



ADDENDUM 4 BID OPPORTUNITY 742-2005

WINNIPEG WATER TREATMENT PROGRAM – SUPPLY AND INSTALLATION OF WATER TREATMENT PLANT PROCESS MECHANICAL AND ELECTRICAL

URGENT

**PLEASE FORWARD THIS DOCUMENT TO
WHOEVER IS IN POSSESSION OF THE BID
OPPORTUNITY**

ISSUED: May 16, 2006
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**THIS ADDENDUM SHALL BE INCORPORATED
INTO THE BID OPPORTUNITY AND SHALL
FORM A PART OF THE CONTRACT
DOCUMENTS**

Template Version: A20050506

Please note the following and attached changes, corrections, additions, deletions, information and/or instructions in connection with the Bid Opportunity, and be governed accordingly. Failure to acknowledge receipt of this Addendum in Paragraph 10 of Form A: Bid may render your Bid non-responsive.

PART A – BID SUBMISSION

Replace: 742-2005_Addendum_3-Bid_Submission with 742-2005_Addendum_4-Bid_Submission. Form B(R1): Prices has been replaced by Form B(R2): Prices.

PART E – SPECIFICATIONS

Section 11001

Clarification: Portions of the Work specified in this Section shall be performed under various Divisions of the Contract. If the Contract is awarded in parts, refer to the scope of work specified in D2 to determine which contractor is responsible for specific portions of the installation specified in Section 11001.

Revise: 1.2.6 to read: Concrete grout

Section 11002

Clarification: Portions of the Work specified in this Section shall be performed under various Divisions of the Contract. If the Contract is awarded in parts, refer to the scope of work specified in D2 to determine which contractor is responsible for specific portions of the installation specified in Section 11002.

Revise: 1.2.6 to read: Concrete grout

Section 11006

Clarification: Portions of the Work specified in this Section shall be performed under various Divisions of the Contract. If the Contract is awarded in parts, refer to the scope of work specified in D2 to determine which contractor is responsible for specific portions of the installation specified in Section 11006.

Revise: 1.2.7 to read: Concrete grout

Section 11007

Clarification: Portions of the Work specified in this Section shall be performed under various Divisions of the Contract. If the Contract is awarded in parts, refer to the scope of work specified in D2 to determine which contractor is responsible for specific portions of the installation specified in Section 11007.

Section 11008

Clarification: Portions of the Work specified in this Section shall be performed under various Divisions of the Contract. If the Contract is awarded in parts, refer to the scope of work specified in D2 to determine which contractor is responsible for specific portions of the installation specified in Section 11008.

Section 11210

Delete: 2.2.5

Revise: 2.2.10 to read: The drive shall be provided with a dip stick and/or sight glass to observe oil level. Lubrication of the reducer gear drive shall be by means of an efficient oil splash mechanism. The drive shall have an effective drywell feature to eliminate oil leakage down the output shaft. Any flocculator drives which do not have dry well output shaft seals but rely on lip seals is acceptable.

Revise: 2.2.6 to read: The flocculator mixer unit's maximum speed shall be less than 75% of the first critical speed. The use of stabilizing rings or fins shall not influence this limitation.

Revise: The last row of Supplement 1 – Filter Aid Flocculators to read:

Acceptable Manufacturers	SPX Process Equipment/Lightnin Operation Flowserve, Hayward Gordon, Chemineer Approved equal
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Revise: Supplement 2 – Thickened Sludge Equalization Tank Flocculators to read:

PARAMETER	VALUE
Tag No. (s)	MXR-O710C, MXR-O720C
Design Inflow - Min, Avg, Max (L/s)	1.45, 8.00, 23.10
Operating Depth – Min, Avg, Max (m)	1.4, 3.0, 5.0
Solids Concentration – Min, Avg, Max (%)	0.1, 1.5, 3.0
Velocity Gradient:	50 s ⁻¹ @ 0.5°C, 200 s ⁻¹ @ 10°C, 300 s ⁻¹ @ 25°C
Turndown Ratio	6:1
Viscosity (cp)	100
Motor Suitable for Variable Speed Drive	Yes

Supply VFD	Yes
Accessories	Variable frequency drives to be mounted near the mixer, stainless steel 316 mounting flange complete with gasket and stainless steel 316 nuts and bolts
Mixing System	Mechanical, vertical
Flocculation impeller	Stainless Steel – Two Piece Bolted Design
Maximum Flocculator Impeller Diameter (mm)	863.6
Materials - Shaft	Stainless Steel
Materials - All Wet Areas	Stainless Steel
Materials - Casing	Cast Iron, Epoxy Coated, colour to match WTP color scheme
Cell Height (m)	9.16 (includes 400 mm roof slab)
Cell Width (m)	1.86
Cell Length (m)	3.0
Mounting Elevation (m)	239.41
Tank Bottom Elevation (m)	230.25
Water Temperature (oC)	0.5 to 25
Minimum Motor Size per Unit (kW)	2.2
Acceptable Manufacturers	Hayward Gordon – Model MBX 54 SPX Process Equipment/Lightnin Operation – Model 504Q Chemineer Approved equal

