

**LICENSE AGREEMENT BETWEEN  
THE CITY OF ANN ARBOR AND  
NEW PAR, A DELAWARE PARTNERSHIP D/B/A VERIZON WIRELESS**

**1. Parties.**

THIS LICENSE AGREEMENT ("Agreement") is made as of the 24 day of March, 2008 by and between the City of Ann Arbor, a Michigan municipal corporation, whose address is 100 North Fifth Avenue, Ann Arbor, Michigan 48107 ("Licensor") and New Par, a Delaware partnership d/b/a Verizon Wireless By: Verizon Wireless (VAW) LLC, its general partner, whose address is One Verizon Way, Mailstop 4AW100, Basking Ridge, New Jersey 07920 ("Licensee").

**2. Recitals.**

WHEREAS, Licensor owns the land, a water tower and tank located thereon (referred to herein as the "Water Tower" or "Water Tank"), and an easement to access the land located at 2011 Manchester Road, Ann Arbor, Michigan as described in the attached Exhibit #1 (Site Description), commonly known as Manchester Road Water Tower Site ("Site"); and

WHEREAS, Licensee desires to erect and use telecommunications equipment ("Equipment") on the Site and Licensor has agreed to grant Licensee a license to erect and use Equipment on the Site.

THEREFORE, In consideration of the terms, covenants and conditions set forth below, the parties agree as follows:

**3. Grant of License and Term.**

Licensor hereby grants Licensee a license to erect and use Equipment listed on Exhibit #2 (Equipment) and related accessories and appurtenances on and appropriately use the access to the Site as shown on Exhibit #3 (Site Plan and Specifications) commencing July 1, 2007 ("Commencement Date") and continuing for five (5) years until June 30, 2012. Notwithstanding this Commencement Date, Licensee has the right to install its equipment only after the fully executed Agreement has been made and after construction of the attachments, fixtures, supports and tubes and the interior painting of the tank described in Paragraph 5(c), below ("Tube Fixtures"), is permitted and inspected. Licensor and Licensee further understand and agree that the Site Plan and Specifications attached as Exhibit #3 may not be final and that Licensee may not install its equipment until the Site Plan and Specifications are finalized and Licensor has notified Licensee in writing of Licensor's acceptance of the finalized Site Plan and Specifications. Unless terminated under other provisions of this Agreement, the Agreement will renew automatically at Licensee's option, for up to four (4) additional five (5) year terms provided; (a) Licensee is in full compliance with all terms of the Agreement on the last day of the then current term, and (b) has not demonstrated a pattern of repeated or cumulative breaches and defaults of the terms of this Agreement during the preceding term. Repeated or cumulative breaches include but are not limited to three (3) or more payments more than thirty (30) days late in any five (5) year term.

The above definition of the term "Equipment," specifically excludes the Tube Fixtures described in Paragraph 5(c), below. The Tube Fixtures will be constructed by Licensee pursuant to Paragraph 5(c), but will be considered fixtures after installation, and property of the Licensor, subject to Licensee's reimbursement for costs, described below.

#### **4. Fees and Escalator.**

Within thirty (30) days following the complete execution of this Agreement, Licensee agrees to pay Licensor Ten Thousand Three Hundred Forty-Eight Dollars and Seventy-Five Cents (\$10,348.75) for the period ending June 30, 2008 ("License Fee"). This License Fee is non-refundable, except as provided herein.

Starting July 1, 2008, the annual License Fee shall increase to Thirty-Two Thousand Two Hundred Eighty-Eight Dollars and Ten Cents (\$32,288.10) and shall increase 4% per year on July 1 of every year thereafter, starting July 1, 2009. The License Fee shall not be prorated for any partial term during which this Agreement is in effect, except as may be explicitly provided elsewhere. Timely payment is of the essence of this Agreement. There shall be a Five Hundred and 00/100 Dollars (\$500.00) processing fee due for each payment received fourteen (14) calendar days or more after the due date. The due date for payment for each year after the first year is July 1.

#### **5. Use of Site**

(a) *General Use.* During the term of this Agreement, Licensee shall use the Site solely to install, operate and maintain the Equipment listed on Exhibit #2. Licensee may use the Site for the following: (i) transmission and reception of communications signals; (ii) to construct, install, operate, maintain, repair, replace, protect and secure its radio fixtures and related equipment, cables, accessories and improvements, including the right to place antennas and cabling on the Water Tower, to place Licensee's equipment shelter, fencing and any other accessories necessary to the successful and secure operation of the Equipment; and (iii) any activities related to the foregoing. Licensee has the right (i) to install and operate transmission cable from the equipment shelter to the antennas, electric lines from the main feed to the equipment shelter, and telephone lines from the main telephone entry point to the equipment shelter; and (ii) to erect, construct or make property improvements, alterations or additions appropriate for Licensee's use ("Licensee Changes") only as indicated on Exhibit #3 and for no other purpose or purposes without the prior written consent of Licensor, which may be withheld in Licensor's sole and absolute discretion. Subject to Paragraph 14, below, no Equipment, including lines, cables, fencing or other improvements or facilities, shall be placed on the Water Tower or elsewhere on the Site without prior approval of Licensor in accordance with Paragraph 6. Further provided, that the Equipment, lines, cables, fencing and other improvements and facilities placed on the Water Tower and elsewhere on the Site are placed and maintained in a manner that does not damage the Water Tank or any of Licensor's other structures and property, or any portion thereof, including coatings, fixtures, paint, etc., and that Licensee is solely responsible, at Licensee's sole cost, for making all of the repairs that are necessary to such structures or other property as a result of Licensee's use of the Site, to the Licensor's reasonable

satisfaction. Licensee shall rectify any electrical interference and/or electrical load imbalance and/or electrical panel capacity limitations caused by the installation of Licensee's equipment on Licensor's system. Further, that Licensee shall locate its equipment at least 10 feet outside the Water Tank footprint radially.

(b) *General Limitations.* Licensee shall not use the Site or access areas to the Site in such a way as to disturb, or otherwise interfere with the actual and/or intended use by Licensor or any other users of the Site or users of the access areas to the Site. Licensee agrees that it shall not display signs, advertising or other identifying markings that would be visible except as may be required by other laws or regulations or as may be desired by Licensor in Licensor's sole discretion. Licensee agrees that it will not park any vehicles or leave any trailers or vehicles on the Site except during initial construction or when the vehicle driver or other employee, agent or contractor for Licensee is on the Site making repairs or otherwise conducting activity associated with Licensee's rights under the Agreement. Licensor will consider written requests from Licensee for temporary waiver of this requirement to allow Licensee efficient and economical methods of repair and maintenance. However, granting of the request is within the sole discretion of Licensor and Licensor may require any reasonable conditions as a predicate for Licensee's use of the Site not expressly permitted by the terms described in this Agreement.

(c) *Costs to Provide Attachments.* Licensee shall provide Licensor with a quote for the costs reasonably necessary and to be incurred by Licensee to provide, install and mount the Tube Fixtures as described more particularly below, including the painting of the interior of the water tank. Upon Licensor's review and agreement with said quote, , and subject to Licensor's review and approval of the plans and specifications for construction and installation of said Tube Fixtures, including the painting of the tank, Licensee shall be responsible for paying said costs and shall complete the work. In the event the quote is insufficient to cover Licensee's full costs, Licensee shall be responsible for paying the difference. Licensor and Licensee agree that Licensee shall construct a pair of conduit tubes ("Tubes") inside the Tower. These Tubes have the combined capacity to provide easily dry routing for 48 sets of 1 5/8" coaxial cables ("Stated Capacity"). Licensee reserves capacity for Sixteen (16) 1 5/8" coaxial cables inside the Tubes. Licensor reserves capacity for Twelve (12) 1 5/8" coaxial cables inside the Tubes, leaving a total unused Tube capacity of twenty (20) 1 5/8" coaxial cables ("Unused Tube Capacity"). Space reserved for Licensor shall not be assigned to any new Other Provider that is not already located on the Tower and for equipment not already installed on the Water Tower pursuant to a license agreement with the Licensor and is intended only for the use of the City of Ann Arbor. In addition to use for its own wires and cables, Licensor may use the space reserved to it for relocation of the cables of an existing Other Provider for equipment that is already located on the Tower pursuant to a license agreement with the Licensor, and may use the space for the wires or cables of 20/20 or its successor or assign for the purpose of implementing the Wireless Washtenaw Initiative as provided in the Master Participation Agreement between the City of Ann Arbor and Washtenaw County dated on or about June 12, 2006. Any Other Provider (hereinafter defined) or other entity using a portion of the Unused Tube Capacity shall reimburse Licensee a pro rata share of the costs to construct the Tubes, as measured by the Other Provider's use of Stated Capacity, less

Licensor's reserved capacity. Further, any increase in the use of the capacity by an Other Provider otherwise exempt from reimbursement shall also reimburse Licensee according to the same schedule for the increased use of capacity. Such reimbursement shall occur prior to Other Providers' right to occupy the Water Tower. Licensee estimates the costs to construct the Tubes to approximate Two Hundred Thousand Dollars (\$200,000.00). This estimate does not include the cost to install any of Licensee's Equipment. By way of example, if an Other Provider or other entity desires to occupy the Tower and utilize the Tubes and railing for six (6) 1 5/8" coaxial cable, then the pro rata share of costs would be 6/36 times the Licensee's actual construction costs. For example, if Licensee's actual construction costs were Two Hundred Thousand Dollars (\$200,000.00), the Other Provider would be responsible for reimbursing Licensee \$33,333.33. Construction costs shall be the documented costs for attachments, fixtures, supports and tubes. For purposes of this paragraph, "construction costs" shall include the costs of design, permitting and construction (e.g., materials, labor, inspection, testing, as-built). Licensee shall submit to Licensor actual cost data as soon as the data is reasonably available.

(d) *Other Providers.* Licensee acknowledges and understands that Licensor already has granted to Other Providers (hereinafter defined) the right to install equipment on the Water Tower and Site. Therefore, Licensee's exercise of its rights under this Agreement is conditional on Licensee reimbursing said Other Providers all costs and expenses incurred by Other Providers (if any) associated with adding Licensee's Equipment to the Water Tower and Site, including but not limited to any costs and expenses incurred in relocating or modifying any portion of said Other Provider's equipment, including but not necessarily limited to antenna facilities, or any other accessories. In the event Licensor grants another Other Provider the right to install equipment on the Water Tower and Site, Licensor will condition the exercise of rights under any future lease, license or any other right to such Other Provider for use of the Water Tower and Site reimbursing Licensee all costs and expenses incurred by Licensee (if any) associated with adding such Other Provider to the Water Tower and Site, including but not limited to any costs and expenses incurred in relocating or modifying any portion of Licensee's Equipment, or any other accessories.

## **6. Submission of Plans and Non-Refundable Deposit.**

At least four (4) weeks prior to Licensee's intention to install, construct or otherwise place Equipment at the Site, Licensee shall provide complete plans and specifications to Licensor together with a deposit in the amount of Three Thousand Dollars (\$3,000.00) (the "Deposit") for the estimated costs to Licensor to review. The Deposit shall be utilized to pay the Licensor's actual and reasonable cost for reviewing the Licensee's plans. Licensor shall review the plans in a manner that is standard and customary. Any deposited funds remaining after Licensor's review and payment of such costs shall be promptly returned to Licensee. Licensee is obligated to Licensor for any reasonable and actual costs that exceed the deposit and shall pay any balance due prior to any installation. Licensee also is obligated to and agrees to reimburse Licensor for its actual and reasonable costs to inspect Licensee's installations. Licensee shall hire a third party inspector to oversee and be on site full-time during all construction activities affecting the integrity of the tank including but not limited to welding, coating,

and making penetrations. Licensee shall reimburse City for all costs that the City incurs associated with dewatering, filling, and bacteriological testing the tank prior to putting back in service. The Licensee shall be responsible for costs of disinfecting the tank prior to putting back in service compliant with current AWWA Standards.

The Tank will not be permitted to be taken out-of-service between the dates of May 1 to October 15. Licensee shall provide a minimum of thirty (30) days notice prior to the date requested to take the tank out-of-service. The Licensor reserves the right to adjust the scheduled date to take the tank out-of-service, depending the need for its use in operation of the water system. The Licensee will be given a total of sixty (60) days to complete the work on the tank between the date that it is taken out-of-service and the date that it is available for filling and disinfection. The Licensee shall be responsible for liquidated damages of \$250/day that the tank is out-of-service beyond the sixty (60) day window.

## **7. Services Provided.**

Licensor agrees to provide Licensee with space on the Water Tower and space for ground Equipment and utility electrical connections. If, for any reason, there should be any suspension or interruption of any services or breakdown of Equipment, Licensor shall not have any liability to Licensee for the suspension or interruption of any service or of any use of the Equipment, and Licensor shall have a reasonable time within which to correct the services. Licensee shall be solely responsible for the installation, maintenance, and payment of all costs and expenses associated with its exercise of this Agreement and any of the rights under it including electrical, phone or other utility expenses ("Utilities"). Licensee shall have the right to operate its Equipment, at Licensee's cost, via the installation of a standby power generator which must comply with Licensor's noise ordinance for Licensee's exclusive use until such time as the servicing utility installs permanent electrical service to the Site and, further, during any interruption of service. Licensor agrees to sign such documents, or seek the signature of the property owner, as may be necessary by said utility companies to provide such service to the Premises, including the grant to Licensee or to the servicing utility company provided, however, Licensee shall not be obligated to pay a separate fee for Licensor's grant of rights to said utility companies, of access in, over, across or through the Land as required by such servicing utility company to provide utility services as provided herein. Any access necessary for such power or other utilities will be at a location acceptable to Licensor and the servicing utility company.

