

NIAGARA FALLS WATER BOARD

**REQUEST FOR SEALED BIDS FOR:
 GRANULAR ACTIVATED CARBON SUPPLY AND REMOVAL
 BID #W2018-08**

Bids on items as specified herein shall be accepted by the Purchasing Division, 745 Main Street, Room 214, Niagara Falls, New York 14301 on behalf of the Niagara Falls Water Board (“Board”) until 11:00 a.m. on November 14, 2018, and opened at that time.

All bids are subject to delivery and must comply with the delivery specifications contained herein.

If a bid is submitted on an article intended as a substitute for a grade or brand specified, the vendor shall state the grade or brand of the substitution, otherwise it will be assumed that the bid is based upon the grade or brand specified.

The Board reserves the right to accept this bid by items, or as a whole, or to reject any and all bids or waive informalities.

Bid prices are to be shown NET. Cash discounts, if any, are to be clearly stated.

Prices must be filled in mechanically or in ink on this form and placed in a **SEALED ENVELOPE CLEARLY MARKED WITH THE BID NUMBER AND THE NAME OF THE VENDOR SUBMITTING THE BID.**

Any and all bids and contracts made or awarded by the Board, or any department, agency or official thereof for work or services performed or to be performed, or goods purchased or sold or to be purchased or sold are made subject to the provisions of Chapter 861 of the Laws of New York, 1953, as amended by Chapter 751 of the Laws of New York, and as now contained or may hereafter be amended. The provisions of the New York State General Municipal Law, including Sections 103a and 103b, are applicable to this bid.

VENDOR’S ATTENTION IS REQUESTED REGARDING THE FOLLOWING CONDITIONS AND REGULATIONS. BIDS NOT IN COMPLIANCE WITH THE CONDITIONS AND REGULATIONS CONTAINED HEREIN WILL NOT BE CONSIDERED

**NON-COLLUSIVE BIDDING CERTIFICATION
 (PURSUANT TO CHAPTER 751 OF THE LAWS OF NEW YORK, 1965)**

By submission of this bid, the vendor certifies that:

- 1) This bid has been independently arrived at, without collusion with any other bidder or with any competitor or potential competitor;
- 2) This bid has not been knowingly disclosed and will not be knowingly disclosed, prior to the opening of bids or proposals for this project, to any other vendor, competitor or potential competitor;
- 3) No attempt has been or will be made to induce any other person, partnership or corporation to submit or not to submit a bid;
- 4) The person signing this bid certifies that he has fully informed himself regarding the accuracy of the statements contained in this certification, and under the penalties of perjury, affirms the truth thereof, such penalties being applicable to the vendor as well as to the person signing on its behalf;
- 5) That attached hereto (if a corporate vendor) is a certified copy or resolution authorizing the execution of this certificate by the signing party on behalf of the corporate bidder.

Anti-Discriminatory Statement:

All programs, policies, procedures, procurement opportunities and activities conducted by and through this organization, its employees, contractors and subcontractors shall be conducted without regard to age, ancestry, color, creed, citizenship (where applicable), gender, genetic information/testing, marital status, mental or physical disability, political affiliation, belief or opinion (where applicable), national origin, race, religious affiliation, belief or opinion, sex (except where age, sex, or disability involves a bonafide occupational qualification), sexual orientation (where applicable) or status as a participant in Workforce Investment Act (WIA) funded programs (where applicable). The Board encourages participation of women and minority owned business enterprises in all its procurement opportunities and has a goal of increasing participation of MWBE organizations in its procurement activities.

