antennas, antenna mounts, and associated wiring and cabling as listed on the antenna specifications.

EXHIBIT "E"

SITE PLAN

**Licensors have not yet approved the Site Plan.
The Site Plan must be inserted by Licensee and is subject to Licensor's approval.**



Utility Service Co., Inc.

535 General Courtney Hodges
Blvd.

P. O. Box 1350, Perry GA 31069
PH: (478) 987-0303
FAX: (478) 987-1085

Installation Guidelines for Small Antennae Systems on Water Tanks

Utility Service Communications Co., Inc. (USCCI) is part of the Utility Service Group, as is Utility Service Co., Inc. (USCI). While USCI focuses on quality maintenance, inspection, and repair of water tanks, USCCI deals only with antennae installations on water tanks. Both groups have together developed guidelines for the proper installation of coax runs, antenna mounts, tank penetrations, etc. These guidelines were developed around four key goals:

- Assure coating system is accessible for inspection and maintenance (6" minimum clearance)
- Prevent unnecessary corrosion
- Provide safe and efficient access for personnel and equipment
- Protect Structural Integrity

Through our years of experience in maintaining thousands of tanks across the country, and in designing and installing wireless systems on water tanks, it is obvious that the only acceptable method of mounting coax and antennae on a water tank by utilizing attachments which are full seal welded to the structure. Full seal welded attachments require specialized skilled labor, and the welding will damage the coating system both on the exterior and interior of the tank, therefore requiring repair. Because of these factors, full seal weld designs are typically more expensive to install, and are therefore sometimes discouraged by the wireless companies in an effort to save construction costs. However, they are the most cost effective for the wireless companies as they typically don't require removal of the equipment during maintenance. And, this method is best for the tank and the tank owner as it meets the goals listed above.

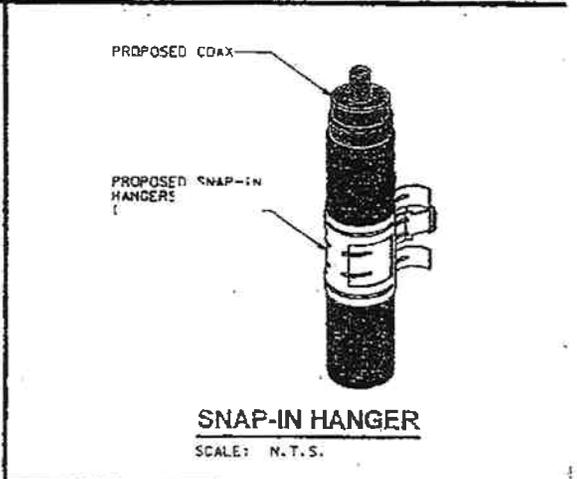
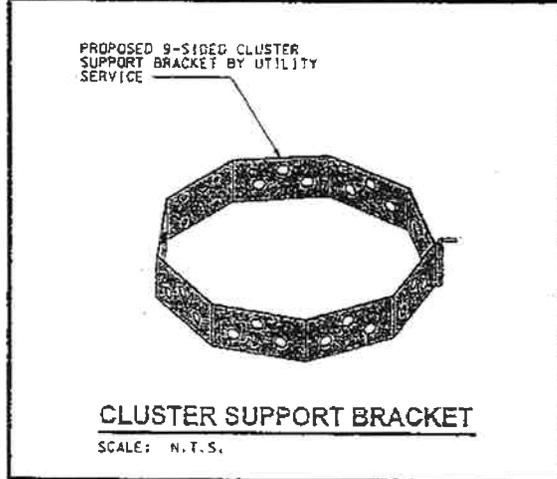
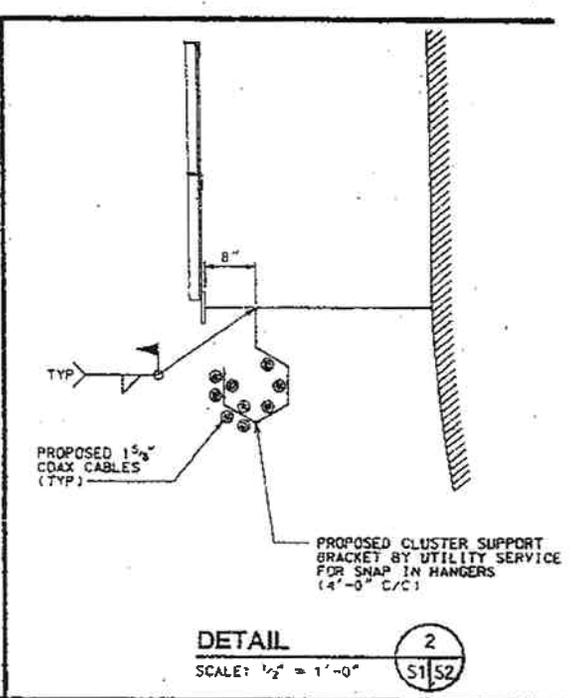
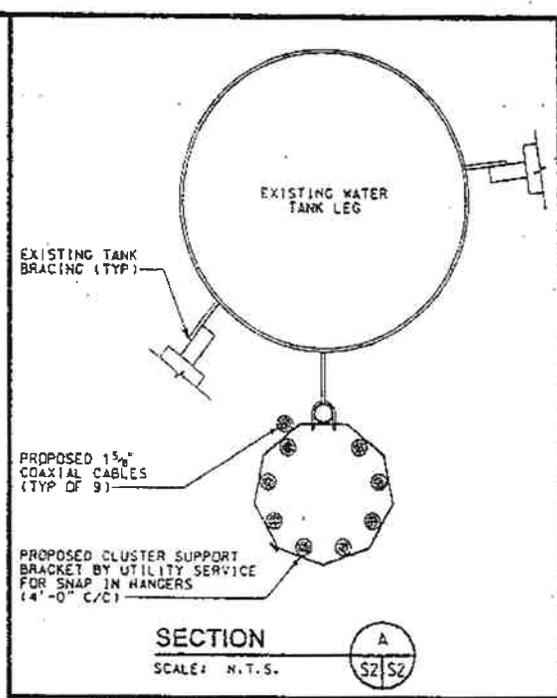
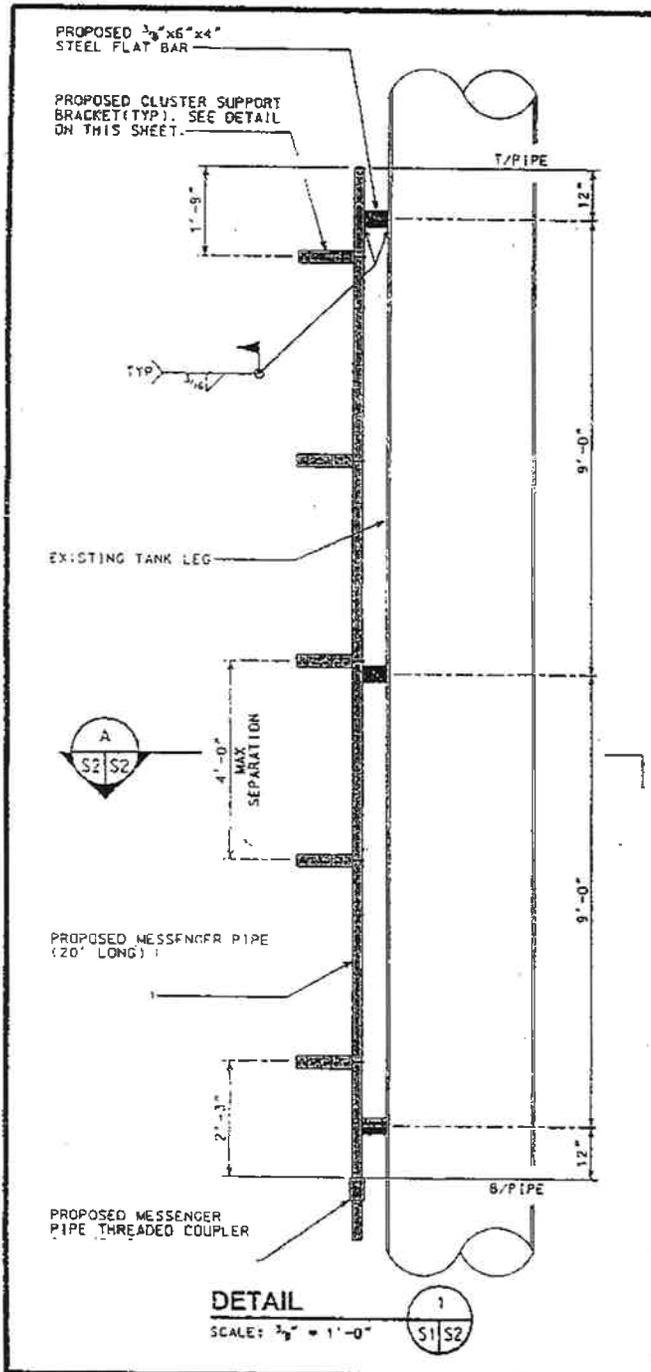
We do not approve other methods of installation, such as stud-welding, stitch welding, epoxy gluing, strapping, clamping, bolting, etc. All of these methods have been proven to present challenges in at least one, and often in more, of the four goals listed above. Feel free to contact us for more explanation.

If any significant wind loads are added on the roof of the tank, it is recommended that a gross structural analysis be performed to assure the structural integrity of the tank with the additional loading.

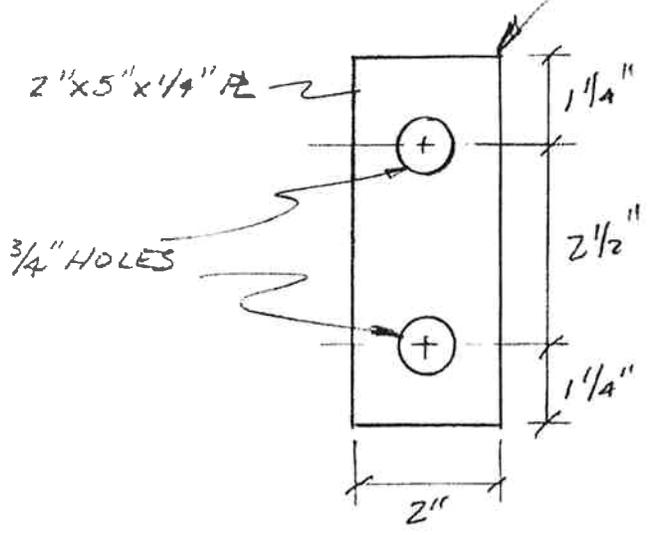
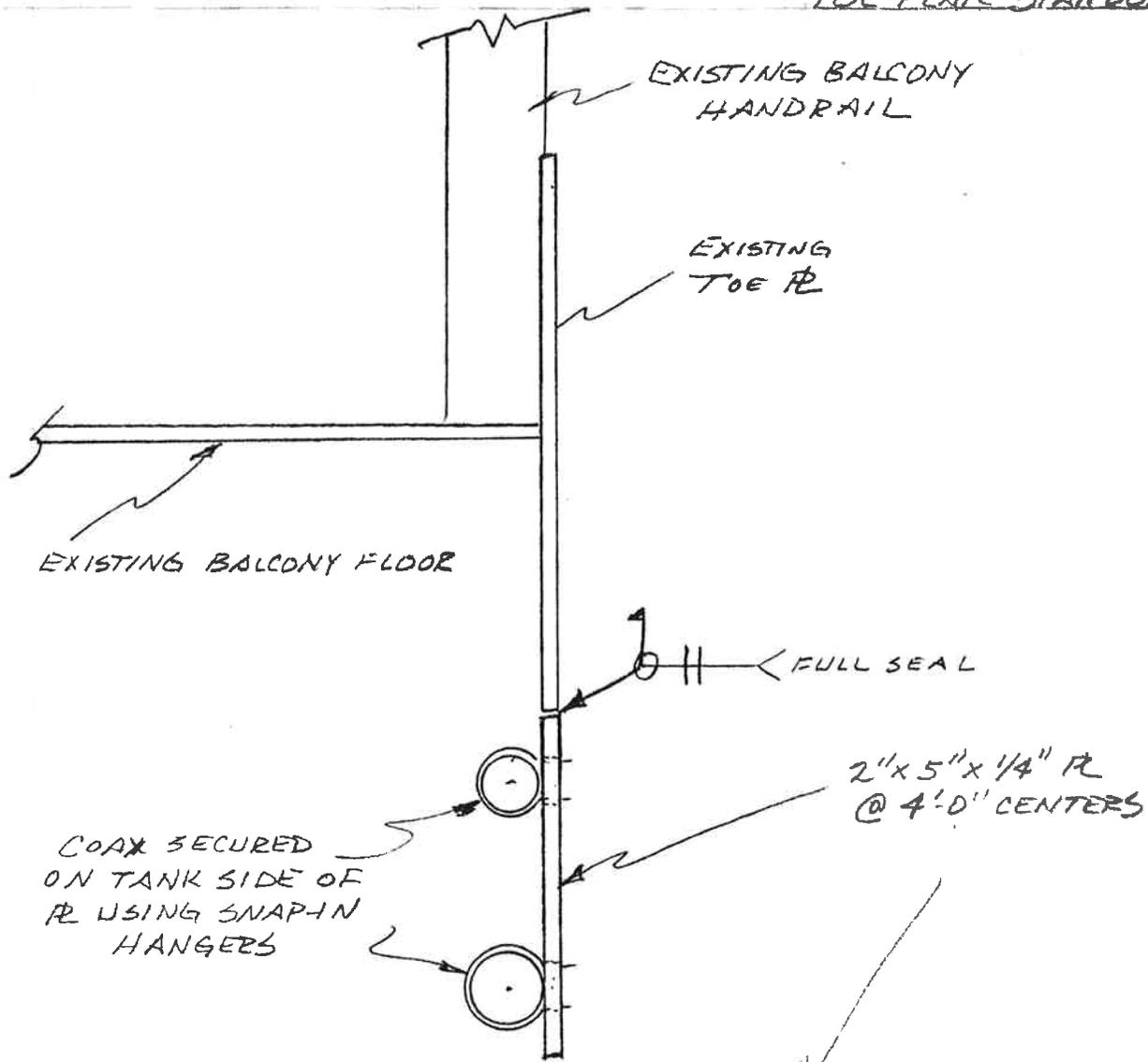
Attached are some details of recommended standoffs and mounts for smaller antenna systems.

Details

- Messenger Pipe and J-Cluster: The preferred method of routing coax from the ground to upper levels of the tank is via a messenger pipe system. This messenger pipe should always be installed on the inside face of the leg to avoid interference with staging during maintenance. If only one or two coax are used, then the cluster brackets can be omitted and the coax secured directly to the outside of the 2" pipe with heavy duty wire ties. This saves costs up front, but still allows future use of cluster brackets if expansion is necessary. The J-Clusters used underneath the balcony are only needed if more than 2 coax are routed along the balcony. If 2 or less coax are used, then the Toe Plate Standoffs can be used instead.
- Toe Plate Standoffs: These standoffs are used to support the weight and wind load of 1-2 coax which must be routed around the perimeter of the balcony. The coax should always be secured on the inside face of the standoffs so that the coax will not interfere with rigging for future maintenance activities.
- Balcony Penetration: Whenever antennae must be mounted on the roof of the tank, then routing the coax to the roof requires a penetration in the balcony. It is very important that the penetration reinforcement be full seal welded top and bottom, and that the cutout for the penetration does not occur closer than 4" from the tank wall. Also, the penetration should be narrow enough to minimize any impendence with safe access around the balcony.
- 10" coax standoff brackets: These brackets are to be welded directly to the tank shell from the balcony to the roof antenna location at 4 ft. intervals. Snap-in hangers are used to secure the coax to the brackets. These brackets can handle up to 4 coax if regular snap-ins are used, or up to 8 coax if 'snap-stack' hangers are used.
- Single antenna roof mount: This mount is designed for a single antenna to be mounted. The gussets should be positioned as shown to prevent water from pooling around the pipe. The mount should not be installed within 3 feet of the vent so that adequate access is maintained for future vent maintenance activities. If several antennae are planned, then a custom corral type mount should be investigated rather than cluttering the roof of the tank with several single mounts.
- Handrail/Catwalk Antenna Mount: The elevation of the midpoint of the antenna should be near the mid-rail of the balcony handrail. This is to avoid offset wind loads which can create structural problems on the balcony. It is important to know that the balcony's primary function is as a reinforcement of the tank itself. If other elevations are needed for a balcony antenna mount, a structural analysis is necessary to determine necessary bracing and supports.



TOE PLATE STANDOFFS ✓



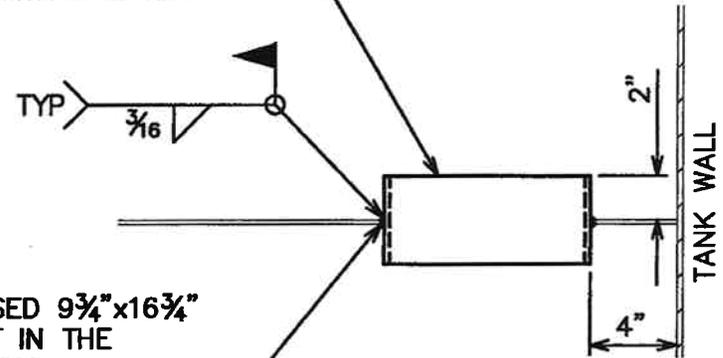
NOTE:

1. PRIOR TO PERFORMING THE CUTOUT IN THE CATWALK PLATE, THE CONTRACTOR SHALL VERIFY THE CUTOUT IS A CLEAR DISTANCE FROM ANY SUPPORT BENEATH THE CATWALK.

PROPOSED 9"x16"x4"x $\frac{1}{4}$ "
TOE BOARD PENETRATION
FRAME BY MTS WIRELESS
(P/N: WT-PFS) OR APPROVED
EQUAL



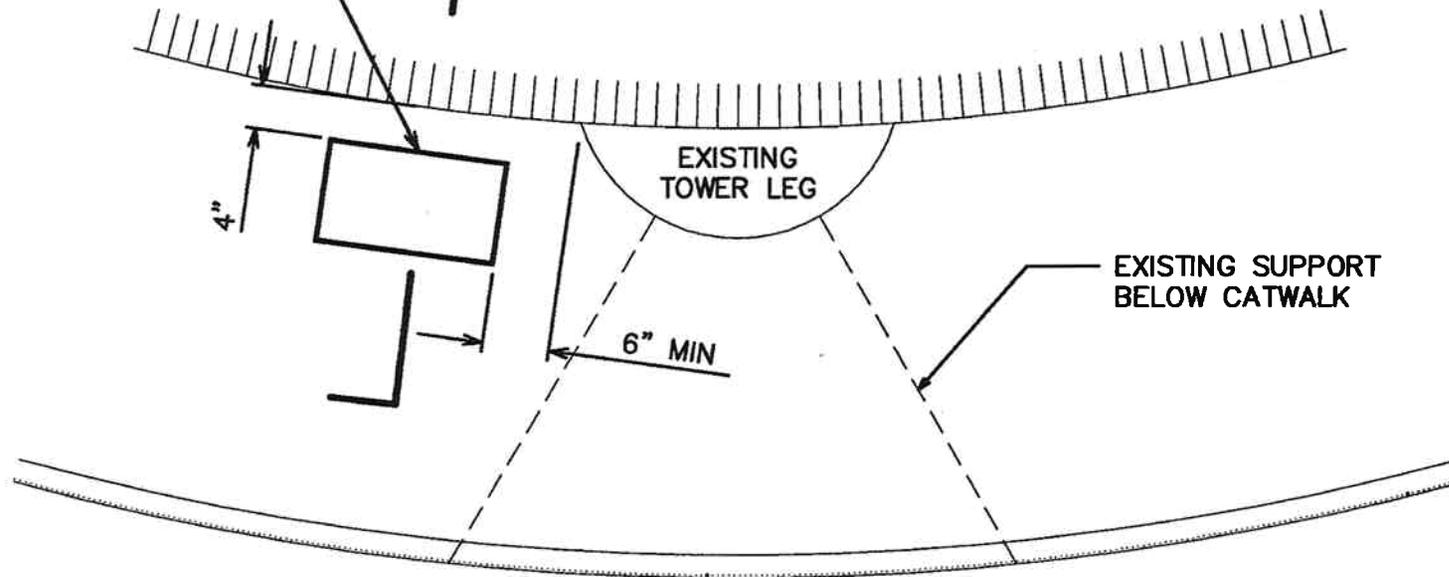
PROPOSED TOE BOARD
PENETRATION FRAME



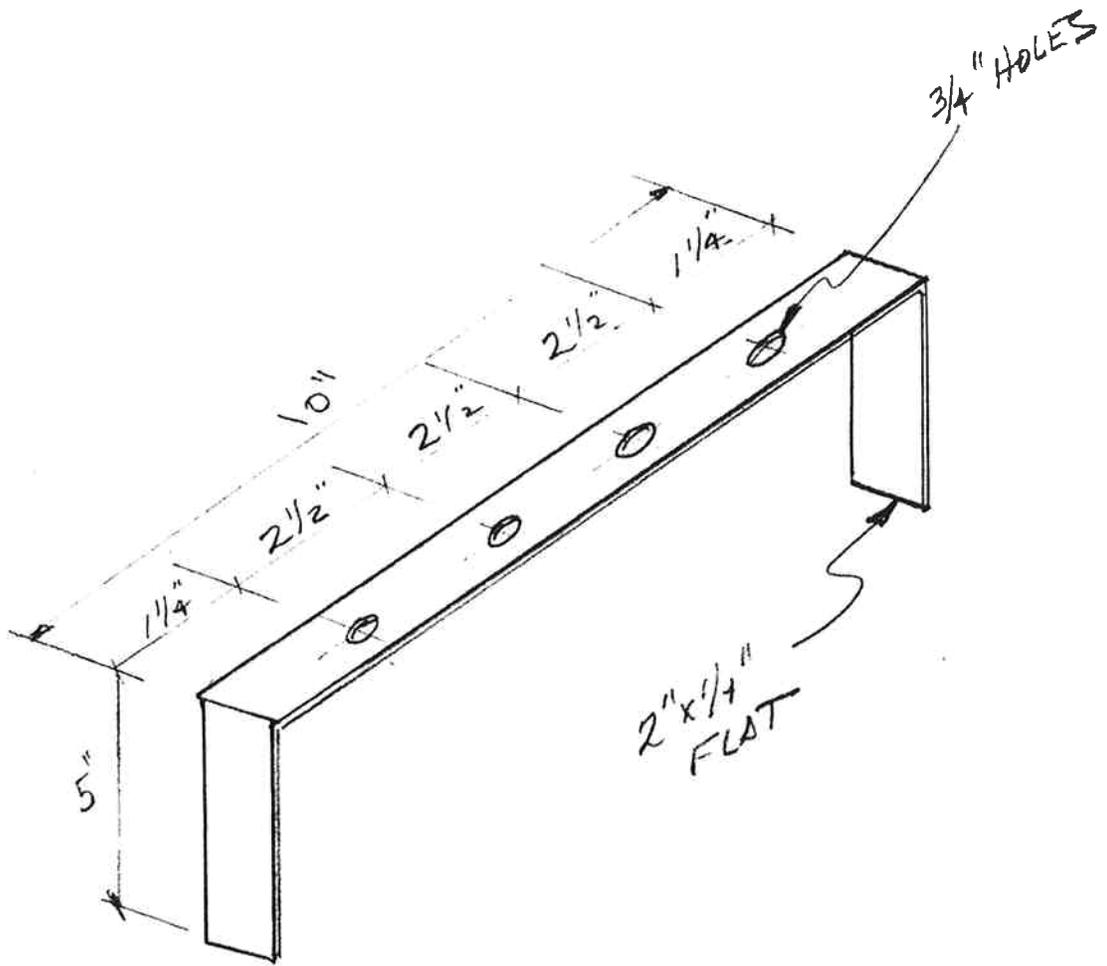
PROPOSED 9 $\frac{3}{4}$ "x16 $\frac{3}{4}$ "
CUTOUT IN THE
PLATFORM

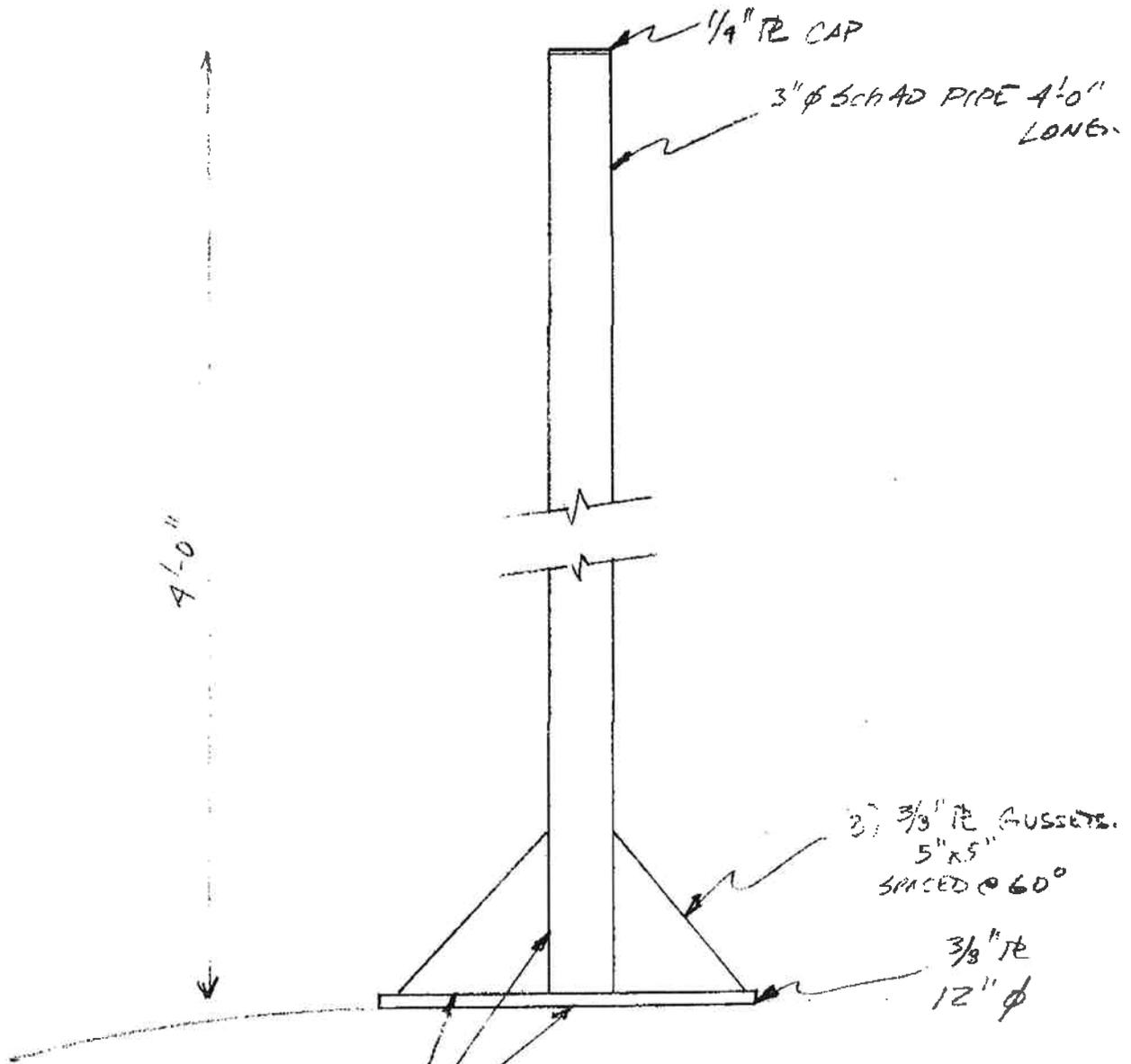
SECTION

SCALE: 1" = 1'-0"



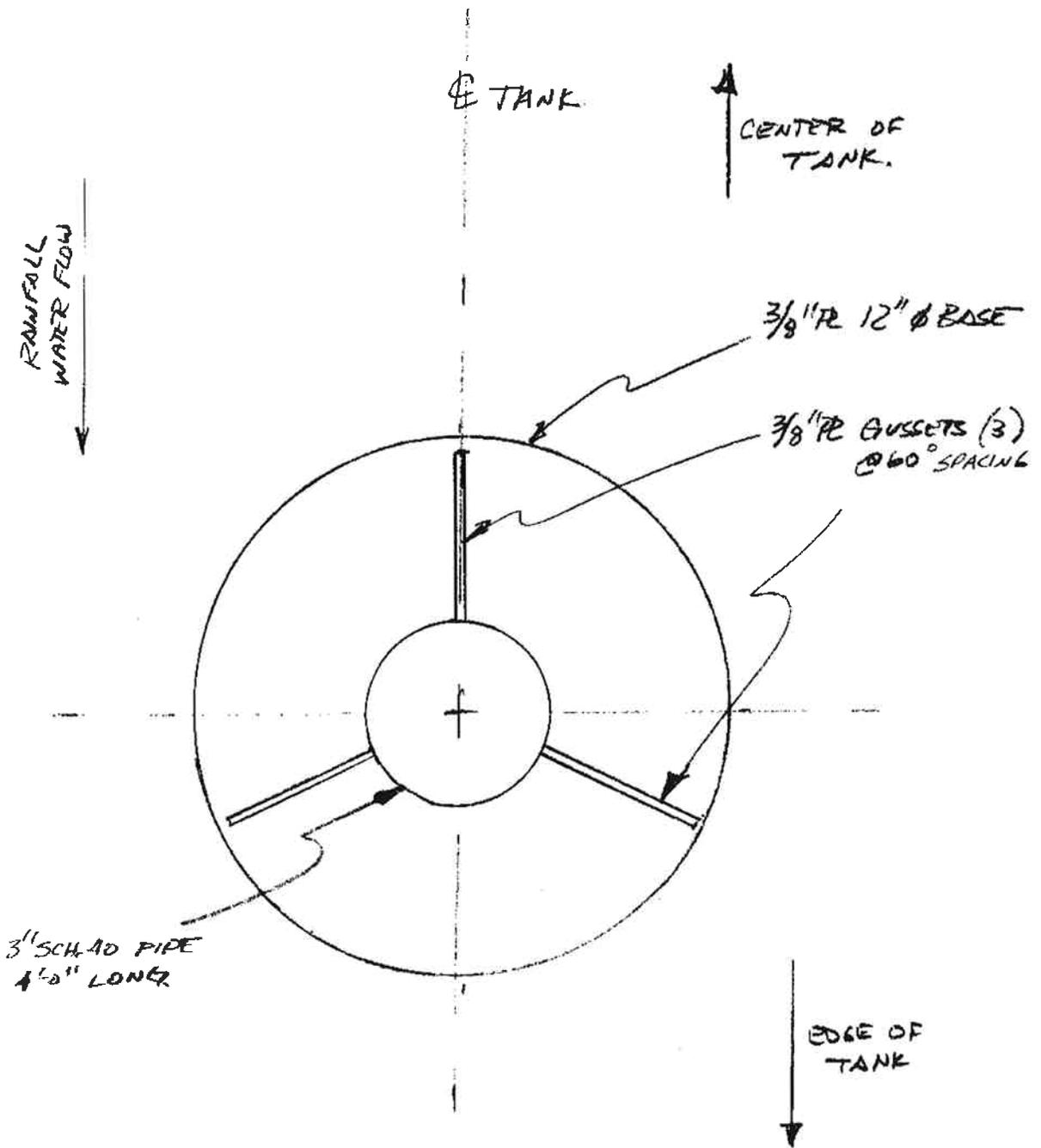
COAX STANDOFF BRACKET - 10"



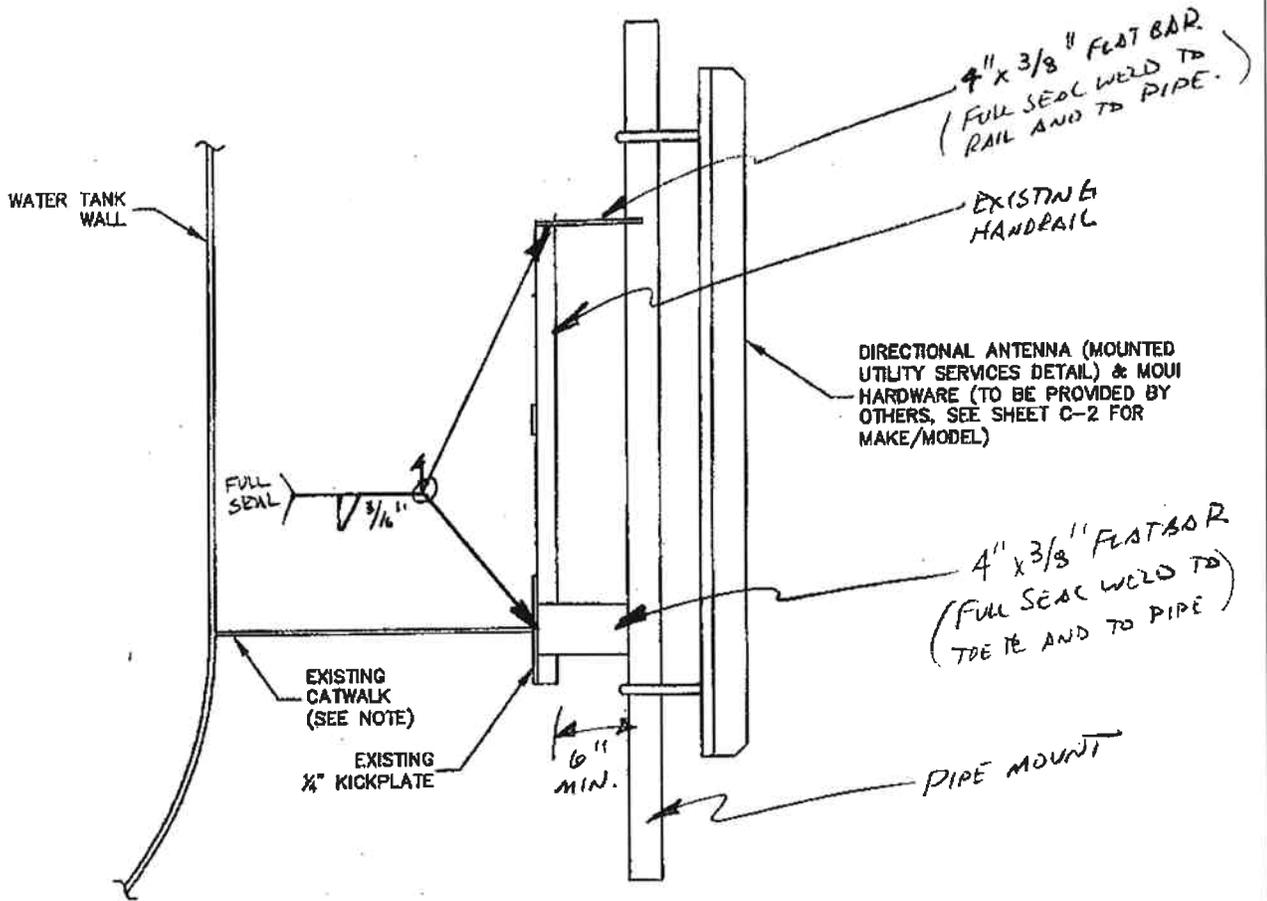


FULL SEAL
TID.
3/16
3/16

* FIELD TRIM BOTTOM OF PIPE AND BOTTOM EDGE OF GUSSETS TO ALLOW FOR SLOPE OF ROOF. PIPE MUST BE PLUMB.
** SEE PAGE 2 FOR GUSSET PLACEMENT.

