



THE CITY OF WINNIPEG

BID OPPORTUNITY

BID OPPORTUNITY NO. 346-2014

**PLESSIS ROAD TWINNING AND GRADE SEPARATION AT CN REDDITT
SUBDIVISION: SUPPLY OF STEEL PIPE AND FITTINGS**

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PART B - BIDDING PROCEDURES

B1. CONTRACT TITLE

B1.1 PLESSIS ROAD TWINNING AND GRADE SEPARATION AT CN REDDITT SUBDIVISION:
SUPPLY OF STEEL PIPE AND FITTINGS

B2. SUBMISSION DEADLINE

B2.1 The Submission Deadline is 4:00 p.m. Winnipeg time, Thursday, April 10, 2014.

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

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

B3. ENQUIRIES

B3.1 All enquiries shall be directed to the Contract Administrator identified in D3.2.1.

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 promptly notify the Contract Administrator of the error, discrepancy or omission at least five (5) Business Days prior to the Submission Deadline.

B3.3 If the Bidder is unsure of the meaning or intent of any provision therein, the Bidder should request clarification as to the meaning or intent prior to the Submission Deadline.

B3.4 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.

B3.5 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.

B3.6 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. CONFIDENTIALITY

B4.1 Information provided to a Bidder by the City or acquired by a Bidder by way of further enquiries or through investigation is confidential. Such information shall not be used or disclosed in any way without the prior written authorization of the Contract Administrator. The use and disclosure of the confidential information shall not apply to information which:

- (a) was known to the Bidder before receipt hereof; or
- (b) becomes publicly known other than through the Bidder; or
- (c) is disclosed pursuant to the requirements of a governmental authority or judicial order.

B4.2 The Bidder shall not make any statement of fact or opinion regarding any aspect of the Bid Opportunity to the media or any member of the public without the prior written authorization of the Contract Administrator.

B5. ADDENDA

- B5.1 The Contract Administrator may, at any time prior to the Submission deadline, issue addenda correcting errors, discrepancies or omissions in the Bid Opportunity, or clarifying the meaning or intent of any provision therein.
- B5.2 The Contract Administrator will issue each addendum at least two (2) Business Days prior to the Submission Deadline, or provide at least two (2) Business Days by extending the Submission Deadline.
- B5.2.1 Addenda will be available on the Bid Opportunities page at The City of Winnipeg, Corporate Finance, Materials Management Division website at <http://www.winnipeg.ca/matmgt/bidopp.asp>
- B5.2.2 The Bidder is responsible for ensuring that he/she has received all addenda and is advised to check the Materials Management Division website for addenda regularly and shortly before the Submission Deadline, as may be amended by addendum.
- B5.3 The Bidder shall acknowledge receipt of each addendum in Paragraph 9 of Form A: Bid. Failure to acknowledge receipt of an addendum may render a Bid non-responsive.

B6. SUBSTITUTES

- B6.1 The Work is based on the materials, equipment, methods and products specified in the Bid Opportunity.
- B6.2 Substitutions shall not be allowed unless application has been made to and prior approval has been granted by the Contract Administrator in writing.
- B6.3 Requests for approval of a substitute will not be considered unless received in writing by the Contract Administrator at least seven (7) Business Days prior to the Submission Deadline.
- B6.4 The Bidder shall ensure that any and all requests for approval of a substitute:
- (a) provide sufficient information and details to enable the Contract Administrator to determine the acceptability of the 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.
- B6.5 The Contract Administrator, after assessing the request for approval of a substitute, may in his/her sole discretion grant approval for the use of a substitute as an "approved equal" or as an "approved alternative", or may refuse to grant approval of the substitute.
- B6.6 The Contract Administrator will provide a response in writing, at least two (2) Business Days prior to the Submission Deadline, only to the Bidder who requested approval of the substitute.

- B6.6.1 The Bidder requesting and obtaining the approval of a substitute shall be entirely responsible for disseminating information regarding the approval to any person or persons he/she wishes to inform.
- B6.7 If the Contract Administrator approves a substitute as an “approved equal”, any Bidder may use the approved equal in place of the specified item.
- B6.8 If the Contract Administrator approves a substitute as an “approved alternative”, any Bidder bidding that approved alternative may base his/her 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 B14.
- B6.9 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.
- B6.10 Notwithstanding B6.2 to B6.9, and in accordance with B7.7, deviations inconsistent with the Bid Opportunity document shall be evaluated in accordance with B14.1(a).

B7. BID SUBMISSION

- B7.1 The Bid shall consist of the following components:
- (a) Form A: Bid;
 - (b) Form B: Prices;
- B7.2 Further to B7.1, the Bidder should include the written correspondence from the Contract Administrator approving a substitute in accordance with B6.
- B7.3 All components of the Bid shall be fully completed or provided, and submitted by the Bidder no later than the Submission Deadline, with all required entries made clearly and completely, to constitute a responsive Bid.
- B7.4 The Bid Submission may be submitted by mail, courier or personal delivery, or by facsimile transmission.
- B7.5 If the Bid Submission is submitted by mail, courier or personal delivery, it shall be enclosed and sealed in an envelope clearly marked with the Bid Opportunity number and the Bidder's name and address, and shall be submitted to:
- The City of Winnipeg
Corporate Finance Department
Materials Management Division
185 King Street, Main Floor
Winnipeg, MB R3B 1J1
- B7.5.1 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.
- B7.6 Bidders are advised not to include any information/literature except as requested in accordance with B7.1.
- B7.7 Bidders are advised that inclusion of terms and conditions inconsistent with the Bid Opportunity document, including the General Conditions, will be evaluated in accordance with B14.1(a).
- B7.8 If the Bid Submission is submitted by facsimile transmission, it shall be submitted to 204-949-1178.
- B7.8.1 The Bidder is advised that the City cannot take responsibility for the availability of the facsimile machine at any time.

