

CITY OF MT. PLEASANT, MICHIGAN  
**CONTRACT DOCUMENTS**

For

**2017 WATER TREATMENT PLANT CHEMICALS BID**



**KATHLEEN LING**  
Mayor

**NANCY RIDLEY**  
City Manager

Prepared By:  
Division of Public Works

**JOHN ZANG**  
DPW Director

September 2016

CITY OF MT. PLEASANT, MICHIGAN

**T A B L E   O F   C O N T E N T S**

2017 Water Treatment Plant Chemical Bid

**Bidding Information**

Notice to Bidders

**Contract Documents**

Proposal  
Insurance Requirements

**General Specifications**

**Standard Specifications**

Liquid Carbon Dioxide  
Liquid Ferric Chloride  
Hydrofluosilicic Acid  
Quicklime  
Sodium Hypochlorite  
Caustic Soda  
Anionic Polymer  
Sodium Polyphosphate  
Quicklime Delivery Addendum – Frost Law Seasonal Deliveries



THE CITY OF  
MT. PLEASANT, MICHIGAN

CITY HALL

320 W. Broadway • 48858-2447  
(989) 779-5300  
(989) 773-4691 fax

PUBLIC SAFETY

804 E. High • 48858-3595  
(989) 779-5100  
(989) 773-4020 fax

PUBLIC WORKS

1303 N. Franklin • 48858-4682  
(989) 779-5400  
(989) 772-6250 fax

**NOTICE TO BIDDERS**  
2017 WATER TREATMENT PLANT CHEMICALS BID

The CITY OF MT. PLEASANT, MICHIGAN is requesting sealed bids at the Office of the City Clerk, City Hall, 320 W. Broadway Street, Mt. Pleasant, Michigan 48858, until 1:30 p.m. (local time), on Tuesday, October 25, 2016, at which time and place the bids will be publicly opened and read. All bids shall be submitted in a sealed envelope, plainly marked "2017 Water Treatment Plant Chemicals – October 25, 2016."

Proposals are solicited on a unit price basis, for the following chemicals:

ANIONIC POLYMER	2	TONS
CAUSTIC SODA	400	TONS*
LIQUID CO <sub>2</sub>	150	TONS
LIQUID FERRIC CHLORIDE	100	TONS
LIQUID SODIUM POLYPHOSPHATE	500	GALS
SODIUM FLUORIDE	4	TONS
SODIUM HYPOCHLORITE	40,000	GALS
QUICKLIME	800	TONS

**\*Please quote both per gallon and per ton pricing for caustic soda.**

Please note the above quantities are annual usage *estimates* and are not guaranteed purchase quantities.

**ALL CHEMICALS, EXCEPT CAUSTIC SODA, ARE ONE-YEAR BIDS. CAUSTIC SODA IS A SIX-MONTH BID.**

No bid deposit, performance, labor, or material bond will be required.

To view and download complete specifications at no charge, visit the City's website at [www.mt-pleasant.org](http://www.mt-pleasant.org), and navigate to the Bids and Quotes page.

The CITY OF MT. PLEASANT, MICHIGAN reserves the right to accept or reject any or all bids, to waive any irregularities in the bids, and to select the bid considered most advantageous to the City.

Malcolm Fox  
Supervisor, Water Treatment Plant  
(989) 779-5426

Jeremy Howard  
City Clerk

CITY OF MT. PLEASANT, MICHIGAN  
**BID PROPOSAL**  
 2017 WATER TREATMENT PLANT CHEMICALS

TO: Office of the City Clerk  
 City Hall  
 320 W. Broadway Street  
 Mt. Pleasant, MI 48858-2447

BID DATE: Tuesday, October 25, 2016  
 TIME: 1:30 p.m.

In accordance with the specifications and other bid requirements heretofore provided, the undersigned agrees to provide the below listed bid items at the price(s) set forth below. **All chemicals except for caustic soda are one-year bids. Caustic soda is a six-month bid. The quantities listed below are annual usage estimates are not guaranteed purchase quantities.** This is a firm bid and not subject to withdrawal or change for a period of sixty (60) days.

<u>ITEM</u>	<u>QTY</u>	<u>UNIT</u>	<u>UNIT PRICE</u>	<u>TOTAL</u>
ANIONIC POLYMER	2	TONS	\$ _____/Ton	\$ _____
CAUSTIC SODA*	400	TONS	\$ _____/Ton	\$ _____
*Please quote both per gallon and per ton pricing			\$ _____/Gal	\$ _____
LIQUID CO2	150	TONS	\$ _____/Ton	\$ _____
LIQUID FERRIC CHLORIDE	100	TONS	\$ _____/Ton	\$ _____
LIQUID SODIUM POLYPHOSPHATE 500	GALS		\$ _____/Gal	\$ _____
SODIUM FLUORIDE	4	TONS	\$ _____/Ton	\$ _____
SODIUM HYPOCHLORITE	40,000	GALS	\$ _____/Gal	\$ _____
QUICKLIME	800	TONS	\$ _____/Ton	\$ _____

TOTAL BID \$ \_\_\_\_\_  
 (figures)

(written) \_\_\_\_\_ and \_\_\_\_\_/100 Dollars.

