THE CITY OF WINNIPEG

BID OPPORTUNITY

BID OPPORTUNITY NO. 723-2006

SUPPLY AND DELIVERY OF SIXTY-FOOT DIESEL-ELECTRIC HYBRID TRANSIT BUSES

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B2. SUBMISSION DEADLINE

B2.1 The Submission Deadline is 4:00 p.m. Winnipeg time, January 12, 2007.

B2.2 Bid Submissions 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. ENQUIRIES

B3.1 All enquiries shall be directed to the Contract Administrator identified in D4.1.

B3.2 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.

B3.3 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.

B3.4 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.

B3.5 The Bidder shall not be entitled to rely on any response or interpretation received pursuant to B3 unless that response or interpretation is provided by the Contract Administrator in writing.

B4. ADDENDA

B4.1 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.

B4.2 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.

B4.2.1 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.

B4.2.2 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 shortly before submitting his Bid.

B4.3 The Bidder shall acknowledge receipt of each addendum in Paragraph 12 of Form A: Bid. Failure to acknowledge receipt of an addendum may render a Bid non-responsive.

B5. SUBSTITUTES

B5.1 The Work is based on the materials, equipment, methods and products specified in the Bid Opportunity.

B5.2 Substitutions shall not be allowed unless application has been made to and prior approval has been granted by the Contract Administrator in writing.

B5.3 Requests for approval of a substitute will not be considered unless received in writing by the Contract Administrator at least seven (7) Business Days prior to the Submission Deadline.

B5.4 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 material, equipment, method or product 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 Contract;

(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 Contract.

B5.5 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.

B5.6 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.

B5.6.1 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.

B5.7 If the Contract Administrator approves a substitute as an “approved equal”, any Bidder may use the approved equal in place of the specified item.

B5.8 If the Contract Administrator approves a substitute as an “approved alternative”, any Bidder bidding that approved alternative shall 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.

B5.9 No later claim by the Contractor for an addition to the price(s) because of any other changes in the Work necessitated by the use of an approved equal or an approved alternative will be considered.

B6. BID SUBMISSION

B6.1 The Bid Submission consists of the following components:

(a) Form A: Bid;

(b) Form B: Prices;

(c) Form C: Qualification;

(d) Form N: Vehicle Data, including a list of specialized tools and equipment required for the maintenance of the hybrid drive systems and the articulating joint;

A separate form must be submitted with each alternative bid, where applicable;

(e) Form G1: Bid Bond and Agreement to Bond, or
Form G2: Irrevocable Standby Letter of Credit and Undertaking, or
a certified cheque or draft;

B6.2 All components of the Bid Submission 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 in ink, to constitute a responsive Bid.

B6.3 The Bid Submission shall be submitted enclosed and sealed in an envelope clearly marked with the Bid Opportunity number and the Bidder's name and address.

B6.3.1 Samples or other components of the Bid Submission 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 Submission.

B6.4 Bid Submissions submitted by facsimile transmission (fax) or internet electronic mail (e-mail) will not be accepted.

B6.5 Bid Submissions shall be submitted to:

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

B7. BID

B7.1 The Bidder shall complete Form A: Bid, making all required entries.

B7.2 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.

B7.2.1 If a Bid is submitted jointly by two or more persons, each and all such persons shall identify themselves in accordance with B7.2.

B7.3 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.

B7.4 Paragraph 14 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.

B7.4.1 The name and official capacity of all individuals signing Form A: Bid shall be printed below such signatures.

B7.4.2 All signatures shall be original and shall be witnessed except where a corporate seal has been affixed.

B7.5 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 Submission and the Contract, when awarded, shall be both joint and several.

B8. PRICES

B8.1 The Bidder shall state a price in Canadian funds for each item of the Work identified on Form B: Prices.

B8.1.1 Prices on Form B: Prices shall include:

(a) duty;

(b) freight and cartage;

(c) Provincial and Federal taxes [except the Goods and Services Tax (GST) and Manitoba Retail Sales Tax (MRST, also known as PST), which shall be extra where applicable] and all charges governmental or otherwise paid;

(d) profit and all compensation which shall be due to the Contractor for the Work and all risks and contingencies connected therewith.

B8.2 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.

B8.3 Prices on Form B: Prices shall not include the Manitoba Association for Resource Recovery Corporation (MARRC) Environmental Handling Charge (EHC) which shall be extra where applicable.

B8.4 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.

B9. QUALIFICATION

B9.1 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, or if the Bidder does not carry on business in Manitoba, in the jurisdiction where the Bidder does carry on business;

(b) be responsible and not be suspended, debarred or in default of any obligation to the City;

(c) be financially capable of carrying out the terms of the Contract;

(d) have all the necessary experience, capital, organization, and equipment to perform the Work in strict accordance with the terms and provisions of the Contract;

(e) have successfully carried out work, similar in nature, scope and value to the Work, which is to supply and deliver bus models with 200 or more units in regular transit service in North America for at least one (1) year;

(f) employ only Subcontractors who:

(i) are responsible and not suspended, debarred or in default of any obligation 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); and

(ii) have successfully carried out work similar in nature, scope and value to the portion of the Work proposed to be subcontracted to them, and are fully capable of performing the Work required to be done in accordance with the terms of the Contract; and

(g) have a written workplace safety and health program in accordance with The Workplace Safety and Health Act (Manitoba);

B9.2 The Bidder's bus design must have completed structural durability, strength and distortion testing at the Urban Mass Transit Administration's testing facility in Altoona, Pennsylvania. Bidders must include the results of the tests with their Bid Submissions.

B9.3 The Bidder must complete Form C: Qualification giving a list of previously completed work, similar in nature, scope and value to the Work, in sufficient detail to demonstrate the Bidder's qualification to undertake the Work.

B9.4 The Bidder shall be prepared to 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.

B9.5 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.

B10. VEHICLE DATA

B10.1 The Bidder shall fully complete one Form N: Vehicle Data for each alternative that is submitted.

B10.2 Each entry shall be in both metric and imperial units, where applicable.

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 twenty percent (20%) 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 twenty percent (20%) 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.

B11.2 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 Bid Submissions will not be opened publicly.

B12.2 Within two (2) Business Days following the Submission Deadline, the names of the Bidders and their Total Bid Prices (evaluated, 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 Submission 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 13 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 for the time period specified in Paragraph 13 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 GC.7.05(2), 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 14 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 shall:

(a) retain the Bid Submission until after the Submission Deadline has elapsed;

(b) open the Bid Submission to identify the contact person named in Paragraph 3 of Form A: Bid and the Bidder's authorized representatives named in Paragraph 14 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 B9 (pass/fail);

(c) compliance by the Bidder with the requirements of Form N: Vehicle Data (pass/fail);

(d) Total Bid Price;

(e) economic analysis of any approved alternative pursuant to B5.

B15.2 Further to B15.1(a), the Award Authority may reject a Bid as being non-responsive if the Bid Submission 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 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 Submission or in other information required to be submitted, that he is responsible and qualified.

B15.4 Further to B15.1(c), the Award Authority may reject a Bid as being non-responsive if the Form N: Vehicle Data is incomplete, obscure or conditional, or contains additions, deletions, alterations or other irregularities.

B15.5 Further to B15.1(d), the Total Bid Price shall be the sum of the quantities multiplied by the unit prices for each item shown on Form B: Prices.

B15.5.1 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.

B15.6 This Contract will be awarded as a whole.

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 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.

PART C - GENERAL CONDITIONS

C1. GENERAL CONDITIONS

C1.1 The *General Conditions for the Supply and Delivery of Goods* (Form 21: 88 03) are applicable to the Work of the Contract.

C1.1.1 The *General Conditions for the Supply and Delivery of Goods* 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.

PART D - SUPPLEMENTAL CONDITIONS

GENERAL

D1. GENERAL CONDITIONS

D1.1 In addition to the *General Conditions for the Supply and Delivery of Goods*, these Supplemental Conditions are applicable to the Work of the Contract.

D1.2 The General Conditions are amended by striking out “The City of Winnipeg Act” wherever it appears in the General Conditions and substituting “The City of Winnipeg Charter”.

D1.3 The General Conditions are amended by striking out “Board of Commissioners” or “Commissioner” wherever it appears in the General Conditions and substituting the “Chief Administrative Officer”.

D1.4 The General Conditions are amended by striking out “Tender Package” wherever it appears in the General Conditions and substituting “Bid Opportunity”.

D1.5 The General Conditions are amended by striking out “Tender Submission” wherever it appears in the General Conditions and substituting “Bid Submission”.

