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landscaping | golf | sports turf

Case Study



Onyria Palmares

Beach & Golf Resort - Algarve – Portugal

Description and Location

Onyria Palmares Beach & Golf Resort is located in the western region of the Algarve, close to Lagos. It occupies an extremely varied piece of land, going from the beach in the south (the only true links in the Algarve), to farmland with mountain views in the north, to natural valleys falling to the Ria de Alvor wetlands in the east.

The original golf course, designed by Frank Pennink, was opened in 1975. The course was showing its age and the problems caused by several owners and relative neglect. Recently, Onyria Golf Resorts bought the property and decided to rebuilt it, with a new 27 hole course, in 3 returning 9's loops. This job was carried out by Robert Trent Jones, Jr. to a superb result. The architect's philosophy was to follow the land in order for the golf course to have a minimum impact.

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Initial Assessment and Main Problems

- ◇ Water scarcity – more turf area, and the new landscaped areas within the development, had to be fully irrigated using the only existing source. This had been barely adequate to irrigate the old course.
- ◇ Environmental Impacts Prevention – with several sensitive areas in and around the course, such as the dunes in the links area and the wetlands on the Ria de Alvor, extreme care had to be taken to insure that no harm was done, both by construction and by the future maintenance of the course.
- ◇ A difficult drainage situation – several areas had closed basins with no outlets. This situation caused a serious risk of flooding in parts of the course.
- ◇ A complex licensing process, with 18 holes being restored and redesigned and new 9 holes being added to the course.

“Geodesenho know-how was crucial in the Onyria Palmares Golf process, combining the expertise in drainage, irrigation and coordination of the many variables of this complex project.”

António Pinto Coelho, Resorts Sales & Marketing / Asset Management at Onyria Golf Resorts

GEOdesenho Proposal

The proposal that GEOdesenho presented to Onyria was designed to address all these situations. It included several main components:

- ◇ Water Logistics Study and the development of a Water Management System.
- ◇ Irrigation design, with an advanced irrigation management system as the final objective.
- ◇ Integrated drainage and lakes design.
- ◇ Support for the licensing process.

Solutions in Detail

- ◇ The most serious problem was water scarcity. The Water Logistics study determined exactly how much irrigation water was required and established the base guidelines for water reserves (in lakes), the irrigation and drainage designs, and the future Water Management System. The use of reclaimed water was considered but no effective source could be found for the reasonably close future, so we resorted to capture as much possible of rainfall and store it for use when required.

- ◇ In order to limit the water requirements, and in cooperation with the architect, irrigated areas were limited. All irrigation was specifically readjusted to fit the architects' changes on the ground without compromising uniformity. Both the irrigation and the control system were thought out to enable the future Water Management System, and minimize irrigation volumes.
- ◇ The drainage and lakes design were integrated to serve multiple ends. All run-off from the site was captured and stored in the lakes. Natural engineering solutions were applied wherever possible. Two new lakes were designed, and the original was redesigned, to maximize storage capacity. Several retention basins and wet areas, integrated with the drainage system, were created to cope with more severe floods, exceeding the lakes capacity.

“With the help of Geodesenho and their innovative engineering approach, serious problems became great opportunities, through non-standard solutions.”

Luís Cachada, General Manager For New Projects at Onyria Grup

