



**5000119865 ONE TIME PURCHASE OF A SODIUM HYPOCHLORITE TANK
SYSTEM FOR THE JEFFERSON PARISH WB DEPARTMENT OF
SEWERAGE**

Jefferson Parish Government

Project documents obtained from www.CentralBidding.com

19-May-2017 05:39:42 PM

DATE: 5/19/2017

INVITATION TO BID
THIS IS NOT AN ORDER

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BID NO.: 50-00119865

JEFFERSON PARISH

PURCHASING DEPARTMENT
P.O. BOX 9
GRETN, LA. 70054-0009
504-364-2678

VENDOR:

BUYER: SFOLSE

Bids will be received until 11:00 AM, 5/26/2017 via online at www.jeffparishbids.net or by hand delivery, USPS mail or other courier service to Purchasing Department, 200 Derbigny Street (General Government Building), Suite 4400, Gretna, LA 70053. For convenience, bidders may also submit bids in the East Bank Purchasing Department, Suite 404, Jefferson Parish Joseph S. Yenni Building, 1221 Elmwood Park Blvd., Jefferson LA 70123. However, if submitting bids on the day of bid opening, bidders must submit at the West Bank location only.

All bids submitted are subject to these instructions and general conditions and any special conditions and specifications contained herein, all of which are made part of this bid proposal reference. By submitting a bid, vendor agrees to comply with all provisions of Louisiana Law, as well be in compliance with the Jefferson Parish Code of Ordinances, Louisiana Code of Ethics, applicable Jefferson Parish ethical standards and Jefferson Parish Resolution No. 113646 and/or Resolution No. 113647. A copy of these resolutions may be obtained from the Office of the Parish Clerk, Suite 6700, Jefferson Parish General Government Building, 200 Derbigny Street, Gretna, LA 70053. You may also obtain a copy by visiting the Purchasing Department webpage at purchasing.jeffparish.net and clicking on On-line forms.

All vendors submitting bids should register as a Jefferson Parish vendor if not already yet registered. Registration forms may be downloaded from <http://purchasing.jeffparish.net> and by clicking on Vendor Information. Current W-9 forms with respective Tax Identification numbers and vendor applications may be submitted at any time; however, if your company is not registered and/or a current W-9 form is not on file, vendor registration is mandatory. Further, a current W-9 form and respective Tax Identification number must be supplied upon contract execution, should you be awarded a contract and/or issued purchase order. Failure to do so may result in delay of payment.

As per LSA-RS 47:301 et seq., all governmental bodies are excluded from payment of sales taxes to any Louisiana taxing body. Quotations shall be based on F.O.B. Delivered, anywhere within the Parish as designated by the Purchasing Department. JEFFERSON PARISH WILL ACCEPT ONE BID ONLY FROM EACH VENDOR. Items bid must meet specifications. JEFFERSON PARISH will accept one price for each item unless otherwise indicated. Two or more prices for one item will result in bid rejection. Bidders are required to complete, sign and return the bid form and/or complete and return the associated line item pricing forms as indicated. The price quoted for work shall be stated in figures. In the event there is a difference in unit prices and totals, the unit prices shall prevail.

JEFFERSON PARISH reserves the right to award contracts or place orders on a lump sum or individual item basis, or such combination, as shall in its judgment be in the best interest of JEFFERSON PARISH. Every contract or order shall be awarded to the LOWEST RESPONSIVE and RESPONSIBLE BIDDER, taking into consideration the CONFORMITY WITH THE SPECIFICATIONS and the DELIVERY AND/OR COMPLETION DATE

PROTESTS: Only those vendors that submitted a bid in response to this solicitation may submit a protest in writing to the Director of the Purchasing within 48 hours of bid opening. The Purchasing Director will review it in connection with the Parish Attorney's Office as appropriate and a written response will be provided as soon as possible.

JEFFERSON PARISH reserves the right to cancel all or any part of an order if not shipped promptly. No charges will be allowed for parking or cartage unless specified in the quotation. The order must not be filled at a higher price than quoted. JEFFERSON PARISH reserves the right to cancel at any time and for any reason by issuing a THIRTY (30) day written notice to the contractor.