D1.6 The General Conditions are amended by striking out “Bidding Instructions” wherever it appears in the General Conditions and substituting “Bidding Procedures”.

D2. SCOPE OF WORK

D2.1 The Work to be done under the Contract shall consist of the supply and delivery of sixty-foot low floor transit diesel-electric hybrid buses, and the supply and delivery of all tools and equipment required to maintain the hybrid drive system and articulating joint.

D2.2 The major components of the Work are as follows:

(a) Supply and deliver two (2) sixty-foot low floor diesel-electric hybrid buses by December 31, 2007 for evaluation purposes. The evaluation period will be for up to 6 months after the two (2) buses are delivered.

(b) Upon successful evaluation of the initial two (2) buses over the evaluation period, and at the sole option of the City, the remaining eighteen (18) buses may be approved to be delivered at a later date within 12 months of the delivery of the evaluation vehicles.

(c) Upon unsuccessful evaluation, and at the sole discretion of the City, further buses will not be approved for delivery and the total order for buses will be limited to two (2) under the terms of the contract.

D3. DEFINITIONS

D3.1 When used in this Bid Opportunity:

(a) “**Business Day**" means any Calendar Day, other than a Saturday, Sunday, or a Statutory or Civic Holiday;

(b) “**Submission Deadline**” and “**Time and Date Set for the Final Receipt of Bids**” mean the time and date set out in the Bidding Procedures for final receipt of Bids;

(c) “**Total Performance – Evaluation Units**” means the completion of that portion of the contract involving the two evaluation buses;

(d) "**Total Performance – Final Units**" means the completion of that portion of the contract involving the balance of the order upon successful completion of the bus evaluation. If the bus evaluation is not successful, **Total Performance – Final Units** is not required.

D4. CONTRACT ADMINISTRATOR

D4.1 The Contract Administrator is:

Mr. Tony Dreolini, P.Eng.
Manager of Plant and Equipment
421 Osborne Street
Winnipeg, MB R3L 2A2

Telephone No. (204) 986-5774

Facsimile No. (204) 453-7385

D5. NOTICES

D5.1 GC.7.05 is hereby amended to delete reference to "registered mail" and to replace same with "ordinary mail".

D5.2 GC.7.05 is further amended hereby to include delivery by facsimile transmission (fax) as an acceptable means of delivering notices, consents, approvals, statements, authorizations, documents or other communications required or permitted to be given under this Contract. Deliveries by fax will be deemed to have been received on the day of delivery, if a business day, or if not a business day, on the business day next following the day of delivery.

D5.3 Further to GC.7.05, all notices, consents, approvals, statements, authorizations, documents or other communications to the City, except as expressly otherwise required in D5.4, D5.5 or elsewhere in the Contract, shall be sent to the attention of the Contract Administrator at the address or facsimile number identified in D4.1.

D5.4 All notices of appeal to the Chief Administrative Officer shall be sent to the attention of the Chief Financial Officer at the following address or facsimile number:

The City of Winnipeg
Chief Administrative Officer Secretariat
Administration Building, 3rd Floor
510 Main Street
Winnipeg MB R3B 1B9

Facsimile No.: (204) 949-1174

D5.5 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
185 King Street, 3rd Floor
Winnipeg MB R3B 1J1

Facsimile No.: (204) 947-9155

SUBMISSIONS

D6. AUTHORITY TO CARRY ON BUSINESS

D6.1 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.

D7. PERFORMANCE SECURITY

D7.1 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 twenty percent (20%) 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 twenty percent (20%) 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 twenty percent (20%) of the Contract Price.

D7.1.1 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.

D7.2 If the bid security provided in his Bid Submission 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 GC.3.01 for the return of the executed Contract.

SCHEDULE OF WORK

D8. COMMENCEMENT

D8.1 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.

D9. TOTAL PERFORMANCE – EVALUATION UNITS

D9.1 The Contractor shall achieve Total Performance – Evaluation Units by December 31, 2007.

D9.2 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 Evaluation Period 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 re-inspected.

D9.3 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 Evaluation Period Performance is the date on which Total Evaluation Period Performance has been achieved.

D10. TOTAL PERFORMANCE – FINAL UNITS

D10.1 The Contractor shall achieve Total Performance with respect to the balance of the buses, which will be ordered only upon successful completion of the evaluation buses, by December 31, 2008.

D10.2 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 re-inspected.

D10.3 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.

D11. LIQUIDATED DAMAGES

D11.1 If the Contractor fails to achieve Total Performance - Evaluation Units or Total Performance – Final Units in accordance with the Contract by the day fixed herein for Total Performance, the Contractor shall pay the City one hundred seventy five dollars ($175) per unaccepted bus per Calendar Day for each and every Calendar Day following the day fixed herein for Total Performance – Evaluation Units or Total Performance – Final Units during which such failure continues.

D11.2 The amount specified for liquidated damages in D11.1 is based on a genuine pre-estimate of the City's losses in the event that the Contractor does not achieve Total Performance by the day fixed herein for same.

D11.3 The City may reduce any payment to the Contractor by the amount of any liquidated damages assessed.

MEASUREMENT AND PAYMENT

D12. PAYMENT SCHEDULE

D12.1 Payment will be in Canadian funds net Thirty (30) Calendar Days after receipt and acceptance of each Evaluation Unit and each Final Unit, and approval of the Contractor's invoice.

D12.2 Bidders may offer early payment discounts relative to specified terms of payment. Acceptance of any discount offer will be at the sole option of the City.

WARRANTY

D13. WARRANTY

D13.1 Further to GC.10.01 of the General Conditions, the Contractor shall, at its sole cost and expense, maintain the Work against any and all defects or deficiencies or otherwise which may arise during the one (1) year period following the date on which each bus is inspected in accordance with E5.4 and is certified by the Contract Administrator as meeting the requirements

of the Contract Documents (the "Comprehensive Warranty"). Each bus shall have a separate Comprehensive Warranty for a period of one (1) year following completion of the post-delivery inspection.

D13.2 In addition to the Comprehensive Warranty described above, the Contractor shall, at its sole cost and expense, maintain the Work against any and all structural defects or deficiencies which may arise during the six (6) years following the Comprehensive Warranty period (the "Structural Warranty"). A structural defect or deficiency is defined as the permanent deformation, cracking or failure of a structural member, its joints, welds or fasteners which compromises vehicle or passenger safety or vehicle performance. A structural member shall include, but not be limited to, the upper welded structure, frame, chassis, floor, body panels and suspension mounting brackets and support structures. Each bus shall have a separate Structural Warranty for a period of six (6) years following the Comprehensive Warranty period.

D13.3 In addition to the Comprehensive Warranty and Structural Warranty described above, the Contractor shall, at its sole cost and expense, maintain the Work against any and all corrosion defects or deficiencies which may arise during the six (6) years following the Comprehensive Warranty period (the "Corrosion Warranty"). A corrosion defect or deficiency is defined as the corrosion perforation or corrosion fatigue failure of an exterior panel or a structural member, its joints, welds or fasteners. Each bus shall have a separate Corrosion Warranty for a period of six (6) years following the Comprehensive Warranty period.

D13.4 In the event that, at any time prior to expiry of the Structural Warranty period of the last bus to be inspected and certified prior to the date of Total Annual Performance, the City has evidence that twenty percent (20%) or more of the total buses ordered pursuant to the Contract have experienced defects or deficiencies of a similar nature and has notified the Contractor of same, the Contractor warrants and agrees that it shall correct, at its sole cost and expense and in a timely manner, such defects or deficiencies for all buses in the order notwithstanding that the Comprehensive Warranty or Structural Warranty of any single bus may have expired prior to receiving such notice (the "Total Order Warranty").

D13.5 The Contractor shall supply a statement of any other warranties provided by himself or by any of the manufacturers of major components and subsystems of the buses that extend beyond the above, and shall assign same to the City upon request.

D13.6 Further to GC.10.01 of the General Conditions, the City and the Contractor may negotiate an agreement for the City's own forces to perform warranty repair work under the following conditions:

(a) the time required to perform the warranty repairs will be agreed to before repairs commence;

(b) warranty repairs requiring over two hours will be performed on overtime after normal working hours or during weekends;

(c) warranty repairs requiring less than two hours may be performed on overtime to complete the repairs as quickly as possible if deemed necessary by the Contract Administrator;

(d) the Contractor will either supply all materials necessary to perform the warranty repair or reimburse to the City, the full costs of parts and materials supplied by the City within 30 Calendar Days of use;

(e) labour rates for warranty repair work performed by City forces during normal working hours will be $65.00 per person hour, the overtime labour rate will be $100.00 per person.

