
QUESTION 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.**

Hydrologic Conditions

Existing hydrology on the Elkton DRI is dominated by Moccasin Branch, Deep Creek and their associated tributaries. Generally, the site exhibits a crown elevation in the silviculture areas, with runoff making its way down slope into accessory wetlands. The western half of the site drains into Moccasin Branch and the remainder of the property drains southward to Deep Creek. A small area in the northern reaches of the property historically drained northward under CR 207. The western section of the property is primarily comprised of land used for agriculture.

Hydrologic variables on the site include, but are not limited to, water table elevation, drainage, stormwater flow dynamics, and site maintenance schedules. The surficial aquifer, an intermediate aquifer within the Hawthorn Group, and the Floridan aquifer are the three principal aquifer systems recognized in the majority of northeast Florida. Recharge into the aquifers occurs through percolation of rainwater entering through breaches in the Hawthorn Formation, contributions from the surficial aquifer, or directly into the aquifer at points where the Floridan aquifer outcrops at or near the land surface. Existing surface waters associated with the Elkton property comprise a portion of creek systems and drainageways that ultimately empty into the St. Johns River.

There are no identified Outstanding Florida Waters, Wild and Scenic rivers, Florida Aquatic Preserves or Florida Class I or II waters within, abutting, or immediately downstream of the site.

- 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).**

Ground Water

The groundwater analysis and sample data have yet to be obtained and will be provided upon receipt. Development BMP's to prevent and mitigate for potential impacts will be addressed following receipt of sampling data.

Surface Water

The surface water management system ultimately designed and constructed in association with this project will be subject to intensive review by the applicable State regulatory agencies. This review will ensure that surface water runoff will be adequately treated to eliminate any potential for surface water quality degradation resulting from the project.

The development and execution of a continuing surface water quality monitoring effort, targeting water quality indicator parameters, would be considered to provide continuing assurances that the project does not cause degradation of water quality to the area. .

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 Subquestion A.

The proposed Elkton DRI is designed in conjunction with a stormwater system that will discharge treated water into the undisturbed wetlands and creek systems which meets the definition and water quality requirements of Class III waters of the state. Currently, as discussed in the sub-questions above, the land use of the Elkton development site has been that of intensive silviculture, which has resulted in the average non-point-source discharge of nutrient loads into wetlands and creeks with minimal pretreatment. The proposed stormwater treatment system, along with the land use shift from silviculture to generally residential/institutional, should result in a net increase in relative water quality to on- and off-site receiving waters.