Revise: Supplement 3 – Polymer Mixer In Flocculation Tank to read:

PARAMETER	VALUE
Tag No. (s)	MXR-R001C
Design Inflow - Min, Avg, Max (L/s)	30, 42.00, 42.00
Operating Depth – Min, Avg, Max (m)	0.7, 0.9, 1
Solids Concentration – Min, Avg, Max (%)	0.05, 0.3, 1
Velocity Gradient:	500 s-1, 750 s-1, 1000 s-1
Turndown Ratio	4:01, 5:01, 6:01
Viscosity (cp)	100
Motor Suitable for Variable Frequency Drive	Yes
Supply VFD	Yes

Mixing System	Mechanical, vertical
Flocculation Impeller	Stainless Steel 316
Maximum Flocculator Impeller Diameter (mm)	203.2
Materials – Shaft	Stainless Steel 316
Materials – All Wet Areas	Stainless Steel 316
Materials – Casing	Cast Iron, epoxy coated, colour to match plant colour scheme
Tank Height (m)	1.6 (includes 400 mm roof slab)
Tank Width (m)	2
Tank Length (m)	0.6
Mounting Elevation (m)	239.41
Tank Bottom Elevation (m)	237.81
Water Temperature (oC)	0.5 to 25
Maximum Impeller Size (mm)	383
Minimum Motor Size per Unit (kW)	2.24
Accessories	Variable Frequency Drives, Stainless Steel 316 mounting flange complete with gasket and Stainless Steel 316 nuts and bolts
Design Standard	Hayward Gordon Ltd.
Acceptable Manufacturer	SPX Process Equipment/Lightnin Operation Hayward Gordon Ltd.

Section 11251

- Revise: 2.1.7.1 to read: Provide all bulkhead fittings for the tanks as shown on the drawings and as required for instrumentation.
- Revise: 2.1.7.3 to read: All connections to storage tank shall be bulkhead fitting style.
- Revise: 2.1.7.6 to read: All materials used in tank bulkheads and fitting assemblies shall be resistant to the stored chemicals. No wetted fittings or appurtenances shall be of metallic construction.

Section 11301

- Add: 2.2.9: All motors to be supplied in accordance with IEEE 841.
- Delete: 2.11.5

Section 11305

- Clarification: With reference to Supplement 4 – DAF Influent Gallery Process Sump Pumps: The pump runs intermittently, the design capacity for P-P981A is 40 L/s.

Clarification: With reference to Supplement 5 – DAF Influent Gallery Process Sump Pumps: The pumps run intermittently, the design capacity for P-P982A and P-P983A is 175 L/s.

Clarification: Sump pumps shall be standard guide rail sump pumps as specified in 2.3.1 of this Section.

Section 11316

Delete: 3.8.2.2

Delete: Supplement 2 – Clearwell Area Sampling Pumps

Section 11374

Revise: The following row in Supplement 1 – Air Scour Blowers to read:

Min. Inlet Air Temperature [°C]	10
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Section 11501

Revise: The following row of Supplement 1 – Ozone System Cooling Water Pumps to read:

Minimum Pump Efficiency at Design Point (%)	65
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Revise: The following row of Supplement 3 – Nozzle Injector Water Supply Pumps to read:

Minimum Pump Efficiency at Design Point (%)	65
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Section 14620

Revise: The following rows of Supplement 1 – Monorail Hoist for Raw Water Pumping Station to read:

SUPPLEMENT 1 – MONORAIL HOIST FOR RAW WATER PUMPING STATION

PARAMETER	VALUE
Tag No. (s)	CRN-I002
Minimum travel range of hook (Geodetic) (m)	
Lower	236.000
Upper	248.805
Minimum travel length of cable (m)	12.805

Revise: The following rows of Supplement 3 – Monorail Hoist for DAF Influent Gallery to read:

SUPPLEMENT 3 – MONORAIL HOIST FOR DAF INFLUENT GALLERY

PARAMETER	VALUE
Tag No. (s)	CRN-P002
Minimum travel range of hook (Geodetic) (m)	
Lower	231.17
Upper	239.213
Minimum travel length of cable (m)	8.04

Revise: The following rows of Supplement 10 – Monorail Hoist for Backwash Supply Pump Gallery – Manways to read:

SUPPLEMENT 10 – MONORAIL HOIST FOR BACKWASH SUPPLY PUMP GALLERY – MANWAYS

PARAMETER	VALUE
Tag No. (s)	CRN-F003, CRN-F004
Minimum travel range of hook (Geodetic) (m)	
Lower	230.25
Upper	235.736
Minimum travel length of cable (m)	5.49