FORM H1: PERFORMANCE BOND
(See D7)

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. 723-2006

SUPPLY AND DELIVERY OF SIXTY-FOOT DIESEL-ELECTRIC HYBRID TRANSIT BUSES

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;
© 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 D7)

(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. 723-2006

SUPPLY AND DELIVERY OF SIXTY-FOOT DIESEL-ELECTRIC HYBRID TRANSIT BUSES

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. GENERAL

E1.1 These Specifications shall apply to the Work of the Contract.

E1.2 These Specifications are intended to leave the Bidder free to provide his own design for the basic vehicle and equipment, subject to compliance with items specifically identified. The responsibility for providing vehicles with structures and components suitable for urban transit operations that meet all applicable municipal, provincial and federal regulations rests with the Bidder.

E1.3 The following Drawings are applicable to the Work:

Drawing No.	Drawing Name/Title
723-2006-001	Bus Paint Scheme
723-2006-002	Bus Front Tow Eye
723-2006-003	Radio Wiring Schematic
723-2006-004	Rear Suspension-Spacer Plate for Hoisting
723-2006-005	Farebox Stanchion
723-2006-006	Trailer Socket
723-2006-007	Surveillance Camera and Video Recorder Locations
723-2006-008	Vertical Stanchion Wheelchair Position Curbside

E2. GOODS

E2.1 The Contractor shall supply sixty foot (60') low-floor diesel-electric hybrid transit buses in accordance with the requirements hereinafter specified. Dimensions and characteristics are given in order to indicate the size and type of buses required. The dimensions are approximate, except where identified as maximums or minimums, and may be varied with the approval of the City.

E2.2 Buses must be of the accessible "Low Floor" design without steps at the front and rear doors. "Sixty Foot" buses require a minimum seating capacity of 62 passengers and a minimum total capacity of 115 passengers. Buses must be equipped with the necessary convertible ambulatory seating to create two wheelchair positions at the front of the bus when required.

E2.3 Bus length, excluding bumpers, to be nominal 18.3 m (60 feet) for "sixty foot" buses.

E2.4 Outside body width, exclusive of exterior mirrors, rubber fenders and side lights to be nominal 2.6 m (8.5 feet).

E2.5 Maximum overall height, with roof hatches closed, shall not exceed 3.2 m (10.5 feet).

E2.6 Minimum road clearance shall not be less than 0.15m (6 in).

E2.7 Minimum head room in the centre longitudinal aisle shall not be less than 1.93m (6ft 4in).

Item No	Suffix	Bus Subsystem	Description
100	**.01**	Coach Length	Model 60' Low Floor Bus
100	**.02**	Hybrid System	Allison

100	**.03**	Structural Material	Carbon Steel Construction
201	**.01**	Bumpers	Bumper, front • Romeo Rim Help “S”, energy absorbing, aluminum channel 3-piece – Black
201	**.02**	Bumpers	Bumper, rear • Romeo Rim Help “S”, energy absorbing, aluminium channel 3 piece - Black w/ rear anti ride feature
201	**.03**	Front Tow Eyes	Tow eyes • externally mounted above bumper (Approx 690 mm [27”] from ground) (REF 723-2006_Drawing_002-R01)
202	**.01**	Front Suspension	Axle – M.A.N. • drum brakes, w/ long shoe tables, s-cam, Haldex automatic slack adjusters • no Jacking Pads on structure behind front axle and none lower than axle w/suspension down • no Backing Plates or Dust Shields on Wheel ends
202	**.02**	Front Suspension	Front suspension • 4 link, two air springs with internal stops, 90 mm [3.5”] rebound, 400 mm [15 ½ “] front step height
202	**.03**	Front Suspension	Steering box • Shepperd M110, power steering
202	**.04**	Front Suspension	Never seize • on all suspension bolts & Steering Components (eg: Tie Rod End threads)
202	**.05**	Front Suspension	Shock absorbers
202	**.06**	Front Suspension	Levelling valve links • must incorporate rubber bushing mount ends – Part # 800406B MCI
203	**.01**	Centre Suspension	Axle – M.A.N. • drum brakes, w/ long shoe tables, s-cam, Haldex automatic slack adjusters • no Jacking Pads on structure lower than axle w/suspension down • no Backing Plates or Dust Shields on Wheel ends
203	**.02**	Centre Suspension	Centre suspension • 4 link, 4 air springs with internal stops, external stops, 400 mm [15.5”] Ride Height
203	**.03**	Centre Suspension	Shock absorbers
203	**.04**	Centre Suspension	Levelling valve Links • must incorporate rubber bushing mount ends – Part # 800406B MCI

203	**.05**	Centre Suspension	Never seize • on all suspension bolts
203	**.06**	Splash Aprons	Splash aprons • 3 piece rear splash aprons • 1 pc front forward of front wheels full width • Note: 60 ft bus – 2 pc behind centre axles Splash aprons also required at each wheel end
204	**.01**	Rear Suspension	Axle – M.A.N. • drum brakes, w/ long shoe tables, s-cam, Haldex automatic slack adjusters • no Backing Plates or Dust Shields on Wheel ends
204	**.02**	Rear Suspension	Rear suspension • 4 link, 4 air springs with internal stops, external stops, 400 mm [15.5"] Ride Height • Rear Suspension Spacer Plates for Hoisting (REF 723-2006_Drawing_004-R01) located where the floor hoist would contact bus for lifting
204	**.03**	Rear Suspension	Driveshaft – yoke connection
204	**.04**	Rear Suspension	Never seize • on all suspension bolts
204	**.05**	Rear Suspension	Shock absorbers
205	**.01**	Wheels	Tires • customer supplied • spare tires & rims not to be supplied
205	**.02**	Wheels	Wheels • steel, powder coated White • size – 22.5 x 8.25 Accuride
205	**.03**	Wheels	Wheels • balanced and mounted • valve stems to be # MEX -1298EV High Temp • valve stem extensions on inner wheel to be # 21-534 Myers Tire Supply • Accuride Spacer required on Rear Axle and Centre Axle
209	**.01**	Steering	Power steering lines • stainless steel tubing
209	**.02**	Steering	Hoses • FC300 with steel fittings in eng compartment and at steering box
209	**.03**	Steering	Fluid • Dexron

209	**.04**	Steering	Steering pump • Luk Vickars, direct driven through fan pump
219	**.01**	Power Plant	Engine – Cummins • to include Stop Engine Override Switch in Driver compartment area as per PLC install • fast idle – 1000 RPM to be interlocked with the Brakes & accelerator to prevent gear selection while fast idle is in operation.
219	**.02**	Power Plant	Electronic Engines • must be equipped with engine shut down in the event of Low Oil, High Engine Temp
219	**.03**	Power Plant	Shifting • brake applied to enable shift when in neutral
219	**.04**	Power Plant	Retarder • 100% brake 1/3 on 0.45 kg [1 lb] switch 2/3 on 1.8 kg [4 lb] switch. • retarder indicator works w/Retarder • brake light indicator works w/ Brake Pedal off 1 psi swt • stop lights come on w/Retarder
219	**.05**	Power Plant	Road speed governing • Maximum 90 Km/hr or 56 Mph
219	**.06**	Power Plant	Exhaust • stainless steel muffler and tubing • straight up exhaust pipe • LH corner of vehicle extending 150 mm [6 "] above roof line of the bus (no rain cap)
219	**.07**	Power Plant	Starter • Delco 39 MT, 24 v electric, with PLC cut-out
219	**.08**	Power Plant	Alternator • Delco 50DN, 24v, 3 phase, belt driven, oil cooled • voltage regulator to be Delco 50VR mounted in sealed compartment accessible without hoisting vehicle
219	**.09**	Power Plant	Air cleaner • Nelson
219	**.10**	Power Plant	Belt guards • provided w/hinges to allow for best access to Engine • oil dipsticks mounted curbside
219	**.11**	Power Plant	Eng. Comp. Gauges • engine oil pressure • water temperature – mechanical read • engine hour meter