VENDOR NAME:

VENDOR ADDRESS:

CONTACT PERSON REGARDING BID: _____

CONTACT PERSON'S TELEPHONE NUMBER: _____

CONTACT PERSON'S EMAIL ADDRESS: _____

AUTHORIZED SIGNATURE: _____

NAME AND TITLE: _____

DATE: _____

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MAIL BIDS TO:

NIAGARA FALLS WATER BOARD
C/O PURCHASING DIVISION, ROOM 214
P.O. BOX 69
NIAGARA FALLS, NEW YORK 14302-0069

DELIVER BIDS TO:

NIAGARA FALLS WATER BOARD
C/O PURCHASING DIVISION, ROOM 214
745 MAIN STREET
NIAGARA FALLS, NEW YORK 14301

BIDS SUBMITTED BY FACSIMILE OR ELECTRONIC MEANS ARE UNACCEPTABLE

SPECIFICATIONS AND TERMS (Page 1 of 4)

1. Bids will be received by the Purchasing Division on behalf of the Board at 745 Main Street, Niagara Falls, New York 14301, Room 214 for the supply and removal of various types/grades of granular activated carbon (“GAC”) as set forth and described herein.
2. The term of this contract/agreement shall be from January 1, 2019 through December 31, 2019. If mutually agreeable to the successful vendor and Board, this contract/agreement may be extended one additional year, through December 31, 2020, under the same terms, conditions and specifications. All pricing must remain firm for the entire aforementioned term(s).
3. Following the opening of the valid submissions, the Board will conduct its due diligence. Once the due diligence investigation is completed, the Board shall either reject all bids or the lowest responsible bid(s) will be submitted to the members of the Board for possible award via majority vote.
4. The Board reserves the right to award multiple vendors depending upon the low bid price for each grade of GAC, and the low bid price for GAC removal.
5. Upon award of this offering, the successful vendor(s) must also submit to the Purchasing Division certificates of insurance which meet all of the requirements set forth in the attached “Niagara Falls Water Board Insurance Requirements.” Said certificates of insurance must be received by the Purchasing Division no later than ten (10) business days following the date of notification of award. Failure to do so may result in the award being negated.
6. All materials are to conform to the most recent appropriate industry standards and be of the manufacturer’s most recent improved design.
7. Deliveries are to be made to Niagara Falls Water Board Wastewater Treatment Plant, 1200 Buffalo Avenue, Niagara Falls, New York 14303 unless another destination within the City of Niagara Falls is specified at the time of order.
8. Weigh bills must be provided for all deliveries before an invoice will be paid.
9. Deliveries of GAC and/or removal of spent GAC must be made within ten (10) calendar days after receipt of an order, and must occur between Monday and Friday during normal business hours unless otherwise specified. A current MSDS must accompany each shipment of GAC.
10. Vendors shall quote a unit price per ton for each item as set forth on the Price Sheet, and said unit price shall be F.O.B. destination, freight prepaid for the supply of GAC. For the removal of spent GAC, the unit price shall be inclusive of all retrieval and disposal costs, including transportation, mileage and fuel costs.
11. Vendors must submit the specifications for any product being offered, as well as a sealed sample of at least ten (10) pounds no later than the deadline set forth above for the bids. The specifications and samples should be sent directly to the Wastewater Treatment Plant to the attention of Robert Dunn. The sample will undergo testing by the Board’s laboratory to determine specification conformance.
12. Where indicated, the quantities listed on the price sheet are estimated quantities to be ordered. Items will be ordered as needed, and the Board reserves the right to order more or less than the quantities listed. No guarantees are made as to minimum or maximum quantities the Board will require.

SPECIFICATIONS AND TERMS (Page 2 of 4)

- 13. All goods and services provided under this offering shall be to the satisfaction of the Board, who reserves the right to confirm quality, acceptability and fitness of the goods and services which are to be paid for hereunder and who shall decide any questions which may arise as to the fulfillment of this offering. The determination of the Board shall be final and conclusive.
- 14. Bids shall be accompanied by a list of no less than three (3) references, comprised of water and/or wastewater treatment facilities currently using vendor’s submitted product(s). The facilities may be municipal or industrial in nature. References shall be provided on the attached form, which must be completed in full.