JEFFERSON PARISH requires all products to be new (current) and all work must be performed according to standard practices for the project. Unless otherwise specified, no aftermarket parts will be accepted. Unless otherwise specified, all workmanship and materials must have at least one (1) year warranty, in writing, from the date of delivery and/or acceptance of the project. Any deviations or alteration from the specifications must be indicated on the bid form for each item and upon request, product data for same must be submitted by the time specified by the Purchasing Department.

If this bid requires a pre-bid conference (see Additional Requirements section), bidders are advised that such conference will be held to allow bidders the opportunity to identify any discrepancies in the bid specifications and seek further clarification regarding instructions. The Purchasing Department will issue a written response to bidders' questions in the form of an Addendum.

All formal Addenda require written acknowledgment on the bid form by the bidder. Failure to acknowledge an Addendum on the bid form shall cause the bid to be rejected; JEFFERSON PARISH reserves the right to award bid to next lowest responsive and responsible bidder in this event.

USE OF BRAND NAMES AND STOCK NUMBERS: Where brand names and stock numbers are specified, it is for the purpose of establishing certain minimum standards of quality. Bids may be submitted for products of equal quality, provided brand names and stock numbers are specified. Complete product data may be required prior to award.

Quantities listed are for bidding purposes only. Actual requirements may be more or less than quantities listed.

Bidders are not to exclude from participation in, deny the benefits of, or subject to discrimination under any program or activity, any person in the United States on the grounds of race, color, national origin, or sex; nor discriminate on the basis of age under the Age Discrimination Act of 1975, or with respect to an otherwise qualified handicapped individual as provided in Section 504 of the Rehabilitation Act of 1973, or on the basis of religion, except that any exemption from such prohibition against discrimination on the basis of religion as provided in the Civil Rights Act of 1964, or Title VI and VII of the Act of April 11, 1968, shall also apply. This assurance includes compliance with the administrative requirements of the Revenue Sharing final handicapped discrimination provisions contained in Section 51.55 (c), (d), (e), and (k)(5) of the Regulations. New construction or renovation projects must comply with Section 504 of the 1973 Rehabilitation Act, as amended, in accordance with the American National Standard Institute's specifications (ANSI A117.1-1961).

Jefferson Parish and its partners as the recipients of federal funds are fully committed to awarding a contract(s) to firm(s) that will provide high quality services and that are dedicated to diversity and to containing costs. Thus, Jefferson Parish strongly encourages the involvement of minority and/or woman-owned business enterprises (DBE's, including MBE's, WBE's and SBE's) to stimulate participation in procurement and assistance programs.

DATE: 5/19/2017

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Page: 4

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JEFFERSON PARISH

PURCHASING DEPARTMENT
P.O. BOX 9
GRETN, LA. 70054-0009
504-364-2678

VENDOR:

BUYER: SFOLSE

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JEFFERSON PARISH reserves the right to cancel all or any part of an order if not shipped promptly. No charges will be allowed for parking or cartage unless specified in quotation. The order must not be filled at a higher price than quoted. JEFFERSON PARISH reserves the right to cancel at any time and for any reason by issuing a THIRTY (30) day written notice to the contractor.

JEFFERSON PARISH is expecting all products to be new and all work to be done in workman-like manner, according to standard practices. Any deviations or alteration from the specifications must be indicated on the bid form for each item and upon request, product data for same must be submitted by the time specified by the Purchasing Department.

DELIVERY: FOB JEFFERSON PARISH

INDICATE DELIVERY DATE ON EQUIPMENT AND SUPPLIES

4-6 weeks ARO

INDICATE STARTING TIME (IN DAYS) FOR CONSTRUCTION WORK

INDICATE COMPLETION TIME (IN DAYS) FOR CONSTRUCTION WORK

In the event that addenda are issued with this bid, bidders MUST acknowledge all addenda on the bid form. Bidder must acknowledge receipt of an addendum on the bid form as indicated. Failure to acknowledge any addendum on the bid form will result in bid rejection.

