



506-2014 ADDENDUM 1

SUPPLY AND DELIVERY OF A STRUVITE RECOVERY SYSTEM

URGENT

PLEASE FORWARD THIS DOCUMENT TO WHOEVER IS IN POSSESSION OF THE REQUEST FOR PROPOSAL

ISSUED: 2014 09 29
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THIS ADDENDUM SHALL BE INCORPORATED INTO THE REQUEST FOR PROPOSAL AND SHALL FORM A PART OF THE CONTRACT DOCUMENTS

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Please note the following and attached changes, corrections, additions, deletions, information and/or instructions in connection with the Request for Proposal, and be governed accordingly. Failure to acknowledge receipt of this Addendum in Paragraph 9 of Form A: Proposal may render your Proposal non-responsive.

PART B – BIDDING PROCEDURES

Revise: B2.1 to read The Submission Deadline is 4:00 p.m. Winnipeg time, **November 13, 2014.**

PART D – SUPPLEMENTAL CONDITIONS

Revise: D2.1(n) to read: **“System Integrator”** means the Person(s) responsible for PLC programming **required** for the project **but not included in the Work**, and may be the City, the Contract Administrator, the Installation Contractor, or another contractor.

Add: D21.2 Further to C10, payment shall be in Canadian funds net thirty (30) Calendar Days after receipt and approval of the Contractor's invoice.

PART E – SPECIFICATIONS

Section 01 11 00 Summary of Work

Delete: 1.1.1.1.4

Revise: 1.1.4.1 to read: Provide programming support services and Products described in these Specifications or that may be reasonably required by the System Integrator to program instrumentation and control systems that are not provided by the Contractor but are required to coordinate or interface with the Work.

Delete: 1.1.5 and 1.1.5.1

Revise: 1.1.8.1 to read: Assist in the preparation of a Commissioning Plan.

Section 01 43 33 Field Services

Revise: 1.3.1 to read: Before commencing installation of equipment, the Installation Contractor will **contact the Contractor to** arrange for the attendance of the Manufacturer's Representative to provide instructions in the methods, techniques, precautions, and any other information relevant to the successful installation of the equipment.

Section 40 05 23 Common Work Results for Process Valves

Revise: 2.1.4 to read The system shall be designed to provide actuated operators to facilitate ease of operation. All valves shall have an actuator/operator appropriate to their function.

Section 43 05 00 Common Work Results for Liquid Handling Equipment

Revise: 2.1.3 to read: Vibration Isolators: **Except as otherwise stipulated in the List of Components Not Supplied by the Bidder, the Contractor shall supply restrained spring-type vibration isolators or pads for air compressors, blowers, engines and inline fans per Manufacturer's written recommendations.** Vibration isolations shall be provided with seismic restraint.

Revise: 3.1.1 to read: The Contractor shall provide the services of qualified Manufacturer's Representative in accordance with 46 07 13 Packaged Struvite Recovery System.

Delete: 3.1.2

Delete: 3.2, 3.2.1, 3.2.2 and 3.2.3

Delete: 3.3, 3.3.1 and 3.3.2

Delete: 3.4 and 3.4.1

Section 46 07 13 Packaged Struvite Recovery System

Revise: 1.4.3 to read: The Contractor shall ensure that the Installation **Contractor** is fully informed of precautions to be taken in the unloading of equipment and its subsequent storage including any required maintenance.

Revise: 2.1.2 to read: The feed **characteristics** to the pre-digestion phosphorus release process are listed in Table 1. **The discharge from the pre-digestion release process will be thickened in dissolved air flotation to approximately 3.5 percent solids. The subnatant from DAF thickening will directed to the SRS system. The estimated subnatant characteristics are listed in Table 1.** The Contractor will be responsible to provide all process design information to allow the Contract Administrator to design and tender the work for **the pre-digestion release process** under a separate contract. The Contractor will be responsible for all design calculations and performance of the pre-digestion release process.

