

Environmental Impacts Screening Decision

Port Mourant water treatment plant/solar energy field

Project location and components

The project is located at Port Mourant, Corentyne Berbice. The area is designated as a residential area. The total land area occupied by the existing Guyana Water Inc. Port Mourant water treatment plant and the proposed solar energy field is 18,884.33 m². The existing water treatment plant is located at the front half of the project site while the proposed solar energy plant will be established at the back half of the project area.

This project is not located in an eco-sensitive area. Domestic buildings/residents are located to the west and south of the project site; a canal separates the water treatment plant from the domestic buildings on the west. The closest resident to the west of the Water treatment plant is approximately 70m away. There are also vacant areas with vast vegetation to the north and east of the project site.

The water treatment plant is currently administering water to the 4,500 household, spanning from Miss Phoebe Village (eastern boundary) to Nigg (western boundary). The coverage of the distribution area is approximately 3.2 km on either side (east and west) from the Port Mourant plant. The installed capacity of water treatment plant 6.9 MLD and it incorporates a manganese filter system and uses a chlorine dosing of 0.3 mg/L for disinfection. Water is extracted from two (2) existing wells having a depth of 357m and 335 m. The water goes through an oxidation phase, then a rapid sand filter utilizing gravel. The water is then stored in tanks for distribution. The water is filtered every 24 hours and then distributed to its service base.

The existing Port Mourant water treatment plant's (PMWTP) annual energy consumption is 1.27 million kWh. The developer is now proposing to establish a solar energy field in effort to utilise renewable energy. The proposed solar energy field, will generate an annual output of 0.59 million kWh. The solar energy field will utilise solar panels which will be mounted 4 to 5 ft from the ground will be connected in parallel (either 4 strings of 100 or 8 strings of 50). The panels will face south, fixed at a tilt of 6.8° equivalent to the latitude of Guyana. No batteries or will be utilised at this phase of the project. The capacity of the solar PV power plant (400 kWp) to be installed under net energy metering, shall be restricted to 80% of the main transformer capacity of the WTP.

Environmental impact screening

The EPA's screening concludes that there are no identifiable significant environmental impacts, nor is the project deemed environmentally sensitive. Impacts arising from the operation of the Port Mourant Water Treatment Plant (PMWTP) and the construction and operational phases of the solar energy field are minor, short term and acceptable.

- The existing water treatment plant is located at the front portion of the project site.
- The back half of the site which is designated for the solar energy field is mostly covered with low to tall vegetation.
- The Port Mourant water treatment facility caters to 4,500 households.
- Impacts from noise will be low to moderate primarily during the operational phase of the PMWTP and the construction of the solar energy field; which will be short term and localized. The establishment of the solar energy field will eliminate the use of the back-up generator currently utilised at the PMWTP.
- Impacts from dust pollution will be moderate and primarily during construction of the solar energy field and would be short term and localized.
- Waste water are treated in a settling pond prior to discharge into the drainage canal.
- Hazardous materials are currently stored in secure areas.
- The project is not in close vicinity of any sensitive ecosystem. Project activities will have low to minor effects on the existing biodiversity and ecosystem in the project area.
- The developer will ensure that waste will be recycled and reused and well as utilise appropriate disposal techniques in keeping with the Agency's Hazardous Waste Guidelines.
- The establishment of the solar energy field, the WTP will utilise 40% of its annual energy consumption from a renewable source.

Conclusion

The EPA concludes that there are no significant impacts nor is the project deemed environmentally sensitive. Impacts arising from the construction and operational phases of the project's various components are minor, localized, and acceptable. The Port Mourant water treatment plant currently provides a pertinent service to the community and the proposed establishment of the solar energy field, highlights GWI's contribution to climate change by promoting and utilising renewable energy sources.