219	**.12**	Power Plant	Eng. Comp. Switch box • water proof run control, start switch, eng.comp. Light switch • Morse speed (throttle) control • w/ cigarette type power socket for PC
219	**.13**	Power Plant	Fluid lines • FC300 flexible eng comp. Lines with steel fittings
219	**.14**	Power Plant	Vented underpans • to enclose engine/transmission area dependant on design and location of equipment housed in the compartment • exact configuration to be approved by City prior to build
219	**.15**	Power Plant	Fluid tags • on engine & transmission Static level dipsticks
231	**.01**	Cooling	Air operated Radiator Shutters (Kysor) • Nalcool Filter system
231	**.02**	Cooling	Fan shroud • fibreglass with fan motor support
231	**.03**	Cooling	Fan drive pump • Sauer-Sundstrand, piston pump, direct drive through air compressor on Cummins
231	**.04**	Cooling	Hoses • FC300 hose with steel fittings
231	**.05**	Cooling	Coolant tubes • brass pipes to radiator
231	**.06**	Cooling	Surge tank • 22.7 litre [5 gallon] stainless steel • Sight glass to be provided • filler neck w/ quick release hinged safety cap & manual pressure relief valve MCI # 680364 (all accessible from the Surge Tank Door) • automotive type pressure cap to regulate cooling system pressure
231	**.07**	Cooling	Sensor • low coolant sensor in addition to std engine sensor
231	**.08**	Cooling	Fluid • premixed ethylene glycol 50/50 & Nalcool anti-corrosion additive
231	**.09**	Cooling	Clamps • breeze constant torque clamps on all connections
231	**.10**	Cooling	P-clips • fully boxed silicone/stainless
231	**.11**	Cooling	Valves

			• quarter turn ball
241	**.01**	Fuel	Fuel tank • Diesel, single tank, 450 litre [120 nominal U.S gal] Stainless steel w/fill whistle @ streetside
241	**.02**	Fuel	Fuel filler • diesel, pressure fill, Emco Wheaton Standard screw type cap Pop-off Valve to be shipped loose to fill at a rate of 180 litres [47.5 gal /US] per minute
241	**.03**	Fuel	Fuel lines • diesel, orange synflex from engine bulkhead to fuel tank
241	**.04**	Fuel	Fuel hoses • diesel, FC300 (engine comp)
246	**.01**	Air	Air tanks • 6 x 32.8 litre [2000 cu. In.] Wet, Rear brake, Centre Brake, Front Brake, 2 Accessory Tanks
246	**.02**	Air	Air tanks • emergency release, separate 32.8 litres [2000 cu inch] tank • minimum one application possible from the emergency air tank.
246	**.03**	Air	Air tank drains • remote manual drain valves
246	**.04**	Air	Kneeling • full front • must operate w/ Brake & Accelerator Interlocks. • control switch must be on the Right side of the dash panel • must include warning chime, red light on dash & exterior amber flashing light
246	**.05**	Air	Levelling valves • Barksdale
246	**.06**	Air	Air dryer • location forward of rear axle curb side • Haldex Dry EST blow through c/w con-sep valve & heater element 12 volt, purge tank • no external governor required with this dryer
246	**.07**	Air	Parking brake actuation • pull to apply Parking Brake. • Emergency release control on driver side console (Park brake light activated at 60 psi)
246	**.08**	Air	Flexible air lines • synflex colour coded
246	**.09**	Air	Compressor discharge line • Teflon 2807

246	**.10**	Air	Interlock • rear door, kneeling, ramp
246	**.11**	Air	Connectors • ¼" NPT rear charge fitting (male) • located RH side rear of the Coach
246	**.12**	Air	Connectors • ¼" NPT front charge fitting (male) • located at Centre Frt under Bumper
246	**.13**	Air	ABS braking • Wabco system • with Automatic Traction Control that is normally OFF, and turned ON by operator
260	**.01**	Battery	Batteries • 2 x 8D 1400 (SAE J537) • ½" pos. 3/8" neg. post size • single one piece fibreglass cover
260	**.02**	Battery	Battery compartment • stainless steel • behind right rear wheel • Compartment door to be rubber coated
260	**.03**	Battery	Battery disconnect • Located Curb Side engine compartment adjacent to rear electrical box accessed thru battery shut-off flip up door
260	**.04**	Battery	Tray • slide out acid resistant stainless steel rollers • shall resist damage for the life of the bus with rubber isolation
260	**.05**	Battery	Cable • positive cable with red heat shrink on 24V cable end • Blue heat shrink on 12V cable end
260	**.06**	Battery	24 to 12 volt converter
260	**.07**	Battery	Battery Equalizer • Sure Power, & 100 amp Vanner
260	**.08**	Battery	Jump-start connector • Must be located in an accessible compartment on the curb side near the rear of the bus with customer spec frame mounted ground stud • Must allow vehicle to be started with the batteries isolated. • Goodall Jump Start System – Part # 3008066 (1 cable to be 24 V Bottom position – 1 cable to be 12 V Top position)
260	**.09**	Battery	Hybrid system • Roof rack shroud & enclosure – Fibreglass (Safe – T – Walk to

			be provided)
269	**.01**	Public Address System	Speakers • six (6) interior Speakers 150 mm [6"] diameter w/plastic grill covers • wiring provision only for external speakers
269	**.02**	Public Address System	Amplifier • Mobilepage 470 CE located – above driver's window
269	**.03**	Public Address System	Microphone • Mobilepage Microphone # MAC 565 on an Atlas Sound gooseneck with a 690 mm [27"] overall length • located – LH corner of Dash Panel w/clip • wiring from the amplifier plug to the microphone must incorporate Winnipeg radio System (REF 723-2006_Drawing_003-R01) • PA Mic gooseneck & mic to be Black
269	**.04**	Public Address System	Microphone switch • foot switch mounted on floor plate • Between Turn signal foot switches and elevated
269	**.05**	Public Address System	Extra jack for Portable PA • located on forward face of driver's pillar/electrical cabinet, controlled by separate dash switch
273	**.01**	Exterior lights	Headlights • sealed Beam w/ left side floor mount dimmer switch, on DAY/RUN Mode reduced intensity low beams
273	**.02**	Exterior lights	Front turn • Trucklite • oval shaped amber LED
273	**.03**	Exterior lights	Marker & Clearance lights • LED flush mounted lights
273	**.04**	Exterior lights	Turn signal • side locations, 3 per side, above each wheel well , LED, guarded
273	**.05**	Exterior lights	4-Way Flasher • front & Rear turn signals operate only when in 4/way flasher mode w/soft tone chime indicator on 4/ways only
273	**.06**	Exterior lights	Warning light kneel/ramp • amber with Sonalert, LED, rear of entrance door
273	**.07**	Exterior lights	Tail lights • 4 - 102 mm [4"] Round red stop /tail combination LED • 2 - 102 mm [4"] Round amber turn LED • 2 – 102 mm [4"] Round backup LED • Tail Light arrangement from top to bottom: Red Stop/Tail – Amber Turn – Red Stop/Tail – Clear Backup

273	**.08**	Exterior lights	Tail light function • stop lights ON with brakes, retarder, park brake and w/interlock
273	**.09**	Exterior lights	License plate light • on engine door, LED
273	**.10**	Exterior lights	Reflectors • decal
277	**.01**	Interior lights	Passenger lighting • Transmatic L20 or equivalent • fluorescent, Blue Shields on the 2 most forward lights on either side of the coach • the forward light on the S/Side & Curb/Side shall incorporate an Extinguishable Ballast Transmatic part # 308 – 05 – 853 or equivalent • interior lighting control shall be separate of the master switch and be 2 position switch w/ On/Off control switch • include Ad Frame Finishing Trim Strips
277	**.02**	Interior lights	Interior Light • to function w/ 10 sec delay on closing of the front door & once the roadspeed sensor has been achieved • with the Interior Light switch in the " ON " position and the front door open Interior Lights all " ON " • once the front door has been closed and the vehicle starts to move and the vehicle speed has achieved a speed of over 2 kmh, a 10 second timer shall count down • once the 10 second timer has timed out the forward bank of lights on the street & curb sides of the bus shall shut off • these lights shall remain off until the vehicle comes to a complete stop and the front door has been opened again, at this time all lights shall come back on. • at this point the system shall start over again
277	**.03**	Interior lights	Driver's dome light • on ceiling above driver controlled by separate switch
277	**.04**	Interior lights	Farebox light wiring • required from dash at Farebox stanchion location, controlled by separate switch • (Install to be confirmed at time of build by the City.) • Minimum of 305 mm [12"] of wire extruding from the dash • 12 Volt – 15 Amp circuit
277	**.05**	Interior lights	Engine compartment • 5 – Eng compartment lights (seal unit) • TruckLight 73-7828 controlled by switch in engine compartment
277	**.06**	Interior lights	Rear step • interior step lights factory sealed rubber mounted (sealed units) 2