Table 1: Wastewater Characteristics for Pre-Digestion Release Process (Feed Characteristics and Estimated Subnatant Characteristics Following DAF Thickening)

Parameter ¹	Unit	2020 Average Conditions		2037 Average Conditions	
		Feed to Pre-Digestion	Pre-Digestion Subnatant (after DAF Thickening)	Feed to Pre-Digestion	Pre-Digestion Subnatant (after DAF Thickening)
Flow	ML/d	3.34	2.47	3.99	2.94
TSS	kg/d	32,110	1,606	38,466	1,923
VSS	kg/d	23,960	1,198	28,703	1,435
Nitrogen	kgN/d	2,008	100	2,405	120
Phosphorus (assimilated) ²	kgP/d	493	25	591	30
Phosphorous (PAOs) ³	kgP/d	698	516	836	617
Concentration	Percent	0.96	0.065	0.96	0.065
Minimum Temperature	Celsius	7	7	7	7

¹ Specific wastewater characteristics such as NH₃/TKN ratio, magnesium, calcium, and pH are not known

² Phosphorus associated with uptake due to the requirements for bacterial growth

³ Phosphorus associated with the uptake by phosphorus accumulating organisms (i.e., phosphorus available to be released in the pre-digestion release tank). In “Feed” values represent stored phosphorus in PAO’s, in “Subnatant” values represent phosphorus released by PAO’s.

Revise: 2.1.3 to read: The centrate characteristics following thermal hydrolysis, anaerobic digestion, and dewatering are listed in Table 2. The centrate will be directed to the SRS system for treatment.

Table 2: Estimated Centrate Characteristics (Following Thermal Hydrolysis, Anaerobic Digestion, Dewatering)

Parameter ¹	Unit	2020 Average	2037 Average
Flow	ML/d	0.839	1.005
TSS	kgTSS/d	1,494	1,790
VSS	kgVSS/d	1,010	1,210
Nitrogen	kgN/d	1,906	2,283
Phosphorus	kgPO ₄ -P/d	502	762
Concentration	Percent	0.18	0.18

¹ Specific wastewater characteristics such as NH₃/TKN ratio, magnesium, calcium, and pH are not known

Revise: 2.1.4 to read: The struvite recovery system will reduce the mass of soluble phosphorus and ammonia in the feed **streams**. **Design** the system to be capable of treating the **2020 Average conditions listed in Table 1 and Table 2, with the ability to be expanded to the 2037 Average condition.**

Revise 2.2.5 to read The top of each vessel will be covered with a **stainless steel, aluminum, or** fiber-reinforced plastic cover, complete with flange connection for venting and odour control

Delete 2.2.6

Revise: 2.4.2 to read: Provide a duty/standby arrangement for the effluent pump recycle system. If for a specific design restriction, the duty/standby arrangement cannot be provided, then a shelf will be acceptable. The proponent should state reasons why an in-line spare cannot be incorporated into the design.

Clarification of 2.1.7.2: It is the Contractor's responsibility to determine whether redundant reactors are required to provide 365 days of uninterrupted operation.

Revise 2.6.1 to read: The City is in the process of developing the City of Winnipeg Water & Waste Department Automation Design Guide in an effort to standardize common components and processes in all City wastewater treatment plants. The Guide shall be applied to all upgrades and purchases including the Struvite Recovery System. The Guide has been tentatively scheduled for release in early 2015, and will not be available to the Bidder before the Submission Deadline.

Revise 2.6.3 to read: The Price submitted by the Bidder should be based on using the preferred vendors selected by the corresponding RFPs listed below in Section 2.6.4. The preferred vendor list, for this RFP, will be provided by the City through Addenda prior to the Bid Submission Deadline.

Revise 2.6.4 to read: For more information on the complete list of components being evaluated by the City, the Bidders are referred to the City website (<http://www.winnipeg.ca/finance/findata/matmgmt/bidres/Past/2014.asp>) and entering the RFP number into the Bid Opportunity Document Search engine.

1. *UPS Systems – awarded to EECOL Electric, RFP #341-2013*
2. *Control System and MCC – pending award, RFP #756-2013*
3. *Electric Actuators – pending award, RFP #331-2014*
4. *Instrumentation – pending award, RFP #449-2014*
 - i. *Level systems of Ultrasonic and Radar Type*
 - ii. *Temperature Sensors and Transmitters*
 - iii. *Pressure Transducers*
 - iv. *Magnetic Flowmeters*
5. *Fixed Toxic Gas Detection – pending award, RFP #123-2014*

Revise: 3.2.3 to read: Allow for ten (10) trips to Site for the **durations** indicated in the following table. The total number of trips will depend on the Installation Contractor's schedule and may be reduced if the Installation Contractor's schedule allows combining more than one task in one **trip**.

Table 1: Travel Requirement Schedule

Item	Description	No. of Trips	No. of Days On Site (total)	Form
1	Equipment Delivery	2	2	100
2	Readiness to Install	2	2	101
3	Satisfactory Installation	2	2	102
4	Commissioning and Equipment Satisfactory Performance Testing	1	10	103
5	Satisfactory Process Performance Testing	1	21	104
6	Initial Operator and Maintenance Training	1	4	T1
7	Final Operator and Maintenance Training	1	4	T2