B7.9 Bids submitted by internet electronic mail (e-mail) will not be accepted.

B8. BID

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

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

- (a) if the Bidder is a sole proprietor carrying on business in his/her own name, his/her 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/her own, the business name and the name of every partner or corporation who is the owner of such business name shall be inserted.

B8.2.1 If a Bid is submitted jointly by two or more persons, each and all such persons shall identify themselves in accordance with B8.2.

B8.3 In Paragraph 3 of Form A: Bid, the Bidder shall identify a contact person who is authorized to represent the Bidder for purposes of the Bid.

B8.4 Paragraph 11 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/her 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/her own, it shall be signed by the registered owner of the business name, or by the registered owner's authorized officials if the owner is a partnership or a corporation.

B8.4.1 The name and official capacity of all individuals signing Form A: Bid should be printed below such signatures.

B8.5 If a Bid is submitted jointly by two or more persons, the word "Bidder" shall mean each and all such persons, and the undertakings, covenants and obligations of such joint Bidders in the Bid and the Contract, when awarded, shall be both joint and several.

B9. PRICES

B9.1 The Bidder shall state a price in Canadian funds for each item of the Work identified on Form B: Prices.

B9.1.1 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.

B9.1.2 Prices on Form B: Prices shall not include Environmental Handling Charges (EHC) or fees, which shall be extra where applicable.

- B9.2 The quantities listed on Form B: Prices are to be considered approximate only. The City will use said quantities for the purpose of comparing Bids.
- B9.3 The quantities for which payment will be made to the Contractor are to be determined by the Work actually performed and completed by the Contractor, to be measured as specified in the applicable Specifications.

B10. QUALIFICATION

- B10.1 The Bidder shall:
- (a) undertake to be in good standing under The Corporations Act (Manitoba), or properly registered under The Business Names Registration Act (Manitoba), or otherwise properly registered, licensed or permitted by law to carry on business in Manitoba, or if the Bidder does not carry on business in Manitoba, in the jurisdiction where the Bidder does carry on business; and
 - (b) be financially capable of carrying out the terms of the Contract; and
 - (c) have all the necessary experience, capital, organization, and equipment to perform the Work in strict accordance with the terms and provisions of the Contract.
- B10.2 The Bidder and any proposed Subcontractor (for the portion of the Work proposed to be subcontracted to them) shall:
- (a) be responsible and not be suspended, debarred or in default of any obligations to the City. A list of suspended or debarred individuals and companies is available on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Division website at <http://www.winnipeg.ca/matmgt/debar.stm>
- B10.3 The Bidder and/or any proposed Subcontractor (for the portion of the Work proposed to be subcontracted to them) shall:
- (a) have successfully carried out work similar in nature, scope and value to the Work; and
 - (b) be fully capable of performing the Work required to be in strict accordance with the terms and provisions of the Contract; and
 - (c) have a written workplace safety and health program, if required, pursuant to The Workplace Safety and Health Act (Manitoba);
 - (d) have been previously qualified and approved by Imperial Oil Ltd. (IOL) to supply pipeline materials as detailed in the Specifications.
 - (e) have been previously qualified and approved by Shell Canada (SC) to supply pipeline materials as detailed in the Specifications.
- B10.4 The Bidder shall submit, within three (3) Business Days of a request by the Contract Administrator, proof satisfactory to the Contract Administrator of the qualifications of the Bidder and of any proposed Subcontractor.
- B10.5 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.
- B10.6 The Bidder may be required to submit, within three (3) Business Days of a request by the Contract Administrator, a letter confirming IOL acceptance of Bidder and any proposed subcontractors satisfactory to the Contract Administrator.

IOL contact regarding Bidder eligibility is:

Mr. Shadan Anwar, P. Eng.

Senior Project Manager, Canada Fuels Operations – Midstream Organization
Imperial Oil Limited

Telephone No.: (403) 237-3658

B10.7 The Bidder may be required to submit, within three (3) Business Days of a request by the Contract Administrator, a letter confirming SC acceptance of Bidder and any proposed subcontractors satisfactory to the Contract Administrator.

SC contact regarding Bidder eligibility is:

Mrs. Heather Adam

Project Development Engineer, Supply and Distribution

Shell Pipeline Company Ltd.

Telephone No.: (713) 241-6469

B11. OPENING OF BIDS AND RELEASE OF INFORMATION

B11.1 Bids will not be opened publicly.

B11.2 Following the Submission Deadline, the names of the Bidders and their Total Bid Prices (unevaluated, and pending review and verification of conformance with requirements or evaluated prices) will be available on the Closed Bid Opportunities (or Public/Posted Opening & Award Results) page at The City of Winnipeg, Corporate Finance, Materials Management Division website at <http://www.winnipeg.ca/matmgt>

B11.3 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 Division website at <http://www.winnipeg.ca/matmgt>

B11.4 The Bidder is advised that any information contained in any Bid may be released if required by City policy or procedures, by The Freedom of Information and Protection of Privacy Act (Manitoba), by other authorities having jurisdiction, or by law.

B12. IRREVOCABLE BID

B12.1 The Bid(s) submitted by the Bidder shall be irrevocable for the time period specified in Paragraph 10 of Form A: Bid.

B12.2 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 10 of Form A: Bid.

B13. WITHDRAWAL OF BIDS

B13.1 A Bidder may withdraw his/her Bid without penalty by giving written notice to the Manager of Materials at any time prior to the Submission Deadline.

B13.1.1 Notwithstanding C21, 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.

