

Mayaguez Elite Valley
October, 1999.



*REPORT FOR WETLAND JURISDICTIONAL
DETERMINATION FOR "MAYAGUEZ ELITE VALLEY
PROJECT" INCLUDED ON ALGARROBOS AND
SABANETAS WARDS, "EL MANI" SECTOR WITHIN
MAYAGUEZ PERIFERIAL URBAN EXPANSION AREA.*



DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT CORPS OF ENGINEERS, ANTILES OFFICE
400 FERNANDEZ JUNCO'S AVENUE
SAN JUAN, PUERTO RICO 00903-2298

ANEJO 9, Pág. 17

REPLY TO
ATTENTION OF
Antilles Regulatory Section
199905598(JF-JR)

June 14, 2000



Mr. Ovidio Garcia Amador
Investment GP & SR, Inc.
P.O. Box 340
Mayagüez, Puerto Rico 00681-0340

Dear Mr. Garcia:

Reference is made to the Jurisdictional Determination (JD) submitted for the Mayagüez Elite Valley Development, Sabanetas Ward, Maní Sector, Mayagüez, Puerto Rico. Please refer to number 199905598(JF-JR) in future correspondence regarding this project.

We have reviewed the wetland delineation report and verified the work in the field on May 24, 2000. The area was previously surveyed with personnel from the Natural Resources Conservation Service, and the Department of Natural and Environmental Resources during several visits performed on February, March, and April 1998. We have concluded the study was properly performed. Therefore, we accept the jurisdictional determination as presented. The mylar photograph shows approximately the existing wetlands, and non-wetlands areas at the project site, as well as the channels. The U.S. Army Corps of Engineers will keep the original signed photograph, while you are responsible for making a copy of the same.

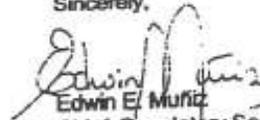
A Department of the Army permit will be required if work related to the discharge and/or placement of fill material or any construction on areas identified as wetlands, navigable waters and/or waters of the United States.

Please be advised that this determination reflects current policy and regulations, and is valid for a period no longer than five years from the date of this letter. If after the 5-year period this determination has not been specifically revalidated by the U.S. Army Corps of Engineers, (Corps) it shall automatically expire.

You may accept or appeal the approved JD, or provide new information. If the JD is accepted you do not need to notify the Corps to accept an approved JD. If you disagree with the approved JD, you may appeal the approved JD under the Corps Administrative Appeal Process by completing Section II of the attached form and sending the form to the division engineer. This form must be received within 60 days of the date of this notice.

If you have any questions contact Mr. José E. Rosario, from our Regulatory Section at telephone 729-6905/6944 or at the letterhead address.

Sincerely,


Edwin E. Muñoz
Chief, Regulatory Section

Enclosure

PR-64

NON
NON WETLAND
WETLAND



WATERS OF THE U.S.

U.S. Army Corps of Engineers Jacksonville District Antilles Regulatory Section Jurisdictional Determinations ID No. 199905598(3P-5A)	LOCATION: SASSAPARA WMD MANAGUA, P.R. 14 JUNE 2000
FIELD WORK BY:  JOSE E. ROSARIO	REVIEWED BY:  EDWARD L. MILLER
JURISDICTIONAL LIMIT _____ STUDY LIMIT _____	

Mayaguez Elite Valley
October, 1999.

***REPORT FOR WETLAND JURISDICTIONAL
DETERMINATION FOR "MAYAGUEZ ELITE VALLEY
PROJECT" INCLUDED ON ALGARROBOS AND
SABANETAS WARDS, "EL MANI" SECTOR WITHIN
MAYAGUEZ PERIFERIAL URBAN EXPANSION AREA.***

TABLE OF CONTENTS

<u>DESCRIPTION</u>	<u>PAGE</u>
Preface.....	1
Executive Summary.....	2
Figures List.....	3
Exhibits List.....	4
Chapter 1: <i>INTRODUCTION</i>	
1.1 Background.....	5
1.2 Scope.....	6
Chapter 2: <i>COE 1987 WETLAND DELINEATION MANUAL REVIEW</i>	
2.1 Preliminary Data Gathering – Section B Part IV COE 1987 WDM	7
2.2 Data Synthesis – section B Part IV COE 1987 WDM	8
2.2A Summary of Available Infor. on Project Area Vegetation	9
2.2B Summary of Available Information on Project Area Soils	10
2.2C Summary of Available Hydrology Data	11
2.3 Routine Determination – Section D Part IV COE 1987 WDM	12
2.3A Subsection 3- Combination of Subsection 1-Onsite Inspection Unnecessary and Subsection 2-Onsite Inspection is Necessary	13
2.3B Data Form #1 Report “Routine Wetland Determination.”	14
2.3C Survey Data-Coordinate Table for Precise Location of all 43 Observation Points Along Selected Ten Transects.	15
2.3D Transect Layout of Mayaguez Elite Valley Project.	16
2.3E Initial Deliniation on 1997 Aerial Photo According to Field Data Included on Data Form #1 to Produce a Base Map.	17
2.4 Atypical Situations – Section F Part IV COE 1987 WDM	18
2.4A Environmental Description – Subsection 3, within Section F	19
2.4B Data Form #3 Report “Atypical Situations”	20
2.4C Table of Events “Man-Induced Changes and Situations”	21
Chapter 3: Conclusions.....	22
Chapter 4: Recommendations.....	23
Chapter 5: Figures.....	24
Chapter 6: Exhibits.....	25