Acknowledge Receipt of Addenda: NUMBER: _____

NUMBER: _____

NUMBER: _____

NUMBER: _____

LOUISIANA CONTRACTOR'S LICENSE NO.: (if applicable) _____

***** ALL BIDDERS MUST COMPLETE SECTION BELOW *****

FIRM NAME:

Delta Process Equipment

SIGNATURE:

(Must be signed here)

Geary Carbine

TITLE:

Sales Rep

PRINT OR TYPE NAME:

Geary Carbine

ADDRESS:

3017 21st Street, Suite 209

CITY, STATE:

Metairie, LA

ZIP:

70002

TELEPHONE:

(504) 833-7867

FAX:

(504) 833-1755

EMAIL ADDRESS:

gcarbine@deltaprocess.com

TOTAL PRICE OF ALL BID ITEMS: \$ 29,974.00

INVITATION TO BID FROM JEFFERSON PARISH - continued

BID NO.: 50-00119865

SEALED BID

ITEM NUMBER	QUANTITY	U/M	DESCRIPTION OF ARTICLES	UNIT PRICE QUOTED	TOTALS
1	1.00	ONLY	<p>ONE TIME PURCHASE OF A SODIUM HYPOCHLORITE TANK SYSTEM FOR THE JEFFERSON PARISH WB DEPARTMENT OF SEWERAGE</p> <p>0010 - Sodium Hypochlorite Tank System, Poly Processing 10,150 IMFO to include the attached accessories</p> <p>TO BE DELIVERED TO: HARVEY SEWERAGE TREATMENT PLANT 2343 PAILET STREET HARVEY, LA 70058</p> <p>SEE ATTACHED SPECIFICATIONS</p>	\$29,974.00	\$29,974.00

INSTRUCTIONS FOR BIDDERS AND GENERAL CONDITIONS**IN ACCORDANCE WITH STATE REGULATIONS JEFFERSON PARISH OFFERS ELECTRONIC PROCUREMENT TO ALL VENDORS**

This electronic procurement system allows vendors the convenience of reviewing and submitting bids online. This is a secure site and authorized personnel have limited read access only. Bidders are encouraged to submit electronically using this free service; while the website accepts various file types, one single PDF file containing all appropriate and required bid documents is preferred. Bidders submitting uploaded images of bid responses are solely responsible for clarity. If uploaded images/documents are not legible, then bidder's submission will be rejected. Please note all requirements contained in this bid package for electronic bid submission.

Please visit our E-Procurement Page at www.jeffparishbids.net to register and view Jefferson Parish solicitations. For more information, please visit the Purchasing Department page at <http://purchasing.jeffparish.net>.

ADDITIONAL REQUIREMENTS FOR THIS BID

PLEASE MATCH THE NUMBERS PRINTED IN THIS BOX WITH THE CORRESPONDING INSTRUCTIONS BELOW.

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1. All bidders must attend the MANDATORY pre-bid conference and will be required to sign in and out as evidence of attendance. In accordance with LSA R.S. 38:2212(l), all prospective bidders shall be present at the beginning of the MANDATORY pre-bid conference and shall remain in attendance for the duration of the conference. Any prospective bidder who fails to attend the conference or remain for the duration shall be prohibited from submitting a bid for the project.
2. Attendance to this pre-bid conference is optional. However, failure to attend the pre-bid conference shall not relieve the bidder of responsibility for information discussed at the conference. Furthermore, failure to attend the pre-bid conference and inspection does not relieve the successful bidder from the necessity of furnishing materials or performing any work that may be required to complete the work in accordance with the specification with no additional cost to the owner.
3. Contractor must hold current applicable JEFFERSON PARISH licenses with the Department of Inspection and Code Enforcement. Contractor shall obtain any and all permits required by the JEFFERSON PARISH Department of Inspection and Code Enforcement. The contractor shall be responsible for the payment of these permits. All permits must be obtained prior to the start of the project. Contractor must also hold any and all applicable Federal and State licenses. Contractor shall be responsible for the payment of these permits and shall obtain them prior to the start of the project.
4. A LA State Contractor's License will be required in accordance with LSA R.S. 37-2150 et. seq. and such license number will be shown on the outside of the bid envelope. Failure to comply will cause the bid to be rejected. Additionally if submitting the bid electronically, then the license number must be entered in the appropriate field in the Electronic Procurement system. Failure to comply will cause the bid to be rejected.
5. It is the bidder's responsibility to visit the job site and evaluate the job before submitting a bid.
6. Job site must be clean and free of all litter and debris daily and upon completion of the contract. Passageways must be kept clean and free of material, equipment, and debris at all times. Flammable material must be removed from the job site daily because storage will not be permitted on the premises. Precautions must be exercised at all times to safeguard the welfare of JEFFERSON PARISH and the general public.

