PROPOSAL

CITY OF GRAND ISLAND

Working Together for a Better Tomorrow. Today.

WATER SYSTEM URANIUM REMOVAL SYSTEM

TEN (10) YEAR SERVICE AGREEMENT

REQUEST FOR PROPOSAL

C131170

Proposals due

Thursday, February 10, 2022 @ 4:00 p.m. (local time)
City of Grand Island, City Hall
100 East 1st Street, P.O. Box 1968
Grand Island, NE 68802-1968

Contact Information

City of Grand Island Utilities Department
Lynn Mayhew, Assistant Utilities Director
Platte Generating Station
Grand Island, NE 68801
O: 308-385-5496

Issued: January 19, 2022

ADVERTISEMENT FOR PROPOSALS
WATER SYSTEM URANIUM REMOVAL SYSTEM
FOR
CITY OF GRAND ISLAND, NEBRASKA

Proposals will be received at the office of the City Clerk, 100 E. First Street, P.O. Box 1968, Grand Island, Nebraska 68802, until Thursday, February 10, 2022 at 4:00 p.m. local time for the above Proposal, FOB the City of Grand Island. Site inspections can be arranged by contacting Lynn Mayhew (308) 385-5494 for an appointment.

Proposals received after the specified time will be returned unopened to sender. Proposals shall include the following on the *outside* of the envelope: "**Proposal for Water System Uranium Removal System - Engineering Services**". All proposals must be signed and dated in order to be accepted. Proposals shall be addressed to the attention of the City Clerk. **Four complete copies with the original** proposal shall be submitted for evaluation purposes if submitting by mail. Proposal package and any Addendas is also available on-line at http://www.grand-island.com/business/bids-and-request-for-proposals/bid-calendar under the bid opening date and "Click here for bid document link" through QuestCDN. Submitting through QuestCDN requires one original document of the bid to be uploaded.

Proposals will be evaluated by the Purchaser based on Contractor's response to the proposal, experience of the company and project personnel, commercial terms, and pricing to perform the project required. All Proposals shall be valid for at least 30 days after the Proposal deadline for evaluation purposes.

The Purchaser reserves the right to reject any or all proposals, to waive irregularities therein, and to accept whichever proposal that may be in the best interest of the City, at its sole discretion.

RaNae Edwards, City Clerk

Advertised

INSTRUCTIONS TO BIDDERS - PROPOSAL

1. GENERAL INFORMATION.

   The following instructions outline the procedure for preparing and submitting Proposals. Bidders must fulfill all requirements as specified in these Documents.

2. TYPE OF BID.

   Bidders shall be required to submit prices for all items listed in the Detailed Specification.

3. PREPARATION/SUBMISSION OF PROPOSALS.

   All Proposals must be submitted intact not later than the time prescribed, at the place, and in the manner set forth in the ADVERTISEMENT FOR BIDS. Proposals must be made on the Contractor's official letterhead, and must be signed and dated to be accepted. Each Proposal must be submitted intact with the correct number of copies in a sealed envelope, so marked as to indicate its contents without being opened. Proposals must be delivered in person or addressed and mailed in conformance with the instructions in the ADVERTISEMENT FOR BIDS.

   Proposal package and any Addenda is also available on-line at http://www.grand-island.com/business/bids-and-request-for-proposals/bid-calendar under the bid opening date and "Click here for bid document link" through QuestCDN. Submitting through QuestCDN requires one original document of the proposal to be uploaded (no zip files). Any Proposal received after the specified date will not be considered. No verbal Proposal will be considered.

   The Bidder shall acknowledge receipt of all addenda. Proposals received without acknowledgement or without the Addendum enclosed will be considered informal.

   If exceptions and/or clarifications are noted to the proposal, those exceptions must be fully explained on a separate sheet, clearly marked, and included with the Proposal. Any changes that are found made to the original specification, other than Owner generated Addendums, could result in your bid not being considered.

   The City reserves the right to reject any or all proposals and to select the proposal, which is deemed to be in the City's best interest, at its sole discretion.

   All Proposals shall be valid for at least thirty (30) working days after the Proposal deadline for evaluation purposes.

4. BASIS OF AWARD.

   The award will be made by the OWNER on the basis of the Proposal from the lowest responsive, responsible Proposer which, in the OWNER's sole and absolute judgment will best serve the interest of the OWNER.

All Proposals will be considered on the following basis:

1. Proposal Responsiveness (x 1)
2. Company Experience (x 1)
3. Personnel Experience (x 1)
4. Commercial Terms (x 1)
5. Improvement Costs (x 1)
6. Annual Fees (x 1)

The OWNER reserves the right to reject all Proposals, or any Proposal not in conformance with the intent of the Proposal Documents, and to waive any informalities and irregularities in said Proposals.

5. TIME OF COMPLETION.

The time of completion of the Work to be performed under this Contract is the essence of the Contract. Proposals should submit a timeline for completion of the Work unless otherwise stated in the Detailed Specification.

6. GRATUITIES AND KICKBACKS.

City Code states that it is unethical for any person to offer, give, or agree to give any City employee or former City employee, or for any City employee or former City employee to solicit, demand, accept, or agree to accept from another person, a gratuity or an offer of employment in connection with any decision, approval, disapproval, recommendation, or preparation of any part of a program requirement or a purchase request, influencing the content of any specification or procurement standard, rendering of advice, investigation, auditing, or in any other advisory capacity in any proceeding or application, request for ruling, determination, claim or controversy, or other particular matter, pertaining to any program requirement or a contract or subcontract, or to any solicitation or proposal therefor. It shall be unethical for any payment, gratuity, or offer of employment to be made by or on behalf of a subcontractor under a contract to the prime contractor or higher tier subcontractor or any person associated therewith, as an inducement for the award of a subcontract or order.