Mayaguez Elite Valley
August, 1999

FIGURES LIST

FIGURE

- # 1 - U.S.G.S. Mayaguez Quadrangle illustrating surrounding wetlands areas Onsite and Offsite of reference Project Area and Topographic Details and Drainage Patterns and location of Mayaguez Elite Valley."
- # 2 - 1936 Aerial Photo
- # 3 - 1951 Aerial Photo showing "Boquilla" Outlet to the Sea with an unauthorized pedestrian bridge.
- # 4 - 1963 Aerial Photo showing 1961 Discharge of Dredge and Fill material by PRIDCO on 35 acres of deep water aquatic habitat Mayaguez Bay and 1963 Realignment of Algarrobos Creek on Punta Algarrobos.
- # 5 - 1971 Aerial Photo
- # 6 - 1974 Aerial Photo showing 1971 approved Fill Material placement on 80 acres in Rexach Property Affecting drainage of referred project area pattern (See Exhibit No. 3).
- # 7 - 1977 Aerial Photo showing "Boquilla" Outlet to the Sea with a bigger sand dune formation.
- # 8 - 1978 Aerial Photo showing the "Boquilla" Outlet to the Sea with a bigger sand dune formation.
- # 9 - 1980 Aerial Photo
- # 10 - 1985 Aerial Photo showing "Boquilla" Outlet to the Sea tubes bridges partially destroyed by a 1984 flooding event.
- # 11 - 1988 & 1998 Aerial Photo- Mayaguez City Panoramic View.
- # 12 - Feb 1989 Aerial Photo
- # 13 - Nov. 1989 Aerial Photo showing recent unauthorized after the fact adjacent offsite obstruction of Fill Material Placement on an existing Drainage Channel I "Camioneros" Property. See Exhibit #31.
- # 14 - 1990 Aerial Photo

Mayaguez Elite Valley
August, 1999

FIGURE

- # 15 - 3-17-91 Aerial Photo showing Site Improvement for Public School on Punta Algarrobos including COE Permit in an Existing Wetland Area.
- # 16 - 6-17-91 Aerial Photo showing the 1985 tubes bridges repaired on Boquilla Outlet to the sea.
- # 17 - 4-4-92 Aerial Photo
- # 18 - 1988 Aerial Photo, Añasco Town Panoramic View and 1990 Aerial Photo.
- # 19 - Nov. 1994 Aerial Photo
- # 20 - 8-8-1995 Aerial Photo
- # 21 - 5-5-1997 Aerial Photo
- # 22 - Dec. 1998 Aerial Photo
- # 23 - U.S. Soil Conservation Service Illustrating Hydric Soil Delineation of Wet Areas On-site and Off-site Project Area.
- # 24 - 1989 Aerial Photo showing Delineation of Wetlands Areas On-site and Off-site Project Area.
- # 25 - 1964 U.S. Department of Agriculture Soil Conservation Service Recommended Channels included in la Boquilla Unit Project of Añasco River Watershed.
- # 26 - 1972 U.S. Department of Agriculture Soil Conservation Service Final Channel Construction included in La Boquilla Unit Project of Añasco River Watershed
- # 27 - 1993 Aerial Photo showing Applicant Survey and Engineering Master Plan Designs for Mayaguez Elite Valley Proposed Activity.
- # 28 - Master Plan Maquette Design of the Proposed Mayaguez Elite Valley Project Area
- # 29 - 4-6-93 Aerial Photo showing Fill Material Placed on Masso (Builder's Square Project) and recent (Nov. 1992) construction of Public School located South-West of Mayaguez Elite Valley Project.
- # 30 - 1993 Aerial Photo with Applicant Project Area showing Project Area Topographic Survey including: a) Spot Elevations; b) Grid Tick Marks Every 100Mts; c) Contours Line; d) Index Line; e) Horizontal Based on Lambert System; f) Vertical Based on Mean Sea Level; g) Road; h) Trails i) Structures; j) Channels and Streams.

FIGURE

- # 31 - 1993 Aerial Photo showing Coloso non-hydric Soil with Hydrophic Vegetacion due to Maintenance Berms Designed by U.S. Soil Conservation Service.
- # 32 - April 6, 1993 Aerial Photo Close-Up Photo showing Actual Construction Elevated New Bridge, located in "La Boquilla" Outlet to the sea, Replacing previous Tubes bridges.
- # 33 - 1928 Past Historical Records of High Flooding Level in the Añasco River Watershed.
- # 34 - 1975 Latest and Actual Historical Record of high Flooding Level in the Añasco River Watershed.
- # 35 - 1951 Aerial Photo including transparency showing 1960 COE approval discharge of Dredge and Fill Material by PRIDCO on 35 acres of deep water aquatic habitat located on Punta Algarrobos, Mayagüez Bay. (See Exhibit No. 26).
- # 36 - 1974 Aerial Photo showing existing draining Channel Before 1989 Aerial Photo of Unauthorized Placement of Fill Material in "Camioneros" Property.
- # 37 - U.S.G.S. Quadrangle showing Before and After 1961-1963 Discharge of Dredge and Fill Material in PRIDCO Property, Punta Algarrobos, Mayagüez Harbor.
- # 38 - Site Plan Permit approval by the Corps of Engineers Issued on July 5, 1960 (Referred to Exhibit # 26).
- # 39 - 1993 Photos showing: 1) Typical Talante Loan Serie; a) Vegetation-Sugar Cane Crop, b) Water Table of 3 feet deep; c) Rapid permeability and low humidity retention; d) Lays above sand which is below 12 to 24 inches deep.
- # 40 - 1951 Aerial Photo showing Balneario de Punta Algarrobos and Original Location of Algarrobos Channel before 1963 Realignment and Location of Spanish Fort in Front of Mayagüez Bay. Note-Small Sand Dune Formation in Algarrobos Outlet to the Sea is protected by a Natural Jettie.
- # 41 - 1993 Aerial photo showing Present Condition of Punta Algarrobos Site. Note -Big Sand Dune Formation in Algarrobos Outlet to the Sea.
- # 42 - Punta Algarrobos 1968 Bridge Drawing on PR-341 (Actually PR-64)(Gonzalez Clemente)

Mayagüez Elite Valley
October, 1999.