**CERTIFICATION:** WE HEREBY CERTIFY THAT THE CHEMICAL(S) DELIVERED TO THE CITY OF MT. PLEASANT, MICHIGAN MEETS OR EXCEEDS YOUR SPECIFICATIONS IN EVERY RESPECT. **Non-treatment quality quicklime shall be penalized by a 50% price credit for the entire load.**

COMPANY \_\_\_\_\_

ADDRESS \_\_\_\_\_

CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_

TELEPHONE \_\_\_\_\_ FAX \_\_\_\_\_

EMAIL \_\_\_\_\_

SIGNATURE OF AUTHORIZED OFFICER \_\_\_\_\_

PRINT OR TYPE NAME & TITLE \_\_\_\_\_

DATE \_\_\_\_\_

CITY OF MT. PLEASANT, MICHIGAN

**ADMINISTRATIVE MEMO NO. 8-78**

Issued: October 10, 1978  
Revised: June 21, 1989

Subject: **MINIMUM INSURANCE REQUIREMENTS FOR CONTRACTORS**

Summary Statement

The provision of adequate insurance by persons and businesses working for the city or on street right-of-way is essential to protect the public from the costs of injury or damage and to protect the city from unnecessary liability resulting from the acts of persons and businesses working for the city. Minimum insurance requirements are needed to provide this protection.

Memo

Persons or businesses which provide professional services to the city under the terms of a written contract or provide labor and/or material to accomplish work for the city or for others on or over street right-of-way or other city property shall carry insurance and bonds to protect the public and the City from exposure to unnecessary financial risks.

Prior to signing of contracts, issuance of purchase orders or permits, or other authorization to begin work, certificates of insurance evidencing the purchase of insurance in amounts not less than required by the Administrative memo or bid specifications, whichever is greater, shall be filed with City Clerk. Such certificates shall:

- a. Show that the insurance is currently in force and termination date of each policy.
- b. State the limits of liability of the policies covered by the certificate.
- c. Show that the CITY OF MT. PLEASANT, MICHIGAN is to be specifically named in policy as an "additional insured" and should be issued to the CITY OF MT. PLEASANT, MICHIGAN as the certificate holder.
- d. Provide that the City will receive not less than 10 days written notice of the cancellation of any listed policy.
- e. Be issued in the name of an insurance company authorized to conduct business in the State of Michigan.

Required bonds shall be filed with the City Clerk prior to the signing of contracts or other authorizations to proceed with work.

Insurance and bonds shall meet or exceed the following requirements. Exceptions to recognize more or less hazardous operations and financial risks should be considered and with approval of the City Manager may be made in specifications or contract requirements prior to awarding contracts or issuing purchase orders.

**INSURANCE REQUIREMENTS**

Type	Limit of Liability	Required of: City Contractor	Contractor On R-O-W
Worker's Compensation and Employer's Liability	Statutory Coverage B \$100,000	X	X
Public Liability (including products and completed operations liability)			
Bodily Injury	\$250,000 each person	X	X
	\$500,000 each accident	X	X
Property Damage	\$250,000 each accident	X	X
	\$250,000 each aggregate	X	X
Automobile Liability (including hired cars and automobile non-ownership)			
Bodily Injury	\$250,000 each person	X	X
	\$500,000 each occurrence	X	X
Property Damage	\$250,000 each accident	X	X
	\$250,000 each aggregate	X	X
Additional Insured Clause	CITY OF MT. PLEASANT, MICHIGAN to be specifically named in policy as an "additional insured"	X	X
Excess Liability (Required unless risk occurrence is nominal)	\$1,000,000 each	X	

Persons or businesses engaged to provide labor and material in an amount in excess of \$10,000, or who will receive partial payments as work progresses will provide labor, performance and material bonds equal to the value of the work being performed. Such bonds are not required where the work to be done is of a type in which the failure to perform will not adversely affect the city's ability to function or increase the city's cost of completing the work.

**CITY OF MT. PLEASANT, MICHIGAN  
2017 WATER TREATMENT PLANT CHEMICALS BID**

**GENERAL BID SPECIFICATIONS**

**Definitions:** The following definitions shall apply in this Specification.

Purchaser: The CITY OF MT. PLEASANT, MICHIGAN, henceforth known as the City.

Vendor: The party supplying water treatment chemicals.

**Material Safety Data Sheet:** Each vendor shall provide the CITY OF MT. PLEASANT, MICHIGAN with a complete copy of the U.S. Department of Occupational Safety and Health Administration, Material Safety Data Sheets, (Form OSHA-20), for each chemical bid.

**Product Specification:** Each vendor shall provide a Product Specification sheet and Certificate of Compliance (ANSI/NSF Standard 60/61) for each chemical bid.