B13.1.2 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 11 of Form A: Bid, and only such person, has authority to give notice of withdrawal.

B13.1.3 If a Bidder gives notice of withdrawal prior to the Submission Deadline, the Manager of Materials will:

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

(b) open the Bid to identify the contact person named in Paragraph 3 of Form A: Bid and the Bidder's authorized representatives named in Paragraph 11 of Form A: Bid; and

(c) if the notice has been given by any one of the persons specified in B13.1.3(b), declare the Bid withdrawn.

B13.2 A Bidder who withdraws his/her Bid after the Submission Deadline but before his/her Bid has been released or has lapsed as provided for in B12.2 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.

B14. EVALUATION OF BIDS

B14.1 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, or acceptable deviation therefrom (pass/fail);
- (b) qualifications of the Bidder and the Subcontractors, if any, pursuant to B10 (pass/fail);
- (c) Total Bid Price;
- (d) economic analysis of any approved alternative pursuant to B6;

B14.2 Further to B14.1(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 or minor informalities or irregularities if the interests of the City so require.

B14.3 Further to B14.1(b), the Award Authority shall reject any Bid submitted by a Bidder who does not demonstrate, in his/her Bid or in other information required to be submitted, that he/she is responsible and qualified.

B14.4 Further to B14.1(c), the Total Bid Price shall be the sum of the quantities multiplied by the unit prices for each item shown on Form B: Prices.

B14.4.1 Further to B14.1(a), in the event that a unit price is not provided on Form B: Prices, the City may determine the unit price by dividing the Amount (extended price) by the approximate quantity, for the purposes of evaluation and payment.

B14.5 This Contract will be awarded as a whole.

B15. AWARD OF CONTRACT

B15.1 The City will give notice of the award of the Contract or will give notice that no award will be made.

B15.2 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.

B15.2.1 Without limiting the generality of B15.2, 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.

B15.3 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, in accordance with B14.

B15.3.1 Following the award of contract, a Bidder will be provided with information related to the evaluation of his/her Bid upon written request to the Contract Administrator.

- B15.4 Notwithstanding C4 and Paragraph 6 of Form A: Bid, the City will issue a purchase order to the successful Bidder in lieu of the execution of a Contract.
- B15.5 The Contract Documents, as defined in C1.1(n) (ii), in their entirety shall be deemed to be incorporated in and to form a part of the purchase order notwithstanding that they are not necessarily attached to or accompany said purchase order.

PART C - GENERAL CONDITIONS

C0. GENERAL CONDITIONS

- C0.1 The *General Conditions for the Supply of Goods* (Revision 2008 05 26) are applicable to the Work of the Contract.
- C0.1.1 The *General Conditions for the Supply of Goods* are available on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Division website at http://www.winnipeg.ca/matmgt/gen_cond.stm
- C0.2 A reference in the Bid Opportunity to a section, clause or subclause with the prefix “**C**” designates a section, clause or subclause in the *General Conditions for Supply of Goods*.

PART D - SUPPLEMENTAL CONDITIONS

GENERAL

D1. GENERAL CONDITIONS

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

D2. SCOPE OF WORK

D2.1 The Work to be done under the Contract shall consist of supply of steel pipe and fittings and appurtenances for the oil pipelines relocation works associated with the Plessis Road Twinning and Grade Separation at the CN Redditt Subdivision. .

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

- (a) Supply of 200 mm diameter steel pipe, coated with fusion bond epoxy/abrasive resistance overcoat (FBE/ARO), for the relocation of two Shell Canada pipelines crossing Plessis Road; and
- (b) Supply of 250 mm diameter steel pipe, coated with YJ2K (a three-layer bonded polyethylene coating system), for the relocation of one Imperial Oil Limited pipeline located north of the Transcona Junction Valve Station.

D3. DEFINITIONS

D3.1 When used in this Bid Opportunity:

- (a) **“Contract 3”** means the Plessis Road Twinning and Grade Separation at CN Redditt Subdivision: Plessis Road Reconstruction, Underpass Structures, Pumping Station, Land Drainage Sewer and Miscellaneous Underground and Landscaping Works;
- (b) **“Contract 4”** means the Plessis Road Twinning and Grade Separation at CN Redditt Subdivision: Imperial Oil Ltd. and Shell Canada Pipelines Relocation Works;
- (c) **“Contract 5”** means the Plessis Road Twinning and Grade Separation at CN Redditt Subdivision: Supply of Steel Pipe and Fittings;
- (d) **“CN”** means Canadian National Railway Company or designated representative;
- (e) **“Fabricator”** means a person or entity having a direct contract with the Contractor to construct by combining or assembling diverse, typically standardized parts;
- (f) **“IOL”** means Imperial Oil Limited or designated representative;
- (g) **“Manufacturer”** means a person or entity having a direct contract with the Contractor to manufacture products not worked to a special design for the Work;
- (h) **“Project”** means the construction of an underpass and bi-directional rail bridge, and relocation and improvement of certain roadways and intersections, involving certain sections of Plessis Road, Pandora Avenue West and Dugald Road in east Winnipeg, including the Work of Contracts 1 to 4;
- (i) **“SC”** means Shell Canada or designated representative.

D3.2 Within the text of the Specifications, reference may be made to the following acronyms in relation to codes, standards and organizations:

ANSI	American National Standards Institute
API	American Petroleum Institute
ASTM	ASTM International (formerly American Society for Testing and Materials)

AWS	American Welding Society
CAN	National Standard of Canada
CSA	Canadian Standards Association
CWB	Canadian Welding Bureau
ISO	International Organization for Standardization
MSS	Manufacturers Standardization Society of the Valve and Fittings Industry
NACE	NACE International (formerly National Association of Corrosion Engineers)
NEB	National Energy Board (Canada)
NRC	National Research Council Canada
OSHA	Occupational Safety & Health Administration (USA)
PFI	Pipe Fabrication Institute
SI	International System of Units
SIS	Swedish Institute of Standard Specifications
SSPC	The Society for Protective Coatings (formerly Steel Structures Painting Council)
WCB	Workers Compensation Board (Manitoba)

D3.3 Where the edition, version or revision date of a referenced regulation, code or standard is not identified, conform to the latest edition or revision of the referenced regulation, code or standard, including amendments and revisions.

