



THE CITY OF WINNIPEG

BID OPPORTUNITY

BID OPPORTUNITY NO. 25-2008

NEWPCC – CIRCULAR PRIMARY CLARIFIER REFURBISHMENT

Project Brief

Key Work Components

Mechanical

- Remove mechanisms from 3 existing circular clarifiers,
- Install new mechanisms which have already been preurchased by the City.
 - Replace the electrical room HVAC system.
 - Provide screw conveyor system for scum disposal.

Electrical

- Remove the Primary Clarifier Building electrical room MCC's and replace with new equipment on a staged basis. Electrical work schedule has limited connection to clarifier installation work.

Structural

- Remove the existing clarifier walkways and completely refurbish them at an assigned location on site, including sandblasting, modifications, and repainting.
- Remove the top 600 - 800 mm section of concrete around the perimeter of each clarifier and replace with new concrete

Projected Schedule

Substantial Performance: No later than November 1, 2009

Access to Clarifiers:

Clarifier 1 can be taken off line after July 1, 2008 with clarifier 2 and 3 following as each previous clarifier is placed back in service. Work can be completed anytime between contract award and November 1, 2009. However full clarifier heating and hoarding will be required from November 1 to March 31, if one clarifier is to be kept empty/off line during this period. To avoid full clarifier heating and hoarding, clarifiers can be made available and drained one at a time from July 1 to November 1 in 2008 and 2009, as required to suit the contractor's schedule. All 3 clarifiers must be on-line from April 1 to June 30, 2008 and 2009.

Additional Information

Performance Bond 50%

See site photos in Appendix C.
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PART B - BIDDING PROCEDURES

B1. CONTRACT TITLE

B1.1 NEWPCC – CIRCULAR PRIMARY CLARIFIER REFURBISHMENT

B2. SUBMISSION DEADLINE

B2.1 The Submission Deadline is 12:00 noon Winnipeg time, March 14, 2008.

B2.2 Bids determined by the Manager of Materials to have been received later than the Submission Deadline will not be accepted and will be returned upon request.

B2.3 The Contract Administrator or the Manager of Materials may extend the Submission Deadline by issuing an addendum at any time prior to the time and date specified in B2.1.

B3. SITE INVESTIGATION

B3.1 Further to C3.1, the Contract Administrator or an authorized representative will be available at the Site from 10am to 12pm on February 26, 2008 to provide Bidders access to the Site. No formal bidders meeting is planned.

B3.2 The Bidder shall not be entitled to rely on any information or interpretation received at the Site investigation unless that information or interpretation is the Bidder's direct observation, or is provided by the Contract Administrator in writing.

B4. ENQUIRIES

B4.1 All enquiries shall be directed to the Contract Administrator identified in D3.1.

B4.2 If the Bidder finds errors, discrepancies or omissions in the Bid Opportunity, or is unsure of the meaning or intent of any provision therein, the Bidder shall notify the Contract Administrator of the error, discrepancy or omission, or request a clarification as to the meaning or intent of the provision at least five (5) Business Days prior to the Submission Deadline.

B4.3 Responses to enquiries which, in the sole judgment of the Contract Administrator, require a correction to or a clarification of the Bid Opportunity will be provided by the Contract Administrator to all Bidders by issuing an addendum.

B4.4 Responses to enquiries which, in the sole judgment of the Contract Administrator, do not require a correction to or a clarification of the Bid Opportunity will be provided by the Contract Administrator only to the Bidder who made the enquiry.

B4.5 The Bidder shall not be entitled to rely on any response or interpretation received pursuant to B4 unless that response or interpretation is provided by the Contract Administrator in writing.

B5. ADDENDA

B5.1 The Contract Administrator may, at any time prior to the Submission Deadline, issue addenda correcting errors, discrepancies or omissions in the Bid Opportunity, or clarifying the meaning or intent of any provision therein.

B5.2 The Contract Administrator will issue each addendum at least two (2) Business Days prior to the Submission Deadline, or provide at least two (2) Business Days by extending the Submission Deadline.

B5.2.1 Addenda will be available on the Bid Opportunities page at The City of Winnipeg, Corporate Finance, Materials Management Branch internet site at <http://www.winnipeg.ca/matmgt>.

B5.2.2 The Bidder is responsible for ensuring that he has received all addenda and is advised to check the Materials Management Branch internet site for addenda regularly and shortly before the Submission Deadline, as may be amended by addendum.

B5.3 The Bidder shall acknowledge receipt of each addendum in Paragraph 10 of Form A: Bid. Failure to acknowledge receipt of an addendum may render a Bid non-responsive.

B6. SUBSTITUTES

B6.1 The Work is based on the Plant, Materials and methods specified in the Bid Opportunity.

B6.2 Substitutions shall not be allowed unless application has been made to and prior approval has been granted by the Contract Administrator in writing.

B6.3 Requests for approval of a substitute will not be considered unless received in writing by the Contract Administrator at least five (5) Business Days prior to the Submission Deadline.

B6.4 The Bidder shall ensure that any and all requests for approval of a substitute:

- (a) provide sufficient information and details to enable the Contract Administrator to determine the acceptability of the Plant, Material or method as either an approved equal or alternative;
- (b) identify any and all changes required in the applicable Work, and all changes to any other Work, which would become necessary to accommodate the substitute;
- (c) identify any anticipated cost or time savings that may be associated with the substitute;
- (d) certify that, in the case of a request for approval as an approved equal, the substitute will fully perform the functions called for by the general design, be of equal or superior substance to that specified, is suited to the same use and capable of performing the same function as that specified and can be incorporated into the Work, strictly in accordance with the proposed work schedule and the dates specified in the Supplemental Conditions for Substantial Performance and Total Performance;
- (e) certify that, in the case of a request for approval as an approved alternative, the substitute will adequately perform the functions called for by the general design, be similar in substance to that specified, is suited to the same use and capable of performing the same function as that specified and can be incorporated into the Work, strictly in accordance with the proposed work schedule and the dates specified in the Supplemental Conditions for Substantial Performance and Total Performance.

B6.5 The Contract Administrator, after assessing the request for approval of a substitute, may in his sole discretion grant approval for the use of a substitute as an "approved equal" or as an "approved alternative", or may refuse to grant approval of the substitute.

B6.6 The Contract Administrator will provide a response in writing, at least two (2) Business Days prior to the Submission Deadline, only to the Bidder who requested approval of the substitute.