**Quantity:** These quantities shown are for estimated purposes only, not a guarantee of actual usage.

**Basis of Award:** The award will be to the supplier with the lowest unit cost for each chemical bid. The CITY OF MT. PLEASANT reserves the right to reject low bids which do not meet specifications. The award for supplying Liquid Carbon Dioxide is non-exclusive, and may be awarded to more than a single supplier.

**Note:** Previous experience and performance may be factors in making the award.

**Contract Period:** The contract period for all chemicals, except caustic soda, is for one (1) year, to start **January 1, 2017 through December 31, 2017**. **The contract period for caustic soda is for six months, to start January 1, 2017 through June 30, 2017.**

**Deliveries:** Supply and transport F.O.B. destination, freight pre-paid to the City of Mt. Pleasant's Water Treatment Plant and/or designated area on an "AS NEEDED" basis using the designated truck route within the City limits. Normal delivery hours are between 8:00 a.m. – 3:00 p.m., unless otherwise scheduled by the City.

**Assignments:** The vendor agrees not to assign or transfer this contract or any part thereof without the written consent of the CITY. Any unauthorized assignment may subject the contractor to immediate termination.

**Errors / Omissions / Discrepancies:** Any errors, omissions, or discrepancies in the specifications discovered by a prospective contractor and/or service provider shall be brought to the attention of Malcolm Fox, Supervisor, Water Treatment Plant, as soon after discovery as possible. Further, the contractor and/or service provider shall not be allowed to take advantage of errors, omissions, or discrepancies in the specifications.

**Insurance Requirements:** See attached Administrative Memo # 8-78.

**Default:** Is defined as the failure of the bidder to fulfill the obligations of the contract, including but not limited to: failure to deliver on time or the unauthorized substitution of articles other than those quoted and specified on the contract; or failure to deliver specified quantities (repetitive shortages). If continued abuse of any or all of the above conditions persists, the CITY will notify the contractor in writing. The contractor will be given ten days to correct this "Default" condition. Failure to do so within the specified period will result in the City's canceling the contract and procuring the articles or services from other sources and hold the contractor responsible for any excess cost occasioned thereby.

**Termination:** The CITY reserves the right to terminate any award to the bidder for cause, without any liability, upon 10 days notice from the Director of Public Works or his authorized representative (see Default above).

**Indemnification:** The successful bidder agrees to defend, indemnify and hold harmless the City, its employees and agents from all claims and lawsuits arising out of its performance of this contract.

**Other Terms:** The CITY reserves the right to accept any bid, to reject any bid or all bids, to waive irregularities and/or informalities in any bid, and to make the award in any manner deemed in the best interest of the City.

**A typical analysis of the product the Bidders proposes to furnish must be supplied to the City's Water Treatment Plant, 4195 S. Lincoln Road, Mt. Pleasant, Michigan 48858, five (5) days prior to the bid opening. This information also may be faxed to (989) 773-5305 or emailed to [mfox@mt-pleasant.org](mailto:mfox@mt-pleasant.org).**

**CONTACT:** If you have any questions regarding this bid, please contact Malcolm Fox, Water Plant Supervisor, at (989) 779-5426 or (989) 779-5430, or send an email to [mfox@mt-pleasant.org](mailto:mfox@mt-pleasant.org).



**CITY OF MT. PLEASANT, MICHIGAN  
STANDARD SPECIFICATIONS FOR  
LIQUID CARBON DIOXIDE**

*The following specification incorporates the criteria and specifications of AWWA B510-06 and ANSI/NSF 60/61 standards.*

**Scope:** This standard covers carbon dioxide for the use of treating municipal water supplies. The chemical is used to modify and control the pH of water.

**Definition:** Carbon Dioxide (CO<sub>2</sub>) gas shall be delivered in a liquid form. Bids will be on a ton basis as CO<sub>2</sub>.

The following definitions shall apply in this standard:

**Manufacturer:** *The party or parties that produce carbon dioxide, as covered in this standard.*

**Vendor:** *Any party that enters into a contract, either written or verbal, to supply carbon dioxide for purchase in accordance with this standard.*

**Purchaser:** *The party entering into a contract or agreement to purchase carbon dioxide in accordance with the provisions of this standard, in this case the CITY OF MT. PLEASANT, MICHIGAN, henceforth known as the City.*

**Affidavit of Compliance:** The purchaser requires an affidavit from the manufacturer or vendor that the carbon dioxide furnished under the purchaser's orders meets or exceeds the specifications of the AWWA B510-06 and ANSI/NSF 60/61 standards, and the requirements specified in this standard.

**Rejection:** If the carbon dioxide does not meet the requirements of this standard, the purchaser shall provide a notice of non-conformance to the vendor within 10 working days of receipt of the shipment at its point of destination. If the material is found to not meet the requirements of the standard, the responsibility of the removal from the point of destination shall fall wholly on the vendor. An exception to this point may be made if a price adjustment is made between the vendor and the purchaser.