277	**.07**	Interior lights	Door area lighting • 2 Header lights in entrance function w/ door enabled • 2 header lights in exit area to be delayed shut off 5 seconds after door closes • 2 Standee Lights at standee line to function w/door enabled
277	**.08**	Interior lights	Artic joint lights • fluorescent lights provided • 2 forward facing 2 aft facing
280	**.01**	Pas. Signal	Chime cord • yellow with Tiller cord clamps • (Low Floor section only). Horizontal cords set 390 mm [15 .5"] below lower edge interior light panels
280	**.02**	Pas. Signal	Push buttons • Push Button on all window mullions (Low Floor section only) • Stop Request on the curb side & street side stanchion at the front wheel house on verticals • 1 – Street Side wheelchair station seatback vertical stanchion • 2 – on the under side of the handicap seating flip up seats (one per side) Pushbutton at curb side flip up seat to be flush mounted • 1 – Articulation joint area • 1 – on the Rear door stanchion forward of the exit door • 1 – on the upper deck on the vertical stanchion closest to steps. • 1 – last Curb Side cross seat vertical stanchion
280	**.03**	Pas. Signal	STOP REQUEST Sign • white on red English Only – Upper Case letters • 1 – Front mount "Stop Request" sign • 1 – "Stop Request " sign mounted aft of Artic Joint • 1- 25 mm [1 inch] Round Stop Request " Red " Light on dash
280	**.04**	Pas. Signal	Chime • one electronic chime with 2 distinctive sounds located above driver • Single chime sound for regular use & double sound for wheel chair stations
284	**.01**	Electrical	Hardware • Allen Bradley Model 502 • w/EEProm • 10 Slot Rack to be Provided
284	**.02**	Electrical	Side Console Switches • water resistant • per panel drawings
284	**.03**	Electrical	Circuit breakers

			• Manual reset (automatic for headlights)
284	**.04**	Electrical	Retarder switch, Auxiliary Heater Switch and Door Master switch location • on destination sign compartment exterior
284	**.05**	Electrical	Audible Sound • 4 ways (Soft Tone Audible)
284	**.06**	Electrical	Exterior lamp test • depress both turn signal switches to test w/master switch ON • Bus does not have to run
284	**.07**	Electrical	System voltage • 24 volt primary, 12 volt secondary
284	**.08**	Electrical	3 – Cigarette type plug-in • to be provided at Lap Top diagnostic plug locations for Lap Top operation • one (1) located at C/S interior light close out • one (1) at the rear PLC compartment • one (1) in the engine compartment)
286	**.01**	Inst. Panels	Speedometer • KM Primary • No Odometer
286	**.02**	Inst. Panels	Instrument panel layout to be provided by manufacturer to City for approval
292	**.01**	Harnesses	Wire • to SAE J1127, SXL 18 ga min. double insulated hot stamped, engine and transmission harnesses are GXL • All wiring harnesses must be installed above floor level & must not contact the floor • All wiring harnesses must terminate at electrical panels moisture & dust sealed • There shall be 12 spare circuits required between the Main electrical panel & the engine compartment & all other panels
292	**.02**	Harnesses	Connectors • Weatherpack primary • Deutsch for bulkheads
292	**.03**	Harnesses	The Contractor must supply and install wiring harnesses for an Automatic Passenger Counting system. The wiring harness and equipment installation shall be as follows: • One 4-wire and one 2-wire shielded /stranded 22 gauge wire harness to run from the Exit door to the APC computer mount provision. Wire must be ECI Electrocom FT-4 LL61365DR or approved equal. • One 4-wire and one 2-wire shielded / stranded 22 gauge wire harness from the Entrance door compartment to the APC

			computer mount provision. Wire must be ECI Electrocom FT-4LL61365DR or approved equal. • One 4-wire shielded / stranded 22 gauge wire harness from the Side Sign to the APC computer mount provision. Wire must be ECI Electrocom FT – 4LL61365DR or approved equal. • One – 16 gauge wire from the dash speedometer to the APC computer mount provision • One – 16 gauge wire from the ramp control signal source to the APC computer mount provision • One 2 wire 14 gauge harness terminating at the APC computer mount provision – one wire to be 12 volt ignition source and one wire to be 12 volt battery source • One – 150 mm X 230 mm (6 inch X 9 inch) Metal mount plate located in an enclosure to allow for APC computer mounting Installation to be approved prior to Production • Extra 610 mm (24 inches) of wiring on all harnesses at termination points to allow for equipment installation • The APC Mounting provision to be inside the Standard Radio Lock Box located on the street side wheel house • All mounting locations to be approved by the City prior to production
292	**.04**	Harnesses	Loom • split convoluted
292	**.05**	Harnesses	P clips • stainless steel, fully boxed silicon sleeving
292	**.06**	Harnesses	Radio wiring • with terminals, 12V, 25 amps • Contractor must supply and install customer specific radio harness (Radio Harnesses to be supplied to Winnipeg for testing 30 days prior to Winnipeg Line entry) • Radio must have filtered 12V power supply through a 24 to 12 V – Sure Power Convertor # 52142 (ship loose with bus) • Radio power circuit must remain powered for 30 min after shut down of vehicle • 2 Spare wires from the power source to the Radio Box. • Two (2) - # 6 cables from a direct battery power source to the Radio Box
292	**.07**	Harnesses	Radio Lock Box • Aluminum construction 510 mm X 480 mm X 200 mm [20” X 19” X 8”] minimum required behind driver’s enclosure, with the option to go to a larger cabinet • Paint Flat Black
294	**.01**	Power cables	Starter cable • 4/0 black
294	**.02**	Power cables	Terminals

			• machine crimped ring
296	**.01**	Elec Decals	Compartment decals • for electrical panels identifying and showing location of all items in the Apparatus Boxes
304	**.01**	Paint & Dec	Exterior paint • paint scheme (REF 723-2006_Drawing_001-R01) • white gelcoated fibreglass roof panel • flat Black around window area • any frame visible below body line to be Painted Black • PPG concept (Delta 3500 – low solvent) • inner surface of exterior access doors to be base exterior colour • steel wheels powder coated white w/ painted hubs • coach to be base color White
304	**.02**	Paint & Dec	Black decal fleet numbers • 15.24 cm (6”) high required in three locations: o 1 Street side o 1 Curbside o 1 Right Rear Corner • 1 set of 10.16 cm (4”) decal numbers on the Curbside front of the vehicle • 2 sets of 5.08 cm (2”) decal numbers inside the vehicle • Exact locations to be specified by the City at time of build
304	**.03**	Paint & Dec	Exterior striping and decals • Winnipeg Transit logos and City of Winnipeg crest supplied by the City and installed by the Contractor • Specific locations to be determined by the City prior to production • Manufacturer’s standard
304	**.04**	Paint & Dec	Corrosion protection • Manufacturer’s standard • Grit blast frame, PPG zinc rich primer, PPG Corashield undercoating, Coratube sprayed in tubes up to roof line
304	**.05**	Paint & Dec	Interior • Access panels, window surrounds & mullions, ceiling, ad frames & light baffles to be Antique White • All ceiling panels to be trim w/ stainless steel • Interior window pans, modesty panels and Lower Interior wall panel to be Charcoal Grey • Drivers area, Front wheel house, dash board, destination sign enclosure to be Flat Black
350	**.01**	Driver Controls	Brake valve E10
350	**.02**	Driver Controls	Brake/Accelerator pedals

			• 45 degree angle
350	**.03**	Driver Controls	Turn signal & dimmer switches • floor mounted
350	**.04**	Driver Controls	Steering column • Douglas+C231 tilt telescopic
350	**.05**	Driver Controls	Steering wheel • 2 spoke padded 500 mm [20"] black
420	**.01**	Panel Exterior /Access	Side panels upper and lower • glued installation
420	**.02**	Panel Exterior /Access	Window frames • black in colour
420	**.03**	Panel Exterior /Access	Fenders • polyurethane moulded fenders, secured with stainless bolts
420	**.04**	Panel Exterior /Access	Rear license plate provision
420	**.05**	Panel Exterior /Access	Front license plate provision • bottom bracket & top inserts
420	**.06**	Panel Exterior /Access	Access doors • 5/16" square key locks and gas struts on all doors over 1sq foot • stainless Steel Hinges on all Doors, must NOT be mounted w/ Riv-nuts or Well-nuts • fuel door located between exit door and rear wheels and must not be obstructed by the rear door when in the open position • where upper HVAC unit has exterior door on the rear of the coach, door shall be flat style and not exceed 1.70 m [68 "] wide • where A/C is present door shall be louvered but not exceed same measurement
420	**.07**	Panel Exterior /Access	Engine access door • gas struts • exterior Handle to be supplied
420	**.08**	Panel Exterior /Access	Defroster access door • square key locks/ removable lift out type not hinged
420	**.09**	Panel Exterior /Access	Fuel & Surge Tank Access Door • handles to be " Mitt " Type 130 mm x 38 mm [5" x 1 ½ "] w/ sloped edges that protrudes 20 mm [¾ "] from body of bus
420	**.10**	Panel Exterior /Access	Curb side engine access door • w/gas strut, includes battery disconnect access door
420	**.11**	Panel Exterior /Access	Radiator access door • w/gas strut • with perforated and corrugated aluminum design w/holes small enough to act as a radiator screen (NFIL Part # 233253)