GAC Quality

- 15. All virgin GAC supplied under this offering shall be manufactured from select grades of bituminous coals, crushed and re-agglomerated to produce the desired performance characteristics. The GAC shall be supplied from a single factory to ensure consistent quality and shall contain no soluble inorganic material or organic substances capable of producing deleterious effects.
- 16. Information on the production facility (name, locations, years of operation, annual production and ISO certification information) supplying GAC shall be provided at the time of bidding. The facility shall have a minimum of ten (10) years of experience in supplying GAC to treatment facilities.
- 17. The GAC shall also meet or exceed the following standards:

Carbon Quality Parameter	Standard Make-up Grade	Inventory Renewal Grade	Recycled Reactivated Grade
Iodine Number (mg/g, min)	900	920	750
Apparent Density (dry, max)	0.55	0.63	0.53
Percent Ash (max)	11%	11%	----
Percent Moisture (by wt., max)	2%	2%	2%
Abrasion Number (min)	75	80	70
Uniformity Coefficient (max)	2.1	1.5	----
Sieve Analysis:			
Smaller than 30# (max)	4%	----	4%
Smaller than 20# (max)	----	5%	----
Larger than 8# (max)	15%	15%	15%

- 18. The Board intends to purchase varying quantities of each carbon grade based upon bid prices, quality and treatment facility demand.
- 19. The successful vendor(s) shall submit an analysis for each of the parameters set forth in Paragraph 17 with each delivery. This analysis shall be performed by a laboratory certified to do such analysis and this testing shall be completed at no additional cost to the Board.
- 20. Vendor(s) shall not interfere with the Board, or a designated representative of the Board, in collecting any additional GAC samples for supplemental analysis.

SPECIFICATIONS AND TERMS (Page 3 of 4)

21. Measurement and testing procedures referenced in these specifications shall be in accordance with the latest edition of the following references or sources:
 - A. Standard Methods for the Examination of Water and Wastewater
 - B. ANSI/NSF Standard 61
 - C. AWWA Standard B604
 - D. American Society for Testing and Materials Volume 15.01

22. The procedure to verify the iodine number of candidate GACs (Laboratory Procedure WWPC-9) is set forth below at Pages 8 through 11. This procedure will be utilized to verify the iodine number, within a three percent (3%) margin of error.

GAC Delivery and Removal

23. The frequency of deliveries will depend on the quantity delivered per truckload and the rate of replacement/transport. Typically, carbon is replaced during the spring, summer or fall. The relative quantities of carbon grades are subject to change depending upon the needs of the facility. Tank trucks shall be used to transport GAC to the treatment facility. The contractor is responsible for the proper preparation and offloading of carbon into the Board’s storage tank(s). Damaged or floating carbon shall be removed and replaced at the vendor’s expense.

24. In order to accept replacement carbon, spent carbon currently in use at the facility must be removed. This carbon has been online for a lengthy period of time, Disposition is left to the vendor’s discretion, as to whether this carbon is salvageable for reuse elsewhere by regeneration, or if it must be disposed of by landfilling. Landfilling is to be accomplished in accordance with all applicable laws, rules and regulations. Transporting trucks shall be equipped with a bottom drain valve to allow carbon motive water to drain from the trailer as it is being filled.

Use of Facilities and Utilities

25. The vendor shall be responsible for supplying eductors, booster pumps, hose and any other equipment or materials necessary to off-load carbon into the Board’s storage tanks or carbon filter beds as well as accept spent carbon from the facility into hauling vehicles. The Board will allow reasonable access to plant water hydrant connections and will operate in-plant carbon transfer systems. The Board will also allow reasonable access to plant electricity. All labor, equipment and appurtenances necessary for the vendor to gain access to site utilities shall be provided by said vendor at no additional expense to the Board. The vendor, in gaining access to any site utility, shall not adversely affect any process or other activity required by the Board to perform any of the Board’s routine or planned activities. The Board will assist in coordinating GAC loading/unloading with grit and screenings removal in the same vicinity.

