



346-2014 ADDENDUM 4

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

URGENT

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

ISSUED: April 16, 2014
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**THIS ADDENDUM SHALL BE INCORPORATED
INTO THE BID OPPORTUNITY AND SHALL
FORM A PART OF THE CONTRACT
DOCUMENTS**

Template Version: A20131129

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

PART A – BID SUBMISSION

Replace: 346-2014 Bid Submission with 346-2014 Addendum 2 - Bid Submission. The following is a summary of changes incorporated in the replacement Bid Submission: Form B (R2):

- Revised Item No. A.1
- Revised Item No. A.2
- Revised Item No. A.3
- Revised Item No. A.5

PART E – SPECIFICATIONS

Revise: E2.1.1 Steel pipe shall be carbon steel, seamless pipe conforming to API SPEC 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)
Pipe Service Level	PSL-2
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)

- Revise: E2.5 Bolts and Nuts
- E2.5.1 Provide flange studs 28.6 mm (1.25 inch) diameter, 197 mm (7.75 inch) long, conforming to ASTM A193, Grade B7.
- E2.5.2 Provide two (2) heavy hex nuts for each flange stud. Nuts shall conform to ASTM A194 2H designation for heavy hex nuts.
- E2.5.3 Bolts and nuts shall be uncoated.
- Revise: E2.7 Protective Coatings
- E2.7.1 All steel pipe shall be furnished with fusion bonded epoxy (FBE) protective coating system in accordance with Shell 26TS-001 Application of Fusion Bonded Epoxy.
- E2.7.2 All steel hot induction bends shall be furnished with spray-applied liquid epoxy coating in accordance with Shell 40TS-002 Construction of Onshore Pipelines.
- 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 Only coating systems listed below are acceptable for use. No other coating system may be used without prior Purchaser approval.
- (a) Dual-layer impact/abrasion (FBE / ARO):
- (i) DuPont Powder Coatings: Nap-Gard 7-2501 / 7-2610 (Nap-Rock)
 - (ii) 3M Company: Scotchkote 6233/6352
 - (iii) Valspar / Lilly Corporation: Pipe Clad 2000/2040
- (b) Spray-applied liquid epoxy:
- (i) Specialty Polymer Coatings Inc.: SP 2888 RG
 - (ii) Specialty Polymer Coatings Inc.: SP 6888 RG
 - (iii) Denso North America Inc.: Protal 7250
- E2.7.5 Thickness of the coating system shall be as follows:
- (a) Dual-layer impact / abrasion (FBE / ARO):
- (i) Base Coat 14 mils (356 microns)
 - (ii) Top Coat 30 mils (762 microns)
 - (iii) Total Thickness 44 mils (1118 microns)
- (b) Spray-applied liquid epoxy: 20 to 30 mils (508 to 762 microns)
- E2.7.6 All coatings shall be installed in conformance with the coating manufacturers' recommended application procedures.
- E2.7.7 Holdback on pipe ends shall be 65 mm (2.5 inches).
- Revise: E6.1.1 "Steel Pipe, 219 OD, 8.2 WT, CS, SMLS, API 5L, X52, PSL-2, 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.
- Revise: E6.1.2 "Elbow, 45°, 5D, 219 OD, 8.2 WT, CS, SMLS, API 5L, X52, PSL-2, Externally Coated with Spray Applied Epoxy" 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.
- Revise E6.1.3 "Elbow, 90°, 5D, 219 OD, 8.2 WT, CS, SMLS, API 5L, X52, PSL-2, Externally Coated with Spray Applied Epoxy" 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.

Revise E6.1.5

“Flange Stud, 28.6 dia., 197 L, ASTM A193, Grade B7 c/w 2 Hex nuts, ASTM A194 2H” 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.