## **8. Interference.**

(a) Licensee understands that the Licensor currently uses the Site for telecommunication purposes of its own and that currently the transmissions have been continued, uninterrupted and error free. The telecommunication purposes of Licensor are for public health and safety. The continued, uninterrupted, error free transmission of radio signals for these purposes is paramount. Licensee agrees not to interfere with radio transmission or reception equipment owned or operated by Licensor, If Licensee should cause in whole or part any interference of the use the Water Tower for telecommunication purposes or otherwise, Licensee shall eliminate it in a timely

manner. To that end, both Licensee and Licensor will closely monitor operations for the first sixty (60) days after full-scale operation of the Equipment for the purpose of evaluating any potential interference. Should either party find evidence of interference, the parties will diligently work to eliminate the source of interference. If the interference cannot be eliminated, either party may terminate this Agreement without any further cost to the other party. Licensor agrees to cooperate with Licensee (and all other licensees of the Water Tower) in making any modifications to Licensor's equipment as may be reasonable to allow Licensee to continue with its use of Equipment on the Site. However, all changes and costs associated with any of the modifications for which Licensor may agree to undertake shall be at Licensee's sole and complete expense including reimbursement to Licensor for any of Licensor's staff time and overhead as may be associated with the investigation of the cause of the interference and the making of any modifications. However, if Licensor's equipment is not in compliance with the Federal Communications Commission (hereafter "FCC"), then the Licensee shall not be required to reimburse Licensor for any expenses and Licensor will be responsible for any changes required by the FCC. Licensor is not obligated to make any changes other than changes required by FCC rules and regulations in its operations or equipment by virtue of this clause until payment in full of all estimated and accumulated costs have been paid. After the 60 day period, if any interruption or interference of Licensor's transmissions occurs, the parties will again initiate a new sixty (60) day intensive monitoring period and Licensee agrees to abide by the procedures and obligations of this paragraph.

(b) As to other licenses that may be issued from time to time for co-location on the Site, Licensee recognizes the potential for broadcast and electronic interference inherent in multiple use of the Water Tower and the need to cooperate with each other in preventing the occurrence of interference and promptly eliminating it, if it occurs. Consistent with this recognition and objective, the parties agree as follows:

(i) Licensor agrees that the definitions of and procedures to prevent or eliminate interference contained in this Agreement shall be uniform for all parties located on the Site and will be included in all other agreements which Licensor may enter into with other parties including other commercial wireless providers or licensees (hereafter "Other Provider"). Licensor will not grant, after the date of this Agreement, a lease, license or any other right to another party for use of the Site, if Licensor knows that such use may in any way adversely affect or interfere with Licensee's use of the Site. Licensor will notify Licensee prior to granting another party the right to install and operate communications equipment on the Site. Licensee agrees to reasonably cooperate with Licensor and other potential Other Provider(s) to eliminate any potential interference as to their proposed operations not consistent with this Agreement.

(ii) As used in this Agreement, "interference" shall mean a material impairment of the quality of sound, picture or data signals on any broadcasting activity or electronic equipment use as compared with that which would be obtained if no other broadcaster were using or had equipment on the Water Tower different than what existed on the date of this Agreement. To the extent applicable, the existence of interference and procedures for preventing or eliminating it shall be

according to rules and regulations of the FCC and the recommended practice of the Electronic Industries Association (EIA).

(iii) All operations by Licensee shall be in compliance with all Federal Communications Commission ("FCC") requirements.

(iv) Subsequent to the installation of the Licensee's Equipment, Licensor shall not knowingly permit itself, any Other Provider, or users of the Water Tower to install new equipment on the Water Tower if such equipment is likely to cause interference with Licensee's operations. Such interference shall be deemed a material breach. In the event interference occurs, Licensor agrees to take all reasonable steps necessary to eliminate such interference in a reasonable time period.

(v) Licensee acknowledges that, in addition to Licensor, the Site may be used by Other Provider(s) who are or may be Licensee's competitors. Licensee and each Other Provider agree that neither of them will knowingly nor intentionally install Equipment or other transmitting and receiving equipment or conduct their respective operations on the Site or the Land in a manner which will prevent, obstruct or interfere with each other providing the same level of broadcasting quality that Licensee desires and expects to obtain under this Agreement.

(vi) In order to prevent the occurrence of interference and allow the parties to promptly identify possible sources of interference if it occurs, each Licensee shall provide the Licensor with written notice of the day, time and nature of all equipment placed, or work performed, on the Site as part of installations, repairs, maintenance, movement or replacement, with technical specifications for all new equipment. Except for emergencies or situations which require more immediate activity, the written notice shall be provided at least seven (7) days before the activity begins.

(vii) The parties, agree to promptly notify the other parties in writing of any interference experienced with their respective broadcasting activities believed to be attributable to others, including the date and time it was first experienced and a description of the interference.

(viii) The Licensee's installations, operations and use on the Site shall not cause interference with the Equipment of Licensor. Any such interference shall be eliminated by the responsible party at its expense in a prompt manner consistent with the nature, extent and effects of the interference. If the interference is disrupting or substantially reducing the continuous nature and required quality of Licensor's public safety telecommunications, the responsible party shall immediately suspend its operations upon receiving written notice from Licensor except for brief tests until the interference has been eliminated or remedied and make all necessary corrections at the Licensee's expense.

(ix) If interference with Licensee's or existing Other Providers transmission and reception of communication activities or electronic equipment is caused by a

change in Licensor's installations and operations from those which existed on the date of this Agreement, Licensor agrees to cooperate in taking reasonable steps to correct the condition causing the interference, as provided in subparagraph 8(iv).

(x) Claims by or against Licensee, Other Providers or Licensor regarding interference and any disagreements regarding the existence and sources of interference shall be resolved consistent with the following general principles or as may be otherwise agreed by the parties involved in the claim or disagreement:

- (1) Time is of the essence.
- (2) Interference claimed should be specifically described, and whenever possible, specify the alleged or potential sources and proposed or requested corrective measures.
- (3) Parties alleged to be causing interference shall voluntarily implement requested corrections whenever possible, consistent with their analysis of the claim.
- (4) Parties causing interference shall be responsible for the cost of correction.
- (5) Where requested or suggested corrections are voluntarily implemented and do not correct the interference, the cost of implementation and restoration to the prior condition shall be the responsibility of the party who made the request or suggestion.
- (6) Disputes regarding the existence and/or sources of claimed interference shall be resolved, when necessary, by analysis and opinion of an independent expert, selected at random, from names submitted by the parties involved in the dispute or designated by Licensor, if Licensor is not involved in the dispute, with the cost of the independent expert to be paid pro rata by the parties found to be causing the interference.
- (7) The determinations and any recommendations for correction of interference by the independent expert shall be binding upon, and immediately implemented by, the responsible parties.
- (8) The transmissions by the Licensor are for public health and safety purposes and therefore its transmissions shall be on an interference free basis which, subject to the terms of this Paragraph 8, shall be paramount over the interests of any and all other Licensees and Other Providers.

## **9. Emergency Contact.**

Each party shall identify one or more persons as 24 hour, 7 days per week, 365 days per year, as an emergency contact. The contact information must be updated immediately in writing if any changes occur. The initial provision of the required contact information shall be submitted to the following:



For Licensor:  
Water Treatment Plant Manager  
or On Site person in charge  
919 Sunset Street Ann Arbor, MI 48103  
(734) 994-2840

For Licensee:  
Network Operations  
  
(800) 852-2671

**10. Site Maintenance Costs Due to Licensee's Use and Occupation of Site.**

Licensee agrees to pay all costs of Licensor's maintenance of Site reasonably determined by Licensor as attributable to Licensee's use and occupation of the Site; provided, however, Licensee shall not be liable for the usual and ordinary maintenance of the Water Tower which costs shall be paid solely by Licensor. By way of example only, but not limitation, Licensor must periodically paint the Water Tower that is located on the Site and upon which Licensee anticipates locating its Equipment. Licensor anticipates extra costs will be associated with the painting in order to protect and/or work around Licensee's equipment and to properly paint the Water Tower. If it becomes necessary to "turn-off" or remove the Licensee's equipment for any period of time due to maintenance, Licensor agrees to cooperate with Licensee and assist in fulfilling reasonable requests from Licensee in locating a temporary facility on City property, which meets Licensee's engineering criteria, and at no additional License fee to Licensee or cost to the Licensor. If the Licensor, in its sole discretion, determines that an appropriate location on City property is not available, Licensor will cooperate to the greatest extent possible in expediting any required permits for Licensee to locate a temporary facility on other available property. Licensor shall give Licensee six (6) months written notice of any regularly scheduled maintenance which would require Licensor to "turn off" the Licensee's Equipment. Licensee shall repair any damage to the Water Tower and Site caused by Licensee's use and occupation of the Site, including Licensee's removal of any of its fixtures or personal property. In the event Licensee fails to make such repairs, Licensor, upon thirty (30) days prior written notice may perform such repairs and bill Licensee for Licensor's cost therefore.

**11. Liability; Indemnification; Insurance.**

a) Licensor shall not be liable to Licensee or any of Licensee's agents, contractors, subcontractors, employees, invitees or guests for any' personal injury, property damage, or loss of life or property caused by, or arising out of or in connection with, the use of the Site (or access areas to it). Licensee shall defend, hold harmless and Indemnify Licensor from and against any claim, loss, expense or damage arising out of, or in connection with, Licensee's use of the Site or entry on the access areas to the Site and any act or neglect of Licensee or its agents, employees, invitees or guests except that Licensee shall not be liable to Licensor for the negligent acts or omissions of Licensor or any of Licensor's agents, contractors, subcontractors, employees, invitees or guests.

b) Licensee will carry during the length of the Agreement the following Insurance:

- A) During the term of this Agreement the Licensee agrees to procure and maintain in effect at all times insurance policies in the amounts and with the types of coverage shown below:
1. Workers Compensation Insurance in the form and in an amount equal to or greater than is required by Michigan law.
  2. Commercial General Liability Insurance on an "occurrence basis" with limits of liability not less than \$1,000,000 per occurrence and/or aggregate combined single limit, Personal Injury, Bodily Injury, Independent Contractors, and Property Damage.
  3. Motor Vehicle Liability Insurance including Michigan No-Fault Coverages with limits of liability of not less than \$1,000,000 per occurrence combined single limit Bodily Injury and Property Damage. Coverage shall include all owned vehicles, all non-owned vehicles, and all hired vehicles.
- B) Certificates showing the Licensee has the required insurance shall be filed with Licensor before any Equipment may be installed or attached at the Site and/or any activity will be performed on the Site by the Licensee, its employees, its agents or contractors. Certificates shall provide not less than 30 days prior written notice to Licensor of cancellation, non-renewal or reduction in the amount of insurance. The Certificate for the insurance outlined in Article 11(b)(A)2 and 3 shall specifically name the City of Ann Arbor as an additional insured party.
- C) Licensor and Licensee will include in their property insurance policy or policies a waiver of subrogation provision whereby any such release does not adversely affect such policies or prejudice any right of the insured party to recover thereunder. Licensor and Licensee waive all right of recovery by way of subrogation against the other in connection with any damage covered by any policy and shall cause each insurance policy obtained by them to provide the same.

## **12. Regulatory Requirements.**

Prior to the installation of any of Licensee's Equipment at the Site, and at all times while Licensee's Equipment is on the Site, and at all times while Licensee's Equipment is installed and/or operating on the Site, Licensee shall furnish to Licensor satisfactory evidence that Licensee has full power and authority from the Federal Communications Commission, or from any other federal, state, and/or local agency or agencies having jurisdiction over the installation and operation of Licensee's Equipment, to install and operate its Equipment at the Site. Licensor agrees to cooperate with Licensee, at Licensee's expense, in making application for and obtaining all licenses, permits and any and all other necessary approvals that may be required for Licensee's intended use of the Site.

### **13. Right to Inspect.**

During the Term of the Agreement, Licensor shall have the right to inspect the Equipment of Licensee, with prior notice to the Licensee, to ensure compliance with the terms of this Agreement. Licensor shall also have the right to admit officials of the Federal Communications Commission, or of any other governmental agency having jurisdiction, to the Site for the purposes of inspecting the Site or Licensee's Equipment, with prior notice to the Licensee. Licensor may inspect Licensee's Equipment without notice only for emergency purposes, and must notify Licensee as soon thereafter as reasonably possible.

### **14. Unauthorized Modifications to Equipment.**

In the event that Licensee shall cause any significant unauthorized modifications, alterations or improvements to be made to the Site or Equipment, or Licensee causes authorized modifications to be performed by persons not authorized by Licensor to perform such modifications or persons not properly licensed to perform the modifications, this shall constitute a default under this Agreement, and Licensee shall be liable to Licensor for all reasonable costs and expenses to restore the Site and Equipment to substantially the same condition as on the date possession is taken. Licensee may, with Licensor's prior consent, which consent shall not be unreasonably withheld or delayed, replace used, broken or obsolete Equipment with Equipment that has similar physical dimensions, characteristics and impact as the existing equipment. Any other modifications to the Licensee's Equipment, including an increase in the number of antennas or any changes in antennas that add loading to the existing structure, or any material changes to the footprint at the base of the water tank, shall be subject to the consent and approval of the Licensor, which shall not be unreasonably withheld or delayed. Such modification may require a modification of the annual License Fee, agreed to in writing between Licensee and Licensor. The Water Treatment Plant Manager is authorized to agree on behalf of Licensor to a change in the list of Equipment in Exhibit #2 when no change in the License Fee is appropriate. If the Water Treatment Plant Manager determines that a change in the License Fee is appropriate due to the change in the Equipment, the Water Treatment Plant Manager shall make a recommendation to the City Administrator and the City Administrator is authorized to agree on behalf of Licensor to both the change in the list of Equipment in Exhibit #2 and to such change in the License Fee. Notwithstanding the provisions of Paragraph 5(a), above, nothing herein contained will prevent Licensee from modifying equipment located inside the Equipment Shelter without prior notice to or consent from Licensor (subject to Paragraph 17) so long as such changes (i) do not cause significant additional loading to the structure (ii) do not cause Licensee to take up any space outside of its Equipment Shelter(s) and (iii) do not affect the service of the Other Providers on the water tank.

### **15. Nature of Relationship.**

The nature of the relationship between Licensor and Licensee is governed by the License granted in Paragraph 2. In no event shall the License be interpreted to create a tenancy or leasehold or any kind or to create a Landlord-Tenant relationship between

Licensor and Licensee. This License shall not be deemed or construed as transferring to Licensee any interest in the land of City or any right in the nature of any interest in land, in whole or in part, irrespective of any expenditure by Licensee for the preparation or use of the Site.