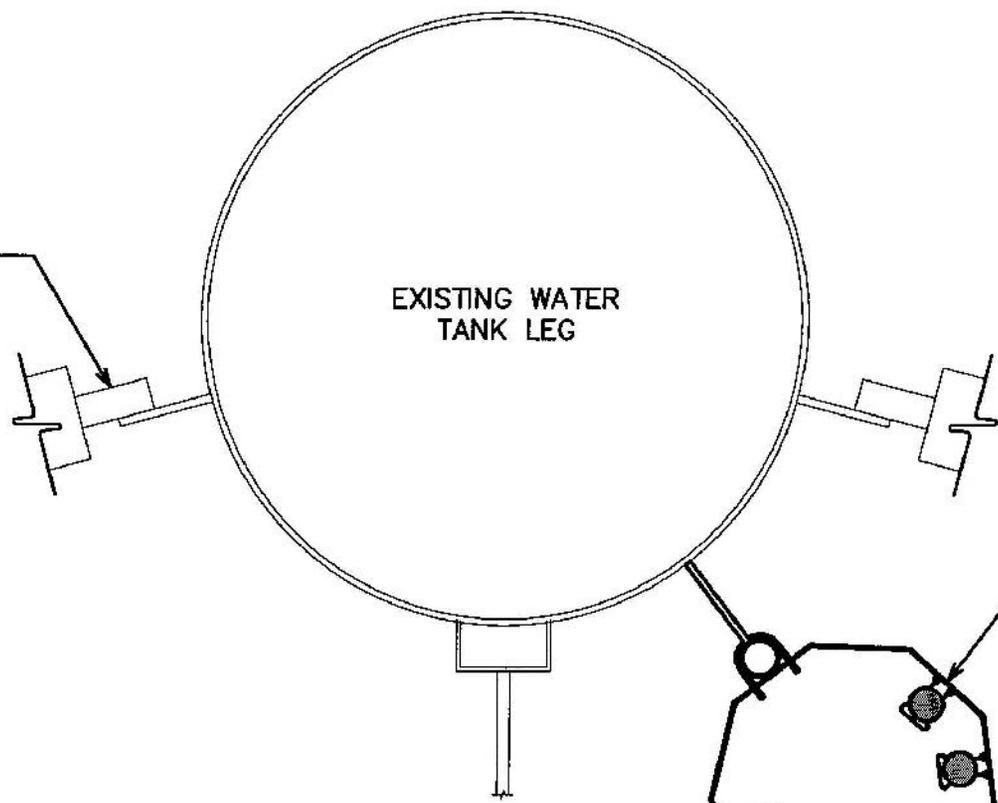


GUSSET ORIENTATION



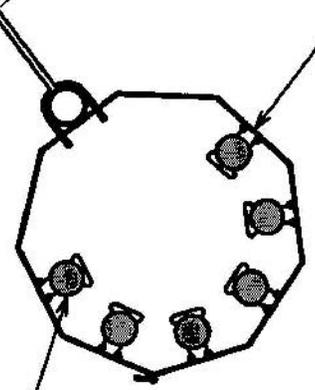
CATWALK ANTENNA MOUNT DETAIL

EXISTING TANK BRACING (TYP)



EXISTING WATER TANK LEG

PROPOSED CLUSTER SUPPORT BRACKET BY UTILITY SERVICE FOR SNAP-IN HANGERS (4'-0" C/C)



PROPOSED COAXIAL CABLES BY OTHERS

PROPOSED $\frac{3}{8}$ "x6"x4"
STEEL PLATE

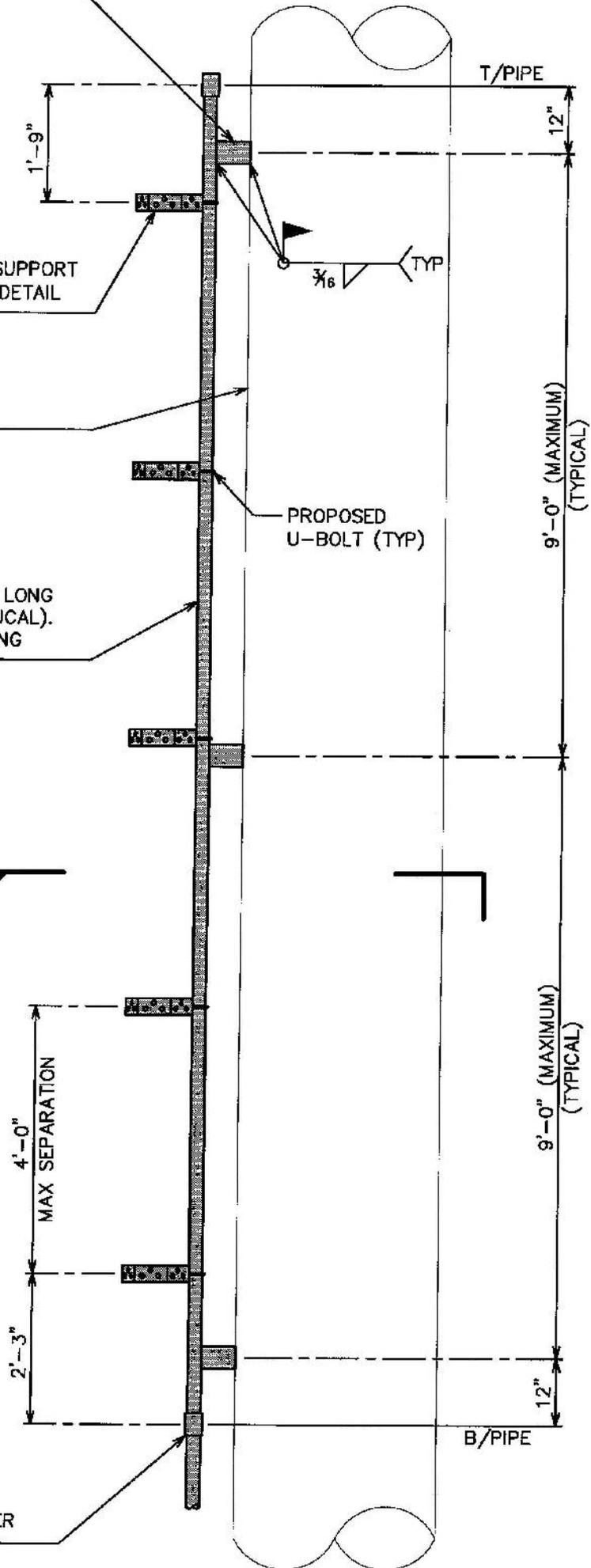
PROPOSED CLUSTER SUPPORT
BRACKET (TYP). SEE DETAIL
THIS SHEET.

EXISTING TANK LEG

PROPOSED $2\frac{3}{8}$ " x 20' LONG
MESSENGER PIPE (TYPICAL).
SEE NOTE 1 OF WELDING
NOTES.



PROPOSED MESSENGER
PIPE THREADED COUPLER
(TYPICAL)

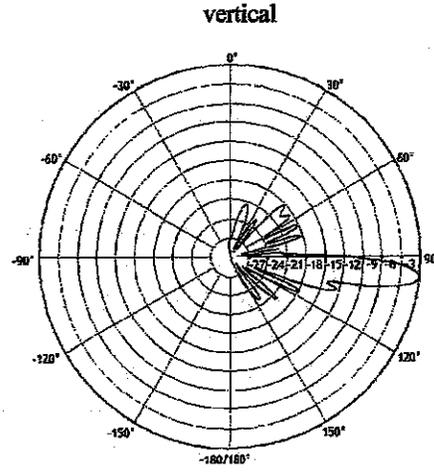
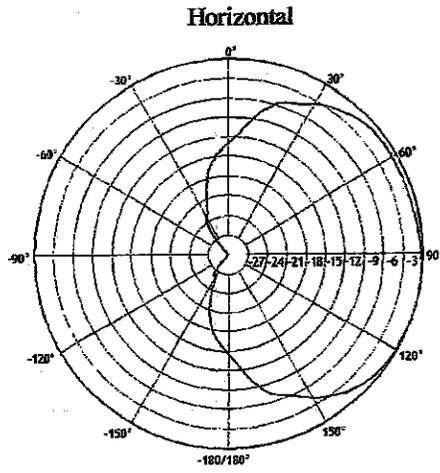
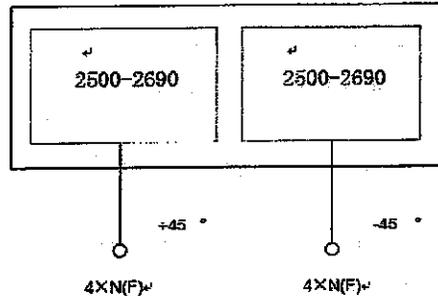


T/PIPE

9'-0" (MAXIMUM)
(TYPICAL)

9'-0" (MAXIMUM)
(TYPICAL)

B/PIPE



2500-2690

Appd. Michael J. Kane, PE

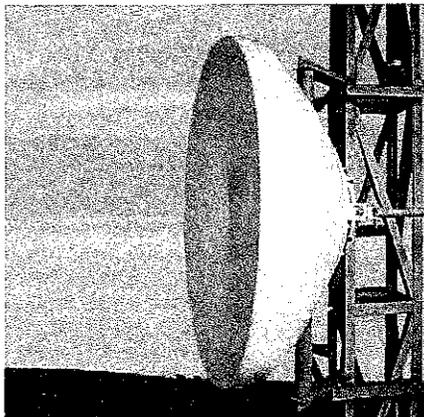
2500-2690 17dBi Xpol 6 fixed tilt four array LTE smart antenna

Model Name		T-04-47-17-006		
Electrical Specifications				
General parameters	Parameters		Index	
	General parameters	Frequency Range		2500-2690MHz
		Fixed electrical tilt		6°
		Tilt accuracy		±1°
Coupling between calibration port and each radiation port		-26±2 dB		
Calibration and electrical parameters	Max.altitude difference between calibration port and each radiation port		≤0.7 dB	
	Max.phase difference between calibration port and each radiation port		≤5°	
	VSWR of calibration port and radiation port		≤1.5	
	Isolation between co_polarization ports	6 tilt	≥28dB	
	Isolation between cross_polarization ports	6 tilt	≥30dB	
	Radiation parameters	Column pattern	-3dB Horizontal beam width	65° ±15°
Gain of single column pattern			≥16.5dBi	
Gain drop at ±60°			12±2dB	
Vertical beam width			≥5°	
Cross_polarization ratio (bore sight)			≥18dB	
Cross_polarization ratio (at±60° sight)			≥10dB	
Front to back ratio			≥25dB	
First upper side lobe suppression			≤-16dB	
		-3dB Horizontal beam width	65° ±5°	
		Gain of broadcasting pattern	≥16dBi	

	Broadca sting pattern	Gain drop at $\pm 60^\circ$	$12 \pm 2\text{dB}$
		-3dB Vertical beam width	$\geq 5^\circ$
		Cross-polarization ratio (bore sight)	$\geq 22\text{dB}$
		Cross-polarization ratio (at $\pm 20^\circ$ sight)	$\geq 22\text{dB}$
		Cross-polarization ratio (at $\pm 60^\circ$ sight)	$\geq 10\text{dB}$
		Front to back ratio	$\geq 28\text{dB}$
		First upper side lobe suppression	$\leq -16\text{dB}$
		First null fill	$\geq -18\text{dB}$
	Operati Pattern	Gain at 0 degree directions	$\geq 22\text{dBi}$
		-3dB Horizontal beam width at 0 degree directions	$\leq 25^\circ$
		Horizontal side lobe level at 0 degree directions	$\leq -12\text{dB}$
		Gain at $\pm 60^\circ$ direction	$\geq 17.5\text{dBi}$
		-3dB Horizontal beam width at $\pm 60^\circ$ directions	$\leq 23^\circ$
		Horizontal side lobe level at $\pm 60^\circ$ directions	$\leq 0\text{dB}$
		Front to back ratio at 0 degree	$\geq 28\text{dB}$

Mechanical Specification	
Radome Material	UPVC
Radome Color	Grey
Connector Type	9*N(F)
Antenna Dimension (mm)	1400×320×110
Packing Size (mm)	1610×405×227
Antenna Weight (kg)	13.5
Clamp weight (kg)	4.8
Operating Temperature (°C)	-40~+70
Operating Wind Speed (km/h)	135
Maximum Wind Speed (km/h)	200

Microwave Antenna Specifications



WTC09-107SAR-QFD

Ultra High Performance,
0.9m (3 ft), 10.7-11.7GHz,
Dual-polarized,
Short-focus Parabolic Antenna

General Specifications

Antenna Type	Point to point antenna
Performance	Ultra high
Diameter, nominal, m (ft)	0.9 (3)
Polarization	Dual , V and H
Flange Interface	154IEC-PDR100
Antenna Color	Light gray
Radome Color	Light gray
Radome Material Description	Anti-ultraviolet ABS material
Packing	Plywood
RoHS 2002/95/EC	Compliant

Electrical Specifications

Frequency Range, GHz	10.7-11.7
Gain, Low Band, dBi	37.3
Gain, Mid Band, dBi	37.7
Gain, Top Band, dBi	38.0
3dB Beamwidth, Degree	2.1
Isolation,dB	35
XPD, dB	30
F/B Ratio, dB	64
VSWR,(Return Loss, dB)	1.30 (17.7)
ETSI Standard	Range 1, Class 3

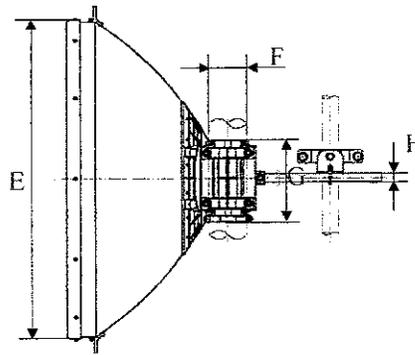
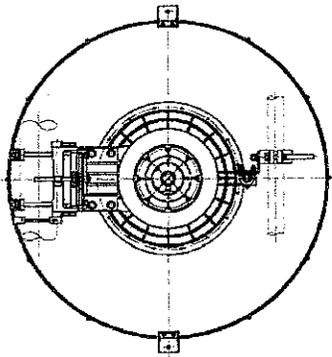
Microwave Antenna Specifications



Mechanical Specifications

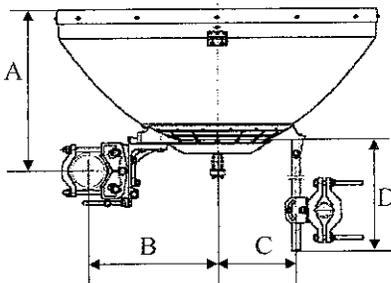
Wind Velocity Operational, km/h	126
Wind Velocity Survival Rating, km/h	200
Coarse Azimuth, Degree	360
Fine Azimuth Adjustment, Degree	±10
Fine Elevation Adjustment, Degree	±15
Mounting Pipe Diameter, mm	∅51~∅114
Feeder Watertightness	Watertight
Operation Pressurization, kPa	50
Operation Temperature, °C	-45 ~ +60
Storage Temperature, °C	-55 ~ +70
Ice Load, mm	25
Strengthening Rod	1
Adjustable Rod	NA
Net Weight, kg	24±1
Gross Weight, Packed Antenna, kg	52±3
Length, mm	1060
Width, mm	1060
Height, mm	770
Volume, m³	0.87

Structure information



0.9m Antenna Dimensions, mm	
A	(498)
B	(399)
C	(241)
D	(1350)
E	(∅991)
F	∅51~114
G	(260)
H	(∅26.8)

NOTE: The dimension with“()” is referenced dimension.

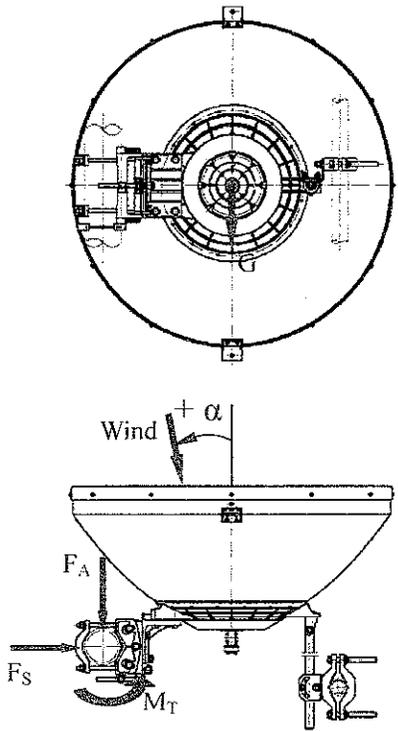


Microwave Antenna Specifications



Wind Forces at Wind Velocity Survival Rating

Axial Force (FA), N	1880
Side Force (FS), N	920
Twisting Moment (MT), N·m	790
Angle α for MT Max, Degree	-20



Microwave Antenna Specifications



Radiation Pattern Envelope

Co-polar and X-polar response are represented for both horizontal and vertical polarizations. The curves are identified as follows:

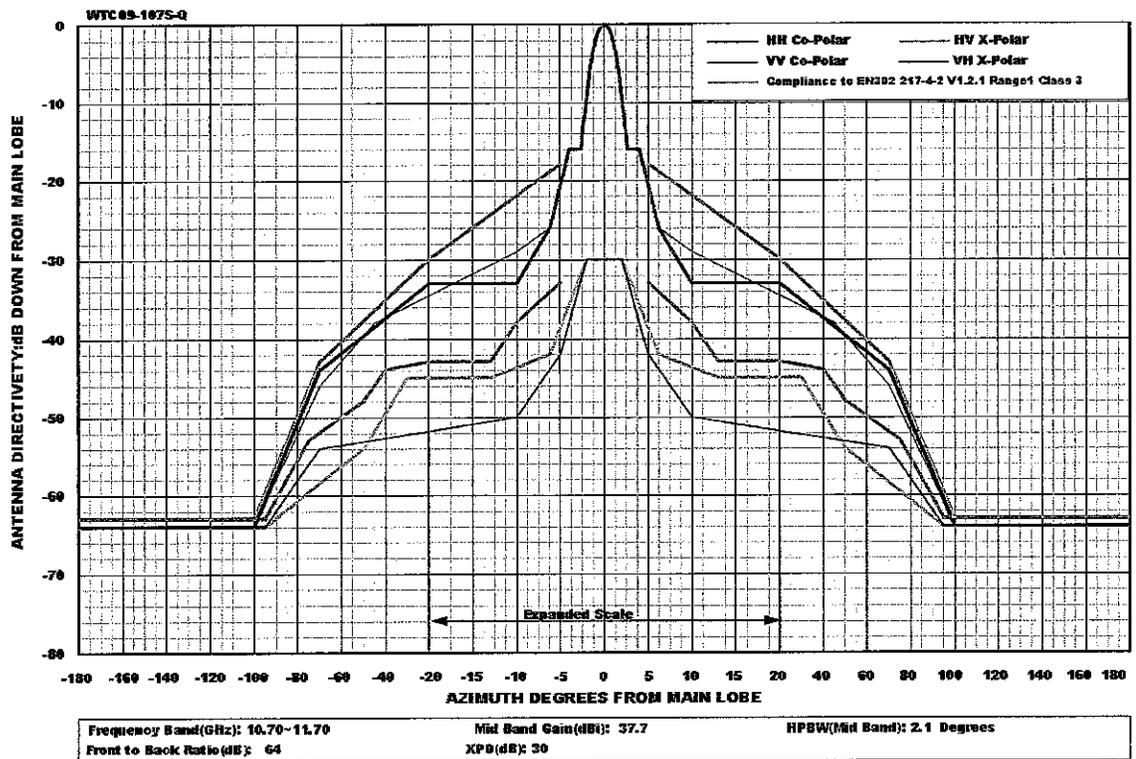
HH – Response of horizontally polarized port to a horizontally polarized signal.

HV – Response of horizontally polarized port to a vertically polarized signal.

VV – Response of vertically polarized port to a vertically polarized signal.

VH – Response of vertically polarized port to a horizontally polarized signal.

0.9m 10.70-11.70GHz RADIATION PATTERN ENVELOPE



SITE LICENSE AGREEMENT (Municipal Water Tower Attachments)

THIS LICENSE AGREEMENT (the "License"), made this ____ day _____, by and between City of Rock Island, an Illinois Municipal Corporation ("Licensor") and _____ SpeedConnect _____, ("Licensee").

1. License of Premises.

Subject to the terms and conditions of this License and the provisions of Division 76 of Article II of the Illinois Municipal Code (65 ILCS 11-76), Licensor hereby licenses to Licensee on a non-exclusive basis a portion of the real property described on Exhibit A ("the Property") consisting of (a) a ground space area, (b) space on the structure for the installation of antennas and related equipment, and (c) such easements as are necessary for the initial installation as described on attached Exhibit E, and for ingress and egress and the installation of utilities (collectively, the "Premises"). The nature and the extent of the utility installation shall be specified on the site plan and attached as Exhibit E.

2. Term.

- a. The initial term of this License shall be five (5) years (the "Initial Term"), commencing on the date commercial operations commence or ninety (90) days from the day and year first written above whichever first occurs ("Commencement Date").
- b. This License shall be automatically renewed for four (4) successive five (5) year renewal terms ("Renewal Term(s)"), upon the same terms and conditions, unless Licensee notifies Licensor in writing of Licensee's intention not to renew this Agreement at least one hundred and twenty (120) days prior to the expiration of the existing term. The Licensor may terminate agreement upon giving Licensee one hundred and twenty (120) days notice.

3. License Fees.

- a. From and after the Commencement Date, Licensee shall pay Licensor Seven Hundred Dollars (\$700) per month.
- b. The License Fee shall increase annually during the initial and Renewal Term, effective as of each anniversary of the Commencement Date, by an amount equal to four percent (4%) per annum above the amount of the License Fees in effect immediately prior to such increase. The License Fees shall be payable monthly in advance without demand, offset, abatement, diminution or reduction, to Licensor, at Licensor's address specified below or any other person or firm as Licensor may from time to time, designate in writing at least sixty (60) days in advance of any License Fees payment date.
- c. Upon execution of this License, and at the Commencement Date of each Renewal Term, the Licensee will pay Licensor a One Thousand Dollar (\$1,000) landscaping fee.
- d. Licensee shall pay to Licensor a one-time non-refundable administrative fee in the amount of One Thousand Dollars (\$1,000) for the negotiation of this Lease.
- e. All fee payments must have the City of Rock Island lease number on them in order to be processed.

The Premises may be used for (i) the transmission and reception of communications signals within or utilizing such frequency band or frequencies which are within those for which Licensee, or any entity which controls, is controlled by or is under common control with Licensee, is duly licensed by the Federal Communications Commission, and (ii) the attachment, installation, operation, alteration, maintenance, repair, replacement and relocation of any approved antennas and related equipment, cables and facilities and improvements related thereto, and (iii) activities related to any of the foregoing, provided such activities do not require an expansion of the Premises or violate Licensee's duties on non-interference set forth herein.

LICENSOR AND LICENSEE AGREE THAT THE PRIMARY FUNCTION OF THE WATER TOWER IS TO PROVIDE WATER SERVICE TO THE MUNICIPAL WATER CUSTOMERS. SHOULD THE LICENSOR DETERMINE, IN ITS SOLE DISCRETION, THAT THE PERFORMANCE OF THIS AGREEMENT INTERFERES WITH THAT PRIMARY FUNCTION, THE LICENSOR MAY TERMINATE THIS AGREEMENT WITH ONE HUNDRED TWENTY (120) DAYS WRITTEN NOTICE TO LICENSEE. LICENSEE SHALL HAVE THE RIGHT DURING SAID ONE HUNDRED TWENTY (120) DAY PERIOD TO CURE THE INTERFERENCE PROBLEM TO THE SATISFACTION OF THE LICENSOR; PROVIDED, HOWEVER, THAT IF SAID CURE IS NOT ACHIEVED IN THE SOLE JUDGEMENT OF THE LICENSOR, LICENSEE MUST HAVE COMPLETELY VACATED THE TOWER BY THE EXPIRATION OF SAID ONE HUNDRED TWENTY (120) DAY PERIOD. IF LICENSEE DETERMINES, IN ITS SOLE JUDGEMENT, THAT THE OPERATION OF THE TOWER BY LICENSOR IS CREATING INTERFERENCE WITH LICENSEE'S USE AND OPERATION OF ITS FACILITIES AT THE TOWER, LICENSEE MAY TERMINATE THIS AGREEMENT BY GIVING THE LICENSOR ONE HUNDRED TWENTY (120) DAYS WRITTEN NOTICE. LICENSEE'S RIGHT TO TERMINATE THIS AGREEMENT IS SUBJECT TO ALL OF THE TERMS HEREOF REGARDING LICENSEE'S OBLIGATION TO REMOVE EQUIPMENT AND BUILDING AT THE EXPIRATION OR TERMINATION OF THIS AGREEMENT.

4 Installation and Maintenance.

Licensee shall install, construct and maintain the antenna facilities on the Premises at its sole cost and expense in compliance with approved plans and the installation and maintenance criteria listed on the attached Exhibit D.

5. Access.

Licensee and its authorized employees, engineers, technicians, or properly authorized contractors of Licensee or personnel under their direct supervision shall be entitled to twenty-four (24) hour, seven (7) days per week access to the Premises. All access to the Premises by Licensee shall be subject in each instance to the reasonable security requirements and reasonable rules and regulations from time to time in effect at the Property, of which Licensor shall inform Licensee in writing. (Please see attached Exhibit B.) Notwithstanding the foregoing, in the event Licensee requires or requests Licensor or Licensor's representative to be present in order for Licensee to gain access to the Premises outside of Licensor's normal business hours, Licensee will be responsible for any reasonable out-of-pocket costs incurred by Licensor in providing such access to the Premises.

6. Interference.

Licensee further agrees that it will supply Licensor with a twenty-four (24) hour contact phone number, so that in the event that the Licensee's equipment interferes with the normal and proper operation of Licensor's and/or any prior lessee's facilities on the Property, the Licensee be notified. Licensee agrees to install and operate only equipment that does not cause interference to Licensor's or other lessees or licensees of the Property ("Pre-Existing User"); provided that their installations and use predate that of the Licensee's installation. In the event that the Licensee's equipment cause such interference or any permitted subsequent modification or addition causes such interference, Licensee shall take all steps necessary to correct and eliminate the interference. If the interference is substantial then Licensee shall have forty-eight (48) hours to resolve the interference problem. If the interference is substantial and cannot be resolved within 48 hours, Licensee shall power down its equipment and/or cease operations in order to correct and eliminate such interference provided that Licensee may operate its equipment intermittently during off-peak hours for testing purposes only. If the interference is not substantial, Licensee shall work diligently and take all necessary and appropriate action to cure such interference as promptly as possible without having to power down its equipment unless the interference becomes substantial. In all cases of interference if Licensee is unable to eliminate the interference, or reduce it to a level acceptable to the affected Pre-Existing User, within a period of thirty (30) days, then either party may terminate this License. Licensor agrees not to allow any lessee of the Property whose equipment is installed or modified subsequent to Licensee's then current operation of Licensee's equipment ("Subsequent User") to interfere with the operation of Licensee. In the event Licensee is subject to any such interference, Licensor shall (or shall cause other Subsequent Users) take all steps necessary to correct and eliminate the interference. If such interference is not eliminated within forty-eight (48) hours after Licensor's receipt of notice of such interference from Licensee, Licensor shall (or shall cause such other Subsequent User) to cease operations if requested by Licensee until the interference is eliminated. If such Subsequent User is unable to eliminate the interference, or reduce it to a level acceptable to Licensee, within a period of thirty (30) days, then

Licensee may, in addition to any other rights it may have, terminate this License. Nothing in this section shall be deemed or interpreted to authorize Licensee to illegally transmit on any frequencies or to provide any protection to Licensee from interference from any other person in the event that Licensee is operating on any unlicensed frequency spectrum. Licensor shall impose upon future lessees of the Property a similar duty to refrain from interfering with Licensee.

Notwithstanding the provisions contained herein, if Licensee's equipment interferes with Licensor's 911 System, Non emergency radio system, or Fire Rescue Emergency Radio Systems, Licensee shall either cure such interference or shut down its equipment immediately, but in no event later than two (2) hours from notice of such interference, and if Licensee fails to take such action, Licensor may shut down Licensee's equipment and Licensee shall have no recourse against Licensor as a result of such action.

Contact numbers:

7. Assignment.

Licensee will have the right to assign, sell or transfer its interest under this Agreement without the approval or consent of Licensor, to the Licensee's principal, affiliates, subsidiaries, subsidiaries of its principal. Upon notification to Licensor of such assignment, Licensee will be relieved of all future performance, liabilities and obligations under this Agreement.

8. Taxes and Assessments.

Upon presentation of sufficient and proper documentation, Licensee shall pay any and all increased ad valorem and personal property taxes, assessments, charges, fees, or Licenses levied upon the Property and the Premises as a result of Licensee's use thereof.

9. Insurance.

Licensee shall, at Licensee's sole cost and expense, procure and continue in force during the term of this License, including any Renewal Term, the Insurance Policies listed on Exhibit C hereto with the policy limits stated thereon.

10. Release and Hold Harmless.

- a. Licensee hereby releases Licensor, and their respective agents, employees, officers, directors, shareholders and partners (collectively the "Releasees") from, and shall not hold Releasees liable for, any liability for personal injury, consequential damages, loss of income or damage to or loss of property or persons, or loss or use of any property in or about the Premises from any cause whatsoever unless such damage, loss or injury directly results from the negligence or willful misconduct of the Releasees.
- b. Further, the Releasees shall not be liable to Licensee for any such damage or loss to the extent Licensee is compensated or would have been compensated by the insurance which Licensee is obligated to maintain pursuant to Section 11. Licensee agrees to indemnify, defend and hold Releasees harmless from and against injury, loss, damage or liability (or any claims in respect of the foregoing), costs or expenses (including reasonable attorneys' fees and court costs) which may arise or be imposed upon or incurred by or asserted against Releasees occurring during the term of this License, or during any period of time when Licensee is conducting business activity on the Premises pursuant to this Agreement, whether before the Commencement Date hereof or after the expiration date hereof, arising from:
 - (i) any work or act done in, on or about the Premises or any part thereof, including the installation, use, maintenance, repair or removal of the antenna facilities, at the direction of Licensee, its agents, contractors, subcontractors, servants, employees, Licensees invitees, except if such work or act is done or performed by Licensor or its agents or employee;

- (i) any negligence or other wrongful act or omission on the part of Licensee or any of its agents, contractors, subcontractors, servants, employees, subtenants, invitees, or Licensees;
- (ii) any accident, injury or damage to any person or property occurring in, on or about the Premises or any part thereof, unless caused by the negligence or willful misconduct of Licensor, its employees or agents; and
- (iii) any failure on the part of Licensee to perform or comply with any of the covenants, Licenses, terms, provisions, conditions or limitations contained in this License on its part to be performed or complied with.

c. Licensor agrees to indemnify, defend and hold Licensee harmless from and against any and all injury, loss, damage or liability (or any claims in respect of the foregoing), costs or expenses (including reasonable attorneys' fees and court costs) arising from any willful act or omission or the negligence of Licensor or its employees or agents, or the breach of this Agreement, except to the extent attributable to the negligence or intentional act or omission of Licensee and except to the extent that the licensor would be immune under the Illinois Municipal Tort Immunity Act, its employees, agents or independent contractors.

11. Removal of the Equipment Upon Termination.

Following any termination or expiration of this License, Licensee shall remove all of its equipment. Footings, foundations, and concrete will be removed to a depth of one (1) foot below grade. In performing such removal, Licensee shall restore the Premises and any personal property and fixtures thereon to as good a condition as they were prior to the installation or placement of the equipment, reasonable wear and tear excepted. If Licensee fails to remove such equipment within sixty (60) days after expiration or earlier termination of this License, Licensor may, upon thirty (30) days prior written notice to Licensee, remove and dispose of the equipment and Licensee shall reimburse Licensor for the costs of such removal and restoration of the Premises. Moreover, Licensor may, after said thirty (30) day notice, deem the equipment abandoned in which event the equipment shall become Licensor's property.

12. Hazardous Substances.

Licensee agrees that it will not use, generate, store or dispose of any Hazardous Material on, under, about or within the Premises in violation of any law or regulation. Licensor represents, warrants and agrees (1) that to Licensor's best knowledge, neither Licensor nor any third party has used, generated, stored or disposed of, or permitted the use, generation, storage or disposal of, any Hazardous Material on, under, about or within the Premises in violation of any law or regulation, except as disclosed herein, and (2) that Licensor will not, and will not permit any third party to use, generate, store or dispose of any Hazardous Material on, under, about or within the Premises in violation of any law or regulation. Licensor and Licensee each agree to defend, indemnify and hold harmless the other and the other's partners, affiliates, agents and employees against any and all losses, liabilities, claims and/or costs arising from any breach of any representation, warranty or License contained in this paragraph. In addition, Licensor shall defend, indemnify and hold harmless Licensee from all other losses, liabilities, claims and/or costs arising from or related to the environmental condition, including costs of remediation, which are not the result of any act of Licensee. As used in this paragraph, "Hazardous Material" shall mean hazardous or radioactive material, polychlorinated biphenyls, friable asbestos or other hazardous or medical waste substances as defined by the Comprehensive Environmental Response, Compensation and Liability Act, as amended, or by any other federal, state or local law, statute, rule, regulation or order (including any Governmental Requirements) concerning environmental matters, or any matter which would trigger any employee or community "right-to-know" requirements adopted by any such body, or for which any such body has adopted any requirements for the preparation or distribution of a material safety data sheet. This paragraph shall survive the termination of this License.

13. Termination by Licensee.

Provided Licensee is not in default hereunder, Licensee shall have the right to terminate this License after the Initial Term without cause by giving Licensor at least one hundred and eighty (180) days prior written notice and Licensee shall not be required to make any further payment of License Fees.

14. Utilities.

Licensee shall contract directly with the local utility company to install a separate utility meter(s) for its utility service(s) and Licensee shall pay all costs related to such installation(s) and utility service(s). The utility meter(s) will be required to use remote read technology at the cost of the licensee.

15. Notices.

All notices, demands, requests and other communications hereunder shall be in writing either personally delivered or mailed, via certified mail, return receipt requested, or sent by overnight courier to the following addresses:

If to Licensor, to:

City of Rock Island
ATTN: City Manager
1528 Third Avenue
Rock Island, IL 61201

With a copy to:

City of Rock Island
Public Works Department
c/o Public Works Administration
1309 Mill Street
Rock Island, IL 61201

If to the Licensee, to:

SpeedConnect, LLC
Attn: Tony Jaboro/Leigh Ann Spellman
455 North Main Street
Frankenmuth, MI 48734
(866) 297-2900

With a copy to:

Leigh Ann Spellman
Contracts Manager
1015 Central Ave Ste C
Kearney, NE 68845

Notices will be deemed to have been given upon either receipt or rejection. Unless or until either of the respective addresses is changed by notice in writing sent to the other party as set forth above, thereafter to the address

contained in such notice. Any notice herein, which is required by Licensor, may be given by City's designated Manager and shall be deemed effective for all purposes herein.

16. Marking and Lighting Requirements.

Licensee shall construct, install and maintain the antenna facilities at the Premises in compliance with all marking and lighting requirements of the Federal Aviation Administration ("FAA") and the Federal Communications Commissions ("FCC"). Licensee shall hold harmless Licensor against any penalty or citation resulting from Licensee's failure to maintain required lighting of its equipment, unless such failure is the result of Licensor's gross negligence or willful misconduct.

17. Default and Right to Cure.

The following will be deemed a default by Licensee and a breach of this Agreement: (i) non-payment of the License Fee if such License Fee remains unpaid for more than thirty (30) days after receipt of written notice from Licensor of such failure to pay; or (ii) Licensee's failure to perform any other term or condition under this Agreement within forty-five (45) days after receipt of written notice from Licensor specifying the failure. If Licensee remains in default beyond any applicable cure period, Licensor will have the right to exercise any and all rights and remedies available to it under law and equity.

18. Warranties.

Licensee and Licensor each acknowledge and represent that it is duly organized, validly existing and in good standing and has the right, power and authority to enter into this Agreement and bind itself hereto through the party set forth as signatory for the party below.

Licensor represents and warrants that: (i) Licensor solely owns the Property as a legal lot in fee simple, or controls the Property and structure by lease or license; (ii) the Property is not encumbered by any liens, restrictions, mortgages, covenants, conditions, easements, leases, or any other agreements of record or not of record, which would adversely affect Licensee's permitted use and enjoyment of the Premises under this Agreement; (iii) as long as Licensee is not in default then Licensor grants to Licensee sole, actual, quiet and peaceful use, enjoyment and possession of the Premises; (iv) Licensor's execution and performance of this Agreement will not violate any laws, ordinances, covenants or the provisions of any mortgage, lease or other agreement binding on the Licensor; and (v) if the Property is or becomes encumbered by a deed to secure a debt, mortgage or other security interest, Licensor will use best efforts to provide promptly to Licensee a mutually agreeable Subordination, Non-Disturbance and Attornment Agreement.

19. Condemnation.

In the event Licensor receives notification of any condemnation proceedings affecting the Property, Licensor will provide notice of the proceeding to Licensee within forty-eight (48) hours. If a condemning authority takes all of the Property, or a portion sufficient, in Licensee's reasonable determination, to render the Premises unsuitable for Licensee, this Agreement will terminate as of the date the title vests in the condemning authority. The parties will each be entitled to pursue their own separate awards in the condemnation proceeds, which for Licensee will include, where applicable, the value of its Communication Facility, moving expenses, prepaid License Fees, and business dislocation expenses, provided that any award to Licensee will not diminish Licensor's recovery. Licensee will be entitled to reimbursement for any prepaid License Fee on a prorata basis.