-4-

EXHIBITS LIST

EXHIBITS LIST

EXHIBIT

- #1 **PLANNING BOARD PERMIT**
1965 Hydrologic/Hydraulic Study to eliminate the northern part of Mayagüez from flooding area for future development.
- #2 1969 Approval a preliminary residential development of 1,300 units.
- #3 1971 Approval for placement of fill material on 80 acres at Rexach property. This work was finished on 1974. (See Figure #6, 1976 Photo)
- #4 1971 Approval to widening and canalization of El Maní creek.
- #5 1992 October - Approval to perform improvements to the hydraulic sections of El Maní creek and the construction of a retention lake which would mitigate and minimize the flooding effects at the El Maní community.
- #6 1988 February - "Actual approve of a new flood levels on flooding maps No. 13 of PR-Planning Board.
- #7 1989 - Governor approval of the vial plan for northern area of Mayagüez.
- #8 1993 - H/H Study to be presented.
- #9 July 15, 1994 - K-Mart Shopping Center approval.
- #10 **NATURAL RESOURCE DEPARTMENT PERMITS**
1990 Approval of Hydrologic/Hydraulic (H/H) Study for Industrial Development on Rexach property.
- #11 May, 1991 - Approval of final surveys for the Hydraulic improvements of El Maní creek 1990 H/H Study.
- #12 1993 March - Approval of improvements (Hydraulic) of El Maní Creek Permit No. 429-0002-1496-0407.

EXHIBIT

- PERMIT AND REGULATIONS ADMINISTRATION -
PERMITS
- #13 1992 January - Endorsement of preliminary concept for an Industrial development at the Rexach property, Case No. 91-29-A 862 MPL.
- #14 1991 Approval of Builders Square construction. Case No. 90-29-E-698-MPA.
- #15 1993 January - Approval for Hydraulic improvements at El Maní creek on Rexach property. Case No. 92-29-F52-MPF.
- #16 1993 March - Approval for Hydraulic improvements at El Maní creek on Ramirez de Arellano property. Case No. 92-29-F 512 MPF/MI.
- #17 Oct. 28, 1994 - Preliminary Development Authorization for K-Mart Shopping Center.
- STATE HISTORICAL PRESERVATION OFFICE PERMIT
- #18 1993-March 29, approval of Mayagüez Elite Valley archaeological study. Case No. SHPO No.12-18-92-11 with Control Number 93-388.
- #19 1993 - March 1, approval of Mayagüez Elite Valley archaeological study by the Puerto Rican Cultural Institute.
- P.R. QUALITY ENVIRONMENTAL BOARD AGENCY PERMIT
- #20 1992 June-letter accepting that there was no need for an Environmental Impact Declaration and recommendations. Case No. DN92-0679 (AT) for Hydraulic improvements on "El Maní" creek.
- #21 1993 March - Approval of Plan CEST for Hydraulic improvements at "El Maní" creek. Case No. CPC 93-50-0081-RM.
- #22 1975 Approval of Environmental Impact Statement (EIS) for an Industrial Development at Rexach property. Case No. JCA-74-062(JP).

EXHIBIT

- FEMA (FEDERAL EMERGENCY MANAGEMENT AGENCY)
PERMIT.
- #23 1984 Hydrologic and Hydraulic Study done by Quiñones, Diaz, and Assoc.
- #24 1986 - December letter directed to the Governor of Puerto Rico asking the "Planning Board of Puerto Rico to establish the latest flooding levels, required to obtain endorsement of FEMA and local agency for placement of fill material.
- SOIL CONSERVATION SERVICE.
- #25 Description of five different types of soils present on Project Area.
- CORPS OF ENGINEERS PERMITS AND VIOLATIONS LOG
ON-SITE AND OFF-SITE PROJECT AREA.
- #26 Nov. 1959 - COE Jacksonville Office Issue Permit to PRIDCO for Dredging and Filling located on Mayagüez Bay between the Mayagüez Shipping Terminal northwest of the Star Kist Tuna Cannery Dock and "Punta Algarrobo".
- #27 COE Antilles Office-Regulatory Section, 1990 Jurisdictional Determination (JD) Numbered 90JF50015.
- #28 COE Antilles Office-Regulatory Section, Sept. 19, 1990 Jurisdictional Determination (JD) Numbered 90JF50120.
- #29 COE Antilles Office-Regulatory Section, June 3, 1992 Jurisdictional Determination (JD) Numbered 199250137 (JT-JD).
- #30 COE Antilles Office-Regulatory Section, Feb. 17, 1994 Jurisdictional Determination (JD) Numbered 199250137 (JT-JD).
- #31 Off-site and On-site Violations
- | | |
|-----------------|---|
| Case #90-57-018 | José A. Cesani enforcement-Permit Action 199000257 (JP-JR). |
| Case #90-57-019 | Anibal Rodríguez Martínez. |
| Case #90-57-020 | Fernando Quiñonez Piña- Permit Action 19900 (JP-JR). |
| Case #89-57-028 | Angel Molina-Deposit of Fill Wetland Caño Boquilla. |

EXHIBIT

- | | |
|-----------------|--|
| Case #89-57-031 | Francisco Hernández y Assoc.-de Adventista del 7mo. Día (case closed). |
| Case #89-57-034 | P.R. Highway Authority-case closed. |
| Case #89-57-051 | Eng. Willy Rodríguez PRASA-case closed. |
| Case #89-57-066 | Offsite Violation issued on Oct. 26, 1989 related to Fill Material Placed on Adyacent existing Drainage Channel located on Orlando González and " Cooperativa de Camioneros" Properties. |
-
- #32 1995-Raining Record (K-Mart EIS)
 - #33 Sept. 24, 1993 Letter Explaining Jurisdictional Determination Num. 1992-50137 JT-JD
 - #34 1995 - Presidential Executive Order #12898 Department of Defense (DoD) COE and EPA Environmental Justice Strategy.
 - #35 June, 1963 Mayagüez Harbor Ind. Subdivision Extension 1962 Land Adquission and 1964 P.R. Planning Board Approvals.
 - #36 Gilberto Acevedo-Ramos Biographical Sketch.
 - #37 Included are 43 Data Form #1- Report of Routine Wetland Determination Section D, part IV- COE 1987 Wetland Delineation Manual for (43) observation points along (10) transects.