## **16. Termination.**

a) In the event that (i) the Site, or (ii) any other portion of the Site or any portion of the land upon which the Site is located which is related in any way to operation of the Site, is, in whole or in part, condemned or subject to a taking, this Agreement shall terminate upon the effective date of the condemnation or taking. Upon any termination as provided in this Paragraph 16, Licensee shall be entitled to a pro rata return of the license fee and shall not be obligated to make further payments for License fees. Licensee remains obligated for all other expenses and reimbursements for which it is obligated to Licensor under this Agreement and this obligation shall survive termination of Licensee's right to use of the Site.

b) In the event Licensor determines to abandon its current use of the Site for reasons other than casualty, this Agreement may be terminated by Licensor at Licensor's discretion, upon providing Licensee three hundred sixty-five (365) days prior written notice. Licensee shall not be obligated to make further payments for License Fees after payment by the Licensee of the License Fee for the year which includes the termination year. Licensee remains obligated for all other expenses and reimbursements for which it is obligated to Licensor under this Agreement and this obligation shall survive termination of Licensee's right to use of the Site.

c) Licensee may terminate this Agreement without further liability on prior written notice to Licensor which shall become effective thirty (30) days after the date notice is mailed for any of the following reasons: (i) FCC ruling or regulation which is beyond the control of Licensee and which renders the Site unusable for purposes of the original License; (ii) if Licensee is unable to obtain or maintain any required license, permit or approval which may be required for the construction and operation of Licensee's Installation, including where the inability is caused by engineering surveys or structural reports.

d) Licensee may terminate this Agreement without further License Fee liability, after payment by the Licensee of the pro rata portion of the License Fee for the year which includes the termination year, by providing prior written notice to Licensor which shall become effective three hundred and sixty-five (365) days after the date of notice is mailed if, in Licensee's sole discretion, the Licensee's use of the Site (as the same may have been modified from time to time) is no longer consistent with the optimal operation of Licensee's communications network based upon either technical or economic considerations.

e) If the existing water tank is rebuilt or replaced, Licensee shall have the option of relocating the Equipment on the new structure on the same terms as this Agreement.

f) In the event Licensor constructs a new water tank which causes interference to Licensee and Licensee is unwilling or unable to relocate the Equipment on the new

water tank, Licensee's sole remedy will be to terminate the Agreement without any further liability to the Licensee.

g) Upon termination of this Agreement for whatever reason, Licensee shall immediately surrender the Site as in good condition as when taken, reasonable wear and tear excepted. Licensee shall thereupon remove all trade fixtures, equipment and other personal property of Licensee from the Site at its own expense within ninety (90) days. If Licensee fails to do so, Licensor shall have the right to remove the Equipment and Licensee shall promptly reimburse Licensor for any resultant costs incurred by Licensor to do so, as evidenced by an itemized invoice provided by Licensor to Licensee.

h) If terminated because Licensee is in default, all amounts unpaid by the Licensee pursuant to this Agreement are immediately due and payable to the Licensor.

### **17. Licensee's Access**

Licensor agrees that, during the Term of this License Agreement, and provided that Licensee is not in default under any of the terms and conditions of this License Agreement, that Licensee shall be permitted continuous twenty-four (24) hour access to Licensee's Equipment for the purpose of maintenance and repairs, except in situations where access to the Site by Licensee could impair Licensor's response to any situation potentially compromising the security of the Site or the protection of the water supply for the City. During "potentially compromising situations", access, if any at all is granted, shall be at the sole discretion and under the terms dictated by the City On Site Person in Charge. Access to the Site shall be in accordance with the procedures set forth in Exhibit #4 (Access Procedures). Licensor may, from time to time and in its sole discretion, revise Exhibit #4. A copy of each such revision of Exhibit #4 will be sent to Licensee at the addresses identified in Paragraphs 9 and 21 of this Agreement. Except in emergency circumstances, as defined and provided for in Exhibit #4, notice to the Water Treatment Plant Manager at least 24 hours prior to routine maintenance is required. During non-business hours or if the Plant Manager is unavailable, Licensee shall contact the Supervisor-in-Charge at the Water Treatment Plant. Licensee shall request a key to the Water Tower that will be signed out to the Licensee from the Water Treatment Plant located at 919 Sunset Road. The Licensee shall return the key the same day to the Water Treatment Plant upon completion of work on the Water Tower. The Licensee is not permitted to keep the key overnight. The Licensee will not be permitted to make copies of the key to the Water Tower. In all circumstances, including emergencies, the Water Plant shall be contacted by the Licensee prior to arriving on site to request a key. If access by Licensee requires the Licensor to visit the Water Tower, the Licensee will be responsible for the time and travel expenses associated with the staff person visiting the Site. The Licensee shall promptly reimburse these expenses to Licensor upon presentation of an itemized invoice. Licensee is fully responsible for the conduct of all persons it or its contractors bring to the Site pursuant to the access provided by this License.

## **18. Representations.**

Licensor and Licensee represents to each other that each has full power and authority to enter into this License Agreement in accordance with all of its terms, and that Licensee's Equipment and Licensor's Site will comply, during the term of this License Agreement, with all applicable national, state and local statutes, ordinances and laws, including by way of example and not limitation, fire and electrical codes, and all reasonable rules and regulations which may be specified in writing from time to time by Licensor.

## **19. Licensee's Default and Right to Cure.**

(a) In the event of a default by Licensee of any of the terms and conditions of this Agreement which is not cured within thirty (30) days or such longer period of time as may be reasonably required by Licensee to cure the default, or thirty (30) days in the case of a monetary default, after written notice of the default being served upon Licensee, Licensor may, at its option, without further notice to or demand of Licensee, in addition to all other rights and remedies provided at law or in equity, terminate this Agreement. Upon termination Licensor shall be entitled to disconnect and remove Licensee's Equipment from the Site, and recover forthwith as damages, the cost of removal of Licensee's Equipment from the Site plus the balance of the total of all deferred License Fees required to be paid to Licensor for the remainder of the stated term of this Agreement, plus any other damages suffered by Licensor as a result of the default.

(b) In addition to all other default conditions identified within this License Agreement each of the following shall be deemed a default by Licensee and breach of this License after notice to Licensee:

- i) Failure to timely correct interference with radio transmission or reception equipment of other tower users or of the Licensor as outlined in Paragraph 8 of this Agreement.
- ii) Any vacation or abandonment of the Site by Licensee for more than three (3) consecutive months unless ordered to do so by duly authorized legal authority or due to other cause(s) beyond Licensee's reasonable control.

## **20. Licensor's Default and Right to Cure.**

In the event of a material default by Licensor of any of the terms or conditions of this Agreement which is not cured within thirty (30) days after written notice of the material default being served upon Licensor, or such longer period of time as may be reasonably required by Licensor to cure the material default, Licensee may, at its option, without further notice to or demand of Licensor, terminate this Agreement. Licensor shall reimburse Licensee the prorated License Fee for any partial term.

**21. Notices and Payments.**

All notices, demands, and payments required by this Agreement shall be delivered personally by overnight delivery service with receipt, or by United States mail, first class, postage pre-paid, and addressed to the appropriate party, with the respective address for each as indicated below. Any party to this agreement may change their addresses for notice by giving written notice of the change to the others in the manner prescribed by this Paragraph. A party may list up to two addresses to which notices must be sent

For Licensor:  
City of Ann Arbor,  
Water Treatment Plant Manager  
919 Sunset Road  
Ann Arbor, MI 48103

For Licensee:  
New Par d/b/a Verizon Wireless  
180 Washington Valley Drive  
Bedminster, NJ 07921  
Attn: Network Real Estate

Copy to:  
City of Ann Arbor  
Public Services Area Administrator  
Ann Arbor, MI 48107

**22. Governing Law.**

This Agreement shall be governed by, and construed in accordance with the laws of the State of Michigan. Any dispute arising out of this Agreement shall be adjudicated by a court sitting in the State of Michigan with venue in Washtenaw County.

**23. Counterparts.**

This Agreement may be executed in one or more counterparts, each of which shall constitute an original, and all of which together shall constitute one and the same instrument.

**24. Severability.**

If any provision of this license shall be held invalid, illegal, or unenforceable, the remaining provisions shall be binding upon the parties and shall be enforceable as though the invalid, illegal or unenforceable provision was not there: provided however that, if the invalid, illegal, or unenforceable provision goes to the heart of this Agreement, the Agreement is terminated.

**25. Taxes.**

Licensee shall be liable for and shall timely pay personal property taxes that may be imposed upon the personal property as may be related to Licensee's use of the Site. Failure to timely pay such taxes shall constitute a Default of this Agreement and unless this Default is corrected within the time permitted by applicable Michigan law, this Agreement may be terminated by the Licensor and the Licensee shall promptly remove all of its Equipment from the Site at the Licensee's sole expense.

**26. Failure to Install.**

Licensors shall not be liable to Licensee for Licensee's inability to complete the installation of its Equipment or for the inability of Licensee to operate its Equipment, resulting from any cause beyond the reasonable control of Licensor, including, by way of example and not limitation, electrical power failures, acts of God, casualties (including fires), civil disorders, or labor problems, and Licensor shall not be liable to Licensee for special, indirect or consequential damages unless a result of gross negligence or intentional acts of Licensor.

**27. Fire or Other Casualty.**

If the Site becomes unusable due to fire or other casualty, and the Licensee's Equipment become inoperable as a result, either Licensee or Licensor may elect to terminate this Agreement upon thirty (30) days written notice to the other provided that the election is to be made within thirty (30) days after the fire or other casualty. In the event that neither Licensee nor Licensor elects to terminate this License Agreement within the thirty (30) day period, then Licensor agrees to have the Site repaired, restored, or rehabilitated at no expense to Licensee within one hundred eighty (180) days after possession of the damaged Site can be obtained and reconstruction or repairs undertaken. During the period that the Site shall be unusable, all license charges due shall be abated on a per diem basis or refunded as the case may be. If the aforementioned work is not substantially completed within the one hundred eighty (180) day period, either party can terminate this License Agreement as of the day of the fire or other casualty by serving written notice upon the other party not later than two hundred (200) days after possession of the Site can be obtained and reconstruction or repairs undertaken. In the event of the termination of this License Agreement pursuant to this paragraph, all License Fees and other charges due or payable shall be apportioned on a per diem basis and paid through the date of the fire or other casualty. Licensee may elect to construct a temporary Site during reconstruction of the Facility. If so, Licensor agrees to cooperate with Licensee and assist in fulfilling reasonable requests from Licensee in locating a temporary facility on city property, which meets Licensee's engineering criteria, and at no additional fee to Licensee. If the Licensor, in its sole discretion, determines that an appropriate location on city property is not available. Licensor will cooperate to the greatest extent possible in expediting any required permits for Licensee to locate a temporary facility on other available property.

**28. Environmental.**

a) Except as permitted in Paragraph 28(b), Licensee hereby covenants that it shall not bring onto the Site any hazardous substances, hazardous wastes, pollutants, asbestos, polychlorinated biphenyls (PCB5), petroleum or other fuels (including crude oil or any fraction or derivative thereof), or underground storage tanks (collectively "Environmental Hazards"). For purposes of this Agreement, the term "hazardous substances" shall be as defined in the Comprehensive Environmental Response, Compensation and Liability Act (42 U.S.C. §9601, et seq.), and any regulations promulgated pursuant to it. Licensee agrees to indemnify, save and hold Licensor, its successors and assigns, and



their respective present and future officers, directors, employees and agents from and against any and all liabilities, penalties, fines, forfeitures, demands, damages, losses, claims, causes of action, suits judgments, and costs and expenses incidental thereto (including, but not limited to, the cost of defense, settlement, reasonable attorneys' fees, reasonable consultants' fees and reasonable experts fees), which Licensor may hereafter suffer, incur, be responsible for or disburse as a result of: (A) any governmental action order, directive, administrative proceeding or ruling; (B) personal or bodily injuries (including death) or damage (including loss of use) to any property, public or private; (C) cleanup, remediation, investigation monitoring of any pollution or contamination of or adverse effects upon human health or the environment; or (D) any violation or alleged violation of laws, statutes, ordinances, orders, rules or regulations of any governmental entity or agency directly or indirectly caused by or arising out of any Environmental Hazards existing on or about the Site but only to the extent that the existence is caused by the activities of Licensee and/or Licensee's officers, directors, employees, agents, invitees or licensees. This provision shall survive the termination or expiration of this License Agreement. Notwithstanding the foregoing, Licensor and Licensee acknowledge that Licensee's use of the Site will require emergency back-up power, including lead acid batteries, a diesel generator, and fire suppression equipment. For purposes of this paragraph, Licensor agrees that Licensee may use these items, provided that such use is proper and in compliance with all applicable laws; and agrees that the proper use of these items will not violate the provisions of this paragraph.

b) Licensee will not generate or store any hazardous substances on or about the Site except in compliance with applicable hazardous substance laws and only upon prior written notice to the Licensor.

c) Licensee will comply with all applicable environmental statutes, regulations and rules regarding its use of the Site, including but not limited to statutes, regulations and rules regarding radiofrequency radiation. Without limiting or modifying the foregoing, Licensee shall measure baseline radiofrequency radiation around the perimeter of the site and water tower and within the water tower at a minimum of every 10 feet of elevation. Measurements must be taken before any installation work is started, and after installation and commissioning of all Equipment. Measurements, including referenced exposure limits, shall be submitted to the Licensor after completion of testing to demonstrate compliance with Federal Communications Commission ("FCC") requirements. Licensee shall install applicable signage and notices to comply with FCC requirements related to exposure to radiofrequency radiation.

d) Licensor represents warrants and agrees that to the best of Licensor's knowledge and belief there is no required remediation related to any environmental law or reporting under environmental laws. Licensor will defend, indemnify and hold Licensee harmless from and against any and all direct liabilities, consultant fees and expert witness fees, related to Licensor's breach of any of the above representations and warranties. Licensor hereby agrees to indemnify, hold harmless and defend Licensee from any losses, claims, damages, penalties, liabilities or costs that Licensee may suffer as a result of the presence of hazardous substances or petroleum in, on, under the property which the Site is a part, including the Site, caused by the acts or omissions of the Licensor, unless the presence of such substances was caused in whole or in part

Licensor, unless the presence of such substances was caused in whole or in part directly by Licensee. This provision shall survive the termination or expiration of this Agreement.