			• w/ view slot for hydraulic reservoir if required
420	**.12**	Panel Exterior /Access	Roof hatches • Three vent/roof escape hatches, with safety wire (French/English instruction).
420	**.13**	Panel Exterior /Access	**Driver Compartment Vents** • lower Drivers Vent must open to 45deg • upper Power Fan Forced Drivers Air Vent – Multi speed must be provided • 100% Fresh air supply for both upper & lower vent • upper Drivers Power Vent to have 2 – Louvered adjustable vent outlets on underside drivers ceiling header with rotary manual control
420	**.14**	Panel Exterior /Access	Wipers • air wipers, intermittent control • dry arm washers
420	**.15**	Panel Exterior /Access	Washer bottle • 19 litres [5 US gallons] with Air operated pump • w/ external spring loaded filler cap
420	**.16**	Panel Exterior /Access	Rain gutter • 25 mm [1"] cross section full length – bonded to coach
421	**.01**	Insulation	Sidewall, roof • polyurethane • integrated with roof • attached to exterior side panels
421	**.02**	Insulation	Exhaust cavity • rock board Insulation
421	**.03**	Insulation	Engine compartment • urethane foam laminated with a PVC composite sound barrier and retained by perforated aluminum panels
421	**.04**	Insulation	Front wheelhouses • bagged Fibreglass Insulation
422	**.01**	Panel Interior /Access	Drivers area • draft shield must be provided on driver's platform and shall be full width with door and magnetic latch • modesty panels in Drivers area to be Black Suede 6 mm [¼ "] Thick • driver coat hook to be supplied and located on Drivers Modesty panel or harness cover LH side behind operator
422	**.02**	Panel Interior /Access	Drivers Locker • located behind operator seat in front of the Operator modesty panel above the front wheel house • door incorporates 3 pocket pamphlet holder

			• 2 @ 95 mm [3 ¾ "] wide • 1@ 170 mm [6 ¾"] wide • locker box to be counter-sunk riveted design • must be large enough to hold a winter coat and regular size duffle bag • design and installation to be approved by the City prior to build
422	**.03**	Panel Interior /Access	Roller blind • grey solid, on windshield Driver side w/ 705 mm [27 ¾ "] travel
422	**.04**	Panel Interior /Access	Roller blind • grey solid, on driver's side window w/ 610 mm [24 "] travel
422	**.05**	Panel Interior /Access	Rear upper bulkhead • antique White fibreglass
422	**.06**	Panel Interior /Access	Engine Interior access panels • one on the rear seat wall riser to be stainless steel door • trim door opening w/aluminum molding • 2 additional access panels under the chesterfield (one below seat cushion – one on the backrest) w/ 5/16 square Key locks • entrance/exit door mechanism access – aluminum
422	**.07**	Panel Interior /Access	Front destination sign access door • aluminum, Flat Black paint, top hinged, ¼ turn latches
422	**.08**	Panel Interior /Access	Rear PLC Enclosure • thermoplastic
422	**.09**	Panel Interior /Access	Interior access panel fasteners • 5/16" sq. key or Knurled knobs • ¼ - turn w/ Stainless steel hinges
423	**.01**	Ad Frames	**40 ' Bus Requirement for Ad Frames as follows: (60 ' Bus – TBD)** • rear rack dimension is 1790 mm x 560 mm O/S [70 ½" x 22"] • side rack dimension 3540 mm X 775 mm O/S [139 ½ " X 30 ½"] (must include centre mullion) • Long media measures from 530 mm X 1780 mm [22" x 70 ½"] to 537 mm X 1783 mm [21 1/8" x 70 3/16"] • National Guard o Side Frame # 080659, to be stainless screw attached to structural members o Rear Frame # 070713, mounted on 1/8" thick nylon spacers o Powder coated White
450	**.01**	Flooring	Floor panels • ¾" Pressure Treated 7ply Plywood • undercoated from the underside
450	**.02**	Flooring	Driver's platform

			• Tarabus Sirius NT 6727 Anthracite Transport flooring
450	**.03**	Flooring	Flooring • Tarabus Sirius NT 6727 Anthracite Transport (2.2 mm [0.088"]) uniform thickness throughout • backing to be installed where flooring curves up the wall in the Low Floor Section Floor panels • yellow standee line located at front of bus between front wheelhouses • rear seat riser to be covered w/flooring material w/stainless steel access door • safety line @ centre hump – 2 Yellow safety lines are provided fore & aft of the hump at centre axle
450	**.04**	Flooring	Interior step • to match floor colour with safety yellow nosing
450	**.05**	Flooring	Door nosing • yellow, separate from flooring Standee line – yellow
450	**.06**	Flooring	Wheelhouses • rear wheel house 14 gauge Stainless Steel
450	**.07**	Flooring	Front Wheelhouse • covers to be covered with 6801 Graphite color material • wheel house to be fibreglass Black • stainless scuff guards on lower portion secured w/stainless steel screws
460	**.01**	Windows	Windshields • 2 piece, 72% green laminated, w/shade band
460	**.02**	Windows	Passenger windows glazing • 6.3 mm [¼"] tempered glass, 44% grey tint • Stormtite w/black anodized frame • fixed bottom w/Tip-in style top units • to open as Emergency exits w/ French & English Instruction
460	**.03**	Windows	First window behind driver • non-operator type (unless equipped with full size electrical cabinet)
460	**.04**	Windows	Side Destination side window • non-operator type • window lower units to match passenger window glazing
460	**.05**	Windows	Driver's window • 2 piece slider with interior handles/ no exterior handle • lock on rear section interior only • glass 72% green laminated
470	**.01**	Destination sign	Front Destination Sign

			• auto blanking – Luminator Horizon 16 x 160 LED (100 %) • front destination sign glass – 72% green tint laminated • extra etching to incorporate sign size & configuration • heated via electric grid • sign remains ON when bus master switch is in either DAY, NIGHT or PARK position
470	**.02**	Destination sign	Driver control • membrane sensitive control mounted on destination sign door
470	**.03**	Destination sign	Side sign • Luminator Horizon 8 x 96 LED
470	**.04**	Destination sign	Rear sign • Luminator Horizon 16 x 48 LED
470	**.05**	Destination sign	Programming • Luminator via flashcard (PCMCIA) • located on ODK – MTU Port located on the inside of the Frt Destination Sign Compartment
480	**.01**	Mirrors	Street side exterior • single unit 2 pc glass W/convex lower • heated (Metagal) Lucerix Part # X20.695.00 – 12 190 mm X 250 mm [7 ½" X 10 "] w/ integral 100 mm X 150 mm [4" X 6"] convex at the bottom • mirror to be mounted on brkt # X.20.815.29LE – w/Manual operation – must fold to body of bus • mounted to secure structural members or tapping plates 1150 mm [45.5"] inch from the bottom of the bus to the centre of the bottom mount bolt
480	**.02**	Mirrors	Curb side exterior • heated curb side mirror convex glass w/remote, B & R style Part # A1785NF (11 X 10) on mount brkt # 215-2 w/ wiring passing thru arm • mounted to secure structural members or tapping plates • pull Back arm manual return must fold to body for Bus Wash
480	**.03**	Mirrors	Interior Rear View • Lucerix 150 mm X 230 mm [6.0 " X 9.0 "] slight convex • black finish • located as per Winnipeg Spec.
480	**.04**	Mirrors	Interior • 150 mm [6"] diameter flat front spot mirror located in RF corner by front door • mounted 480 mm [19"] from Slide guide track for front door rollers & 185 mm [7 ¼"] from sign compartment door edge to mount brkt • black finish