SPECIFICATIONS AND TERMS (Page 4 of 4)

Measurement and Payment

- 26. The vendor shall include in his unit price the cost of all labor, materials, equipment and appurtenances to perform the work specified herein, including the costs of transporting and unloading fresh carbon at the Board’s facilities. The unit price for spent carbon removal shall include the cost of all labor, materials, equipment and appurtenances to perform the work specified herein, including the removal, transportation and reuse/disposal of carbon from the Board’s facilities. The vendor shall also be responsible for and bear all costs associated with the removal of unacceptable (off spec) GAC from the Board’s facilities.

- 27. Payments for GAC delivered and accepted shall be made monthly. Measurement of all carbon quantities for payment shall be on a net weight, per pound, dry-weight basis. There shall be a weight ticket of empty truck and trailer (tare weight) and a weight ticket of the truck and trailer loaded with GAC. Net weight shall be the difference between the tare weight and loaded weight. The net weight shall be corrected for moisture content as determined by representative sampling of each truck load and subsequent analysis for moisture as given by AWWA Standard B604. This calculated dry weight of GAC will be the basis for payment. All billings shall be priced and rounded to the nearest pound of carbon.

- 28. The vendor shall be responsible for supplying all certified truck load weights and for the laboratory testing required to determine dry weights of GAC. Each shipment shall be sampled by the vendor and divided into three (3) equal portions. One portion shall be analyzed by the vendor, one portion shall be submitted to the Board, and the third portion shall be retained by the vendor for submission to a referee laboratory, if required.

- 29. The Board reserves the right, at the Board’s expense, to require any or all carbon shipments to be independently weighed in and out of a local certified truck weighing facility. The Board also reserves the right to sample and test each shipment for carbon quality parameters.

Alternate Carbon Purchase

- 30. The Board reserves the right to secure GAC from other public utilities or agencies as circumstances permit. GAC may also be obtained in connection with carbon filter rehabilitation projects.

Contact Information

- 31. For questions regarding specific items or products on this bid, please contact Director of Technical and Regulatory Services Douglas Williamson at 716-283-9770 x229.

- 32. For questions regarding these specifications, please contact Purchasing Agent Douglas Janese at 716-286-4372.

TREATMENT FACILITY REFERENCE FORM

Name of Facility _____

Address of Facility _____

Type of Facility (Municipal or Industrial) _____

Contact Person's Name _____

Contact Person's Title _____

Contact Person's Telephone Number _____

Contact Person's Email Address (if available) _____

Product(s) Currently Being Supplied _____

Date of Most Recent Delivery _____

Quantity of Most Recent Delivery _____

LABORATORY PROCEDURE NO.: WWPC-9
(PAGE 1 of 4)

NIAGARA FALLS WASTEWATER FACILITIES

Laboratory Procedure No.: WWPC-9
 Title: Granular Activated Carbon

9.7 IODINE NUMBER

Discussion: The iodine number is defined as the milligrams of iodine absorbed by one gram of carbon when the iodine concentration of the residual filtrate is 0.02 normal. This test provides a measure of the absorptive capacity of the carbon.

Sample Preparation: Grind a sample of dry carbon to .324 mesh using a SPEX 8000 mixer/mill or similar. Three (3) 0.52 inch steel projection balls (25g) are used to promote grinding. Place the pulverized sample in a glass Petri dish and write the sample identification on the dish.

REAGENTS:

1. Hydrochloric Acid, 5% wt.: Add 70 mg of reagent grade concentrated hydrochloric acid to 550 ml of distilled water.
2. Sodium Thiosulfate, 0.1 N: Dilute the “certified” commercial concentrate in accordance with instructions on the ampule.
3. Iodine Solution, 0.1N: Weight 12,700g of resublimed iodine crystals and 19,100g of potassium iodide (KI) into a beaker.
 NOTE: The potassium iodide to iodine ratio must be 1.5 to 1.
 Add small increments of distilled water while stirring until the volume is 50 to 60 ml. Allow solution to stand a minimum of 4 hours to ensure crystals are thoroughly dissolved. Occasional stirring will aid in dissolution. Quantitatively transfer to a one liter volumetric flask and fill to the mark with distilled water. Mix thoroughly. Standardize the solution using a “certified” 0.1000N sodium thiosulfate solution.
4. Starch Indicator Solution: Transfer 2.5 grams of soluble starch to mortar and add a little cold water. Grind to a thin paste and pour into one liter of boiled distilled water. Stir and then allow to settle. Use the clear supernate.

