deflection limitations.

D. Ground settlement.

E. Details of the drill rig to be used including calculations of pull forces and anchoring forces.

F. Design of pull head, swivel and connecting shackle.

G. Drilling fluid selection and properties.

H. Drilling fluid quantity, pump details, mixing formula and procedures.

I. Breakout.

2.1.5 Quality Control

A. Prior to dispatch of any product and/or material from source the Contractor shall notify the Engineer in writing in sufficient time to allow the Engineer the opportunity to inspect and test the product and/or Material prior to delivery in accordance with Section 01400 of the specification.

B. Products and materials shall be from a manufacturer/supplier that operates a quality system which is registered to ISO 9000 series or approved equal.

C. To allow the Engineer to inspect the Works the contractor shall give the Engineer a minimum of 24 hours notice of carrying out the following activities on site.

1. Geotechnical investigation.

2. Undertaking each stage of Horizontal Directional Drilling work.

D. The Contractor shall ensure instrumentation is calibrated for each drive. He shall provide a valid calibration certificate and ensure that the certificate is available to the Engineer upon request.

E. The designer shall be an approved qualified Engineer experienced in the design of this work or similar.

F. The installer shall be an approved company with specialised personnel in performing the work with minimum 5 years' experience in the application of non-disruptive method (Horizontal Directional Drilling) of pipeline construction of projects of similar size.

1. All operators in the employment of the Contractor and his sub-contractor shall be skilled and have a minimum 12 months experience in their respective trades and in particular in operating a machine similar to the machine used by the Contractor. Operators shall be subject to a