7. FISCAL YEAR.

The City of Grand Island, Nebraska operates on a fiscal year beginning October 1st and ending on the following September 30th. It is understood and agreed that any portion of this agreement which will be performed in a future fiscal year is contingent upon the City Council adopting budget statements and appropriations sufficient to fund such performance.

CONTRACT AGREEMENT

THIS AGREEMENT made and entered into by and between **[SUCCESSFUL BIDDER]**, hereinafter called the Engineer, and the **CITY OF GRAND ISLAND, NEBRASKA**, hereinafter called the City.

WITNESSETH:

THAT, WHEREAS, in accordance with law, the City has caused contract documents to be prepared and an advertisement calling for proposals to be published for *Water System Uranium Removal System;* and

WHEREAS, the City, in the manner prescribed by law, has evaluated the proposals submitted, and has determined the aforesaid Engineer to be the responsible proposer, and has duly awarded to the said Engineer a contract therefore, for the sum or sums named in the Engineer's proposal, portions thereof being attached to and made a part of this contract.

NOW, THEREFORE, in consideration of the compensation to be paid to the Engineer and of the mutual agreements herein contained, the parties have agreed and hereby agree, the City for itself and its successors, and the Engineer for itself, him/herself, or themselves, and its, his, or their successors, as follows:

ARTICLE I. That the following documents shall comprise the Contract, and shall together be referred to as the "Agreement" or the "Contract Documents";

1. This Contract Agreement.
2. Agreement for Engineering Services between the City of Grand Island and [Engineering Company]
3. City of Grand Island's Request for Proposals.
4. [Engineering Company's] Proposal dated [date].
5. City Council Resolution [resolution number] dated [date].

In the event of any conflict between the terms of the Contract Documents, the provisions of the document first listed shall prevail.

ARTICLE II. That the Engineer shall provide the services set forth in this agreement and the attachments thereto in accordance with the normal degree of care and skill of other reputable professionals providing similar services on similar projects of like size and nature for this area;

ARTICLE III. That the City shall pay to the Engineer for the performance of the work embraced in this contract and the Engineer will accept as full compensation therefore the sum (subject to adjustment as provided by the contract) of **[DOLLAR AMOUNT] ($00.00)** for all services and work covered by and included in the contract award and designated in the foregoing Article II; payments thereof to be made in cash or its equivalent in the manner provided in the General Specifications.

The total cost of the Contract includes:

Base Bid:	$	.00
10-year life cycle operating costs	$	.00
Total	$	.00

The City of Grand Island, Nebraska operates on a fiscal year beginning October 1st and ending on the following September 30th. It is understood and agreed that any portion of this agreement which will be performed in a future fiscal year is contingent upon the City Council adopting budget statements and appropriations sufficient to fund such performance.

ARTICLE IV. The Engineer hereby agrees to act as agent for the City. The invoice for Engineer's services will be paid after approval at the next regularly scheduled City Council meeting and occurring after departmental approval of invoice. The City Council typically meets the second and fourth Tuesday of each month. Invoices can be submitted via email to billing@giud.com. Invoices must be received well in advance of Council date to allow evaluation and processing time.

ARTICLE V. The Engineer agrees to comply with all applicable State fair labor standards in the execution of this contract as required by Section 73-102, R.R.S. 1943. The Engineer further agrees to comply with the provisions of Section 48-657, R.R.S. 1943, pertaining to contributions to the Unemployment Compensation Fund of the State of Nebraska. During the performance of this contract, the Engineer and all sub-Engineers agree not to discriminate in hiring or any other employment practice on the basis, of race, color, religion, sex, national origin, age or disability. The Engineer agrees to comply with all applicable Local, State and Federal rules and regulations. The Engineer agrees to maintain a drug-free workplace policy and will provide a copy of the policy to the City upon request. Every public Engineer and his, her or its sub-Engineers who are awarded a contract by the City for the physical performance of services within the State of Nebraska shall register with and use a federal immigration verification system to determine the work eligibility status of new employees physically performing services within the State of Nebraska.

GRATUITIES AND KICKBACKS

City Code states that it is unethical for any person to offer, give, or agree to give any City employee or former City employee, or for any City employee or former City employee to solicit, demand, accept, or agree to accept from another person, a gratuity or an offer of employment in connection with any decision, approval, disapproval, recommendation, or preparation of any part of a program requirement or a purchase request, influencing the content of any specification or procurement standard, rendering of advice, investigation, auditing, or in any other advisory capacity in any proceeding or application, request for ruling, determination, claim or controversy, or other particular matter, pertaining to any program requirement or a contract or subcontract, or to any solicitation or proposal therefor. It shall be unethical for any payment, gratuity, or offer of employment to be made by or on behalf of a subcontractor under a contract to the prime contractor or higher tier subcontractor or any person associated therewith, as an inducement for the award of a subcontract or order.

[SUCCESSFUL PROPOSAL COMPANY]

By_____ Date _____

Title_____

CITY OF GRAND ISLAND, NEBRASKA

By_____ Date _____
Mayor

Attest:_____
City Clerk

The contract is in due form according to law and hereby approved.

_____ Date _____
Attorney for the City

CITY OF GRAND ISLAND

Working Together for a{PRIVATE } Better Tomorrow, Today.

REQUEST FOR PROPOSALS

GENERAL SPECIFICATIONS

The Proposal shall be in accordance with the following and with the attached DETAILED SPECIFICATIONS.