CHAPTER 1: INTRODUCTION

1.1 BACKGROUND

The project area is limited at the north by State Road No. 64, before No. 341, Santa Rosa de Lima and Jardines de Mayagüez low-income community. East by State Road No. 2 (68 meter of R.O.W.) and Mayagüez commercial and industrial areas, south by Hostos high-income residential area and west by Quinto Centenario and El Mani low-income Community, at Sabanetas and Algarrobos Wards of approximately the 115,000 habitants. *The study area includes approximately 200 acres and it is within the Mayagüez city urban expansion area limits.*

By the early 20th century, nearly all of the remaining primary forest located north of Mayagüez Urban Area were cut to dedicate the land to sugar cane (Gleason & Cook 1928). At present, only small stands of *Pterocarpus Officinalis* remain near the east area of the airport and Caño Boquilla. At the same time, the railroad track was built across the land lot, from the northeast end to the southwest corner, 100 years ago. This has created a berm that reduces the runoff in the project area. The bedding of the railroad track is still in good conditions. *This is evidence that the soils in the study area have good engineering characteristics; therefore limited hydric soil characteristics.*

The tendency of the Government of P.R. since 1955 was to stimulate the economic development of the northern part of Mayagüez Municipality. In 1955 began the development of approximately 700 units of low cost housing of Social Interest "EL Mani", a low-income Community located west of "Mayagüez Elite Valley" project area. See figure #1 (U.S.G.S. Quadrangle showing Location Map of reference project area "Mayagüez Elite Valley" Project and EL Mani Low Income Community) and 1936 to 1998 aerial photos (See from Figure #2 to #22).

This is so, because the historic records of flooding levels were established on 1928 (See Figure #38) where the area of "El Mani" Community was not affected by floodway. Before 1955, the primary land use of the project area was cropland agriculture of high sugar cane yield. See Figure #2 (1963 Photo) and Figure #3 (1951 Photo).

The effectiveness of the hydraulic drainage system of the referred project area began to be affected after the construction of "El Mani" Community. This is why the Congress of the United States approved in 1960 a budget assignment to the Federal Department of Agriculture, specifically the division of Soil Conservation Services west region, which recommended some drainage projects to mitigate the effect of the development of "El Mani" Community. These works were approved in 1960 and had to be modified in 1964 by U.S. Department of Agriculture Soil Conservation Service who recommended channels included in La Boquilla Unit Project of Añasco River Watershed. (See Figure #25 and see Figure #26 1972 U.S. Department of Agriculture Soil Conservation Service Final Channels Construction included in La Boquilla Unit Project of Añasco River Watershed.)

Mayagüez Elite Valley
October, 1999.

The COE approved discharge of dredge and fill material on a deepwater aquatic habitat located in Punta Algarrobos, on Mayagüez Bay, south of the existing "El Mani" Community and adjacent to project area "Mayagüez Elite Valley". This discharge was endorsed by the Corps of Engineers on July 7, 1960 (See Figure #38 Site Plan, See Exhibit #26 a Permit document issued on July 7, 1960 by the Corps of Engineers and See Figure #37, U.S.G.S. Quadrangle showing Before and After 1961-1963 Discharge of Dredge and Fill Material in PRIDCO Property, Punta Algarrobos, Mayagüez Bay).

As part of this project, the realignment of an existing stream channel "Algarrobos" was required, which affected mostly the drainage system of the referred project area and its Hydrology conditions. In addition, in 1968, "Punta Algarrobos" bridge was built on PR-341 (González Clemente Avenue), which had a deficient capacity explained in 1989 H/H Study. (See Figure #42 Construction Map, Exhibit #10 and Figures #15,16-1991 Aerial Photo, showing Figure #42 Bridge). On November 1963, PRIDCO finished the discharge of dredge and fill material on Punta Algarrobos, and the realignment of the existing Algarrobos Channel, which caused that the cane yield started to slow down.

P.R. Planning Board realized this areas should continue to be developed, that is why the Planning board on 1965 made a H/H Study (See Exhibit #1) north of Mayagüez to solve its flooding problems. In 1969, the P.R. Planning Board approved a preliminary Residential Development of 1,300 units located in Mayagüez Elite valley (See Exhibit #2). In February 1971 the placement of fill material on reference project area was approved. See Exhibit #3 (1971 Permit) and Figure #6 (1974 Aerial Photo showing Exhibit #3, 80 acres fill material placement).

In 1975, an Environmental Declaration Impact was approved for the development of 120 acres for industrial use on the subject project area (See Exhibit # 22). In 1977 the Main Sanitary Trunk was built across the proposed project area. On July 15, 1994 a 600,000 sq. ft. Shopping Center was approved on 62 acres (See Exhibits #9; 14; 17) and at present the area has been already filled and the construction almost finished (See Figures #19; 20; 21; 22).

The tendency of the Central Government of Puerto Rico during the last 40 years is to develop this area which at present is considered by the Municipality Government as the Primary Peripheral Urban Area to be compiled its remaining area 300 acres.

1.2 SCOPE

Our goals in this report are divided in two: first, to present the Jurisdictional Determination Study of approximately 200 acres, where Mayagüez Elite Valley Project is included, to focus on the technical guideline and methods to determine whether the reference project area are wetlands, considering all three parameters (vegetation, soils, and hydrology).