B6.6.1 The Bidder requesting and obtaining the approval of a substitute shall be entirely responsible for disseminating information regarding the approval to any person or persons he wishes to inform.

B6.7 If the Contract Administrator approves a substitute as an "approved equal", any Bidder may use the approved equal in place of the specified item.

B6.8 If the Contract Administrator approves a substitute as an "approved alternative", any Bidder bidding that approved alternative may base his Total Bid Price upon the specified item but may also indicate an alternative price based upon the approved alternative. Such alternatives will be evaluated in accordance with B15.

B6.9 No later claim by the Contractor for an addition to the Total Bid Price because of any other changes in the Work necessitated by the use of an approved equal or an approved alternative will be considered.

B7. BID COMPONENTS

B7.1 The Bid shall consist of the following components:

- (a) Form A: Bid;
- (b) Form B: Prices;
- (c) Form G1: Bid Bond and Agreement to Bond, or
Form G2: Irrevocable Standby Letter of Credit and Undertaking, or
a certified cheque or draft;

B7.2 Further to B7.1, the Bidder should include the written correspondence from the Contract Administrator approving a substitute in accordance with B6.

B7.3 All components of the Bid shall be fully completed or provided, and submitted by the Bidder no later than the Submission Deadline, with all required entries made clearly and completely, to constitute a responsive Bid.

B7.4 The Bid shall be submitted enclosed and sealed in an envelope clearly marked with the Bid Opportunity number and the Bidder's name and address.

B7.4.1 Samples or other components of the Bid which cannot reasonably be enclosed in the envelope may be packaged separately, but shall be clearly marked with the Bid Opportunity number, the Bidder's name and address, and an indication that the contents are part of the Bidder's Bid.

B7.5 Bidders are advised not to include any information/literature except as requested in accordance with B7.1.

B7.6 Bidders are advised that inclusion of terms and conditions inconsistent with the Bid Opportunity document, including the General Conditions, may result in the Bid being determined to be non-responsive.

B7.7 Bids submitted by facsimile transmission (fax) or internet electronic mail (e-mail) will not be accepted.

B7.8 Bids shall be submitted to:

The City of Winnipeg
Corporate Finance Department
Materials Management Branch
185 King Street, Main Floor
Winnipeg MB R3B 1J1

B8. BID

B8.1 The Bidder shall complete Form A: Bid, making all required entries.

B8.2 Paragraph 2 of Form A: Bid shall be completed in accordance with the following requirements:

- (a) if the Bidder is a sole proprietor carrying on business in his own name, his name shall be inserted;
- (b) if the Bidder is a partnership, the full name of the partnership shall be inserted;
- (c) if the Bidder is a corporation, the full name of the corporation shall be inserted;
- (d) if the Bidder is carrying on business under a name other than his own, the business name and the name of every partner or corporation who is the owner of such business name shall be inserted.

- B8.2.1 If a Bid is submitted jointly by two or more persons, each and all such persons shall identify themselves in accordance with B8.2.
- B8.3 In Paragraph 3 of Form A: Bid, the Bidder shall identify a contact person who is authorized to represent the Bidder for purposes of the Bid.
- B8.4 Paragraph 12 of Form A: Bid shall be signed in accordance with the following requirements:
- (a) if the Bidder is a sole proprietor carrying on business in his own name, it shall be signed by the Bidder;
 - (b) if the Bidder is a partnership, it shall be signed by the partner or partners who have authority to sign for the partnership;
 - (c) if the Bidder is a corporation, it shall be signed by its duly authorized officer or officers and the corporate seal, if the corporation has one, should be affixed;
 - (d) if the Bidder is carrying on business under a name other than his own, it shall be signed by the registered owner of the business name, or by the registered owner's authorized officials if the owner is a partnership or a corporation.
- B8.4.1 The name and official capacity of all individuals signing Form A: Bid shall be printed below such signatures.
- B8.4.2 All signatures should be witnessed, except where a corporate seal has been affixed.
- B8.5 If a Bid is submitted jointly by two or more persons, the word "Bidder" shall mean each and all such persons, and the undertakings, covenants and obligations of such joint Bidders in the Bid and the Contract, when awarded, shall be both joint and several.

B9. PRICES

- B9.1 The Bidder shall state a price in Canadian funds for each item of the Work identified on Form B: Prices.
- B9.1.1 Notwithstanding C12.2.3(c), the price on Form B: Prices shall not include the Manitoba Retail Sales Tax (MRST, also known as PST), which shall be extra where applicable.
- B9.2 The quantities listed on Form B: Prices are to be considered approximate only. The City will use said quantities for the purpose of comparing Bids.
- B9.3 The quantities for which payment will be made to the Contractor are to be determined by the Work actually performed and completed by the Contractor, to be measured as specified in the applicable Specifications.

B10. QUALIFICATION

- B10.1 The Bidder shall:
- (a) undertake to be in good standing under The Corporations Act (Manitoba), or properly registered under The Business Names Registration Act (Manitoba), or otherwise properly registered, licensed or permitted by law to carry on business in Manitoba; and
 - (b) be financially capable of carrying out the terms of the Contract; and
 - (c) have all the necessary experience, capital, organization, and equipment to perform the Work in strict accordance with the terms and provisions of the Contract.
- B10.2 The Bidder and any proposed Subcontractor (for the portion of the Work proposed to be subcontracted to them) shall:
- (a) be responsible and not be suspended, debarred or in default of any obligations to the City (a list of suspended or debarred individuals and companies is available on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Branch internet site at <http://www.winnipeg.ca/matmgt>).

- B10.3 The Bidder and/or any proposed Subcontractor (for the portion of the Work proposed to be subcontracted to them) shall:
- (a) have successfully carried out work similar in nature, scope and value to the Work; and
 - (b) be fully capable of performing the Work required to be in strict accordance with the terms and provisions of the Contract; and
 - (c) have a written workplace safety and health program if required pursuant to The Workplace Safety and Health Act (Manitoba);
- B10.4 Further to B10.3(c), the Bidder shall, within three (3) Business Days of a request by the Contract Administrator, provide proof satisfactory to the Contract Administrator that the Bidder/Subcontractor has a workplace safety and health program meeting the requirements of The Workplace Safety and Health Act (Manitoba), by providing:
- (a) a valid COR certification number under the Certificate of Recognition (COR) Program administered by the Manitoba Construction Safety Association or by the Manitoba Heavy Construction Association's Safety, Health and Environment Program; **OR**
 - (b) a report or letter to that effect from an independent reviewer acceptable to the City. (A list of acceptable reviewers and the review template are available on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Branch internet site at <http://www.winnipeg.ca/matmgt.>)
- B10.5 The Bidder shall submit, within three (3) Business Days of a request by the Contract Administrator, proof satisfactory to the Contract Administrator of the qualifications of the Bidder and of any proposed Subcontractor.
- B10.6 The Bidder shall provide, on the request of the Contract Administrator, full access to any of the Bidder's equipment and facilities to confirm, to the Contract Administrator's satisfaction, that the Bidder's equipment and facilities are adequate to perform the Work.

