

Technical Visit

Georgetown Region Sewage Treatment Plant

Synopsis

The Georgetown Regional Sewage Treatment Plant (GRSTP) is located on 14.7 hectares of reclaimed land along the Jelutong Expressway at Jalan Jeti Jelutong, in the North-East District of Penang Island.

It discharges treated effluent into the Penang Straits. GRSTP is currently the largest treatment facility in Malaysia utilizing Sequencing Batch Reactor (SBR) technology and is engineered to serve an ultimate population equivalent (PE) of 1.2 million.

The plant replaces the older outfall system and services the urban catchment areas of Georgetown, Tanjung Tokong, Air Itam, Tanjung Bungah, and Gelugor.

Construction of the plant began in December 2004 and was completed in May 2008. The initial design capacity is 180,000 cubic meters per day, supporting 800,000 PE, with civil and mechanical provisions for future expansion to 270,000 m³/day to accommodate up to 1.2 million PE. The plant is fully mechanized and designed to provide consistent performance while meeting regulatory discharge standards.

Influent wastewater is conveyed from the catchment via both gravity and force mains into the Main Inlet Pumping Station (MIPS). Two separate wet wells manage these flows: Well A handles pressurized flow and requires no screening on-site since screening occurs at an upstream facility, while Well B handles gravity flow and includes a mechanically raked bar screen to remove coarse solids such as rags and plastics. All screened sewage is pumped via Raw Sewage Pumps (RSPs) to the Aerated Grit Chamber (AGC).

The AGC facilitates the removal of inorganic materials such as sand, grit, and small stones through controlled aeration, thereby protecting downstream treatment units, particularly the SBRs. After grit removal, the flow enters a grease chamber, where fats, oils, and grease (FOG) are skimmed off to prevent downstream fouling and operational inefficiencies in the biological process.



8 Aug 2025 (Friday)



8.30am – 12.00pm



**IWK UOPE (LOJI KUMBAHAN
SERANTAU GEORGETOWN, PEG227)**

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BEM CPD Hours: 2

Ref: IEM25/PG/308/V

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Time	Details
8.30am -9.00am	Registration
9.00am -10.30am	Overview & Briefing Session
10.30am- 11.45am	Visit site/plant
11.45am -12.00pm	Q&A, Group Photo