D3.3.1 Where a regulation, code or standard stipulates the edition, version or revision date of a subordinate regulation, code or standard, conform to the stipulated edition, version or revision of the subordinate regulation, code or standard to the extent of the primary regulation, code or standard.

D4. CONTRACT ADMINISTRATOR

D4.1 The Contract Administrator is AECOM, represented by:
Marshall Gibbons, C.E.T.
Technologist, Community Infrastructure

AECOM
99 Commerce Drive
Winnipeg, Manitoba R3P 0Y7
Telephone No.: 204- 928-9256
Facsimile No.: 204- 284-2040

D5. OWNERSHIP OF INFORMATION, CONFIDENTIALITY AND NON-DISCLOSURE

D5.1 The Contract, all deliverables produced or developed, and information provided to or acquired by the Contractor are the property of the City and shall not be appropriated for the Contractor's own use, or for the use of any third party.

D5.2 The Contractor shall not make any public announcements or press releases regarding the Contract, without the prior written authorization of the Contract Administrator.

D5.3 The following shall be confidential and shall not be disclosed by the Contractor to the media or any member of the public without the prior written authorization of the Contract Administrator:

- (a) information provided to the Contractor by the City or acquired by the Contractor during the course of the Work;
- (b) the Contract, all deliverables produced or developed; and
- (c) any statement of fact or opinion regarding any aspect of the Contract.

D5.4 A Contractor who violates any provision of D5 may be determined to be in breach of Contract.

D6. NOTICES

D6.1 Notwithstanding C21.3, all notices of appeal to the Chief Administrative Officer shall be sent to the attention of the Chief Financial Officer at the following facsimile number:

The City of Winnipeg
Chief Financial Officer

Facsimile No.: 204-949-1174

SUBMISSIONS

D7. AUTHORITY TO CARRY ON BUSINESS

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

D8. MATERIAL SAFETY DATA SHEETS

D8.1 The Contractor shall provide the Contract Administrator with one (1) copy of Material Safety Data Sheets (MSDS's) for each product to be supplied under the Contract at least two (2) Business Days prior to the commencement of Work but in no event later than the date specified in C4 for the return of the executed Contract.

D8.2 Throughout the term of the Contract, the Contractor shall provide the Contract Administrator with revisions or updates of the MSDS's as soon as may be reasonably possible.

D9. SUBCONTRACTOR LIST

D9.1 The Contractor shall provide the Contract Administrator with a complete list of the Subcontractors whom the Contractor proposes to engage (Form J: Subcontractor List) at least two (2) Business Days prior to the commencement of any Work.

SCHEDULE OF WORK

D10. COMMENCEMENT

D10.1 The Contractor shall not commence any Work until he/she is in receipt of a notice of award from the City authorizing the commencement of the Work.

D10.2 The Contractor shall not commence any Work until:

- (a) the Contract Administrator has confirmed receipt and approval of:
 - (i) evidence of authority to carry on business specified in D7;
 - (ii) evidence of the workers compensation coverage specified in C6.16;
 - (iii) the Material Safety Data Sheets specified in D8; and
 - (iv) the Subcontractor list specified in D9.

- (b) the Contractor has attended a meeting with the Contract Administrator, or the Contract Administrator has waived the requirement for a meeting.

D11. DELIVERY

- D11.1 Goods shall be delivered within Seventy (70) Calendar Day(s) of the award of Contract, Delivery Duty Paid (DDP) Winnipeg, freight prepaid to:
Mr. Mike Burns, P. Eng.
Site Engineer
1168 Plessis Road, Winnipeg, Manitoba R2C 3L3
- D11.2 The Contractor shall confirm each delivery with the Contract Administrator or his/her designate, at least two (2) Business Days before delivery.
- D11.3 Goods shall be delivered between 8:30 a.m. and 4:30 p.m. on Business Days.
- D11.4 The Contractor shall off-load goods as directed at the delivery location.

D12. LIQUIDATED DAMAGES

- D12.1 If the Contractor fails to achieve delivery of the goods within the time specified in D11.1 Delivery the Contractor shall pay the City Five Hundred dollars (\$500) per Calendar Day for each and every Calendar Day until the goods have been delivered.
- D12.2 The amount specified for liquidated damages in D12.1 is based on a genuine pre-estimate of the City's damages in the event that the Contractor does not achieve Delivery by the day fixed herein for same.
- D12.3 The City may reduce any payment to the Contractor by the amount of any liquidated damages assessed.

MEASUREMENT AND PAYMENT

D13. INVOICES

- D13.1 Further to C10, the Contractor shall submit an invoice for each order delivered to the Contract Administrator specified in D4.
- D13.2 Invoices must clearly indicate, as a minimum:
 - (a) the City's Bid Opportunity number;
 - (b) date of delivery;
 - (c) delivery address;
 - (d) type and quantity of goods delivered;
 - (e) the amount payable with GST, MRST, and any applicable environmental handling charges/fees identified and shown as separate amounts; and
 - (f) the Contractor's GST registration number.
- D13.3 The City will bear no responsibility for delays in approval of invoices which are improperly submitted.