All prices are to be F.O.B. Grand Island, Nebraska. **All prices shall be firm, and shall include all sales and use taxes as lawfully assessed under laws and regulations of the State of Nebraska.**

Proposals shall include the following on the **outside** of the mailing envelope: "**Proposal for Water System Uranium Removal System Engineering Services".** All proposals must be signed and dated to be accepted. Proposals shall be addressed to the attention of the City Clerk. All proposals submitted by mail must include **four (4) complete copies.** The specification is also available at http://www.grand-island.com/business/bids-and-request-for-proposals/bid-calendar under the specified opening date and "Click here for bid document link" through QuestCDN. If submitting through QuestCDN, **one** original document of the proposal and supporting materials is required to be uploaded. All proposals shall be submitted for evaluation purposes no later than Thursday, February 10, 2022 at 4:00 p.m. (local time) to the following:

Mailing Address: RaNae Edwards, City Clerk
City Hall
P. O. Box 1968
Grand Island, NE 68802-1968

Street Address: RaNae Edwards, City Clerk
City Hall
100 E. First Street
Grand Island, NE 68801

Any Proposal received after the specified date will not be considered. No verbal Proposal will be considered.

Proposals will be evaluated by the Purchaser based on Contractor's response to the proposal, experience of the company and project personnel, commercial terms, and pricing to perform the project required.

The successful contractor will be required to comply with fair labor standards as required by Nebraska R.R.S.73-102 and comply with Nebraska R.R.S. 48-657 pertaining to contributions to the Unemployment Compensation Fund of the State of Nebraska. Contractor shall maintain a drug free workplace policy. Every public contractor and his, her or its subcontractors who are awarded a contract by the City for the physical performance of services within the State of Nebraska shall register with and use a federal immigration verification system to determine the work eligibility status of new employees physically performing services within the State of Nebraska.

The invoice for Contractor's services will be paid after approval at the next regularly scheduled City Council meeting and occurring after departmental approval of invoice; the City Council typically meets the second and

fourth Tuesday of each month. Invoices must be received well in advance of City Council date to allow evaluation and processing time.

The City reserves the right to reject any or all proposals and to select the proposal, which is deemed to be in the City's best interest, at its sole discretion.

All Proposals shall be valid for at least thirty (30) working days after the Proposal deadline for evaluation purposes.

All Proposals must be signed and dated to be accepted. If exceptions and/or clarifications are noted to the bid, those exceptions must be fully explained on a separate sheet, clearly marked, and included with the Proposal. Any changes that are found made to the original specifications, other than Owner generated Addendums, would result in your bid not being considered. Please contact Lynn Mayhew at 308-385-5494, for questions concerning this specification.

GRAND ISLAND WATER SYSTEM URANIUM REMOVAL SYSTEM

DETAILED SPECIFICATIONS

SCOPE. The Grand Island Utilities Department is soliciting proposals for a ten (10) year contract for the uranium removal system.

DESCRIPTION. The City's water system consists of twenty-one (21) low pressure wells, located on a 1,200 acre island in the Platte River, which supply water to an onsite collection and pumping station. This pumping station transfers water through two (2) 30-inch transmission mains to three (3) reservoir/pumping stations in the City. These high pressure pumping stations provide water as required for residential and industrial use and fire protection through a distribution grid, comprised of approximately 235 miles of cast and ductile iron mains. Five (5) high pressure wells connected directly to the distribution system provide additional capacity. System operation is monitored at our power plant control rooms by use of a computer based SCADA system. The peak municipal system demand is approximately 26 MGD. In 2012, the Uranium removal treatment plant was added at the well field to remove uranium from three (3) of the twenty-one (21) wells.

The water from the three wells is blended with the remaining 18 wells to three above ground storage reservoirs and pumping stations into the city's distribution system. The uranium levels have been maintained below the MCL of 30 µci/ml since the system was installed. **The original contract was for ten (10) years and will expire in June of 2022, Grand Island Utilities is seeking proposals to contract for the next term of services in accordance with these specifications starting in June 2022.**

The proposals should include all aspects of the below original specifications, along with, if the original equipment will be utilized, or if original equipment will need modifications. All details of the modifications are to be shown in drawings and a detail explanation of the changes. The cost for equipment and equipment modifications shall be shown as a separate cost and be priced as an initial capital project. The cost for the changes shall also be shown as an option as part of the annual services cost.

PROPOSAL EVALUATION. The proposals will be evaluated on the following criteria. Also indicated are the weighting factors which will be used in tabulating the evaluation scores.

1. Proposal Responsiveness (x 1)
2. Company Experience (x 1)
3. Personnel Experience (x 1)
4. Commercial Terms (x 1)
5. Improvement Costs (x 1)
6. Annual Fees (x 1)

SITE INSPECTION. **The Engineering firm shall visit the City facilities prior to submittal of the Proposal to become familiar with the project scope.** Site inspections can be arranged by contacting Lynn Mayhew, 308-385-5494, for an appointment.

PROPOSAL QUALIFICATIONS. The Engineering firm shall be a consulting engineering firm with experience in the planning of municipal water systems as described in these specifications. All work is to be performed by or under the direct supervision of experienced engineers registered in the State of Nebraska.

PROPOSAL INFORMATION. The proposals should include all aspects of the below original specifications, along with how the original equipment will be utilized, or if original equipment will need modifications. All details of the modifications are to be shown in drawings and a detail explanation of the changes. The cost for equipment and equipment modifications shall be shown as a separate cost and be priced as an initial capital project. The cost for the changes shall also be shown as an option as part of the annual services cost.

Client contacts for a minimum of five (5) projects for Uranium Removal Systems, which have been completed during the last ten (10) years or are currently in progress, must be submitted as references.

INSURANCE REQUIREMENTS. The Contractor shall comply with the attached "Insurance Requirements".

GENERAL INFORMATION: The following instructions outline the procedure for preparing and submitting Proposals. Engineers must fulfill all requirements as specified in these documents.

All Proposals must be submitted intact with the correct number of copies no later than the time prescribed, at the place, and in the manner set forth in the ADVERTISEMENT FOR BIDS. Each Proposal must be submitted intact in a sealed envelope, so marked as to indicate its contents without being opened, and delivered in person or addressed and mailed in conformance with the instructions in the Advertisement for Bids.

