

## **Chapter 1 – Introduction**

The introduction will include the information required to define the location and scope of the works for which the O&M Manual applies.

The first page of the Introduction shall identify the works, and provide a provision for recording amendments, revisions and additions to the manual.

The introduction would also include a list of contacts, such as CSG Project Manager, Consultants and Contractors, including any specialists and the major subcontractors.

## **Chapter 2 – Index**

The index will provide a quick reference for the location specific information. The first part of the index will provide a breakdown of the information by headings of each chapter. Following the general index there will be an index of all drawings included in the manual as well as a index of photographs. There will also be a reference of material not included in the manual but related to the work.

## **Chapter 3 – Background and Design Data**

Background data will include a summary of the project, including the project rational, what the new project replaced. It will include reference to the alternatives considered to further justify the rational and provide guidance for future works.

Design data to be included may include the following (as applicable):

- Population projections
- Design population
- Sewage generation rates
- Influent characteristics
- Seasonal temperatures
- Permafrost conditions

## **Chapter 4 – Schematic and Functional Data**

The Schematic and Functional data will provide a simple presentation of each system to enable a rapid grasp of the systems essentials for operators, engineers or future consultants. The data will include a tabular list of components as well as a schematic drawing.

## **Chapter 5 – Component Details**

This chapter describes in detail the component of the systems listed in Chapter 4. It will provide sufficient information to allow for ordering replacement parts and provide a reference as to the original size, type and setting of each component.

## **Chapter 6 – Operating Procedures**

This chapter provided the detailed instruction for the operations of each system. It will include:

- Start-up procedures
- Normal operating procedures, which will include:
  - Sludge Management Plan
  - Berm Maintenance and Inspections
- Special procedures, which will include:
  - Thermistor reading frequency and methods
- QA/QC program including:
  - the testing locations and frequency
  - Testing laboratory requirement
- Trouble shooting
- Built –in alternatives

## **Chapter 7 – Spill Contingency Plan**

This chapter shall outline the required procedures to be taken in case of a spill. It shall include a GN Spill Report form.

## **Chapter 8 – Maintenance**

This chapter shall provide the maintenance procedures for the facility. This may be based on the manufacture's service manual to a large extent. The intention is to provide:

- A lubrication schedule
- Schedule of minor maintenance
- A schedule of major maintenance and repairs

## **Chapter 8 – Testing and Certification Data**

This section includes

- The actual operating conditions at the time of handover for all the new systems as a record of original conditions;
- A list of items or systems that require inspection by independent inspectors, their location and frequency of inspection;
- Photocopies of warranties.

## **Chapter 9 – Manufacturer Data and Service information**

This chapter includes all manufacturers' service manuals, part lists, operating and maintenance instructions, performance curves, special shop drawings and other applicable data.

## **Chapter 10 – Appendix**

The Appendix may include:

- Photographs
- As – built drawings