D14. PAYMENT

- D14.1 Further to C10, the City may at its option pay the Contractor by direct deposit to the Contractor's banking institution.

D15. PAYMENT SCHEDULE

D15.1 Further to C10, payment shall be in Canadian funds net thirty (30) Calendar Days after receipt and approval of the Contractor's invoice.

WARRANTY

D16. WARRANTY

D16.1 Warranty is as stated in C11.

PART E - SPECIFICATIONS

GENERAL

E1. SCOPE OF WORK

- E1.1 These Specifications shall apply to the Work.
- E1.2 The Contractor shall supply steel pipe and fittings, Delivered Duty Paid (DDP) to the Project site located near 1168 Plessis Road, Winnipeg, Manitoba, in accordance with the requirements hereinafter specified.
- E1.3 Bidders are reminded that requests for approval of substitutes as an approved equal or an approved alternative shall be made in accordance with B6.

PRODUCT

E2. SHELL CANADA PIPELINES – SUPPLY OF STEEL PIPE AND FITTINGS

E2.1 Steel Pipe

- E2.1.1 Steel pipe shall be carbon steel, seamless pipe conforming to API 5L and shall meet the following parameters.

Table 1 – Steel Pipe Parameters for Shell Canada

Parameter	Value
Nominal Pipe Size	NPS 8
Grade	X52 (52,000 psi)
Licensed Maximum Operating Pressure (MOP)	6 895 kPa (1,000 psi)
Outer Diameter (OD)	219.1 mm (8.625 inches)
Wall Thickness (WT)	8.18 mm (0.322 inches)
Service	Refined Product
100% Specified Minimum Yield Stress (SMYS)	26 790 kPa (3,885 psig)
Maximum Test Pressure	12 970 kPa (1,800 psig)
Minimum Test Pressure	9 930 kPa (1,440 psig)

- E2.1.2 Nominal pipe sizes shall be outside diameter controlled.
- E2.1.3 Pipe shall be furnished in the non-expanded condition, no cold-expansion is permitted.
- E2.1.4 All straight line or standard pipe sections shall be supplied as double standard length of 12.192 m (40 feet).
- E2.1.5 Pipe ends shall be bevelled 30° for field welding in accordance with API SPEC 5L.
- E2.1.6 Pipe shall be supplied with no mill-welded jointers (pipe lengths containing a circumferential weld).
- E2.1.7 Steel pipe shall be sourced from the Shell Canada Approved Manufacturers List (AML).

E2.2 Pipe Bends

E2.2.1 Pipe bends shall be fabricated by induction bending, prior to coating, and shall be in accordance with PFI ES-24 and SC 7TS-001. The pipe used to fabricate the pipe bends shall be to the same specifications as the straight lengths of steel pipe.

E2.2.2 Tangent ends on the pipe bends shall be;

(a) Front tangent (2 x D) 400 mm long; and

(b) Rear Tangent (3 x D) 600 mm long.

E2.2.3 Radius of all other fabricated pipe bends shall be five times the nominal pipe diameter (5D).

E2.2.4 Miter bends are not allowed.

E2.3 Flanges

E2.3.1 Flanges shall be carbon steel, weld neck (WN), raised face (RF), ANSI 600 with an internal bore diameter of 206.375 mm, in accordance with ASME B16.5.

E2.3.2 Flange face finish must be 125 to 250 AARH.

E2.3.3 Flange face finish must be serrated-spiral or serrated-concentric, end mill or shape turn.

E2.4 Gaskets

E2.4.1 Gaskets shall be 3.2 mm thick, ANSI 600, spiral wound, with flexible graphite filler, stainless steel (SS) inner and carbon steel (CS) outer rings, in accordance with ASME B16.5 and ASME B16.20.

E2.5 Bolts and Nuts

E2.5.1 Bolts shall conform to ASTM A 193, Grade B7 with nuts conforming to ASTM A194 2H designation for heavy hex nuts.

E2.5.2 Bolts and nuts shall be uncoated.

E2.6 Weld Caps

E2.6.1 Weld caps shall be 219.1 mm OD, butt weld (BW), carbon steel (CS) as per the line pipe specification.

E2.7 Protective Coatings

E2.7.1 All steel pipe and pipe bends shall be furnished with fusion bonded epoxy (FBE) protective coating in accordance with Shell 26TS-001 Application of Fusion Bonded Epoxy.

E2.7.2 Thickness of the FBE coating shall be 16 to 18 mils (406 to 457 microns).

E2.7.3 Straight length pipe to be installed by horizontal directional drilling (HDD) methods shall be provided with an Abrasion Resistant Overcoat (ARO).

E2.7.4 Thickness of the ARO coating shall be 20 mils (508 microns).

E2.7.5 The ARO shall be Powercrete DD, or equivalent acceptable to Shell Canada.

E2.7.6 Coatings shall be installed in conformance with the coating manufacturers' recommended application procedures.

E2.7.7 Holdback on pipe ends shall be 100 mm (4 inches) on each end of straight lengths and pipe bends.

E2.7.8 Approved product as per the Shell Canada Approved Manufacturers List (AML).

E2.8 Pipe Marking

E2.8.1 Each section of pipe and each fitting shall be plainly marked with a waterproof marking material, the classification, the date of manufacture and other markings as required by the

applicable API and CSA standards, and Shell Canada Pipelines. The manufacturer's proposed marking system shall be submitted to the Contract Administrator for approval prior to commencement of the marking of pipes.

- E2.8.2 Pipe coating shall be marked in accordance with DOT. 49 CFR 195.112 as applicable. Pipe markings should include equipment manufacturer name, specification to which pipe is made, outer diameter, wall thickness, grade, product specification level, and hydrostatic test pressure to which pipe was tested. In addition, the coating shall be marked to show Pipeline Company, type of coating, thickness of coating, and weld seam on welded pipe.
- E2.8.3 All bends and bevels shall be marked on the ends with the angle of deflection and identifying mark showing proper field orientation.