480	**.05**	Mirrors	Interior • 305 mm [12"] convex rear step area, stanchion mounted
490	**.01**	Entrance Door	Grab handles • yellow powder coated (oval)
490	**.02**	Entrance Door	Door type • 2 section slide glide single stream • shall be air opened/air closed w/grease fittings on all hinges • glazing – single piece 72% green transmitted • door opening 890 mm [35"]
490	**.03**	Entrance Door	Door controller • standard 5 position controller • front door interlock not required
490	**.04**	Entrance Door	Emergency release valve incorporated in front door mech. Box
491	**.01**	Exit door	Grab handles • yellow powder coated (oval)
491	**.02**	Exit door	Door type • 2 section slide glide single stream • shall be air opened/air closed w/grease fittings on all hinges • single piece glazing 44% Grey to match Body Windows • door opening 890 mm [35"] Wide
491	**.03**	Exit Door Controller	Door actuation • rear doors Vapor CLASS Ultrasonic sensor system
491	**.04**	Exit door	Sensitive edge • with bell (Drunk Alarm) located in front sign compartment • to operate w/ bus moving or stationary
491	**.05**	Exit door	Emergency release valve • w/hinged door • near mechanism box
491	**.06**	Exit door	Door authorized light • green, in header (Driver authorized and passenger controlled) • 5 – Second delay on closing • door Interlock system shall include accelerator & brake interlock system
491	**.07**	Exit door	Door master switch • location on exterior of the destination sign compartment • soft chime audible alarm shall operate when the switch is in the off position
526	**.01**	Seating	# of passenger seats (TBD) • seat fasteners at floor level must be Stainless Steel

526	**.02**	Seating	Rear bench seat • hinged 1-3-1
526	**.03**	Seating	Seat • model – American seating/Otaco Metropolitan fibreglass shells colour to be Grey 980 and fabric to be Lafrance Paintbrush #8203362-711D Pink Purple • all seat cushions padded with 11 mm [0.44"] Safeguard foam (Weep Holes in underside of seat cushions) • seat mounted thermoplastic grab rails • seat mounting – cantilever throughout • the "finisher panel" on the arm rests on rear upper longitudinal seats to have anti-graffiti stainless steel backs • all exposed seat backs to have stainless steel. • flip up & upper deck seats are pedestal mount
526	**.04**	Seating	Wheelchair positions • flip up Seats are required to accommodate wheelchair stations (these seats must lock in the UP position only and stay down in the DOWN position without rattles) • treetside location w/ clamp w/ electrical push button release, Two Red retractable belts and One Black retractable seat belt w/instructions in French & English • wheelchair seat Streetside aisle facing comes w/underside seat grab rail and STOP REQUEST button • wheelchair seat Curbside aisle facing shall be 3 person seat (flip up) w/ flush mount STOP REQUEST button w/ no grab rail on underside of seat • curb side Protection Cushion vertical stanchion mount must be approx 355 mm [14 "] from the top of the wheel house to the back side of the cushion and 45 mm [1 ¾ "] from the wheel house base to the stanchion mount. • installation to be approved by the City
526	**.05**	Stanchions	Winnipeg Specific – custom farebox stanchion • location of Stanchion to be confirmed at time of build • shall be Yellow grab rail & vertical w/ black padding • one piece w/ 90 deg bend at farebox vertical section (REF 723-2006_Drawing_005-R01) • additional 1070 mm [42"] stainless steel vertical stanchion located at the Farebox stanchion for mounting Transfer cutter & Coffee cup holder • design to be approved prior to build
526	**.06**	Stanchions	**Vertical Stanchions to be located as follows:** 1. Entrance & exit door grab rails to be Yellow Powder Coated 2. Stanchions from floor to ceiling & floor to upper grab rail to be Powder Coated Yellow 3. Stanchion at exit door to be Yellow Powder Coated 4. All stanchions rear of the front wheelhouse and from seat frames

			to the horizontal grab rail to be Stainless Steel 5. Stanchion and railing in driver's area and forward of the rear of the front wheel house to be Black 6. All fittings forward of the Front wheel house to be Black or Grey 7. Curved vertical stanchion (hockey stick) at Curb Side Wheel chair location to be yellow powder coated (REF 723-2006_Drawing_008-R01) 8. Luggage Racks Street & Curb Side to be Black powder coated w/ assist bar on curb side to be Yellow powder coated 9. Vertical stanchion at curb side forward of the front wheel house to be yellow Powder Coated 10. All fasteners and fittings at floor level to be stainless steel
526	**.07**	Stanchions	Horizontal Grab Rails • to be stainless steel • w/Vinyl handhold loops to be supplied and locations to be determined at build (4 street side, 3 curbside)
526	**.08**	Seating	Driver's seat • USSC Q90 w/ Black fabric inserts and vinyl boxing w/ Rail Bumper • the Q90 seat must be mounted on the short base supplied by USSC # 9905-300001-36 and must include Safety Hand part #9904-00094-007 • the Drivers seat must maintain a clearance of 710 mm to 740 mm [28" to 29"] from the upright driver seat backrest to the steering column stowed in the upright position. • quick connect fitting
526	**.09**	Seating	Rear modesty panels • at raised section, 6 mm [¼"] melamine • Banker's Grey in color approx 860 mm [34"] high • 12 mm [½"] Lexan panel above curb side forward and rear of the Rear Door
526	**.10**	Seating	Emergency exit instructions • riveted plates (English & French)
549	**.01**	HVAC	Thermo King Heating and Air Conditioning system • 20% Filtered fresh air • heating system fans will not function if Alternator is not charging. • incorporate a Rear Mount main heater unit and a minimum of 2 Floor mount auxiliary heater units. • incorporate a minimum Webasto Thermal 300 – 104000 BTU min auxiliary heater w/ diagnostic connector located in Rear Interior Electrical compartment • compressor type & Service gauges TBD
549	**.02**	HVAC	Safe T Walk provision on roof top for heater service if equipped

549	**.03**	HVAC	Heater /Defroster • 90,000 BTU @ 180 deg FDT • defroster & air damper control lever shall not obstruct farebox stanchion
549	**.04**	HVAC	Defroster motor • permanent magnet • not PLC controlled • micro switch on the water valve for front defroster turns the B/Pump on & off
549	**.05**	HVAC	Water valve • shall be located in such a way that it will shut-off water flow before entering the defroster core • secondary water valve installed at Rear of the coach to cut off water supply to assist in above and also controlled by front valve micro switch • all units to be separated by manual control ball-valves
549	**.06**	HVAC	Driver compartment heating system controls are as follows: 1. Fan controlled by rotary multi-speed switch on switch panel; 2. Manual damper system to modulate between driver heat and windshield defrosting 3. Defroster heater to go to high speed operation regardless of speed setting when heating system is calling for heat and when the front door is opened.
549	**.07**	HVAC	Booster pump • EG&G Rotron seal-less brushless w/ball valves on inlet and outlet
549	**.08**	HVAC	Thermo-King Heating System Operation • Heater Switch positions to be On/Off/Vent/AC • **On Position (or Heat Mode)** o Main Heater on Low Speed o Floor Heaters on High o Water valves open o B/Pump operating o When heaters cycle off due to Temperature Rear Heater remains on Low Speed o Floor Heaters shut – off o Booster Pump & Water Valves close via thermostat control • **Vent Mode** o Rear Heater on high o Floor Heaters off and water valves closed o B/Pump not operating • The Heating System shall incorporate an Auxiliary heater by-pass water valve and shall function as follows: 1. In Heat Mode, if the engine temp is below 64°C [148°F] and the Thermo King Unit and Floor heaters are off, then by pass valve is

			opened. 2. If the climate control switch is in OFF or VENT, the by pass valve will be opened to minimize water flow to the drivers defroster.
549	**.09**	HVAC	Booster Pump to be installed at Webasto Heater Unit as per Winnipeg Spec - including Shut-off Valves
549	**.10**	HVAC	**Auxiliary Heater** Function 1. Webasto automatic control 2. A 30 min Timer allows the Webasto to run for a maximum of 30 min unless Heat Mode has been selected or Coolant Temp has been achieved 3. The Webasto system shall incorporate a guarded override switch that will allow the heater to operate when the cover is closed and not function when the switch is open, no dash light indicator is required 4. The Webasto system shall operate as follows on every engine start up: a. The vehicle must reach a 3.2 km/hr (2 mph) road speed, and a 10 minute timer will time out and the Webasto unit will then cycle ON b. The Webasto system shall function when heat mode has been selected and/or coolant temp has not been achieved and 30 minute timer has not timed out 5. Webasto unit operation shall incorporate a manual function test and shall function as follows: a. Door master switch to be in OFF position b. Auxiliary override switch to be in override position c. Heat mode selected for Booster pump Operation d. Engine running and alternator charging **6.** Street side chime switch has been activated for a period of 5 seconds
549	**.11**	HVAC	Webasto Heater air filter • box type w/ filter element to incorporate fresh air intake above window line of bus
549	**.12**	HVAC	Ramp Heater Motor Fan • is required at front door ramp area • standard 1 speed motor required to work with the defroster controls
580	**.01**	Wheel Chair Ramp	Ramp • 775 mm [30.5"] wide hydraulic wheelchair ramp at entrance door • with non-skid flame coating to be used on the surface of moulding materials • belt drive • yellow edging 50 mm [2 "] wide stripe on the bottom & side edges of the ramp • underside to be coated w/non-skid surface
580	**.02**	Wheel Chair	Skid plate