INSTRUCTIONS FOR BIDDERS AND GENERAL CONDITIONS

7. **PUBLIC WORKS BIDS:** All awards for public works in excess of \$5,000.00 will be reduced to a formal contract which shall be recorded at the contractor's expense with the Clerk of Court and Ex-Officio Recorder of Mortgages for the Parish of Jefferson. A price list of recordation costs may be obtained from the Clerk of Court and Ex-Officio Recorder of Mortgages for the Parish of Jefferson. All awards in excess of \$25,000.00 will require both a performance and a payment bond. Unless otherwise stated in the bid specifications, the performance bond requirements shall be 100% of the contract price. Unless otherwise state in the bid specifications, the payment bond requirements shall be 100% of the contract price. Both bonds shall be supplied at the signing of the contract.
8. **NON-PUBLIC WORKS BIDS:** A performance bond will be required for this bid. The amount of the bond will be 100% of the contract price unless otherwise indicated in the specifications. The performance bond shall be supplied at the signing of the contract.
9. **NON-PUBLIC WORKS BIDS:** A payment bond will be required for this bid. The amount of the bond will be 100% of the contract price unless otherwise indicated in the specifications. The payment bond shall be supplied at the signing of the contract.
10. Unless otherwise stated in the bid specifications, the successful bidder will be required to procure standard insurance policies evidencing Parish-mandated insurance requirements as indicated on the attached "insurance requirements" sheet. All bidders must comply with the instructions in this sheet. Failure to comply will cause bid to be rejected.
11. A bid bond will be required with bid submission in the amount of 5% of the total bid, unless otherwise stated in the bid specifications. Acceptable forms shall be limited to cashier's check, certified check, or surety bid bond. All sureties must be in original format (no copies). If submitting a bid online, vendors must submit an electronic bid bond through the respective online clearinghouse bond management system(s) as indicated in the electronic bid solicitation on Central Auction House. No scanned paper copies of any bid bond will be accepted as part of the electronic bid submission.
12. This is a requirements contract to be provided on an as needed basis. JEFFERSON PARISH makes no representations on warranties with regard to minimum guaranteed quantities unless otherwise stated in the bid specifications.
13. Freight charges should be included in total cost when quoting. If not quoted FOB DELIVERED, freight must be quoted as a separate item. Bid may be rejected if not quoted FOB DELIVERED or if freight charges are not indicated on bid form.
14. **PUBLIC WORKS BIDS - Completed, Signed and Properly Notarized Affidavits Required;** This applies to all solicitations for construction, alteration or demolition of public buildings or projects, in conformity with the provisions contained in LSA-RS 38:2212.9, LSA-RS 38:2212.10, LSA-RS 38:2224, and Sec 2-923.1 of the Jefferson Parish Code of Ordinances. For bidding purposes, all bidders must submit with bid submission COMPLETED, SIGNED and PROPERLY NOTARIZED Affidavits, including: Non-Conviction Affidavit, Non-Collusion Affidavit, Campaign Contribution Affidavit, Debt Disclosures Affidavit and E-Verify Affidavit. For the convenience of vendors, all affidavits have been combined into one form entitled PUBLIC WORKS BID AFFIDAVIT. This affidavit must be submitted in its original format, and without material alteration, in order to be compliant and for the bid to be considered responsive. A scanned copy of the completed, signed and properly notarized affidavit may be submitted with the bid, however, the successful bidder must submit the original affidavit in its original format and without material alteration upon contract execution. Failure to comply will result in the bid submission being rejected as non-responsive. The Parish reserves the right to award bid to the next lowest responsive and responsible bidder in this event.
15. **NON PUBLIC WORK BIDS - Completed, Signed and Properly Notarized Affidavits Required** in conformity with the provisions contained in LSA – RS 38:2224 and Sec 2-923.1 of the Jefferson Parish Code of Ordinances. For bidding purposes, all bidders must submit with bid submission COMPLETED, SIGNED and PROPERLY NOTARIZED Affidavits, including: Non-Collusion Affidavit, Debt Disclosures Affidavit and Campaign Contribution Affidavit. For the convenience of vendors, all affidavits have been combined into one form entitled NON PUBLIC WORKS BID AFFIDAVIT. This affidavit must be submitted in its original format, and without material alteration, in order to be compliant and for the bid to be considered responsive. A scanned copy of the completed, signed and properly notarized affidavit may be submitted with the bid, however, the successful bidder must submit the original affidavit in its original format and without material alteration upon contract execution. Failure to comply will result in the bid submission being rejected as non-responsive. The Parish reserves the right to award bid to the next lowest responsive and responsible bidder in this event.
16. The ensuing contract for this bid solicitation may be eligible for FEMA reimbursement and/or Federal funding/reimbursement. As such, the referenced appendix will be applicable accordingly and shall be considered a part of the bid documents. All applicable certifications must be duly completed, signed and submitted with bid submission. Failure to submit applicable certifications with bid submission will result in bid rejection.