## **29. Waiver of Licensor's Lien**

(a) Licensor waives any lien rights it may have concerning the Licensee's Equipment which are deemed Licensee's personal property and not fixtures, and Licensee has the right to remove the same at any time without Licensor's consent.

(b) Licensor acknowledges that Licensee has entered into a financing arrangement including promissory notes and financial and security agreements for the financing of the Licensee's Equipment (the "Collateral") with a third party financing entity (and may in the future enter into additional financing arrangements with other financing entities). In connection therewith, Licensor (i) consents to the installation of the Collateral; (ii) disclaims any interest in the Collateral, as fixtures or otherwise; and (iii) subject to subparagraph 29 (c) below, agrees that the Collateral shall be exempt from execution, foreclosure, sale, levy, attachment, or distress for any Rent due or to become due and that such Collateral may be removed at any time without recourse to legal proceedings.

(c) Notwithstanding anything in the preceding subparagraphs (a) and (b), Licensor maintains and may assert and pursue any and all rights and remedies available to it at law or equity, including, but not limited to, any rights and remedies available under Michigan General Property Tax Act and Act 55, Public Acts of 1956 as amended, being MCL 211.691, et seq. (Jeopardy Assessments) MCL § 211.40; MSA § 7.81.

## **30. Nondiscrimination.**

The Licensee agrees to comply with the nondiscrimination provisions of Chapter 112 of the Ann Arbor City Code and to assure that applicants are employed and that employees are treated during employment in a manner which provides equal employment opportunity and tends to eliminate any inequality based upon race, national origin or sex. The Licensee agrees to comply with the provisions of Section 9:161 of Chapter 112 of the Ann Arbor City Code. Licensor shall notify Licensee of any alleged violations and Licensee shall have a reasonable amount of time to investigate and cure any violations. Licensor acknowledges that Equipment at this Site is not staffed.

## **31. Condition of Site.**

Licensee acknowledges that it received full and complete opportunity to conduct whatever inspection or another investigation and review it deemed appropriate with respect to the condition of the Site and its potential effect with respect to any aspect of the operation of Licensee's Equipment. Licensee's agrees to and takes its use of the Site on strictly an "as is" condition. Licensee hereby acknowledges and agrees that Licensor shall have no responsibility for: (A) the Site's condition; or (B) damage suffered by Licensee or any other person due to such condition. Licensee shall keep its Equipment, including accessories and appurtenances, in good order and repair. Licensor shall maintain the Site in good order and repair. If obstruction marking and/or

lighting is required at the Site by the Federal Communications Commission ("FCC") in accordance with Part 17 of the FCC Rules and Regulations, Licensor will provide maintenance of the marking and/or lighting in existence prior to the date of this Agreement. In the event that, as a result of the installation of Licensee's Equipment at the Site, different obstruction marking and/or lighting requirements than in existence prior to the date of this Agreement are promulgated at the Site by the FCC or others, Licensee shall be responsible for all costs to bring the Site into compliance with the revised requirements, and thereafter, Licensor will provide maintenance of same. Licensor's responsibility under this paragraph is only to the extent to repair or replace any light which is not functioning or which is inadequate, and in no case shall Licensor be liable to Licensee for any fine, forfeiture or other assessment issued against Licensee by the FCC or any other governmental agency for any violation arising from any obstruction marking and/or lighting requirements.

### **32. Assignment.**

Licensee may not assign, or otherwise transfer all or any part of its interest in this Agreement without the prior written consent of Licensor; provided however, that Licensee may assign its interest to its parent company, any subsidiary or affiliate or to any successor-in-interest or entity acquiring fifty-one percent (51%) or more of its stock or assets without the prior consent of the Licensor. Notwithstanding anything to the contrary contained in this Agreement, Licensee may assign, mortgage, pledge, hypothecate or otherwise transfer without consent its interest in this Agreement to any financing entity, or agent on behalf of any financing entity to whom Licensee (i) has obligations for borrowed money or in respect of guaranties thereof, (ii) has obligations evidenced by bonds, debentures, notes or similar instruments, or (iii) has obligations under or with respect to letters of credit, bankers acceptances and similar facilities or in respect of guaranties thereof.

### **33. Succession.**

This Agreement is binding upon the parties and shall be binding upon their successive heirs, administrators, successors and assigns.

### **34. Amendment.**

This Agreement or any of its terms and conditions may not be changed, modified, amended or altered except by an agreement in writing and signed by all of the parties to the change, modification, amendment or alteration.

### **35. Breach.**

No waiver of any breach or default shall be deemed a waiver of any subsequent breach or default of the same or similar nature.

**36. Contract.**

The terms and conditions of this Agreement are understood and agreed to be contractual and not a mere recital. The paragraph headings used throughout this Agreement are provided for reader convenience only, and shall not be controlling in the interpretation of this Agreement.

**37. Entire Agreement.**

This Agreement constitutes the entire understanding between the parties and shall supersede all prior offers, negotiations and agreements between the parties relative to the subject matter contained made by Licensor to induce the execution of this License Agreement except as expressly set forth in writing in this Agreement.

**[Remainder of this page intentionally blank; signatures appear on following page]**

**38. Signatures.**

The Parties have executed this Agreement by their authorized representatives.

Licensee:

New Par, a Delaware partnership  
d/b/a Verizon Wireless

By: Verizon Wireless (VAW) LLC,  
its general partner

By: Beth Ann Drohan 3/14/08  
Beth Ann Drohan

Its: Midwest Area Vice President – Network

Licensor:

CITY OF ANN ARBOR, a Michigan  
municipal corporation

By: John Hieftje  
John Hieftje, its Mayor

By: Jacqueline Beaudry  
Jacqueline Beaudry, its City Clerk

Approved as to content:

Roger W. Fraser  
Roger W. Fraser  
City Administrator

Sue F. McCormick  
Sue F. McCormick  
Public Services Area Administrator

Approved as to form:

Stephen K. Postema  
Stephen K. Postema  
City Attorney

EXHIBIT #1

**SITE DESCRIPTION**

The Site is described and/or depicted as follows (metes and bounds description):

Land in the City of Ann Arbor, Washtenaw County, Michigan, described as follows:

That part of the Northeast 1/4 of Section 3, Town 3 South, Range 6 East, described as: Beginning at an iron in the North and South 1/4 line of said Section 250 feet Southerly of the North 1/4 corner of said Section; thence Easterly along a line perpendicular to the said 1/4 line 140 feet; thence Southerly along a line parallel with the said 1/4 line 100 feet; thence Westerly along a line perpendicular to the said 1/4 line 140 feet; thence Northerly along the said 1/4 line, 100 feet to the point of beginning.

Easement Parcel:

Non-exclusive easement for ingress and egress as reserved, created, limited and defined in the Quit Claim Deed recorded in Liber 1213, page 425.

Commonly known as: Manchester Water Tower, 2011 Manchester Road, Ann Arbor, Michigan 48104

Tax Parcel Number: 12-03- 100-004

## EXHIBIT #2

### LIST OF EQUIPMENT

- One 12' x 26' Equipment Shelter with permanent emergency back-up generator located inside;
- Six (6) Antel RWA 80013 antennas connected via six (6) lines of coaxial cable not to exceed 1 5/8";
- Six (6) Antel LPA 11185060/8CF antennas connected via six (6) lines of coaxial cable not to exceed 1 5/8";
- Antenna Mounting Equipment per Exhibit #3;
- Lucent or Nortel CDMA or GSM Base Station Radio Transmitters located inside the shelter – frequencies not to exceed Licensee's FCC License;
- Batteries and Battery Racks located inside the Shelter;
- Ice Bridge to protect any coaxial cables exposed to weather;
- GPS Antenna(s) located on shelter;
- Various connectors, mounting hardware and brackets;
- Grounding Equipment per Exhibit #3;
- Applicable utility conduits; and
- Emergency back-up generator with diesel tank not to exceed 295 gallons located inside shelter.

EXHIBIT #3

**SITE PLAN AND SPECIFICATIONS**

See the attached Site Plan and Specifications prepared by Midwestern Consulting, Inc., with last revision date of October 3, 2007 and Dixon Engineering, with last revision date of October 4, 2007.





# Verizon Wireless Subcontractor List

<b>Project Type: (Raw Land, Colocation, Overhaul) Water tank</b>		<b>Site Name:</b> Stadium & Washtenaw	<b>Foreman Contact</b>	<b>Phone Number</b>	<b>Responsible Tasks</b>	<b>Responsible Tasks</b>	<b>Responsible Tasks</b>	<b>Responsible Tasks</b>	<b>Responsible Tasks</b>
		<b>Site Address:</b> 2011 Manchester Road, Ann Arbor, MI							
		<b>Site Number:</b> 1021							
Contractor	ERS Tower	TH Steel, Inc.	Mark Hull	(517) 545-7190	Antennae install	Relocate existing antenna	Hang Coax		
			Mike Heateja	(517) 548-5731	Certified welding	Tube installation	Handrail installation		
			Brian Montzka	(248) 246-6791 (Ext 11)	Sandblasting	Cleaning	Painting	Sanitizing	
			Ira Gabin	(616) 374-3221 (Ext. 303)	Weld inspection	Painting inspection	Sanitizing verification	Submittal review	

**HORIZON BROS PAINTING CORP.**  
SPECIALTY PAINTING CONTRACTOR

Main Office  
1053 Kendra Lane  
Howell, Michigan 48843

Phone (248) 246-6791 Fax (248) 246-6793  
Dino Gjolaj - Ext. 18 [dino@horizonbrotherspainting.com](mailto:dino@horizonbrotherspainting.com)

Phone Extensions  
Estimating Ext. 11  
Dino Gjolaj Ext. 18

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January 29, 2008

Verizon Wireless  
26935 Northwestern Highway  
Suite 100  
Southfield, Michigan 48034

Re: Ann Arbor Water Tower  
Stadium & Washtenaw Site  
Past Project List

Below, you will find a list of some of our past "Public Works" projects that are similar to the Ann Arbor Water Tower. Please let us know if there is any additional information that you will require. We would like to thank you for this opportunity.

**Public Works Projects Completed**

**Bowling Green Municipal Utilities**

5 Million Gallon Ground Storage Tank Re-Painting  
Bowling Green, Kentucky 42102  
Contract Amount: \$522,040.00  
Contact: Robert Kuehn (414) 570-8200 ext. 16  
Engineer: Smith Seckman Reid, Inc.  
Contact: J. Denny Wilkening

**Monitor Township – Bay County Department of Water & Sewer**

500,000 Gallon Elevated Tank Painting & Repairs  
Bay City, Michigan 48706  
Contract Amount: \$248,600.00  
Engineer: Nelson Tank Engineering & Consulting, Inc.  
Contact: Keith Nelson (517) 321-1692

**Huron Valley School District**

100,000 Gallon Elevated Water Tank Lead Abatement & Repainting  
Highland Township, Michigan  
Contract Amount: \$115,000.00  
Nora Gilbert – Purchasing Supervisor  
Randy Westerman – Project Manager  
Engineer: Dixon Engineering  
Contact: Ira Gabin (616) 374-3221

**Notre Dame University**

Lead Abatement  
Holly Cross Services (Owner)  
100 Lourees Hall  
Notre Dame, Indiana  
Contract Amount: \$163,000.00  
Contact: Bruce Dickie (574) 284-4321

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**Phone Extensions**  
Estimating Ext. 11  
Dino Gjolaj Ext. 18

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**City of North Canton**

1,500,000 Gallon Water Tower – Lead Abatement & Re-painting  
Canton, Ohio  
Contract Amount: \$460,000.00  
Owner Contact: Rich Steinhebel (330) 499-6473  
Engineer: W.I.T.  
Contact: Joe Sigarusiano (740) 264-1111

**City of Amherst**

500,000 Gallon Water Tower Lead Removal & Re-painting  
206 South Main Street  
Amherst, Ohio 44001  
Contract Amount: \$320,900.00  
Engineer: Dixon Engineering, Inc.  
Contact: Ira Gabin (616) 374-3221

**Oakland County Drain Commission**

Waste Water Treatment Plant – Lead Abatement & Re-painting  
Novi, Michigan  
Contract Amount: \$129,000.00  
Contact: Michael Walsh (248) 452-2026  
Engineer: Dixon Engineering, Inc.  
Contact: Tom Round (616) 374-3221 ext. 310

**Village of Ottawa**

Two Water Tank Rehabilitation – Lead Abatement & Re-painting  
136 North Oak Street  
Ottawa, Ohio 45875  
Contract Amount: \$315,000.00  
Owner Contact: Erin Hughes (419) 523-5020  
Engineer: Dixon Engineering, Inc.  
Contact: Ira Gabin (616) 374-3221

**Kenosha County Water District**

Water Tower Lead Abatement & Re-painting  
Kenosha, Wisconsin  
Contract Amount: \$329,000.00  
Robert Carlson (262) 653-4310  
Engineer: Alvord, Burdock, Howson  
Contact: John Lussow (630) 493-1841

**Grand Traverse Resort**

200,000 Gallon Water Tank Re-painting  
2331 North West Bay Shore Drive  
Peshabestown, Michigan 49682  
Contract Amount: \$78,900.00  
Owner: Grand Traverse Band of Ottawa and Chippewa Indians  
Contact: Jonathan Anderson (231) 357-3223

**City of Dowagiac**

Ground Level Storage Tank – Inside Wet Painting  
Riverside Drive

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Dino Gjolaj - Ext. 18 [dino@horizonbrotherspainting.com](mailto:dino@horizonbrotherspainting.com)