GRATUITIES AND KICKBACKS. City Code states that it is unethical for any person to offer, give, or agree to give any City employee or former City employee, or for any City employee or former City employee to solicit, demand, accept, or agree to accept from another person, a gratuity or an offer of employment in connection with any decision, approval, disapproval, recommendation, or preparation of any part of a program requirement or a purchase request, influencing the content of any specification or procurement standard, rendering of advice, investigation, auditing, or in any other advisory capacity in any proceeding or application, request for ruling, determination, claim or controversy, or other particular matter, pertaining to any program requirement or a contract or subcontract, or to any solicitation or proposal therefor. It shall be unethical for any payment, gratuity, or offer of employment to be made by or on behalf of a subcontractor under a contract to the prime contractor or higher tier subcontractor or any person associated therewith, as an inducement for the award of a subcontract or order.

FISCAL YEAR. The City of Grand Island, Nebraska operates on a fiscal year beginning October 1st and ending on the following September 30th. It is understood and agreed that any portion of this agreement which will be performed in a future fiscal year is contingent upon the City Council adopting budget statements and appropriations sufficient to fund such performance.

PAYMENT. Payment for the services will be determined by hours worked plus miscellaneous expenses, up to a predetermined "not to exceed" amount on a project phase basis. Time estimates for various portions of projects, man-hours by classification, and miscellaneous expense details may be requested.

PRICING. The Contractor shall provide in the Proposal an annual cost to be paid in monthly increments for the specified work.

SECTION 11301

URANIUM REMOVAL SYSTEM

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Uranium Removal System (URS) with Adsorptive Media for treatment of groundwater, equipment service and maintenance, treatment media replacement and disposal services and radioactive materials licensing for a period of ten (10) years.

B. Related Specification Sections include but are not necessarily limited to:

1. Division 0 - Bidding Requirements, Contract Forms, and Conditions of the Contract.
2. Division 1 - General Requirements.
3. Section 11302 - Performance Pilot Testing of Adsorptive Media Equipment.

1.2 QUALITY ASSURANCE

A. Referenced Standards:

1. American Bearing Manufacturers Association (ABMA).
2. American Society of Mechanical Engineers (ASME):
   a. Boiler and Pressure Vessel Code.
3. American Welding Society (AWS).
4. Institute of Electrical and Electronic Engineers (IEEE).
5. National Electric Code (NEC).
6. National Electrical Manufacturers Association (NEMA):
   a. 250, Enclosures for Electrical Equipment (1000 Volts Maximum).
   b. MG 1, Motors and Generators.
7. National Sanitation Foundation (NSF).
   a. NSF 61, Drinking Water System Components-Health Affects.
8. The Society for Protective Coatings/NACE International (SSPC/NACE):
   a. SP 5/NACE No. 1, White Metal Blast Cleaning.
   b. SP 6/NACE No. 3, Commercial Blast Cleaning.
   c. SP 10/NACE No. 2, Near-White Blast Cleaning.
9. Underwriters Laboratory (UL):
   a. UL 508A.

B. Referenced Tables:

1. The following tables are included at the end of Part 3:a.
   Table 1: Historical Raw Water Quality.

C. Miscellaneous:

1. Perform all welding in accordance with the latest applicable codes of the AWS (or CWS) and/orASME Boiler Code.

2. A building to house the uranium adsorptive media system will be provided by Others and should be taken into account when preparing applicable submittals.

1.3 DEFINITIONS

A. Finished Water: A blend of the water treated from the URS System mixed with water from the remaining eighteen wells.

B. Firm Capacity: The amount of water required to be treated by the URS - 5 MGD or 3500 GPM.

C. System Supplier: System Supplier of URS equipment.

D. Raw Water:

1. The source of raw water will be from wells 6, 7 and 8 of the City's well field which has a total of 21 wells.

E. 90-Day Pilot Study:

1. The pilot study where URS will be tested to fulfill City's requirements.

a. See Section 11302.

1.4 SCOPE OF SUPPLY

A. Because of variations in system design and configuration offered by the prospective System Supplier, all components listed may not apply to all System Suppliers. Should components be missing or not identified under this Scope of Supply but are required because of overall system integrity and operability, the System Supplier shall include those in its scope of supply.

B. All requests for clarification shall be submitted to the Engineer.

C. The system supplier shall provide a complete URS suitable for the removal of uranium at a continuous flow rate of 3,500 gpm. The influent Uranium concentration shall be assumed to be 35.1 ug/l. The URS will treat water from three of the twenty-one wells in the City's well field. The URS shall be specifically designed to successfully reduce the uranium level in the treated water by 85 percent at all times. The complete system shall include but not be limited to:

1. Vessels constructed of lined carbon steel or stainless steel to ASME code with the appropriate code stamp rated for a minimum of 100 psi working pressure.

2. All piping, valves, fittings, and internal distribution to provide a fully functional system.

3. All instrumentation and sampling ports to provide system monitoring and interlocks with the Owner's water system.

4. Media removal nozzles for removal of spent media and fresh media replacement.

5. Mechanical screening to prevent the migration of treatment media from the treatment system.

D. The URS supplier shall be in the business of radionuclide removal from water sources. Descriptive literature and drawings for the equipment being furnished under this section shall include schematic drawings illustrating all components and electrical and electronic connections

and all field connections as well as equipment specifications, outline dimension drawings, wiring, and piping diagrams for each item of equipment being furnished. Upon complete approval, the URS supplier shall submit four (4) copies of all descriptive matter and instructions in separate indexed binders to the engineer for use by the owner. The submission shall include, in addition to detailed equipment data and instruction, a complete system operation and maintenance instruction manual, coordinated with the specified equipment as furnished and installed.