**Impurities:** The carbon dioxide provided under this standard shall contain no soluble or insoluble material, organic or inorganic, capable of producing deleterious or injurious effects on the health of those consuming water that has been properly treated with carbon dioxide.

**Shipment Labeling:** Each shipment shall be labeled in accordance with current Department of Transportation standards.

**Shipping and Delivery:** Liquid carbon dioxide gas shall be shipped in trucks with a twenty-ton capacity. The delivery trucks shall be self-sufficient with regard to unloading the carbon dioxide into the City's 32-ton storage tank. The City shall accept weekday delivery between 8:00 a.m. and 3:00 p.m., unless otherwise arranged by the purchaser. The delivery driver must check in with Water Plant staff before unloading.

**CITY OF MT. PLEASANT, MICHIGAN  
STANDARD SPECIFICATIONS  
FOR LIQUID FERRIC CHLORIDE**

*The following specification incorporates the criteria and specifications of AWWA B407-05 and ANSI/NSF 60/61 standards.*

**Scope:** This standard covers liquid ferric chloride for use as a coagulant in treating municipal water supplies.

**Definition:** The liquid ferric chloride shall be supplied as a 40% solution. Bids shall be on a ton basis of 100% FeCl<sub>3</sub>.

The following definitions shall apply in this standard:

**Manufacturer:** *The party that produces liquid ferric chloride, as covered in this standard.*

**Purchaser:** *The party entering into a contract or agreement to purchase liquid ferric chloride in accordance with the provisions of this standard, in this case the CITY OF MT. PLEASANT, MICHIGAN, henceforth known as the City.*

**Vendor:** *Any party that enters into a contract, either written or verbal, to supply liquid ferric chloride for purchase in accordance with this standard.*

**Affidavit of Compliance:** The City requires an affidavit from the manufacturer or vendor that the liquid ferric chloride furnished under the purchaser's orders meets or exceeds AWWA B407-05 and ANSI/NSF 60/61 specifications.

**Basis of Rejection:** If the material is found to not meet the requirements of this standard, the responsibility of removal from the point of destination shall fall wholly on the vendor. An exception to this point may be made if a price adjustment is made between the vendor and the purchaser.

**Impurities:** The liquid ferric chloride provided under this standard shall contain no soluble or insoluble material, organic or inorganic, capable of producing deleterious or injurious effects on the health of those consuming water that has been properly treated with liquid ferric chloride.

**Shipment Labeling:** Each shipment shall be labeled in accordance with current Department of Transportation standards. Each shipment is required to be labeled with the manufacturer, lot number, and the net weight.

**Shipping and Delivery:** Liquid ferric chloride shall be shipped in suitably lined, thoroughly cleaned tank trucks of 3000-7000 gallon capacity. The delivery trucks shall be self-sufficient with regard to unloading the liquid ferric chloride into the City's two 5,000-gallon storage tanks. The City shall supply a flanged connection on its two-inch liquid ferric chloride fill line. The City shall accept weekday delivery between **8:00 a.m. and 3:00 p.m.**, unless otherwise arranged by the purchaser.

**CITY OF MT. PLEASANT, MICHIGAN  
STANDARD SPECIFICATIONS  
FOR SODIUM FLUORIDE**

*The following standard incorporates the criteria and specifications of AWWA B701-06 and ANSI/NSF 60/61 standards.*

**Scope:** This standard covers Sodium Fluoride as a fluoride source for use as a municipal water treatment prophylaxis.

**Definition:** Sodium fluoride will be delivered in fifty-pound bags. Sodium fluoride shall be coarse crystalline grade suitable for municipal water treatment. Bids will be on a one hundred pound basis.

The following definitions shall apply in this standard:

**Manufacturer:** *The party that produces sodium fluoride, as covered in this standard.*

**Vendor:** *Any party that enters into a contract, either written or verbal, to supply sodium fluoride for purchase in accordance with this standard.*

**Purchaser:** *The party entering into a contract or agreement to purchase sodium fluoride in accordance with the provisions of this standard, in this case the CITY OF MT. PLEASANT, MICHIGAN, henceforth known as the City.*

**Affidavit of Compliance:** The purchaser requires an affidavit from the manufacturer or vendor that the sodium fluoride furnished under the purchaser's orders meets or exceeds the specifications of the AWWA B701-06 and ANSI/NSF 60/61 standards, and the requirements specified in this standard.

**Rejection:** If the sodium fluoride is found to not meet the requirements of this standard, the responsibility of the removal from the point of destination shall fall wholly on the vendor. An exception to this point may be made if a price adjustment is made between the vendor and the City.

**Impurities:** The sodium fluoride provided under this standard shall contain no soluble or insoluble material, organic or inorganic, capable of producing deleterious or injurious effects on the health of those consuming water that has been properly treated with sodium fluoride.