B11. BID SECURITY

- B11.1 The Bidder shall provide bid security in the form of:
- (a) a bid bond, in the amount of at least ten percent (10%) of the Total Bid Price, and agreement to bond of a company registered to conduct the business of a surety in Manitoba, in the form included in the Bid Submission (Form G1: Bid Bond and Agreement to Bond); or
 - (b) an irrevocable standby letter of credit, in the amount of at least ten percent (10%) of the Total Bid Price, and undertaking issued by a bank or other financial institution registered to conduct business in Manitoba and drawn on a branch located in Winnipeg, in the form included in the Bid Submission (Form G2: Irrevocable Standby Letter of Credit and Undertaking); or
 - (c) a certified cheque or draft payable to "The City of Winnipeg", in the amount of at least fifty percent (50%) of the Total Bid Price, drawn on a bank or other financial institution registered to conduct business in Manitoba.
- B11.1.1 If the Bidder submits alternative bids, the bid security shall be in the amount of the specified percentage of the highest Total Bid Price submitted.
- B11.1.2 All signatures on bid securities shall be original, and shall be witnessed or sealed as required.
- B11.2 The bid security of the successful Bidder and the next two lowest evaluated responsive and responsible Bidders will be released by the City when a Contract for the Work has been duly executed by the successful Bidder and the performance security furnished as provided herein. The bid securities of all other Bidders will be released when a Contract is awarded.

- B11.2.1 Where the bid security provided by the successful Bidder is in the form of a certified cheque or draft pursuant to B11.1(c), it will be deposited and retained by the City as the performance security and no further submission is required.
- B11.2.2 The City will not pay any interest on certified cheques or drafts furnished as bid security or subsequently retained as performance security.
- B11.3 The bid securities of all Bidders will be released by the City as soon as practicable following notification by the Contract Administrator to the Bidders that no award of Contract will be made pursuant to the Bid Opportunity.

B12. OPENING OF BIDS AND RELEASE OF INFORMATION

- B12.1 Bids will be opened publicly, after the Submission Deadline has elapsed, in the office of the Corporate Finance Department, Materials Management Branch, or in such other office as may be designated by the Manager of Materials.
- B12.1.1 Bidders or their representatives may attend.
- B12.1.2 Bids determined by the Manager of Materials, or his designate, to not include the bid security specified in B11 will not be read out.
- B12.2 Following the submission deadline, the names of the Bidders and their Total Bid Prices (unevaluated, and pending review and verification of conformance with requirements) will be available on the Closed Bid Opportunities (or Public/Posted Opening & Award Results) page at The City of Winnipeg, Corporate Finance, Materials Management Branch internet site at <http://www.winnipeg.ca/matmgt>.
- B12.3 After award of Contract, the name(s) of the successful Bidder(s) and the Contract Amount(s) will be available on the Closed Bid Opportunities (or Public/Posted Opening & Award Results) page at The City of Winnipeg, Corporate Finance, Materials Management Branch internet site at <http://www.winnipeg.ca/matmgt>.
- B12.4 The Bidder is advised that any information contained in any Bid may be released if required by City policy or procedures, by The Freedom of Information and Protection of Privacy Act (Manitoba), by other authorities having jurisdiction, or by law.

B13. IRREVOCABLE BID

- B13.1 The Bid(s) submitted by the Bidder shall be irrevocable for the time period specified in Paragraph 11 of Form A: Bid.
- B13.2 The acceptance by the City of any Bid shall not release the Bids of the next two lowest evaluated responsive Bidders and these Bidders shall be bound by their Bids on such Work until a Contract for the Work has been duly executed and the performance security furnished as herein provided, but any Bid shall be deemed to have lapsed unless accepted within the time period specified in Paragraph 11 of Form A: Bid.

B14. WITHDRAWAL OF BIDS

- B14.1 A Bidder may withdraw his Bid without penalty by giving written notice to the Manager of Materials at any time prior to the Submission Deadline.
- B14.1.1 Notwithstanding C23.3, the time and date of receipt of any notice withdrawing a Bid shall be the time and date of receipt as determined by the Manager of Materials.
- B14.1.2 The City will assume that any one of the contact persons named in Paragraph 3 of Form A: Bid or the Bidder's authorized representatives named in Paragraph 12 of Form A: Bid, and only such person, has authority to give notice of withdrawal.
- B14.1.3 If a Bidder gives notice of withdrawal prior to the Submission Deadline, the Manager of Materials will:

- (a) retain the Bid until after the Submission Deadline has elapsed;
- (b) open the Bid to identify the contact person named in Paragraph 3 of Form A: Bid and the Bidder's authorized representatives named in Paragraph 12 of Form A: Bid; and
- (c) if the notice has been given by any one of the persons specified in B14.1.3(b), declare the Bid withdrawn.

B14.2 A Bidder who withdraws his Bid after the Submission Deadline but before his Bid has been released or has lapsed as provided for in B13.2 shall be liable for such damages as are imposed upon the Bidder by law and subject to such sanctions as the Chief Administrative Officer considers appropriate in the circumstances. The City, in such event, shall be entitled to all rights and remedies available to it at law, including the right to retain the Bidder's bid security.

B15. EVALUATION OF BIDS

B15.1 Award of the Contract shall be based on the following bid evaluation criteria:

- (a) compliance by the Bidder with the requirements of the Bid Opportunity (pass/fail);
- (b) qualifications of the Bidder and the Subcontractors, if any, pursuant to B10 (pass/fail);
- (c) Total Bid Price;
- (d) economic analysis of any approved alternative pursuant to B6.

B15.2 Further to B15.1(a), the Award Authority may reject a Bid as being non-responsive if the Bid is incomplete, obscure or conditional, or contains additions, deletions, alterations or other irregularities. The Award Authority may reject all or any part of any Bid, or waive technical requirements or minor informalities or irregularities, if the interests of the City so require.