1.5 SUBMITTALS

A. Equipment System Supplier Qualifications

1. The URS supplier shall submit, with their bid, the following to the Engineer to evaluate their experience in radionuclide removal. The URS supplier shall be a single System Supplier experienced in the design, fabrication, delivery, and startup of radionuclide removal equipment and must provide information demonstrating such ability. Submit the below information for a minimum of five (5) projects where the selected System Supplier has furnished comparable radionuclide (radium or uranium) removal equipment for municipal groundwater treatment, and those systems have been in operation for a minimum of three (3) years.
2. The URS supplier shall submit the following information exhibiting their ability to provide on-going support to the owner to insure an effective operation of the system.
    a. Number of years in water treatment business.
    b. Reference information for the last five (5) comparable projects including design basis, length of time in service and contact references for the Owner, consulting engineer and radioactive materials licensing agency for each project.

B. Shop Drawings:

1. See Section 01340 for requirements for the mechanics and administration of the submittal process.
2. Submit detailed submittal.
    a. Resubmit until either an “A” or “B” action is obtained per Section 01340.
3. Submittal format:
    a. Submit Drawings in both electronic (AutoCad) and hard copy form.
    b. Submit cut sheets, calculations, etc. in electronic PDF format and in hard copy form.
4. Submittal content:
    a. P&IDs of the URS system:
        1) Process and instrumentation drawings detailing the system proposed by the System Supplier.
        2) Show interfaces between System Supplier’s equipment and equipment supplied by others which directly interfaces with the URS System (i.e. utilities, I/O, etc.).
    b. URS System General Arrangement Drawings:
        1) Submit an arrangement drawing for the URS.

2) Scaled plans and elevations of the URS system.

c. Pressure Vessels: Technical information including materials of construction, construction details, vessel pressure rating and certifications and scaled drawings for vessels.

d. Piping Fabrication and Assembly Drawings for all URS System Piping:

e. PLC/Control System Documentation:

1) Submit a list of I/O that are required for operation of the URS System that are not available from System Supplier's equipment.

2) Arrangement drawings for PLC system components.

3) Panel and enclosure plans, sections and details.

f. Summary of equipment requiring electrical power, including equipment identification, loads and voltages.

g. Summary of equipment requiring pneumatic supply including equipment identification, cfm and pressure.

h. Provide description of source quality control program.

i. System Supplier's delivery, storage, and handling instructions.

j. Installation details including location of anchorage, type and size of anchorage, anchorage setting templates and System Supplier's installation instructions.

k. Equipment area classification rating.

l. Shipping and operating weights.

m. Factory coating and primer information.

n. Minimum dimensions required for removal of treatment vessels for maintenance.

o. Electrical interconnect and schematic wiring diagrams including motor horsepower and other electrical load information and identification of external wiring (panel) connections for coordination with the Construction Contractor.

p. Bill of materials for all components supplied with the URS System including identification used on P&IDs.

1) For all tagged devices supplied, develop a Cross-Reference Schedule that matches the equipment identification used on the technical information submitted for that device.

a) Include Manufacturer's tag number, project tag number as identified in this Section and device name or description.

C. Operation and Maintenance Manuals:

1. See Section 01340 for requirements on the following:

a. The mechanics and administration of the submittal process.

b. The general content of Operation and Maintenance Manuals.

c. URS System:

1) Provide standard operating and maintenance instructions. URS supplier shall handle all long term maintenance and warranty of the system for the term of the contract.

2) Applicable Material Safety Data Sheets (MSDS).

3) Names, functional title, and phone numbers of maintenance personnel available for on-going support.

1.6 DELIVERY, STORAGE AND HANDLING

A. Schedule delivery of Goods as required to allow timely installation by the Construction Contractor.

B. Package and tag equipment in a manner that will protect the Goods from damage and facilitate the final assembly in the field.

C. Include weight and dimensions of major Goods, handling instructions for all Goods, storage requirements and instructions for protective maintenance during storage with each shipment.

D. Construction Contractor will provide labor, equipment, and facilities to unload and store Goods.

1.7 SITE CONDITIONS

A. Raw Water Quality:

1. Anticipated raw water quality data is included in Table 1 provided at the end of Part 3 of this Specification.

a. **Note that limited water quality data is currently available.**

b. System Supplier shall be responsible for designing URS System to meet specified performance criteria of removing at least 85% of uranium concentration at all times. Media will need to be changed when the removal rates are expected to fall below the specified level.

PART 2 - PRODUCTS

2.1 ACCEPTABLE SYSTEM SUPPLIERS

A. Subject to compliance with these Procurement Documents, the following System Suppliers are acceptable:

1. URS System:

a. Water Remediation Technology, LLC (WRT).

b. Approved Equals will be acceptable only after Pilot Testing (See section 11302)

2.2 SYSTEM DESIGN OVERVIEW AND PERFORMANCE CRITERIA

A. General:

1. Year round firm Finished Water Capacity: 3500 gpm or 5.0 MGD.

2. Raw water temperature: 50-60 DegF.

3. For designs using multiple trains or units, provide “identical” Units.

a. “Identical” shall mean each train/unit is of the same hydraulic capacity.

4. Hydraulic Capacity:

    a. Supply required pumping capacity needed such that the URS System provides 5.0 MGD of Finished Water.

B. Finished Water Quality:

1. Maximum Total Uranium (ug/L): 15 percent of influent.

2. Maximum Total Gross Alpha (pCi/L): 15 percent of influent.

2.3 URS SYSTEM

A. Treatment Vessels:

1. The URS shall be comprised of at least two parallel treatment trains to maintain redundancy with a total treatment capacity of 3,500 gpm.

2. The vessels shall be constructed of lined carbon or 304 stainless steel and shall be suitable for installation onto a concrete foundation.

3. The vessels are to include media transfer, media sample, water transfer, and vacuum transfer ports. All such ports shall be equipped with the necessary valves. The media transfer ports shall be used for media service operations and will not normally be used by the owner's personnel. The URS supplier may choose to remove the valve handles of such valves to limit access to the uranium removal media to authorized personnel.