It shall be the duty of every parish officer, employee, department, agency, special district, board, and commission: and the duty of every contractor, subcontractor, and licensee of the parish, and the duty of every applicant for certification of eligibility for a parish contract or program, to cooperate with the Inspector General in any investigation, audit, inspection, performance review, or hearing pursuant to Jefferson Parish Code of Ordinances Section 2-155.10(19). By submitting a bid, vendor acknowledges this and will abide by all provisions of the referenced Jefferson Parish Code of Ordinances.

**SODIUM HYPOCHLORITE
TANK SYSTEM ACCESSORIES**

- 1-Primary Tank: 10,150 gallon Vertical IMFO (integrally molded flanged outlet) 1.90 Specific Gravity Crosslinked Polyethylene (Natural Color) / OR1000 (Natural Color)
- 1-Lid/Manway: Cover 24" Manway with 8" Msrn Vent Assembly PE with Vent Screen
- 1-IMFO Drain Fitting: Companion Flange Fitting 4" Threaded PVC/titan/epdm Stainless Steel Ring
- 1-Level Gauge: Level Gauge Large Standard Type PVC with 2 valve & Drain w/epdm
- 1-Ladder: 14' Standard Ladder with bracket Fiberglass with 3'6" Walk Thru
- 1-Restraint System: Restraint Stainless Steel 10150 IMFO (integrally molded flanged outlet) Standard Outdoor LA
- 1-Fill: Bulkhead Fitting Assembly 2" Socket X Thread Hayward PVC/epdm

SPECIFICATIONS
INTEGRALLY MOLDED FLANGED OUTLET – COMPLETE DRAIN
HIGH DENSITY CROSS-LINKED POLYETHYLENE STORAGE TANK
JEFFERSON PARISH DEPT. OF SEWERAGE
HARVEY WASTEWATER TREATMENT PLANT

PART 1 – GENERAL

1.01 REQUIREMENTS

The vendor shall provide a 10,150 gallon integrally molded flanged outlet, high density cross-linked polyethylene tank and accessories, as specified herein. The specified tank shall be manufactured by IMFO, or approved equal.

The specified tank and accessories shall be utilized for chemical storage of sodium hypochlorite.

1.02 REFERENCES, CODES, AND STANDARDS

- A. American Society of Testing Materials (ASTM)
 - 1. D638 Tensile Properties of Plastics
 - 2. D883 Standard Definitions of Terms Relating to Plastics
 - 3. D1505 Density of Plastics by the Density-Gradient Technique
 - 4. D1525 Test Method for Vicat Softening Temperature of Plastics
 - 5. D1693 ESCR Specification Thickness 0.125" F50-10% Igepal
 - 6. F412 Standard Terminology Relating to Plastic Piping Systems
- B. ANSI Standards: B-16.5, Pipe Flanges and Flanged Fittings
- C. Building Code: International Building Code – IBC 2009
- D. ARM: Low Temperature Impact Resistance (Falling Dart Test Procedure)
- E. ASTM D-1998, Standard Specification for Polyethylene Upright Storage Tanks

1.03 SUBMITTALS

- A. Shop Drawings: Shop drawings shall be approved by the engineer. Sufficient data shall be included to show that the product conforms to specification requirements. The following additional information shall be provided:
 - 1. Integrally molded flanged outlet IMFO tank and Fitting Material
 - a. Resin Manufacturer Data Sheet
 - b. Fitting Material
 - c. Gasket style and material