**Shipment Labeling:** Each shipment shall be labeled in accordance with current Department of Transportation standards. Each shipment is required to be labeled with the manufacturer, lot number, and the net weight.

**Shipping and Delivery:** Sodium fluoride shall be delivered in skid mounted fifty-pound bag shipments. The trucks shall be self-sufficient with regard to unloading the sodium fluoride onto the City's receiving loading dock. The City shall accept weekday delivery between **8:00 a.m. and 3:00 p.m.**, unless otherwise arranged by the purchaser.

**CITY OF MT. PLEASANT, MICHIGAN  
STANDARD SPECIFICATIONS FOR  
QUICKLIME**

*The following specification incorporates the criteria and specifications of AWWA B202-02 and any applicable National Sanitation Foundation (NSF) specifications.*

**Scope:** This standard covers pebble quicklime for the use of treating municipal water supplies. It sets forth the tests, guarantees and other conditions pertaining thereto. The chemical is used as a softening agent, i.e., the removal of calcium and magnesium from raw water.

The quicklime shall meet the following requirements. Failure to meet any of them will be sufficient cause for rejection.

**Definition:** Quicklime is the product resulting from the calcinations of limestone, shell, or equivalent. This standard covers only limes, which are composed mainly of calcium oxide. Special limes such as dolomitic limes are not subject to the specifications contained herein. Quicklime consists primarily of calcium oxide (CaO), and to a lesser extent magnesium oxide (MgO). Hydrated lime is a finely divided powder, which results from the hydration of quicklime with enough water to satisfy its chemical affinity.

The following definitions shall apply in this standard:

**Manufacturer:** *The party that produces quicklime, as covered in this standard.*

**Purchaser:** *The party entering into a contract or agreement to purchase quicklime (typically from the Vendor) in accordance with this standard, in this case the CITY OF MT. PLEASANT, MICHIGAN, henceforth known as the City.*

**Vendor:** *The party entering into a contract or agreement to ship and supply quicklime in accordance to this standard.*

**Compliance:** The City requires (1) An affidavit of compliance from the manufacturer or vendor that the quicklime furnished under the purchaser's specification complies with all applicable requirements of this standard; (2) A certified analysis of the quicklime furnished by either the vendor or the manufacturer; and (3) An affidavit of compliance with AWWA B202-02 and NSF/ANSI 60/61.

**Purchase of Quicklime:** The purchase of quicklime shall be based on 90% available calcium oxide (CaO). In the event that any shipment has a calcium oxide content of less than 90%, the City shall deduct a penalty of 5% of the contract price for each 1% of calcium content below 90%. In no case shall the available calcium oxide (CaO) content be less than 80%.

The quicklime provided shall be of the "quick-slaking" type and shall disintegrate into a solution of finely divided particles upon addition to water. This reaction shall be evidenced by a production of heat, raising the temperature of the solution to 40° C in three minutes, and the entire slaking reaction should be complete in approximately ten minutes. Slaking of the quicklime shall not produce an objectionable amount of undis-

solved or insoluble material, and shall not in any way interfere with the feeding machinery used to feed quicklime.

**Basis for Rejection:** Failure to meet the specifications of this standard shall be considered grounds for rejection of the material.

The basis of rejection shall be the following:

- A. Available CaO content less than 80 percent. This percentage represents a minimum chemical requirement.
- B. Failure of the quicklime to produce more than 10° rise in temperature in three minutes.
- C. The production of more than five percent insoluble material upon slaking.
- D. Determination of impurities in excess of those specified in the section following labeled "Impurities".

**Notice of Nonconformance:** *Notice of Nonconformance* with a shipment as caused by the failure of the material to meet the specifications contained herein, shall be provided to the vendor within 15 calendar days after receipt of the shipment in question. The purchaser's results shall prevail unless the vendor notifies the purchaser, within five working days after receipt of the Notice of Nonconformance, that a retest is desired. On receipt of the request for a retest, the purchaser shall forward one of the samples taken in accordance with the section following labeled "Testing Methods", to the vendor. In the event that the results determined by the vendor do not agree with those of the purchaser, a second sample, as above, shall be forwarded to a referee laboratory agreed upon by both parties. The results of the referee laboratory shall be accepted as final. The vendor shall pay the cost of the referee analysis if the material in question is found not to meet the specifications of this standard and by the purchaser if the material does meet the specifications.

If the material does not meet the requirements of the purchaser, the vendor shall assume full responsibility for the removal of the material from the premises of the purchaser or the point of destination unless some agreement is reached between the purchaser and the vendor that a price adjustment can be made.

**Physical Requirements:** The quicklime supplied shall be three quarter inch pebble lime and in no case shall it exceed the following limits: None shall be retained on a one inch sieve and not more than 5% shall pass a one quarter inch (0.25") sieve.

**Chemical Requirements:** Quicklime supplied under this specification shall be freshly burned and free of carbonate solids and siliceous residue. Insoluble material shall not exceed 5% by weight upon slaking.