Revise: The following rows of Supplement 11 – Monorail Hoist for Backwash Supply Pump Gallery – Process Sump Pumps to read:

SUPPLEMENT 11 – MONORAIL HOIST FOR BACKWASH SUPPLY PUMP GALLERY – PROCESS SUMP PUMPS

PARAMETER	VALUE
Tag No. (s)	CRN-F005
Minimum travel range of hook (Geodetic) (m)	
Lower	228.55
Upper	233.961
Minimum travel length of cable (m)	5.41

Revise: The following rows of Supplement 13 – Monorail Hoist for Filter Pipe Gallery – At East CCT Access Point to read:

SUPPLEMENT 13 – MONORAIL HOIST FOR FILTER PIPE GALLERY – AT EAST CCT ACCESS POINT

PARAMETER	VALUE
Tag No. (s)	CRN-F007
Minimum travel range of hook (Geodetic) (m)	
Lower	231.00
Upper	237.702
Minimum travel length of cable (m)	6.70

Revise: The following rows of Supplement 14 – Monorail Hoist for Filter Gallery – 900 mm Valves to read:

SUPPLEMENT 14 – MONORAIL HOIST FOR FILTER GALLERY – 900 mm VALVES

PARAMETER	VALUE
Tag No. (s)	CRN-F008
Minimum travel range of hook (Geodetic) (m)	
Lower	239.00
Upper	247.355
Minimum travel length of cable (m)	8.36

Revise: The following rows of Supplement 15 – Monorail Hoist for Fire Pump Room to read:

SUPPLEMENT 15 – MONORAIL HOIST FOR FIRE PUMP ROOM

PARAMETER	VALUE
Tag No. (s)	CRN-H001
Minimum travel range of hook (Geodetic) (m)	
Lower	234.5
Upper	241.332
Minimum travel length of cable (m)	6.83

Section 15100-00

- Add: 2.4.15: Plug Valve:
- Add: 2.4.15.1: 50 mm and Smaller for Natural Gas Service: Use valve type V465 as specified in Section 15202, Process Valves and Operators.
- Add: 2.4.15.2: 65 through 100 mm for Natural Gas Service: Use valve type V466 as specified in Section 15202, Process Valves and Operators.

Section 15120

Delete: 3.4.2

Section 15200-000

Revise: 3.11.1.2 to read: Exposed piping: provide where shown on the Drawings.

Section 15200-00S

Replace: Section 15200-00S with Section 15200-00S(R1).

Section 15200-09

Add: The following row to the data sheet:

Item	Size	Description
Spectacle Blind	All	316 SST, Class 150, Mill Finish, 3.0 mm Thick.

Section 15200-10

Add: The following row to the data sheet:

Item	Size	Description
Spectacle Blind	All	316 SST, Class 150, Mill Finish, 3.0 mm Thick.

Section 15200-19

Add: The following row to the data sheet:

Item	Size	Description
Spectacle Blind	All	316 SST, Class 150, Mill Finish, 3.0 mm Thick.

Section 15202

- Add: 2.5.5.5: Type V465 Plug Valve 50 mm and smaller:
- Add: 2.5.5.5.1: Natural Gas Service, eccentric type, nonlubricated, cast iron body, and bronze plug with Buna N elastomer O-ring seal, UL listed and CSA/CGA approved, pressure rating: ANSI 125, 1200 kPa, threaded end connections.
- Add: 2.5.5.5.2: Acceptable Manufacturers: Milliken Valve Company, Inc. (Series 625), Key Port Valve (Series 400).
- Add: 2.5.5.6: Type V466 Plug Valve 65 mm through 100 mm:
- Add: 2.5.5.6.1: Natural Gas Service, eccentric type, nonlubricated, cast iron body, and nickel plated cast iron plug with Buna N elastomer O-ring seal, UL listed and CSA/CGA approved, pressure rating: ANSI 125, 1200 kPa.
- Add: 2.5.5.6.2: End Connections: threaded for sizes 65 and 75 mm, flanged for size 100 mm, ANSI B16.1, Class 125/150.
- Add: 2.5.5.6.3: Acceptable Manufacturers: Milliken Valve Company, Inc.(Series 625), Key Port Valve (Series 400).

Section 15720-01

Replace Section 15720-01 with Section 15720-01(R1). The specification for HRU-H034 has been revised.

Section 15830-01

Replace Section 15830-01 with Section 15830-01(R1). The specification for EF-H038 has been revised.

Section 16111

Revise 3.7.7 to read: Organize conduit in slabs to minimize crossovers. Obtain approval and minimum concrete cover required from the Contract Administrator prior to installing conduits in slabs.

