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## CONTENT FOR CONCEPT DESIGN OF SEWERAGE SYSTEM

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### 1. Introduction

- 1.1. Project background
- 1.2. Maldives design standards and requirements
- 1.3. Project lifecycle
- 1.4. Scope of work
- 1.5. Island description

### 2. Wastewater discharge

- 2.1. Island demographics and population projections
- 2.2. Design parameters
- 2.3. Present wastewater discharge
- 2.4. Future wastewater discharge
- 2.5. Design horizons

### 3. Protected areas, zones, and reserves

### 4. Surveys

- 4.1. Socio-economical
- 4.2. Physical survey
- 4.3. Groundwater assessments

### 5. Stakeholder consultation with attached meeting minutes

### 6. Wastewater collection and disposal system

- 6.1. Overview
- 6.2. Design approach and system flow diagrams
- 6.3. Preliminary hydraulic design of sewer network
- 6.4. Sewerage system Pump stations and Components
- 6.5. Sewer connection arrangements
- 6.6. Sewage treatment facilities
  - a) Sewage treatment options (minimum 3 options)
  - b) Recommended option
  - c) Concept layout of sewage treatment plant
  - d) General arrangements on process control and instrumentation
  - e) Power requirement and electrical works
  - f) Emergency arrangement
  - g) Pump selection

- h) Fecal sludge treatment
- 6.7. Sewer Outfall
  - a) Outfall arrangement
  - b) Outfall pipe laying options
  - c) Outfall end diffuser details
- 6.8. System Power requirements
- 7. Material standards**
- 8. Power supply**
  - 8.1. Existing infrastructure
  - 8.2. Power supply upgrade requirements
  - 8.3. Power supply requirement for the sewerage system (with STP)
  - 8.4. Renewable energy integration (minimum 30% of total energy)
- 9. Land approvals for Sewerage Pump stations, sewage treatment plant and administrative building**
- 10. Environmentally friendly design considerations**
- 11. Estimated operation and maintenance cost**
- 12. Expected design deviations**
- 13. Conclusions**