This Jurisdictional Determination is made using the Corps of Engineers 1987 Wetlands Delineation Manual, and emphasizing on Part IV "Method Selection" of this Manual, which is a combination of Section B, D, and F of Part IV. In short, Data Gathering and synthesis of Section B Part IV and Routine Determination of section D - Part IV specially its Subsection 3- which is a combination of Subsection 1- "Onsite Inspection Unnecessary" especially for large projects as "Mayagüez Elite Valley of 200 acres where adequate information is already available (section B) to enable a Wetland determination for a large portion (75% - 150 acres) and while subsection 2- "Onsite Inspection Necessary" "or required to enable a Wetland determination for the remainder area of 50 acres - 25 % because the available information in Section B is insufficient for one or more parameters in an area of approximately 50 acres with highly diverse or complex with respect to vegetation.

Using primarily section B procedures by Preliminary Data Gathering and Synthesis in approximately 90 acres of Artificial Wetland in determining whether an atypical situation (Section F within Part IV) exists and if this evidence of sufficient onsite and offsite man-induced alteration or modification (Subsection 4 of Section F) do significantly alter the project area. Soil condition, which is the principal parameters that finally determine whether a Permit will be needed if the area is found to be a wetland, for purpose of section 404 of the Clean Water Act.

Finally to obtain first, the execution of the 1995 Presidential Executive Order #12898, DoD, COE and EPA'S Environmental Justice Strategy (See Exhibit #34) and to obtain a Section 404, Department of Army Permit.

**CHAPTER 2: COE 1987 WETLAND DELINEATION MANUAL
"WDM" REVIEW**

2.1 PRELIMINARY DATA GATHERING (Section B-Part IV COE 1987 WDM).
Potential sources of information that may be helpful in making a wetland determination and may reduce or eliminate the need for field effort and decrease the time of making a Jurisdictional Wetland determination. The following data sources were used during this evaluation of approximately 200 acres:

- 2.1A U.S.G.S. Quadrangle Maps provide several types of information, for example (See figures #1 and 30):
1. Assistance in locating field sites.
 2. Topographic details.
 3. Quadrangle General Delineation of wet areas (swamps and marshes)
 4. Drainage patterns.
- 2.1B National Wetland Inventory products (1) Wetlands Maps. It's optimum use of NWI Maps See Figure #44 is to plan field review and assist during field review, NWI Maps are available either as a composite with, or an overlay for, U.S.G.S. base maps See Figures #1; 30 (2) Plant Database, present and past sugar cane yield.
- 2.1C Soil Surveys prepared by U.S. Soil Conservation Service (SCS) which contain several types of information for example Illustrating Hydric Soil Delineation of Wet Areas, On-site and Off-site Project Area, See Figure #23 and 1989 Photo showing Delineation of Wetlands Areas Onsite and Off-site Project Area. See Figures #12; 24.
- 2.1D Flood Frequency -1965 and 1984 - hydrologic and hydraulic Study done for P.R. Planning Board and FEMA respectively. See Exhibits #1; 23 and See Figures #33;#34.
- 2.1E Local Individuals and Experts having personal Knowledge of project area and that can provide a reliable and readily information about hydrology (RUM -Hydrology Professor Ismael Pagan Trinidad Law Environmental Caribe and Quinones, Diez y Silva y Ass. See Page 11. About Soil RUM Dr. Miguel Lugo Lopez and Gilberto Acevedo See Page 10- and Research Soil Specialist who worked for SCS during 30 years; About Vegetation (RUM)- Dr. Roberto Chevres Dr. Luis Cruz Perez and Dr. Ovidio Garcia Molinari. See Page-9.
- 2.1 F Applicant's Survey Plans and Engineering designs. See Figures #27 to#30 #27;28;29;30.
- 2.1 G Corp of Engineers Permits and violation Intervention on-site and off-site project area. See Exhibits # 26, 27 ,28, 30, 31 and Fig. 4, 10, 13, 35, 37.

2.2 DATA SYNTHESIS (Section B-Part IV COE 1987 WDM):

- 2.2.A Step 1 -- Identify the Project Area on a U.S.G.S. Quadrangle Map. See Figure #1.
- 2.2.B Step 2 -- Prepare a Base Map to mark the Project Area boundaries on the Map. See Figure #1.
- 2.2.C Step 3 -- Applicant Survey Plans on a 1993 Photo, which determine size of the project area (See Figure #29) and 1993 aerial photo with applicant project area and showing a top transparency of applicant topographic survey, including: a) Spot Elevations; b) Grid Tick Marks every 100 Mts.; c) Contours Line; d) Index Line; e) Horizontal Based on Lambert System; f) Vertical based on Mean Sea Level; g) Road; h) Trails; i) Structures; j) Channels and Streams. See Figures #27,30.

2.2 A Summary of Available Infor. on Project Area Vegetation

To obtain information on the land use of the area under study, the writers of this report consulted various professors and research scientists now retired who have worked since the late thirties on the faculty of Agricultural Sciences of the University of Puerto Rico at the Mayagüez Campus. Among these were the following:

- (1) Prof. Roberto Chevres, a Ph.D. from U. of North Carolina in Soils and Agronomy who taught courses in Grassland and Pasture Management, General Soils and Crops Production.
- (2) Dr. Luis Cruz Pérez, Ph.D. in Agronomy from Perdue U., who also taught courses in Grassland Ecology, General Cropectology and Field Crops.
- (3) Prof. Joaquin Oliver, did research work in Grassland Ecology.
- (4) Prof. O. Garcia Molinari, Ph.D. from U. of Nebraska majoring in Grassland Ecology and minor in Soil Management, who was Professor and Dean of the Faculty of Agriculture of the University of Puerto Rico, Mayagüez Campus from 1943 to 1968 and taught courses in Grassland and Pasture Management, Agrostology, Soil Genesis and Classification, Soils of Puerto Rico, and General Plant Ecology. He did research in the Succession of Grasses in the island of Puerto Rico, uses of grasses for soil conservation and pasture improvement, etc.
- (5) Prof. Miguel Lugo López, Ph.D. from Cornell University, who worked as research scientist in Soils and Crop production.