LABORATORY PROCEDURE NO.: WWPC-9
(PAGE 2 of 4)

PROCEDURE:

1. Mix the pulverized carbon sample in the Petri dish using a small spatula. Using the analytical balance, weigh out an amount of carbon as indicated below:

Virgin C:	1.000 – 1.100 g
Regenerated C:	1.500 – 1.700 g
Spent C:	2.000 – 2.500 g

Record the total weight of carbon and weighing paper, to the nearest 0.1 mg, in the notebook. Transfer the carbon to a 250 ml Erlenmeyer flask. Reweigh the paper and subtract the tare weight from the total weight to obtain the weight of the sample used.

2. Add a few glass boiling beads to the flask. Add 10 ml of 5% HCl (1) and place the flask on a hot plate. Bring the contents to a boil and allow to boil for 30 seconds.
3. Remove the flask from the hotplate and cool to room temperature. This can be accelerated by placing the flask in a cold water bath.
4. Using a volumetric pipet, add 100 ml of 0.1 N iodine (3) to the flask. Immediately stopper the flask and shake vigorously for 30 seconds. Remove the stopper and filter by gravity through Whatman 2V filter paper. Discard the first 25 ml of filtrate and collect the remainder in a clean beaker. Do not wash the residue on the filter paper.
5. Mix the filtrate in the beaker with a stirring rod and pipet 50.0 ml of the filtrate into a 250 ml Erlenmeyer flask. Titrate with 0.1 N Sodium Thiosulfate (2) until the yellow color has almost disappeared. Add about 1 ml of starch indicator (4) and continue titration until the blue color just disappears. Record the volume of Sodium Thiosulfate Solution used.
6. Calculate the residual filtrate normality (C) using the formula:

$$C = \frac{N2 \times E}{50}$$

where E = ml of sodium thiosulfate used.
 N2 = normality of standard thiosulfate solution

If it is not within the range of 0.008 – 0.035, repeat the test using a different weight of sample. A residual filtrate normally greater than 0.035 indicates the carbon is not removing a sufficient amount of iodine. In this case, use a greater weight of sample. Obtain correction factor (d) from Table b-1 based on calculation of residual filtrate normality (C).

LABORATORY PROCEDURE NO.: WWPC-9
(PAGE 3 of 4)

7. CALCULATIONS:

N1 = Normality of standard iodine solution

N2 = Normality of standard sodium thiosulfate solution

A = N1 x 12693

B = N2 x 126.93

V = Volume of Na₂S₂O₃ used for sample

C = Filtrate normality = $\frac{V \times N2}{50.0}$

$\frac{x}{m}$ = $\frac{A - (2.2 B \times V)}{\text{Sple. wt. (grams)}}$

D = Correction factor (from graph)

Iodine Number = $\frac{x}{m} \times D$ (mg/g)

8. REFERENCES:

US EPA Process Design Manual for Carbon Absorption
 EPA 625/1-71-002a October 1973

Calgon Carbon Corporation: Determination of the Iodine Number of Activated Carbon
 TM-4

ASTMD – 4607 Volume 15.01, 1989

LABORATORY PROCEDURE NO.: WWPC-9
(PAGE 4 of 4)

TABLE B-1
 IODINE CORRECTION FACTOR (D)