**Impurities:** The quicklime supplied under this specification shall contain no inorganic or organic material in quantities capable of producing deleterious or injurious effects on the health of persons consuming water that has been properly treated with lime and/or lime products. The quicklime shall conform both to NSF/ANSI standard 60/61 and to AWWA B202-02.

**Sampling Method:** Samples shall be collected as per AWWA B202-02 or any applicable standard from the material being loaded into the delivery truck at the point of origin, and provided to the plant operator before unloading can begin. Samples shall be collected in airtight containers.

**Testing Methods:** Sample collection, testing methods, and any other relevant tests shall be performed in accordance with the AWWA Standard for Quicklime, ANSI/AWWA B202-02. Modifications of these procedures may be used only if they result from mutual agreement between the vendor and the purchaser.

**Marking:** Each shipment shall be labeled in accordance to current Department of Transportation standards. These labels may include such information as contents, lot number, net weight, manufacturer and any applicable safety warnings.

**Shipping and Delivery:** Quicklime shall be supplied in trucks with a capacity of 20-50 tons. The trucks shall be pressurized pneumatic self-unloading types, capable of delivering quicklime into the two 55-ton lime storage bins at the Mt. Pleasant Water Treatment Plant. The City will supply a flanged connection on its four-inch lime fill lines. The truck and its compressor shall be equipped with a muffler or other suitable noise suppression equipment. The City shall accept weekday delivery between 8:00 a.m. hours and 3:00 p.m. hours, unless otherwise arranged by purchaser.

The net weight of the shipment shall not deviate from the recorded weight by more than 1.5 percent. The City may require that the vendor supply, on receipt of the shipment, a certificate of certified weight attesting to the actual weight of the shipment in question.

If the reported weight of the shipment is found to be less than the actual weight, using any of the methods described above or as agreed to by the City and the vendor, the City may accept the shipment, reject the shipment, or agree to a price adjustment accounting for the weight deficiency.

**Delivery of Non-Water Treatment Grade Lime:** Quicklime must be water treatment quality grade unless by special arrangement with the City. Grade of lime and point of origin must be indicated on the shipping documents. **Non-treatment quality quicklime shall be penalized by a 50% price credit for the entire load.**

**CITY OF MT. PLEASANT, MICHIGAN  
STANDARD SPECIFICATIONS  
FOR SODIUM HYPOCHLORITE**

*The following specification incorporates the criteria and specifications of AWWA B300-04 and any applicable National Sanitation Foundation (NSF) specifications.*

**Scope:** This standard pertains to sodium hypochlorite for use in the treatment of municipal water supplies.

**Definition:** Sodium Hypochlorite (NaOCl) is a clear light-yellow liquid containing up to 16.0 g/l (16 trade percent) of available chlorine. Bids will include price per gallon of NaOCl at 16%.

The following definitions shall apply in this standard:

**Manufacturer:** *The party that produces sodium hypochlorite, as covered in this standard.*

**Purchaser:** *The party entering into a contract or agreement to purchase sodium hypochlorite in accordance with the provisions of this standard, in this case the CITY OF MT. PLEASANT, MICHIGAN, henceforth known as the City.*

**Vendor:** *Any party that enters into a contract, either written or verbal, to supply sodium hypochlorite for purchase in accordance with this standard.*

**Affidavit of Compliance:** The City requires an affidavit from the manufacturer or vendor that the sodium hypochlorite furnished under the purchaser's orders meets or exceeds AWWA B300-04 and ANSI/NSF 60/61 standards.

**Notice of Nonconformance:** - If the hypochlorite does not meet the requirements of this standard, the purchaser shall provide a notice of nonconformance to the vendor within 10 working days of receipt of the shipment at its point of destination. The results of the purchaser's test shall prevail unless the vendor notifies the purchaser within five working days of receipt of the notice of nonconformance that a retest is desired. On receipt of the request for a retest, the purchaser shall forward to the vendor one of the sealed samples taken in accordance with the "Sampling Method" section included in this specification. In the event that the retest results do not agree with the test results of the purchaser, another sealed sample shall be forwarded to a referee laboratory agreed upon by both parties for analysis. The results of the referee laboratory's analysis shall be considered final. If the shipment is found to be in compliance with this standard, then the purchaser shall assume the cost of the referee laboratory. If the shipment is found not to meet the specifications of this standard, the vendor shall assume the cost of the referee laboratory.

If material delivered is found to not meet the requirements of this standard, the responsibility of removal from the point of destination shall fall wholly on the vendor. An exception to this point may be made if a price adjustment is made between the vendor and the purchaser.

**Physical Requirements:** Sodium Hypochlorite (NaOCl) shall be delivered as a clear liquid containing not more than 0.15 percent insoluble matter by weight. It should be filtered before delivery.