		Ramp	• at front mechanism below front bumper
580	**.03**	Wheel Chair Ramp	Brake/Accelerator Interlocks • applied when ramp is deployed • ramp control switch on Drivers Instrument Panel & must activate: a. an audible warning device b. red light on dash c. amber flashing light on the exterior of the bus
600	**.01**	Miscellaneous	Hubodometer • Veeder Root to read in KM • 6 digit read out • Mounted Street Side Rear wheel
600	**.02**	Miscellaneous	Dash fans • 3 total - 2 Dash Mount 1 Underside Destination Sign Compartment
600	**.03**	Miscellaneous	Antenna mounting provision • (610 mm X 610 mm [24" x 24 "] ground plate Minimum) • mounted Street side minimum 3.6 m [12 ft] from Destination Sign Equipment
600	**.04**	Miscellaneous	Antenna • mfg supplied (413 - 418 Hz Frequency Range) Excalibur Model # SRL 321A • low profile UHF Antenna w/ " P " connector • radio coaxial to be RG58 w/ AMP-PL259 and 831AP connectors on the Antenna end and PL259 on the radio end • antenna coaxial to run through conduit w/ additional fish wire running through same conduit cable ends to be crimped on style RFU-505 connectors (Hutton Communications)
600	**.05**	Miscellaneous	Mounting plate provision for ABS computer module to be approved by City of Winnipeg
600	**.06**	Miscellaneous	Back up Alarm on 60' Buses
600	**.07**	Miscellaneous	New Vehicle Information Statement • Certificate of Sale of a new Motor Vehicle - for Registration Purposes upon delivery
600	**.08**	Miscellaneous	Data Link Connectors • 9 Pin Deutsch to function w/ all software requirements • 2 required: o 1 located at C/S Light closeout above C/S Luggage Rack o 1 located in Engine Compartment)
600	**.09**	Miscellaneous	Front electrical tow connector wiring w/socket wired to complement Winnipeg Transit Tow Truck wiring plug (REF 723-2006_Drawing_006-R01)

600	**.10**	Miscellaneous	Warning lights and buzzers required as follows: 1. Alternator Discharge - RED Light; 2. Exit Door Unlocked - RED Light; 3. Stop Light Action - RED Light; 4. Low Air Pressure - RED Light and Buzzer; 5. Low Coolant – AMBER; 6. Emergency Brake - RED Light; 7. Headlight High Beam - BLUE Light; 8. Directional Signals - GREEN Light; 9. Kneeling Activated - AMBER Light (on right side of dash); 10. Ramp Deployed - AMBER Light (on right side of dash); 11. Stop Requested - RED (25 mm [1"] diameter minimum); 12. Wheelchair Stop Requested - AMBER Light. 13. All warning lights and buzzers pertinent to the engine and transmission will be supplied.
600	**.11**	Miscellaneous	The Contractor must supply 4 - notebook computers per bus build to be used for diagnostic and programming functions • the computers must be equipped with the latest version of the Windows operating system, colour screens, integral pointing devices, DVD Rom Drives, floppy drive, the largest capacity hard drive available for the computer and twice the minimum RAM memory required to run all applicable software • the computers shall be equipped with the latest versions of all software required for diagnostics and programming of the Engine, Transmission, PLC, ABS, Electronic Signs, and all other Electronic equipment included in the vehicle • all software must be installed and functional • the computers shall include all peripheral communication hardware, such as PIC's, links and adapters used in downloading and programming of the equipment • the City of Winnipeg shall have final approval of the hardware and software to be supplied • computers supplied under contract must be available for testing of all functions and data link connections during pre-delivery inspections.
600	**.12**	Miscellaneous	Coffee Cup Holder to be supplied Style & Location to be determined by City
600	**.13**	Miscellaneous	Supply and install Video Surveillance equipment (REF 723-2006_Drawing_007-R01) to include • six (6) cameras • one (1) Digital Video Recorder • one (1) viewing monitor at front of the bus to allow driver visual access to the rear of the bus
600	**.14**	Miscellaneous	Supply all equipment required to maintain hybrid drive system and articulating joint, reference in FORM N: Vehicle Data – Specialized Equipment

600	**.15**	Miscellaneous	Optional towing connection • rear brakes operated by tow vehicle
600	**.16**	Miscellaneous	Bus to be capable of manually switching to hybrid drive only while entering or exiting the bus storage garage.

E3. DELIVERY

E3.1 All vehicles shall be delivered, F.O.B., destination freight prepaid to the following address:

Winnipeg Transit Fort Rouge Transit Base
421 Osborne St.
Winnipeg, Manitoba
R3L 2A2
Contact: Don DeVisser 986-5801

E3.2 Deliveries will be accepted between 07:00 and 14:00, Monday to Friday excluding statutory holidays.

E3.3 Each bus must be delivered with all documentation necessary for licensing in the Province of Manitoba.

E4. TRAINING

E4.1 The Contractor shall provide 80 worker-days of training courses for the City's staff for the Evaluation Units bus order, and 80 worker-days for the Final Units bus order. The training shall be performed in the City of Winnipeg. The training course requirement shall be determined by the City and shall include but shall not be limited to theoretical and practical subjects such as engine and transmission fault diagnosis, engine and transmission rebuilding, and air conditioning maintenance.

E4.2 The Contractor shall provide additional training and written documentation, determined by the City, to cover the safety and maintenance issues directly related to hybrid drive systems. All equipment to safely maintain hybrid drive systems is to be supplied by the Contractor.

E4.3 The Contractor shall provide additional training and written documentation, determined by the City, to cover the safety and maintenance issues directly related to the articulating joint. All equipment to safely maintain the articulating joint is to be supplied by the Contractor.

E5. INSPECTIONS AND PERFORMANCE TESTS:

E5.1 Further to GC.5.03 of the General Conditions, City of Winnipeg inspectors will perform three types of inspections during the Contract:

(a) City of Winnipeg inspectors will perform production inspections to verify that Specification and manufacturing quality requirements are met throughout the manufacturing process on every bus;

(b) City of Winnipeg inspectors will perform pre-delivery inspections on every bus at the Contractor's manufacturing facility prior to its release for delivery;

(c) City of Winnipeg inspectors will perform post-delivery inspections at 421 Osborne St. Winnipeg, MB. on every bus.

E5.2 City of Winnipeg inspectors must have unrestricted access to inspect the materials and processes used on its vehicles at the Contractor's manufacturing facility at all stages of production.

(a) Contractors with facilities located outside the City of Winnipeg must include in their bids, all costs for two inspectors to spend a minimum 5 full days per week that buses are in production at their manufacturing facility on a weekly basis. Costs must include air and/or vehicle transportation between Winnipeg and the manufacturing facility. Costs must include lodging and be approved by the City, and additional vehicle transportation between the hotel and the manufacturing facility, (vehicle type supplied will be determined by the time of year and weather conditions) and shall include all applicable insurances. Costs of per diem rate per day per person as set by the City of Winnipeg for meals and other costs. Out of Province medical insurance must be provided in the form of a sub-contractor supply such as Blue Cross Extended Travel Insurance for the time period that the Inspectors are out of Province.

E5.3 Pre-delivery inspections will be performed by City of Winnipeg inspectors. The Contractor must allow a minimum of two hours per inspection, must provide a hoist to raise the bus, indoor facilities in inclement weather, and temporary licensing for a road test. Any defects or deficiencies in the Work noted during this inspection shall be remedied by the Contractor at the earliest possible instance and the Inspector shall be notified when the Work is ready for re-inspection.

(a) The pre-delivery inspectors will observe a brake system test by the Contractor on each completed vehicle prior to delivery. The brake system must stop the bus at a minimum deceleration rate equivalent to 6.1 m (20 feet) from a speed of 32 km/hr (20 mph) on dry pavement and conform to the Transport Canada Technical Standard No. 121 requirements.

E5.4 Post-delivery inspections will be performed at the point of delivery at City of Winnipeg facilities. The buses must have been operated within the drive train manufacturer's recommendations during delivery, must be clean inside and out, must have full fuel tanks and must be free of damage incurred during transport. Any defects or deficiencies in the Work noted during this inspection shall be remedied by the Contractor at the earliest possible instance and the Inspector shall be notified when the Work is ready for re-inspection.

(a) The post-delivery inspection shall be considered complete when all defects or deficiencies have been remedied by the Contractor and the Contract Administrator certifies that the bus meets the requirements of the Contract Documents.