

Project:

Rosebel Gold Mine



North American Wetland Engineering

LOCATION

Suriname,
South America

PROJECT TYPE

Industrial

WASTE TYPE

Goldmine Tailings

COMPLETION DATE

Under Construction

DESIGN FLOW

16,000 CMD

TREATMENT

Aerated Lagoon and
Engineered Wetland

NEED

Rosebel Gold Mines N.V. (RGM), a Cambior subsidiary, contracted Jacques Whitford and NAWE to design an engineered wetland (EW) system to treat water from RGM's tailings pond at its gold mine and mill facilities in Suriname, South America. The discharge from the mine must meet Cambior's high standards for pollution control, which means the discharge must have very low concentrations of ammonia.

SOLUTION

The full-scale EW system will consist of a large, complete mix, aerated lagoon followed by a multiple cell wetland. The lagoon is aerated by floating surface aerator-mixers, while the EW cells will use NAWE's patented **Forced Bed Aeration™** system. Additionally, treatability testing has been conducted on site to confirm kinetic rates of treatment, which will result in accurate sizing of the wetland cells.

BENEFIT

Results from treatability tests have demonstrated that aerated wetlands can effectively remove ammonia from the tailings wastestream. The system, as designed, provides the mine with a proven system that can treat the high volume of wastewater with minimum operation and maintenance costs. Also, the system can be constructed using practices familiar to the mine and has a minimum requirement for imported materials or equipment.



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