20. Casualty.

Licensor will provide notice to Licensee of any casualty affecting the Property within forty-eight (48) hours of the casualty. If any part of the antenna facilities or Property is damaged by fire or other casualty so as to render the Premises unsuitable, in Licensee's sole determination, then Licensee may terminate this Agreement by providing written notice to the Licensor, which termination will be effective as of the date of such damage or destruction. Upon such termination, Licensee will be entitled to collect all insurance proceeds payable to Licensee on account thereof and to be reimbursed for any prepaid License Fee on a prorata basis.

21. Waiver of Licensor's Liens.

Licensor waives any and all lien rights it may have, statutory or otherwise, concerning the antenna facilities or any portion thereof. The antenna facilities shall be deemed personal property for purposes of this Agreement, regardless of whether any portion is deemed real or personal property under applicable law, and Licensor consents to Licensee's right to remove all or any portion of the antenna facilities from time to time in Licensee's sole discretion and without Licensor's consent.

22. Miscellaneous.

- a. For the purpose of providing constructive notice hereof, Licensor and Licensee hereby agree to execute a Memorandum of License in recordable form and Licensee shall have same recorded in the land records of the appropriate county and state.
- b. If any term of this License is found to be void or invalid, such invalidity shall not affect the remaining terms of this License, which shall continue in full force and effect.
- c. Failure of Licensor to insist on strict performance of any of the conditions or provisions of this License, or to exercise any of Licensor's rights hereunder, shall not waive such rights.
- d. This License shall be governed by and construed in accordance with the laws of the state in which the Premises are located and jurisdiction and venue shall be in Rock Island County, Illinois.
- e. This License constitutes the entire license and understanding of the parties and supersedes all offers, negotiations and other licenses, including that certain _____ between Licensor _____ dated _____, regarding the Property. There are no representations or understandings of any kind not set forth herein. Any amendment to this License must be in writing and executed by both parties.
- f. The terms and conditions contained in this Agreement will run with the Property and bind and inure to the benefit of the parties, their respective heirs, executors, administrators, successors and assigns.

[SIGNATURES APPEAR ON PAGE IMMEDIATELY FOLLOWING.]

IN WITNESS WHEREOF, the parties hereto have executed this License as of the date aforesaid.

LICENSOR:

CITY OF ROCK ISLAND

BY: _____

NAME: Thomas Thomas

TITLE: City Manager

DATE: _____

FEDERAL TAX I.D. NO.: 36-6006077

LICENSEE:

SpeedConnect, LLC

BY: _____

NAME: John Ogren

TITLE: CEO

DATE: _____

EXHIBIT "A"

PROPERTY

The Property known as: Water Tower, 24th Street 16th Avenue, Rock Island, Illinois 61201.

EXHIBIT "B"

WATER TOWER ACCESS GUIDELINES

Following the World Trade Center incident on September 11, 2001, the Department of Homeland Security identified potable water infrastructures as being susceptible to terrorism. Numerous steps have been taken to ensure the safety of our drinking water infrastructure including, but not limited to, modification of storage tower access ladders, security fencing, tamper proof locks, etc.

The City of Rock Island has implemented the following guidelines for accessing water tower facilities:

In the event a City employee needs access to the water tower, the following procedures must be followed:

1. All City employees must notify RICOMM prior to entering any water tower facility (309-732-2511). RICOMM will keep a log of this activity.
2. The employee must state their name, department, and a brief description as to the nature of their business to the on-duty operator at RICOMM.
3. Upon completion of the work and after securing the premises, the employee must notify RICOMM that they are vacating the water tower facility.

In the event a contractor needs access to the water tower, the following procedures must be followed:

1. A new contractor must contact the Police Booking Custodian (309-732-2525) with the City of Rock Island Police Department, 316 16th Street, Rock Island, Illinois, during normal business hours (7:45 a.m. to 10:45 p.m.) to apply for a Water Tower Access Permit.

If a contractor has not been approved for a Tower Access Permit and needs access to the water tower facilities after the Police Department's normal business hours, the contractor must contact RICOMM (309-732-2511) and RICOMM will send an officer to stand-by at the water tower facility while the contractor is present.

2. The contractor will be required to complete a series of paperwork including, but not limited to, a clearance check, scope of work statement on company letterhead, estimate of time on site, a list of names and date of birth for employees that will be on site, a "Liable for Damage" form/contract, access guidelines, etc.
3. A photo ID will be issued by the City of Rock Island Police Department that must be kept on the person at all times while on site.
4. The Police Department will issue the contractor a key to the water tower facilities upon satisfactory completion of this paperwork and clearance check.
5. The contractor will be required to check the key out at the beginning of each workday.
6. The key can be checked out for a period not to exceed 12 hours. If more time is needed, the contractor must notify the City of Rock Island's Police Department and request additional time.
7. The key must be returned to the Police Department within 30 minutes of the contractor leaving the site.

In the event that the key is not returned or is lost, the contractor and/or company will pay the City of Rock Island \$2,000. Another key will not be issued until the \$2,000 is paid in full.

8. In the event a contractor needs to utilize the services of another contractor, a list of the names, sex/race, and dates of birth of the contractors must be submitted to the City of Rock Island Police Department 48 hours in advance for a clearance check. A permitted employee from the primary contractor must be on site with the sub-contractor at all times.

EXHIBIT "C"

INSURANCE REQUIREMENTS

The Licensee may not use the premises or commence work until it has obtained all insurance required under this Exhibit C and until the insurance has been approved by the owner in its reasonable discretion. The Licensee may not allow any contractor or subcontractor to commence work on his or her contract or subcontract until all similar insurance required by the contractor or subcontractor has been so obtained and approved. Insurance required consists of the following:

- (a) Worker's Compensation Insurance for all of the Licensee's employees engaged in work at the work site. Licensees will guarantee that all contractors and subcontractors shall obtain Worker's Compensation Insurance for their employees.
- (b) Public Liability and Property Damage Insurance with Licensor named as an additional insured taken out and maintained for the duration of the contract by the Licensee, contractor pursuant to Licensee's indemnity obligations hereunder. The amounts of insurance must be at least as follows:
 - (i) Public Liability Insurance. Not less than two million dollars (\$2,000,000) for injuries including wrongful death to any one person and subject to the same limits for each person, in an amount not less than two million dollars (\$2,000,000) on account of one accident.
 - (ii) Property Damage Insurance. Not less than two million dollars (\$2,000,000).
 - (iii) All insurance acquired under the terms of this article must be obtained through an insurance company authorized to do business in the State of Illinois, and certificates of insurance must be filed with the City Clerk on January 1st of each year of the agreement.

EXHIBIT "D"

INSTALLATION AND MAINTENANCE CRITERIA

- A. Licensee shall, at Licensee's expense, keep and maintain the Premises in a commercially reasonable condition and repair during the term of this License. Licensee agrees to maintain the antenna facilities in proper operating condition and within industry accepted safety standards. All installations and operations in connection with this License by Licensee must be in compliance with all federal, state, and local laws, codes and regulations, including but not limited to local zoning requirements. Licensor assumes no responsibility for the licensing, operation and/or maintenance of the antenna facilities. Licensee shall comply with all of the terms of its FCC License.
- B. Prior to installing or allowing any antenna facilities to be installed in or on the Premises, Licensee shall submit detailed engineering plans and specifications of the planned installation to Licensor, with an additional copy to the City's designated Manager for Licensor's written approval, which approval shall not be unreasonably withheld or delayed. Licensor's review of Licensee's plans shall include a review of the appearance of the planned installation. Licensor's approval of any installation is not a representation that such installation of the antenna facilities is in compliance with all applicable laws, ordinances, rules and regulations or that it will not cause interference with other communications operations on the Property. All construction activities must have prior approval and supervision of the City of Rock Island Public Works Department. Licensee will notify Licensor to arrange a mandatory pre-construction meeting on the site. No work shall begin on the site until after this pre-construction meeting.
- C. All installation and other work to be performed by Licensee hereunder will be done in such a manner so as not to interfere materially with, delay, or impose any additional expense upon Licensor in maintaining the Premises. In no event will Licensor be required to consent to any installation or other work by Licensee, which would, in Licensor's sole judgment, adversely affect any part of the Premises. All cable runs, conduit and sleeving shall be installed in a good workmanlike manner. Cables and transmission lines shall be routed and attached in accordance with current, state of the art, industry practices. The antenna facilities shall be identified with permanently marked, weather proof tags at the following locations: (i) each antenna bracket; (ii) at the transmission line Premises entry point; (iii) at the interior wall feed through or any other transmission line exit point; and (iv) at any transmitter combiner, duplexer, or multifed receive port. In addition, all Licensee telephone blocks, demarcs, and cables shall be clearly identified with the Licensee's name, type of line, and circuit number.
- D. Licensee shall at all times obtain and maintain any Licenses, permits, and approvals necessary for the installation or operation of the antenna facilities at its sole cost and expense.
- E. Licensee shall install a solid cedar fence around all outside ground equipment. This fence must visually hide the outside ground equipment from the right-of-way and private property owners. Inside the cedar fence there must contain a vegetation barrier to prevent unsightly vegetation growth.
- F. If the Licensee installs a pre-fabricated building to enclose its ground equipment it must seek prior approval from the City of Rock Island.
- G. Licensee shall abide by the "Installation Guidelines for Small Antenna Systems on Water Tanks", unless they have written approval to deviate from those guidelines.

EXHIBIT "D"

(Continued)

COMMUNICATIONS EQUIPMENT

1. The Tower shall contain the antennas, antenna mounts, and associated wiring and cabling as listed on the antenna specifications.

EXHIBIT "E"

SITE PLAN

**Licensor has not yet approved the Site Plan.
The Site Plan must be inserted by Licensee and is subject to Licensor's approval.**



Utility Service Co., Inc.

535 General Courtney Hodges
Blvd.

P. O. Box 1350, Perry GA 31069
PH: (478) 987-0303
FAX: (478) 987-1085

Installation Guidelines for Small Antennae Systems on Water Tanks

Utility Service Communications Co., Inc. (USCCI) is part of the Utility Service Group, as is Utility Service Co., Inc. (USCI). While USCI focuses on quality maintenance, inspection, and repair of water tanks, USCCI deals only with antennae installations on water tanks. Both groups have together developed guidelines for the proper installation of coax runs, antenna mounts, tank penetrations, etc. These guidelines were developed around four key goals:

- Assure coating system is accessible for inspection and maintenance (6" minimum clearance)
- Prevent unnecessary corrosion
- Provide safe and efficient access for personnel and equipment
- Protect Structural Integrity

Through our years of experience in maintaining thousands of tanks across the country, and in designing and installing wireless systems on water tanks, it is obvious that the only acceptable method of mounting coax and antennae on a water tank by utilizing attachments which are full seal welded to the structure. Full seal welded attachments require specialized skilled labor, and the welding will damage the coating system both on the exterior and interior of the tank, therefore requiring repair. Because of these factors, full seal weld designs are typically more expensive to install, and are therefore sometimes discouraged by the wireless companies in an effort to save construction costs. However, they are the most cost effective for the wireless companies as they typically don't require removal of the equipment during maintenance. And, this method is best for the tank and the tank owner as it meets the goals listed above.

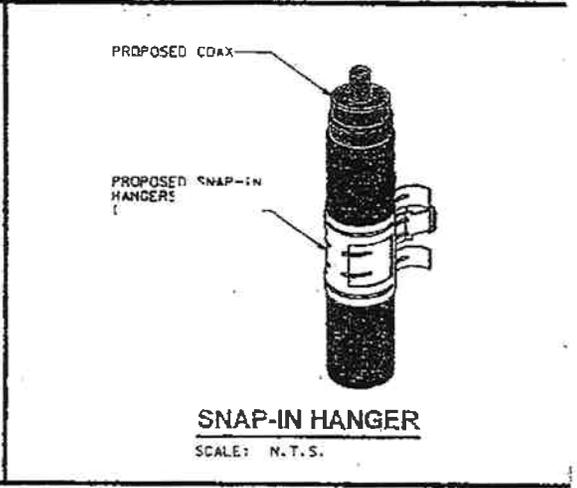
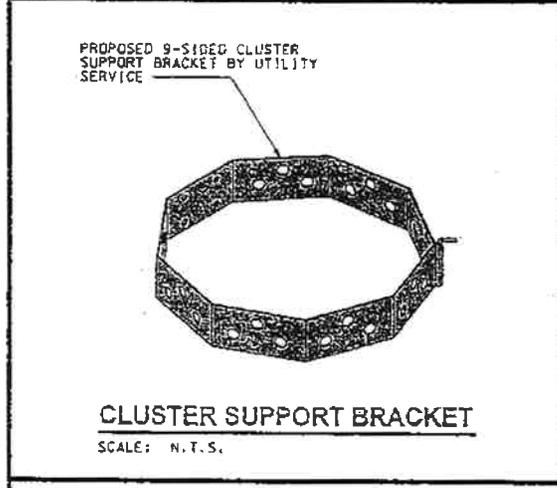
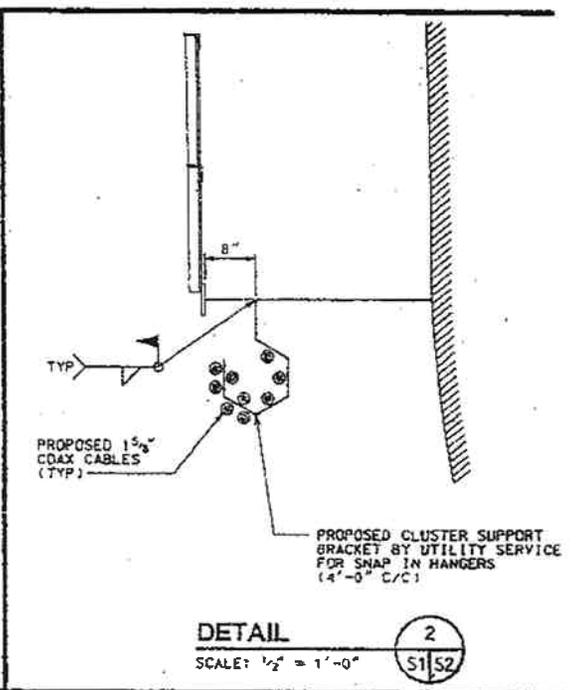
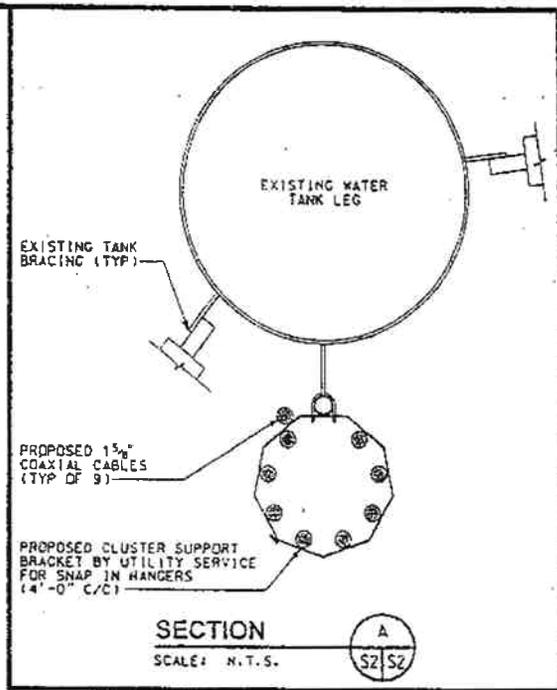
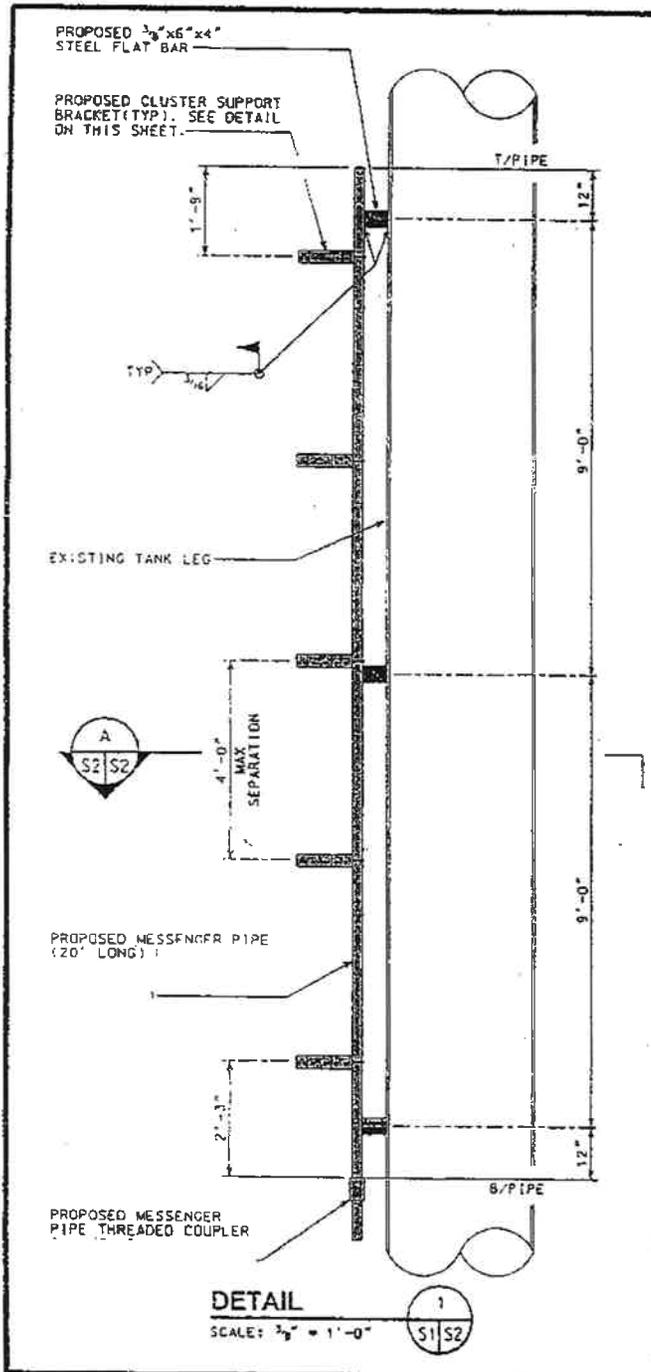
We do not approve other methods of installation, such as stud-welding, stitch welding, epoxy gluing, strapping, clamping, bolting, etc. All of these methods have been proven to present challenges in at least one, and often in more, of the four goals listed above. Feel free to contact us for more explanation.

If any significant wind loads are added on the roof of the tank, it is recommended that a gross structural analysis be performed to assure the structural integrity of the tank with the additional loading.

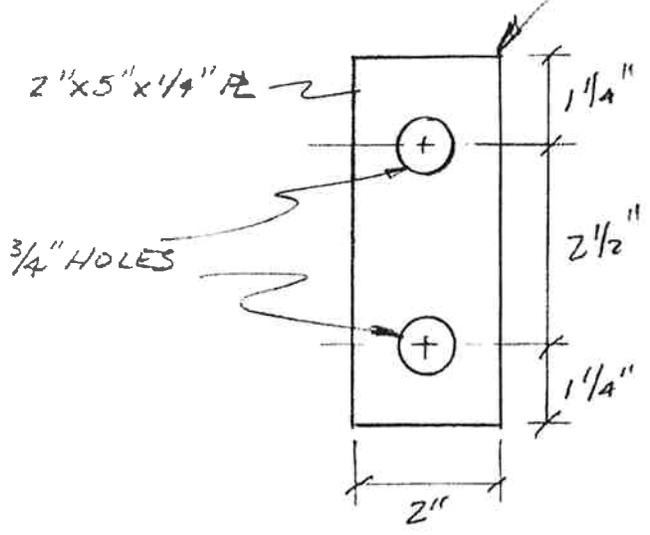
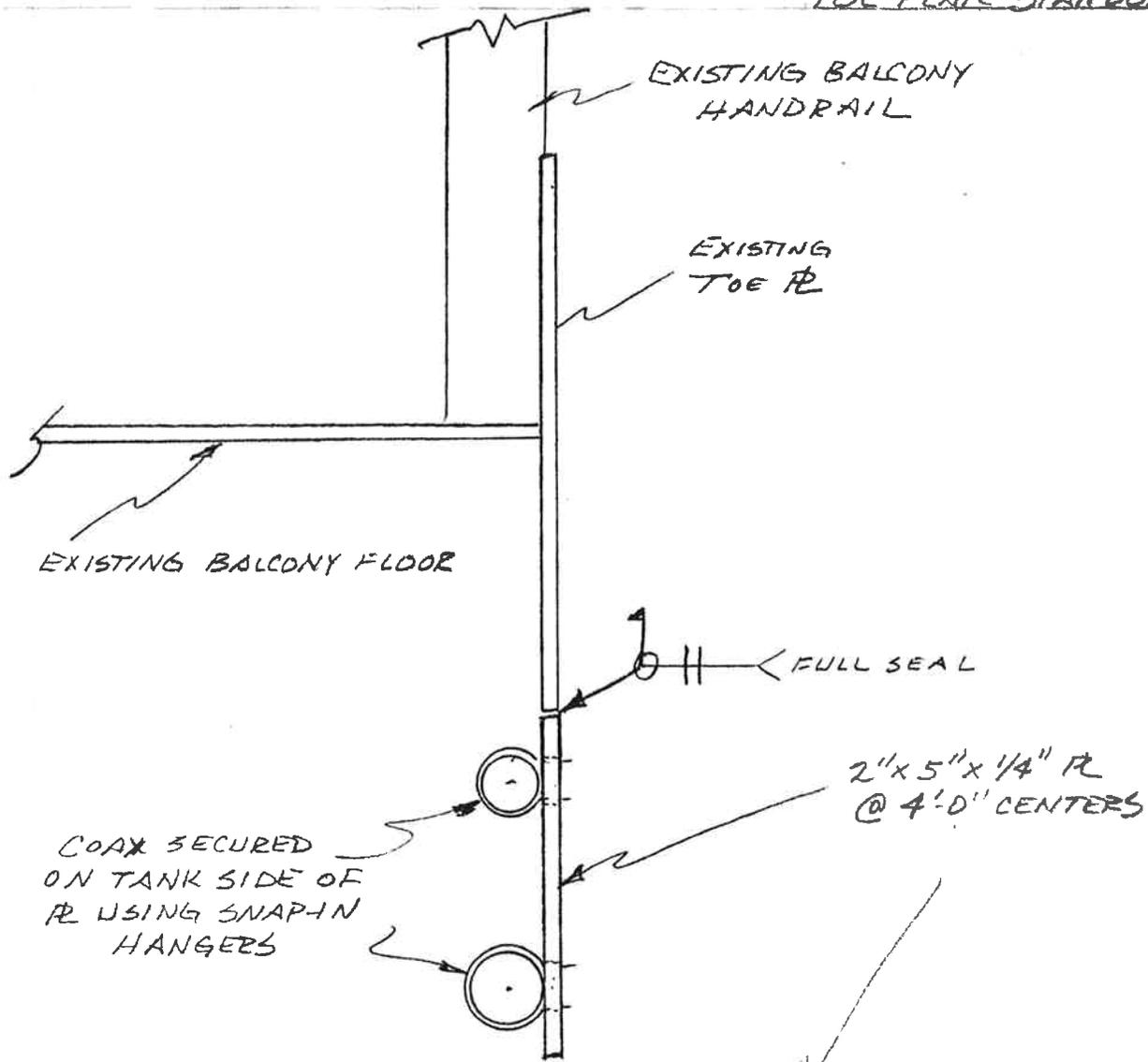
Attached are some details of recommended standoffs and mounts for smaller antenna systems.

Details

- **Messenger Pipe and J-Cluster:** The preferred method of routing coax from the ground to upper levels of the tank is via a messenger pipe system. This messenger pipe should always be installed on the inside face of the leg to avoid interference with staging during maintenance. If only one or two coax are used, then the cluster brackets can be omitted and the coax secured directly to the outside of the 2" pipe with heavy duty wire ties. This saves costs up front, but still allows future use of cluster brackets if expansion is necessary. The J-Clusters used underneath the balcony are only needed if more than 2 coax are routed along the balcony. If 2 or less coax are used, then the Toe Plate Standoffs can be used instead.
- **Toe Plate Standoffs:** These standoffs are used to support the weight and wind load of 1-2 coax which must be routed around the perimeter of the balcony. The coax should always be secured on the inside face of the standoffs so that the coax will not interfere with rigging for future maintenance activities.
- **Balcony Penetration:** Whenever antennae must be mounted on the roof of the tank, then routing the coax to the roof requires a penetration in the balcony. It is very important that the penetration reinforcement be full seal welded top and bottom, and that the cutout for the penetration does not occur closer than 4" from the tank wall. Also, the penetration should be narrow enough to minimize any impendence with safe access around the balcony.
- **10" coax standoff brackets:** These brackets are to be welded directly to the tank shell from the balcony to the roof antenna location at 4 ft. intervals. Snap-in hangers are used to secure the coax to the brackets. These brackets can handle up to 4 coax if regular snap-ins are used, or up to 8 coax if 'snap-stack' hangers are used.
- **Single antenna roof mount:** This mount is designed for a single antenna to be mounted. The gussets should be positioned as shown to prevent water from pooling around the pipe. The mount should not be installed within 3 feet of the vent so that adequate access is maintained for future vent maintenance activities. If several antennae are planned, then a custom corral type mount should be investigated rather than cluttering the roof of the tank with several single mounts.
- **Handrail/Catwalk Antenna Mount:** The elevation of the midpoint of the antenna should be near the mid-rail of the balcony handrail. This is to avoid offset wind loads which can create structural problems on the balcony. It is important to know that the balcony's primary function is as a reinforcement of the tank itself. If other elevations are needed for a balcony antenna mount, a structural analysis is necessary to determine necessary bracing and supports.



TOE PLATE STANDOFFS ✓



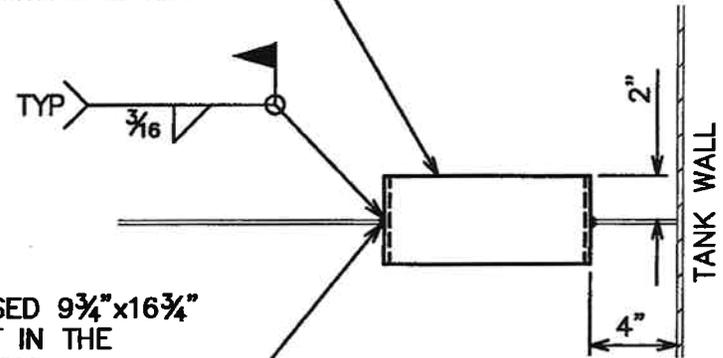
NOTE:

1. PRIOR TO PERFORMING THE CUTOUT IN THE CATWALK PLATE, THE CONTRACTOR SHALL VERIFY THE CUTOUT IS A CLEAR DISTANCE FROM ANY SUPPORT BENEATH THE CATWALK.

PROPOSED 9"x16"x4"x $\frac{1}{4}$ "
TOE BOARD PENETRATION
FRAME BY MTS WIRELESS
(P/N: WT-PFS) OR APPROVED
EQUAL



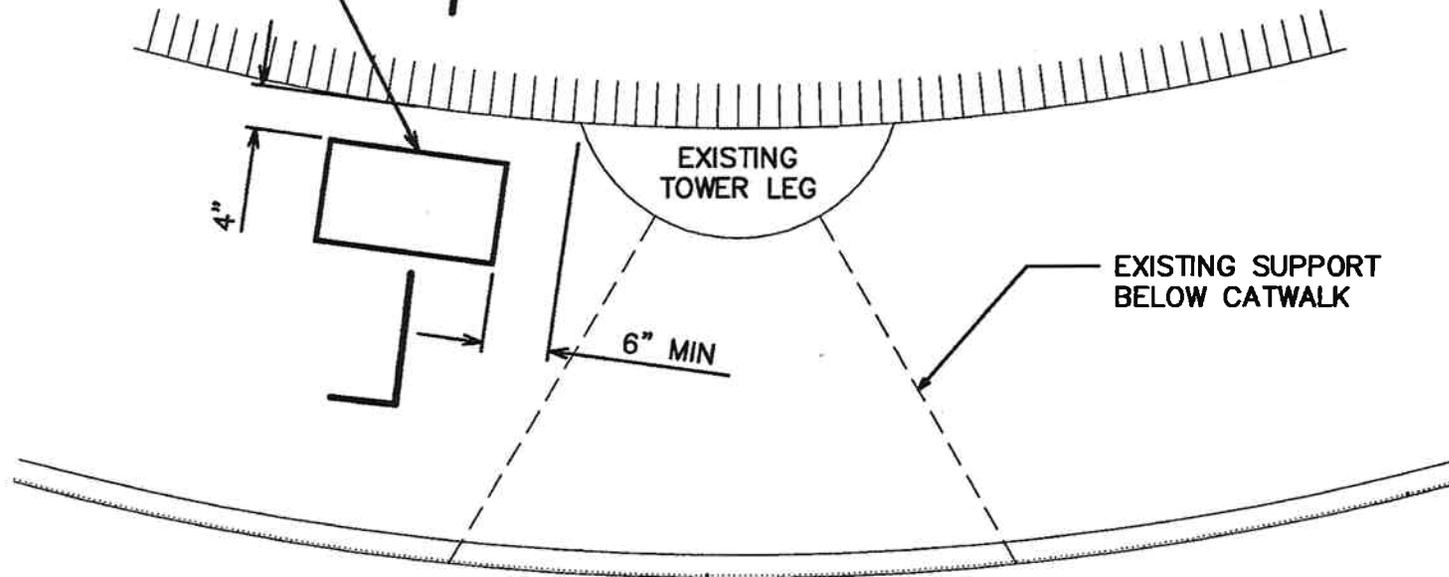
PROPOSED TOE BOARD
PENETRATION FRAME



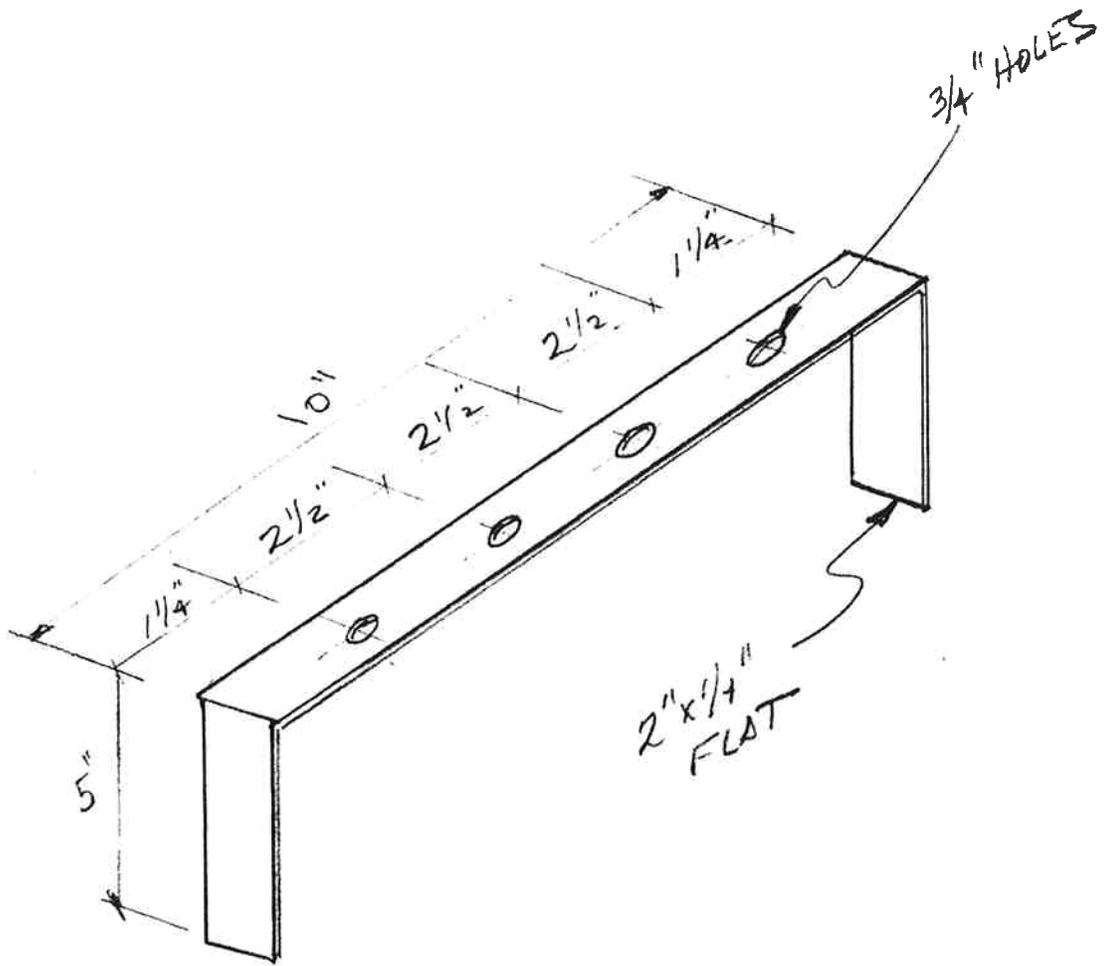
PROPOSED 9 $\frac{3}{4}$ "x16 $\frac{3}{4}$ "
CUTOUT IN THE
PLATFORM

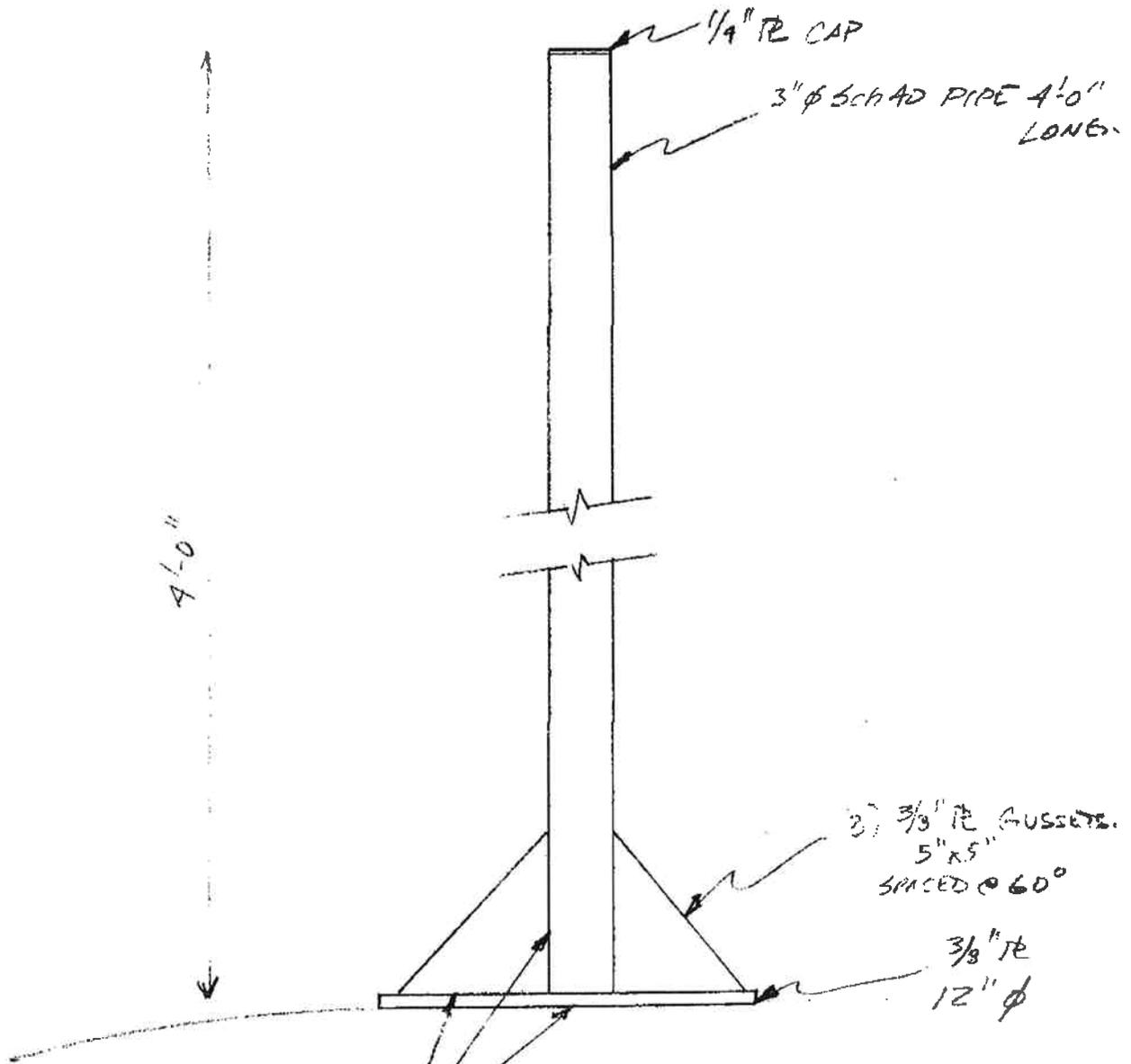
SECTION

SCALE: 1" = 1'-0"