E3. IMPERIAL OIL LTD. PIPELINE – SUPPLY OF STEEL PIPE AND FITTINGS

E3.1 Steel Pipe

E3.1.1 Steel pipe shall be carbon steel, seamless pipe conforming to CSA Z662 and the requirements of IOL GP 18-87-03, and shall meet the following parameters.

Table 2 – Steel Pipe Parameters for Imperial Oil Limited

Parameter	Value
Nominal Pipe Size	NPS 10
Grade	X52 (52,000 psi)
Licensed Maximum Operating Pressure (MOP)	9 000 kPa (1,305 psi)
Outer Diameter (OD)	273.05 mm (10.75 inches)
Wall Thickness (WT)	6.35 mm (0.25 inches)
Service	Refined Product
100% Specified Minimum Yield Stress (SMYS)	13 470 kPa (1,953 psig)
Maximum Test Pressure	13 470 kPa (1,953 psig)
Minimum Test Pressure	9 897 kPa (1,435 psig)

- E3.1.2 Nominal pipe sizes shall be outside diameter controlled.
- E3.1.3 Pipe shall be furnished in the non-expanded condition, no cold-expansion is permitted.
- E3.1.4 All straight line or standard pipe sections shall be supplied as double standard length of 12.192 m (40 feet).
- E3.1.5 Pipe ends shall be bevelled 30° for field welding in accordance with CSA Z662.
- E3.1.6 Pipe shall be supplied with no mill-welded jointers (pipe lengths containing a circumferential weld).
- E3.1.7 Contractor shall furnish certified reports of all finished product chemical analysis. In addition to the reporting requirements of CSA Z662, reports shall include all elements intentionally added to the steel for strengthening, deoxidization, or inclusion shape control and for determining the limits given in Item (2), above, including, but not limited to, aluminum, columbium (niobium), vanadium, titanium, chromium, copper, nickel, molybdenum, silicon, nitrogen, boron, calcium, or rare earth additions.
- E3.1.8 Steel pipe shall be sourced from the Imperial Oil Limited Approved Manufacturers List (AML).

E3.2 Pipe Bends

E3.2.1 Pipe bends shall be fabricated by induction bending, prior to coating, and shall be in accordance with PFI ES-24. The pipe used to fabricate the pipe bends shall be to the same specifications as the straight lengths of steel pipe.

E3.2.2 Tangent ends on the bends shall be;
(a) Front tangent (2 x D) 500 mm long; and
(b) Rear Tangent (3 x D) 750 mm long.

E3.2.3 Radius of pipe bends shall be five times the nominal pipe diameter (5D).

E3.2.4 Miter bends are not allowed.

E3.3 Weld Caps

E3.3.1 Weld caps shall be 273.05 mm OD, butt weld (BW), carbon steel (CS) as per the line pipe specification.

E3.4 Protective Coatings

E3.4.1 All straight lengths of steel pipe shall be furnished with Shaw Pipe YJ2K three layer bonded polyethylene (PE) protective coating system to CSA Z245.21-10 B1.

E3.4.2 Pipe bends shall be furnished with Denso Protal 7250 protective coating.

E3.4.3 Thickness of the Denso Protal Coating shall be 45 mils to 55 mils.

E3.4.4 Coatings shall be installed in conformance with the coating manufacturers' recommended application procedures.

E3.4.5 Holdback on pipe ends shall be 100 mm (4 inches) on each end of straight lengths and pipe bends.

E3.4.6 Approved product as per the Imperial Oil Limited Approved Manufacturers List (AML).

E3.5 Pipe Marking

E3.5.1 Each section of pipe and each fitting shall be plainly marked with a waterproof marking material, the classification, the date of manufacture and other markings as required by the applicable API and CSA standards. The manufacturer's proposed marking system shall be submitted to the Contract Administrator for approval prior to commencement of the marking of pipes.

E3.5.2 Pipe coating shall be marked in accordance with CSA Z662 or DOT. 49 CFR 195.112 as applicable. Pipe markings should include Equipment Manufacturer name, specification to which pipe is made, outer diameter, wall thickness, grade, product specification level, and hydrostatic test pressure to which pipe was tested. In addition, the coating shall be marked to show Pipeline Company, type of coating, thickness of coating, and weld seam on welded pipe.

E3.5.3 All bends and bevels shall be marked on the ends with the angle of deflection and identifying mark showing proper field orientation.

E4. QUALITY CONTROL

E4.1 Quality Control Program

E4.1.1 The Contractor must provide written documentation describing the quality control program under which the pipe manufacturing plant is operating to produce the pipe and fittings being purchased. This documentation shall include reference to the appropriate sections of the CSA, API and ASTM specifications and also the qualifications / experience of the staff on the production line (e.g. certification of welders, etc.). Details of laboratory testing shall include:

(a) whether the Contractor utilizes an in-house lab or an independent lab.

- (b) the qualifications of the lab staff doing the testing.
- (c) the tests being performed including frequency, documentation, evaluation.

E4.1.2 The Contractor shall provide a complete quality control report, compiling all project quality control records. Where possible, quality records shall cross reference manufacture by date, and/or pipe serial numbers.

E4.2 Inspection

E4.2.1 The Contractor shall afford the Contract Administrator, the Pipeline Company or their appointed representatives every facility to access and inspect all plant to be provided, work to be performed, materials to be supplied and equipment or machinery to be installed in accordance with the provisions of the applicable CSA/API specification.