**Phone Extensions**

Estimating Ext. 11  
Dino Gjolaj Ext. 18

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Dowagiac, Michigan 49047  
Contract Amount: \$80,200.00  
Owner: City of Dowagiac  
Contact: Larry Show (269) 782-8200  
Engineer: Wightman & Associates, Inc.  
Contact: Michael Kiewel

**Town of Hebron**

100,000 Gallon Double Ellipse Water Tank – South Tank  
106 East Sigler  
Hebron, Indiana 46341  
Contract Amount: \$160,100.00  
Engineer: Dixon Engineer, Inc.  
Contact: Ira Gabin (616) 374-3221

**Andrew Systems, Inc.**

Touch-up Painting – Ellipse Water Tank (from cellular antenna installation)  
Hebron, Indiana  
Contract Amount: \$12,300.00  
Contact: Barry Panfil (770) 970-2042

**City of St. Joseph**

Water Tower Re-painting  
700 Broad Street  
St. Joseph, Michigan 49085  
Contract Amount: \$145,000.00  
Engineer: Dixon Engineering, Inc.  
Contact: Ira Gabin (616) 374-3221

**City of Franklin Park**

1,000,000 Gallon Ground Storage Tank  
County Line Road  
Franklin Park, Illinois 60131  
Contract Amount: \$246,950.00  
Engineer: Dixon Engineering, Inc.  
Contact: Ira Gabin (616) 374-3221

**City of Climax**

150,000 Gallon Elevated Water Storage Tank  
114 W. Maple Street  
Climax, Michigan 49034  
Contract Amount \$102,500.00  
Mike Gibson (269) 746-4179  
Engineer: NTEC (517) 321-1692

**City of Irvine**

500,000 Gallon Reservoir Storage Tank Re-painting  
Irvine, Kentucky  
Contract Amount: \$83,000.00  
Engineer: Wet or Dry, Inc.  
Contact: Jay Hoffman (502) 532-6190

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Dino Gjolaj - Ext. 18 [dino@horizonbrotherspainting.com](mailto:dino@horizonbrotherspainting.com)

**Phone Extensions**

Estimating Ext. 11  
Dino Gjolaj Ext. 18

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**Hampton Township Water Tower**

801 W. Center Road  
P.O. Box 187  
Bay City, Michigan 48707  
Contract Amount: \$185,000.00  
Engineer: Dixon Engineering, Inc.  
Contact: Ira Gabin (616) 374-3221

**City of Oak Creek**

200,000 Gallon Water Tower Re-painting  
Oak Creek, Wisconsin  
Contract Amount: \$170,000.00  
Contact: Robert Kuehn (414) 570-8200 ext. 16  
Engineer: Dixon Engineering, Inc.  
Contact: Ira Gabin (616) 374-3221

**City of Waukegan**

2,800,000 Million Gallon Water Tank Lead Abatement & Re-painting  
Waukegan, Illinois  
Contract Amount: \$273,000.00  
Contact: Jeff Musinski (847) 599-2987  
Engineer: Dixon Engineering, Inc.  
Contact: Ira Gabin (616) 374-3221

**City of Trenton**

1 Million Gallon Ground Storage Tank - Interior Painting  
11 East State Street  
Trenton, Ohio 45067  
Contract Amount: \$72,000.00  
Contact: Todd Kehr (513) 988-9296

**Henry County Water District**

Water Tower Re-painting  
Campbellsburg, Kentucky  
Contract Amount: \$95,000.00  
Engineer: Wet or Dry, Inc.  
Contact Jay Hoffman (502) 532-6190

**Village of Caro**

750,000 Gallon Toreolllipse Water Storage Tank  
317 S. State Street  
Caro, Michigan 48723  
Contract Amount:  
Engineer: Dixon Engineering  
Contact: Ira Gabin (616) 374-3221

**Blair Township**

Water Storage Tank - Spot Blasting & Repairs  
2121 County Road 633  
Grawn, Michigan 49637  
Contract Amount: \$16,500.00  
Owner Contact: Marty Hisem (231) 276-5111

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Howell, Michigan 48843

Phone (248) 246-6791 Fax (248) 246-6793  
Dino Gjolaj - Ext. 18 [dino@horizonbrotherspainting.com](mailto:dino@horizonbrotherspainting.com)

**Phone Extensions**

Estimating Ext. 11  
Dino Gjolaj Ext. 18

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**City of Standish**

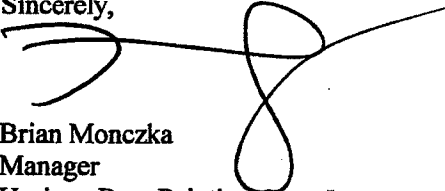
399 E. Beaver Street  
P.O. Box 726  
Standish, Michigan 48658  
Contract Amount: \$308,900.00  
Engineer: Gove Associates, Inc.  
Contact: (269) 385-0011

**DuPage Water Commission**

600 East Butterfield Road  
Elmhurst, Illinois 60126  
Contract Amount: \$145,000.00  
Engineer: Consoer Townsend Envirodyne Engineers, Inc.  
Contact: Jennifer McGlone

Again, we would like to thank you for this opportunity and all of us at Horizon Brothers Painting are looking forward to working with your entire team. Thank you.

Sincerely,

  
Brian Monczka  
Manager  
Horizon Bros Painting Corp, Inc.



## **Introduction**

Emergency Radio Service, Inc ERS is a full service site development contractor to the Wireless Industry. ERS has a long history in wireless communications having begun as a Motorola Sales and Service Representative (MSS) over 50 years ago. We still continue to grow as a Motorola MSS having seven offices with the newest being in South Bend, IN.

ERS started in the wireless infrastructure business approximately 20 years ago and continues to expand. The ERS Tower Services Division services PCS, cellular, and federal, state and local governments in all areas of wireless site construction. Past and present customers include Motorola, Bechtel, Valmont, Pirod, Alltel, Sprint PCS, AT&T Wireless, Nextel, IPCS, Cingular Wireless, Horizon PCS, Centennial Wireless, VoiceStream, and Verizon among others.

In an effort to better serve our customers Emergency Radio Service (ERS) has recently expanded its services to include; site acquisition, zoning and permitting services, environmental consulting, site management, and build-to-suit services. We have done this through a subsidiary called ERS Telecom Properties, LLC (ETP). We feel these will benefit our customers who have come to count on our professional and reliable service.

## **Motorola**

ERS has worked closely with Motorola on many large projects in the last 15 years. On many of these we have worked directly for Motorola and others we have worked through a construction management company. Regardless we have worked closely and well with all parties to successfully complete the projects. An outline of this work is stated below.

ERS worked with Motorola from 1996 to 2001 to complete the construction portion of the Michigan State Police 800 MHz communication system. The build was (180) new tower sites spread throughout Michigan in all types of terrain conditions. These towers had an average height of 430 feet, and included many guyed towers close to 500 feet as well as dozens of 485' foot self support towers. We have continued to work with Motorola to add new counties and municipalities onto this State system including: Genesee County, Macomb County, Mason/Oceana Counties, the City of Detroit and St. Clair County.

ERS has also been working on the "Project Hoosier Safety" with Motorola and Hanson Professional Services for the past three years. "Project Hoosier Safety" is Indiana's multi agency 800 MHz communication system. We are performing tower construction and tower modification work, antenna and line installs, and providing tower infrastructure for lease as needed for this project.

ERS recently began a project with Motorola and Pyramid Network Services for the State of Virginia (Stars) radio system and will complete almost three hundred towers in the next four years statewide.



Some of the other Motorola projects ERS has worked on include Marian County, Indiana (MECA); Independence, Missouri; Allen County, Indiana; City of Detroit, MI; Lucas County, Ohio; and the State of Ohio (MARCS) Project.

ERS is also part of the Motorola Disaster Relief Team and helped get public service communications back online for the city of New Orleans and surrounding areas after Hurricane Katrina.

### **Build to Suit**

In areas where existing tower structures are not available ETP looks to enhance its tower portfolio by erecting individual towers and tower networks that meet our present and future customers RF needs. This option can provide our customers with a capital friendly solution for their immediate tower requirements.

### **Site Development and Construction**

ERS has been developing wireless sites for 20 years. ERS utilizes it's own in house labor force to complete the tower services and civil portions of the work while subcontracting the other elements to our proven network of quality subcontractors. We combine this with a team of top-notch project managers that coordinate the resources optimizing quality, safety and efficiency. We feel this system works the best because tower services always seem like the weak link in accomplishing a safe quality build-out in a timely manner. We excel in building both raw land and collocation sites. As a founding member of the National Association of Tower Erectors (NATE), ERS is dedicated to safety, quality and customer satisfaction.

### **Tower Erection**

ERS has vast experience in erecting monopoles, guyed towers, and self-support towers. ERS has also erected many specialty stealth structures including, tree poles, flag poles, clock towers, Doppler radar towers, and FAA radar structures. ERS has also had a great deal of experience with small towers for local, county and commercial entities. No install is too small or too tough for our experienced erectors.

### **Antenna and Feedline Installation**

ERS is trained in all types of coax and elliptical wave-guide installations. We have Andrew, Cablewave Eupen and Commscope certified technicians. We also have several certified Anritsu technicians to verify that our coax installations meet customer requirements.

### **Microwave**

Our highly trained crews have had a great deal of experience in all types of microwave installations. From huge statewide microwave back-hauls to small one hop data paths. Our services can include path alignment and sweep testing to meet customer desires.

## **Civil Construction**

ERS is well versed in all areas of the civil side of site development. We install access roads, grade and stone sites, install ground rings, install phone and power services, install shelter and tower foundations, install equipment platforms, Set and optimize shelters and any other necessary items needed.

We have installed hundreds of tower foundations including drilled caisson foundations, dead-man, and pier and pad type foundations. We have also had considerable experience in specialty type foundations where bad soil conditions prohibit typical installs. These include blasting, rock anchor, helical grout pile, and dewatering.

## **Inspections and Maintenance**

We perform all kinds of tower maintenance. All of our inspectors are fully qualified and experienced tower hands. Our maintenance services include:

- Tower Re-lamp / Re-strobe
- Lighting System Inspection / Troubleshooting from certified Flash & Honeywell technicians
- Light System Installation
- Tower Inspections / Maintenance
- New Construction Audit
- Tower Mapping / Structural Analysis
- Plumb & Tension
- Compound/Tower/Building General Maintenance
- Azimuths adjustment / Down-tilting
- Transmission line testing
- Dehydrator / Evacuation system inspection
- Shared site interference analyses
- Radio Frequency Exposure (MPE) studies

## **Safety**

Our employees are our greatest asset and we protect them with the best very training and protective equipment available. Our dedicated Safety Manager has refined our program to meet or exceed OSHA and customer requirements. The following are core parts of our program:

Comprehensive written safety program  
Employee orientation training to ERS Safety Program  
10 hour OSHA training for all employees  
30 hour OSHA training for supervisors  
Tower rescue training for all employees  
RF exposure training  
Competent climber training for all tower technicians

ERS's greatest successes have come not through simply building sites for customers but through building a relationship of mutual trust and benefit that allows us to continue to serve our customers on a long term basis. We would be pleased to discuss how the ERS companies can help you achieve further successes in the wireless marketplace.

Our Best,

Management Team  
ERS

Contact-Jon Shultz  
Office-574-293-0615 Ext 43  
Mobile-260-894-1532  
[jshultz@erstower.com](mailto:jshultz@erstower.com)

## **SECTION 01500**

### **TEMPORARY CONSTRUCTION FACILITIES and UTILITIES**

#### **PART 1 GENERAL**

##### **1.01 SUMMARY**

- A. Provide and maintain temporary facilities and utilities required for construction; remove on completion of work.

##### **1.02 QUALITY ASSURANCE**

- A. Regulatory Requirements:
  - 1. National Fire Protection Association (NFPA):NFPA No.70-93.
  - 2. National Electrical Code (NEC) and local amendments thereto.
  - 3. Comply with federal, state, and local codes and regulations, and utility company requirements.

#### **PART 2 PRODUCTS**

##### **2.01 TEMPORARY ELECTRICITY and LIGHTING**

- A. Supply temporary lighting sufficient to enable contractor to safely access all work areas.
- B. Electrical requirements in excess of capacity of existing electrical service shall be responsibility of contractor.
- C. Provide, maintain, and remove temporary electric service facilities.
- D. Facilities exposed to weather shall be weatherproof-type and electrical equipment enclosure locked to prevent access by unauthorized personnel.
- E. Pay for installation of temporary services.
- F. Patch affected surfaces and structures after temporary services have been removed.
- G. Provide explosion proof lamps, wiring, switches, sockets, and similar equipment required for temporary lighting and small power tools.

##### **2.02 WATER for CONSTRUCTION**

- A. Owner will provide water required for cleaning and other purposes *from nearest hydrant. Contractor to obtain permit and meter for use and will be responsible for cost of water used. (3) (17).*
- B. Water use shall not exceed usage that might endanger the owner's water system's integrity.

##### **2.03 SANITARY FACILITIES**

- A. Provide temporary sanitary toilet facilities conforming to state and local health and sanitation regulations, in sufficient number for use by contractor's employees.
- B. Maintain in sanitary condition and properly supply with toilet paper.
- C. Remove from site before final acceptance of work.

**2.04 TEMPORARY FIRE PROTECTION**

A. Provide and maintain in working order a minimum of two fire extinguishers and such other fire protective equipment and devices as would be reasonably effective in extinguishing fires.

**2.05 DAMAGE to EXISTING PROPERTY**

- A. Contractor is responsible for replacing or repairing damage to existing buildings, sidewalks, roads, parking lot surfacing, and other existing assets.
- B. Owner has the option of contracting for such work and having cost deducted from contract amount if the contractor is not qualified, or fails to act in a timely manner.

**2.06 SECURITY**

- A. Security is not provided by owner.
- B. Contractor shall be responsible for loss or injury to persons or property where work is involved, and shall provide security and take precautionary measures to protect contractor's and owner's interests.
- C. *Contractor to sign out key from the Owner for the duration of the project and comply with the Owner's security policy. (4)*

**2.07 TEMPORARY PARKING**

- A. *Parking is limited to the tank site and not allowed on residential streets (5) unless approved by owner.*
- B. Make arrangements for parking area for employees' vehicles.
- C. Costs involved in obtaining parking area shall be borne by contractor.