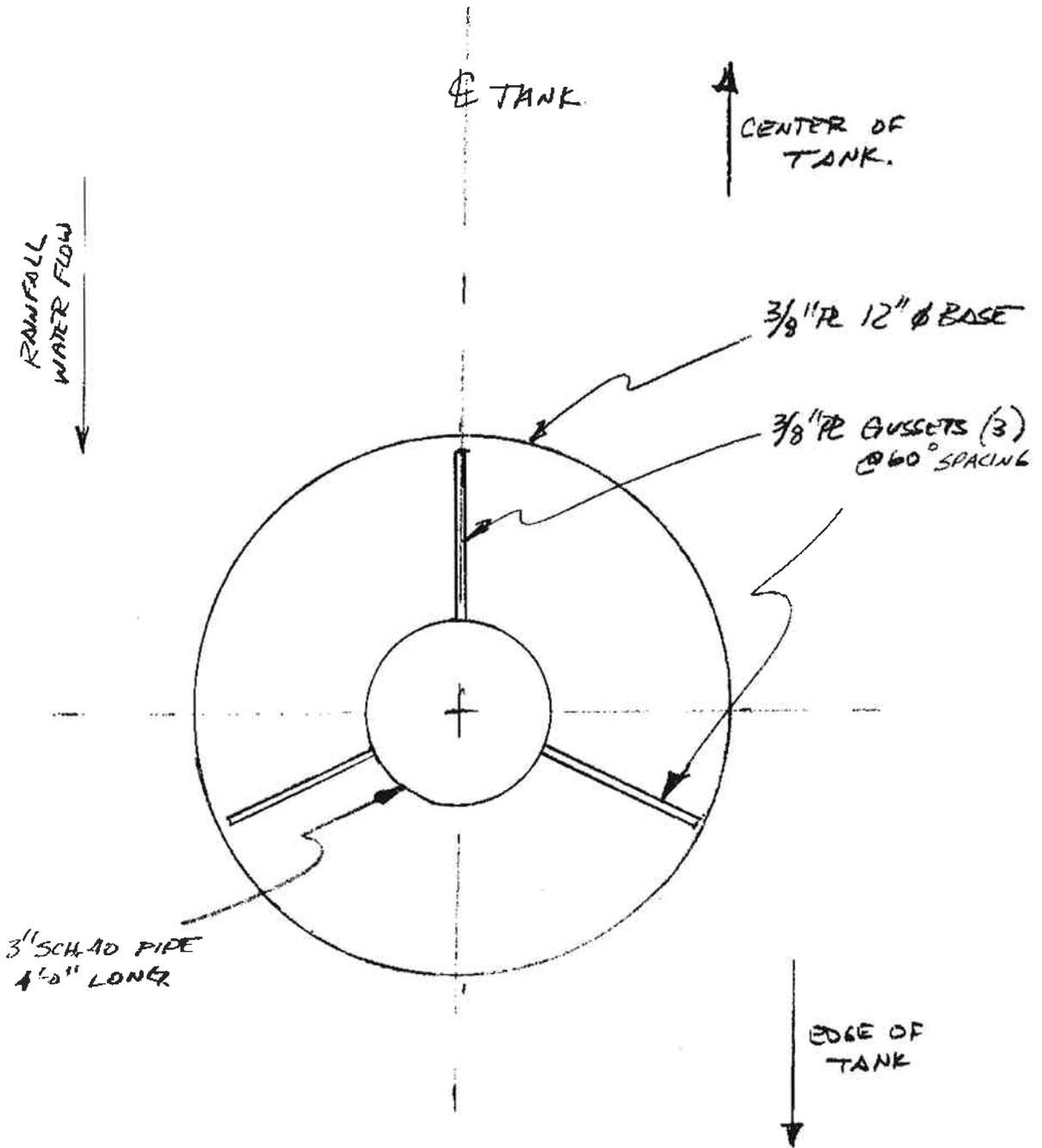
COAX STANDOFF BRACKET - 10"



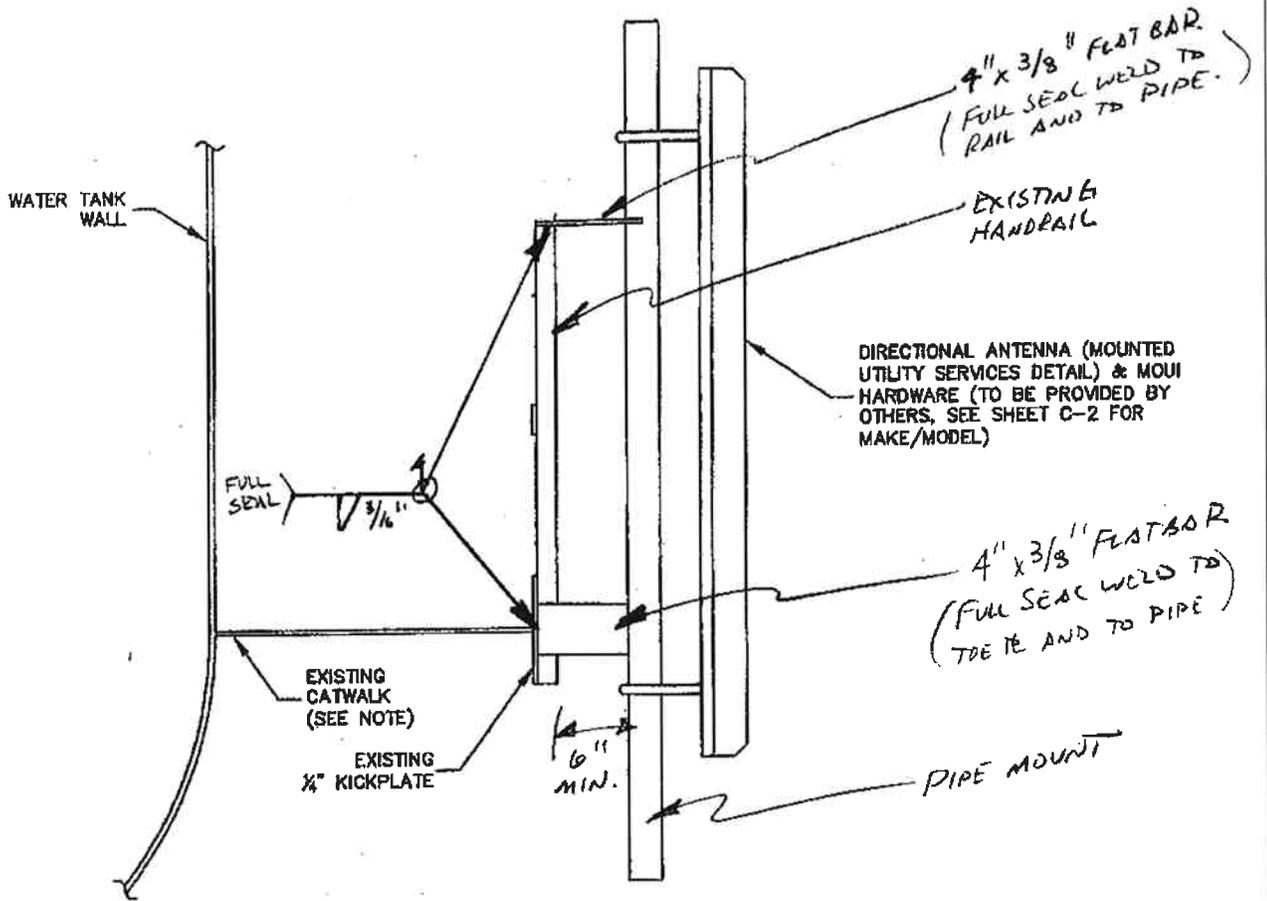


* FIELD TRIM BOTTOM OF PIPE AND BOTTOM EDGE OF GUSSETS TO ALLOW FOR SLOPE OF ROOF. PIPE MUST BE PLUMB.
* SEE PAGE 2 FOR GUSSET PLACEMENT.

FULL SEAL TYP.
3/16
3/16



GUSSET ORIENTATION



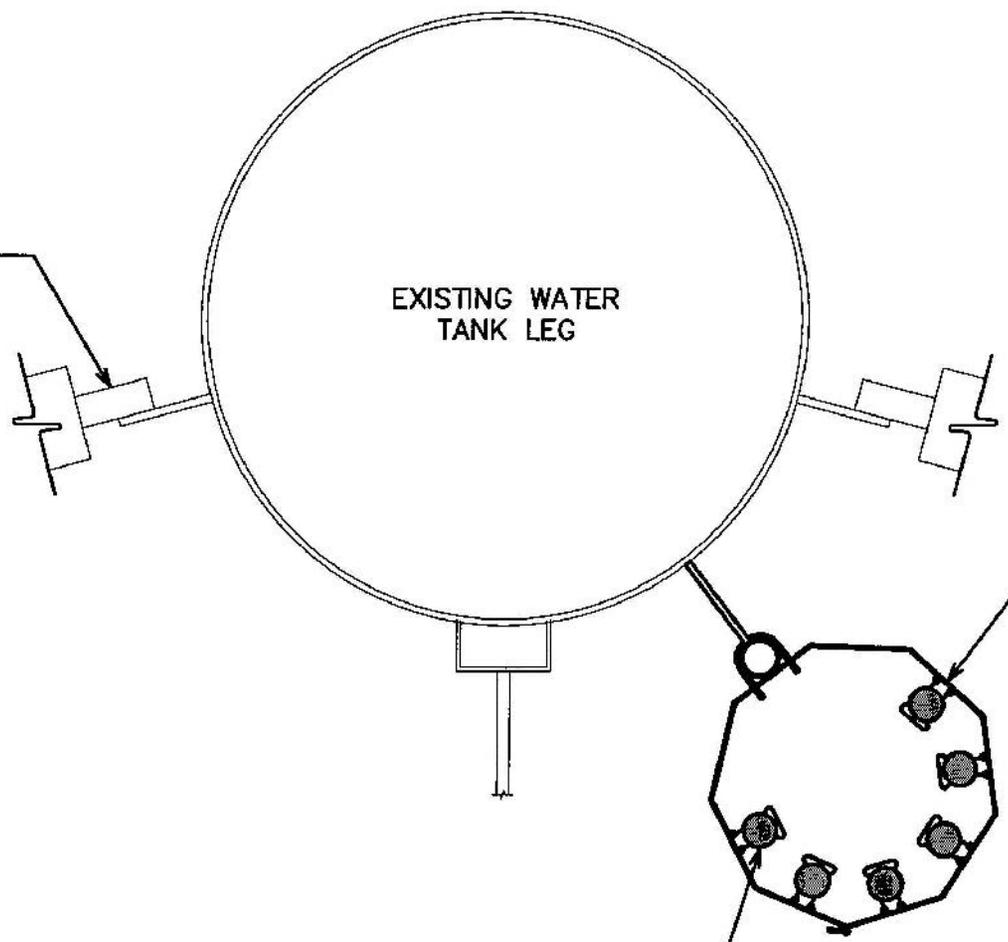
CATWALK ANTENNA MOUNT DETAIL

EXISTING TANK BRACING (TYP)

EXISTING WATER TANK LEG

PROPOSED CLUSTER SUPPORT BRACKET BY UTILITY SERVICE FOR SNAP-IN HANGERS (4'-0" C/C)

PROPOSED COAXIAL CABLES BY OTHERS

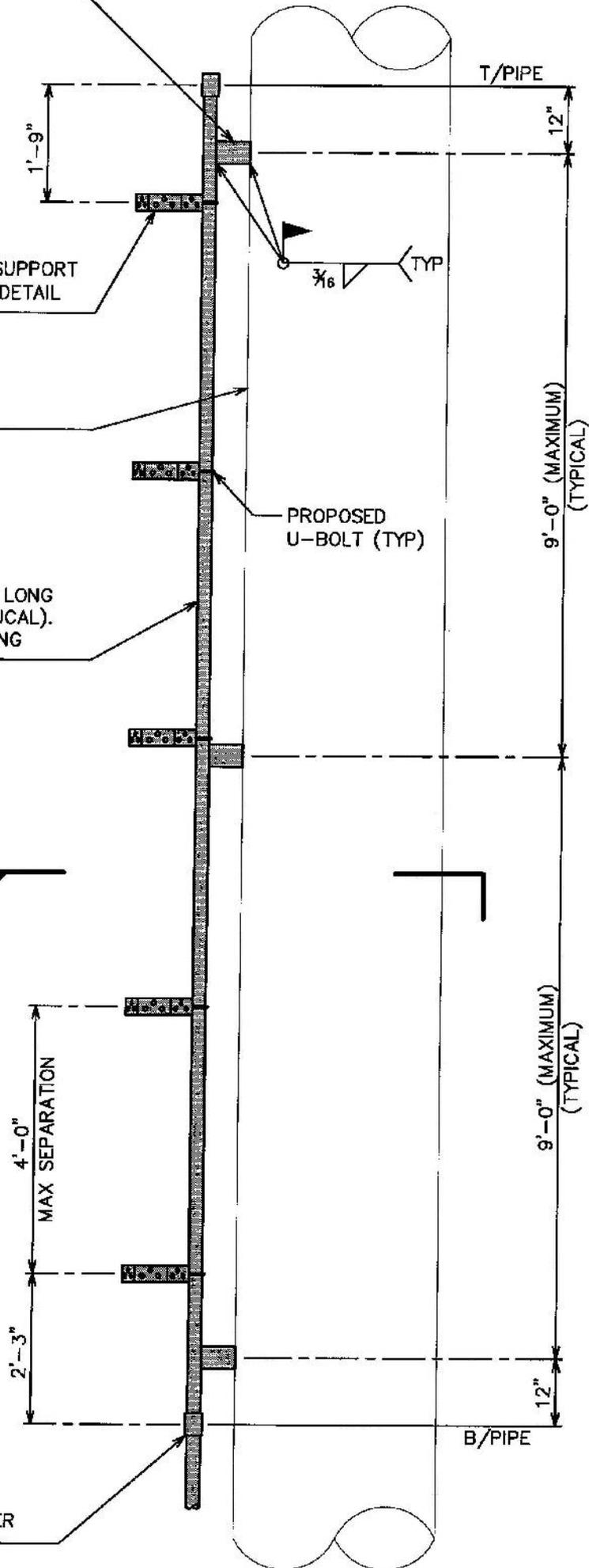


PROPOSED $\frac{3}{8}$ "x6"x4"
STEEL PLATE

PROPOSED CLUSTER SUPPORT
BRACKET (TYP). SEE DETAIL
THIS SHEET.

EXISTING TANK LEG

PROPOSED $2\frac{3}{8}$ " x 20' LONG
MESSENGER PIPE (TYPICAL).
SEE NOTE 1 OF WELDING
NOTES.



T/PIPE

12"

1'-9"

$\frac{3}{8}$ "

(TYP)

PROPOSED
U-BOLT (TYP)

9'-0" (MAXIMUM)
(TYPICAL)

4'-0"
MAX SEPARATION

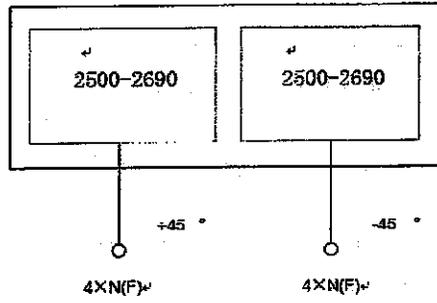
2'-3"

9'-0" (MAXIMUM)
(TYPICAL)

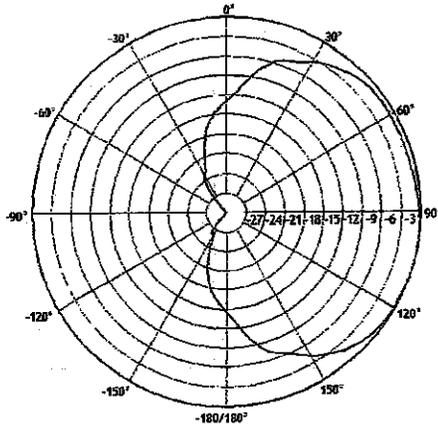
12"

B/PIPE

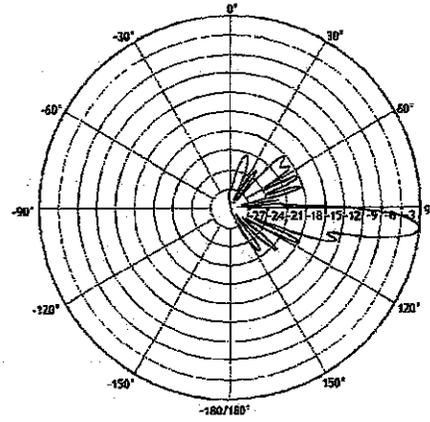
PROPOSED MESSENGER
PIPE THREADED COUPLER
(TYPICAL)



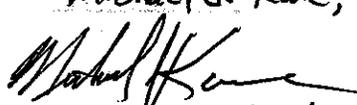
Horizontal



vertical



2500-2690

Appd. Michael J. Kane, PE


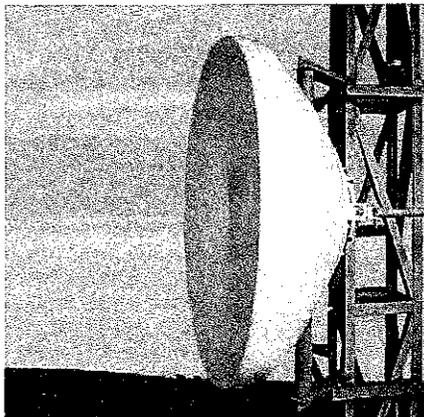
2500-2690 17dBi Xpol 6 fixed tilt four array LTE smart antenna

Model Name		T-04-47-17-006	
Electrical Specifications			
General parameters	Parameters		Index
	Frequency Range		2500-2690MHz
	Fixed electrical tilt		6°
	Tilt accuracy		±1°
Calibration and electrical parameters	Coupling between calibration port and each radiation port		-26±2 dB
	Max.altitude difference between calibration port and each radiation port		≤0.7 dB
	Max.phase difference between calibration port and each radiation port		≤5°
	VSWR of calibration port and radiation port		≤1.5
	Isolation between co_polarization ports	6 tilt	≥28dB
	Isolation between cross_polarization ports	6 tilt	≥30dB
Radiation parameters	Column pattern	-3dB Horizontal beam width	65° ±15°
		Gain of single column pattern	≥16.5dBi
		Gain drop at ±60°	12±2dB
		Vertical beam width	≥5°
		Cross_polarization ratio (bore sight)	≥18dB
		Cross_polarization ratio (at±60° sight)	≥10dB
		Front to back ratio	≥25dB
		First upper side lobe suppression	≤-16dB
		-3dB Horizontal beam width	65° ±5°
		Gain of broadcasting pattern	≥16dBi

	Broadca sting pattern	Gain drop at $\pm 60^\circ$	$12 \pm 2\text{dB}$
		-3dB Vertical beam width	$\geq 5^\circ$
		Cross-polarization ratio (bore sight)	$\geq 22\text{dB}$
		Cross-polarization ratio (at $\pm 20^\circ$ sight)	$\geq 22\text{dB}$
		Cross-polarization ratio (at $\pm 60^\circ$ sight)	$\geq 10\text{dB}$
		Front to back ratio	$\geq 28\text{dB}$
		First upper side lobe suppression	$\leq -16\text{dB}$
		First null fill	$\geq -18\text{dB}$
	Operati Pattern	Gain at 0 degree directions	$\geq 22\text{dBi}$
		-3dB Horizontal beam width at 0 degree directions	$\leq 25^\circ$
		Horizontal side lobe level at 0 degree directions	$\leq -12\text{dB}$
		Gain at $\pm 60^\circ$ direction	$\geq 17.5\text{dBi}$
		-3dB Horizontal beam width at $\pm 60^\circ$ directions	$\leq 23^\circ$
		Horizontal side lobe level at $\pm 60^\circ$ directions	$\leq 0\text{dB}$
		Front to back ratio at 0 degree	$\geq 28\text{dB}$

Mechanical Specification	
Radome Material	UPVC
Radome Color	Grey
Connector Type	9*N(F)
Antenna Dimension (mm)	1400×320×110
Packing Size (mm)	1610×405×227
Antenna Weight (kg)	13.5
Clamp weight (kg)	4.8
Operating Temperature (°C)	-40~+70
Operating Wind Speed (km/h)	135
Maximum Wind Speed (km/h)	200

Microwave Antenna Specifications



WTC09-107SAR-QFD

Ultra High Performance,
0.9m (3 ft), 10.7-11.7GHz,
Dual-polarized,
Short-focus Parabolic Antenna

General Specifications

Antenna Type	Point to point antenna
Performance	Ultra high
Diameter, nominal, m (ft)	0.9 (3)
Polarization	Dual , V and H
Flange Interface	154IEC-PDR100
Antenna Color	Light gray
Radome Color	Light gray
Radome Material Description	Anti-ultraviolet ABS material
Packing	Plywood
RoHS 2002/95/EC	Compliant

Electrical Specifications

Frequency Range, GHz	10.7-11.7
Gain, Low Band, dBi	37.3
Gain, Mid Band, dBi	37.7
Gain, Top Band, dBi	38.0
3dB Beamwidth, Degree	2.1
Isolation,dB	35
XPD, dB	30
F/B Ratio, dB	64
VSWR,(Return Loss, dB)	1.30 (17.7)
ETSI Standard	Range 1, Class 3

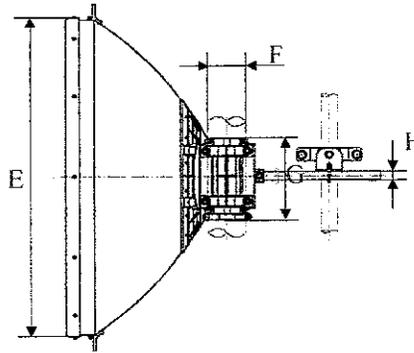
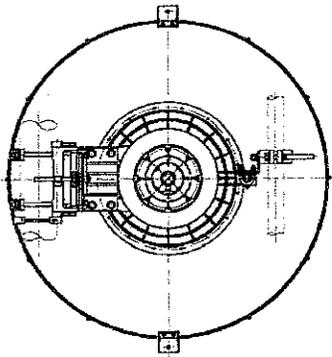
Microwave Antenna Specifications



Mechanical Specifications

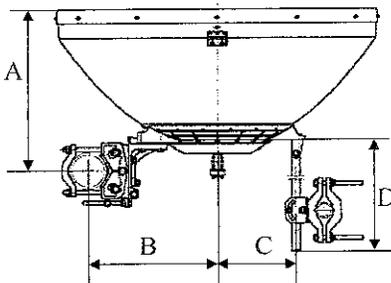
Wind Velocity Operational, km/h	126
Wind Velocity Survival Rating, km/h	200
Coarse Azimuth, Degree	360
Fine Azimuth Adjustment, Degree	±10
Fine Elevation Adjustment, Degree	±15
Mounting Pipe Diameter, mm	∅51~∅114
Feeder Watertightness	Watertight
Operation Pressurization, kPa	50
Operation Temperature, °C	-45 ~ +60
Storage Temperature, °C	-55 ~ +70
Ice Load, mm	25
Strengthening Rod	1
Adjustable Rod	NA
Net Weight, kg	24±1
Gross Weight, Packed Antenna, kg	52±3
Length, mm	1060
Width, mm	1060
Height, mm	770
Volume, m³	0.87

Structure information



0.9m Antenna Dimensions, mm	
A	(498)
B	(399)
C	(241)
D	(1350)
E	(∅991)
F	∅51~114
G	(260)
H	(∅26.8)

NOTE: The dimension with“()” is referenced dimension.

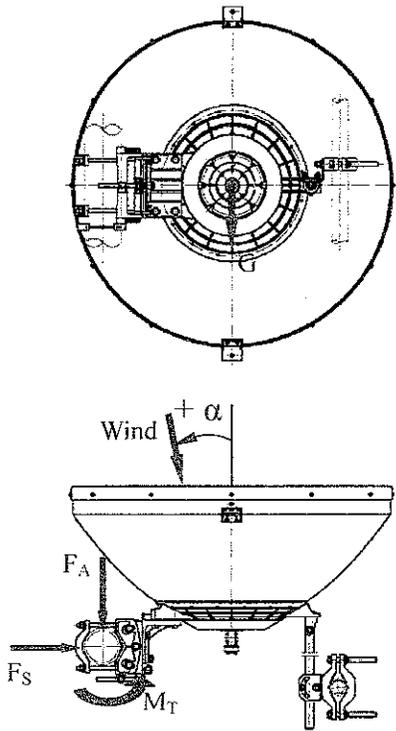


Microwave Antenna Specifications



Wind Forces at Wind Velocity Survival Rating

Axial Force (FA), N	1880
Side Force (FS), N	920
Twisting Moment (MT), N·m	790
Angle α for MT Max, Degree	-20



Microwave Antenna Specifications



Radiation Pattern Envelope

Co-polar and X-polar response are represented for both horizontal and vertical polarizations. The curves are identified as follows:

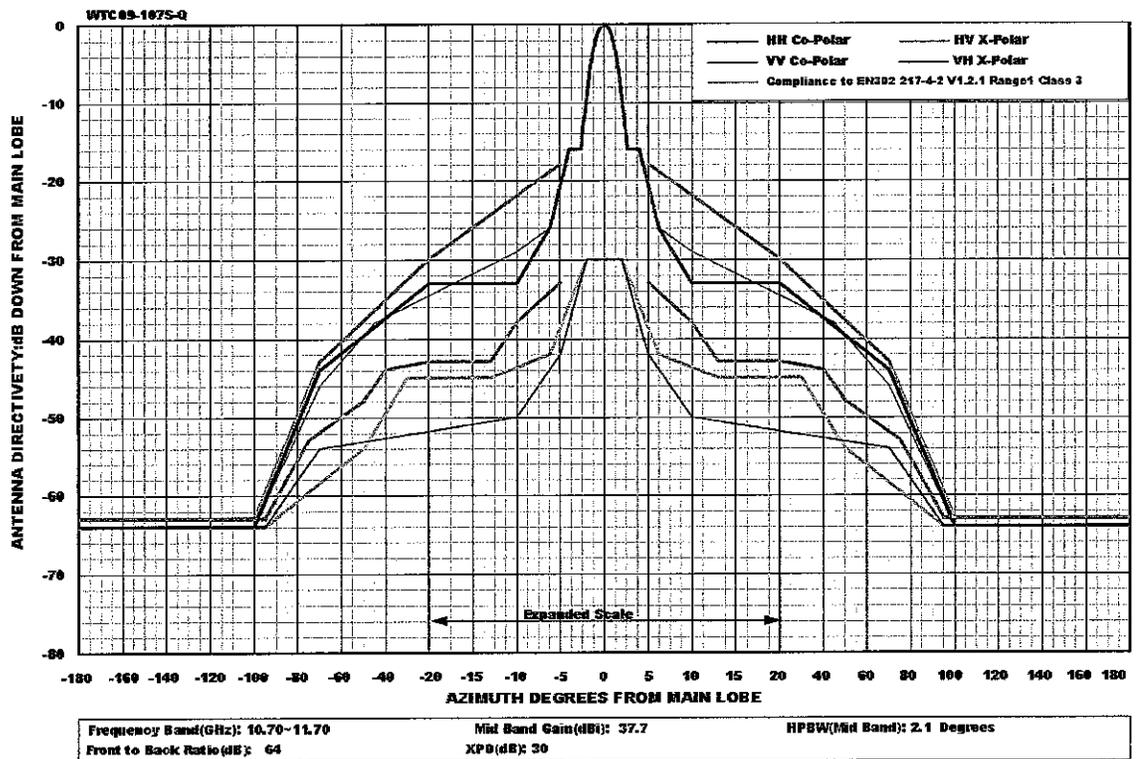
HH – Response of horizontally polarized port to a horizontally polarized signal.

HV – Response of horizontally polarized port to a vertically polarized signal.

VV – Response of vertically polarized port to a vertically polarized signal.

VH – Response of vertically polarized port to a horizontally polarized signal.

0.9m 10.70-11.70GHz RADIATION PATTERN ENVELOPE



SITE LICENSE AGREEMENT (Municipal Water Tower Attachments)

THIS LICENSE AGREEMENT (the "License"), made this ____ day _____, by and between City of Rock Island, an Illinois Municipal Corporation ("Licensor") and _____ SpeedConnect _____, ("Licensee").

1. License of Premises.

Subject to the terms and conditions of this License and the provisions of Division 76 of Article II of the Illinois Municipal Code (65 ILCS 11-76), Licensor hereby licenses to Licensee on a non-exclusive basis a portion of the real property described on Exhibit A ("the Property") consisting of (a) a ground space area, (b) space on the structure for the installation of antennas and related equipment, and (c) such easements as are necessary for the initial installation as described on attached Exhibit E, and for ingress and egress and the installation of utilities (collectively, the "Premises"). The nature and the extent of the utility installation shall be specified on the site plan and attached as Exhibit E.

2. Term.

- a. The initial term of this License shall be five (5) years (the "Initial Term"), commencing on the date commercial operations commence or ninety (90) days from the day and year first written above whichever first occurs ("Commencement Date").
- b. This License shall be automatically renewed for four (4) successive five (5) year renewal terms ("Renewal Term(s)"), upon the same terms and conditions, unless Licensee notifies Licensor in writing of Licensee's intention not to renew this Agreement at least one hundred and twenty (120) days prior to the expiration of the existing term. The Licensor may terminate agreement upon giving Licensee one hundred and twenty (120) days notice.

3. License Fees.

- a. From and after the Commencement Date, Licensee shall pay Licensor Seven Hundred Dollars (\$700) per month.
- b. The License Fee shall increase annually during the initial and Renewal Term, effective as of each anniversary of the Commencement Date, by an amount equal to four percent (4%) per annum above the amount of the License Fees in effect immediately prior to such increase. The License Fees shall be payable monthly in advance without demand, offset, abatement, diminution or reduction, to Licensor, at Licensor's address specified below or any other person or firm as Licensor may from time to time, designate in writing at least sixty (60) days in advance of any License Fees payment date.
- c. Upon execution of this License, and at the Commencement Date of each Renewal Term, the Licensee will pay Licensor a One Thousand Dollar (\$1,000) landscaping fee.
- d. Licensee shall pay to Licensor a one-time non-refundable administrative fee in the amount of One Thousand Dollars (\$1,000) for the negotiation of this Lease.
- e. All fee payments must have the City of Rock Island lease number on them in order to be processed.

The Premises may be used for (i) the transmission and reception of communications signals within or utilizing such frequency band or frequencies which are within those for which Licensee, or any entity which controls, is controlled by or is under common control with Licensee, is duly licensed by the Federal Communications Commission, and (ii) the attachment, installation, operation, alteration, maintenance, repair, replacement and relocation of any approved antennas and related equipment, cables and facilities and improvements related thereto, and (iii) activities related to any of the foregoing, provided such activities do not require an expansion of the Premises or violate Licensee's duties on non-interference set forth herein.

LICENSOR AND LICENSEE AGREE THAT THE PRIMARY FUNCTION OF THE WATER TOWER IS TO PROVIDE WATER SERVICE TO THE MUNICIPAL WATER CUSTOMERS. SHOULD THE LICENSOR DETERMINE, IN ITS SOLE DISCRETION, THAT THE PERFORMANCE OF THIS AGREEMENT INTERFERES WITH THAT PRIMARY FUNCTION, THE LICENSOR MAY TERMINATE THIS AGREEMENT WITH ONE HUNDRED TWENTY (120) DAYS WRITTEN NOTICE TO LICENSEE. LICENSEE SHALL HAVE THE RIGHT DURING SAID ONE HUNDRED TWENTY (120) DAY PERIOD TO CURE THE INTERFERENCE PROBLEM TO THE SATISFACTION OF THE LICENSOR; PROVIDED, HOWEVER, THAT IF SAID CURE IS NOT ACHIEVED IN THE SOLE JUDGEMENT OF THE LICENSOR, LICENSEE MUST HAVE COMPLETELY VACATED THE TOWER BY THE EXPIRATION OF SAID ONE HUNDRED TWENTY (120) DAY PERIOD. IF LICENSEE DETERMINES, IN ITS SOLE JUDGEMENT, THAT THE OPERATION OF THE TOWER BY LICENSOR IS CREATING INTERFERENCE WITH LICENSEE'S USE AND OPERATION OF ITS FACILITIES AT THE TOWER, LICENSEE MAY TERMINATE THIS AGREEMENT BY GIVING THE LICENSOR ONE HUNDRED TWENTY (120) DAYS WRITTEN NOTICE. LICENSEE'S RIGHT TO TERMINATE THIS AGREEMENT IS SUBJECT TO ALL OF THE TERMS HEREOF REGARDING LICENSEE'S OBLIGATION TO REMOVE EQUIPMENT AND BUILDING AT THE EXPIRATION OR TERMINATION OF THIS AGREEMENT.

4 Installation and Maintenance.

Licensee shall install, construct and maintain the antenna facilities on the Premises at its sole cost and expense in compliance with approved plans and the installation and maintenance criteria listed on the attached Exhibit D.

5. Access.

Licensee and its authorized employees, engineers, technicians, or properly authorized contractors of Licensee or personnel under their direct supervision shall be entitled to twenty-four (24) hour, seven (7) days per week access to the Premises. All access to the Premises by Licensee shall be subject in each instance to the reasonable security requirements and reasonable rules and regulations from time to time in effect at the Property, of which Licensor shall inform Licensee in writing. (Please see attached Exhibit B.) Notwithstanding the foregoing, in the event Licensee requires or requests Licensor or Licensor's representative to be present in order for Licensee to gain access to the Premises outside of Licensor's normal business hours, Licensee will be responsible for any reasonable out-of-pocket costs incurred by Licensor in providing such access to the Premises.

6. Interference.

Licensee further agrees that it will supply Licensor with a twenty-four (24) hour contact phone number, so that in the event that the Licensee's equipment interferes with the normal and proper operation of Licensor's and/or any prior lessee's facilities on the Property, the Licensee be notified. Licensee agrees to install and operate only equipment that does not cause interference to Licensor's or other lessees or licensees of the Property ("Pre-Existing User"); provided that their installations and use predate that of the Licensee's installation. In the event that the Licensee's equipment cause such interference or any permitted subsequent modification or addition causes such interference, Licensee shall take all steps necessary to correct and eliminate the interference. If the interference is substantial then Licensee shall have forty-eight (48) hours to resolve the interference problem. If the interference is substantial and cannot be resolved within 48 hours, Licensee shall power down its equipment and/or cease operations in order to correct and eliminate such interference provided that Licensee may operate its equipment intermittently during off-peak hours for testing purposes only. If the interference is not substantial, Licensee shall work diligently and take all necessary and appropriate action to cure such interference as promptly as possible without having to power down its equipment unless the interference becomes substantial. In all cases of interference if Licensee is unable to eliminate the interference, or reduce it to a level acceptable to the affected Pre-Existing User, within a period of thirty (30) days, then either party may terminate this License. Licensor agrees not to allow any lessee of the Property whose equipment is installed or modified subsequent to Licensee's then current operation of Licensee's equipment ("Subsequent User") to interfere with the operation of Licensee. In the event Licensee is subject to any such interference, Licensor shall (or shall cause other Subsequent Users) take all steps necessary to correct and eliminate the interference. If such interference is not eliminated within forty-eight (48) hours after Licensor's receipt of notice of such interference from Licensee, Licensor shall (or shall cause such other Subsequent User) to cease operations if requested by Licensee until the interference is eliminated. If such Subsequent User is unable to eliminate the interference, or reduce it to a level acceptable to Licensee, within a period of thirty (30) days, then

Licensee may, in addition to any other rights it may have, terminate this License. Nothing in this section shall be deemed or interpreted to authorize Licensee to illegally transmit on any frequencies or to provide any protection to Licensee from interference from any other person in the event that Licensee is operating on any unlicensed frequency spectrum. Licensor shall impose upon future lessees of the Property a similar duty to refrain from interfering with Licensee.