4. Each vessel shall have at least one manway access port. Each vessel shall be fitted with air and vacuum release valves and a pressure relief valve.

5. The flow inlet to each vessel shall be directed through a header / lateral distribution system designed to promote an even fluid distribution through the media. The inlet piping at each vessel shall include a check valve suitable for preventing Uranium Removal Media escape from the vessel.

6. The URS discharge shall be a header / lateral system in each vessel, the outlet of the vessels are to be designed to prevent siphoning due to the pumping station inlet basin being below the elevation of the URS.

B. Piping and Valves:

1. The URS shall include corrosion resistant piping designed to permit feed, discharge, and bypass piping connections to be integrated into Owners distribution system. Such piping shall be flanged and welded and be fabricated into spool pieces for field installation by the construction contractor. Pipe field welds are permitted to final pipe sections where cut-to-fit pieces are necessary for final fit up. Welds shall be performed by a certified welder and utilize only materials and brushes that are compatible with the pipe and weld material and will not contaminate the stainless steel welds. The use of carbon steel welding rod and brushes that have been in contact with carbon steel welds shall not be permitted when welding stainless steel.

2. The URS shall include a bypass pipe path and necessary valves that permit the entire system to be isolated from the customer's water system. The Owner's personnel shall have full access to the feed, discharge, and bypass valves. The valves shall be manually operated.

3. The piping system components shall include feed and discharge valves, bypass valves,

water transfer valves, air release, a hydraulically actuated slow-opening check valve, and y- type or basket strainers.

4. Butterfly Valves: All butterfly valves shall be manually operated, one piece lug or wafer style with cast iron or ductile iron bodies and lined discs that meet ANSI 150 pressure ratings for hydrostatic shell test requirements. No metal-to-metal seating surfaces shall be permitted. The seat shall be tongue-and-groove design with primary hub seal and a molded O-ring. Valves smaller than 6 IN DIA shall be lever actuated and valves 6 IN DIA and larger shall be gear- operator actuated. All butterfly valves shall be series 30/31 as manufactured by Bray or approved equal. Valves or all wetted parts shall be NSF 61 approved.
5. Air Relief/Vacuum Relief Valves: All air/vacuum relief valves shall be D-060 and D-040 series as manufactured by A.R.I. USA, Inc. or approved equal. Valves or all wetted parts shall be NSF 61 approved.
6. Ball Valves: All ball valves shall be suitable for one-hundred fifty (150) psi working pressure. All ball valves shall be stainless steel NPT threaded ends, series 100 valves as manufactured by AVCO or approved equal. Valves or all wetted parts shall be NSF 61 approved.
7. Check Valves: Inlet check valves shall be slow-opening as manufactured by OCV or ClaVal or approved equal. Outlet check valves shall be wafer check valves as manufactured by Milliken or approved equal. Valves or all wetted parts shall be NSF 61 approved.
8. Instrument tubing shall be 1/4 IN polyethylene. Sample port tubing shall be 1/8 IN 304 stainless steel.

C. Instrumentation and Flow Meter:

1. The URS shall include a magnetic type totalizing flow meter with field display and remote readout. Differential pressure shall be displayed on the HMI by use of pressure transducers with accompanying transmitters capable of sending a 4 - 20 mA signal. Pressure and differential pressure shall be provided for the system feed, the treatment vessel discharge, and the system discharge. In addition, differential pressure shall be provided across each y-strainer or conical strainer. At each pressure transducer location, a pressure gage shall be installed as well as a 1/4 IN isolation ball valve and a sample or bleed ball valve

D. Controls:

1. Furnish control panel(s) with a single point for electrical power connection.
2. Generate all sub voltages needed inside the control panel(s).
3. 480 V powered control panel(s) shall have a fused or circuit breaker style disconnect assembly with a locking, door mounted operator.
4. Build panels in conformance with the provisions of UL 508A.
5. Affix assembly with a UL 508A label "Listed Enclosed Industrial Control Panel" prior to shipment to the jobsite.

6. The URS shall be fully automatic in operation and require no operator activity to effectively remove uranium as designed. The URS shall include a control panel complete with a programmable logic controller (PLC) and the necessary software for automatic monitoring and operation of the system. The panel will display flow and pressure data, log gallons treated, and provide an electrical interface with owner's well control circuit SCADA system. The panel will have an interconnect data capability or wireless monitoring modem for remote monitoring by the URS supplier. The operating sequence shall be as follows:

    a. The deep well pump(s) is/are started from the control system panel or the owner's SCADA system, causing water to flow through pipe network. Entrained air is bled through an automatic vent valve. The control panel is notified and pump run-confirm is shown.

    b. The slow-opening check valve begins to open based on the system hydraulic pressure allowing flow to enter the treatment vessels.

    c. The water is distributed over Uranium Removal Media bed as flow is established in treatment vessels.

    d. Uranium is removed in the treatment vessels.

    e. The flow meter records the amount of gallons treated and then communicates back to the control panel.

    f. The Uranium Removal Media maintenance service shall be performed by the URS supplier's service personnel, not the owner.

E. Media:

1. The URS shall only use Uranium Removal Media. The treatment media shall be NSF Standard 61 certified for use in potable water. The customer shall not handle nor be responsible for the Uranium Removal Media. The Uranium Removal Media replacement, transportation, and disposal to a licensed facility shall be provided by the URS supplier.

F. Miscellaneous:

1. Materials of Construction:

    a. Bolts, nuts, washers, flange backing rings, and other miscellaneous metal components not specifically addressed elsewhere in these Specifications shall be Type 304 or 316 stainless steel.