B15.3 Further to B15.1(b), the Award Authority shall reject any Bid submitted by a Bidder who does not demonstrate, in his Bid or in other information required to be submitted, that he is responsible and qualified.

B15.4 Further to B15.1(c), the Total Bid Price shall be the lump sum of the quantities multiplied by the unit prices for each item shown on Form B: Prices.

B15.4.1 If there is any discrepancy between the Total Bid Price written in figures, the Total Bid Price written in words and the sum of the quantities multiplied by the unit prices for each item, the sum of the quantities multiplied by the unit prices for each item shall take precedence.

B16. AWARD OF CONTRACT

B16.1 The City will give notice of the award of the Contract or will give notice that no award will be made.

B16.2 The City will have no obligation to award a Contract to a Bidder, even though one or all of the Bidders are determined to be responsible and qualified, and the Bids are determined to be responsive.

B16.2.1 Without limiting the generality of B16.2, the City will have no obligation to award a Contract where:

- (a) the prices exceed the available City funds for the Work;
- (b) the prices are materially in excess of the prices received for similar work in the past;
- (c) the prices are materially in excess of the City's cost to perform the Work, or a significant portion thereof, with its own forces;
- (d) only one Bid is received; or
- (e) in the judgment of the Award Authority, the interests of the City would best be served by not awarding a Contract.

B16.3 Subject to B16.2, where an award of Contract is made by the City, the award shall be made to the responsible and qualified Bidder submitting the lowest evaluated responsive Bid.

B16.3.1 Following the award of contract, a Bidder will be provided with information related to the evaluation of his Bid upon written request to the Contract Administrator.

PART C - GENERAL CONDITIONS

C0. GENERAL CONDITIONS

- C0.1 The *General Conditions for Construction* (Revision 2006 12 15) are applicable to the Work of the Contract.
- C0.1.1 The *General Conditions for Construction* are available on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Branch internet site at <http://www.winnipeg.ca/matmgt>.
- C0.2 A reference in the Bid Opportunity to a section, clause or subclause with the prefix “**C**” designates a section, clause or subclause in the *General Conditions for Construction*.

PART D - SUPPLEMENTAL CONDITIONS

GENERAL

D1. GENERAL CONDITIONS

D1.1 In addition to the *General Conditions for Construction*, these Supplemental Conditions are applicable to the Work of the Contract.

D2. SCOPE OF WORK & CLARIFIER ACCESS

D2.1 This project is located at the North End Water Pollution Control Center (NEWPCC), 2230 Main Street in Winnipeg. The Work to be done under the Contract generally consists of replacing the mechanisms for three existing primary clarifiers, refurbishing the existing clarifier covered walkways, providing a scum removal screw conveyor system, replacing the Primary Clarifier electrical room MCC systems, upgrade the electrical room ventilation system, and replacing the deteriorated concrete on the perimeter top section of each clarifier.

D2.2 Replacing the mechanism on each clarifier will have to be staged as only one clarifier at a time can be taken out of service. Replacing the electrical room MCCs can generally be performed on a schedule separate from the clarifier mechanism replacement schedule.

D2.3 The major components of the Work are as follows:

- (a) On a staged basis, after taking each clarifier out of service, remove the existing clarifier mechanisms, and remove and refurbish the existing covered walkways for reuse;
- (b) Receive new clarifier mechanisms at the site, unload and install into each clarifier according to the supplier's instructions;
- (c) Perform mechanism stress testing, and support each clarifier commissioning;
- (d) Remove the top section of deteriorated concrete from the perimeter of each clarifier and replace with new concrete;
- (e) New Electrical:
 - (i) Supply and install two new MCC's, MCC-1P and MCC-2P, in the clarifier electrical room.
 - (ii) Supply and install new feeder cables for MCC-1P and MCC-2P from MCC-1GD and MCC-2GD in the pre-aeration and grit building.
 - (iii) Supply and install a temporary feeder for the new MCC-1P from the existing MCC-1P.
 - (iv) Supply and install a temporary feeder for the new MCC-2P from the existing MCC-2P.
 - (v) Supply and install new distribution panels, transformers and power and lighting panels.
 - (vi) One at a time supply and install new power and/or control cables to service each relocated load. Test commission, and place into service each relocated load before proceeding to the next load. Unless shown otherwise the intent is to reuse all field devices and equipment.
- (f) Electrical Demolition
 - (i) Disconnect and remove all power and control cabling from MCC-1P (including extension) and MCC-2P (including extension).
 - (ii) Remove MCC-1P and MCC-2P and dispose of off-site.
 - (iii) Remove existing MCC feeder cables from the existing MCC-1GD and MCC-2GD in the pre-aeration and grit building.
 - (iv) Remove all abandoned electrical cabling and equipment in the walkway enclosures of all three clarifiers to facilitate the removal of the existing walkway.

- (g) Upgrade the Primary Clarifier electrical room ventilation system;
- (h) Provide a scum removal screw conveyor system; and
- (i) Miscellaneous items as required to complete the project.

D2.4 **Access to Clarifiers:** Clarifier 1 can be taken out of service after July 1, 2008 with clarifier 2 and 3 following as each previous clarifier is placed back in service. Work can be completed anytime between contract award and November 1, 2009. However full clarifier heating and hoarding maintaining a space temperature of 10C will be required from November 1, 2008 to March 31, 2009, if one clarifier is to be kept out of service during this period. To avoid full clarifier heating and hoarding, clarifiers can be made available and drained one at a time between July 1 to November 1 in 2008 and 2009, as required to suit the contractor's schedule. All 3 clarifiers must be on-line from April 1 to June 30, 2008 and 2009.

D3. CONTRACT ADMINISTRATOR

D3.1 The Contract Administrator is KGS Group, represented by:

Rudy Derksen, P. Eng.
Senior Mechanical Engineer
3rd Floor – 865 Waverley Street, Winnipeg, Manitoba, R3T 5P4
Telephone No. (204) 896-1209
Direct No. (204) 478-3246 Facsimile No. (204) 896-0754
Email rderksen@kqsgroup.com

D3.2 At the pre-construction meeting, Rudy Derksen will identify additional personnel representing the Contract Administrator and their respective roles and responsibilities for the Work.

D4. CONTRACTOR'S SUPERVISOR

D4.1 At the pre-construction meeting, the Contractor shall identify his designated supervisor and any additional personnel representing the Contractor and their respective roles and responsibilities for the Work.