- d. Bolt material
- 2. Dimensioned Tank Drawings
 - a. Location and orientation of molded in fitting (IMFO), openings, fittings, accessories, restraints, and supports.
 - b. Details of inlet and molded outlet fitting (IMFO), manways, flexible connections, and vents.
- 3. Calculations shall be stamped and signed by a registered, third party engineer in the State of Louisiana.
 - a. Tank restraint system. Show seismic and wind criteria.
- B. Manufacturer's Warranty
- C. Manufacturer's uploading procedure
- D. Manufacturer's installation instructions
- E. Supporting information of Quality Management System
- F. Manufacturer's Qualifications
- G. Factory Test Report
 - 1. Wall thickness variation
 - 2. Fitting placement variation including molded in outlet (IMFO)
 - 3. Visual inspection
 - 4. Impact test
 - 5. Gel test
 - 6. Hydrostatic test

1.04 QUALITY ASSURANCE

- A. The vendor shall provide a vertical, high density cross-linked polyethylene tank with full drain capability and molded in flange. The integrally molded flange outlet IMFO tanks of the same material furnished under this Section shall be supplied by Poly Processing Company, or approved equal, engaged in the design and manufacture of chemical storage tanks.
- B. Tank shall be manufactured from virgin materials.
- C. Tank shall be manufactured from materials certified to NSF/ANSI Standard 61 for chemical storage and submit form from NSF supporting chemical certification.

1.05 WARRANTY

- A. A limited 3 year full replacement warranty shall be provided for the specific service application (Sodium Hypochlorite).

PART 2 – PRODUCTS

2.01 GENERAL

Tanks shall be rotationally-molded, integrally molded flanged outlet IMFO, high density cross-linked polyethylene, one-piece seamless construction, cylindrical in cross-section and vertical with flat/sloping bottoms in axis. Tanks shall be adequately vented as prescribed for ACFM (air cubic feet per minute). Where indicated, tanks shall be provided with ancillary mechanical fittings and accessories. Tanks shall be marked to identify the manufacturer, date of manufacture, and serial numbers must be permanently embossed into the tank.

2.02 MANUFACTURER

Tanks shall be manufactured by Poly Processing Company, or approved equal.

2.03 POLYETHYLENE STORAGE TANKS

- A. Service: Chemical storage tanks shall be suited for the operating conditions specified in this section.
- B. High Density Cross-linked Polyethylene resin used in the tank manufacture shall be Poly CL, or approved equal, and shall contain ultraviolet stabilizer as recommended by the resin manufacturer. The tank material shall be rotationally molded and be a resin that is commercially available at the time of tank manufacture.
- C. For sodium hypochlorite storage, resin shall include additional medium density polyethylene (OR-1000) with four times the antioxidant properties of a standard polyethylene bonded to the interior surface during the manufacturing process.
- D. Wall thickness for a given hoop stress is to be calculated in accordance with ASTM D 1998. In no case shall the tank thickness be less than design requirements per ASTM D 1998.

- 1. The wall thickness of any cylindrical portion at any fluid level shall be determined by the following equation:

$$T = P \times OD / 2SD \quad \text{or} \quad 0.433 \times SG \times H \times OD / 2SD$$

Where:

T	=	wall thickness, in
P	=	pressure, psi
SG	=	specific gravity, gm/cc
H	=	fluid head, ft
OD	=	outside diameter, ft
SD	=	hydrostatic design stress

- a. The minimum wall thickness shall be sufficient to support its own weight in an upright position without external support, but shall not be less than 0.187 inches thick.