Notwithstanding the provisions contained herein, if Licensee's equipment interferes with Licensor's 911 System, Non emergency radio system, or Fire Rescue Emergency Radio Systems, Licensee shall either cure such interference or shut down its equipment immediately, but in no event later than two (2) hours from notice of such interference, and if Licensee fails to take such action, Licensor may shut down Licensee's equipment and Licensee shall have no recourse against Licensor as a result of such action.

Contact numbers:

7. Assignment.

Licensee will have the right to assign, sell or transfer its interest under this Agreement without the approval or consent of Licensor, to the Licensee's principal, affiliates, subsidiaries, subsidiaries of its principal. Upon notification to Licensor of such assignment, Licensee will be relieved of all future performance, liabilities and obligations under this Agreement.

8. Taxes and Assessments.

Upon presentation of sufficient and proper documentation, Licensee shall pay any and all increased ad valorem and personal property taxes, assessments, charges, fees, or Licenses levied upon the Property and the Premises as a result of Licensee's use thereof.

9. Insurance.

Licensee shall, at Licensee's sole cost and expense, procure and continue in force during the term of this License, including any Renewal Term, the Insurance Policies listed on Exhibit C hereto with the policy limits stated thereon.

10. Release and Hold Harmless.

- a. Licensee hereby releases Licensor, and their respective agents, employees, officers, directors, shareholders and partners (collectively the "Releasees") from, and shall not hold Releasees liable for, any liability for personal injury, consequential damages, loss of income or damage to or loss of property or persons, or loss or use of any property in or about the Premises from any cause whatsoever unless such damage, loss or injury directly results from the negligence or willful misconduct of the Releasees.
- b. Further, the Releasees shall not be liable to Licensee for any such damage or loss to the extent Licensee is compensated or would have been compensated by the insurance which Licensee is obligated to maintain pursuant to Section 11. Licensee agrees to indemnify, defend and hold Releasees harmless from and against injury, loss, damage or liability (or any claims in respect of the foregoing), costs or expenses (including reasonable attorneys' fees and court costs) which may arise or be imposed upon or incurred by or asserted against Releasees occurring during the term of this License, or during any period of time when Licensee is conducting business activity on the Premises pursuant to this Agreement, whether before the Commencement Date hereof or after the expiration date hereof, arising from:
 - (i) any work or act done in, on or about the Premises or any part thereof, including the installation, use, maintenance, repair or removal of the antenna facilities, at the direction of Licensee, its agents, contractors, subcontractors, servants, employees, Licensees invitees, except if such work or act is done or performed by Licensor or its agents or employee;

- (i) any negligence or other wrongful act or omission on the part of Licensee or any of its agents, contractors, subcontractors, servants, employees, subtenants, invitees, or Licensees;
- (ii) any accident, injury or damage to any person or property occurring in, on or about the Premises or any part thereof, unless caused by the negligence or willful misconduct of Licensor, its employees or agents; and
- (iii) any failure on the part of Licensee to perform or comply with any of the covenants, Licenses, terms, provisions, conditions or limitations contained in this License on its part to be performed or complied with.

c. Licensor agrees to indemnify, defend and hold Licensee harmless from and against any and all injury, loss, damage or liability (or any claims in respect of the foregoing), costs or expenses (including reasonable attorneys' fees and court costs) arising from any willful act or omission or the negligence of Licensor or its employees or agents, or the breach of this Agreement, except to the extent attributable to the negligence or intentional act or omission of Licensee and except to the extent that the licensor would be immune under the Illinois Municipal Tort Immunity Act, its employees, agents or independent contractors.

11. Removal of the Equipment Upon Termination.

Following any termination or expiration of this License, Licensee shall remove all of its equipment. Footings, foundations, and concrete will be removed to a depth of one (1) foot below grade. In performing such removal, Licensee shall restore the Premises and any personal property and fixtures thereon to as good a condition as they were prior to the installation or placement of the equipment, reasonable wear and tear excepted. If Licensee fails to remove such equipment within sixty (60) days after expiration or earlier termination of this License, Licensor may, upon thirty (30) days prior written notice to Licensee, remove and dispose of the equipment and Licensee shall reimburse Licensor for the costs of such removal and restoration of the Premises. Moreover, Licensor may, after said thirty (30) day notice, deem the equipment abandoned in which event the equipment shall become Licensor's property.

12. Hazardous Substances.

Licensee agrees that it will not use, generate, store or dispose of any Hazardous Material on, under, about or within the Premises in violation of any law or regulation. Licensor represents, warrants and agrees (1) that to Licensor's best knowledge, neither Licensor nor any third party has used, generated, stored or disposed of, or permitted the use, generation, storage or disposal of, any Hazardous Material on, under, about or within the Premises in violation of any law or regulation, except as disclosed herein, and (2) that Licensor will not, and will not permit any third party to use, generate, store or dispose of any Hazardous Material on, under, about or within the Premises in violation of any law or regulation. Licensor and Licensee each agree to defend, indemnify and hold harmless the other and the other's partners, affiliates, agents and employees against any and all losses, liabilities, claims and/or costs arising from any breach of any representation, warranty or License contained in this paragraph. In addition, Licensor shall defend, indemnify and hold harmless Licensee from all other losses, liabilities, claims and/or costs arising from or related to the environmental condition, including costs of remediation, which are not the result of any act of Licensee. As used in this paragraph, "Hazardous Material" shall mean hazardous or radioactive material, polychlorinated biphenyls, friable asbestos or other hazardous or medical waste substances as defined by the Comprehensive Environmental Response, Compensation and Liability Act, as amended, or by any other federal, state or local law, statute, rule, regulation or order (including any Governmental Requirements) concerning environmental matters, or any matter which would trigger any employee or community "right-to-know" requirements adopted by any such body, or for which any such body has adopted any requirements for the preparation or distribution of a material safety data sheet. This paragraph shall survive the termination of this License.

13. Termination by Licensee.

Provided Licensee is not in default hereunder, Licensee shall have the right to terminate this License after the Initial Term without cause by giving Licensor at least one hundred and eighty (180) days prior written notice and Licensee shall not be required to make any further payment of License Fees.

14. Utilities.

Licensee shall contract directly with the local utility company to install a separate utility meter(s) for its utility service(s) and Licensee shall pay all costs related to such installation(s) and utility service(s). The utility meter(s) will be required to use remote read technology at the cost of the licensee.

15. Notices.

All notices, demands, requests and other communications hereunder shall be in writing either personally delivered or mailed, via certified mail, return receipt requested, or sent by overnight courier to the following addresses:

If to Licensor, to:

City of Rock Island
ATTN: City Manager
1528 Third Avenue
Rock Island, IL 61201

With a copy to:

City of Rock Island
Public Works Department
c/o Public Works Administration
1309 Mill Street
Rock Island, IL 61201

If to the Licensee, to:

SpeedConnect, LLC
Attn: Tony Jaboro/Leigh Ann Spellman
455 North Main Street
Frankenmuth, MI 48734
(866) 297-2900

With a copy to:

Leigh Ann Spellman
Contracts Manager
1015 Central Ave Ste C
Kearney, NE 68845

Notices will be deemed to have been given upon either receipt or rejection. Unless or until either of the respective addresses is changed by notice in writing sent to the other party as set forth above, thereafter to the address

contained in such notice. Any notice herein, which is required by Licensor, may be given by City's designated Manager and shall be deemed effective for all purposes herein.

16. Marking and Lighting Requirements.

Licensee shall construct, install and maintain the antenna facilities at the Premises in compliance with all marking and lighting requirements of the Federal Aviation Administration ("FAA") and the Federal Communications Commissions ("FCC"). Licensee shall hold harmless Licensor against any penalty or citation resulting from Licensee's failure to maintain required lighting of its equipment, unless such failure is the result of Licensor's gross negligence or willful misconduct.

17. Default and Right to Cure.

The following will be deemed a default by Licensee and a breach of this Agreement: (i) non-payment of the License Fee if such License Fee remains unpaid for more than thirty (30) days after receipt of written notice from Licensor of such failure to pay; or (ii) Licensee's failure to perform any other term or condition under this Agreement within forty-five (45) days after receipt of written notice from Licensor specifying the failure. If Licensee remains in default beyond any applicable cure period, Licensor will have the right to exercise any and all rights and remedies available to it under law and equity.

18. Warranties.

Licensee and Licensor each acknowledge and represent that it is duly organized, validly existing and in good standing and has the right, power and authority to enter into this Agreement and bind itself hereto through the party set forth as signatory for the party below.

Licensor represents and warrants that: (i) Licensor solely owns the Property as a legal lot in fee simple, or controls the Property and structure by lease or license; (ii) the Property is not encumbered by any liens, restrictions, mortgages, covenants, conditions, easements, leases, or any other agreements of record or not of record, which would adversely affect Licensee's permitted use and enjoyment of the Premises under this Agreement; (iii) as long as Licensee is not in default then Licensor grants to Licensee sole, actual, quiet and peaceful use, enjoyment and possession of the Premises; (iv) Licensor's execution and performance of this Agreement will not violate any laws, ordinances, covenants or the provisions of any mortgage, lease or other agreement binding on the Licensor; and (v) if the Property is or becomes encumbered by a deed to secure a debt, mortgage or other security interest, Licensor will use best efforts to provide promptly to Licensee a mutually agreeable Subordination, Non-Disturbance and Attornment Agreement.

19. Condemnation.

In the event Licensor receives notification of any condemnation proceedings affecting the Property, Licensor will provide notice of the proceeding to Licensee within forty-eight (48) hours. If a condemning authority takes all of the Property, or a portion sufficient, in Licensee's reasonable determination, to render the Premises unsuitable for Licensee, this Agreement will terminate as of the date the title vests in the condemning authority. The parties will each be entitled to pursue their own separate awards in the condemnation proceeds, which for Licensee will include, where applicable, the value of its Communication Facility, moving expenses, prepaid License Fees, and business dislocation expenses, provided that any award to Licensee will not diminish Licensor's recovery. Licensee will be entitled to reimbursement for any prepaid License Fee on a prorata basis.

20. Casualty.

Licensor will provide notice to Licensee of any casualty affecting the Property within forty-eight (48) hours of the casualty. If any part of the antenna facilities or Property is damaged by fire or other casualty so as to render the Premises unsuitable, in Licensee's sole determination, then Licensee may terminate this Agreement by providing written notice to the Licensor, which termination will be effective as of the date of such damage or destruction. Upon such termination, Licensee will be entitled to collect all insurance proceeds payable to Licensee on account thereof and to be reimbursed for any prepaid License Fee on a prorata basis.

21. Waiver of Licensor's Liens.

Licensor waives any and all lien rights it may have, statutory or otherwise, concerning the antenna facilities or any portion thereof. The antenna facilities shall be deemed personal property for purposes of this Agreement, regardless of whether any portion is deemed real or personal property under applicable law, and Licensor consents to Licensee's right to remove all or any portion of the antenna facilities from time to time in Licensee's sole discretion and without Licensor's consent.

22. Miscellaneous.

- a. For the purpose of providing constructive notice hereof, Licensor and Licensee hereby agree to execute a Memorandum of License in recordable form and Licensee shall have same recorded in the land records of the appropriate county and state.
- b. If any term of this License is found to be void or invalid, such invalidity shall not affect the remaining terms of this License, which shall continue in full force and effect.
- c. Failure of Licensor to insist on strict performance of any of the conditions or provisions of this License, or to exercise any of Licensor's rights hereunder, shall not waive such rights.
- d. This License shall be governed by and construed in accordance with the laws of the state in which the Premises are located and jurisdiction and venue shall be in Rock Island County, Illinois.
- e. This License constitutes the entire license and understanding of the parties and supersedes all offers, negotiations and other licenses, including that certain _____ between Licensor _____ dated _____, regarding the Property. There are no representations or understandings of any kind not set forth herein. Any amendment to this License must be in writing and executed by both parties.
- f. The terms and conditions contained in this Agreement will run with the Property and bind and inure to the benefit of the parties, their respective heirs, executors, administrators, successors and assigns.

[SIGNATURES APPEAR ON PAGE IMMEDIATELY FOLLOWING.]

IN WITNESS WHEREOF, the parties hereto have executed this License as of the date aforesaid.

LICENSOR:

CITY OF ROCK ISLAND

BY: _____

NAME: Thomas Thomas

TITLE: City Manager

DATE: _____

FEDERAL TAX I.D. NO.: 36-6006077

LICENSEE:

SpeedConnect, LLC

BY: _____

NAME: John Ogren

TITLE: CEO

DATE: _____

EXHIBIT "A"

PROPERTY

The Property known as: Water Tower, 24th Street 31st Avenue, Rock Island, Illinois 61201.

EXHIBIT "B"

WATER TOWER ACCESS GUIDELINES

Following the World Trade Center incident on September 11, 2001, the Department of Homeland Security identified potable water infrastructures as being susceptible to terrorism. Numerous steps have been taken to ensure the safety of our drinking water infrastructure including, but not limited to, modification of storage tower access ladders, security fencing, tamper proof locks, etc.

The City of Rock Island has implemented the following guidelines for accessing water tower facilities:

In the event a City employee needs access to the water tower, the following procedures must be followed:

1. All City employees must notify RICOMM prior to entering any water tower facility (309-732-2511). RICOMM will keep a log of this activity.
2. The employee must state their name, department, and a brief description as to the nature of their business to the on-duty operator at RICOMM.
3. Upon completion of the work and after securing the premises, the employee must notify RICOMM that they are vacating the water tower facility.

In the event a contractor needs access to the water tower, the following procedures must be followed:

1. A new contractor must contact the Police Booking Custodian (309-732-2525) with the City of Rock Island Police Department, 316 16th Street, Rock Island, Illinois, during normal business hours (7:45 a.m. to 10:45 p.m.) to apply for a Water Tower Access Permit.

If a contractor has not been approved for a Tower Access Permit and needs access to the water tower facilities after the Police Department's normal business hours, the contractor must contact RICOMM (309-732-2511) and RICOMM will send an officer to stand-by at the water tower facility while the contractor is present.

2. The contractor will be required to complete a series of paperwork including, but not limited to, a clearance check, scope of work statement on company letterhead, estimate of time on site, a list of names and date of birth for employees that will be on site, a "Liable for Damage" form/contract, access guidelines, etc.
3. A photo ID will be issued by the City of Rock Island Police Department that must be kept on the person at all times while on site.
4. The Police Department will issue the contractor a key to the water tower facilities upon satisfactory completion of this paperwork and clearance check.
5. The contractor will be required to check the key out at the beginning of each workday.
6. The key can be checked out for a period not to exceed 12 hours. If more time is needed, the contractor must notify the City of Rock Island's Police Department and request additional time.
7. The key must be returned to the Police Department within 30 minutes of the contractor leaving the site.

In the event that the key is not returned or is lost, the contractor and/or company will pay the City of Rock Island \$2,000. Another key will not be issued until the \$2,000 is paid in full.

8. In the event a contractor needs to utilize the services of another contractor, a list of the names, sex/race, and dates of birth of the contractors must be submitted to the City of Rock Island Police Department 48 hours in advance for a clearance check. A permitted employee from the primary contractor must be on site with the sub-contractor at all times.

EXHIBIT "C"

INSURANCE REQUIREMENTS

The Licensee may not use the premises or commence work until it has obtained all insurance required under this Exhibit C and until the insurance has been approved by the owner in its reasonable discretion. The Licensee may not allow any contractor or subcontractor to commence work on his or her contract or subcontract until all similar insurance required by the contractor or subcontractor has been so obtained and approved. Insurance required consists of the following:

- (a) Worker's Compensation Insurance for all of the Licensee's employees engaged in work at the work site. Licensees will guarantee that all contractors and subcontractors shall obtain Worker's Compensation Insurance for their employees.
- (b) Public Liability and Property Damage Insurance with Licensor named as an additional insured taken out and maintained for the duration of the contract by the Licensee, contractor pursuant to Licensee's indemnity obligations hereunder. The amounts of insurance must be at least as follows:
 - (i) Public Liability Insurance. Not less than two million dollars (\$2,000,000) for injuries including wrongful death to any one person and subject to the same limits for each person, in an amount not less than two million dollars (\$2,000,000) on account of one accident.
 - (ii) Property Damage Insurance. Not less than two million dollars (\$2,000,000).
 - (iii) All insurance acquired under the terms of this article must be obtained through an insurance company authorized to do business in the State of Illinois, and certificates of insurance must be filed with the City Clerk on January 1st of each year of the agreement.

EXHIBIT "D"

INSTALLATION AND MAINTENANCE CRITERIA

- A. Licensee shall, at Licensee's expense, keep and maintain the Premises in a commercially reasonable condition and repair during the term of this License. Licensee agrees to maintain the antenna facilities in proper operating condition and within industry accepted safety standards. All installations and operations in connection with this License by Licensee must be in compliance with all federal, state, and local laws, codes and regulations, including but not limited to local zoning requirements. Licensor assumes no responsibility for the licensing, operation and/or maintenance of the antenna facilities. Licensee shall comply with all of the terms of its FCC License.
- B. Prior to installing or allowing any antenna facilities to be installed in or on the Premises, Licensee shall submit detailed engineering plans and specifications of the planned installation to Licensor, with an additional copy to the City's designated Manager for Licensor's written approval, which approval shall not be unreasonably withheld or delayed. Licensor's review of Licensee's plans shall include a review of the appearance of the planned installation. Licensor's approval of any installation is not a representation that such installation of the antenna facilities is in compliance with all applicable laws, ordinances, rules and regulations or that it will not cause interference with other communications operations on the Property. All construction activities must have prior approval and supervision of the City of Rock Island Public Works Department. Licensee will notify Licensor to arrange a mandatory pre-construction meeting on the site. No work shall begin on the site until after this pre-construction meeting.
- C. All installation and other work to be performed by Licensee hereunder will be done in such a manner so as not to interfere materially with, delay, or impose any additional expense upon Licensor in maintaining the Premises. In no event will Licensor be required to consent to any installation or other work by Licensee, which would, in Licensor's sole judgment, adversely affect any part of the Premises. All cable runs, conduit and sleeving shall be installed in a good workmanlike manner. Cables and transmission lines shall be routed and attached in accordance with current, state of the art, industry practices. The antenna facilities shall be identified with permanently marked, weather proof tags at the following locations: (i) each antenna bracket; (ii) at the transmission line Premises entry point; (iii) at the interior wall feed through or any other transmission line exit point; and (iv) at any transmitter combiner, duplexer, or multifed receive port. In addition, all Licensee telephone blocks, demarcs, and cables shall be clearly identified with the Licensee's name, type of line, and circuit number.
- D. Licensee shall at all times obtain and maintain any Licenses, permits, and approvals necessary for the installation or operation of the antenna facilities at its sole cost and expense.
- E. Licensee shall install a solid cedar fence around all outside ground equipment. This fence must visually hide the outside ground equipment from the right-of-way and private property owners. Inside the cedar fence there must contain a vegetation barrier to prevent unsightly vegetation growth.
- F. If the Licensee installs a pre-fabricated building to enclose its ground equipment it must seek prior approval from the City of Rock Island.
- G. Licensee shall abide by the "Installation Guidelines for Small Antenna Systems on Water Tanks", unless they have written approval to deviate from those guidelines.

EXHIBIT "D"

(Continued)

COMMUNICATIONS EQUIPMENT

1. The Tower shall contain the antennas, antenna mounts, and associated wiring and cabling as listed on the antenna specifications.

EXHIBIT "E"

SITE PLAN

**Licensors have not yet approved the Site Plan.
The Site Plan must be inserted by Licensee and is subject to Licensor's approval.**



Utility Service Co., Inc.

535 General Courtney Hodges
Blvd.

P. O. Box 1350, Perry GA 31069
PH: (478) 987-0303
FAX: (478) 987-1085

Installation Guidelines for Small Antennae Systems on Water Tanks

Utility Service Communications Co., Inc. (USCCI) is part of the Utility Service Group, as is Utility Service Co., Inc. (USCI). While USCI focuses on quality maintenance, inspection, and repair of water tanks, USCCI deals only with antennae installations on water tanks. Both groups have together developed guidelines for the proper installation of coax runs, antenna mounts, tank penetrations, etc. These guidelines were developed around four key goals:

- Assure coating system is accessible for inspection and maintenance (6" minimum clearance)
- Prevent unnecessary corrosion
- Provide safe and efficient access for personnel and equipment
- Protect Structural Integrity

Through our years of experience in maintaining thousands of tanks across the country, and in designing and installing wireless systems on water tanks, it is obvious that the only acceptable method of mounting coax and antennae on a water tank by utilizing attachments which are full seal welded to the structure. Full seal welded attachments require specialized skilled labor, and the welding will damage the coating system both on the exterior and interior of the tank, therefore requiring repair. Because of these factors, full seal weld designs are typically more expensive to install, and are therefore sometimes discouraged by the wireless companies in an effort to save construction costs. However, they are the most cost effective for the wireless companies as they typically don't require removal of the equipment during maintenance. And, this method is best for the tank and the tank owner as it meets the goals listed above.

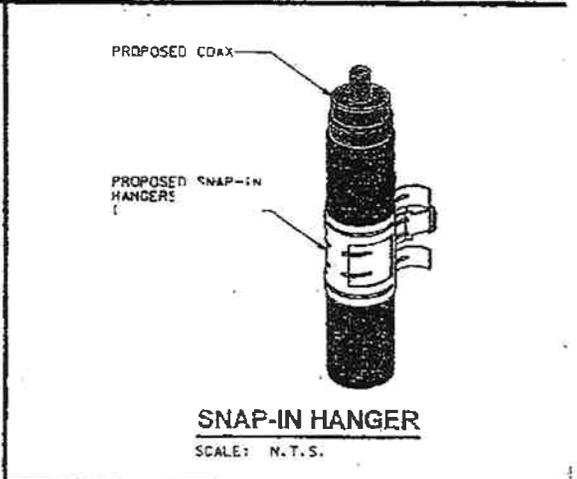
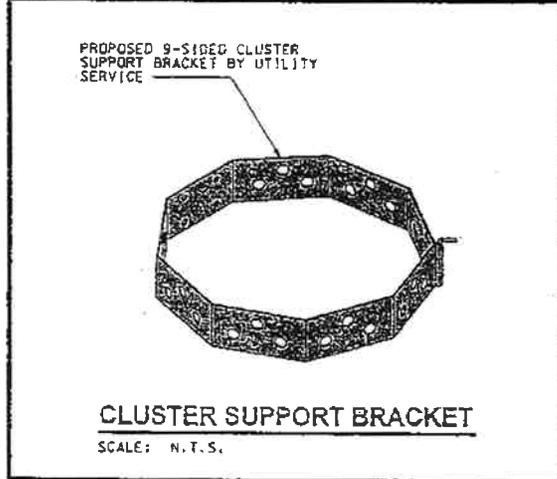
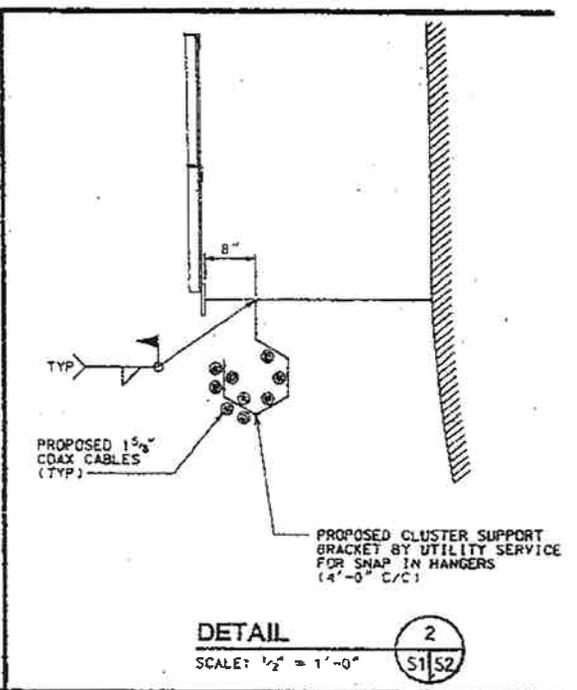
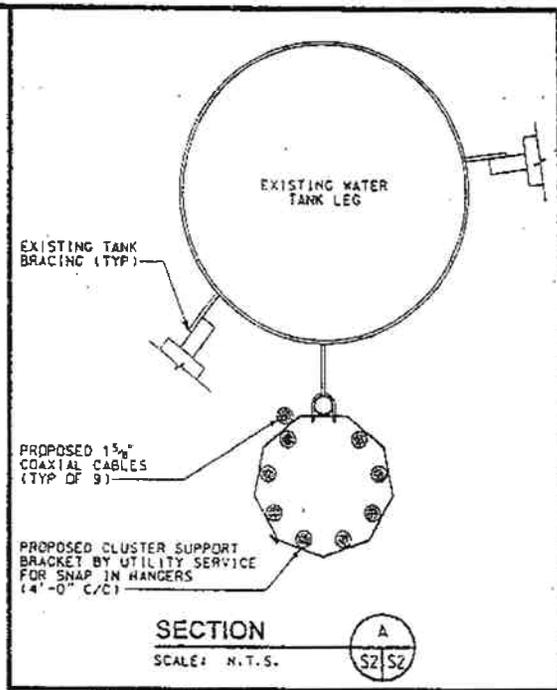
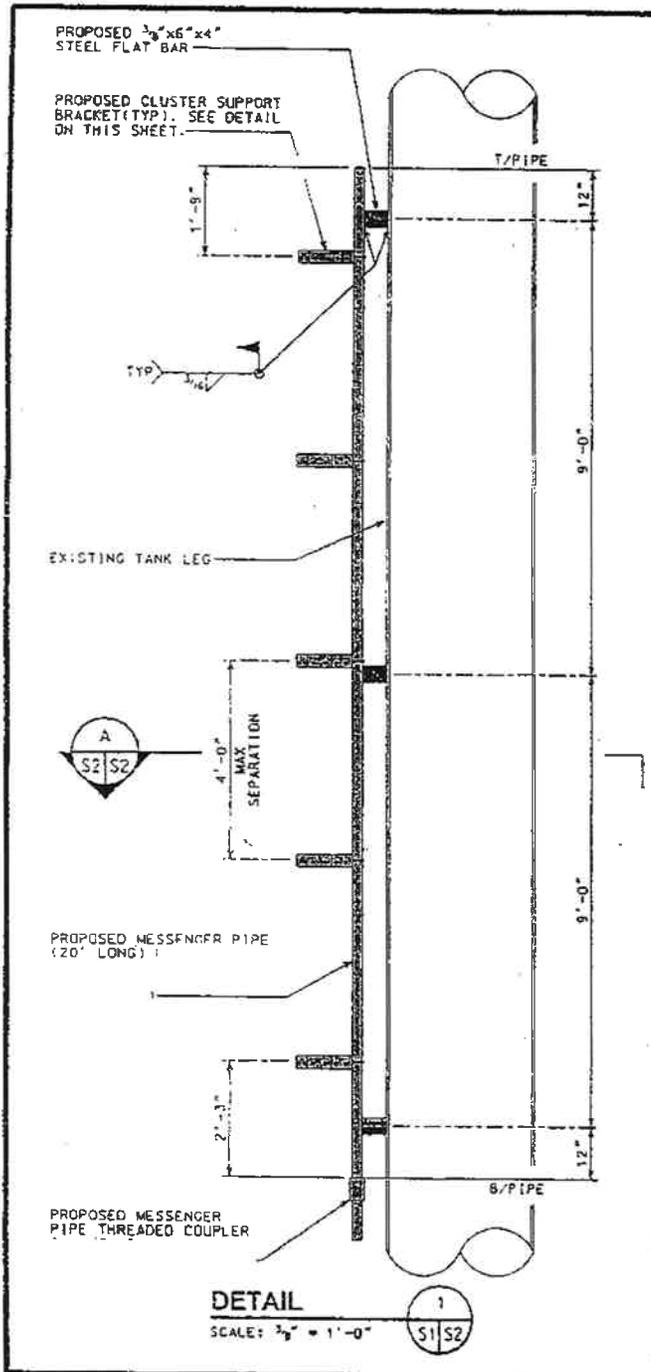
We do not approve other methods of installation, such as stud-welding, stitch welding, epoxy gluing, strapping, clamping, bolting, etc. All of these methods have been proven to present challenges in at least one, and often in more, of the four goals listed above. Feel free to contact us for more explanation.

If any significant wind loads are added on the roof of the tank, it is recommended that a gross structural analysis be performed to assure the structural integrity of the tank with the additional loading.

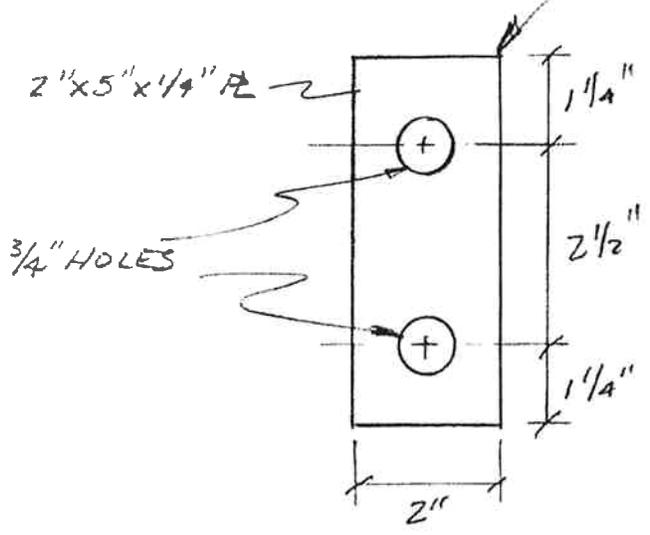
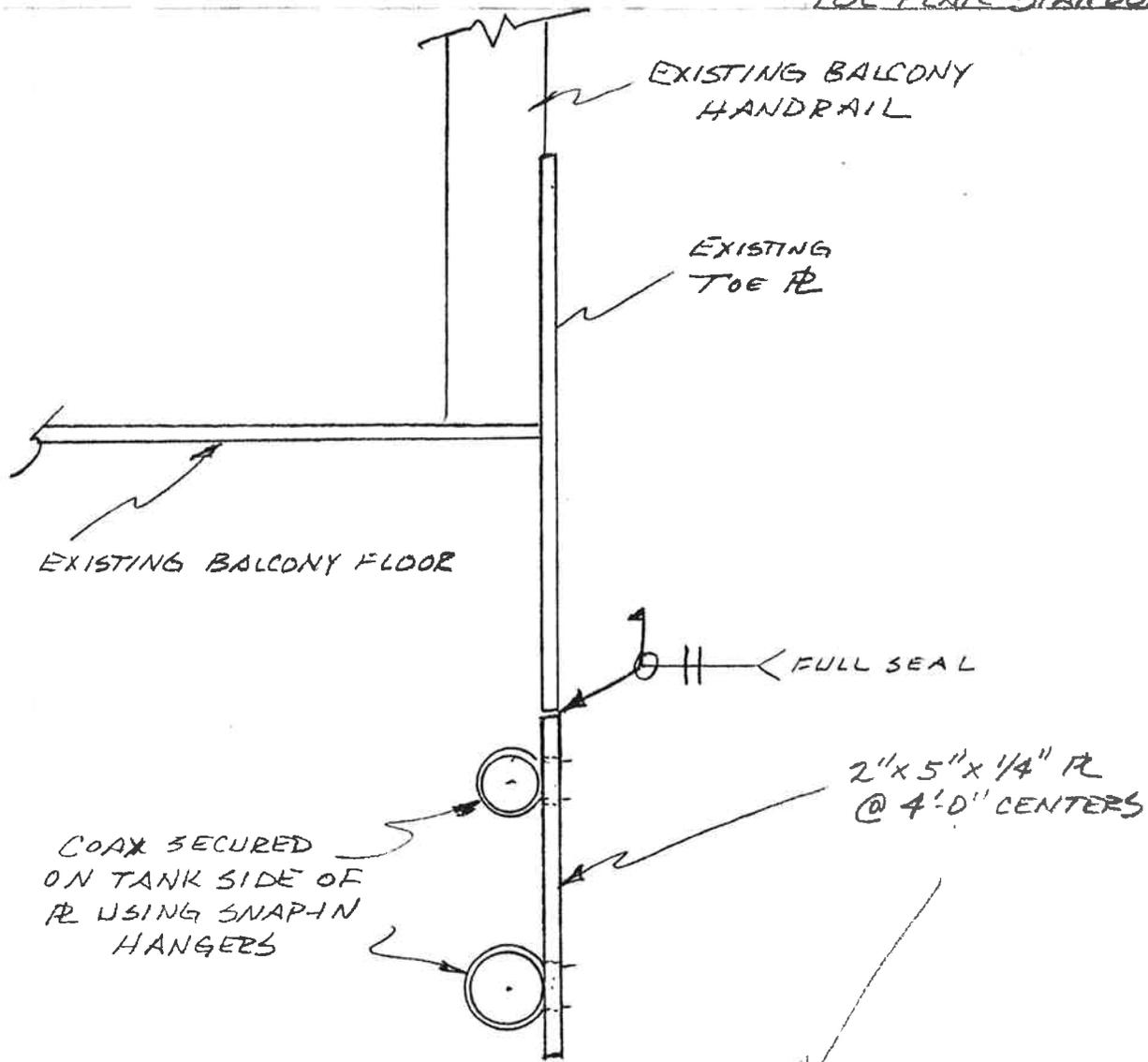
Attached are some details of recommended standoffs and mounts for smaller antenna systems.

Details

- Messenger Pipe and J-Cluster: The preferred method of routing coax from the ground to upper levels of the tank is via a messenger pipe system. This messenger pipe should always be installed on the inside face of the leg to avoid interference with staging during maintenance. If only one or two coax are used, then the cluster brackets can be omitted and the coax secured directly to the outside of the 2" pipe with heavy duty wire ties. This saves costs up front, but still allows future use of cluster brackets if expansion is necessary. The J-Clusters used underneath the balcony are only needed if more than 2 coax are routed along the balcony. If 2 or less coax are used, then the Toe Plate Standoffs can be used instead.
- Toe Plate Standoffs: These standoffs are used to support the weight and wind load of 1-2 coax which must be routed around the perimeter of the balcony. The coax should always be secured on the inside face of the standoffs so that the coax will not interfere with rigging for future maintenance activities.
- Balcony Penetration: Whenever antennae must be mounted on the roof of the tank, then routing the coax to the roof requires a penetration in the balcony. It is very important that the penetration reinforcement be full seal welded top and bottom, and that the cutout for the penetration does not occur closer than 4" from the tank wall. Also, the penetration should be narrow enough to minimize any impendence with safe access around the balcony.
- 10" coax standoff brackets: These brackets are to be welded directly to the tank shell from the balcony to the roof antenna location at 4 ft. intervals. Snap-in hangers are used to secure the coax to the brackets. These brackets can handle up to 4 coax if regular snap-ins are used, or up to 8 coax if 'snap-stack' hangers are used.
- Single antenna roof mount: This mount is designed for a single antenna to be mounted. The gussets should be positioned as shown to prevent water from pooling around the pipe. The mount should not be installed within 3 feet of the vent so that adequate access is maintained for future vent maintenance activities. If several antennae are planned, then a custom corral type mount should be investigated rather than cluttering the roof of the tank with several single mounts.
- Handrail/Catwalk Antenna Mount: The elevation of the midpoint of the antenna should be near the mid-rail of the balcony handrail. This is to avoid offset wind loads which can create structural problems on the balcony. It is important to know that the balcony's primary function is as a reinforcement of the tank itself. If other elevations are needed for a balcony antenna mount, a structural analysis is necessary to determine necessary bracing and supports.



TOE PLATE STANDOFFS ✓



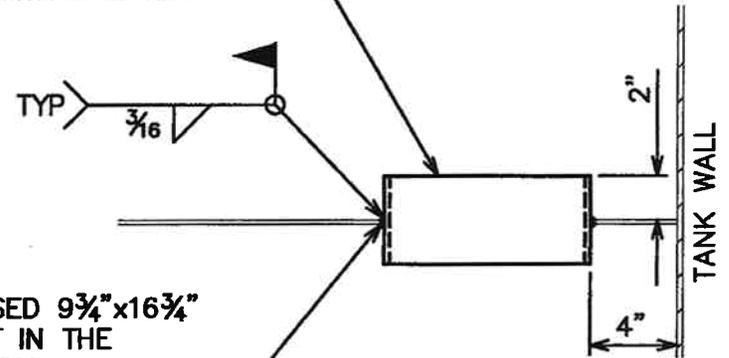
NOTE:

1. PRIOR TO PERFORMING THE CUTOUT IN THE CATWALK PLATE, THE CONTRACTOR SHALL VERIFY THE CUTOUT IS A CLEAR DISTANCE FROM ANY SUPPORT BENEATH THE CATWALK.

