REGIONAL DISTRICT OF NANAIMO

REQUEST FOR TENDER No. 21-030

Departure Bay Forcemain Rehabilitation

Addendum 2
(5 pages total)

Issued: May 11, 2021

Closing Date & Time: on or before 3:00 PM Pacific Time on May 13, 2021

1. Attached is Addendum 2 from the Project Engineer:

   Mark Convery, Senior Civil Engineer
   AECOM
   Mark.Convery@aecom.com
   (EMAIL ADDRESS WHERE TENDERS MUST BE SUBMITTED)

2. Reminder:

   Bidders must supply with their Tenders a **verifiable digital Bid Bond (e-bond) and a verifiable digital Consent of Surety** as defined by the Surety Association of Canada. Scanned copies are not acceptable.

   https://suretycanada.com/SAC/Surety-Bonds/E-Bonding.aspx

Contract No. 21-030

DEPARTURE BAY FORCEMAIN REHABILITATION

Date: May 11, 2021

ADDENDUM NO. 02

Tenderers are advised that **Addendum No. 02** to Contract No. 21-030, Departure Bay Forcemain Rehabilitation is hereby issued by the Owner.

This Addendum forms part of the Contract Documents and is to be read, interpreted and coordinated with all other parts. The cost of all work contained herein shall be included in the Contract Sum. The following revisions supersede the information contained in the original drawings and specifications issued for the above named project to the extent referenced and shall become part thereof.

1. Supplementary Specification 33 05 24 SS - Cured-in-Place Lining and Associated Works

REPLACE

Supplementary Specification 33 05 24 SS Section 1.5.2 (1) and (2) as listed below. Changes are noted in RED.

(1) The Contractor shall demonstrate a minimum of three (3) examples of successful CIPP installations in pressure pipelines (MAOP 20 psi).

(2) The Contractor shall demonstrate the following specific qualifications for key project personnel (proposed project manager and site foreman) a minimum of three (3) example of successful CIPP installations in pressure pipelines (MAOP 20 psi).

REPLACE

Supplementary Specification 33 05 24 SS Section 2.1.3 (3) (a) (ii) as listed below. Changes are noted in RED.

(ii) Pressure Loads

- Maximum Allowable Operating Pressure (MAOP) – 138 kPa (20 psi)
- Occasional surge overpressure allowance – 138 kPa (20 psi)
- Maximum Allowable Pressure – 275 kPa (40 psi)
- Vacuum pressure allowance – Full vacuum
- Hydrostatic Test pressure – 1.25 x MAOP ~ 172 kPa (25 psi)
- Long term values (i.e. for sustained pressure) for hoop stress shall be the time adjusted values projected at 50 years of continuous load. Short term duration load allowances can be adjusted to match the duration of loading contemplated by the stated design condition.

DELETE

Supplementary Specification 33 05 24 SS Section 2.2.1 (3) (a) (v) as listed below. Changes are noted in RED.

(v) ~~CCTV camera unit will be equipped with a locating sonde as required to locate deep utilities and force mains, 3 meters or greater or buried structures and junctions that cannot be located or accessed from the ground surface.~~

REPLACE

Supplementary Specification 33 05 24 SS Section 3.1.1 (1) (a) as listed below. Changes are noted in RED.

(a) Sequence the work, such that the CIPP tube is manufactured, delivered to the site, and be installed to meet the specified Substantial Performance date. Arrange to verify the existing dimensions of the host pipe to suit fabrication and installation plan. A manhole, located near Ch.0+509 can be made available to confirm host pipe measurements. Contractor shall arrange to expose, remove and reinstall the manhole cover, including temporary restoration.

DELETE

Supplementary Specification 33 05 24 SS Section 3.7.2 (1) (a) as listed below. Changes are noted in RED.

(a) ~~Confined pipe samples – Samples cut from a section of cured CIPP at the termination point that has been installed through a like diameter pipe~~

2. Questions/Answers

All questions refer to Supplement Specification 33 05 24 SS - Cured-in-Place Lining and Associated Works.

Q1. Section 1.4.1 Forcemain Inspections – Is the use of Laser and Sonar inspection required? For this type of project, typically CCTV inspections are carried out.

A1. Laser and Sonar inspections are not required.

Q2. Section 2.1.3 (3) – Project Specific Requirements – (i) earth loads - Groundwater table is specified at surface for design; Geotech report indicated 1.6 m to 2.4 m below surface at test holes. Is GWL at surface the value to be used?

A2. Groundwater is to be assumed at surface as specified.

Q2A. (ii) Pressure loads – MAOP is specified to be 50 psi; initial discussions indicated 30 psi; using 50 psi results in significantly thicker liner; liner design operating pressure is calculated using a 4 x reduction n theoretical burst as determined on actual bursts of various sized pipes. Please confirm MAOP to be used for design.

A2A. Refer Section 1.0 of this Addendum.

Q2B. (ii) Pressure loads – MAP is specified as 75 psi; this is addressed in typical pressure pipe liner design safety factors; Is the MAP a function of the % of MAOP? If so will it be reduced if MAOP is revised?