2.4 PROTECTIVE COATINGS

A. Provide coatings as specified below:

1. Non Immersed Skid Steel
    a. Cleaning: SSPC SP 6/NACE No.3 Commercial Blast Cleaning
    b. Primer: Tnemec 66-1211 Polyamide Epoxy Coating. 3 – 6 mils DFT.
    c. Top Coat:
2. Exterior Steel Tank and Piping
    a. Cleaning: SSPC SP 6/NACE No. 3 Commercial Blast Cleaning
    b. Primer: Tnemec 66-1211 Polyamide Epoxy Coating. 3 – 6 mils DFT.
    c. Top Coat:

3. Interior Steel Tank

   a. Cleaning: SSPC SP 10/NACE No. 2 Near-White Metal Blast Cleaning to achieve a 4 mil profile anchor pattern. If profile is not achieved, clean per SSPC SP 5/NACE No. 1 White Metal Blast for the same 4 mil profile anchor pattern.

   b. Coating: Plasite "Plasguard" 4110 Vinyl Ester Lining. Two - three multi-pass spray coats for 35 to 45 mils DFT per manufacturer's specifications. Application must be pinhole free. Self priming.

B. Provide coatings for adsorptive media system skid mounted elements such that no protective coatings need be provided in the field.

C. Provide System Supplier's standard exterior protective coating for all automatic valve operators.

D. For remaining valves, and appurtenances, provide two exterior coats and finish coat with high performance industrial grade, 2-3 mill DFT epoxy prime equal to Tnemec Series 20 Pota-Pox.

E. No exterior protective coatings are required for PVC, CPVC, aluminum or 304/316 stainless steel components.

PART 3 - EXECUTION

3.1 INSTALLATION

A. The URS supplier shall be responsible for the installation and modifications of the treatment system.

3.2 FIELD SUPERVISION, START-UP SERVICES, TRAINING AND OPERATION

A. The URS System Supplier shall provide the following:

1. Provide Uranium Removal Media as required, delivered to the jobsite.
2. Conduct onsite inspection of the treatment system and installation prior to operation.
3. Supervisory service of a factory-trained service engineer, who is specifically trained in the type of equipment herein specified, shall be provided for a period of three (3) 8 HR man days for inspection of erected URS, and training of Owner's personnel.
4. Before placing the system into operation, the system shall be disinfected by introducing a sodium hypochlorite solution into the system and piping in accordance with AWWA C653, AWWA Standard for Disinfection of Water Treatment Plants.
5. Flush the system to waste.
6. After completion of the inspection, the URS service engineer shall initiate a trial performance run, ascertain any adjustments required, and place the system into operation.
7. Remotely assist the system installer with technical advice on the installation of the major components of the treatment equipment.
8. Operator training shall be provided to the Owner for the operation of the equipment as well as radiation safety awareness. Radiation safety awareness training shall also be provided for local first responders as requested.
9. No form of energy shall be turned on to any part of the system prior to receipt by the engineer of a certified statement of approval of the installation from the URS supplier.

3.3 LONG TERM SERVICES

A. As part of the total scope of supply, the following services shall be provided by the URS supplier. The system supplier shall furnish all labor, materials and supplies to perform all work called for in connection with the media removal, exchange, proper disposal and replacement with new media as specified below for the term of the services agreement on a guaranteed cost per 1,000 gallons treated basis for the term of the contract. The system supplier shall take ownership of the uranium as loads onto the treatment media and shall provide a guarantee for the performance of the entire treatment system for the term of the contract.

B. System Operating Criteria:

1. The stated average raw water uranium level to be treated is 35.1ug/L.
2. The Long Term Services contract will be based upon treating 1,500,000,000 gallons per year.

C. Process Performance Requirements:

1. Guarantee the performance of the URS provided under the section above to successfully reduce the uranium level in the treated water to less than 15% of the influent concentration at all times.

D. Qualifications:

1. The system supplier shall carry workmen's compensation and liability insurance. The certificates of insurance will be supplied to the Owner for review.
2. The system supplier must have at least five (5) years of experience as a treatment media and service agreement system supplier, and shall provide at least five (5) references of other Owners with similar scopes of work.
3. The maintenance and service of the equipment must be undertaken only by qualified personnel, must hold a grade 3 Nebraska Water Operator license, directly employed by the system supplier. Proper care, procedures, and tools must be used in handling, lifting, installing, operating, maintaining and repairing equipment to prevent personnel injury and or property damage.
4. The Long Term Services supplier shall be the same as the Uranium Removal System Supplier.

E. Treatment System Operation and Maintenance:

1. The system supplier shall maintain the treatment equipment in proper operating condition for the term of the contract.
2. The system supplier shall perform periodic inspection of the treatment system to detect early signs of deteriorating performance and to anticipate potential equipment failures.
3. The system supply shall perform periodic water analysis to monitor system performance as deemed necessary for proper operation of system.
4. The system supplier shall perform periodic media analysis to monitor system performance as deemed necessary for proper operation of system.
5. The Owner shall be responsible for the daily operation and monitoring of the URS.
6. The Owner shall perform all compliance tests as required by the State of Nebraska and shall provide a copy of any test results to the system supplier upon receipt.

F. Media Services:

1. The system supplier shall be responsible for obtaining and maintaining any licenses specifically related to radioactive materials that may be required for the operation of the URS, and the handling and disposal of radioactive treatment residuals. The cost of any such license fees applicable to this specific treatment system shall be submitted to the Owner for payment.
2. At such time the treatment media becomes ineffective, and requires replacement, the system supplier shall be responsible for the removal, packaging, shipment and proper disposal of the spent media. Once the spent media is removed, it shall be replaced with new Uranium Removal Media, and placed back into service by the system supplier.
3. The spent media including all uranium loaded onto the media will become the property of the system supplier, which will be responsible for its proper removal and disposal.