2. On closed top tanks, the tank head shall be integrally molded with the cylindrical wall. Its minimum thickness shall be equal to the thickness of the top of the straight sidewall. In most cases, flat areas shall be provided for attachment of large fittings on the dome of the tank.
3. The bottom head shall be integrally molded with the cylindrical wall. Knuckle radius shall be:

Tank Diameter, ft	Min Knuckle Radius, in
Less than or equal to 6	1
Greater than 6	1-1/2

4. Tank shall have at least 3 lifting lugs. Lugs shall be designed for lifting the tank when empty.
 - a. Unless otherwise indicated, for indoor pneumatic fill, manways shall be 24 inch diameter, or greater and equipped with an emergency pressure relief device or SAFE-Surge Manway with pressure relief at 6 inch water column to prevent over-pressurization. The SAFE-Surge manway shall be chemically compatible with the chemical being stored (sodium hypochlorite). Gaskets shall be closed cell, cross-linked polyethylene foam, Viton, or EPDM materials.
 - b. Unless otherwise indicated, for outdoor pneumatic fill, manways shall be 24 inch diameter, or greater and equipped with Poly Processing Company's F.S.2650 (or approved equal) combined manway and vent to prevent over pressurization of tank. Manway must be capable of relieving a volume flow rate of up to 2650 ACFM. Gaskets shall be closed cell, cross-linked polyethylene foam, Viton, or EPDM materials.

NOTE: Tanks must be vented to allow for performance at atmospheric pressure, in accordance with the following matrix:

Venting Requirements For Polyethylene Tanks								
Mechanical Pump Fill	Pneumatic Fill							
IF ≤ 1000 gallons	IF - Vent length ≤ 3 feet		IF - Vent length > 3' and ≤ 30'			IF - Scrubber Application		
Vent size should equal size of largest fill or discharge fitting	AND - Vent screen mesh size ≥ 1/4" or no screen used		AND - 3 or less 90° elbows with no other restrictions or reduction in pipe size			Vent pipe size throughout scrubber system CANNOT be reduced! Centerline of dispersion pipe not to be submerged > 6 inches		
IF > 1000 gallons	Emergency Pressure Relief Cover Required		Emergency Pressure Relief Cover Required			Perforated dispersion pipe must be same diameter or larger, as vent. Sum of perforations ≥ cross sectional area of pipe		
Vent size should exceed the largest fill or discharge fitting by 1 inch	Tanker Discharge	Inlet/Fitting Size	Minimum Vent Size	Tanker Discharge	Inlet/Fitting Size	Minimum Vent Size	Tanker Discharge	Inlet/Fitting Size
	2"	2"	4"	2"	2"	6"	2"	2"
	3"	3"	6"	3"	3"	8"	3"	3"
							5"	10"

(2) 2 inch vents **DO NOT EQUAL** 4 inch venting capacity

- E. Tank colors shall be natural (un-pigmented).

2.04 TANK ACCESSORIES

A. Ladder:

1. Fiberglass access ladder shall be provided with the polyethylene chemical storage tank at the location specified. Safety cages shall be added to ladders as required, per OSHA.
2. Ladder must be secured to the tank and secured to the concrete to allow for tank expansion/contraction due to temperature and loading changes. The proper chemical resistant materials must be used when anchoring to tank dome or sidewall.
3. Ladder must be designed to meet applicable OSHA standards. Reference: OSHA 2206; 1910.27; fixed ladders.

B. Restraint System:

1. Metal components to be galvanized, edge softeners, and tension ring with stainless cables and clamps.
2. Tank restraint system shall be supplied and the design of same certified by a Structural Engineer registered in the State of Louisiana. Design shall conform to the most recent edition of the IBC code for seismic and wind load. Anchor bolts as required by the calculations shall be supplied by the tank manufacturer.

2.05 TANK

A. Tank Schedule per the following specifications

Note: Approximate overall height is measured along the straight cylindrical portion of the tank and includes the dome top.

B. Fittings

1. Tank fittings shall be according to the fitting schedule in 2.04B above. Threaded fittings shall use American Standard Pipe Threads. If tank is insulated, fittings shall be installed at the factory prior to application of the insulation.
2. Integrally Molded Flanged Outlet Fittings (IMFO). These outlets must be an integral part of the tank, molded from the same material as the tank and provide complete drainage of liquid through the sidewall of the tank. Metal and alloy inserts will not be accepted.
3. Bolted flange fittings shall be constructed of one 150 lb. flange with ANSI bolt pattern, one flange gasket, and stud bolts with gaskets. Stud bolts to have chemical resistant polyethylene injection molded heads and gaskets to provide a sealing surface between the bolt head and the interior tank wall. Stud bolt heads are to be color coded for visual ease of identifying the bolt material by onsite operators. Green- 316 Stainless Steel, Black- Titanium,

Red- Alloy C-276, Blue- Monel. All materials shall be compatible with chemical service and as indicated in the fitting schedule above. For NSF/ANSI 61 certification. EPDM or Viton GF gaskets shall be supplied.