A2B. Refer Section 1.0 of this Addendum.

Q2C. Liner installation for this application will require removal of the bend at 0+521 in addition to the 55-degree bends; The section from 0+593 to 0+792 will be lined in one installation; finning or wrinkles that impact structural performance of the liner are not anticipated, however, aesthetic wrinkles in the coated layer of the liner may occur. Will aesthetic wrinkles be exempt from derating liner?

A2C. Removal of additional existing bends not indicated on the drawings will be permitted subject to an approved Work Plan Submission, and shall be inclusive of the cost of "Supply and Installation of 900 mm AWWA Class IV CIPP Pressure Liner". Finning or wrinkles that can be demonstrated as not engaging the reinforcing layer, would be considered as aesthetic and not grounds to de-rate the liner.

Q3. Section 2.2.1 (2) (f) – All lining work will be carried out form excavated pits; safe access and protection will be provided. Manhole covers are not required.

A3. No comments.

Q4 Section 2.2.1 (3) (v) – Typically CCTV equipment used in these applications does not include a sonde. Can the requirement for a sonde be deleted?

A4. Refer Section 1.0 of this Addendum.

Q5. Sections 2.2.5 (6) & 2.2.7 – We request approval of new flange x plain end steel termination spools rather than fiberglass spools. Flanged spools ensure safe procedures for hydrostatic testing on a large pipe. Description of spools and end seals follows with additional questions if approved. Steel spools will be welded to existing steel forcemain but have no requirement for structural integrity and the welds are not required to be leak free. A mechanical seal will be installed inside the spool, with approximately 150 mm of liner material removed. The liner will include a preliner to limit mechanical bond of the liner to the host pipe. Therefore, the surface of the existing host pipe will not have to be prepped as identified in 2.2.5.(6), if the steel spools are approved. Will the exposed area of the steel spool require surface prep or some form of coating where the liner will be cut back for end seal installation?

A5. Alternate termination details will be permitted on approval of Work Plan Submission. Steel spools that form integral part of permanent system, including at end seals and under connection couplers shall be treated as detailed in Section 2.2.5 (6).

Q6. Section 3.1.1 (1) (a) – Sequencing of Work – It will not be possible to meet this requirement due to manufacture, shipping and wetout scheduling, which can take up to 6 weeks. Will this requirement be waived? The intent is for the GC to excavate a temporary pit at one of the proposed installation pit locations, and remove a section of steel pipe for measurement as specified in 3.1.3; the steel can be replaced with couplings for continued operation of the forcemain until the bypass is installed.

A6. Refer Section 1.0 of this Addendum.

Q7. Section 3.1.2 (3) – Please confirm if any forcemain reinstatements are expected. Post lining inspection is planned for after end seal.

A7. There are no services to reinstate on this forcemain.

Q8. Section 3.1.3 – As noted in question 6, limited access to the forcemain will be available to confirm pipe dimensions. The proposed CIPP liner is resigned to expand from and undercut manufactured ID that is intended to expand to form a close fit. Please advise if dimension confirmation proposed in question 6 is acceptable.

A8. A manhole, located near Ch.0+509 can be made available to confirm host pipe measurements. Contractor shall arrange to expose, remove and reinstall the manhole cover, including temporary restoration.

Q9. Section 3.2.1 – The CTE coating on the ID of the existing pipe may or may not be removed during cleaning with pressure flushing. Cleaning will be carried out to ensure no detrimental features remain in the pipe prior to lining.

A9. Cleaning of host pipe consistent with long term design objectives is required. Well bonded coatings that do not result in detrimental long term effects can remain.

Q10. Section 3.6.2 (2) – Clarification of pressure test proposal: Intent is to test each lined pipe segment after end seals are installed, and prior to system reconnection. The test will follow the requirements outlined in this section. Please confirm final test process will also follow this section.

A10. Final hydrostatic testing of the completed system is basis of acceptance, and shall be completed after installation of end seals. Interim testing of segments of the pipe for contractor convenience may be completed. Where final closures cannot be completed at the limits of the project, visual inspection of these connections shall be completed after forcemain is returned to service but prior to final backfill, in general accordance to Section 3.6.4.

Q11. Section 3.7.2 – Please confirm that confined pipe samples and ASTM D2290 testing will be required for this project. For this size pressure pipe confined samples are difficult to produce. For thickness measurement, will cut out sections of liner in locations where end seals are to be installed be considered?

A11. Refer Section 1.0 of this Addendum.

Q12. Section 3.7.3(5) – we recommend that no segment of the liner be cut out. Point repairs are not considered appropriate for CIPP pressure pipe liners.

A12. Section 3.7.3(5) (b) is intended to demonstrate supplemental testing, if required due to inadequate results from normal testing. Alternate methods of obtaining installed material properties will be considered, and if material properties cannot be demonstrated, the use of Section 3.7.3(5) (c) may be invoked.

Q13. Section 3.7.3 (6) – Please define excessive finning. If finning does not occur in the reinforcement, it is considered an aesthetic feature, not a structural impact.

A13. Provided the finning does not engage the reinforcement, it will be considered aesthetic.

End of Addendum #02