E4.3 Testing of Steel Pipe and Materials

E4.3.1 The Contractor shall provide access to the Contract Administrator, the Pipeline Company or their appointed representatives to conduct plant inspections. The Contractor shall provide a minimum of 7 Calendar Days of notice prior to commencement of pipe manufacture and/or bending, for the purposes of scheduling plant inspections.

E4.3.2 The Contract Administrator reserves the right to conduct third party quality assurance testing.

E4.3.3 The Contractor shall make, conduct, arrange, make available, obtain and provide for all testing as described the relevant CSA/API specifications.

E4.3.4 All pipe shall be inspected prior to coating by a third party inspector engaged by the City. The inspection shall be in accordance with CSA Z662 or API SPEC 5L or GP 19-87-32, as applicable. Damaged or rejected pipe will be disposed of or repaired at the discretion of the Contract Administrator.

E4.3.5 At least two (2) weeks prior to shipping any product, provide a quality control report, compiling all project quality control records, including steel tests, dimensional records and any other quality control records normally documented during the manufacture process.

E4.4 Coating Quality Control Requirements

E4.4.1 The Contractor shall provide access to the Contract Administrator or his appointed representative to conduct plant inspections. The Contractor shall provide a minimum of 7 Calendar Days of notice prior to commencement of pipe and/or fitting coating, for the purposes of scheduling plant inspections.

E4.4.2 The Contract Administrator reserves the right to conduct third party quality control testing.

E4.4.3 Minimum requirements for test procedures, testing frequency and record keeping shall be as recommended by the coating manufacturer and as specified herein.

E4.4.4 Coating installer(s) shall submit a Quality Control Testing Plan, including test data recording forms, to the Contract Administrator for approval prior to commencing coating installation.

E4.4.5 Quality control test data shall be neatly recorded and filed in a timely manner, and upon request shall be made available for examination by the Contract Administrator. Copies of all quality control records shall be provided to the Contract Administrator two (2) weeks prior to delivery.

E4.4.6 The following environmental parameters shall be tested and recorded a minimum of once every 4 hours when performing sandblasting and coating operations:

- (a) Date and time.
- (b) Weather conditions.
- (c) Precipitation.
- (d) Dry bulb and wet bulb ambient temperatures.

- (e) Relative humidity.
- (f) Dew point.

E4.4.7 The following pipe and coating preparation parameters shall be tested and recorded a minimum of once every 4 hours when performing sandblasting and coating operations:

- (a) Substrate temperature at time of surface preparation.
- (b) Visual inspection of blasted steel substrate per SSPC-VIS 1.
- (c) Blasted pipe anchor profile per NACE RP0287.
- (d) Substrate temperature at time of coating application.

E4.4.8 The following finished factory and field applied coating parameters shall be tested for each steel pipe, fitting and appurtenance, in accordance with the applicable coating standard and detail following:

- (a) Dry Film Thickness per SSPC PA2.
- (b) Holiday testing per ASTM G62 and NACE SP0490 using the appropriate test voltage as recommended by the coating manufacturer. 100% of the coated surfaces shall be tested, and all coating repairs shall be retested.
- (c) Adhesion tests per ASTM D4541, Annex 5.
- (d) Final visual coating observations.

E4.4.9 Contractor shall supply to the Contract Administrator, in a timely manner, documentation as required to verify that the coating material, method of application, and finished coating, conform to this specification.

E4.4.10 Documentation shall include the following:

- (a) Manufacturer product literature, batch certifications, and quality control documentation for the coating.
- (b) Results of application tests.
- (c) Records for application parameters, surface preparation, heating, coating application, and cure time.
- (d) Inspection and quality assurance reports.
- (e) Details of repair procedures and documentation of repairs.

E4.4.11 Documentation shall permit an audit track of materials throughout the coating operations.

E4.5 Coating Repairs

E4.5.1 General

- (a) Holidays and other damages shall be repaired using approved materials and procedures.
- (b) Repair procedures shall include proper surface preparation, preheating the original surface coating, feathering, and an even application of sufficient repair material.
- (c) Repair procedures shall conform to manufacturer's recommendations. All damaged coating shall be removed to bare metal.
- (d) Repaired holidays shall be inspected with the holiday detector to verify that the repairs are adequate.

E4.5.2 Fusion Bonded Epoxy

- (a) Holidays less than 12.7 mm (1/2") in diameter shall be repaired with Napgard No. 7-1632 patch sticks or equivalent. Sticks shall be applied with a propane torch.
- (b) Other materials, such as liquid epoxies approved for use with fusion bonded epoxy, may be used for holiday repair.

- (c) The holiday shall be prepared by filing with a coarse mill bastard file to remove coating adjacent to the holiday.
- (d) Filing shall remove defective coating and exposed bare metal underneath.
- (e) Repair materials require Purchaser approval before they are used.
- (f) Application and curing of repair material shall be in accordance with manufacturer's recommendations.
- (g) Repairs larger than 12.7 mm (1/2") in diameter shall be to the manufacturer's recommendations.

E4.5.3 YJ2K

- (a) Repairs to application flaws detected in the YJ2K coating shall be repaired by methods recommended by the manufacturer.

EXECUTION

E5. SHIPPING AND HANDLING

E5.1 General

- E5.1.1 Unless otherwise specified, the pipe and coating manufacturers' recommended handling and storage guidelines shall be followed for all Contractor-supplied materials.
- E5.1.2 Contractor shall supply all equipment, supplies, labour, transportation, materials and other necessary services to deliver the Product DDP Winnipeg in accordance with the Specifications, except for those items specifically excluded by the Contract.