Section 16820

Revise 3.1.5 to read: Coordinate, with the Contract Administrator, concrete pad with bevelled edges as shown on the drawings, sized to suit MCC, install and level channel sills and mount MCC.

Section 17700-A(R1)

Replace Section 17700-A(R1) with Section 17700-A(R2).

Section 17701-A

Replace Section 17701-A with Section 17701-A(R1).

DRAWINGS

The following Drawings have been revised and form part of this Addendum:

<u>Consultant Drawing No.</u>	<u>City Drawing No.</u>	<u>Title</u>
WA-E0102	1-0601A-A-E0102-001-02D	ELECTRICAL - ADMINISTRATION AREA - LOWER LEVEL PROCESS PLAN
WA-E0123	1-0601A-A-E0123-001-02D	ELECTRICAL - ADMINISTRATION AREA - SECOND FLOOR POWER AND LIGHTING PLAN
WA-E0131	1-0601A-A-E0131-001-02D	ELECTRICAL - ADMINISTRATION AREA - THIRD FLOOR FACILITY PLAN
WA-E0401	1-0601A-A-E0401-001-02D	ELECTRICAL - ADMINISTRATION AREA - SECOND FLOOR POWER AND LIGHTING PLAN
WA-E0403	1-0601A-A-E0403-001-02D	ELECTRICAL - ADMINISTRATION AREA - THIRD FLOOR POWER AND LIGHTING PLAN
WB-E0512	1-0601B-F-E0512-001-02D	ELECTRICAL - 600V SINGLE LINE DIAGRAM
WB-E0513	1-0601B-F-E0513-001-02D	ELECTRICAL - 600V SINGLE LINE DIAGRAM
WB-E0517	1-0601B-F-E0517-001-02D	ELECTRICAL - 600V SINGLE LINE DIAGRAM
WB-E0526	1-0601B-D-E0526-001-02D	ELECTRICAL - PANEL SCHEDULE
WB-E0528	1-0601B-D-E0528-001-02D	ELECTRICAL - PANEL SCHEDULE
WB-E0532	1-0601B-D-E0532-001-01D	ELECTRICAL - PANEL SCHEDULE
WB-E0534	1-0601B-D-E0534-001-02D	ELECTRICAL - PANEL SCHEDULE
WB-E0535	1-0601B-D-E0535-001-02D	ELECTRICAL - PANEL SCHEDULE
WB-E0537	1-0601B-D-E0537-001-01D	ELECTRICAL - PANEL SCHEDULE
WB-E0539	1-0601B-D-E0539-001-02D	ELECTRICAL - PANEL SCHEDULE
WC-E0112	1-0601C-A-E0112-001-02D	ELECTRICAL - CHEMICAL AREA - FIRST FLOOR PROCESS PLAN
WC-E0131	1-0601C-A-E0131-001-02D	ELECTRICAL - CHEMICAL AREA - THIRD FLOOR FACILITY PLAN
WC-P0001	1-0601C-G-P0001-001-02D	PROCESS - HYDROGEN PEROXIDE STORAGE - PROCESS & INSTRUMENTATION DIAGRAM
WM-E0112	1-0601M-A-E0112-001-02D	ELECTRICAL - ELECTRICAL ROOM AREA - FIRST FLOOR PROCESS PLAN
WP-E0111	1-0601P-A-E0111-001-02D	ELECTRICAL - FLOC/DAF AREA 1 - FIRST FLOOR FACILITY PLAN
WP-E0112	1-0601P-A-E0112-001-02D	ELECTRICAL - FLOC/DAF AREA 2 - FIRST FLOOR FACILITY PLAN
WP-E0113	1-0601P-A-E0113-001-02D	ELECTRICAL - FLOC/DAF AREA 1 - FIRST FLOOR PROCESS PLAN
WP-E0114	1-0601P-A-E0114-001-02D	ELECTRICAL - FLOC/DAF AREA 2 - FIRST FLOOR PROCESS PLAN
WP-E0115	1-0601P-A-E0115-001-01D	ELECTRICAL - FLOC/DAF AREA 1 - FIRST FLOOR POWER AND LIGHTING PLAN
WP-E0131	1-0601P-A-E0131-001-02D	ELECTRICAL - FLOC/DAF AREA 1 - THIRD FLOOR FACILITY PLAN
WP-E0132	1-0601P-A-E0132-001-02D	ELECTRICAL - FLOC/DAF AREA 2 - THIRD FLOOR FACILITY PLAN
WP-E0134	1-0601P-A-E0134-001-02D	ELECTRICAL - FLOC/DAF AREA 2 - THIRD FLOOR PROCESS PLAN
WR-E0121	1-0601R-A-E0121-001-02D	ELECTRICAL - RESIDUALS HANDLING AREA - SECOND FLOOR FACILITY PLAN