PROPOSED 9"x16"x4"x $\frac{1}{4}$ "
TOE BOARD PENETRATION
FRAME BY MTS WIRELESS
(P/N: WT-PFS) OR APPROVED
EQUAL

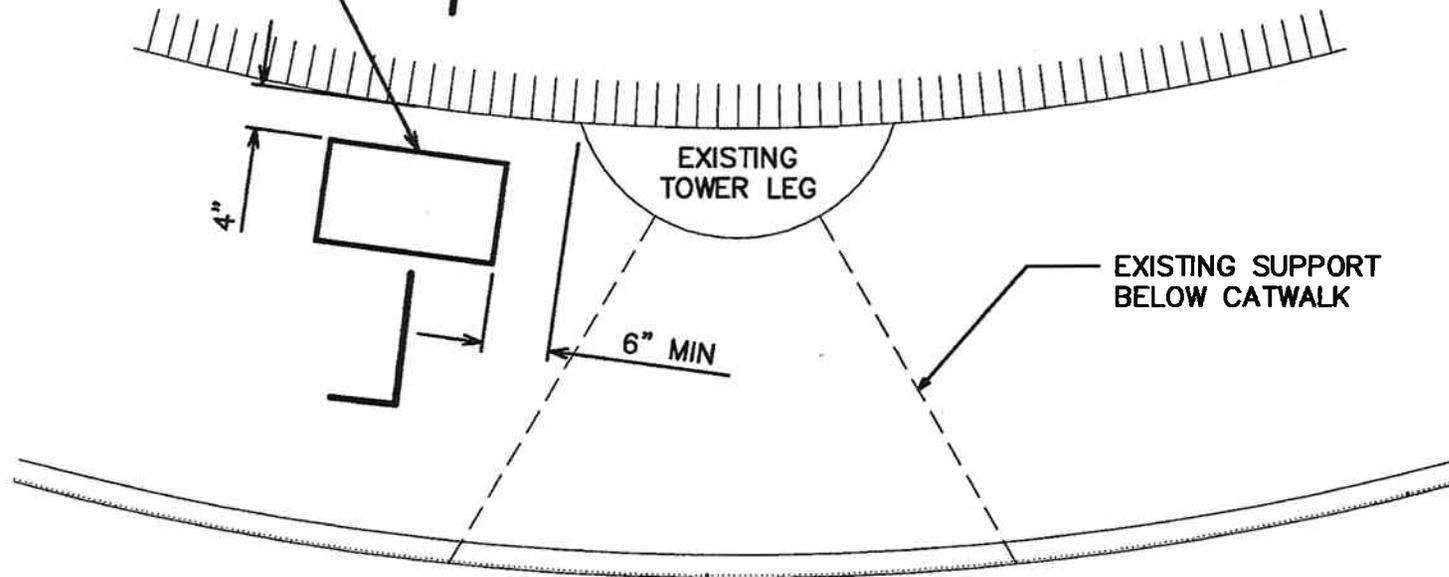


PROPOSED TOE BOARD
PENETRATION FRAME

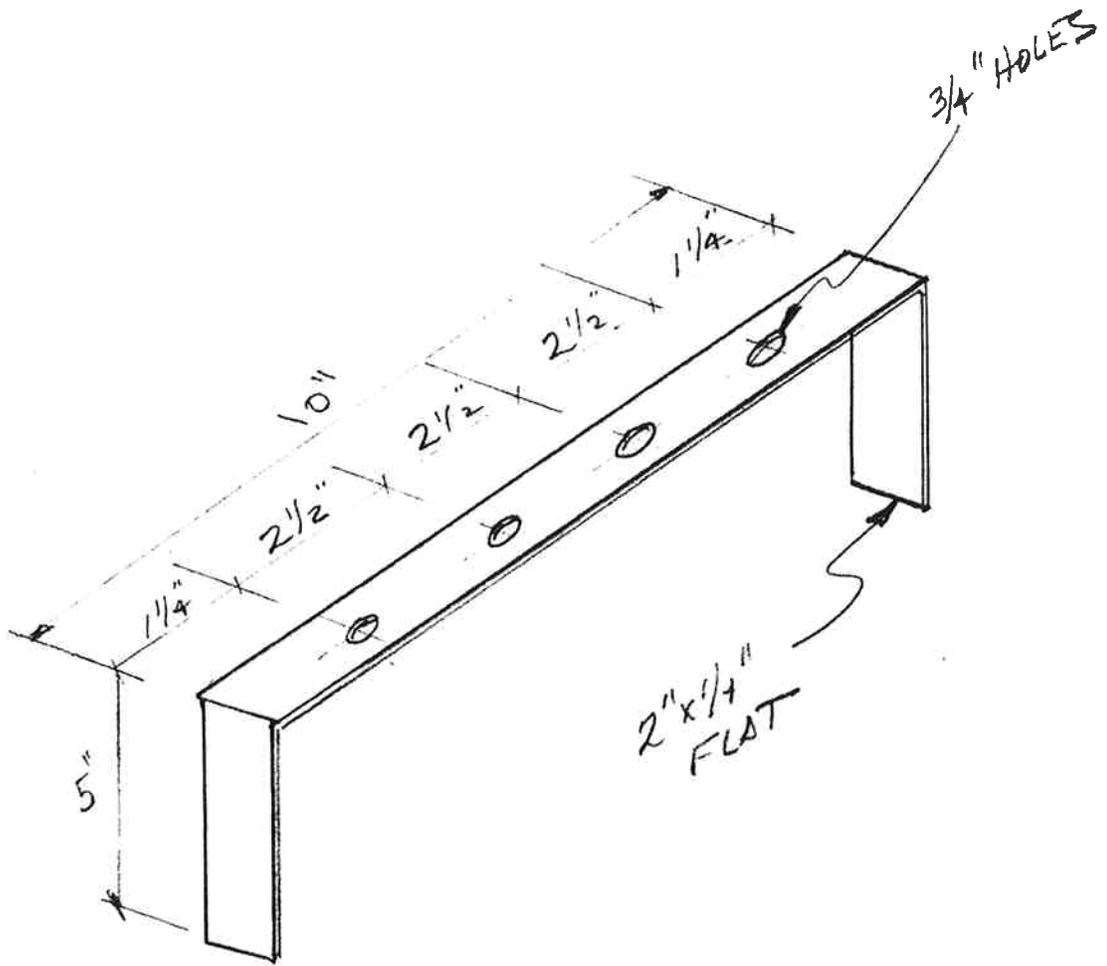


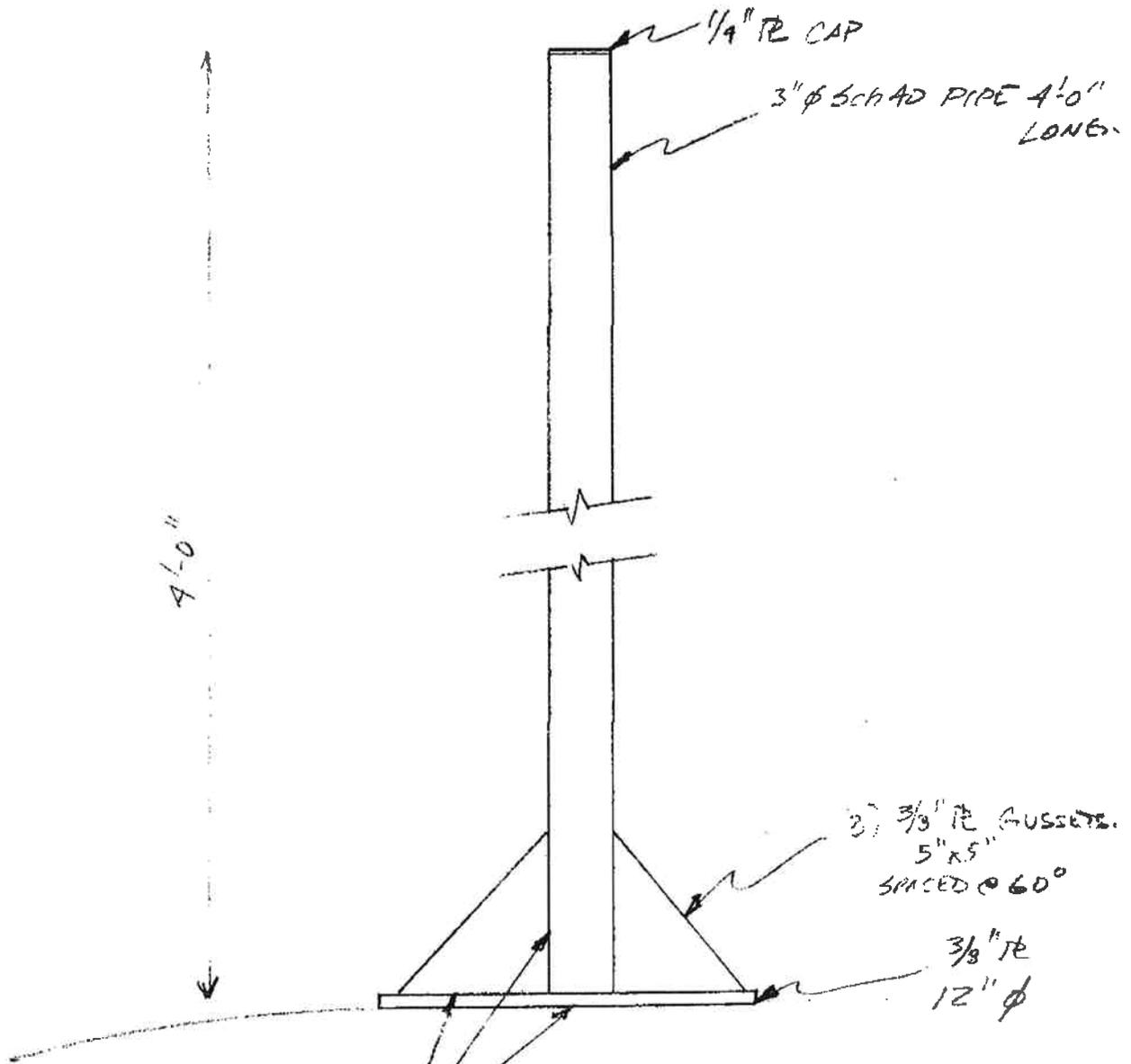
SECTION

SCALE: 1" = 1'-0"



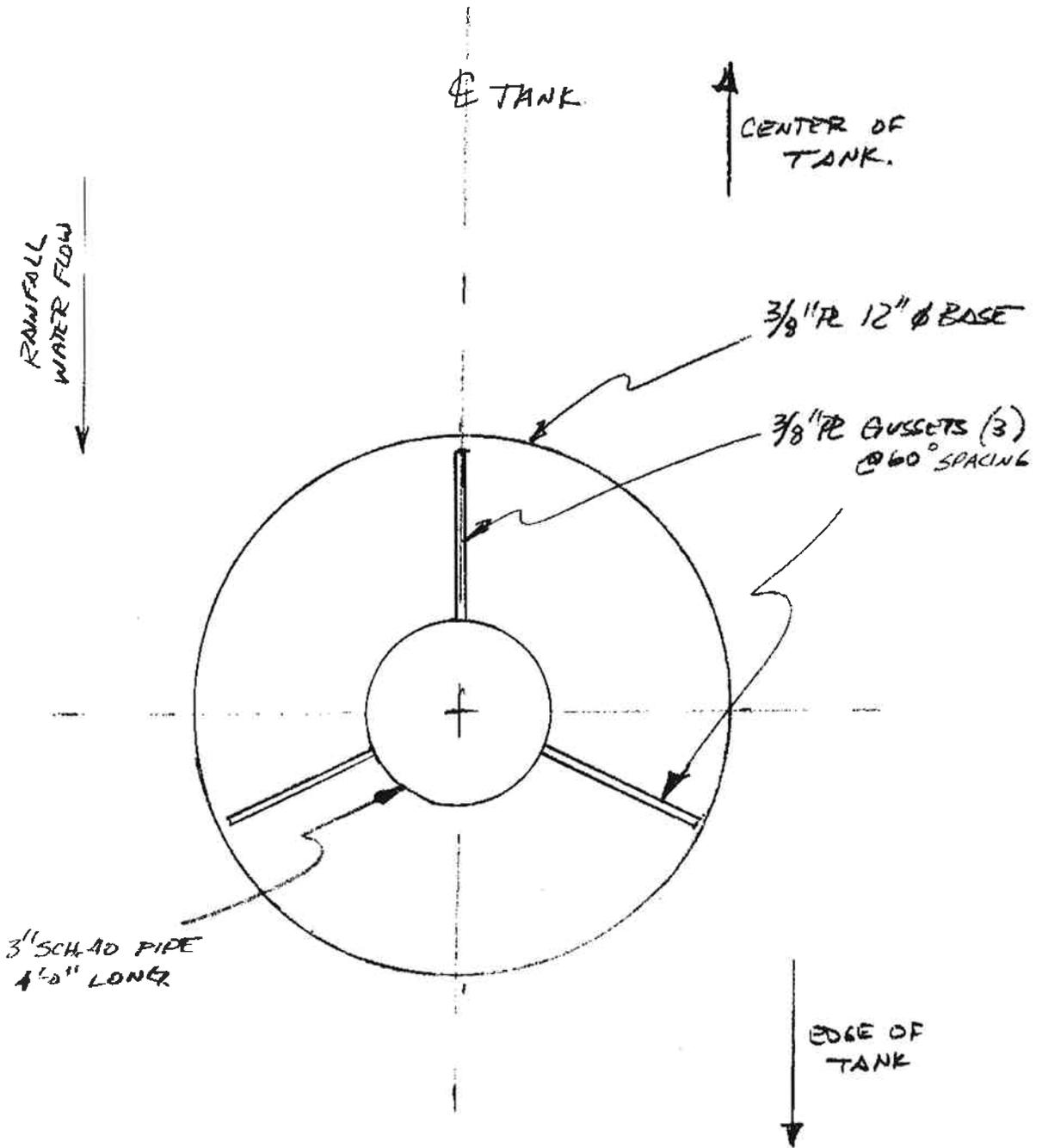
COAX STANDOFF BRACKET - 10"



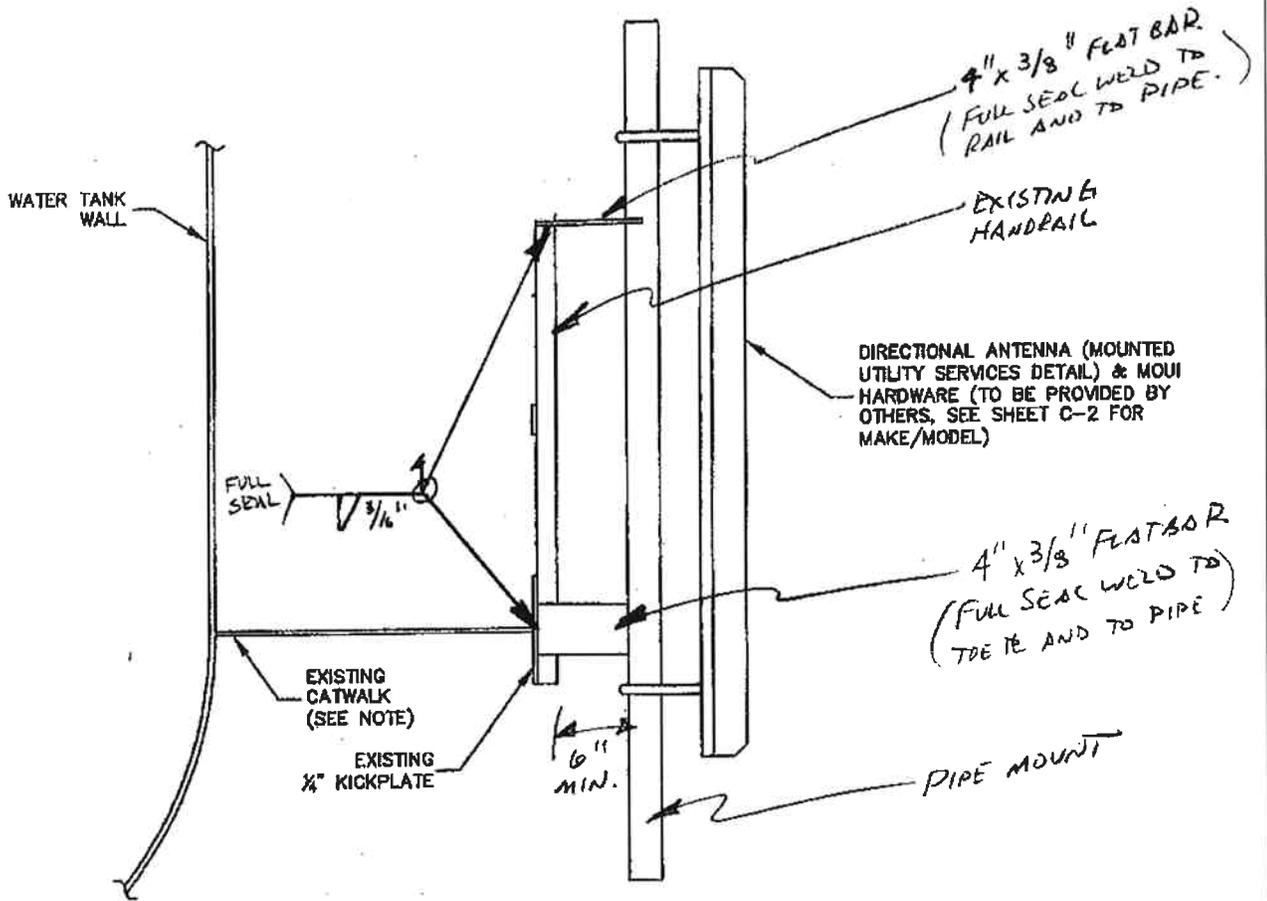


FULL SEAL TYP.
3/16"
3/16"

* FIELD TRIM BOTTOM OF PIPE AND BOTTOM EDGE OF GUSSETS TO ALLOW FOR SLOPE OF ROOF. PIPE MUST BE PLUMB.
** SEE PAGE 2 FOR GUSSET PLACEMENT.

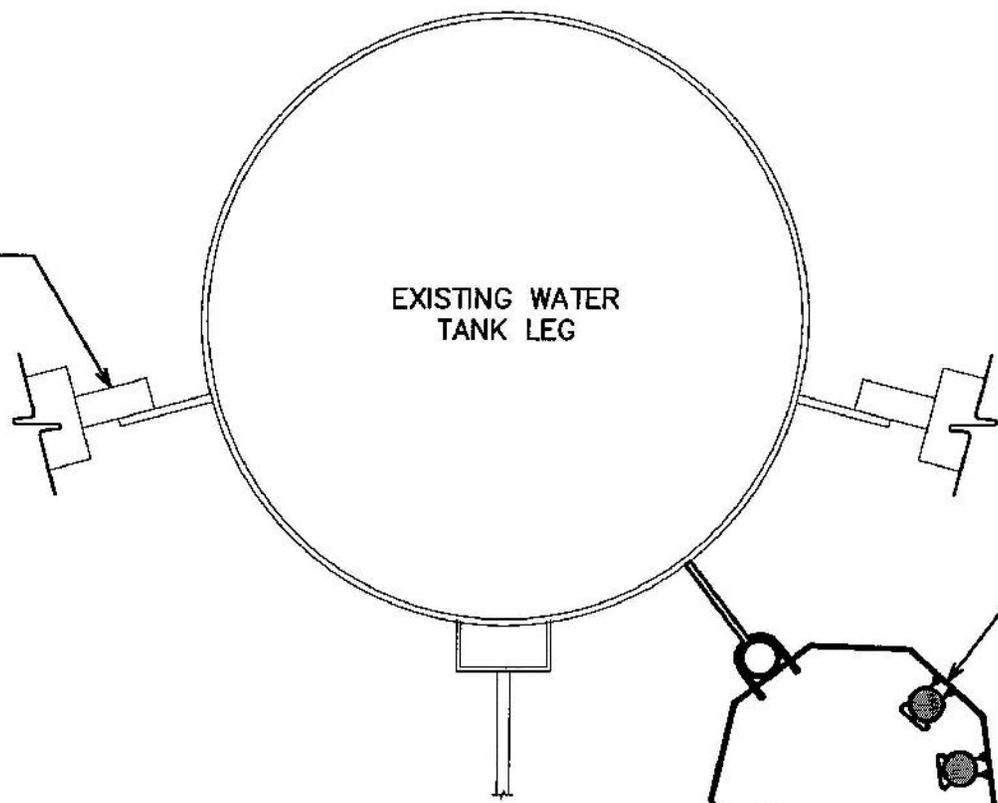


GUSSET ORIENTATION



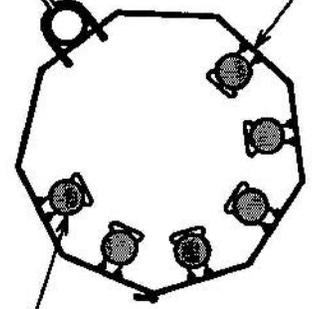
CATWALK ANTENNA MOUNT DETAIL

EXISTING TANK BRACING (TYP)



EXISTING WATER TANK LEG

PROPOSED CLUSTER SUPPORT BRACKET BY UTILITY SERVICE FOR SNAP-IN HANGERS (4'-0" C/C)



PROPOSED COAXIAL CABLES BY OTHERS

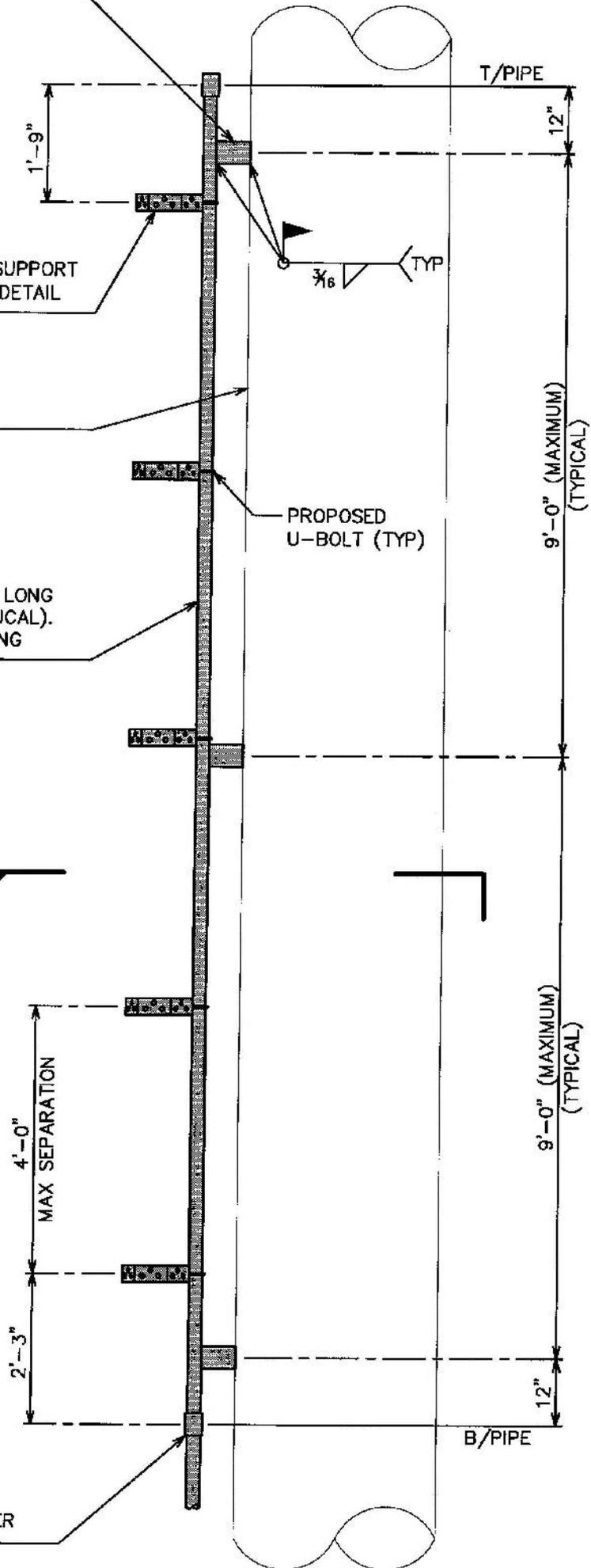


PROPOSED $\frac{3}{8}$ "x6"x4"
STEEL PLATE

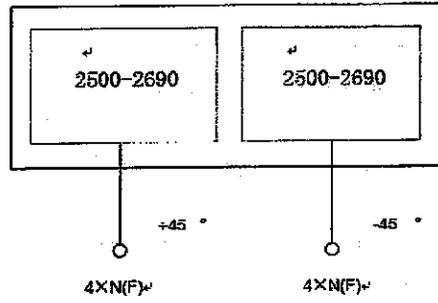
PROPOSED CLUSTER SUPPORT
BRACKET (TYP). SEE DETAIL
THIS SHEET.

EXISTING TANK LEG

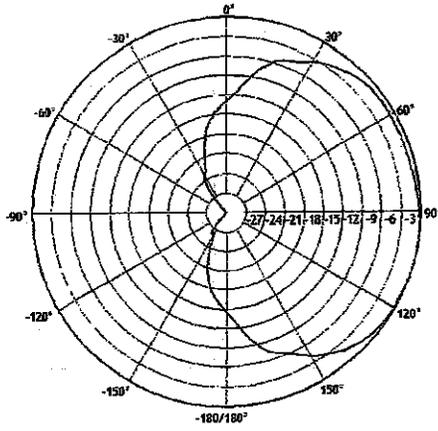
PROPOSED $2\frac{3}{8}$ " x 20' LONG
MESSENGER PIPE (TYPICAL).
SEE NOTE 1 OF WELDING
NOTES.



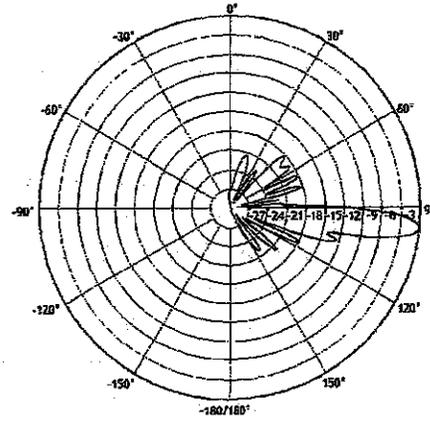
PROPOSED MESSENGER
PIPE THREADED COUPLER
(TYPICAL)



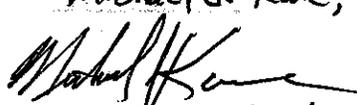
Horizontal



vertical



2500-2690

Appd. Michael J. Kane, PE


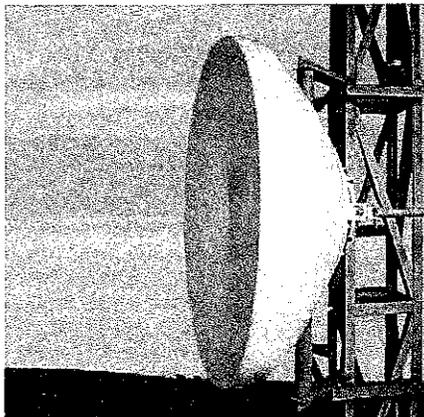
2500-2690 17dBi Xpol 6 fixed tilt four array LTE smart antenna

Model Name		T-04-47-17-006	
Electrical Specifications			
General parameters	Parameters		Index
		Frequency Range	
	Fixed electrical tilt		6°
	Tilt accuracy		±1°
Calibration and electrical parameters	Coupling between calibration port and each radiation port		-26±2 dB
	Max.altitude difference between calibration port and each radiation port		≤0.7 dB
	Max.phase difference between calibration port and each radiation port		≤5°
	VSWR of calibration port and radiation port		≤1.5
	Isolation between co_polarization ports	6 tilt	≥28dB
	Isolation between cross_polarization ports	6 tilt	≥30dB
Radiation parameters	Column pattern	-3dB Horizontal beam width	65° ±15°
		Gain of single column pattern	≥16.5dBi
		Gain drop at ±60°	12±2dB
		Vertical beam width	≥5°
		Cross_polarization ratio (bore sight)	≥18dB
		Cross_polarization ratio (at±60° sight)	≥10dB
		Front to back ratio	≥25dB
		First upper side lobe suppression	≤-16dB
		-3dB Horizontal beam width	65° ±5°
		Gain of broadcasting pattern	≥16dBi

	Broadca sting pattern	Gain drop at $\pm 60^\circ$	$12 \pm 2\text{dB}$
		-3dB Vertical beam width	$\geq 5^\circ$
		Cross-polarization ratio (bore sight)	$\geq 22\text{dB}$
		Cross-polarization ratio (at $\pm 20^\circ$ sight)	$\geq 22\text{dB}$
		Cross-polarization ratio (at $\pm 60^\circ$ sight)	$\geq 10\text{dB}$
		Front to back ratio	$\geq 28\text{dB}$
		First upper side lobe suppression	$\leq -16\text{dB}$
		First null fill	$\geq -18\text{dB}$
	Operati Pattern	Gain at 0 degree directions	$\geq 22\text{dBi}$
		-3dB Horizontal beam width at 0 degree directions	$\leq 25^\circ$
		Horizontal side lobe level at 0 degree directions	$\leq -12\text{dB}$
		Gain at $\pm 60^\circ$ direction	$\geq 17.5\text{dBi}$
		-3dB Horizontal beam width at $\pm 60^\circ$ directions	$\leq 23^\circ$
		Horizontal side lobe level at $\pm 60^\circ$ directions	$\leq 0\text{dB}$
		Cross-polarization ratio at 0 degree(bore sight)	$\geq 22\text{dB}$
Front to back ratio at 0 degree		$\geq 28\text{dB}$	

Mechanical Specification	
Radome Material	UPVC
Radome Color	Grey
Connector Type	9*N(F)
Antenna Dimension (mm)	1400×320×110
Packing Size (mm)	1610×405×227
Antenna Weight (kg)	13.5
Clamp weight (kg)	4.8
Operating Temperature (°C)	-40~+70
Operating Wind Speed (km/h)	135
Maximum Wind Speed (km/h)	200

Microwave Antenna Specifications



WTC09-107SAR-QFD

Ultra High Performance,
0.9m (3 ft), 10.7-11.7GHz,
Dual-polarized,
Short-focus Parabolic Antenna

General Specifications

Antenna Type	Point to point antenna
Performance	Ultra high
Diameter, nominal, m (ft)	0.9 (3)
Polarization	Dual , V and H
Flange Interface	154IEC-PDR100
Antenna Color	Light gray
Radome Color	Light gray
Radome Material Description	Anti-ultraviolet ABS material
Packing	Plywood
RoHS 2002/95/EC	Compliant

Electrical Specifications

Frequency Range, GHz	10.7-11.7
Gain, Low Band, dBi	37.3
Gain, Mid Band, dBi	37.7
Gain, Top Band, dBi	38.0
3dB Beamwidth, Degree	2.1
Isolation,dB	35
XPD, dB	30
F/B Ratio, dB	64
VSWR,(Return Loss, dB)	1.30 (17.7)
ETSI Standard	Range 1, Class 3

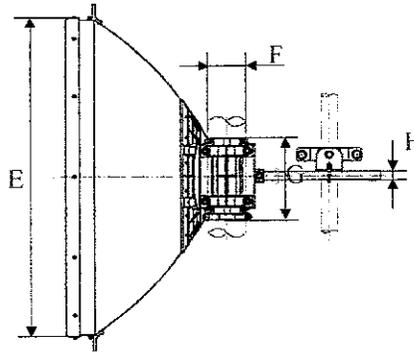
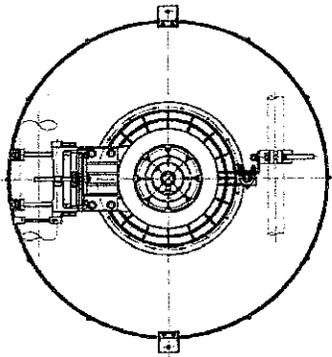
Microwave Antenna Specifications



Mechanical Specifications

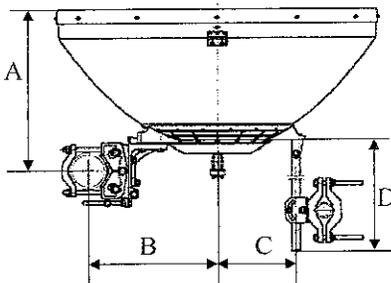
Wind Velocity Operational, km/h	126
Wind Velocity Survival Rating, km/h	200
Coarse Azimuth, Degree	360
Fine Azimuth Adjustment, Degree	±10
Fine Elevation Adjustment, Degree	±15
Mounting Pipe Diameter, mm	∅51~∅114
Feeder Watertightness	Watertight
Operation Pressurization, kPa	50
Operation Temperature, °C	-45 ~ +60
Storage Temperature, °C	-55 ~ +70
Ice Load, mm	25
Strengthening Rod	1
Adjustable Rod	NA
Net Weight, kg	24±1
Gross Weight, Packed Antenna, kg	52±3
Length, mm	1060
Width, mm	1060
Height, mm	770
Volume, m³	0.87

Structure information



0.9m Antenna Dimensions, mm	
A	(498)
B	(399)
C	(241)
D	(1350)
E	(∅991)
F	∅51~114
G	(260)
H	(∅26.8)

NOTE: The dimension with“()” is referenced dimension.

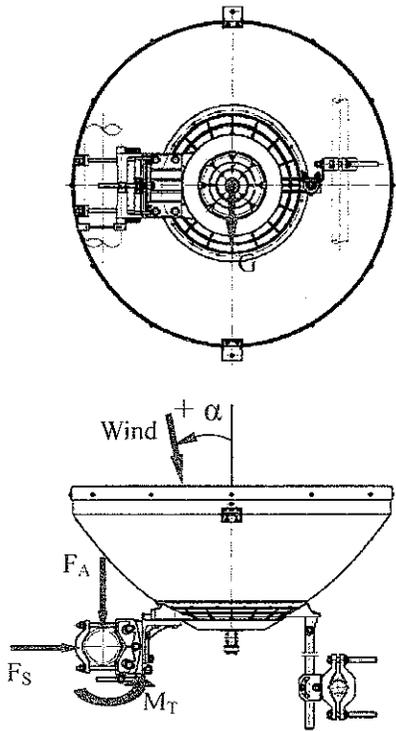


Microwave Antenna Specifications



Wind Forces at Wind Velocity Survival Rating

Axial Force (FA), N	1880
Side Force (FS), N	920
Twisting Moment (MT), N·m	790
Angle α for MT Max, Degree	-20



Microwave Antenna Specifications



Radiation Pattern Envelope

Co-polar and X-polar response are represented for both horizontal and vertical polarizations. The curves are identified as follows:

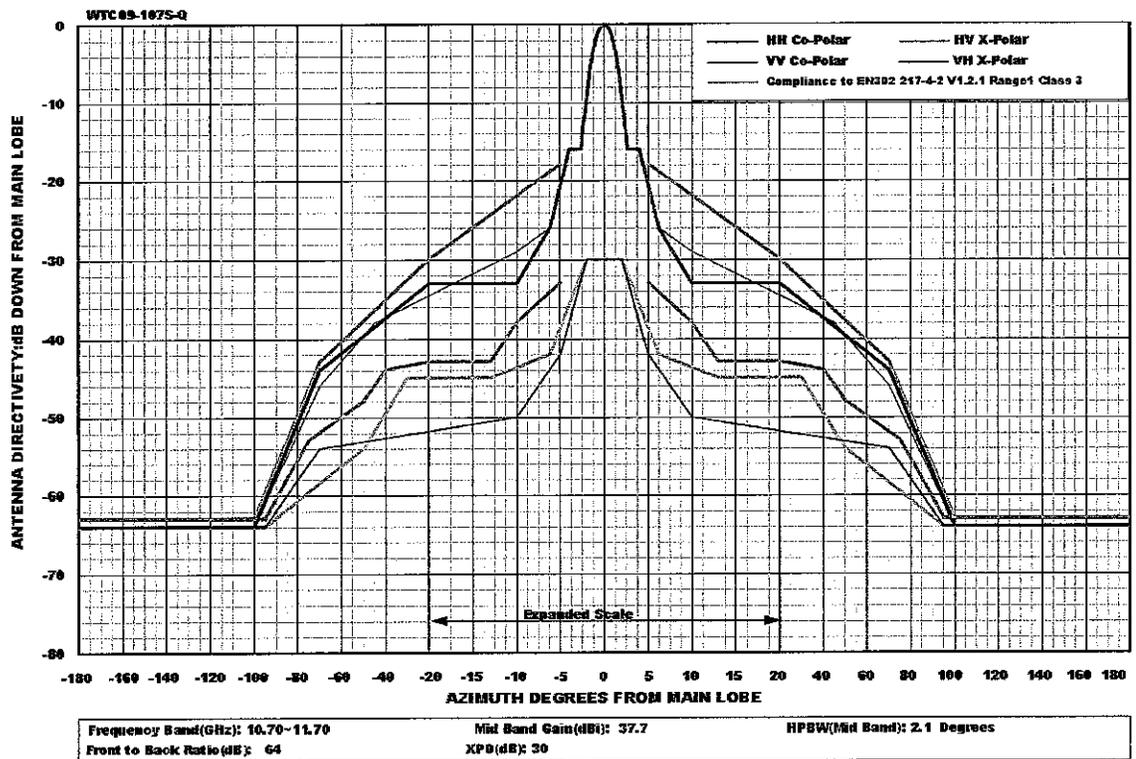
HH – Response of horizontally polarized port to a horizontally polarized signal.