D5. NOTICES

D5.1 Except as provided for in C23.2.2, all notices, requests, nominations, proposals, consents, approvals, statements, authorizations, documents or other communications to the Contractor shall be sent to the address or facsimile number identified by the Contractor in Paragraph 2 of Form A: Bid.

D5.2 All notices, requests, nominations, proposals, consents, approvals, statements, authorizations, documents or other communications to the City, except as expressly otherwise required in D5.3, D5.4 or elsewhere in the Contract, shall be sent to the attention of the Contract Administrator at the address or facsimile number identified in D3.1.

D5.3 All notices of appeal to the Chief Administrative Officer shall be sent to the following address or facsimile number:

The City of Winnipeg
Chief Administrative Officer Secretariat
Attn: Chief Administrative Officer
Administration Building, 3rd Floor
510 Main Street
Winnipeg MB R3B 1B9
Facsimile No.: (204) 949-1174

- D5.4 All notices, requests, nominations, proposals, consents, approvals, statements, authorizations, documents or other communications required to be submitted or returned to the City Solicitor shall be sent to the following address or facsimile number:

The City of Winnipeg
Corporate Services Department
Legal Services Division
Attn: City Solicitor
185 King Street, 3rd Floor
Winnipeg MB R3B 1J1
Facsimile No.: (204) 947-9155

D6. FURNISHING OF DOCUMENTS

- D6.1 Upon award of the Contract, the Contractor will be provided with five (5) complete sets of the Bid Opportunity. If the Contractor requires additional sets of the Bid Opportunity, they will be supplied to him at cost.

SUBMISSIONS

D7. AUTHORITY TO CARRY ON BUSINESS

- D7.1 The Contractor shall be in good standing under The Corporations Act (Manitoba), or properly registered under The Business Names Registration Act (Manitoba), or otherwise properly registered, licensed or permitted by law to carry on business in Manitoba, or if the Contractor does not carry on business in Manitoba, in the jurisdiction where the Contractor does carry on business, throughout the term of the Contract, and shall provide the Contract Administrator with evidence thereof upon request.

D8. SAFE WORK PLAN

- D8.1 The Contractor shall provide the Contract Administrator with a Safe Work Plan at least five (5) Business Days prior to the commencement of any Work on the Site but in no event later than the date specified in C4.1 for the return of the executed Contract.
- D8.2 The Safe Work Plan should be prepared and submitted in the format shown in the City's template which is available on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Branch internet site at <http://www.winnipeg.ca/matmgt>.

D9. INSURANCE

- D9.1 The Contractor shall provide and maintain the following insurance coverage:
- (a) commercial general liability insurance, in the amount of at least two million dollars (\$2,000,000.00) inclusive, with The City of Winnipeg added as an additional insured, with a cross-liability clause, such liability policy to also contain contractual liability, unlicensed motor vehicle liability, non-owned automobile liability and products and completed operations, to remain in place at all times during the performance of the Work and throughout the warranty period;
 - (b) automobile liability insurance for owned automobiles used for or in connection with the Work in the amount of at least two million dollars (\$2,000,000.00) at all times during the performance of the Work and until the date of Total Performance;
 - (c) all risks course of construction insurance in the amount of one hundred percent (100%) of the total Contract Price, written in the name of the Contractor and The City of Winnipeg, at all times during the performance of the Work and until the date of Total Performance.
- D9.2 Deductibles shall be borne by the Contractor.

- D9.3 The Contractor shall provide the City Solicitor with a certificate(s) of insurance, in a form satisfactory to the City Solicitor, at least two (2) Business Days prior to the commencement of any Work but in no event later than the date specified in C4.1 for the return of the executed Contract.
- D9.4 The Contractor shall not cancel, materially alter, or cause each policy to lapse without providing at least fifteen (15) Calendar Days prior written notice to the Contract Administrator.

D10. PERFORMANCE SECURITY

- D10.1 The Contractor shall provide and maintain performance security until the expiration of the warranty period in the form of:
- (a) a performance bond of a company registered to conduct the business of a surety in Manitoba, in the form attached to these Supplemental Conditions (Form H1: Performance Bond), in the amount of fifty percent (50%) of the Contract Price; or
 - (b) an irrevocable standby letter of credit issued by a bank or other financial institution registered to conduct business in Manitoba and drawn on a branch located in Winnipeg, in the form attached to these Supplemental Conditions (Form H2: Irrevocable Standby Letter of Credit), in the amount of fifty percent (50%) of the Contract Price; or
 - (c) a certified cheque or draft payable to "The City of Winnipeg", drawn on a bank or other financial institution registered to conduct business in Manitoba, in the amount of fifty percent (50%) of the Contract Price.
- D10.1.1 Where the performance security is in the form of a certified cheque or draft, it will be deposited by the City. The City will not pay any interest on certified cheques or drafts furnished as performance security.
- D10.2 If the bid security provided in his Bid was not a certified cheque or draft pursuant to B11.1(c), the Contractor shall provide the City Solicitor with the required performance security within seven (7) Calendar Days of notification of the award of the Contract by way of letter of intent and prior to the commencement of any Work on the Site but in no event later than the date specified in C4.1 for the return of the executed Contract.

D11. SUBCONTRACTOR LIST

- D11.1 The Contractor shall provide the Contract Administrator with a complete list of the Subcontractors whom the Contractor proposes to engage (Form J: Subcontractor List) at least two (2) Business Days prior to the commencement of any Work on the Site but in no event later than the date specified in C4.1 for the return of the executed Contract.

D12. DETAILED WORK SCHEDULE

- D12.1 The Contractor shall provide the Contract Administrator with a detailed work schedule at least two (2) Business Days prior to the commencement of any Work on the Site but in no event later than the date specified in C4.1 for the return of the executed Contract.
- D12.2 The detailed work schedule shall consist of a critical path method (C.P.M.) schedule, and a Gantt chart for the Work based on the C.P.M. schedule, all acceptable to the Contract Administrator.
- D12.3 Further to D13.2, the C.P.M. schedule shall clearly identify the start and completion dates of all of the following activities/tasks making up the Work as well as showing those activities/tasks on the critical path:
- (a) Mobilization
 - (b) Date when each clarifier is to be delivered to the site by the clarifier supplier (Eimco).
 - (c) Time when each clarifier is to be taken out of service, and placed back in service, allowing for and showing separately the time for:

- (i) Removing the existing clarifier systems;
 - (ii) Refurbishing the covered walkways;
 - (iii) Installing the new clarifier mechanisms;
 - (iv) Completing concrete repairs;
 - (v) Completing specific related electrical works;
 - (vi) Stress testing each new mechanism, and touching up paint damage;
 - (vii) Refilling the clarifier;
 - (viii) Commissioning each clarifier.
- (d) Electrical room ventilation system upgrade work;
 - (e) Scum Disposal Screw Conveyor system;
 - (f) Itemized listing as to when each electrical room subsystem will be replaced.
 - (g) Substantial Performance
 - (h) Final Acceptance.