**2.08 WORKING HOURS**

- A. *Work permitted between 7:00a.m. and 7:00 p.m. Monday through Friday. Saturday work may be permitted by the Owner. Sunday work is prohibited. (6)*

**PART 3 EXECUTION**

**3.01 GENERAL**

- A. Maintain and operate systems to ensure continuous service.
- B. Modify and extend systems as work progress requires.

**3.02 REMOVAL**

- A. Completely remove temporary materials and equipment when no longer required.
- B. Clean and repair damage caused by temporary installation or use of temporary facilities.
- C. Restore existing or permanent facilities used for temporary services to specified or original condition.

### **3.03 BARRIERS and ENCLOSURES**

- A. The contractor shall furnish, install, and maintain as long as necessary, and remove when no longer required adequate barriers, warning signs or lights at all dangerous points throughout the work for protection of property, workers, and the public. The contractor shall hold the owner harmless from damage or claims arising out of any injury or damage that may be sustained by any person or persons as a result of the work under the contract.

## **SECTION 01560** **PROTECTION of ENVIRONMENT**

### **PART 1**      **GENERAL**

#### **1.01 SUMMARY**

- A. Contractor in executing work shall maintain work areas, on-and-off site, free from environmental pollution that would be in violation of federal, state, or local regulations.

#### **1.02 PROTECTION of SEWERS**

- A. Take adequate measures to prevent impairment of operation of existing sewer system. Prevent construction material, pavement, concrete, earth, or other debris from entering sewer or sewer structure.

#### **1.03 PROTECTION of WATERWAYS**

- A. Observe rules and regulations of local and state agencies, and agencies of U.S. government prohibiting pollution of any lake, stream, river, or wetland by dumping of refuse, rubbish, dredge material, or debris therein.
- B. Provide containment that will divert flows, including storm flows and flows created by construction activity, to prevent loss of residues and excessive silting of waterways or flooding damage to property.
- C. Comply with procedures outlined in U.S. EPA manuals entitled "Guidelines for Erosion and Sedimentation Control Planning and Implementation," Manual EPA-72-015 and "Processes, Procedures, and Methods to Control Pollution Resulting from all Construction Activity," Manual EPA 43019-73-007.

#### **1.04 DISPOSAL of EXCESS EXCAVATED and OTHER WASTE MATERIALS**

- A. Dispose waste material in accordance with federal and state codes, and local zoning ordinances.
- B. Unacceptable disposal sites include, but are not limited to, sites within wetland or critical habitat, and sites where disposal will have detrimental affect on surface water or groundwater quality.
- C. Make arrangements for disposal subject to submission of proof to engineer that owner(s) of proposed site(s) has valid fill permit issued by appropriate government

- agency and submission of haul route plan, including map of proposed route(s).
- D. Provide watertight conveyance for liquid, semi-liquid, or saturated solids that tend to bleed during transport. Liquid loss from transported materials not permitted, whether being delivered to construction site or hauled away for disposal. Fluid materials hauled for disposal must be specifically acceptable at selected disposal site.
  - E. Waste generated by abrasive blast cleaning is detailed in Section 09870.

#### **1.05 PROTECTION of AIR QUALITY**

- A. Contain paint aerosols and V.O.C.'s by acceptable work practices.
- B. Minimize air pollution by requiring use of properly operating combustion emission control devices on construction vehicles and equipment used by contractor, and encouraging shutdown of motorized equipment not actually in use.
- C. Trash burning not permitted on construction site.
- D. If temporary heating devices are necessary for protection of work, they shall not cause air pollution.

#### **1.06 PROTECTION from FUEL and SOLVENTS**

- A. Protect the ground from spills of fuel, oils, petroleum distillates, or solvents by use of containment systems.
- B. Supply containment system for fuel on stationary equipment or stationary fuel tanks.
- C. Drip pans or other acceptable means shall be employed to prevent oil and other lubricants or coating fluids from spilling or depositing on the ground.
- D. Disposal of waste fluids shall be in conformance with federal, state, and local laws and regulations.

#### **1.07 USE of CHEMICALS**

- A. Chemicals used during project construction or furnished for project operation, whether herbicide, pesticide, disinfectant, polymer, reactant, or of other classification, must show approval of U.S. EPA, U.S. Department of Agriculture, state, or other applicable regulatory agency.
- B. Use of such chemicals and disposal of residues shall be in conformance with manufacturer's written instructions and applicable regulatory requirements.

#### **1.08 NOISE CONTROL**

- A. Conduct operations to cause least annoyance to residents in vicinity of work, and comply with *City of Ann Arbor noise (8) (18)* ordinances.
- B. Equip compressors, hoists, and other apparatus with mechanical devices necessary to minimize noise and dust. Equip compressors with silencers on intake lines.
- C. Equip gasoline or oil-operated equipment with silencers or mufflers on intake and exhaust lines.

- D. Route vehicles carrying materials over such streets as will cause least annoyance to public and do not operate on public streets between hours of 6:00 P.M. and 7:00 A.M., or on Saturdays, Sundays, or legal holidays unless approved by owner.

**1.09 PERMITS**

- A. Contractor shall obtain all required permits for the antenna installation and ground shelter. (7)

**PART 2      PRODUCTS**  
(Not Applicable)

**PART 3      EXECUTION**

**3.01 HAZARDOUS MATERIALS PROJECT PROCEDURES**

- A. Applicable Regulations:
  1. RCRA, 1976 - Resource Conservation and Recovery Act: This federal statute regulates generation, transportation, treatment, storage and disposal of hazardous wastes nationally.
  2. Act 64, 1979 - Michigan's Hazardous Waste Management Act: This statute regulates generation, transportation, treatment, storage and disposal of hazardous wastes.
  3. Act 641 as amended 1990-Michigan's Solid Waste Act: This statute regulates generation, transportation, treatment, storage and disposal of solid wastes.
- B. Use the Uniform Hazardous Waste Manifest (shipping paper) to use an off-site hazardous waste disposal facility.
- C. Federal, State and local laws and regulations may apply to the storage, handling and disposal of hazardous materials and wastes. The list below includes the regulations which are most frequently encountered:

<u>Topic</u>	<u>Agency and Telephone Number</u>
Small quantity hazardous waste management, including hazardous waste stored in tanks	Hazardous Waste Division, MDEQ (517) 373-2730 in Lansing, or District Office Certified County Health Department
Disposal of heavy metals into municipal sanitary sewers	Contact the superintendent of your wastewater treatment plant for permission
Hazard Communication Standards (for chemicals in the workplace)	Occupational Health Division, Michigan Department of Consumer



Burning of waste oil and other discharges to the air

And Industrial Services (517) 373-1410  
Air Quality Division, MDEQ  
(517) 322-1333 in Lansing, or  
District Office

Local fire prevention regulations and codes (including chemical storage requirements)

Local fire chief or fire marshal

- D. Department of Environmental Quality  
Hazardous Waste Division  
Compliance Section District Offices  
Jackson District Office  
301 E. Louis Glick Hwy.  
Jackson, MI 49201  
(517) 780-7690  
(517) 780-7437 (fax) Air Quality Div. and Waste and Haz. Materials Div. only  
(517) 780-7855 (fax) All Other Divisions.

**SECTION 02 83 19.13**  
**LEAD/CHROME BASED PAINT ABATEMENT**

**PART 1 – GENERAL**

**1.01 SECTION INCLUDES**

- A. Lead/Chrome Paint Removal.

**1.02 REFERENCES**

- A. SSPC Guides:
  - 1. Guide 6 – Containing Debris Generated During Paint Removal Operations.

**1.04 SUBMITTALS**

- A. Containment Plan.
- B. Lead, Health & Safety Plan (LH&SP).
- C. Site Specific LH&SP including:
  - 1. Work procedure for each job classification.
  - 2. Administration and engineering controls to be used during exposure assessment period and expected exposure.
  - 3. Personal hygiene procedure.
  - 4. Site personnel register (updated as needed).
  - 5. Qualifications of competent persons and responsibilities. At this point, multiple qualified people may be submitted.
  - 6. 24 hour job site contact person.
  - 7. Site map showing ingress/egress and locate all equipment.

**1.07 PAYMENT**

- A. Payment for Sections 02 83 19.13 and 02 83 33.13 Abatement and Disposal is included in lump sum price. A price should be shown in the Schedule of Values.

**PART 2 – PRODUCTS**

**2.01 LEAD REMOVAL PRE-TREATMENTS**

- A. PreTox 2000 FD, 4050 Westmark Drive, Dubuque, Iowa 52002, 1-800-338-8296.
- B. EnviroPrep Premium 33010 as manufactured by Hoffer's Coatings, Inc., Wausau, WI, 1-800-338-8296.

## **2.02 ABRASIVE**

- A. The abrasive shall be 20-40 grade, or 30-60 grade coal slag.
- B. Other low dust abrasive may be used at the same proportion.
- C. The abrasive shall be free of moisture, water soluble contaminants, dust, and oil.
- D. The abrasive shall be stored and covered to prevent moisture contamination.
- E. All leaking or spilling bags shall be removed, and affected areas properly cleaned.
- F. All slag abrasive shall meet requirements of SSPC-AB1 Mineral and Slag Abrasive – Grade 3, September 1, 2000.
- G. The use of silica sand, flint sand, and glass beads is prohibited.

## **2.03 RECYCLABLE STEEL GRIT – ALTERNATE**

- A. Use recyclable steel grit size G-25 or G-50.
- B. The abrasive is to be free of moisture, water soluble contaminants, dust, and oil.
- C. The abrasive is to be stored and covered to prevent moisture contamination.
- D. All leaking or spilling containers are to be removed, and affected areas properly cleaned.
- E. All recyclable steel grit shall meet requirements of SSPC-AB3 newly manufactured, or remanufactured steel abrasive.
- F. All recyclable steel grit shall meet cleanliness requirements of SSPC-AP2 (September 2000) Cleanliness of Recycled Ferrous Metallic Abrasives.

## **2.05 DECONTAMINATION FACILITY**

- A. Provide a climatic controlled decontamination facility. The decontamination facility must include a minimum of three separate areas: a dirty area, a showering area, and a clean area. The unit shall be as manufactured by Eagle Industries of Louisiana, Inc.
- B. Entry and exit into the showering room must be through an approved airlock designed to prevent cross-contamination between any two areas.
- C. Equip the clean room with adequately sized lockers for each worker to secure and store clothing, valuables, and other personal belongings.
- D. Equip the decon facility with an onboard ion exchange lead filtration system capable of filtering all waste water generated during hand washing operations, showering, laundering of towels and clothing, or from any other water used in cleaning.
- E. Recordkeeping log signed by each employee upon exiting that time was provided and decon procedures were followed.

### **PART 3 – EXECUTION**

#### **3.01 SURFACE PREPARATION – WET INTERIOR – LEAD PRE- TREATMENT**

- A. Apply PreTox 2000 FD or EnviroPrep Lead Pre- Treatment as specified by the manufacturer.
- B. Substitute products must be submitted to the engineer for approval prior to start of the project.
- C. All leaking containers are to be removed from the site and the spill area cleaned.

#### **3.05 HAZARDOUS WASTE DISPOSAL by CONTRACTOR – LEAD/CHROME PROJECTS**

- A. Contract directly with a licensed hazardous waste hauler who is properly licensed in the State of Michigan to haul hazardous material.
- B. Transport the debris for treatment to a licensed hazardous waste treatment site.
- C. The contractor will not be paid any retainage until paperwork has been submitted, including submittal of the hazardous waste manifest. An original of the hazardous waste manifest shall be returned to the owner.
- D. Remove all hazardous waste from the site within thirty (30) days of completion of the blasting portion of the project.
- E. Payment for disposal of hazardous waste is incidental to interior or exterior painting.
- F. *Engineer to verify that all lead particulate matter is removed from the wet interior of the tank and removed from the site. (9)*

#### **3.17 PERSONAL HYGIENE – LEAD PROJECTS**

- A. Register all personnel on the site and try to maintain, as much as possible, the same crew.
- B. Any changes in crew size or personnel will require registration. Registration simply means notification to the owner or engineer of a new person on the job site.
- C. Inform all personnel of the dangers involved with lead from a health standpoint, and require use of washroom/decon facilities.
- D. Ensure proper use and compliance of personnel with health department

and OSHA requirements.

- E. Complete contractor certification form that all employees complied with OSHA 1926.62 hygiene rules, and contractor, as employer, complied with their required OSHA housekeeping and compliance requirements.

## **SECTION 09 97 13** **STEEL COATINGS**

### **PART 1 – GENERAL**

#### **1.01 SECTION INCLUDES**

- A. Painting.
- B. Interior Cleaning and Disinfection.

#### **1.02 REFERENCES**

- A. AWWA Standards:
  - 1. D102 – 03 Painting Steel Water Storage Tanks.
  - 2. C652 – Disinfection of Water Storage Facilities.

#### **1.03 WORK INCLUDED**

- A. Wet Interior: Abrasive blast clean to a SSPC-SP10 near white standard, and apply a three (3) coat epoxy system.

#### **1.04 EXISTING CONDITIONS**

- A. Wet Interior: The wet interior coating system is unknown. It is presumed to contain lead.

#### **1.05 TANK TERMINOLOGY**

- A. Wet Interior: All surfaces and appurtenances in contact with water, or subject to condensation within the same chamber as the stored water.
- B. Dry Interior: All surfaces and appurtenances enclosed within the tank structure, but not subject to water or moisture contact from stored water.
- C. Exterior: All surfaces and appurtenances exposed to weathering and not included in the definition of wet or dry interior.
- D. Basebell: Cone surfaces supporting stem.
- E. Stem: Center pipe.
- F. Sidewall: Vertical walls of tank from balcony up to bottom round seam of roof curvature.

