

## 14. WATER

- A. **Describe the existing hydrologic conditions (both ground and surface water) on and abutting the site, including identification and discussion of any potential aquifer recharge areas. Please identify and describe any Outstanding Florida Waters, Wild and Scenic Rivers, Florida Aquatic Preserves or Florida Class I or II Waters that occur within, abutting or downstream of the site.**

The Site groundwater elevation varies from approximately 2.8 feet NGVD in the dry season to approximately 3.8 feet NGVD in the wet season. The majority of the Site is approximately 10 to 12 feet (on the average) above the high groundwater level. Copies of historical water level data since 2002 submitted to DERM are included as **Appendix 14.2 – Historical Water Level** in Book 2 – Appendices of this application. The upper aquifer below the Site is the Biscayne aquifer, which includes several formations as listed below, from top to bottom:

- Surface layer material
- Miami Limestone
- Fort Thompson Formation (limestone, sand, and shell)

No surface water bodies currently exist On-Site. Borrow pits (rock quarries) exist on adjacent properties to the west, south, and east. Additionally, a canal is located north of the Property. Stormwater falling on the Property percolates through the surface layer material at the Site or in some areas, may flow off site by sheet flow. The borrow pits and canal on the adjacent sites connect to the Biscayne Aquifer and may be considered as recharge points.

There are no Wild and Scenic Rivers on the Property. There are no Florida Aquatic Preserves on the Site. There are no Class I or II water bodies within, abutting, or downstream of the Property.

- B. **Describe, in terms of appropriate water quality parameters, the existing ground and surface water quality conditions on and abutting the site. (The appropriate parameters and methodology should be agreed to by the regional planning council and other reviewing agencies at the pre-application conference stage.)**

There are no surface water bodies on the Property. Groundwater quality at the Site has been monitored since 2000 during semi-annual sampling events in 18 monitoring wells.

No exceedances of the primary drinking water standard (PDWS) generally exist on the Site.

Secondary standards are established based on organoleptic (taste and odor) concerns, rather than human health concerns. Iron and total dissolved solids (TDS) concentrations in several of the monitoring wells typically exceed the applicable secondary drinking water standards (SDWS); however, the iron concentrations resemble naturally occurring concentrations in Miami-Dade County. Other parameters, such as aluminum and sulfate, occasionally exceed the SDWS in select wells.

As would be expected at such a former landfill, ammonia concentrations in several of the monitoring wells exceed the Miami-Dade County Groundwater Cleanup Target Level (GCTL) of 2.8 mg/L.

Semiannual groundwater monitoring reports are submitted to the Miami-Dade Department of Environmental Resources Management (DERM). DERM has not identified any areas that require further action based on the routine monitoring of the groundwater at the existing monitoring wells. A copy of the 1st semiannual groundwater monitoring report in 2007 submitted to DERM is include as **Appendix 14.1 – Semiannual Groundwater Monitoring Report** in Book 2 – Appendices of this application.

**C. Describe the measures which will be used to mitigate (or avoid where possible) potential adverse effects upon ground and surface water quality, including any resources identified in Sub-question A.**

Providing an essentially impervious cap, consisting of buildings, parking lots and roadways, over the majority (over 85 percent) of the Property, and a 2-ft layer of approved materials and vegetated cover in the pervious area will minimize the infiltration of stormwater through the landfill material. Additionally, the stormwater management system for the Property will divert stormwater flows to retention and disposal areas that do not have groundwater contamination or that are strategically located to assist with containing the groundwater contamination plume on the Site. Therefore, TDS and ammonia concentrations in groundwater (discussed above in the response to Sub-question B) are anticipated to gradually reduce to values below the SDWS or GCTL. Since iron is naturally occurring in groundwater in this region, these concentrations are not anticipated to significantly change by the proposed Project.

The stormwater management system will be designed and permitted in accordance with South Florida Water Management District and Miami-Dade DERM standards, including those of the DERM Pollution Control Division which regulates groundwater contamination issues.

Currently, the Applicant is working with DERM to address the environmental concerns at the Site. Any soil, groundwater, surface water and remediation issues will be appropriately addressed during the project design, permitting and construction phase, if necessary.