HV – Response of horizontally polarized port to a vertically polarized signal.

VV – Response of vertically polarized port to a vertically polarized signal.

VH – Response of vertically polarized port to a horizontally polarized signal.

0.9m 10.70-11.70GHz RADIATION PATTERN ENVELOPE



SITE LICENSE AGREEMENT (Municipal Water Tower Attachments)

THIS LICENSE AGREEMENT (the "License"), made this ____ day _____, by and between City of Rock Island, an Illinois Municipal Corporation ("Licensor") and _____ SpeedConnect _____, ("Licensee").

1. License of Premises.

Subject to the terms and conditions of this License and the provisions of Division 76 of Article II of the Illinois Municipal Code (65 ILCS 11-76), Licensor hereby licenses to Licensee on a non-exclusive basis a portion of the real property described on Exhibit A ("the Property") consisting of (a) a ground space area, (b) space on the structure for the installation of antennas and related equipment, and (c) such easements as are necessary for the initial installation as described on attached Exhibit E, and for ingress and egress and the installation of utilities (collectively, the "Premises"). The nature and the extent of the utility installation shall be specified on the site plan and attached as Exhibit E.

2. Term.

- a. The initial term of this License shall be five (5) years (the "Initial Term"), commencing on the date commercial operations commence or ninety (90) days from the day and year first written above whichever first occurs ("Commencement Date").
- b. This License shall be automatically renewed for four (4) successive five (5) year renewal terms ("Renewal Term(s)"), upon the same terms and conditions, unless Licensee notifies Licensor in writing of Licensee's intention not to renew this Agreement at least one hundred and twenty (120) days prior to the expiration of the existing term. The Licensor may terminate agreement upon giving Licensee one hundred and twenty (120) days notice.

3. License Fees.

- a. From and after the Commencement Date, Licensee shall pay Licensor Seven Hundred Dollars (\$700) per month.
- b. The License Fee shall increase annually during the initial and Renewal Term, effective as of each anniversary of the Commencement Date, by an amount equal to four percent (4%) per annum above the amount of the License Fees in effect immediately prior to such increase. The License Fees shall be payable monthly in advance without demand, offset, abatement, diminution or reduction, to Licensor, at Licensor's address specified below or any other person or firm as Licensor may from time to time, designate in writing at least sixty (60) days in advance of any License Fees payment date.
- c. Upon execution of this License, and at the Commencement Date of each Renewal Term, the Licensee will pay Licensor a One Thousand Dollar (\$1,000) landscaping fee.
- d. Licensee shall pay to Licensor a one-time non-refundable administrative fee in the amount of One Thousand Dollars (\$1,000) for the negotiation of this Lease.
- e. All fee payments must have the City of Rock Island lease number on them in order to be processed.

The Premises may be used for (i) the transmission and reception of communications signals within or utilizing such frequency band or frequencies which are within those for which Licensee, or any entity which controls, is controlled by or is under common control with Licensee, is duly licensed by the Federal Communications Commission, and (ii) the attachment, installation, operation, alteration, maintenance, repair, replacement and relocation of any approved antennas and related equipment, cables and facilities and improvements related thereto, and (iii) activities related to any of the foregoing, provided such activities do not require an expansion of the Premises or violate Licensee's duties on non-interference set forth herein.

LICENSOR AND LICENSEE AGREE THAT THE PRIMARY FUNCTION OF THE WATER TOWER IS TO PROVIDE WATER SERVICE TO THE MUNICIPAL WATER CUSTOMERS. SHOULD THE LICENSOR DETERMINE, IN ITS SOLE DISCRETION, THAT THE PERFORMANCE OF THIS AGREEMENT INTERFERES WITH THAT PRIMARY FUNCTION, THE LICENSOR MAY TERMINATE THIS AGREEMENT WITH ONE HUNDRED TWENTY (120) DAYS WRITTEN NOTICE TO LICENSEE. LICENSEE SHALL HAVE THE RIGHT DURING SAID ONE HUNDRED TWENTY (120) DAY PERIOD TO CURE THE INTERFERENCE PROBLEM TO THE SATISFACTION OF THE LICENSOR; PROVIDED, HOWEVER, THAT IF SAID CURE IS NOT ACHIEVED IN THE SOLE JUDGEMENT OF THE LICENSOR, LICENSEE MUST HAVE COMPLETELY VACATED THE TOWER BY THE EXPIRATION OF SAID ONE HUNDRED TWENTY (120) DAY PERIOD. IF LICENSEE DETERMINES, IN ITS SOLE JUDGEMENT, THAT THE OPERATION OF THE TOWER BY LICENSOR IS CREATING INTERFERENCE WITH LICENSEE'S USE AND OPERATION OF ITS FACILITIES AT THE TOWER, LICENSEE MAY TERMINATE THIS AGREEMENT BY GIVING THE LICENSOR ONE HUNDRED TWENTY (120) DAYS WRITTEN NOTICE. LICENSEE'S RIGHT TO TERMINATE THIS AGREEMENT IS SUBJECT TO ALL OF THE TERMS HEREOF REGARDING LICENSEE'S OBLIGATION TO REMOVE EQUIPMENT AND BUILDING AT THE EXPIRATION OR TERMINATION OF THIS AGREEMENT.

4 Installation and Maintenance.

Licensee shall install, construct and maintain the antenna facilities on the Premises at its sole cost and expense in compliance with approved plans and the installation and maintenance criteria listed on the attached Exhibit D.

5. Access.

Licensee and its authorized employees, engineers, technicians, or properly authorized contractors of Licensee or personnel under their direct supervision shall be entitled to twenty-four (24) hour, seven (7) days per week access to the Premises. All access to the Premises by Licensee shall be subject in each instance to the reasonable security requirements and reasonable rules and regulations from time to time in effect at the Property, of which Licensor shall inform Licensee in writing. (Please see attached Exhibit B.) Notwithstanding the foregoing, in the event Licensee requires or requests Licensor or Licensor's representative to be present in order for Licensee to gain access to the Premises outside of Licensor's normal business hours, Licensee will be responsible for any reasonable out-of-pocket costs incurred by Licensor in providing such access to the Premises.

6. Interference.

Licensee further agrees that it will supply Licensor with a twenty-four (24) hour contact phone number, so that in the event that the Licensee's equipment interferes with the normal and proper operation of Licensor's and/or any prior lessee's facilities on the Property, the Licensee be notified. Licensee agrees to install and operate only equipment that does not cause interference to Licensor's or other lessees or licensees of the Property ("Pre-Existing User"); provided that their installations and use predate that of the Licensee's installation. In the event that the Licensee's equipment cause such interference or any permitted subsequent modification or addition causes such interference, Licensee shall take all steps necessary to correct and eliminate the interference. If the interference is substantial then Licensee shall have forty-eight (48) hours to resolve the interference problem. If the interference is substantial and cannot be resolved within 48 hours, Licensee shall power down its equipment and/or cease operations in order to correct and eliminate such interference provided that Licensee may operate its equipment intermittently during off-peak hours for testing purposes only. If the interference is not substantial, Licensee shall work diligently and take all necessary and appropriate action to cure such interference as promptly as possible without having to power down its equipment unless the interference becomes substantial. In all cases of interference if Licensee is unable to eliminate the interference, or reduce it to a level acceptable to the affected Pre-Existing User, within a period of thirty (30) days, then either party may terminate this License. Licensor agrees not to allow any lessee of the Property whose equipment is installed or modified subsequent to Licensee's then current operation of Licensee's equipment ("Subsequent User") to interfere with the operation of Licensee. In the event Licensee is subject to any such interference, Licensor shall (or shall cause other Subsequent Users) take all steps necessary to correct and eliminate the interference. If such interference is not eliminated within forty-eight (48) hours after Licensor's receipt of notice of such interference from Licensee, Licensor shall (or shall cause such other Subsequent User) to cease operations if requested by Licensee until the interference is eliminated. If such Subsequent User is unable to eliminate the interference, or reduce it to a level acceptable to Licensee, within a period of thirty (30) days, then

Licensee may, in addition to any other rights it may have, terminate this License. Nothing in this section shall be deemed or interpreted to authorize Licensee to illegally transmit on any frequencies or to provide any protection to Licensee from interference from any other person in the event that Licensee is operating on any unlicensed frequency spectrum. Licensor shall impose upon future lessees of the Property a similar duty to refrain from interfering with Licensee.

Notwithstanding the provisions contained herein, if Licensee's equipment interferes with Licensor's 911 System, Non emergency radio system, or Fire Rescue Emergency Radio Systems, Licensee shall either cure such interference or shut down its equipment immediately, but in no event later than two (2) hours from notice of such interference, and if Licensee fails to take such action, Licensor may shut down Licensee's equipment and Licensee shall have no recourse against Licensor as a result of such action.

Contact numbers:

7. Assignment.

Licensee will have the right to assign, sell or transfer its interest under this Agreement without the approval or consent of Licensor, to the Licensee's principal, affiliates, subsidiaries, subsidiaries of its principal. Upon notification to Licensor of such assignment, Licensee will be relieved of all future performance, liabilities and obligations under this Agreement.

8. Taxes and Assessments.

Upon presentation of sufficient and proper documentation, Licensee shall pay any and all increased ad valorem and personal property taxes, assessments, charges, fees, or Licenses levied upon the Property and the Premises as a result of Licensee's use thereof.

9. Insurance.

Licensee shall, at Licensee's sole cost and expense, procure and continue in force during the term of this License, including any Renewal Term, the Insurance Policies listed on Exhibit C hereto with the policy limits stated thereon.

10. Release and Hold Harmless.

- a. Licensee hereby releases Licensor, and their respective agents, employees, officers, directors, shareholders and partners (collectively the "Releasees") from, and shall not hold Releasees liable for, any liability for personal injury, consequential damages, loss of income or damage to or loss of property or persons, or loss or use of any property in or about the Premises from any cause whatsoever unless such damage, loss or injury directly results from the negligence or willful misconduct of the Releasees.
- b. Further, the Releasees shall not be liable to Licensee for any such damage or loss to the extent Licensee is compensated or would have been compensated by the insurance which Licensee is obligated to maintain pursuant to Section 11. Licensee agrees to indemnify, defend and hold Releasees harmless from and against injury, loss, damage or liability (or any claims in respect of the foregoing), costs or expenses (including reasonable attorneys' fees and court costs) which may arise or be imposed upon or incurred by or asserted against Releasees occurring during the term of this License, or during any period of time when Licensee is conducting business activity on the Premises pursuant to this Agreement, whether before the Commencement Date hereof or after the expiration date hereof, arising from:
 - (i) any work or act done in, on or about the Premises or any part thereof, including the installation, use, maintenance, repair or removal of the antenna facilities, at the direction of Licensee, its agents, contractors, subcontractors, servants, employees, Licensees invitees, except if such work or act is done or performed by Licensor or its agents or employee;

- (i) any negligence or other wrongful act or omission on the part of Licensee or any of its agents, contractors, subcontractors, servants, employees, subtenants, invitees, or Licensees;
- (ii) any accident, injury or damage to any person or property occurring in, on or about the Premises or any part thereof, unless caused by the negligence or willful misconduct of Licensor, its employees or agents; and
- (iii) any failure on the part of Licensee to perform or comply with any of the covenants, Licenses, terms, provisions, conditions or limitations contained in this License on its part to be performed or complied with.

c. Licensor agrees to indemnify, defend and hold Licensee harmless from and against any and all injury, loss, damage or liability (or any claims in respect of the foregoing), costs or expenses (including reasonable attorneys' fees and court costs) arising from any willful act or omission or the negligence of Licensor or its employees or agents, or the breach of this Agreement, except to the extent attributable to the negligence or intentional act or omission of Licensee and except to the extent that the licensor would be immune under the Illinois Municipal Tort Immunity Act, its employees, agents or independent contractors.

11. Removal of the Equipment Upon Termination.

Following any termination or expiration of this License, Licensee shall remove all of its equipment. Footings, foundations, and concrete will be removed to a depth of one (1) foot below grade. In performing such removal, Licensee shall restore the Premises and any personal property and fixtures thereon to as good a condition as they were prior to the installation or placement of the equipment, reasonable wear and tear excepted. If Licensee fails to remove such equipment within sixty (60) days after expiration or earlier termination of this License, Licensor may, upon thirty (30) days prior written notice to Licensee, remove and dispose of the equipment and Licensee shall reimburse Licensor for the costs of such removal and restoration of the Premises. Moreover, Licensor may, after said thirty (30) day notice, deem the equipment abandoned in which event the equipment shall become Licensor's property.

12. Hazardous Substances.

Licensee agrees that it will not use, generate, store or dispose of any Hazardous Material on, under, about or within the Premises in violation of any law or regulation. Licensor represents, warrants and agrees (1) that to Licensor's best knowledge, neither Licensor nor any third party has used, generated, stored or disposed of, or permitted the use, generation, storage or disposal of, any Hazardous Material on, under, about or within the Premises in violation of any law or regulation, except as disclosed herein, and (2) that Licensor will not, and will not permit any third party to use, generate, store or dispose of any Hazardous Material on, under, about or within the Premises in violation of any law or regulation. Licensor and Licensee each agree to defend, indemnify and hold harmless the other and the other's partners, affiliates, agents and employees against any and all losses, liabilities, claims and/or costs arising from any breach of any representation, warranty or License contained in this paragraph. In addition, Licensor shall defend, indemnify and hold harmless Licensee from all other losses, liabilities, claims and/or costs arising from or related to the environmental condition, including costs of remediation, which are not the result of any act of Licensee. As used in this paragraph, "Hazardous Material" shall mean hazardous or radioactive material, polychlorinated biphenyls, friable asbestos or other hazardous or medical waste substances as defined by the Comprehensive Environmental Response, Compensation and Liability Act, as amended, or by any other federal, state or local law, statute, rule, regulation or order (including any Governmental Requirements) concerning environmental matters, or any matter which would trigger any employee or community "right-to-know" requirements adopted by any such body, or for which any such body has adopted any requirements for the preparation or distribution of a material safety data sheet. This paragraph shall survive the termination of this License.

13. Termination by Licensee.

Provided Licensee is not in default hereunder, Licensee shall have the right to terminate this License after the Initial Term without cause by giving Licensor at least one hundred and eighty (180) days prior written notice and Licensee shall not be required to make any further payment of License Fees.

14. Utilities.

Licensee shall contract directly with the local utility company to install a separate utility meter(s) for its utility service(s) and Licensee shall pay all costs related to such installation(s) and utility service(s). The utility meter(s) will be required to use remote read technology at the cost of the licensee.

15. Notices.

All notices, demands, requests and other communications hereunder shall be in writing either personally delivered or mailed, via certified mail, return receipt requested, or sent by overnight courier to the following addresses:

If to Licensor, to:

City of Rock Island
ATTN: City Manager
1528 Third Avenue
Rock Island, IL 61201

With a copy to:

City of Rock Island
Public Works Department
c/o Public Works Administration
1309 Mill Street
Rock Island, IL 61201

If to the Licensee, to:

SpeedConnect, LLC
Attn: Tony Jaboro/Leigh Ann Spellman
455 North Main Street
Frankenmuth, MI 48734
(866) 297-2900

With a copy to:

Leigh Ann Spellman
Contracts Manager
1015 Central Ave Ste C
Kearney, NE 68845

Notices will be deemed to have been given upon either receipt or rejection. Unless or until either of the respective addresses is changed by notice in writing sent to the other party as set forth above, thereafter to the address

contained in such notice. Any notice herein, which is required by Licensor, may be given by City's designated Manager and shall be deemed effective for all purposes herein.

16. Marking and Lighting Requirements.

Licensee shall construct, install and maintain the antenna facilities at the Premises in compliance with all marking and lighting requirements of the Federal Aviation Administration ("FAA") and the Federal Communications Commissions ("FCC"). Licensee shall hold harmless Licensor against any penalty or citation resulting from Licensee's failure to maintain required lighting of its equipment, unless such failure is the result of Licensor's gross negligence or willful misconduct.

17. Default and Right to Cure.

The following will be deemed a default by Licensee and a breach of this Agreement: (i) non-payment of the License Fee if such License Fee remains unpaid for more than thirty (30) days after receipt of written notice from Licensor of such failure to pay; or (ii) Licensee's failure to perform any other term or condition under this Agreement within forty-five (45) days after receipt of written notice from Licensor specifying the failure. If Licensee remains in default beyond any applicable cure period, Licensor will have the right to exercise any and all rights and remedies available to it under law and equity.

18. Warranties.

Licensee and Licensor each acknowledge and represent that it is duly organized, validly existing and in good standing and has the right, power and authority to enter into this Agreement and bind itself hereto through the party set forth as signatory for the party below.

Licensor represents and warrants that: (i) Licensor solely owns the Property as a legal lot in fee simple, or controls the Property and structure by lease or license; (ii) the Property is not encumbered by any liens, restrictions, mortgages, covenants, conditions, easements, leases, or any other agreements of record or not of record, which would adversely affect Licensee's permitted use and enjoyment of the Premises under this Agreement; (iii) as long as Licensee is not in default then Licensor grants to Licensee sole, actual, quiet and peaceful use, enjoyment and possession of the Premises; (iv) Licensor's execution and performance of this Agreement will not violate any laws, ordinances, covenants or the provisions of any mortgage, lease or other agreement binding on the Licensor; and (v) if the Property is or becomes encumbered by a deed to secure a debt, mortgage or other security interest, Licensor will use best efforts to provide promptly to Licensee a mutually agreeable Subordination, Non-Disturbance and Attornment Agreement.

19. Condemnation.

In the event Licensor receives notification of any condemnation proceedings affecting the Property, Licensor will provide notice of the proceeding to Licensee within forty-eight (48) hours. If a condemning authority takes all of the Property, or a portion sufficient, in Licensee's reasonable determination, to render the Premises unsuitable for Licensee, this Agreement will terminate as of the date the title vests in the condemning authority. The parties will each be entitled to pursue their own separate awards in the condemnation proceeds, which for Licensee will include, where applicable, the value of its Communication Facility, moving expenses, prepaid License Fees, and business dislocation expenses, provided that any award to Licensee will not diminish Licensor's recovery. Licensee will be entitled to reimbursement for any prepaid License Fee on a prorata basis.

20. Casualty.

Licensor will provide notice to Licensee of any casualty affecting the Property within forty-eight (48) hours of the casualty. If any part of the antenna facilities or Property is damaged by fire or other casualty so as to render the Premises unsuitable, in Licensee's sole determination, then Licensee may terminate this Agreement by providing written notice to the Licensor, which termination will be effective as of the date of such damage or destruction. Upon such termination, Licensee will be entitled to collect all insurance proceeds payable to Licensee on account thereof and to be reimbursed for any prepaid License Fee on a prorata basis.

21. Waiver of Licensor's Liens.

Licensor waives any and all lien rights it may have, statutory or otherwise, concerning the antenna facilities or any portion thereof. The antenna facilities shall be deemed personal property for purposes of this Agreement, regardless of whether any portion is deemed real or personal property under applicable law, and Licensor consents to Licensee's right to remove all or any portion of the antenna facilities from time to time in Licensee's sole discretion and without Licensor's consent.

22. Miscellaneous.

- a. For the purpose of providing constructive notice hereof, Licensor and Licensee hereby agree to execute a Memorandum of License in recordable form and Licensee shall have same recorded in the land records of the appropriate county and state.
- b. If any term of this License is found to be void or invalid, such invalidity shall not affect the remaining terms of this License, which shall continue in full force and effect.
- c. Failure of Licensor to insist on strict performance of any of the conditions or provisions of this License, or to exercise any of Licensor's rights hereunder, shall not waive such rights.
- d. This License shall be governed by and construed in accordance with the laws of the state in which the Premises are located and jurisdiction and venue shall be in Rock Island County, Illinois.
- e. This License constitutes the entire license and understanding of the parties and supersedes all offers, negotiations and other licenses, including that certain _____ between Licensor _____ dated _____, regarding the Property. There are no representations or understandings of any kind not set forth herein. Any amendment to this License must be in writing and executed by both parties.
- f. The terms and conditions contained in this Agreement will run with the Property and bind and inure to the benefit of the parties, their respective heirs, executors, administrators, successors and assigns.

[SIGNATURES APPEAR ON PAGE IMMEDIATELY FOLLOWING.]

IN WITNESS WHEREOF, the parties hereto have executed this License as of the date aforesaid.

LICENSOR:

CITY OF ROCK ISLAND

BY: _____

NAME: Thomas Thomas

TITLE: City Manager

DATE: _____

FEDERAL TAX I.D. NO.: 36-6006077

LICENSEE:

SpeedConnect, LLC

BY: _____

NAME: John Ogren

TITLE: CEO

DATE: _____

EXHIBIT "A"

PROPERTY

The Property known as: Water Tower, 38th Street 31st Avenue, Rock Island, Illinois 61201.

EXHIBIT "B"

WATER TOWER ACCESS GUIDELINES

Following the World Trade Center incident on September 11, 2001, the Department of Homeland Security identified potable water infrastructures as being susceptible to terrorism. Numerous steps have been taken to ensure the safety of our drinking water infrastructure including, but not limited to, modification of storage tower access ladders, security fencing, tamper proof locks, etc.

The City of Rock Island has implemented the following guidelines for accessing water tower facilities:

In the event a City employee needs access to the water tower, the following procedures must be followed:

1. All City employees must notify RICOMM prior to entering any water tower facility (309-732-2511). RICOMM will keep a log of this activity.
2. The employee must state their name, department, and a brief description as to the nature of their business to the on-duty operator at RICOMM.
3. Upon completion of the work and after securing the premises, the employee must notify RICOMM that they are vacating the water tower facility.

In the event a contractor needs access to the water tower, the following procedures must be followed:

1. A new contractor must contact the Police Booking Custodian (309-732-2525) with the City of Rock Island Police Department, 316 16th Street, Rock Island, Illinois, during normal business hours (7:45 a.m. to 10:45 p.m.) to apply for a Water Tower Access Permit.

If a contractor has not been approved for a Tower Access Permit and needs access to the water tower facilities after the Police Department's normal business hours, the contractor must contact RICOMM (309-732-2511) and RICOMM will send an officer to stand-by at the water tower facility while the contractor is present.

2. The contractor will be required to complete a series of paperwork including, but not limited to, a clearance check, scope of work statement on company letterhead, estimate of time on site, a list of names and date of birth for employees that will be on site, a "Liable for Damage" form/contract, access guidelines, etc.
3. A photo ID will be issued by the City of Rock Island Police Department that must be kept on the person at all times while on site.
4. The Police Department will issue the contractor a key to the water tower facilities upon satisfactory completion of this paperwork and clearance check.
5. The contractor will be required to check the key out at the beginning of each workday.
6. The key can be checked out for a period not to exceed 12 hours. If more time is needed, the contractor must notify the City of Rock Island's Police Department and request additional time.
7. The key must be returned to the Police Department within 30 minutes of the contractor leaving the site.

In the event that the key is not returned or is lost, the contractor and/or company will pay the City of Rock Island \$2,000. Another key will not be issued until the \$2,000 is paid in full.

8. In the event a contractor needs to utilize the services of another contractor, a list of the names, sex/race, and dates of birth of the contractors must be submitted to the City of Rock Island Police Department 48 hours in advance for a clearance check. A permitted employee from the primary contractor must be on site with the sub-contractor at all times.

EXHIBIT "C"

INSURANCE REQUIREMENTS

The Licensee may not use the premises or commence work until it has obtained all insurance required under this Exhibit C and until the insurance has been approved by the owner in its reasonable discretion. The Licensee may not allow any contractor or subcontractor to commence work on his or her contract or subcontract until all similar insurance required by the contractor or subcontractor has been so obtained and approved. Insurance required consists of the following:

- (a) Worker's Compensation Insurance for all of the Licensee's employees engaged in work at the work site. Licensees will guarantee that all contractors and subcontractors shall obtain Worker's Compensation Insurance for their employees.
- (b) Public Liability and Property Damage Insurance with Licensor named as an additional insured taken out and maintained for the duration of the contract by the Licensee, contractor pursuant to Licensee's indemnity obligations hereunder. The amounts of insurance must be at least as follows:
 - (i) Public Liability Insurance. Not less than two million dollars (\$2,000,000) for injuries including wrongful death to any one person and subject to the same limits for each person, in an amount not less than two million dollars (\$2,000,000) on account of one accident.
 - (ii) Property Damage Insurance. Not less than two million dollars (\$2,000,000).
 - (iii) All insurance acquired under the terms of this article must be obtained through an insurance company authorized to do business in the State of Illinois, and certificates of insurance must be filed with the City Clerk on January 1st of each year of the agreement.

EXHIBIT "D"

INSTALLATION AND MAINTENANCE CRITERIA

- A. Licensee shall, at Licensee's expense, keep and maintain the Premises in a commercially reasonable condition and repair during the term of this License. Licensee agrees to maintain the antenna facilities in proper operating condition and within industry accepted safety standards. All installations and operations in connection with this License by Licensee must be in compliance with all federal, state, and local laws, codes and regulations, including but not limited to local zoning requirements. Licensor assumes no responsibility for the licensing, operation and/or maintenance of the antenna facilities. Licensee shall comply with all of the terms of its FCC License.
- B. Prior to installing or allowing any antenna facilities to be installed in or on the Premises, Licensee shall submit detailed engineering plans and specifications of the planned installation to Licensor, with an additional copy to the City's designated Manager for Licensor's written approval, which approval shall not be unreasonably withheld or delayed. Licensor's review of Licensee's plans shall include a review of the appearance of the planned installation. Licensor's approval of any installation is not a representation that such installation of the antenna facilities is in compliance with all applicable laws, ordinances, rules and regulations or that it will not cause interference with other communications operations on the Property. All construction activities must have prior approval and supervision of the City of Rock Island Public Works Department. Licensee will notify Licensor to arrange a mandatory pre-construction meeting on the site. No work shall begin on the site until after this pre-construction meeting.
- C. All installation and other work to be performed by Licensee hereunder will be done in such a manner so as not to interfere materially with, delay, or impose any additional expense upon Licensor in maintaining the Premises. In no event will Licensor be required to consent to any installation or other work by Licensee, which would, in Licensor's sole judgment, adversely affect any part of the Premises. All cable runs, conduit and sleeving shall be installed in a good workmanlike manner. Cables and transmission lines shall be routed and attached in accordance with current, state of the art, industry practices. The antenna facilities shall be identified with permanently marked, weather proof tags at the following locations: (i) each antenna bracket; (ii) at the transmission line Premises entry point; (iii) at the interior wall feed through or any other transmission line exit point; and (iv) at any transmitter combiner, duplexer, or multifed receive port. In addition, all Licensee telephone blocks, demarcs, and cables shall be clearly identified with the Licensee's name, type of line, and circuit number.
- D. Licensee shall at all times obtain and maintain any Licenses, permits, and approvals necessary for the installation or operation of the antenna facilities at its sole cost and expense.
- E. Licensee shall install a solid cedar fence around all outside ground equipment. This fence must visually hide the outside ground equipment from the right-of-way and private property owners. Inside the cedar fence there must contain a vegetation barrier to prevent unsightly vegetation growth.
- F. If the Licensee installs a pre-fabricated building to enclose its ground equipment it must seek prior approval from the City of Rock Island.
- G. Licensee shall abide by the "Installation Guidelines for Small Antenna Systems on Water Tanks", unless they have written approval to deviate from those guidelines.

EXHIBIT "D"

(Continued)

COMMUNICATIONS EQUIPMENT

1. The Tower shall contain the antennas, antenna mounts, and associated wiring and cabling as listed on the antenna specifications.

EXHIBIT "E"

SITE PLAN

**Licensors have not yet approved the Site Plan.
The Site Plan must be inserted by Licensee and is subject to Licensor's approval.**



Utility Service Co., Inc.

535 General Courtney Hodges
Blvd.

P. O. Box 1350, Perry GA 31069

PH: (478) 987-0303

FAX: (478) 987-1085

Installation Guidelines for Small Antennae Systems on Water Tanks

Utility Service Communications Co., Inc. (USCCI) is part of the Utility Service Group, as is Utility Service Co., Inc. (USCI). While USCI focuses on quality maintenance, inspection, and repair of water tanks, USCCI deals only with antennae installations on water tanks. Both groups have together developed guidelines for the proper installation of coax runs, antenna mounts, tank penetrations, etc. These guidelines were developed around four key goals:

- Assure coating system is accessible for inspection and maintenance (6" minimum clearance)
- Prevent unnecessary corrosion
- Provide safe and efficient access for personnel and equipment
- Protect Structural Integrity

Through our years of experience in maintaining thousands of tanks across the country, and in designing and installing wireless systems on water tanks, it is obvious that the only acceptable method of mounting coax and antennae on a water tank by utilizing attachments which are full seal welded to the structure. Full seal welded attachments require specialized skilled labor, and the welding will damage the coating system both on the exterior and interior of the tank, therefore requiring repair. Because of these factors, full seal weld designs are typically more expensive to install, and are therefore sometimes discouraged by the wireless companies in an effort to save construction costs. However, they are the most cost effective for the wireless companies as they typically don't require removal of the equipment during maintenance. And, this method is best for the tank and the tank owner as it meets the goals listed above.

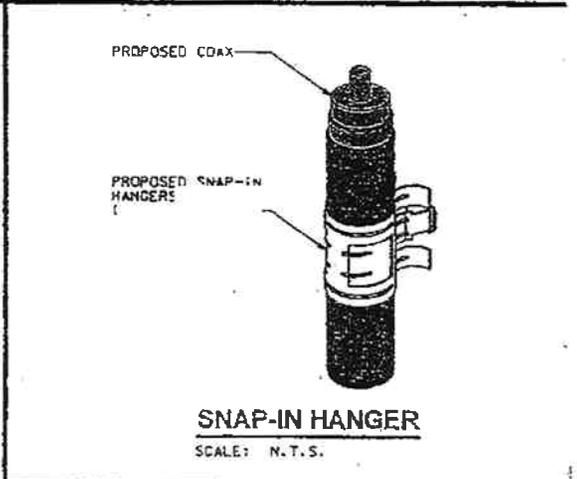
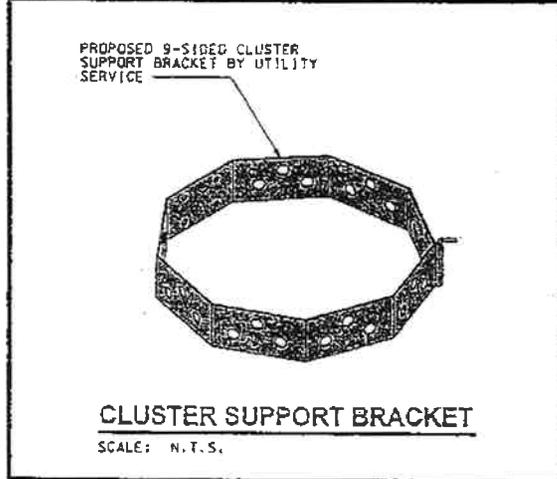
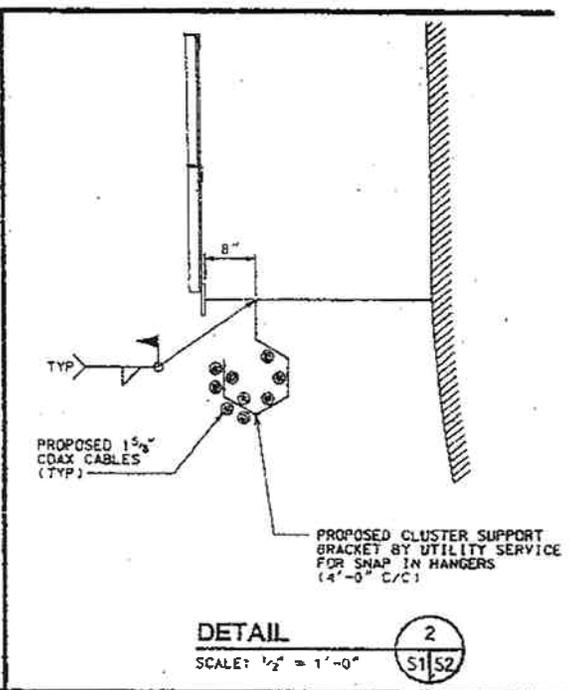
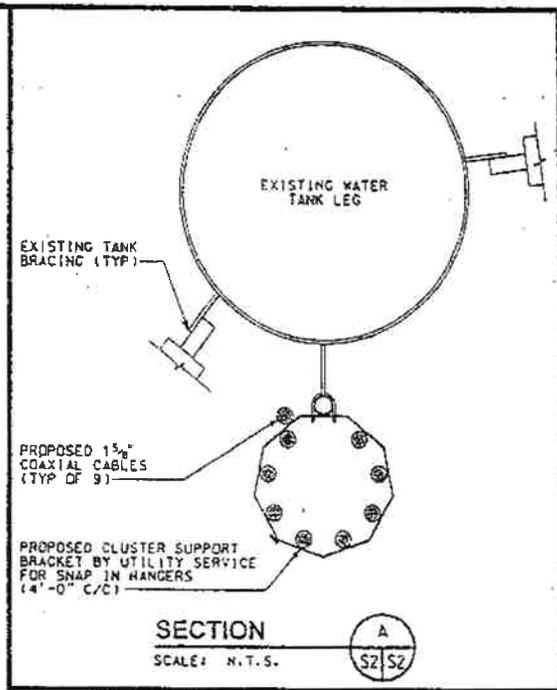
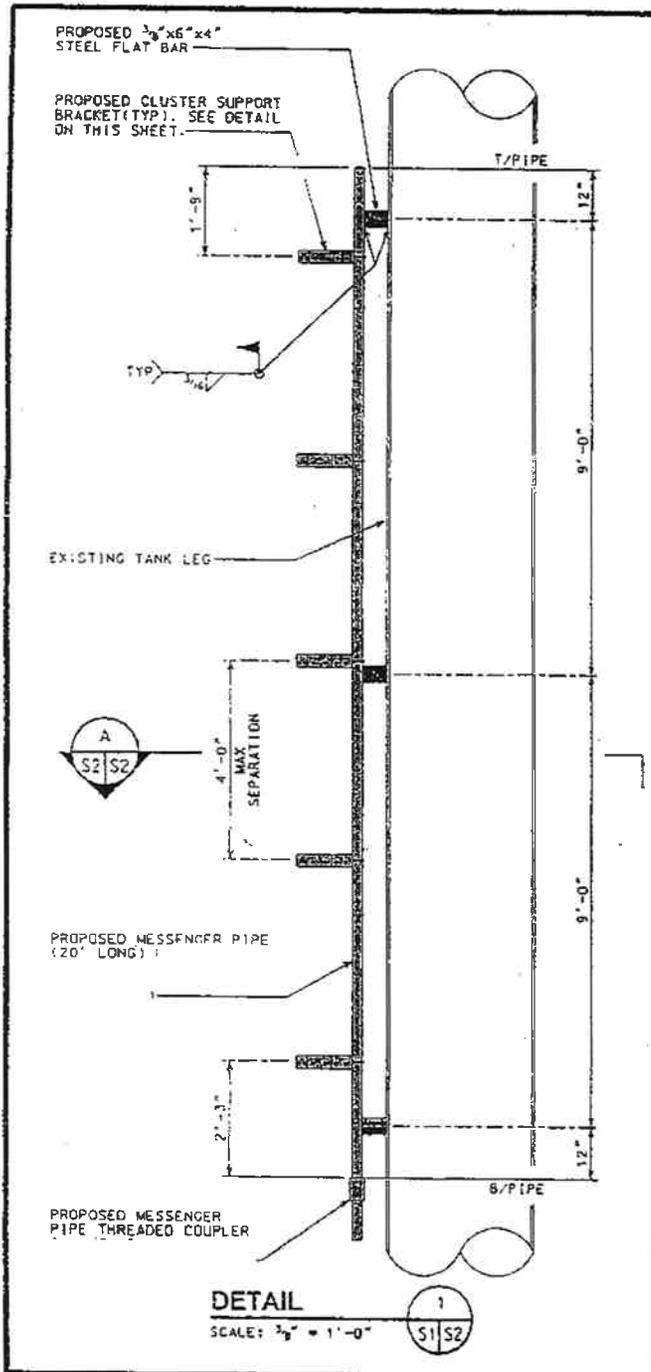
We do not approve other methods of installation, such as stud-welding, stitch welding, epoxy gluing, strapping, clamping, bolting, etc. All of these methods have been proven to present challenges in at least one, and often in more, of the four goals listed above. Feel free to contact us for more explanation.