RESIDUAL FILTRATE NORMALITY (C)	0.0000	0.0001	0.0002	0.0003	0.0004	0.0005	0.0006	0.0007	0.0008	0.0009
0.0080	1.1625	1.1613	1.1600	1.1575	1.1550	1.1538	1.1513	1.1500	1.1475	1.1463
0.0090	1.1438	1.1425	1.1400	1.1375	1.1363	1.1350	1.1325	1.1300	1.1288	1.1275
0.0100	1.1250	1.1238	1.1225	1.1213	1.1200	1.1175	1.1163	1.1150	1.1138	1.1113
0.0110	1.1100	1.1088	1.1075	1.1063	1.1038	1.1025	1.1000	1.0988	1.0975	1.0963
0.0120	1.0950	1.0938	1.0925	1.0900	1.0888	1.0875	1.0863	1.0850	1.0838	1.0825
0.0130	1.0800	1.0788	1.0775	1.0763	1.0750	1.0738	1.0725	1.0713	1.0700	1.0688
0.0140	1.0675	1.0663	1.0650	1.0625	1.0613	1.0600	1.0588	1.0575	1.0563	1.0550
0.0150	1.0538	1.0525	1.0513	1.0500	1.0488	1.0475	1.0463	1.0450	1.0438	1.0425
0.0160	1.0413	1.0400	1.0388	1.0375	1.0375	1.0363	1.0350	1.0333	1.0325	1.0313
0.0170	1.0300	1.0288	1.0275	1.0263	1.0250	1.0245	1.0238	1.0225	1.0208	1.0200
0.0180	1.0200	1.0188	1.0175	1.0163	1.0150	1.0144	1.0138	1.0125	1.0125	1.0113
0.0190	1.0100	1.0088	1.0075	1.0075	1.0063	1.0050	1.0050	1.0038	1.0025	1.0025
0.0200	1.0013	1.0000	1.0000	0.9988	0.9975	0.9975	0.9963	0.9950	0.9950	0.9938
0.0210	0.9938	0.9925	0.9925	0.9913	0.9900	0.9900	0.9888	0.9875	0.9875	0.9863
0.0220	0.9863	0.9850	0.9850	0.9838	0.9825	0.9825	0.9813	0.9813	0.9800	0.9788
0.0230	0.9788	0.9775	0.9775	0.9763	0.9763	0.9750	0.9750	0.9738	0.9738	0.9725
0.0240	0.9725	0.9708	0.9700	0.9700	0.9688	0.9688	0.9675	0.9675	0.9663	0.9663
0.0250	0.9650	0.9650	0.9638	0.9638	0.9625	0.9625	0.9613	0.9613	0.9606	0.9600
0.0260	0.9600	0.9588	0.9588	0.9575	0.9575	0.9563	0.9563	0.9550	0.9550	0.9538
0.0270	0.9538	0.9525	0.9525	0.9519	0.9513	0.9513	0.9506	0.9500	0.9500	0.9488
0.0280	0.9488	0.9475	0.9475	0.9463	0.9463	0.9463	0.9450	0.9450	0.9438	0.9438
0.0290	0.9425	0.9425	0.9425	0.9413	0.9413	0.9400	0.9400	0.9394	0.9388	0.9388
0.0300	0.9375	0.9375	0.9375	0.9363	0.9363	0.9363	0.9363	0.9350	0.9350	0.9346
0.0310	0.9333	0.9333	0.9325	0.9325	0.9325	0.9319	0.9313	0.9313	0.9300	0.9300
0.0320	0.9300	0.9294	0.9288	0.9288	0.9280	0.9275	0.9275	0.9275	0.9270	0.9270
0.0330	0.9263	0.9263	0.9257	0.9250	0.9250					

Price Sheet

Item Number	Quantity (tons)	Description	Unit Price Per Ton
1	40	More or less, granular activated carbon (GAC) Standard make-up grade, per the attached specifications	
2	20	More or less, granular activated carbon (GAC) Inventory renewal grade, per the attached specifications	
3	260	More or less, granular activated carbon (GAC) Recycled, reactivated grade, per the attached specifications	
4	300	More or less, removal and disposal/reuse of spent granular activated carbon (GAC) currently in use at the Board's treatment facility, per the attached specifications	

NIAGARA FALLS WATER BOARD INSURANCE REQUIREMENTS

INSURANCE: Standard Insurance Requirements apply to the following classifications:

- Construction and Maintenance
- Purchase of, or lease of merchandise or equipment
- Professional Services
- Property Leased to others or Use of Facilities or grounds
- Concessionaire Services
- Livery Services
- All Purpose Public Entity Contracts

The Provider of any of the above classifications shall obtain, at his own costs and expense, the following insurance coverage with insurance companies licensed in the State of New York with a Best Rating of at least A- and shall provide a Certificate of Insurance and binder of Insurance Coverage, or a Certificate of Insurance and Policy Endorsement as evidence of such coverage to the Niagara Falls Water Board before commencement of work and/or lease or delivery of merchandise or equipment.

Certificates should be made to the Niagara Falls Water Board, 5815 Buffalo Avenue, Niagara Falls, N.Y. and should reference the project.

Prior to non-renewal, cancellation of insurance policies, or material change, at least 30 days advance written notice shall be given to the Certificate Holder and Binder Holder.

All Certificates of Insurance, Binders of Insurance Coverage, and Endorsements shall be approved prior to the inception of any work.

Minimum coverage with limits and provisions are as follows:

A. Comprehensive General Liability

With a minimum combined single limit of liability for Bodily Injury and Property Damage of \$1,500,000 per occurrence and \$3,000,000 annual aggregate. The coverage shall include:

- Premises and Operations
- Products and Completed Operations
- No exclusion for X C U coverages (explosion, collapse and underground)
- Independent Contractors
- Broad Form Property Damage
- Contractual Liability
- Fire Legal Liability
- Personal Injury Liability (Coverage A, B and C)
- Liquor Liability (if alcoholic beverages are to be dispensed under NYS License)

The Niagara Falls Water Board, the Niagara Falls Public Water Authority and the City of Niagara Falls shall be named as an Additional Insureds on the General Liability Policy with the following provisions:

1. The insurance company or companies issuing the policies shall have no recourse against the Niagara Falls Water Board or the Niagara Falls Public Water Authority for payment of any premiums or for assessments under any form of policy.

2. The insurance shall apply separately to each insured (except with respect to the limit of liability).

B. **Auto Liability:** (if licensed vehicles are to be used in the operation)

With a combined single limit for Bodily Injury and Property Damage of \$1,000,000 each occurrence, the coverage shall include Owned, Hired and Non-owned autos (Symbol 1 should be designed for Liability Coverage on Business Auto Policy).

C. **Excess Umbrella Liability:**

If General Liability and/or limits are lower than required in the above sections, Umbrella Liability or Excess Liability to the required limit is acceptable.

D. **Owners Protective Liability:** (on contracts for construction which exceed a cost of \$100,000).

With a minimum limit of \$1,500,000 each occurrence and \$3,000,000 aggregate. Named insured shall be the Niagara Falls Water Board and the Niagara Falls Public Water Authority.

E. **Professional Liability:**

If the contract includes professional services (engineers, architects, etc.), contractor will carry professional liability insurance with a minimum limit of one million dollars (\$1,000,000).

F. **Property Insurance:** (if applicable)

Contractor shall purchase and maintain property insurance upon the work at or off the site to 100% of the contract completed value. This insurance shall include the interest of the Owner, Contractor and Subcontractors in the work; shall insure against the perils of fire and extended coverage; shall include "all risk" insurance for physical loss and damage including theft, vandalism and malicious mischief, collapse and water damage. All such insurance required by this paragraph shall remain in effect until the work is completed and accepted by the Owner.

G. **Statutory Workers' Compensation and Employers Liability:**

All contractors doing business with or vendors entering upon Niagara Falls Water Board property shall carry the above insurance, in compliance with the Workers' Compensation Law of the State of New York.

H. **Performance and Payment Bond (where applicable):**

A performance and payment bond shall be issued by a Surety company who is licensed by the Insurance Department of the State of New York in favor of the Niagara Falls Water Board in the amount of not less than (100) per centum of the total amount and shall be delivered before commencement of lease or assumption of operations under contract.