- G. Roof: Very top of tank, including top seam of sidewall.
- H. Bowl: Area on bottom of tank proper shaped like a bowl.
- I. Access Tube: Cylindrical tube extending from top of the riser to the roof through the tank.
- J. Condensate Platform: Platform that covers entire area of the dry riser, and used to collect and stop condensation from entering the basebell area.
- K. Top Landing: Platform area directly under tank's access tube.

**1.06 OMISSIONS or INCIDENTAL ITEMS**

- A. It is the intent of these specifications to coat the tank for the purpose of corrosion protection on wet interior surfaces. It is the intent to coat the exterior for corrosion protection and aesthetics.
- B. Any small or incidental items not specifically detailed in the schedule, but obviously a part of the work are included in the work at no additional cost to the owner.
- C. Engineer, as interpreter of the specifications, will determine if disputed items fall under this category. Prevailing custom and trade practices will be considered in this determination.

**1.08 SUBMITTALS**

- A. Submit the following with your annual prequalification:
  - 1. Occupational Safety and Health Programs and certification that all site personnel have been trained as required by law.
- B. Submit the following ten (10) days prior to the preconstruction meeting:
  - 1. Material Safety Data Sheets (MSDS).
    - a. Furnish from all suppliers Material Safety Data Sheets for all applicable materials including, but not limited to, paints, thinners, and abrasive materials.
    - b. Provide for employees one copy of all data sheets at the job site for employee access.
    - c. Provide one copy to the owner. No work may commence without the complete filing.
    - d. All sheets shall conform to requirements of SARA Right-to-Know Act.
  - 2. Ventilation Design Plan. Include airflow calculations and model, and number of fans.
  - 3. Dehumidification/Heat Design Plan. Include airflow calculations, model, number of units used, connection details, and power source.
  - 4. Fall Prevention Plan and Site Specific Fall Hazard Evaluation:
    - a. Site specific plan to contain a generic drawing of the existing structure

and appurtenances of this tank and reflect safety changes specified for this project.

- b. Certifications for all spiders, scaffolding, stages, etc. to be used on the project. All certifications to be current, less than one year old.
- C. Submit the following at the preconstruction meeting:
  - 1. Designated OSHA Competent Person and qualifications, if not previously submitted.
  - 2. Waste hauler and disposal facility.
  - 3. Submit all power tools and attachments to be used during the project.
- D. Submit the following within two (2) weeks of completion with final pay request:
  - 1. Waste manifest.
  - 2. Waivers of lien.
  - 3. Copies of any formal worker safety or environmental citations received on the project.

#### **1.09 OWNER'S RESPONSIBILITY**

- A. Drain the tank *within (14) days (11) notice*, after contractor meets all precedent conditions of this contract.
- B. Draw samples and test after chlorination; responsibility of good results remains with the contractor. Poor test results could result in added costs to contractor, including re-chlorination, cost of water, plus possible liquidated damages.

#### **1.10 WARRANTY**

- A. Approximately one (1) year from the date of completion, the tank will be inspected by the owner and/or his representative.
- B. The inspection will be performed in accordance with the applicable portions of AWWA D-102-03 Standard for Painting Steel Water Storage Tanks and industry standards.
- C. The owner will establish a date of inspection and shall notify the contractor ten (10) days in advance. The contractor's attendance will not be required.
- D. Any failed work will be documented and the contractor will be notified of necessary repair (method and extent). *Repairs to be completed within 48 hours of notification. (13)* The owner reserves the right to require inspection of the repair work and possibly a second warranty inspection, dependent on degree of failure.
- E. Cost for one (1) year warranty inspection will be the responsibility of the *contractor. (12) (14) (15) (16)*
- F. Cost for a second warranty inspection will be the responsibility of the contractor.

#### **1.11 DELIVERY and STORAGE of MATERIAL**

- A. Submit manufacturer's invoice, with or without paint cost, to the engineer for review. The submittal will be used to identify the quantity of paint recommended by the manufacturer for a job of this size and design, and will be used to check the quantity actually delivered to the project.

- B. Cover bulk materials subject to deterioration because of dampness, weather, or contamination, and protect while in storage.
- C. Maintain materials in original, sealed containers, unopened and with labels plainly indicating the manufacturer's name, brand, type, grade of material, and batch numbers.
- D. Remove from the work site containers that are broken, opened, water marked, and/or contain caked, lumpy, or otherwise damaged materials. They are unacceptable.
- E. Store the material in a climate controlled designated area where the temperature will not exceed the manufacturer's storage recommendations. Heat the storage area to the manufacturer's recommended minimum mixing temperature.
- F. Keep equipment stored outdoors from contact with the ground, away from areas subject to flooding, and covered with weatherproof plastic sheeting or tarpaulins.
- G. Store all painting materials in a location outside the tank.
- H. Do not store or have on-site unapproved material, material from different manufacturers, or materials from different projects.

#### **1.12 ACCESS and INSPECTOR SAFETY**

- A. Provide access to all portions of the project where work is being completed. Access must be close enough and secure enough to allow inspector to use inspection equipment without extensions.
- B. Provide personnel to assist with access and to ensure contractor's access equipment is safely used.
- C. Provide separate fall protection for owner and inspectors. Limit fall to 5 ft. vertically.

#### **1.13 INSPECTION and TESTING**

- A. Prior to the scheduled inspection, remove all dust, spent abrasive, and foreign material from the surface to be coated.
- B. Furnish an instrument for measuring the wet film thickness, and also dry film thickness of each field coat of paint. The dry film thickness testing gauge shall be the magnetic type as manufactured by Elcometer Co., or the Nordson Gauge Co.; spring loaded model with two percent (2%) accuracy margin over a range of one-to-twenty-one (1-21) mils.
- C. Certify to the owner that the specified paint has been applied at the paint manufacturer's recommended coverage, and to the specified thickness required. Also, certify that the paint has been applied in accordance with this contract.
- D. Take all necessary steps, including dry striping by brush or roller, to ensure a holiday-free coating system.
- E. The owner reserves the right to perform low voltage holiday tests on the exterior coating. The interior coatings are subject to low voltage holiday testing.
- F. The owner and engineer reserve the right to perform destructive testing under conditions deemed necessary. Testing may include, but is not limited to, the Tooke thickness test and adhesion testing. Any damage caused by these tests will be corrected to specifications at the contractor's expense.



- G. *Engineer shall take all measurements needed to verify surface preparation and coating application in accordance with SSPC standards. (24)*

#### **1.14 CLIMATIC CONDITIONS**

- A. Do not apply paint when the temperature, as measured in the shade, is below the manufacturer's required ambient and surface temperatures.
- B. Do not apply paint (interior or exterior) to wet or damp surfaces, or during rain, snow, or fog.
- C. Do not apply paint when it is expected the relative humidity will exceed 85%, or the surface temperature is less than 5° above dew point, or the air temperature will drop below the manufacturer's requirements for proper cure. Anticipate dew or moisture condensation, and if such conditions are prevalent, delay painting until the owner is satisfied the surfaces are dry.

#### **1.15 APPLICATION**

- A. Complete all painting and surface preparation in strict accordance with these specifications, approved paint manufacturer's specifications, and good painting practices per SSPC.
- B. Apply each coating at the rate and in the manner specified by the manufacturer. Check the wet film thickness every 200 sq. ft. to ensure each coat applied meets the dry film thickness range requirements.
- C. Allow sufficient time for each coat of paint to dry or cure. Allow a minimum of twenty-four (24) hours between coats.
- D. Apply exterior coating by brush and roller only. Spray application is not permitted without prior approval of the engineer. Even with prior approval, responsibility for damage still remains with the contractor.
- E. Painting or abrasive blast cleaning may be delayed because of poor coverage, the possibility of the paint drying too rapidly, or the potential damage from overspray and/or dry spray resulting from wind. In all cases, responsibility for damages rests with the contractor.
- F. The contractor is responsible for the appearance of the finished project, and is warned to prevent contact with any freshly applied coating. Removal of rigging shall be completed so not to mar or damage the coating.
- G. Coatings shall be applied using methods to eliminate roller or spray marks in the finished product on the exterior.
- H. Stripe coat all wet and dry interior welds and crevices prior to application of full coat.
- I. Additional coats required for coverage or to eliminate roller or spray marks are the responsibility of the contractor at no additional cost to the owner.
- J. Use of pole extension on spray guns is prohibited for exterior and interior application.

### **PART 2 – PRODUCTS**

## **2.02 SUBSTITUTIONS**

- A. All coatings specified and approved herein have met or exceeded a specified list of ASTM standards. The materials specified are the standard to which all others shall be compared.
- B. The purpose is to establish a standard of design and quality, and not to limit competition. All ASTM tests were performed in the presence of a representative of Dixon Engineering, Inc.
- C. Other manufacturers wishing to have their products approved have also had their coatings tested using the same representative of Dixon Engineering, Inc., and the same test methods. The manufacturers of those systems that have met all ASTM Standards have been given a letter of acceptance as an equal coating. Any bidder wishing to use materials other than those specified shall verify with the manufacturer if he has a letter of acceptance by Dixon Engineering, Inc. The engineer will have on file a list of approved coating products and manufacturers for specified applications.
- D. Approval by ANSI/NSF Standard 61 is also a requirement for potable water contact coatings.
- E. The selection of coatings also has taken into consideration the manufacturer's current and past performance on availability, stocking, and shipping capabilities, ability to resolve disputes, and any applicable warranties.

## **2.03 DEHUMIDIFICATION and HEATING –WET INTERIOR**

- A. Supply dehumidification/heating units capable of maintaining dew point temperature lower than 15° below surface temperature during blasting and lower than 5° during coating application and cure, and steel temperature maintained above the manufacturer's printed requirements.
- B. Supply a dehumidifier designed with a solid desiccant having a single rotary desiccant bed capable of continuous operation, with full automatic operation. Do not use liquid desiccant, granular, or loose lithium chloride drying systems. Refrigerant systems may be used in conjunction with desiccant units.
- C. Plumbing, noise control, insulation, venting, and all incidental items needed to provide proper ambient conditions shall be included as one package.
- D. Supply and maintain a power source for the dehumidifier and heater, unless otherwise specified.

## **2.04 DUST COLLECTORS – AIR FILTRATION UNITS**

- A. Furnish and use a dust collector during all blasting work.
- B. Units to be equal in filtration capacity to Eagle Industries dust collectors. Other units may be used, but their substitution will be evaluated on efficiency at 0.5 micron size and airflow movement.
- C. Use 30,000 cfm min. for tanks between 500,000 and 1,000,000 gallons.
- D. Substitution of steel grit blasting may decrease the requirement of above. New requirements will be defined by the engineer based on the efficiency of the contractor's

- equipment.
- E. Furnish HEPA filters for dust collection.
  - F. Number of dust collectors shall be sufficient to supply a 50 ft./minute downward draft at most areas. An average may be considered. Determination of actual containment plan will be the deciding factor. Calculations of airflow shall be included in the containment submittal.
  - G. Use only new filters or filters certified clean.

## **2.08 AIR DRYER for COMPRESSOR**

- A. Use air dryers sufficient to remove 98% of the moisture from the compressed air. Size the dryers based on total cfm using manufacturer supplied charts. Upon request, supply charts to engineer for verification.
- B. If the fan is not operable, cease all blasting until the dryer is replaced or repaired.
- C. Supply air dryer with an air draw-off valve to check air for dryness, oil contamination, and cleanliness on the outlet side of the air dryer.
- D. For cleaning operations, draw clean air from the outlet side of the air dryer.

## **PART 3 – EXECUTION**

### **3.01 DISINFECTION**

- A. Disinfect the completely painted structure in accordance with AWWA Standard C652 Chlorination Method No. 3.
- B. Furnish the material and labor necessary to disinfect the structure in the required manner. *Engineer to (2)* assist owner during filling and sampling. Promptly repair any defects in the work that may appear.
- C. Do not allow water to enter the distribution system until the structure is proven chemically and bacteriologically safe.
- D. Water vented to waste may not contain any substances in concentrations that can adversely affect the natural environment. No total residual chlorine may be measured in water discharged to surface water.
- E. Pay all additional expenses if it is necessary to repeat the testing and disinfection procedure as a result of defective work or defective testing.

### **3.02 PROTECTION of NON-WORK AREAS**

- A. Protect all non-blasted surfaces prior to all abrasive blast cleaning. Thoroughly cover the fill/drain pipe, overflow pipe, and all other openings. Do not permit abrasive or paint chips to enter into the piping or distribution system. Use watertight seals on the

pipes.

- B. Protect and seal all controls (even if they are not in the immediate work area) that are in danger from the project (i.e. cathodic controls in the basebell when work is on the wet interior). Work with the owner so all controls are shutdown or vented if necessary.

### **3.04 DEHUMIDIFICATION/HEATING**

- A. Control the environment with dehumidification equipment twenty-four (24) hours a day during blast cleaning, coating operations, and cure time. Maintain minimum ambient conditions until cure completion.
- B. Supply sufficient dry air to assure the air adjacent to surfaces to be abrasive blast cleaned or coated does not exceed minimum required humidity at any time during the blasting, coating, or curing cycle.
- C. Monitor and record ambient conditions twenty-four (24) hours a day throughout abrasive blast cleaning and painting work. Dehumidification equipment to be equipped with Munters ExactAire monitors. Monitor to be capable of being programmed with condition parameters and of alerting user/owner via phone, fax, pager, or e-mail of condition or equipment failures. An approved monitoring device may be used instead of Munters ExactAire system, Dickson Model TH6, or equivalent.
- D. Test interior ambient conditions three (3) times a day, or more often with rapid weather changes. Record daily readings. Adjust or add equipment as required to maintain steel temperatures, dew point, and humidity. (This is a check on and in addition to the recorder in paragraph C above.)
- E. Use a minimum:  
2,250 cfm dehumidification unit for all tanks up to 500,000 gallons.
- F. Surround the units with noise suppressant enclosures, unless units are sound attenuated or have noise suppressants. More extensive enclosure requirements are required in residential areas where the machines must run all night. Noise suppressant level needed will depend on the size of dehumidification units, their efficiency, and their locations. Provide noise suppressant enclosures of sufficient height and thickness to lower noise to an acceptable level for neighbors. Also provide noise suppressant enclosures for generators.
- G. Auxiliary heaters may be necessary to maintain the surface temperature at a level acceptable to the coating manufacturer's application parameters. The auxiliary equipment must be approved for use by the manufacturer of the dehumidification equipment and shall meet the following requirements. Auxiliary ventilation equipment and/or dust collection equipment can affect the exchange rate.
  - 1. Heaters shall be installed in the process air supply duct between the dehumidifier and the work, as close to the work as possible. Air heaters are not acceptable as a substitute for dehumidification.
  - 2. Use only electric or indirect gas fired auxiliary heaters. No direct fired space

heaters will be allowed during blasting, coating, or curing phase.