4. For sodium hypochlorite or sulfuric acid storage, Bolted One-Piece Sure Seal (B.O.S.S.), double flange fittings constructed of virgin polyethylene shall be supplied. Bolts will be welded to a common backing ring and encapsulated with polyethylene preventing fluid contact with the metal material. Flange will have one full face gasket to provide a sealing surface against inside tank wall. All materials shall be compatible with chemical service and as indicated in the fitting schedule above. For NSF/ANSI 61 certification. EPDM or Viton GF gaskets shall be supplied.
5. Down Pipes and Fill Pipes: Down pipes and fill pipes shall be supported at 6-ft max intervals. Down pipes and fill pipes shall be PVC or material compatible with sodium hypochlorite.
6. U-Vents: Tank must be vented for the material and flow and withdrawal rates expected. Vents should comply with OSHA 1910.106(F) (iii)(2)(IV)(9). U-vents shall be sized by the tank manufacturer and be furnished complete with insect screen if required (insect screen lessens the vent capacity by 1/3) in accordance with the venting schedule listed above.
7. All fittings on the 1/3 lower sidewall of tank shall have 100% virgin PTFE Flexi-joint expansion joint. Expansion joint to have a minimum of 3 convolutions, stainless steel limit cables, and FRP composite flanges. Galvanized parts will not be accepted.

Expansion joint to meet the following minimum performance requirements:

Axial Compression $\geq 0.67''$

Axial Extension $\geq 0.67''$

Lateral Deflection $\geq 0.51''$

Angular Deflection ≥ 14 degrees

Torsional Rotation ≥ 4 degrees

2.06 LEVEL INDICATION

- A. Float Indication: The level indicator shall be assembled to the tank and shall consist of PVC float, indicator, polypropylene rope, perforated interior pipe, PVC roller guides, clear UV resistant PVC sight tube EnviroKing by C.F. Harvel, and necessary pipe supports. The level indicator shall act inversely to the tank contents and shall not allow entrance of tank contents into the sight tube at any time. Indicator shall be neon orange color for visual ease for onsite operators.

2.07 FACTORY TESTING

A. Material Testing

1. Perform gel and low temperature impact tests in accordance with ASTM D 1998 on condition samples cut from the polyethylene chemical storage tank.
2. Degree of Cross-linking. Use Method C of ASTM D 1998- Section 11.4 to determine the ortho-xylene insoluble fraction of cross-linked polyethylene gel test. Samples shall test at no less than 60 percent.

B. Tank Testing

1. Dimensions: Take exterior dimensions with the tank empty, in the vertical position. Outside diameter tolerance, including out-of-roundness, shall be per ASTM D 1998. Fitting placement tolerance shall be +/- 1/2-in vertical and +/- 1 degree radial.
2. Visual: Inspect for foreign inclusions, air bubbles, pimples, crazing, cracking
3. Hydrostatic test: Following fabrication, the bottom tanks, including inlet and outlet fittings, shall be hydraulically tested with water by filling to the top sidewall for a minimum of 1 hour and inspected for leaks. Following successful testing, the tank shall be emptied and cleaned prior to shipment.

PART 3 – EXECUTION

3.01 DELIVERY, STORAGE, AND HANDLING

- A. The tank shall be shipped upright or lying down on its side with blocks and slings to keep it from moving. AVOID sharp objects on trailers.
- B. All fittings shall be installed, and if necessary, removed for shipping and shipped separately unless otherwise noted.
- C. Upon arrival at the destination, inspect the tank and accessories for damage in transit. If damage has occurred, manufacturer shall be notified immediately.

3.02 TRAINING

- A. Manufacturer to provide 1 hour training session to prepare operators to service and maintain the tank system. Included in training session will be 2 training manuals.
- B. Tank manuals will consist of installation check lists, tank drawings as built, fitting drawings referencing nozzle schedule on tank drawing, materials of construction, and recommended maintenance program.

3.03 FIELD TESTING

Tank is to be hydro-tested for 24 hours prior to commissioning.