The area under study is located a few minutes from the laboratories and building of the Faculty of Agriculture of the University of Puerto Rico at the Mayagüez Campus. It has been used as field laboratory for special classes in Soil Genesis, Classification Soil Survey and Mapping, and specially in fieldwork in the classes of General Plant Ecology, Agrostology and Native Pasture Studies.

Originally most of the area was covered with a type of coastal forest vegetation. These fertile soils were excellent for the cultivation of sugar cane. Hence, when the important sugar mill (Cental Igualdad) was developed in the twenties, most of the tree vegetation was destroyed and the fertile flat lands were planted to sugar cane. The fertile soils of the series Coloso, Talante, etc., were planted to sugar cane for a period of over 20 years and with the decline of sugar production due to development of new industries, came the closure of the sugar mills and the abandonment of the fertile land which was then dedicated to pasture production, specially beef cattle. This period started in the early sixties.

The pastures developed in this region were mainly of native Guinea Grass (Panicum maximum) and Serrillo (Sporobolus indicus) which can not tolerate prolonged flooding, and hence occurred in the drier situations. In the lower areas the pasture grasses that could tolerate wetlands predominated. These were mainly Para Grass or Malojillo (Bracharia purpurescens), Cortadora (Paspalum millagrana), Pink rice grass (Leersia hexandra).

Mayagüez Elite Valley
October, 1999.

With the development of adjacent lands for urbanization along both sides of main road No. 2, the channels and other questionable constructions described elsewhere in this report, the free movement of water along the natural drainage channels were altered, causing the water-soil condition explained fully in the present report.

CONCLUSIONS:

Hence, the disturbance in the natural soil conditions brought about by the intervention of man (See Figures # 13, 15, 16, 31) caused what in ecological terms is called a disclimax in the natural vegetation, and started a natural plant community succession where the natural flow of flood waters were actually closed or changed in directions. Hence, it is obvious that the grasses and shrubs which are at present invading this area can not be considered climax vegetation (which means in equilibrium with soils, water, etc. in said region). Among these grasses are the Matojo Blanco (*Paspalum virgatum*) erroneously called by the layman as "cortadera", which grows under drier situations and is found all over the mountains from Mayagüez, Añasco, Las Marias, Maricao to San Sebastian, Lares and Utuado in hill tops of acid clay soils. It certainly would be a great mistake to consider this and similar species as wetland grasses. The same is true of the shrub *Mimosa pigra*, which during the last few years has invaded this area. It is an invader that has spread to the highlands as well as the dry coastal plains and you can enjoy its dominance in the dry hills close to Boquerón and El Faro de Cabo Rojo. According to the ecologist consulted, it is a great mistake to consider this shrub a wetland indicator. The same is true of several other species for example *Errochlon polystachy* (Malojilla) and *Paspalum fasciculation* (Venezolana), which various puertorrican experts consider that these plants should not be classified as Hydrophitic Vegetation. These prevalent vegetation consists of plants species that are typically adapted for life only in aerobic soils, a guideline for the identification and delineation of Non-Wetlands.

Some of the published information consulted in this report may be obtained from the following publications

<u>AUTHOR</u>	<u>TITLE</u>
O. García Molinari	"Succession of Grasses in Puerto Rico" Rev. Agrícola de P.R. 1949
O. García Molinari	"Grasses and Grasslands of Puerto Rico" Univ. of P.R. Bull. 102 1952
O. García Molinari	Praderas Naturales en el Caribe. Conferencia sobre Producción, Manejo y Utilización de Pastos y Forrajes in Puerto Rico. Servicio de Extensión Agrícola, RUM, Univ. de Puerto Rico, 1987
O. García Molinari	"Annual Report of the Agrostologist Institute of Tropical Agriculture" Annual Report 1944-45
O. García Molinari	Observations on Possible Erosion Control Grasses of P. R., U.S. Dept. Agriculture, Soil Conservation 1939

2.2 B Summary of Available Information on Project Area Soils

A detailed field soil survey was performed in the Mayagüez Elite Valley Project to identify the most typical soils of the study area. Ten transects with a total of 43 pits or Observation Points were evaluated (See Page 15) and by the summarized soils data available it could be determine that the project area soils have been adequately characterized.

Soil description, hydrology and hydrophitic vegetation were evaluated on each observation points according to the Corps of Engineers Wetland Delineation Manual of 1987.

The findings of the soil descriptions indicate that the major soils (95%) of the study area are Talante and Coloso soils. However, there are some Talante soils that occurred on low depressional area as observe on the transect layout of the Mayagüez Elite Valley included on Page 2.11 and in the Initial Delineation Base Map on Page 2.12.

The Talante and Coloso soils are not hydric See Exhibit #25 and Figures #23, #24, #39. However, the Talante soil along Transect VIII, IX, and X that occurs in the low depressional areas was classified as hydric. There are some pits that are located on soil boundaries between two different soils (Talante - Coloso) on transects I and II. Coloso soils are predominantly on transects III and IV. The mayor soil in transects V, VI, VII, and VIII are Talante. The Talante soils that occupied low depressional areas are in transect VIII, IX, and X.

CONCLUSIONS:

The soil investigation in this farm indicates that the dominant (95%) soil types are Talante and Coloso soils. They are not classified as hydric soils and possess characteristics associated with aerobic conditions and are delineated as Not-Wetlands. However, in the project area there is a portion of approximately 75 acres of Talante Soils and 15 acres of "Igualdad" Soils. Both of the above, occurs on a low depressional areas, that are classified as Hydric Soils, mostly do to man-made activities described on Pages 20 to 20F (Data Form #3 Report "Atypical Situations") and Pages 21 to 21A (Table of Events "Man-Induced Changes and Situations").

