

Bayan Baru Sewage Treatment Plant

Location	: Pulau Pinang, Malaysia	Capacity	: 200,000 (PE)
Client	: Indah Water Konsortium	Commencement Date	: November 2002
Consultant	: SSP Sdn. Bhd	Completion Date	: January 2004



This project (BBSTW), refer to as the Works, comprises two (2) stages where Stage 1 involves the construction, testing and commissioning of a sewage treatment plant, while Stage 2 involves the operation and maintenance of the completed plants. The Works is designed to handle incoming raw sewage loading of 200,000 population equivalent (PE).

The Works facilities and treatment process are categorised into the following sections or plants:

A. Primary Treatment

This is the first stage of treatment, where it is intended to remove large suspended solids in the sewage.

1. Main Inlet Pumping Station

- Main inlet channel with equal flow distribution to coarse screening facilities
- Raw Sewage pumping station

2. Preliminary Treatment

- Headwork inlet channel with equal flow distribution to fine screening facilities.
- Grit removal system c/w grit classifying facilities
- Grease removal system

B. Secondary Treatment

This stage is also known as biological treatment. Biological treatment consists of application of a controlled natural process in which micro organisms remove soluble and colloidal organic material from the waste and are, in turn, removed themselves.



- Activated sludge treatment in modified oxidation ditch (MOD) tanks
- Final clarification in clarifiers

C. Sludge Treatment and Disposal

Sludge generated from the treatment plant must be treated prior to disposal. There are three main sources of sludge in BBSTW plant i.e. surplus activated sludge (SAS) from biological treatment, clarifier scum and sludge collected from external areas and disposed via the Integrated Sludge Treatment (IST) Out loading facility System. These sludges are collected in the SAS/IST Storage Tanks

- Sludge Thickening
- Sludge Dewatering
- Sludge disposal

The scope of work for this project :

- To design, configure and programming the necessary graphics and man machine interface (MMI) to the satisfaction of owner.
 - Graphic pictorials based on the process flow diagram and electrical single line diagram.
 - Trend displays each comprising of each analog signals.
 - Guidance messages.
 - Alarm list.
 - Binary status list.
- To supply and install the programmable logic controller (PLC), personal computer, printer, modem, system communication cabling, hub and etc. To supply and install field control cabling from the field control panels to the SCADA system panels. To terminate the control cables in the field control panel and system cabinets after carrying out loop check.
- To carry out testing and commissioning of the complete S C A D A system to the satisfaction of the owner.