D12.4 The Gantt chart shall show each of the items listed in item D13.3, and the time on a weekly basis, required to carry out the Work of each trade, or specification division. The time shall be on the horizontal axis, and the type of trade shall be on the vertical axis.

SCHEDULE OF WORK

D13. COMMENCEMENT

D13.1 The Contractor shall not commence any Work until he is in receipt of a letter of intent from the Award Authority authorizing the commencement of the Work.

D13.2 The Contractor shall not commence any Work on the Site until:

- (a) the Contract Administrator has confirmed receipt and approval of:
 - (i) evidence of authority to carry on business specified in D7;
 - (ii) evidence of the workers compensation coverage specified in C6.15;
 - (iii) the Safe Work Plan specified in D8;
 - (iv) evidence of the insurance specified in D9;
 - (v) the performance security specified in D10;
 - (vi) the Subcontractor list specified in D11;
 - (vii) the detailed work schedule specified in D12; and
- (b) the Contractor has attended a pre-construction meeting with the Contract Administrator, or the Contract Administrator has waived the requirement for a pre-construction meeting.

D14. SUBSTANTIAL PERFORMANCE

D14.1 The Contractor shall achieve Substantial Performance by November 1, 2009.

D14.2 When the Contractor considers the Work to be substantially performed, the Contractor shall arrange, attend and assist in the inspection of the Work with the Contract Administrator for purposes of verifying Substantial Performance. Any defects or deficiencies in the Work noted during that inspection shall be remedied by the Contractor at the earliest possible instance and the Contract Administrator notified so that the Work can be reinspected.

D14.3 Substantial performance will not occur until all 3 clarifiers have been placed in service and are performing satisfactorily.

D14.4 The date on which the Work has been certified by the Contract Administrator as being substantially performed to the requirements of the Contract through the issue of a certificate of Substantial Performance is the date on which Substantial Performance has been achieved.

D15. TOTAL PERFORMANCE

- D15.1 The Contractor shall complete landscaping repairs and achieve Total Performance no later than June 30, 2010.
- D15.2 When the Contractor or the Contract Administrator considers the Work to be totally performed, the Contractor shall arrange, attend and assist in the inspection of the Work with the Contract Administrator for purposes of verifying Total Performance. Any defects or deficiencies in the Work noted during that inspection shall be remedied by the Contractor at the earliest possible instance and the Contract Administrator notified so that the Work can be reinspected.
- D15.3 The date on which the Work has been certified by the Contract Administrator as being totally performed to the requirements of the Contract through the issue of a certificate of Total Performance is the date on which Total Performance has been achieved.

D16. LIQUIDATED DAMAGES

- D16.1 If the Contractor fails to achieve Substantial Performance in accordance with the Contract by the day fixed herein for Substantial Performance, the Contractor shall pay the City two thousand dollars (\$2,000) per Calendar Day for each and every Calendar Day following the day fixed herein for Substantial Performance during which such failure continues.
- D16.2 The amount specified for liquidated damages in D16.1 is based on a genuine pre-estimate of the City's damages in the event that the Contractor does not achieve Substantial Performance by the day fixed herein for same.
- D16.3 The City may reduce any payment to the Contractor by the amount of any liquidated damages assessed.

CONTROL OF WORK

D17. JOB MEETINGS

- D17.1 Regular weekly job meetings will be held at the Site. These meetings shall be attended by a minimum of one representative of the Contract Administrator, one representative of the City and one representative of the Contractor. Each representative shall be a responsible person capable of expressing the position of the Contract Administrator, the City and the Contractor respectively on any matter discussed at the meeting including the Work schedule and the need to make any revisions to the Work schedule. The progress of the Work will be reviewed at each of these meetings.
- D17.2 The Contract Administrator reserves the right to cancel any job meeting or call additional job meetings whenever he deems it necessary.

D18. PRIME CONTRACTOR – THE WORKPLACE SAFETY AND HEALTH ACT (MANITOBA)

- D18.1 Further to C6.24, the Contractor shall be the Prime Contractor and shall serve as, and have the duties of the Prime Contractor in accordance with The Workplace Safety and Health Act (Manitoba).

MEASUREMENT AND PAYMENT

D19. PAYMENT

- D19.1 Further to C12, effective January 1, 2007 the City may at its option pay the Contractor by direct deposit to the Contractor's banking institution.

WARRANTY

D20. WARRANTY

- D20.1 Notwithstanding C13.2, the warranty period shall begin on the date of Substantial Performance and shall expire one (1) year thereafter unless extended pursuant to C13.2.1 or C13.2.2, in which case it shall expire when provided for thereunder.
- D20.2 Notwithstanding C13.2 or D20.1, the Contract Administrator may permit the warranty period for a portion or portions of the Work to begin prior to the date of Substantial Performance if:
- (a) a portion of the Work cannot be completed because of unseasonable weather or other conditions reasonably beyond the control of the Contractor but that portion does not prevent the balance of the Work from being put to its intended use.
- D20.2.1 In such case, the date specified by the Contract Administrator for the warranty period to begin shall be substituted for the date specified in C13.2 for the warranty period to begin.

FORM H1: PERFORMANCE BOND
(See D10)

KNOW ALL MEN BY THESE PRESENTS THAT

_____ ,
(hereinafter called the "Principal"), and

_____ ,
(hereinafter called the "Surety"), are held and firmly bound unto **THE CITY OF WINNIPEG** (hereinafter called the "Obligee"), in the sum of

_____ dollars (\$_____)

of lawful money of Canada to be paid to the Obligee, or its successors or assigns, for the payment of which sum the Principal and the Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS the Principal has entered into a written contract with the Obligee dated the

_____ day of _____, 20____, for:

BID OPPORTUNITY NO. 25-2008

NEWPCC – CIRCULAR PRIMARY CLARIFIER REFURBISHMENT

which is by reference made part hereof and is hereinafter referred to as the "Contract".

