purpuruem , *Cyperus odoratus* , and Eriochloa polystachya. The forest canopy is dominated by *Prosopis juliflora*, and *Albizia lebbeck*.

The table 3 presents the dominant plant species within the study area, and their habit and indicator category symbol:

Table 3. Dominant Plant Species

SCIENTIFIC NAME	COMMON NAME	HABIT	IND
Albizia procera	Albicia	Tree	ni
Prosopis juliflora	mezquite	Tree	facu
Albizia lebbeck	Acacia amarilla	Tree	facu
Pennisetum purpuruem	Elephant grass	Herb	fac
Eriochloa polystachya	Malojilla	Gram	Facw
Echinochloa colonum	Jungle rice	Herb	facw
Cyperus odoratus	Fragrant flatsedge	Herb	facw
Arundo donax	giantreed	Gram	facw

B. - Soils

The soils parameter must be considered in any plant community in which: the community is dominated by one or more FAC species; no community type dominated by OBL species is present; the boundary between wetlands and no wetlands is gradual or non-distinct; and the area is know to, or is suspected of having significant altered hydrology.

Soils in the proposed project area have been classified by the National Resources Conservation Service of the United States Department of Agriculture as Vives series with 80% and Vayas series with 20% of the

land consists of moderately deep soils that are well drained and moderately permeable.

According to the Soil Survey of Humacao Area of Eastern Puerto Rico (Sheet No. 51) soils found in the study area are described as follows:

Vives series-The vives series consists of deep soils that are well drained and moderately permeable. Those soils formed in moderately fine textured sediment of mixed origin. Those soils have a high available water capacity and high natural fertility. They are easily worked and they have been in sugarcane for many years.

VvA-Vives Clay, 0 to 2 percent slopes; this soil is on alluvial fans and terraces in the semiarid part of the survey area. This soil has moderate limitations for farming because rain fall is low. Most of the acreage is in sugarcane. If the soil is properly irrigated and managed. It assorted to many kinds of crops and to sugarcane and pasture.

Vayas series-The vayas series consists of deeps soils that are poorly drained and slowly permeable. These soils formed in fine textured sediment of mixed origin. They are on weakly dissected river flood plains. These soils have a high available water capacity and high natural fertility. They are difficult to work and have been in sugarcane and pasture for many years.

Vc-Vayas silty clay- This nearly levels soil is on river flood plains it has the profile describe as representative of the series. The hazard of flooding, poor drainage, slow permeability and poor workability are moderate limitations for farming.

B. - Hydrology

Wetland hydrology refers to the presence of water either above the soil or within the soil for sufficient period of time during the year, so that it would significantly influence the plant types and soil that occur in a particular area.

Site hydrology is strongly influenced by the following factors: precipitation, surface runoff, topography, soil texture, drainage capability, and permeability and plant cover. Water comes mainly from precipitation and surface runoff from adjacent slopes and an intermittent stream (Branderi creek) located on the west. Drainage is deficient on depressions, thus pounding and/or occasionally or seasonal flooding are

the most probable mechanisms for wetland existence at this area, but this area is not part of the property concerned.

1. - Swamps and Marshes

There is no swamp or marshes in or near the study site. About 40% of the surveyed area consist of an isolated depress ional vegetated flat where the plain are so low that drainage is deficient, giving rise to the establishment of hydrophytes. In this area the land is covered by surface or groundwater for long enough periods to support vegetation adapted to wet conditions. Depth and duration of floods varies. These wetlands are transition areas that are neither totally land nor totally water, having characteristics of both.

2. - Natural Stream Systems

The proposed project area is contained within the west of Branderi creek. As show in USGS Topographic Map an intermittent creek that discharged to downstream in the Caribbean Sea.

3. - Manmade Structures/Canals

Site survey indicates canals of irrigation go through the property but by the construction of the new way of the PR-3 those canals was discontinued by the presence of the new road.

4. - Flood plain

As per Flood in the Guayama Area, Northern Puerto Rico Report, published in 1964 by the U.S. Geological Survey, There are no flood areas in this property.

III. – CONCLUSION

The evaluation of this site indicate in the past was a sugar cane industry, its name was Hacienda Felicita and it covers probably part of the south of Guayama. When the industrialization came many of this industries been Abandoned or been used with another purpose, in our site its became an Agricultural pond shrimp industry and the land beside became areas of urban developments.

The evaluation of hydrophilic vegetation, wetland hydrology and hydric soils do not indicate the presence of wetland area for the purposes of Section 404 of the Clean Water Act within the study limits.

Field evaluation confirms that same area contains hydric inclusions and meets with the saturation and ponding criteria in a small part, but these unit is no more of 5% of the property. There is another 15% of land that has been impact of sea water losing his natural fertility. It happen when part of the property was used as an agricultural pond shrimp industry.

The site proposed has a front sea coast including canal with tide and flow of sea water, this area has a 30 meters safety zone, this area will remain natural.

In conclusion, we recommended the proposal development of new homes, Parador (hotel) and shopping center. Because in this area there is not a sensitive ecological ecosystem therefore, in the last 40 years the site was abandoned and the areas beside the site became in urban developments. The Municipality of Guayama change the zonification of the site from A-4 to R-1, the reason are because the site has infrastructures like water systems, sanitary sewer systems, electrical power systems and is near to the main avenues and streets of the areas of Guayama.

APPENDIX 1. FIELD DOCUMENTATION PHOTOGRAPHS

This photo show the area of the agricultural pound shrimp industry and the costal Area.

FIGURA NÚMERO 6

PLANO DEL DESARROLLO CONCEPTUAL DEL PROYECTO

FIGURA NÚMERO 7

MAPA DE SUELOS

Proyecto Residencial **Barrio Algarrobo, Guayama, Puerto Rico**	**Figura Mapa de Suelo del Área del Proyecto**

FIGURA NÚMERO 8

MAPA DE ZONA SUSCEPTIBLES A INUNDACIONES