E5.2 Delivery

- E5.2.1 Upon delivery all material shall be checked for quantity and condition by the Contract 4 Contractor, the Contract Administrator and representatives from Shell and IOL. Written record of such check shall be signed by qualified representatives of each party.
- E5.2.2 Material received shall become the responsibility of the Contract 4 Contractor. Material shall be protected from loss, theft, and damage.

E5.3 Hauling

- E5.3.1 Pipe shall be loaded on transportation medium (trucks, barges, etc.) in accordance with API RP 5LW.
- E5.3.2 Beveled ends on straight pipe and pipe bends shall be protected from mechanical damage over their entire surface by firmly attached covers.
- E5.3.3 Loading, hauling, and unloading of material shall be performed in a manner that prevents damage to the materials. The Contractor shall be responsible for repair and/or replacement of damaged materials.
- E5.3.4 The Contract Administrator shall notify the Contractor promptly of the arrival of material.
- E5.3.5 The Contractor shall protect and indemnify Purchaser against any charge for demurrage, shortage, or other charges incident to failure or delay to promptly unload.
- E5.3.6 If loads of material are diverted or shipped to points other than the original destinations at request of, or for convenience of the Contractor, the expenses of such diversion shall be paid by the Contractor.

E5.4 Handling Coated Pipe

- E5.4.1 Coated pipe shall be handled at all times with wide non-abrasive canvas or leather belts, or other equipment designed to prevent damage to coating. When lifting pipes with canvas or leather belts the Contractor shall make use of spreader bars such that pipes are supported simultaneously from multiple lifting points. All such equipment shall be kept in repair so as to prevent injury to the coating.

- E5.4.2 Use of tongs, bare pinch-bars, chain slings, rope slings without canvas covers, canvas or composition belt slings with protruding rivets, pipe hooks, or any other handling equipment that can damage coating shall not be permitted.
- E5.4.3 Coated pipe shall:
- (a) Be lifted clear of the ground and not dragged over the ground.
 - (b) Not be subjected to jar or impact, and all skids used to support coated pipe shall be padded.
- E5.4.4 Transporting truck/trailer bolsters shall have a minimum bearing width of 12" to give the necessary support to the padding that protects the coating.
- (a) Sacks partly filled with sand, sawdust or other Purchaser approved padding materials shall be placed on the bolsters and between the outside bottom pipes and the bolster stakes.
 - (b) Stripping with boards or other materials to permit stacking one joint directly over another is prohibited.
 - (c) Second and subsequent pipe tiers shall be nested and chains, cables, or other equipment used for fastening the pipe shall be carefully padded.
 - (d) Pipe loads shall have at least two joints in the top tier.
 - (e) Walking on coated pipe is prohibited.

E6. MEASUREMENT AND PAYMENT

- E6.1 Shell Canada Pipelines - Supply of Steel Pipe and Fittings
- E6.1.1 "Steel Pipe, 219 OD, 8.2 WT, CS, SMLS, API 5L, X52, Externally Coated with FBE/ARO" will be paid at the Contract unit price per lineal meter bid for this Work. This item shall include all costs for the supply of the pipe including the steel pipe, external protective coatings, testing, shipping, handling and storage.
- E6.1.2 "Elbow, 45°, 5D, 219 OD, 8.2 WT, CS, SMLS, API 5L, X52, Externally Coated with FBE" will be paid at the Contract unit price per piece bid for this Work. This item shall include all costs for the supply of the fitting including the steel pipe, fabrication, external protective coating, testing, shipping, handling and storage.
- E6.1.3 "Elbow, 90°, 5D, 219 OD, 8.2 WT, CS, SMLS, API 5L, X52, Externally Coated with FBE" will be paid at the Contract unit price per piece bid for this Work. This item shall include all costs for the supply of the fitting including the steel pipe, fabrication, external protective coating, testing, shipping, handling and storage.
- E6.1.4 "Flange, WN, RF, ANSI 600, 206.375 Bore" will be paid at the Contract unit price per piece bid for this Work. This item shall include all costs for the supply of the fitting including the fitting, shipping, handling and storage.
- E6.1.5 "Bolt c/w 2 hex nuts, 28.6 dia., 197 L" will be paid at the Contract unit price per piece bid for this Work. This item shall include all costs for the supply and installation of the fitting including the fitting, shipping, handling and storage.
- E6.1.6 "Gasket, ANSI 600, 3.2 T, Spiral Wound, Flexible Graphite Filler, SS Inner and CS Outer Rings, ASME B16.5 and ASME B16.20" will be paid at the Contract unit price per piece bid for this Work. This item shall include all costs for the supply of the fitting including the fitting, shipping, handling and storage.
- E6.1.7 "Weld Cap, 219 OD, CS, BW" will be paid at the Contract unit price per piece bid for this Work. This item shall include all costs for the supply of the fitting including the fitting, shipping, handling and storage.
- E6.2 Imperial Oil Ltd. Pipeline - Supply of Steel Pipe and Fittings
- E6.2.1 "Steel Pipe, 273 OD, 6.35 WT, CS, SMLS, CSA Z662, X52, Externally Coated with YJ2K" will be paid at the Contract unit price per lineal meter bid for this Work. This item shall

include all costs for the supply of the pipe including the steel pipe, external protective coatings, testing, shipping, handling and storage.

- E6.2.2 "Elbow, 45°, 5D, 273 OD, 6.35 WT, CS, SMLS, CSA Z662, X52, Externally Coated with Denso Protal 7250" will be paid at the Contract unit price per piece bid for this Work. This item shall include all costs for the supply of the fitting including the steel pipe, fabrication, external protective coating, testing, shipping, handling and storage.
- E6.2.3 "Weld Cap, 273 OD, CS, BW" will be paid at the Contract unit price per piece bid for this Work. This item shall include all costs for the supply of the fitting including the fitting, shipping, handling and storage.