**Chemical Requirements:** The Sodium Hypochlorite shall contain between 15 and 16 percent available chlorine by volume (trade percent). In the event the available chlorine by volume (trade percent) is lower than specified, the City shall deduct a penalty as follows:

- 1) Available chlorine between 14 & 15 trade percent, a penalty of 5% of the contract price shall be deducted.
- 2) Available chlorine between 13 & 14 trade percent, a penalty of 10% of the contract price shall be deducted.
- 3) Available chlorine between 12 & 13 trade percent, a penalty of 15% of the contract price shall be deducted.

In any event, if the available chlorine is below 12 trade percent, this will be reason for rejection of the shipment. The vendor will agree to return a rejected shipment.

The total free alkali in sodium hypochlorite (as NaOH) shall not exceed 1.5% by weight. The pH of the hypochlorite solution shall be between 12 and 13 at delivery.

**Impurities:** The sodium hypochlorite provided under this standard shall contain no soluble or insoluble material, organic or inorganic, capable of producing deleterious or injurious effects on the health of those consuming water that has been properly treated with sodium hypochlorite. The concentration of chlorite and chlorate shall not exceed levels recommended by AWWA standards.

In an effort to minimize impurities, the sodium hypochlorite delivered by the vendor shall be freshly made up for each delivery. That is, a shipment shall not be more than 24 hours old.

**Sampling Method:** The sample shall be taken at the point of destination, in accordance to AWWA B300-04.

**Testing Methods:** All testing shall be done in accordance to the most current and applicable AWWA standard for sodium hypochlorite. The following is a partial list of chemical and physical characteristics that may be tested for:

- 1) Available chlorine, in mg/L or trade percent
- 2) Free alkali as NaOH
- 3) Insoluble matter or impurities
- 4) Chlorite
- 5) Chlorate



**Marking:** Each shipment should be labeled in accordance with current Department of Transportation standards. Each shipment is required to be labeled with the manufacturer, lot number, and the net weight.

**Shipping and Delivery:** Sodium Hypochlorite shall be delivered in 5000-gallon shipments. The trucks shall be self-sufficient with regard to unloading the hypochlorite into the City's two 6000-gallon storage tanks. The City will supply a flanged connection on its two-inch hypochlorite fill line. The City will accept weekday delivery between **8:00 a.m. and 3:00 p.m.**, unless otherwise arranged by the purchaser.

**CITY OF MT. PLEASANT, MICHIGAN  
STANDARD SPECIFICATIONS  
FOR CAUSTIC SODA**

*The following specification incorporates the criteria and specifications of AWWA B501-03 and any applicable National Sanitation Foundation (NSF) specifications.*

**Scope:** This standard pertains to caustic soda for use in the treatment of municipal water supplies.

**Definition:** Caustic Soda is a 50% solution of Membrane Cell grade sodium hydroxide (NaOH). Bids will be on a dry ton basis.

The following definitions shall apply in this standard:

**Manufacturer:** *The party that produces caustic soda, as covered in this standard.*

**Vendor:** *Any party that enters into a contract, either written or verbal, to supply caustic soda for purchase in accordance with this standard.*

**Purchaser:** *The party entering into a contract or agreement to purchase caustic soda in accordance with the provisions of this standard, in this case the CITY OF MT. PLEASANT, MICHIGAN, henceforth known as the City.*

**Affidavit of Compliance:** The City requires an affidavit from the manufacturer or vendor that the caustic soda furnished under the purchaser's orders meets or exceeds the specifications of the AWWA B501-03 and NSF/ANSI 60/61 standards, and the requirements specified in this standard.

**Rejection:** If the material is found to not meet the requirements of this standard, the responsibility of removal from the point of destination shall fall wholly on the vendor. An exception to this point may be made if a price adjustment is made between the vendor and the purchaser.

**Physical and Chemical Requirements:** Caustic Soda shall be delivered as a 50% solution of membrane grade liquid sodium hydroxide.

**Impurities:** The caustic soda provided under this standard shall contain no soluble or insoluble material, organic or inorganic, capable of producing deleterious or injurious effects on the health of those consuming water that has been properly treated with caustic soda. Heavy metals (Pb, Hg, As) concentration must meet the requirements of food chemical codex.

**Shipment Labeling:** Each shipment shall be labeled in accordance with current Department of Transportation standards. Each shipment is required to be labeled with the manufacturer, lot number, and the net weight.

**Shipping and Delivery:** Caustic soda shall be delivered in 4500-5000 gallon shipments. The trucks shall be self-sufficient with regard to unloading the caustic soda into the City's two 9700-gallon NaOH storage tanks. The trucks shall maintain the temperature of the caustic at a minimum 92° F during all weather conditions. The City shall supply a flanged connection on its two-inch fill line. The City shall accept weekday delivery between **8:00 a.m. and 3:00 p.m.**, unless otherwise arranged by the purchaser.

**CITY OF MT. PLEASANT, MICHIGAN  
STANDARD SPECIFICATIONS FOR  
ANIONIC POLYMER**

*The following standard incorporates the criteria and specifications of any applicable AWWA and NSF standards, including AWWA B453-06.*

**Scope:** This standard pertains to anionic polymer for use with lime softening water treatment.

**Definition:** Anionic polymer will be bid on a ton basis. The vendor shall provide technical assistance in determining optimum dose.