If any significant wind loads are added on the roof of the tank, it is recommended that a gross structural analysis be performed to assure the structural integrity of the tank with the additional loading.

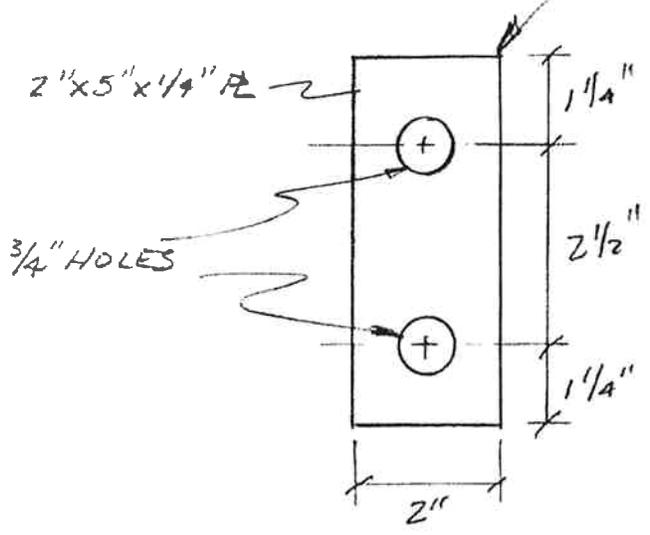
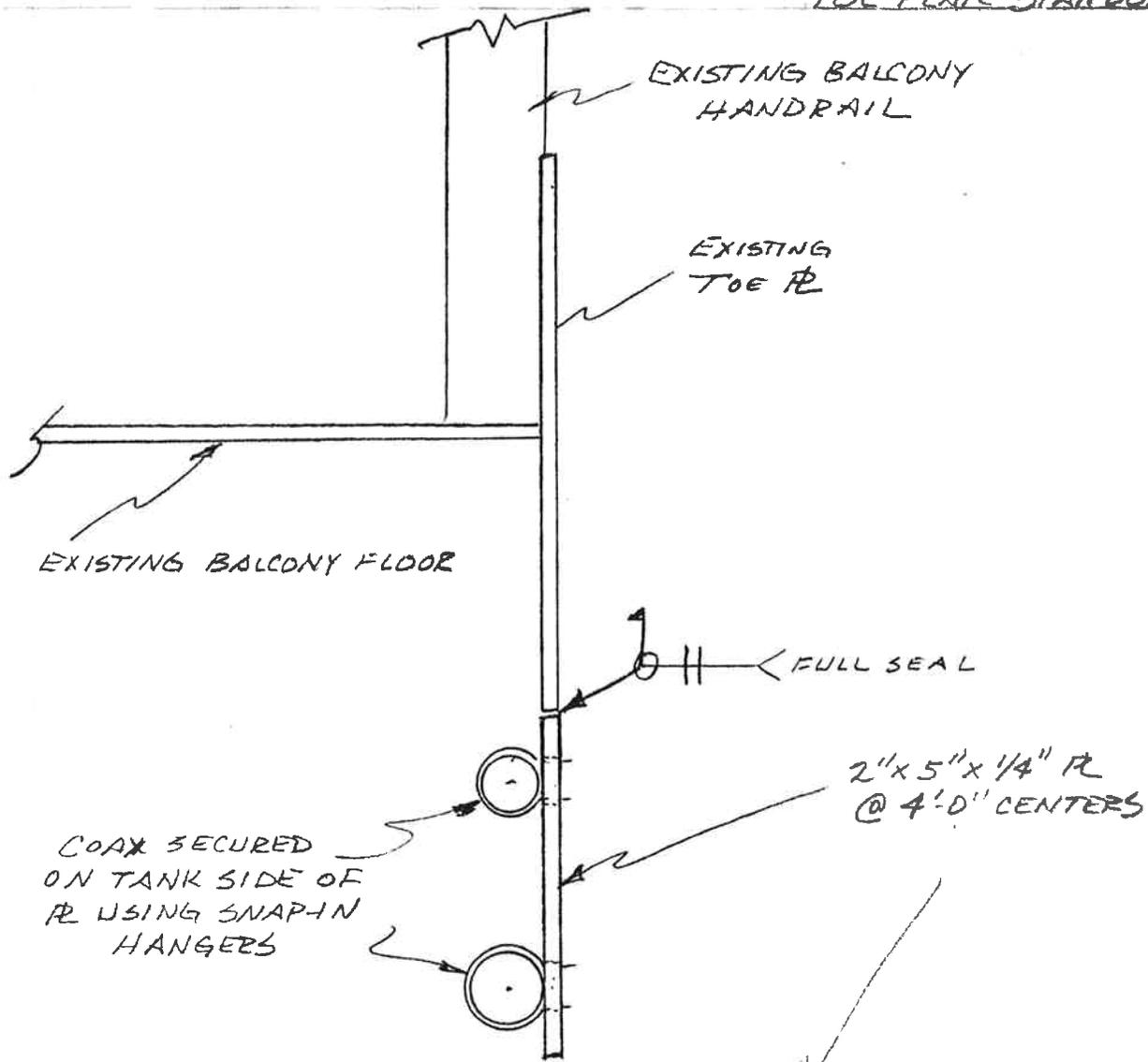
Attached are some details of recommended standoffs and mounts for smaller antenna systems.

Details

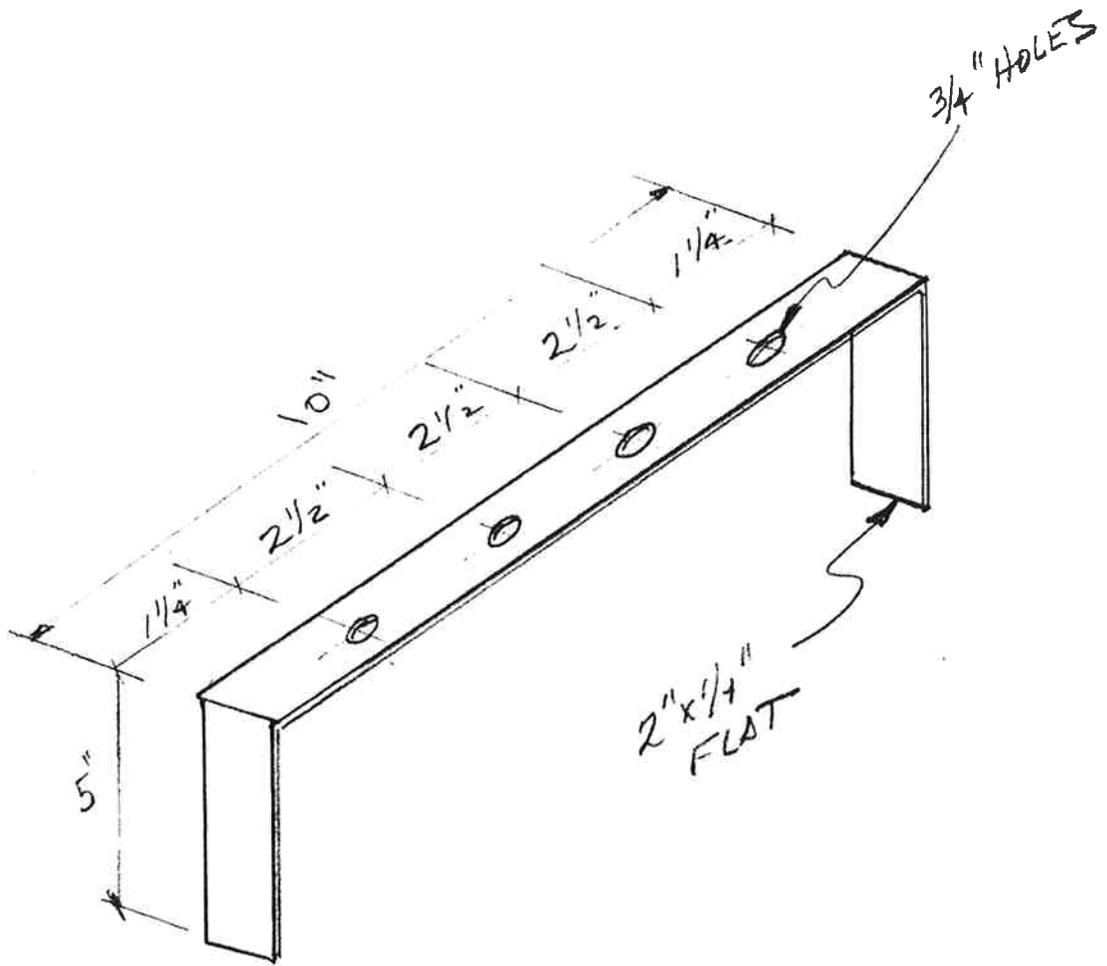
- Messenger Pipe and J-Cluster: The preferred method of routing coax from the ground to upper levels of the tank is via a messenger pipe system. This messenger pipe should always be installed on the inside face of the leg to avoid interference with staging during maintenance. If only one or two coax are used, then the cluster brackets can be omitted and the coax secured directly to the outside of the 2" pipe with heavy duty wire ties. This saves costs up front, but still allows future use of cluster brackets if expansion is necessary. The J-Clusters used underneath the balcony are only needed if more than 2 coax are routed along the balcony. If 2 or less coax are used, then the Toe Plate Standoffs can be used instead.
- Toe Plate Standoffs: These standoffs are used to support the weight and wind load of 1-2 coax which must be routed around the perimeter of the balcony. The coax should always be secured on the inside face of the standoffs so that the coax will not interfere with rigging for future maintenance activities.
- Balcony Penetration: Whenever antennae must be mounted on the roof of the tank, then routing the coax to the roof requires a penetration in the balcony. It is very important that the penetration reinforcement be full seal welded top and bottom, and that the cutout for the penetration does not occur closer than 4" from the tank wall. Also, the penetration should be narrow enough to minimize any impendence with safe access around the balcony.
- 10" coax standoff brackets: These brackets are to be welded directly to the tank shell from the balcony to the roof antenna location at 4 ft. intervals. Snap-in hangers are used to secure the coax to the brackets. These brackets can handle up to 4 coax if regular snap-ins are used, or up to 8 coax if 'snap-stack' hangers are used.
- Single antenna roof mount: This mount is designed for a single antenna to be mounted. The gussets should be positioned as shown to prevent water from pooling around the pipe. The mount should not be installed within 3 feet of the vent so that adequate access is maintained for future vent maintenance activities. If several antennae are planned, then a custom corral type mount should be investigated rather than cluttering the roof of the tank with several single mounts.
- Handrail/Catwalk Antenna Mount: The elevation of the midpoint of the antenna should be near the mid-rail of the balcony handrail. This is to avoid offset wind loads which can create structural problems on the balcony. It is important to know that the balcony's primary function is as a reinforcement of the tank itself. If other elevations are needed for a balcony antenna mount, a structural analysis is necessary to determine necessary bracing and supports.

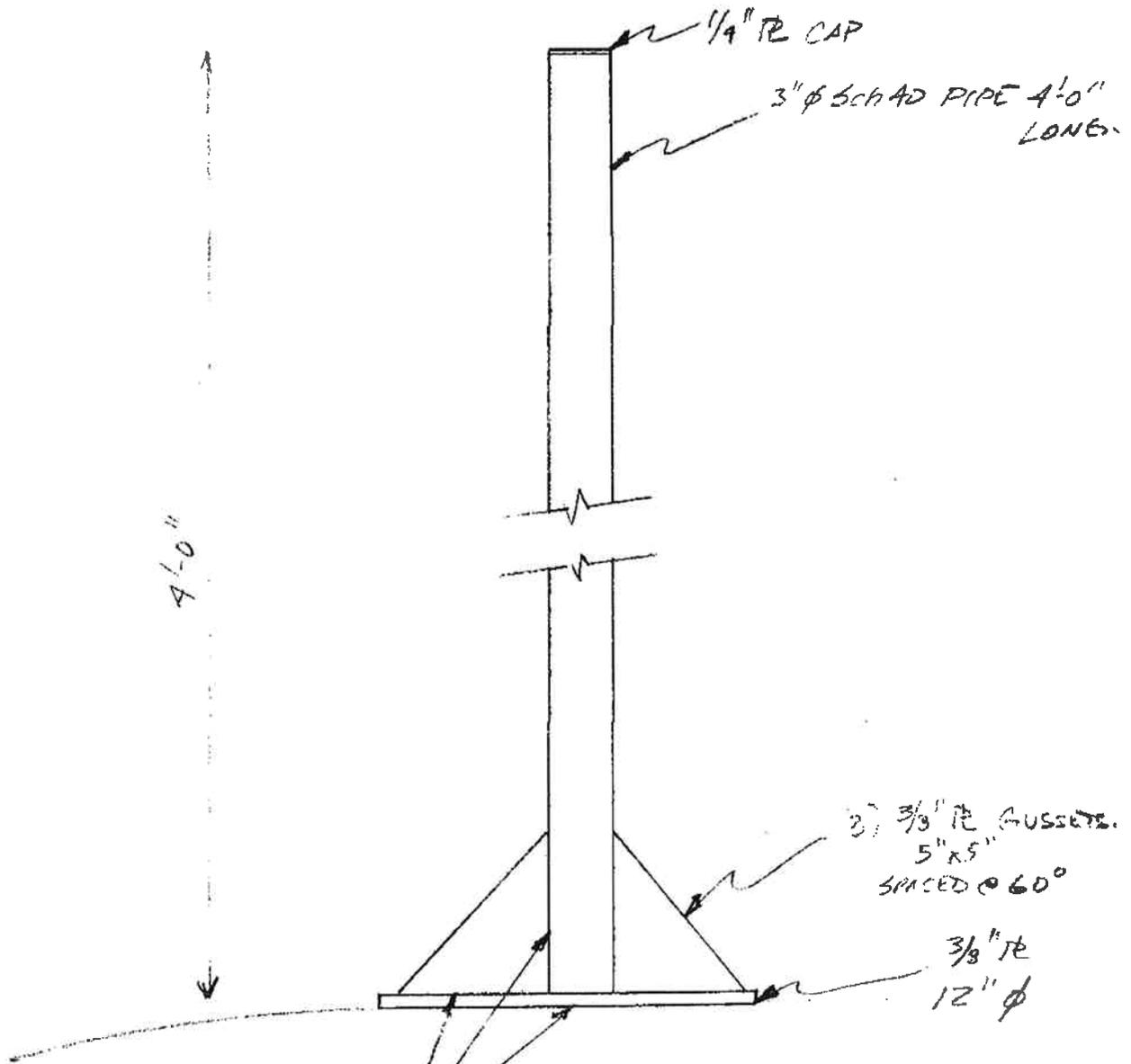


TOE PLATE STANDOFFS ✓



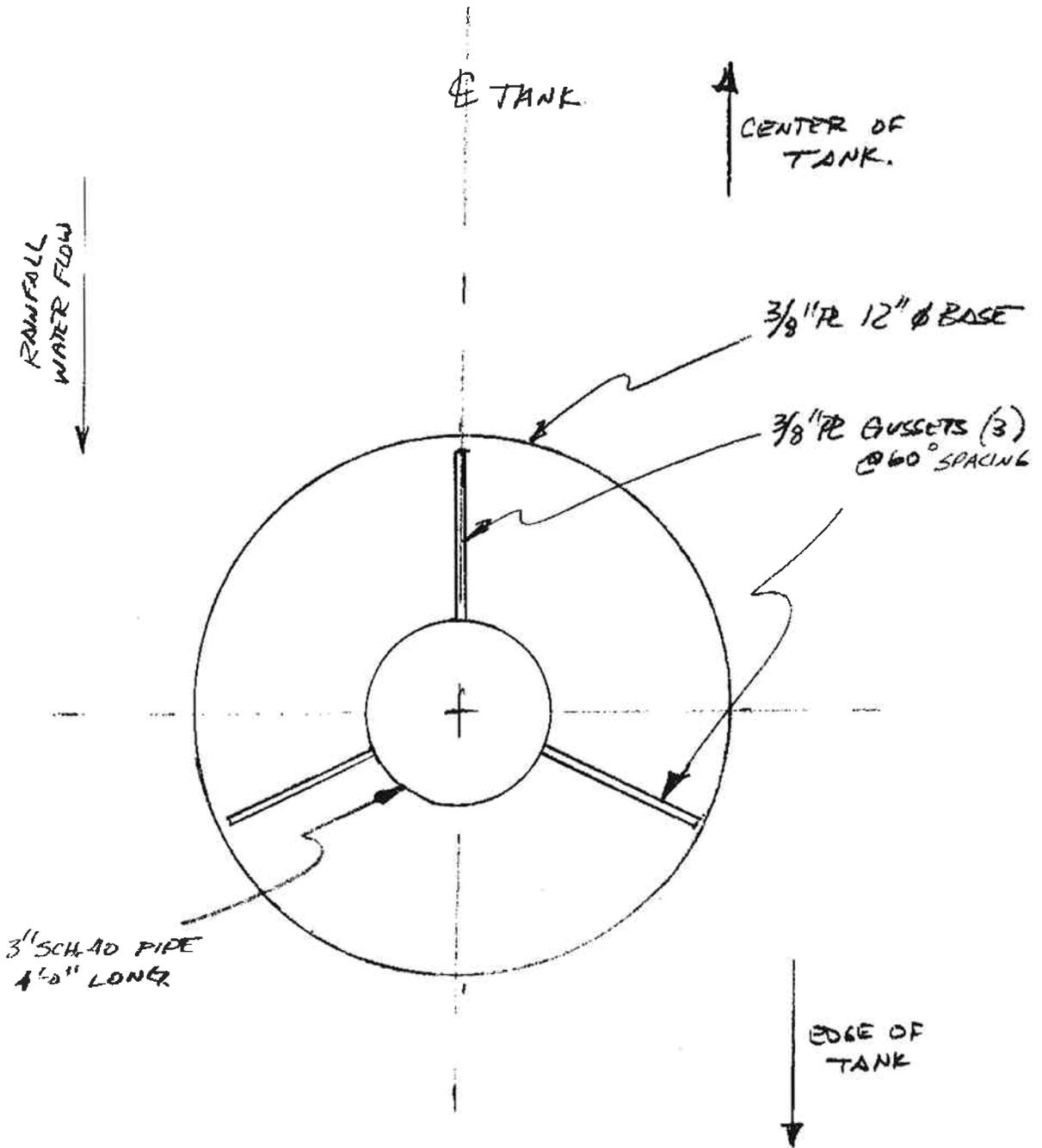
COAX STANDOFF BRACKET - 10"



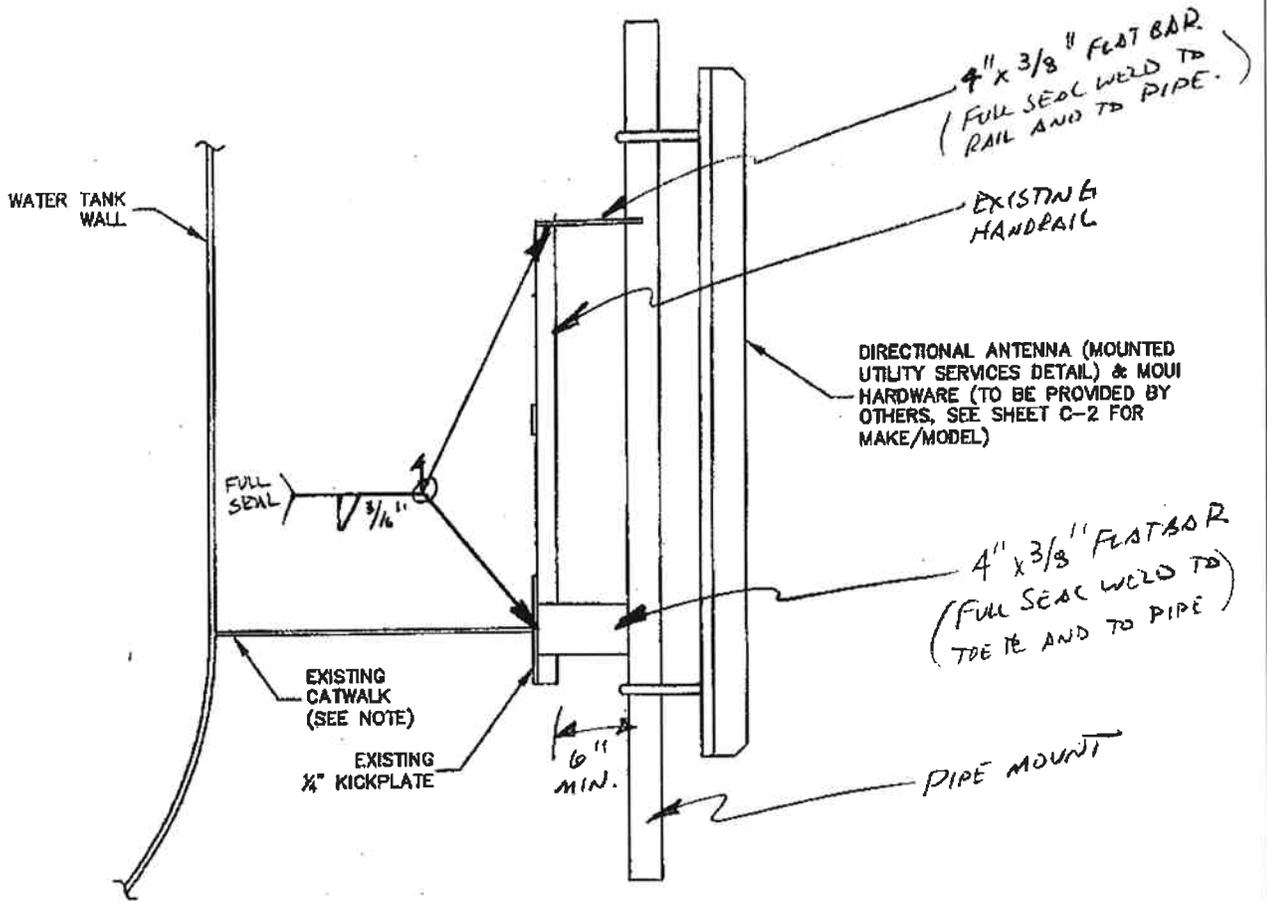


FULL SEAL TYP.
3/16"
3/16"

* FIELD TRIM BOTTOM OF PIPE AND BOTTOM EDGE OF GUSSETS TO ALLOW FOR SLOPE OF ROOF. PIPE MUST BE PLUMB.
** SEE PAGE 2 FOR GUSSET PLACEMENT.

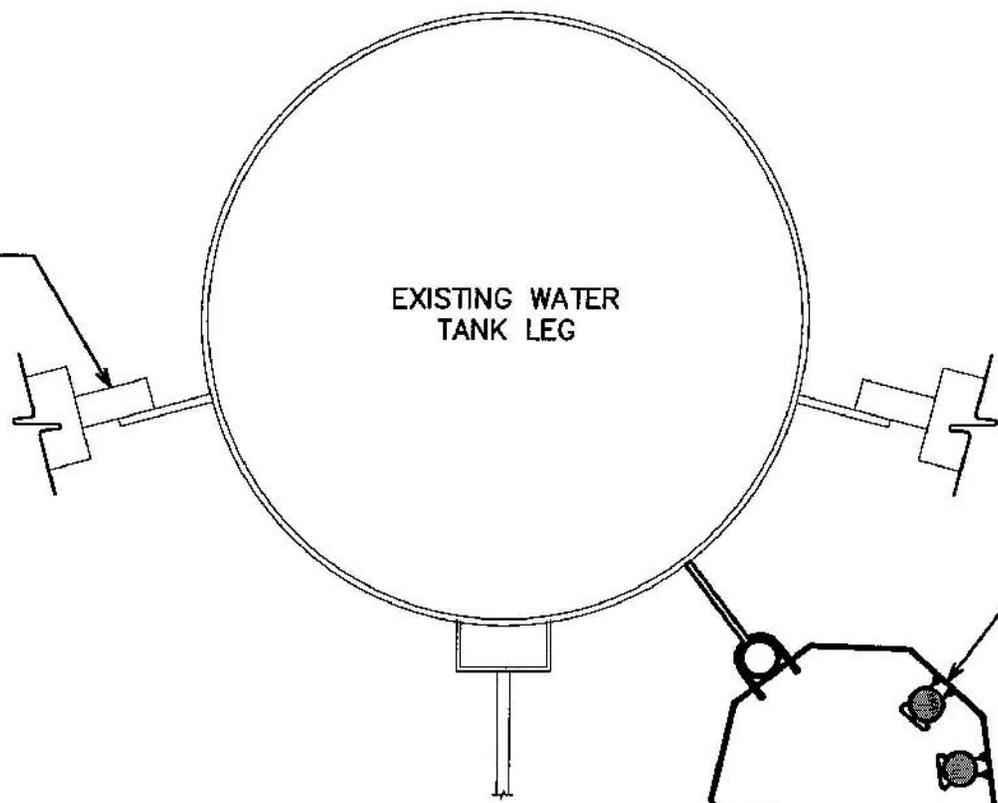


GUSSET ORIENTATION



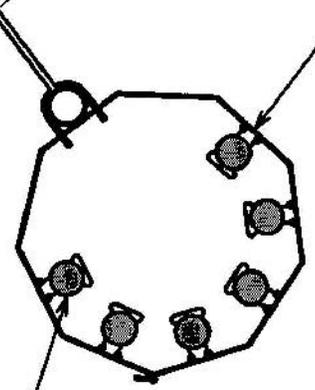
CATWALK ANTENNA MOUNT DETAIL

EXISTING TANK BRACING (TYP)



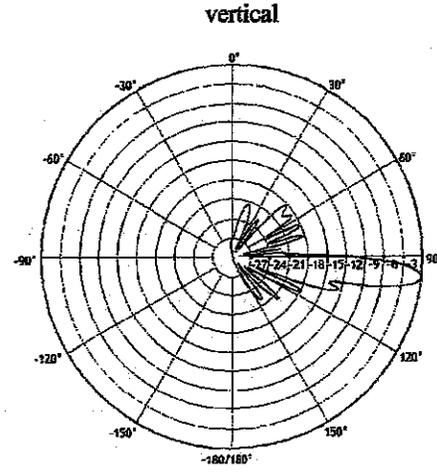
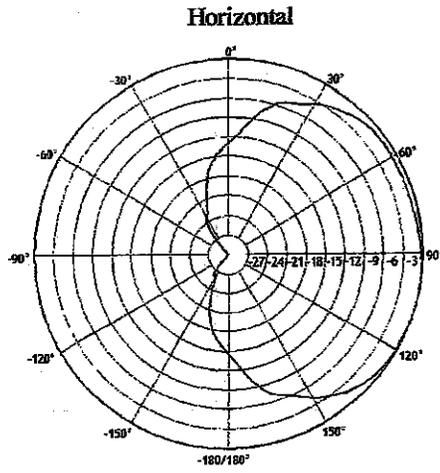
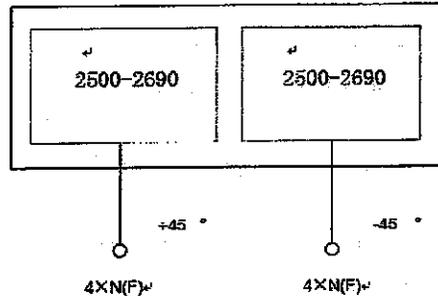
EXISTING WATER TANK LEG

PROPOSED CLUSTER SUPPORT BRACKET BY UTILITY SERVICE FOR SNAP-IN HANGERS (4'-0" C/C)



PROPOSED COAXIAL CABLES BY OTHERS





2500-2690

Appd. Michael J. Kane, PE

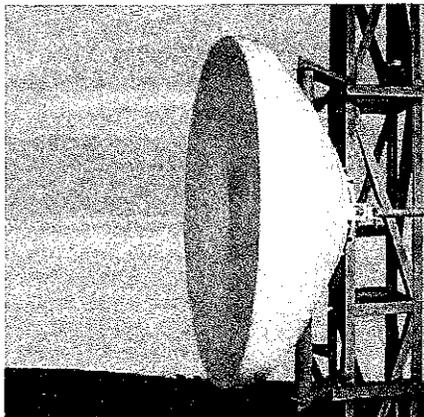
2500-2690 17dBi Xpol 6 fixed tilt four array LTE smart antenna

Model Name		T-04-47-17-006	
Electrical Specifications			
General parameters	Parameters		Index
	Frequency Range		2500-2690MHz
	Fixed electrical tilt		6°
	Tilt accuracy		±1°
Calibration and electrical parameters	Coupling between calibration port and each radiation port		-26±2 dB
	Max.altitude difference between calibration port and each radiation port		≤0.7 dB
	Max.phase difference between calibration port and each radiation port		≤5°
	VSWR of calibration port and radiation port		≤1.5
	Isolation between co_polarization ports	6 tilt	≥28dB
	Isolation between cross_polarization ports	6 tilt	≥30dB
Radiation parameters	Column pattern	-3dB Horizontal beam width	65° ±15°
		Gain of single column pattern	≥16.5dBi
		Gain drop at ±60°	12±2dB
		Vertical beam width	≥5°
		Cross_polarization ratio (bore sight)	≥18dB
		Cross_polarization ratio (at±60° sight)	≥10dB
		Front to back ratio	≥25dB
		First upper side lobe suppression	≤-16dB
		-3dB Horizontal beam width	65° ±5°
		Gain of broadcasting pattern	≥16dBi

	Broadca sting pattern	Gain drop at $\pm 60^\circ$	$12 \pm 2\text{dB}$
		-3dB Vertical beam width	$\geq 5^\circ$
		Cross-polarization ratio (bore sight)	$\geq 22\text{dB}$
		Cross-polarization ratio (at $\pm 20^\circ$ sight)	$\geq 22\text{dB}$
		Cross-polarization ratio (at $\pm 60^\circ$ sight)	$\geq 10\text{dB}$
		Front to back ratio	$\geq 28\text{dB}$
		First upper side lobe suppression	$\leq -16\text{dB}$
		First null fill	$\geq -18\text{dB}$
	Operati Pattern	Gain at 0 degree directions	$\geq 22\text{dBi}$
		-3dB Horizontal beam width at 0 degree directions	$\leq 25^\circ$
		Horizontal side lobe level at 0 degree directions	$\leq -12\text{dB}$
		Gain at $\pm 60^\circ$ direction	$\geq 17.5\text{dBi}$
		-3dB Horizontal beam width at $\pm 60^\circ$ directions	$\leq 23^\circ$
		Horizontal side lobe level at $\pm 60^\circ$ directions	$\leq 0\text{dB}$
		Cross-polarization ratio at 0 degree(bore sight)	$\geq 22\text{dB}$
Front to back ratio at 0 degree	$\geq 28\text{dB}$		

Mechanical Specification	
Radome Material	UPVC
Radome Color	Grey
Connector Type	9*N(F)
Antenna Dimension (mm)	1400×320×110
Packing Size (mm)	1610×405×227
Antenna Weight (kg)	13.5
Clamp weight (kg)	4.8
Operating Temperature (°C)	-40~+70
Operating Wind Speed (km/h)	135
Maximum Wind Speed (km/h)	200

Microwave Antenna Specifications



WTC09-107SAR-QFD

Ultra High Performance,
0.9m (3 ft), 10.7-11.7GHz,
Dual-polarized,
Short-focus Parabolic Antenna

General Specifications

Antenna Type	Point to point antenna
Performance	Ultra high
Diameter, nominal, m (ft)	0.9 (3)
Polarization	Dual , V and H
Flange Interface	154IEC-PDR100
Antenna Color	Light gray
Radome Color	Light gray
Radome Material Description	Anti-ultraviolet ABS material
Packing	Plywood
RoHS 2002/95/EC	Compliant

Electrical Specifications

Frequency Range, GHz	10.7-11.7
Gain, Low Band, dBi	37.3
Gain, Mid Band, dBi	37.7
Gain, Top Band, dBi	38.0
3dB Beamwidth, Degree	2.1
Isolation,dB	35
XPD, dB	30
F/B Ratio, dB	64
VSWR,(Return Loss, dB)	1.30 (17.7)
ETSI Standard	Range 1, Class 3

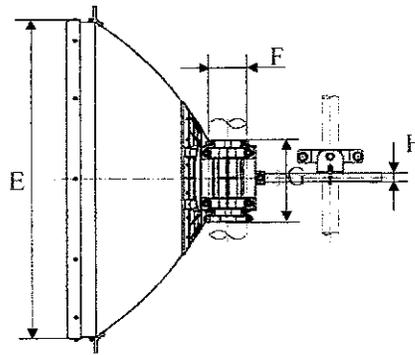
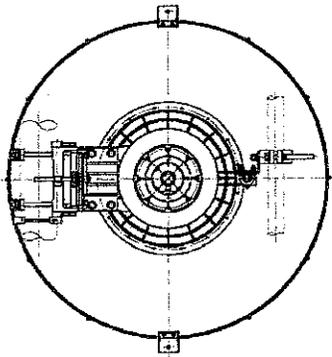
Microwave Antenna Specifications



Mechanical Specifications

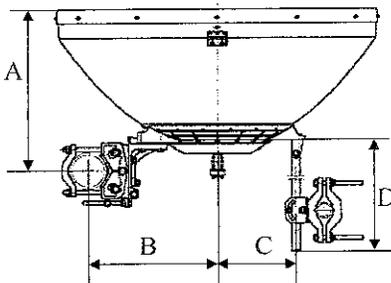
Wind Velocity Operational, km/h	126
Wind Velocity Survival Rating, km/h	200
Coarse Azimuth, Degree	360
Fine Azimuth Adjustment, Degree	±10
Fine Elevation Adjustment, Degree	±15
Mounting Pipe Diameter, mm	∅51~∅114
Feeder Watertightness	Watertight
Operation Pressurization, kPa	50
Operation Temperature, °C	-45 ~ +60
Storage Temperature, °C	-55 ~ +70
Ice Load, mm	25
Strengthening Rod	1
Adjustable Rod	NA
Net Weight, kg	24±1
Gross Weight, Packed Antenna, kg	52±3
Length, mm	1060
Width, mm	1060
Height, mm	770
Volume, m³	0.87

Structure information



0.9m Antenna Dimensions, mm	
A	(498)
B	(399)
C	(241)
D	(1350)
E	(∅991)
F	∅51~114
G	(260)
H	(∅26.8)

NOTE: The dimension with“()” is referenced dimension.

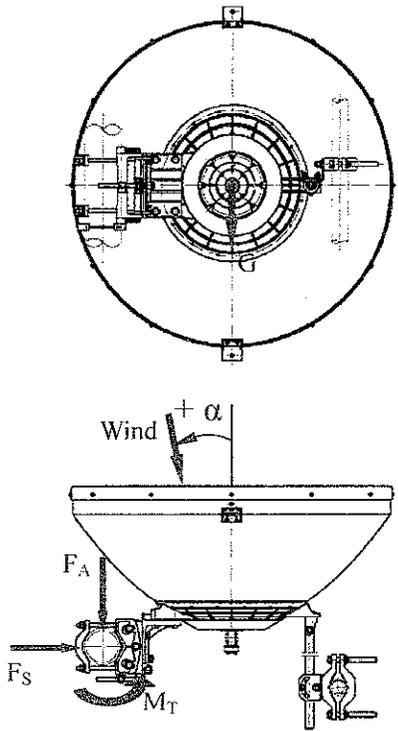


Microwave Antenna Specifications



Wind Forces at Wind Velocity Survival Rating

Axial Force (FA), N	1880
Side Force (FS), N	920
Twisting Moment (MT), N·m	790
Angle α for MT Max, Degree	-20



Microwave Antenna Specifications



Radiation Pattern Envelope

Co-polar and X-polar response are represented for both horizontal and vertical polarizations. The curves are identified as follows:

HH – Response of horizontally polarized port to a horizontally polarized signal.

HV – Response of horizontally polarized port to a vertically polarized signal.

VV – Response of vertically polarized port to a vertically polarized signal.

VH – Response of vertically polarized port to a horizontally polarized signal.

0.9m 10.70-11.70GHz RADIATION PATTERN ENVELOPE