G. Radiation Safety Services:

1. The URS supplier shall be responsible for obtaining and maintaining a radioactive materials license as required for the system operation and the handling and disposal of radioactive treatment residuals.
2. The URS supplier shall provide Radiation Safety Awareness Training for the Owner when the system begins operation.
    a. Annual refresher training shall be provided as required.
3. The URS supplier shall provide radiation exposure badges for treatment site, and will be responsible for the collection and maintenance of the exposure data for this site.
4. The URS supplier shall assign a qualified, on staff, Radiation Safety Officer for this project that will be accessible at all times.
5. After each media exchange, the system supplier shall survey the treatment site facility for contamination and decontaminate as needed.
6. After each media exchange, the system supplier shall provide documentation showing receipt and acceptance of the spent media by the disposal facility.

H. Decommissioning of Uranium Removal System:

1. Upon the expiration or termination of the Long Term Services Agreement, the system supplier will be responsible for decommissioning the system. This will include the removal and proper disposal of all treatment media, cleaning of the treatment equipment so as to comply with the licensing requirements for decommissioning the system. A radiological site survey will be completed by the system supplier as documentation that the decommissioning is complete.

I. Term of Contract:

1. The length of the Long Term Services Agreement shall be 10 years, commencing when the treatment system is placed into operation.

J. Payment:

1. The services described in this section shall be priced on a cost per thousand gallons treated, for treatment of the minimum annual gallons specified above. The annual total cost will be invoiced in equal monthly installments.
2. Additional gallons treated will be invoiced at the end of the calendar year at the same cost per thousand gallons.
3. Reasonable adjustment to the cost for these services may be made on an annual basis. The amount of adjustment will be based upon the Inflation Index which will be calculated as the sum of 85 percent of the CPI-U and 15 percent of the CPT-TR. The U.S. Department of Labor, Bureau of Labor Statistics, Consumer Price Index ("CPI") incorporates the following elements.
    a. All Urban Consumers ("CPI-U").
    b. Transportation Category (CPI-Tr").
    c. Not Seasonally Adjusted.
    d. U.S. City Average.
    e. All Items, Base Period: 1982 – 84 = 100.

K. Form of Agreement:

1. The City's standard Contract Agreement will be used. The system supplier shall provide to the Owner a completed form of the System supplier's terms of agreement to be included in the contract agreement. The terms of agreement will be included in the Contract Agreement if acceptable to the City.

END OF SECTION

Table 1: City of Grand Island – Wells 6,7 and 8 - Historical Raw Water Quality

Parameter (Units)	Value	Parameter (Units)	Value
Uranium, ug/L	35.1	Gross Alpha, pCi/L	45
Alkalinity, mg/L as CaCO3	220	Radium 226+228, pCi/L	1.1
Barium, mg/L	0.101	Sulfate, mg/L	250
Iron (total), mg/L	0.147	Phosphorous, mg/L	0.679
Strontium, mg/L	0.6	Calcium, mg/L	240
Magnesium, mg/L	21.1	Manganese, mg/L	0.01
pH	7.67	Total Dissolved Solids, mg/L	600
NTU	1.7	Alkalinity, mg/L	220

MINIMUM INSURANCE REQUIREMENTS
CITY OF GRAND ISLAND, NEBRASKA

The successful bidder shall obtain insurance from companies authorized to do business in Nebraska of such types and in such amounts as may be necessary to protect the Bidder and the interests of the City against hazards or risks of loss as hereinafter specified. This insurance shall cover all aspects of the Bidder's operations and completed operations. Failure to maintain adequate coverage shall not relieve Bidder of any contractual responsibility or obligation. Minimum insurance coverage shall be the amounts stated herein or the amounts required by applicable law, whichever are greater.

1. WORKERS COMPENSATION AND EMPLOYER'S LIABILITY

This insurance shall protect the Bidder against all claims under applicable State workers compensation laws. This insurance shall provide coverage in every state in which work for this project might be conducted. The liability limits shall not be less than the following:

Workers Compensation	Statutory Limits
Employers Liability	$100,000 each accident
	$100,000 each employee
	$500,000 policy limit

2. BUSINESS AUTOMOBILE LIABILITY

This insurance shall be written in comprehensive form and shall protect the Bidder, Bidder's employees, or subcontractors from claims due to the ownership, maintenance, or use of a motor vehicle. The liability limits shall not be less than the following:

Bodily Injury & Property Damage	$ 500,000 Combined Single Limit

3. COMPREHENSIVE GENERAL LIABILITY

The comprehensive general liability coverage shall contain no exclusion relative to explosion, collapse, or underground property. The liability limits shall not be less than the following:

Bodily Injury & Property Damage	$ 500,000 each occurrence
	$1,000,000 aggregate

4. UMBRELLA LIABILITY INSURANCE

This insurance shall protect the Bidder against claims in excess of the limits provided under employer's liability, comprehensive automobile liability, and commercial general liability policies. The umbrella policy shall follow the form of the primary insurance, including the application of the primary limits. The liability limits shall not be less than the following:

Bodily Injury & Property Damage	$1,000,000 each occurrence
	$1,000,000 general aggregate

5. ADDITIONAL REQUIREMENTS

The City may require insurance covering a Bidder or subcontractor more or less than the standard requirements set forth herein depending upon the character and extent of the work to be performed by such Bidder or subcontractor.

Insurance as herein required shall be maintained in force until the City releases the Bidder of all obligations under the Contract.

The Bidder shall provide and carry any additional insurance as may be required by special provisions of these specifications.

6. CERTIFICATE OF INSURANCE

Satisfactory certificates of insurance shall be filed with the City prior to starting any work on this Contract**. The certificates shall show the City as an additional insured on all coverage except Workers Compensation. The certificate shall state that thirty (30) days written notice shall be given to the City before any policy is cancelled (strike the "endeavor to" wording often shown on certificate forms). If the Bidder cannot have the "endeavor to" language stricken, the Bidder may elect to provide a new certificate of insurance every thirty (30) days during the contract. Bidder shall immediately notify the City if there is any reduction of coverage because of revised limits or claims paid which affect the aggregate of any policy.**