The following definitions shall apply in this standard:

**Manufacturer:** *The party that produces anionic polymer, as covered in this standard.*

**Vendor:** *Any party that enters into a contract, either written or verbal, to supply anionic polymer for purchase in accordance with this standard.*

**Purchaser:** *The party entering into a contract or agreement to purchase anionic polymer in accordance with the provisions of this standard, in this case the CITY OF MT. PLEASANT, MICHIGAN, henceforth known as the City.*

**Affidavit of Compliance:** The City requires an affidavit from the manufacturer or vendor that the anionic polymer furnished under the purchaser's orders meets or exceeds applicable AWWA and ANSI/NSF 60/61 standards, and the requirements specified in this standard.

**Rejection:** If the anionic polymer is found to not meet the requirements of this standard, the responsibility of the removal from the point of destination shall fall wholly on the vendor. An exception to this point may be made if a price adjustment is made between the vendor and the purchaser.

**Physical and Chemical Requirements:** The food grade emulsion anionic polymer must be suitable for use in lime softening upflow clarifiers. A concentration of 15% - 20% is required.

**Impurities:** The anionic polymer provided under this standard shall contain no soluble or insoluble material, organic or inorganic, capable of producing deleterious or injurious effects on the health of those consuming water that has been properly treated with anionic polymer.

**Shipment Labeling:** Each shipment shall be labeled in accordance with current Department of Transportation standards.

**Shipping and Delivery:** Anionic polymer shall be delivered in 55-gallon barrels. The barrels shall have a molded lip to enable handling with a barrel cart. The vendor will use a delivery truck capable of placing the barrels directly on the water plant loading dock without use of a City forklift. The City shall accept weekday delivery between 8:00 a.m. and 3:00 p.m., unless otherwise arranged by the purchaser.

**CITY OF MT. PLEASANT, MICHIGAN  
STANDARD SPECIFICATIONS  
FOR LIQUID SODIUM POLYPHOSPHATE**

*The following standard incorporates the criteria and specifications of the AWWA B502-05, B503-05, or B504-05 standards, and the ANSI/NSF 60/61 standards.*

**Scope:** This standard pertains to sodium polyphosphate as a sequestering agent during municipal water treatment.

**Definition:** Food grade liquid, sodium polyphosphate will be delivered in thirty- or fifty-five gallon drums. Bids will be on a ton basis of polyphosphate.

The following definitions shall apply in this standard:

**Manufacturer:** *The party that produces sodium polyphosphate, as covered in this standard.*

**Vendor:** *Any party that enters into a contract, either written or verbal, to supply sodium polyphosphate for purchase in accordance with this standard.*

**Purchaser:** *The party entering into a contract or agreement to purchase sodium polyphosphate in accordance with the provisions of this standard, in this case the CITY OF MT. PLEASANT, MICHIGAN, henceforth known as the City.*

**Affidavit of Compliance:** The purchaser requires an affidavit from the manufacturer or vendor that the sodium polyphosphate furnished under the purchaser's orders meets or exceeds the specifications of the AWWA B502-05, B503-05, or B504-05, and ANSI/NSF 60/61 standards, and the requirements specified in this standard.

**Rejection:** If the sodium polyphosphate is found to not meet the requirements of this standard, the responsibility of the removal from the point of destination shall fall wholly on the vendor. An exception to this point may be made if a price adjustment is made between the vendor and the purchaser.

**Physical and Chemical Requirements:** Food grade liquid poly-phosphate suitable for use in a lime softening municipal water treatment plant.

**Impurities:** The sodium polyphosphate provided under this standard shall contain no soluble or insoluble material, organic or inorganic, capable of producing deleterious or injurious effects on the health of those consuming water that has been properly treated with sodium polyphosphate.

**Shipment Labeling:** Each shipment shall be labeled in accordance with current Department of Transportation standards.

**Shipping and Delivery:** Liquid sodium polyphosphate shall be delivered in 30- or 55-gallon drums. The drums will have a molded lip to enable handling with a barrel cart. The vendor will use a delivery truck capable of placing the drums directly on the water plant loading dock without use of a forklift. The City shall accept weekday delivery between **8:00 a.m. and 3:00 p.m.**, unless otherwise arranged by the purchaser.

**CITY OF MT. PLEASANT, MICHIGAN  
STANDARD SPECIFICATIONS FOR  
QUICKLIME**

**DELIVERY ADDENDUM  
FROST LAW SEASONAL DELIVERIES**

During the period each year when Isabella County, Michigan weight restrictions due to frost levels are in effect, the lime vendor shall deliver Quicklime using methods that conform to the County rules and regulations. These methods may include reduced load sizes and/or designated truck routes.

Additional costs from the reduced load sizes may occur and should be submitted to the city for reimbursement.