2.2 C Summary of available Hydrology Data

The hydrology of the project area and surrounding can be adequately characterized and described by analyzing the following sufficient documented evidence of available hydrologic data that demonstrate, using the routine determination method, that the frequent inundation of soil saturation during the growing season doesn't occur in the areas classified as upland on the Initial Delineation Base Map on Page 17. The project area classified as upland doesn't have the criteria for wetland hydrology because:

- A) USGS Quadrangle Maps present the project area with a significant, well-defined drainage pattern (See Figs. 1; 37). Although several Man-Induced Alterations and Changes to these drainage pattern had occurred during the past 35 years (See Figures # 4; 6; 13; 35) and that the area is within a Major Flood-Plain Area "Añasco River Watershed" and classified by Local and Federal Agencies as Flooding Area Number Two Zone. This classification allows development with certain restrictions and conditions (See Exhibits # 1; 4; 5; 6; 15; 16; 23; 24). Presently there is in the project area and surroundings sufficient range of elevation, especially in relation to the elevation of the nearest perennial watercourse. See Figures # 1; 23; 24; 33; 34 and see Exhibits # 1; 6; 8; 10; 11; 23; 24.
- B) The area classified as Upland on the Initial Delineation Base Map (See Page 17) are not shown as a Wetland or Deepwater Aquatic Habitat on the NWI Maps
- C) EIAs and EISs done by private entities (See Exhibits # 22; 32), local and federal agencies. See Exhibits # 31 Figures # 38; 25; 26.
- D) Floodplain Management Maps: The frequency of inundation is established by extrapolated elevations of floodplain management maps and comparing the elevation range of the project area and the results are that local (P.R Planning Board Exhibits # 1; 5; 6) and Federal Agency (FEMA See Exhibits # 23; 24) classified the project area as Flooding Area Number Two taking in consideration the effects of the frequency of inundation establish on the Flooding Area Number One Zone within the Añasco River Watershed.

2.3 ROUTINE DETERMINATIONS (Section D-Part IV COE 1987 WDM)

- Step 1** -- Locate the Project Area on U.S.G.S. Quadrangle Map (See Figure #1); Aerial Photography (See from Figure #2 to Figure #22) Project Survey and applicant Topography Map (See Figure #27, 30).
- Step 2** -- Data Form #1 Report List (Routine Wetland Determination).
- Step 3** -- Identification of Atypical Situation. Determination made in Section D indicates that several atypical situations exist within specific identified wetland areas. In the Routine Determination Method, these areas are identified as Atypical Wetlands due to man induced on-site and off-site alterations or modifications affecting project area Vegetation and or Hydrology, are present And it should be use the method described in Section F, Subsection 3.

Mayagüez Elite Valley
October, 1999.

2.3A Subsection 3-Combination of Subsect. 1-Onsite Inspection Unnecessary and Subsect. 2 -Onsite Inspection is Necessary.

In this specific case, where the 200 acres of "Mayagüez Elite Valley" Project is considered a large project, applies the Subsection 3 which is a combination of Subsection 1 and Subsection 2, of Section D "Routine Determination" Part IV of the COE 1987 WDM.

Subsection 1- states that Onsite Inspection is unnecessary because all three parameters were adequately characterized and there is sufficient data available from **Pages 5 and 5A and Page 6 and Pages 7 to 11** with in section B part IV of the COE 1987 WDM which to enable a Wetland Determination for 45% (90 acres) of Mayagüez Elite Valley Project's 200 acres and Non-Wetland Determination for 30% (50 acres) of Mayagüez Elite Valley Project.

Subsection 2- States that Onsite Inspection was necessary or required to establish a Wetland or Non-Wetland Determination for the remainder 25% area of 50 acres with highly diversified or complex with respect to vegetation and because the available information in Section B is insufficient for all three parameters, it was needed to complete the procedures for a Routine Determination. Hydrology and Vegetation parameters have been significantly altered by several Offsite and Onsite Activities (See Page 20F) that would normally require a Permit. Afterwards, we proceeded to Section F (See Pages 18 to 20E) and then it was determined that there is sufficient evidence that Hydrophytic Vegetation and Wetland Hydrology were not present prior to these alterations. So by returning from Section F to Section D- Subsec. 2, we are emphasizing in characterizing Soils (See Pages 10 and 14 and Exhibit #37), which is the only Parameter not significantly influenced by human activities

The Baseline was established using a length of 2 km of State Road PR-2 and included on a Base Map on a 1997 Color Photo and a Summary Map on a Mylar of a 1997 Photo, Scale 1:5000, (See Page 17). Along the baseline it was determined the position of the 10 transects in which 43 observations points or pits were established on different plant community type. (See Page 15). " Transect Layout of Mayagüez Elite Valley Project" where the pits identification number identify the Soil Series and Low- Depressional Area with precise coordinate table location of all 43 observation points along selected 10 transects were established in a Survey Data (See Page 15).

At each and all 43 observation points or pits, sufficient field data was obtained and recorderd all 43 Data Form #1 (See Page 14) so that all three parameters were characterized by field observation and it was determined that wetland indicators of all three parameters were normally present during a significant portion of the growing season in seven of a total of 43 observation points or pits. Finally, the Wetland-Nonwetland boundaries on the Base Map were delineated by connecting the observation points that represent wetland boundaries on the base map and by following contour lines to separate Wetland from Non-Wetland (See Page 17).

Mayagüez Elite Valley
October, 1999

2.3B INCLUDED ARE 43 DATA FORM #1-REPORT LIST OF "ROUTINE WETLAND DETERMINATION SECTION D, PART IV - COE 1987 WETLAND DELINEATION MANUAL, OF DATA FIELD OBTAINED FROM 43 OBSERVATION POINTS OR PITS ALONG (10) TRANSECTS STARTING FROM STATE ROAD NUM. 2 AS THE BASELINE. REFER TO EXHIBIT # 37.

2.3C SURVEY DATA-COORDINATE TABLE FOR PRECISE LOCATION OF
ALL 43 OBSERVATION POINTS ALONG SELECTED 10 TRANSECTS.

