

avoid delay in normal work procedures, the water shall be conserved and not used unnecessarily.

- E. Roots shall be removed in the designated sections where root intrusion is a problem. Special attention should be used during the cleaning operation to assure almost complete removal of roots from the joints. Procedures may include the use of mechanical equipment such as rodding machines, bucket machines and winches using root cutters and porcupines, and equipment such as high-velocity jet cleaners.

29.3.2 CCTV Drainage Pipelines Inspection and Survey

- A. CCTV drainage pipeline inspection and survey shall be performed after suitable cleaning of the pipeline as described above in clause 3.1 and shall be carried out to the requirements of Section 02830 of the specification.
- B. Scope of operations for CCTV inspection and survey shall include, but not be limited to the following elements of work.

29.3.2.1 For Lateral Drainage Lines

- A. After cleaning, the drainage lines shall be visually inspected by means of CCTV.
- B. Following rehabilitation works, if required, the drainage lines shall be visually inspected by means of CCTV.
- C. The inspection will be done one pipeline length at a time with the flow in the section being inspected suitably controlled as detailed in section 3.3 below.
- D. Up to 10% of the rehabilitated drainage lines shall be CCTV surveyed at the end of the maintenance period in order to assess the general condition of the rehabilitated pipelines. This survey shall demonstrate to the Engineers satisfaction the successfulness of the rehabilitation works. Any defects shall be repaired by the Contractor at no cost to ADM and a further 10% of the rehabilitated drains shall be CCTV surveyed with the process being repeated until no defects are found in the 10% sample of rehabilitated drainage pipelines.

29.3.2.2 For Trunk Drainage Lines

- A. After cleaning CCTV and deflection measurement of the drainage lines shall be carried out.
- B. Following rehabilitation works, if required, CCTV and deflection measurement of the drainage lines shall be carried out.
- C. The inspection will be done one drainage length at a time with the flow in the section being inspected suitably controlled as detailed in section 3.3 below.
- D. Deflection measurement readings for flexible pipe drainage lines must be taken vertically and horizontally at the same location.