NOW THEREFORE the condition of the above obligation is such that if the Principal shall:

- (a) carry out and perform the Contract and every part thereof in the manner and within the times set forth in the Contract and in accordance with the terms and conditions specified in the Contract;
- (b) perform the Work in a good, proper, workmanlike manner;
- (c) make all the payments whether to the Obligee or to others as therein provided;
- (d) in every other respect comply with the conditions and perform the covenants contained in the Contract; and
- (e) indemnify and save harmless the Obligee against and from all loss, costs, damages, claims, and demands of every description as set forth in the Contract, and from all penalties, assessments, claims, actions for loss, damages or compensation whether arising under "The Workers Compensation Act", or any other Act or otherwise arising out of or in any way connected with the performance or non-performance of the Contract or any part thereof during the term of the Contract and the warranty period provided for therein;

THEN THIS OBLIGATION SHALL BE VOID, but otherwise shall remain in full force and effect. The Surety shall not, however, be liable for a greater sum than the sum specified above.

AND IT IS HEREBY DECLARED AND AGREED that the Surety shall be liable as Principal, and that nothing of any kind or matter whatsoever that will not discharge the Principal shall operate as a discharge or release of liability of the Surety, any law or usage relating to the liability of Sureties to the contrary notwithstanding.

IN WITNESS WHEREOF the Principal and Surety have signed and sealed this bond the

_____ day of _____, 20____.

SIGNED AND SEALED
in the presence of:

(Witness)

(Name of Principal)

Per: _____ (Seal)

Per: _____

(Name of Surety)

By: _____ (Seal)
(Attorney-in-Fact)

**FORM H2: IRREVOCABLE STANDBY LETTER OF CREDIT
(PERFORMANCE SECURITY)**
(See D10)

(Date)

The City of Winnipeg
Corporate Services Department
Legal Services Division
185 King Street, 3rd Floor
Winnipeg MB R3B 1J1

RE: PERFORMANCE SECURITY - BID OPPORTUNITY NO. 25-2008
NEWPCC – CIRCULAR PRIMARY CLARIFIER REFURBISHMENT

Pursuant to the request of and for the account of our customer,

(Name of Contractor)

(Address of Contractor)

WE HEREBY ESTABLISH in your favour our irrevocable Standby Letter of Credit for a sum not exceeding in the aggregate

_____ Canadian dollars.

This Standby Letter of Credit may be drawn on by you at any time and from time to time upon written demand for payment made upon us by you. It is understood that we are obligated under this Standby Letter of Credit for the payment of monies only and we hereby agree that we shall honour your demand for payment without inquiring whether you have a right as between yourself and our customer to make such demand and without recognizing any claim of our customer or objection by the customer to payment by us.

The amount of this Standby Letter of Credit may be reduced from time to time only by amounts drawn upon it by you or by formal notice in writing given to us by you if you desire such reduction or are willing that it be made.

Partial drawings are permitted.

We engage with you that all demands for payment made within the terms and currency of this Standby Letter of Credit will be duly honoured if presented to us at:

(Address)

and we confirm and hereby undertake to ensure that all demands for payment will be duly honoured by us.

All demands for payment shall specifically state that they are drawn under this Standby Letter of Credit.

Subject to the condition hereinafter set forth, this Standby Letter of Credit will expire on

(Date)

It is a condition of this Standby Letter of Credit that it shall be deemed to be automatically extended from year to year without amendment from the present or any future expiry date, unless at least 30 days prior to the present or any future expiry date, we notify you in writing that we elect not to consider this Standby Letter of Credit to be renewable for any additional period.

This Standby Letter of Credit may not be revoked or amended without your prior written approval.

This credit is subject to the Uniform Customs and Practice for Documentary Credit (1993 Revision), International Chamber of Commerce Publication Number 500.

(Name of bank or financial institution)

Per: _____
(Authorized Signing Officer)

Per: _____
(Authorized Signing Officer)

PART E - SPECIFICATIONS

GENERAL

E1. APPLICABLE SPECIFICATIONS AND DRAWINGS

- E1.1 These Specifications shall apply to the Work.
- E1.2 *The City of Winnipeg Standard Construction Specifications (CWSCS)* in its entirety, whether or not specifically listed on Form B: Prices, shall apply to the Work.
- E1.2.1 *The City of Winnipeg Standard Construction Specifications* is available on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Branch internet site at <http://www.winnipeg.ca/matmgt>.
- E1.2.2 The version in effect three (3) Business Days before the Submission Deadline shall apply.
- E1.2.3 Further to C2.4(d), Specifications included in the Bid Opportunity shall govern over *The City of Winnipeg Standard Construction Specifications*.
- E1.3 The following are applicable to the Work:

<u>Drawing No.</u>	<u>Drawing Name/Title</u>
	Cover Sheet
	Civil
1-0101P-C0001-001	Partial Site Plan
1-0101P-C0002-001	Primary Clarifiers Site Plan
1-0101P-C0003-001	Primary Clarifiers 1 & 2 Concrete & Walkway Enclosure Remedial Work
1-0101P-C0004-001	Primary Clarifier 3 Concrete & Walkway Enclosure Remedial Work
1-0101P-C0005-001	Primary Clarifiers 1 & 2 Walkway Framing and Enclosure
1-0101P-C0005-002	Primary Clarifiers 1 & 2 Walkway Framing and Enclosure
	Mechanical
1-0101P-M0001-001	New Walkway Ventilation Layout
1-0101P-M0002-001	New Walkway Ventilation Section
1-0101P-M0003-001	Electrical Room Existing Ventilation
1-0101P-M0004-001	Electrical Room New Ventilation
1-0101P-M0005-001	Electrical Room Control Schematics
1-0101P-M0006-001	Clarifier Control Building – Center Ring Scum Disposal System Layout
	Electrical
1-0101P-E0002-001	Clarifier Control Building Partial Electrical Arrangement Power Plan
1-0101P-E0003-001	Clarifier Control Building Partial Electrical Arrangement Lighting Plan
1-0101P-E0004-001	Motor Control Centre MCC-1P Single Line Diagram
1-0101P-E0005-001	Motor Control Centre MCC-2P Single Line Diagram
1-0101P-E0006-001	Motor Starter P616-1PF1 Bailey Control Room AHU
1-0101P-E0007-001	Motor Starter P620-1PF21 General Supply Fan Gallery 4B
1-0101P-E0008-001	Motor Starter P600-1PF23 MAU Unit 1 Clarifiers 4 & 5
1-0101P-E0009-001	Motor Starter P604-1PF25 Winter Exhaust Fan 1 Clarifiers 4 & 5
1-0101P-E0010-001	Motor Starter P608-1PF27 Summer Exhaust Fan 3 Clarifiers 4 & 5
1-0101P-E0011-001	Motor Starter P612-1PF29 Summer Exhaust Fan 1 Clarifiers 4 & 5
1-0101P-E0012-001	Motor Starter P618-1PF31 MAU Supply Fan Primary Clarifier Building
1-0101P-E0013-001	Motor Starter P104-1PM1 Clarifier 1 Rake
1-0101P-E0014-001	Motor Starter P304-1PM3 Clarifier 3 Rake
1-0101P-E0015-001	Motor Starter P408-1PM13 Scum Cross Collector 1 Clarifier 4
1-0101P-E0016-001	Motor Starter P401-1PP1 Primary Sludge Pump Clarifiers 4 & 5