- H. Seal off the work, allowing air to escape at the bottom of the space away from the point where the dehumidified air is being introduced. Maintain a slight positive pressure in the work unless the dust from the blasting operation is hazardous.
- I. Where necessary to filter the air escaping the space, design the filtration system to match the air volume of the dehumidification equipment in such a way that it will not interfere with the dehumidification equipment's capacity to control the space as described herein. Do not recirculate the air from the work or from filtration equipment back through the dehumidifier when coating or solvent vapors are present. Outside air is to be used during those periods.
- J. Securely attach duct work to the equipment and work to minimize air loss. Design hoses with sufficient capacity and minimal bends to reduce friction loss.
- K. Dehumidification and its operating power source are incidental to the respective painting project (wet or dry interior).
- L. Set-up and operate equipment twenty-four (24) hours (or earlier) prior to start of blasting, and twenty-four (24) hours after all water has been removed from the tank.

### **3.06 DUST CONTAINMENT – INTERIOR**

- A. Do everything within the contractor's power to minimize dust as a nuisance.
- B. No visible dust release is allowed from roof openings and other access openings. Seal or close all openings prior to blasting (see ventilation requirements).
- C. Connect the air filtration unit directly to a manhole extension.
- D. Design the manhole extension to allow access of hoses through a side exit that is sealable after hoses are in-place. Install the air filtration unit directly to the end of the extension.
- E. Seal of the side exit will be tested by holding a lit cigarette 6 in. outside the seal with the air filtration unit operating. If smoke is drawn to the seal area, additional sealing will be necessary.

### **3.07 VENTILATION REQUIREMENTS**

- A. Supply mechanical ventilation sufficient to change air in the tank six (6) times each hour.
- B. In calculating air exchange, the dust collector air capacity can be considered a part of the air being changed up to 50% of ventilation requirements.
- C. Use roof, riser, or shell manholes with fans to move the required air.
- D. Ventilate wet interior areas a minimum of seven (7) days after completion of painting, or longer until the wet interior coating has fully cured. Maintain ventilation at the rate of two (2) complete air changes per hour.
- E. Cost of ventilation is incidental to respective paint project.
- F. Additional ventilation openings may have to be installed by the contractor. Submit size, details, and location(s) for approval by the owner prior to cutting any opening. All costs associated with repairs by a certified welder are incidental.

- G. Connect the air filtration unit per this Section, Item 3.06 Dust Containment – Interior. All fans at the bottom manhole may blow out into the dry interior if all manholes are shut, forcing the dust down. Zero release to the atmosphere will be permitted.

### **3.11 WASTE DISPOSAL – NON-HAZARDOUS**

- A. If after testing of the spent abrasive material the TCLP tests indicate the abrasive is not a hazardous waste, dispose the abrasive in a waste disposal facility.
- B. All waste shall be handled by a licensed hauler. Supply the owner with all proper documentation of the final disposal site. The actual bill of lading and all manifests will be required prior to any payment.
- C. Payment for this waste disposal is incidental to interior or exterior painting.

### **3.12 DOCUMENTATION**

- A. Supply proper documentation of storage, transportation and treatment, or disposal of the waste to the owner. The owner will retain sufficient funds to pay for hazardous waste transportation, treatment, and any possible fines until all documentation has been received. This retainage will be held, even if the waste has tested non-hazardous.

### **3.14 LIGHTING of WORK SPACE**

- A. Provide durable lighting fixtures designed for the intended work environment for use during blasting, painting, and during all inspections.
- B. Encase portable lamps in a non-conductive, shatterproof material. Use only heavily insulated cable with an abrasive resistant casing.
- C. Install all temporary electrical items in accordance with all local, state, and federal codes, including OSHA.
- D. Protect from paint overspray and damage from abrasive materials.
- E. Measure required illumination during surface preparation and coating application at the work surface. Supply 20 ft. candles minimum illumination during blasting and painting, and 30 ft. candles minimum prior to and during inspection, per SSPC-Guide 12. Inspect the prepared surface at the higher illumination prior to calling for inspection. All work must conform to specification requirements prior to the scheduled inspection.
- F. Measure the illumination at the work surface in the plane of the work.

## **PART 4 – SPECIAL PROVISIONS**

*(21) Cathodic protection removal deleted.*

### **4.02 WELD PREPARATION PRIOR to COATING**

- A. Prepare all welds per NACE RPO 0178 prior to coating application, grind welds to category C.

**SECTION 09 97 13.10**  
**STEEL COATINGS SURFACE PREPARATION**

**PART 1 – GENERAL**

**1.01 SECTION INCLUDES**

- A. Full Field Abrasive Blasting.

**1.02 REFERENCES**

- A. AWWA Standards:
  - 1. D102 – 03 Painting Steel Water Storage Tanks.
- B. SSPC and NACE Standards:
  - 1. SP10/NACE No. 2 – Near White Abrasive Blast.
  - 2. VIS 1 (Visual standard for abrasive blasted metal).

**1.03 WORK INCLUDED – SURFACE PREPARATION**

- A. Wet Interior: Abrasive blast clean to a SSPC-SP10 near white standard.
- B. Lead/Chrome Paint: For additional requirements or pretreatment, See Section 02 03 19.13 Lead/Chrome Based Paint Abatement.

**1.03 WASTE SAMPLING**

- A. Sample waste from each portion of the project and keep waste segregated. Send to a NLLAP certified lab and test for TCLP for 8 metals.
- B. The owner reserves the right to collect samples and to send them to their selected lab. This will be determined at the preconstruction meeting.
- C. Pay all lab fees for 8 metals TCLP analysis on waste samples, total lead, and chrome on soil samples, and any subsequent testing fee if clean-up is warranted.

**PART 2 – PRODUCTS**

#### **2.04 ABRASIVE – COAL SLAG**

- A. The coal slag shall be 20-40 grade, or 30-60 grade.
- B. The abrasive shall be free of moisture, water soluble contaminants, dust, and oil.
- C. The abrasive shall be stored and covered to prevent moisture contamination.
- D. All leaking or spilling bags shall be removed, and affected areas properly cleaned.
- E. All slag abrasive shall meet the requirements of SSPC-AB1 “Mineral and Slag Abrasive” June 1, 1991-Grade 3.
- F. The use of silica sand, flint sand, and glass beads is prohibited.

#### **2.05 RECYCLABLE STEEL GRIT - ALTERNATIVE**

- A. Use recyclable steel grit size G-25 or G-50.
- B. The abrasive is to be free of moisture, water soluble contaminants, dust, and oil.
- C. The abrasive is to be stored and covered to prevent moisture contamination.
- D. All leaking or spilling containers are to be removed, and affected areas properly cleaned.
- E. All recyclable steel grit shall meet requirements of SSPC-AB1 Metallic Abrasives June 1, 1991.

### **PART 3 – EXECUTION**

#### **3.01 SURFACE PREPARATION – WET INTERIOR**

- A. Low pressure water clean at 4,000 psi all surfaces and appurtenances to remove minerals, soot, and other contaminants.
- B. All abrasive and grit material used, and all equipment supplied shall be subject to approval of the engineer. The abrasive or grit shall be sharp enough and hard enough to remove the mill scale, rust, and paint.

#### **3.05 NEAR WHITE (SSPC-SP10) DRY BLAST – WET INTERIOR**

- A. Abrasive blast clean all surfaces and appurtenances to a near white finish (SSPC-SP10), latest edition thereof.
- B. Maintain a profile of 2.0 – 3.0 mils on abrasive blast cleaned surfaces.
- C. All interior abrasive blast cleaning is to be completed and all spent abrasive removed, and surfaces thoroughly cleaned prior to any primer application.
- D. Once an area is acceptable for painting, apply all coats and allow coating to cure to touch prior to resumption of blasting. The entire tank may be blasted before painting, as long as dehumidification holds the blast. It is the contractor’s discretion and



responsibility to determine if the entire tank is to be blasted, or what size is to be blasted and coated (all coats).

- E. The contractor is responsible for supplying heat and dehumidification to maintain blast conditions.

**SECTION 09 97 13.13.01**  
**INTERIOR STEEL COATINGS – THREE COAT EPOXY**

**PART 1 – GENERAL**

**1.01 SECTION INCLUDES**

- A. Painting.

**1.02 REFERENCES**

- A. SSPC and NACE Standards:
  - 1. PA1 – Paint Application.
  - 2. PA2 – Measurements and Calibration.
  - 3. NACE RPO 178 Surface Finish Requirements

**1.03 WORK INCLUDED**

- A. Application of a three (3) coat epoxy system.
- B. Application of a 100% solid pit filler.
- C. Application of a polyurethane elastomeric seam sealer

**PART 2 – PRODUCTS**

**2.01 EPOXY POLYAMIDE – 3 COAT SYSTEM – WET INTERIOR**

- A. Three (3) coat epoxy polyamide system meeting all National Sanitation Foundation certification standards for potable water contact.
- B. Approved suppliers and systems:

<u>Manufacturer</u>	<u>System</u>
Tnemec	20/20/20(stripe)/20

- C. Approved pit filler: Tnemec 63-1500.
- D. Approved seam sealer: Sika Flex 1a.
- E. Pit fillers to be the same manufacturer as the coating system.

**PART 3 – EXECUTION**

**3.01 EPOXY POLYAMIDE – 3 COAT SYSTEM – WET INTERIOR**

- A. Apply a three (3) coat high build epoxy paint system to all prepared surfaces and appurtenances.
- B. Abrasive blast cleaning and paint requirements have been previously defined in section 09 97 13.10.
- C. Apply each coat at the following rates:

<u>Coat</u>	<u>Minimum</u>	<u>Maximum</u>
	<u>D.F.T.</u>	<u>D.F.T.</u>
Primer	3.5	4.5
Intermediate	3.5	4.5
Stripe Coat	1.5	2.5
Topcoat	<u>3.5</u>	<u>4.5</u>
Total	10.5*	13.5*

\* Total does not include stripe coat

- D. Supply each coat in the color specified, or in color approved by the engineer. No color bleed-through should occur if proper application rates are observed.
- E. Apply all coats in uniform color and sheen without streaks, laps, runs, sags, cloudy, or missed areas.
- F. Allow a minimum of twenty-four (24) hours between coats (including stripe coat). Additional time may be necessary if low temperatures require an increase in the necessary cure time.
- G. MAINTAIN FORCED VENTILATION A MINIMUM OF SEVEN (7) DAYS AFTER TOPCOAT ON ALL EPOXY INTERIOR SYSTEMS. Record variations of the standard procedures (roof hatch closure because of rain, etc.), and submit to the engineer. External heat is required if, in the opinion of the engineer, the integrity of the coating is endangered by cold weather, or if additional cure time will delay the project beyond the completion date.
- H. Correct all defects before application of the successive coat.
- I. Maintain internal air movement at 20 ft., at 10 ft., and at 1 ft. above the floor for seven (7) days after painting. Suspend 2,500 cfm fans in the air from the safety grabs at each elevation, at completion of painting.

**3.02 SEAM SEALING – WET INTERIOR ROOF**

- A. Seam seal all roof lap seams on the interior. Seal using a caulking gun filing all cracks less than 1 in. in separation. Tool sealant as required.
- B. Payment will be on a linear foot basis based on 300 lin. ft.

- C. Payment will be a separate line item "Seam Sealer." Seam seal interior lap seams. The owner reserves the right to delete this item.

**3.03 PIT FILLER – WET INTERIOR**

- A. Fill all pits marked by the engineer.
- B. The engineer will assess severity of pitting after old coating has been removed.
- C. Payment will be on a per pit basis with all pits smaller than 2½ in. diameter equal to one pit. Pits greater than 2½ in. will be negotiated using area as compared to area of 2½ in. pit. Pits will not be measured; visual interpretation only.
- D. Payment will be a separate line item "Pit Filling." The figure of 1,000 pits is a dummy figure. The owner reserves the right to increase or decrease this quantity, or delete this item.

**3.04 SCHEDULE of WORK**

- A. Complete all exterior and interior welding prior to surface preparation.

## EXHIBIT #4

### SECURITY AND ACCESS PROCEDURES

These procedures are applicable for the following City facilities: Plymouth and Manchester Water Towers, and the Water Treatment Plant. Henceforth, you shall contact the City's Water Treatment Plant at (734) 994-2840 a minimum of twenty-four (24) hours prior to access to the foregoing City facilities for non-emergency maintenance and repairs. You must provide us the names and photographs of your personnel who will be visiting these sites for this work. That information must be provided to the Manager at the Water Treatment Plant as soon as possible. **Your personnel not on this list will not be allowed access.** It is your responsibility to ensure that this information stays current with us. Personnel who are not on the list will not be allowed access unless the City has been provided their names and photographs at least forty-eight (48) hours before they seek access.

In case access is for one of the water towers, your personnel will sign out a key from the Water Treatment Plant located at 919 Sunset Road. The person who signs out the key must provide the names of all persons who will be accessing the water tower. All such persons must already be on the list with the Water Treatment Plant Manager. The person who signs out the key must return the key to the Water Treatment Plant upon completion of work at the site. The key must be returned at the end of each day work is performed. The key may not be kept overnight. You are not permitted to make copies of the key to the water towers.

In case of an emergency, your personnel will be allowed access without a 24-hour advance notice. However, prior notice is still required before arrival at the Water Treatment Plant to pick up a key. Access will be limited to persons on the list with the Manager of the Water Treatment Plant.