Section 2 – Project Reports

2. Project Reports

2.1. Preliminary Engineering Report

All water and sewerage system projects require the approval of the Department. Therefore it is essential that the general acceptability of a project, to the Department, be identified prior to detailed design being started.

Depending upon the size and complexity of a project, this would be achieved by either, or a combination, of the following:

1. Meeting(s) between the Owner/Proponent and/or consulting engineer and the Department;
2. Submission of a Conceptual Report; and
3. Submission of a Pre-design Report (Feasibility Report, Preliminary Engineering Report).

The Conceptual Report would only be required for more complex projects involving several possible alternative solutions.

2.2. Technical Report

A Technical Report could be in the form of a pre-design report, preliminary report, or any other document approved by the Department.

The purpose of a Technical Report is to investigate the design alternatives in sufficient detail to permit their evaluation with respect to capital and operating costs, the extent to which they resolve the problem and their technical feasibility in terms of accepted engineering practices, and the potential environmental consequences of their implementation. In investigating the alternative solutions, current and historical information should be reviewed with respect to:

Water System

1. Existing water demand at the treatment facility;
2. Raw water quality;
3. Operational problems;
4. System design parameters;
5. Condition of the treatment and distribution facilities;
6. Planned development in the community; and
7. Adjacent land uses.

Sewerage System

1. Existing sewage loads at the treatment facility;
2. Raw sewage and effluent quality;
3. Operational problems;
4. System design parameters;
5. Condition of the collection and treatment facilities;
6. Planned development in the community; and
7. Adjacent land uses.

2.2.1. Population

It is extremely important to finalize the design population as early as possible in the Pre-design process. The acceptability of the proposed population should be discussed with all appropriate agencies. Population data should be accessed for as long as records show to provide trending possibilities.

2.2.2. General Considerations

All necessary information should be collected and examined including:

1. Description of the existing water works and sewerage facilities;
2. Description of the nature and extent of area to be served;
3. Soil data, e.g., depth of overburden, soils structural properties;
4. Topography, e.g., slope and floodplain mapping;
5. Sewage flow records;
6. Water usage records, including fire fighting requirements;
7. Influent/effluent quality records;
8. Data on specifics of operational/treatment problems occurring at the treatment facility, where applicable;
9. Maintenance activity records;
10. Provisions for extending the water and sewerage systems to additional areas;
11. Appraisal for the future requirements for service, including existing and industrial, commercial, institutional and other water and sewerage system needs; and
12. Treatment requirements to include recommendations on technologies and future expansion.

Items that should be addressed for specific problems include the following:

1. Well log data, e.g., well locations, water table levels, groundwater quality, soil materials;
2. Water intake location - surveys, soundings and sampling for analysis;
3. Water quality and flow records for receiving water body or surface water source;
4. Data on water usage, e.g., upstream, downstream treatment facilities, recreational use; and
5. Location, size, operational characteristics of adjacent individual/communal wells and subsurface disposal systems, where applicable.

2.2.3. Ocean Outfalls

The Technical Report should include, as a minimum, the following information:

1. Route of ocean currents in the vicinity of the proposed outfall;
2. Location of all fishery, marine resources and recreational activity in the vicinity;
3. Soundings in vicinity of outfall;
4. Effect of winds and tides on the receiving waters; and
5. Dispersion characteristics.

2.2.4. Industrial, Institutional or Commercial Wastes

Where possible, industrial, institutional or commercial water discharging to the sewerage system should be identified. In addition, the potential impact of these discharges on the treatment facility should be highlighted. Where applicable, treatment of the waste prior to discharge to the sewerage system should be considered.

2.2.5. Regulations

Reference should be made to the *Environmental Control Water and Sewage Regulations* regarding the allowable discharges to a sanitary sewer and from a sewage treatment plant.