1-0101P-E0017-001	Motor Starter P301-1PP3 Primary Sludge Pump Clarifiers 1, 2 & 3
1-0101P-E0018-001	Motor Starter P901-1PP21 Scum Transfer Pump 1 Clarifiers 1, 2 & 3
1-0101P-E0019-001	Motor Starter P909-1PP23 Scum Transfer Pump 3 Clarifiers 4 & 5
1-0101P-E0020-001	Motor Starter P932-1PP25 Hot Water Recirculating Pump
1-0101P-E0021-001	Motor Starter P629-1PP27 Gallery Sump Pump 1 Clarifier 4 & 5
1-0101P-E0022-001	Motor Starter P922-1PR21 Instrument Air Compressor 1
1-0101P-E0023-001	Motor Starter P613-2PF8 High Density Scrubber Electrical Room
1-0101P-E0024-001	Motor Starter P923-2PF22 General Exhaust Fan Gallery 4B
1-0101P-E0025-001	Motor Starter P602-2PF24 MAU Unit 2 Clarifiers 4 & 5
1-0101P-E0026-001	Motor Starter P606-2PF26 Winter Exhaust Fan 2 Clarifiers 4 & 5
1-0101P-E0027-001	Motor Starter P610-2PF28 Summer Exhaust Fan 2 Clarifiers 4 & 5
1-0101P-E0028-001	Motor Starter P614-2PF30 Summer Exhaust Fan 4 Clarifiers 4 & 5
1-0101P-E0029-001	Motor Starter P204-2PM2 Clarifier 2 Rake
1-0101P-E0030-001	Motor Starter P508-2PM14 Scum Cross Collector 2 Clarifier 5
1-0101P-E0031-001	Motor Starter P201-2PP2 Primary Sludge Pump Clarifiers 1, 2 & 3
1-0101P-E0032-001	Motor Starter P501-2PP4 Primary Sludge Pump Clarifiers 4 & 5
1-0101P-E0033-001	Motor Starter P627-2PP14 Sump Pump Scum Room
1-0101P-E0034-001	Motor Starter P905-2PP22 Scum Transfer Pump 2 Clarifiers 1, 2 & 3
1-0101P-E0035-001	Motor Starter P913-2PP24 Scum Transfer Pump 4 Clarifiers 4 & 5
1-0101P-E0036-001	Motor Starter P932-2PP26 Hot Water Recirculating Pump 2
1-0101P-E0037-001	Motor Starter P932-2PP28 Gallery Sump Pump 2 Clarifier 4 & 5
1-0101P-E0038-001	Motor Starter P923-2PR22 Instrument Air Compressor 2
1-0101P-E0039-001	Panel Schedules
1-0101P-E0040-001	Motor Starter P621-1ACU3 Clarifier Electrical Room ACU
1-0101P-E0041-001	Control Schematic Tower Lighting

DIVISION 01 – GENERAL REQUIREMENTS

01 11 00	Summary of Work
01 14 00	Work Restrictions
01 35 43	Environmental Procedures
01 52 00	Construction Facilities
01 74 21	Construction/Demolition Waste Disposal
01 78 00	Closeout Submittals
01 91 41	Training

DIVISION 02 – SITE WORKS

02 61 33	Hazardous Materials
02 93 10	Trees, Shrubs and Ground Cover Planting

DIVISION 03 – CONCRETE

03 10 00	Concrete Forming and Accessories
03 20 00	Concrete Reinforcing
03 30 00	Cast-In-Place Concrete

DIVISION 05 – METAL FABRICATIONS

05 50 00	Metal Fabrications
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DIVISION 9 - PAINTING EXTERIOR METAL SURFACES

09 97 19 Painting Exterior Metal Surfaces

DIVISION 11 – CLARIFIER EQUIPMENT INSTALLATION & SCUM DISPOSAL SYSTEM

11 00 00 Clarifier Equipment Installation
11 50 00 Scum Disposal System

DIVISION 23 – HEATING, VENTILATING, AND AIR CONDITIONING

23 05 00 Common Work Results for HVAC
23 05 01 Use of HVAC Systems During Construction
23 05 54 Mechanical Identification
23 07 13 Thermal Insulation for Ducting
23 31 14 Metal Ducts – Low Pressure to 500 Pa
23 34 00 HVAC Fans
23 44 00 High Density Scrubber
23 73 11 Air Handling Units - Packaged

DIVISION 26 – ELECTRICAL

26 05 01 Common Work Results – For Electrical
26 05 20 Wire and Box Connectors 0-1000 V
26 05 21 Wires and Cables (0-1000 V)
26 05 28 Grounding – Secondary
26 05 29 Hangers and Supports for Electrical Systems
26 05 31 Splitters, Junction, Pull Boxes and Cabinets
26 05 32 Outlet Boxes, Conduit Boxes and Fittings
26 05 34 Conduits, Conduit Fastenings and Conduit Fittings
26 05 36 Cable Trays for Electrical Systems
26 24 19 Motor Control Centres
26 29 03 Control Devices
26 29 10 Motor Starters to 600 V
26 50 00 Lighting

APPENDIX A – EIMCO - CLARIFIER EQUIPMENT INFORMATION

APPENDIX B – EIMCO - SAMPLE CLARIFIER INSTALL/ERECTION INFORMATION

APPENDIX C – CLARIFIER PHOTOGRAPHS