<u>TRANSECT NUM. I</u>		<u>TRANSECT NUM. IV</u>		<u>TRANSECT NUM. VII</u>	
Points	Coordinate	Points	Coordinate	Points	Coordinate
1-1	46289.5631 N 75408.8073 E	IV-1	45995.3618 N 75400.3938 E	VII-1	45519.5203 N 75150.0000 E
1-2	46289.5631 N 75341.4261 E	IV-2	45995.3618 N 75300.7663 E	VII-2	45519.5203 N 74950.0000 E
1-3	46289.5631 N 75282.0052 E	IV-3	45995.3618 N 75290.0000 E	VII-3	45519.5203 N 74785.8452 E
1-4	46289.5631 N 75222.5852 E	IV-4	45995.3618 N 75280.0000 E		
1-5	46289.5631 N 75005.4874 E	IV-5	45995.3618 N 75240.3210 E		
1-6	46289.5631 N 74720.2993 E				
<u>TRANSECT NUM. II</u>		<u>TRANSECT NUM. V</u>		<u>TRANSECT NUM. VIII</u>	
Points	Coordinate	Points	Coordinate	Points	Coordinate
II-1	46221.2449 N 75373.3407 E	V-1	45826.8587 N 75150.0000 E	VIII-1	45388.1773 N 75150.0000 E
II-2	46221.2449 N 75363.3407 E	V-2	45826.8587 N 74950.0000 E	VIII-2	45388.1773 N 74855.5646 E
II-3	46221.2449 N 45315.2687 N	V-3	45826.8587 N 74884.4223 E	VIII-3	45388.1773 N 74773.9620 E
II-4	75353.3407 E 46221.2449 N	V-4	45826.8587 N 74620.1107 E	VIII-4	45388.1773 N 74688.0390 E
II-5	75334.7129 E 46221.2449 N	V-5	45826.8587 N 74500.0000 E	VIII-5	45388.1773 N 7458.7695 E
II-6	75229.2573 E 46221.2449 N				
	75153.5802 E				
<u>TRANSECT NUM. III</u>		<u>TRANSECT NUM. VI</u>		<u>TRANSECT NUM. IX</u>	
Points	Coordinate	Points	Coordinate	Points	Coordinate
III-1	46090.6197 N 75400.3938 E	VI-1	45735.7416 N 75150.0000 E	IX-1	45315.2687 N 74810.0000 E
III-2	46090.6197 N 75371.3868 E	VI-2	45735.7416 N 74950.0000 E	IX-2	45315.2687 N 74773.8620 E
III-3	46090.6197 N 75243.7474 E	VI-3	45735.7416 N 74894.5607 E	IX-3	45315.2687 N 74688.0390 E
		VI-4	45735.7416 N 74585.7695 E		
				<u>TRANSECT NUM. X</u>	
				Points	Coordinate
				X-1	45100.0000 N 74800.0000 E
				X-2	45100.0000 N 74780.0000 E
				X-3	45100.0000 N 74550.0000 E

2.3D TRANSECT LAYOUT OF MAYAGUEZ ELITE VALLEY PROJECT

Total Pits	Transect num.	Pits Identification num.	Soil Series Identify
6	I	I-1	Coloso low Depressional Area
		I-2	Talante/Coloso
		I-3	Talante
		I-4	Talante
		I-5	Talante
		I-6	Talante
6	II	II-1	Coloso Low Depressional Area
		II-2	Coloso
		II-3	Coloso Low Depressional Area
		II-4	Talante/Coloso
		II-5	Talante
		II-6	Talante
3	III	III-1	Coloso
		III-2	Coloso
		III-3	Talante
5	IV	IV-1	Coloso
		IV-2	Coloso
		IV-3	Coloso Low Depressional Area
		IV-4	Coloso
		IV-5	Coloso
5	V	V-1	Coloso
		V-2	Talante
		V-3	Talante
		V-4	Talante
		V-5	Talante
4	VI	VI-1	Coloso
		VI-2	Talante
		VI-3	Talante
		VI-4	Talante
3	VII	VII-1	Coloso
		VII-2	Talante
		VII-3	Talante
5	VIII	VIII-1	Coloso
		VIII-2	Talante
		VIII-3	Talante
		VIII-4	Talante Low Depressional Area
		VIII-5	Talante Low Depressional Area
3	IX	IX-1	Talante
		IX-2	Low Depressional Area
		IX-3	Low Depressional Area
3	X	X-1	Talante
		X-2	Low Depressional Area
		X-3	Talante

Mayaguez Elite Valley
October, 1999.

2.4 ATYPICAL SITUATIONS (Section F-Part IV of COE 1987 WDM)

Atypical Situations refers to areas in which one or more Parameters (vegetation, soil and/or hydrology) have been sufficiently Altered by Past and Recent Human Activities or natural events to preclude the presence of wetland indicators of the Parameter. This section is applicable to delineation made in the following types of situations: a) Unauthorized Activities b) Man-Induced Wetlands "Table of Events of Man-Induced Changes and Situations", (See Page 21 and Page 21A) that determine the Project Area represent a potential Man-Induced Wetland but we couldn't find the current COE Regulations and Policy regarding Man-Induced Wetland that exempt the Project Area of further action and permits.

2.4A ENVIRONMENTAL DESCRIPTION (Subsection 3 with in section F)

Description of General Diagnostic Environmental Characteristics onsite and offsite of the referred project area will help to determine whether positive indicators of hydric soils, hydrophilic vegetation and/or wetland hydrology existed prior to onsite and offsite man-induced alterations on reference project area.

The present situation of the referred project area is that it is a low land area of approximately 200 acres, located at Algarrobos and Sabanetas wards, northern part of Mayagüez, Puerto Rico. This area is hydrologically classified flooding zone II, where placement of fill material is authorized by FEMA and local agencies. The majority of its area is nether deepwater aquatic habitat, wetland nor other special aquatic site. It has saturated soils for only brief periods during the growing season in 70% of its soils, the other 30% is considered an impoundment or atypical wetland, and are classified non-hydric in 95% of its soil. It normally supports a prevalence of vegetation typically adapted to thrive only in aerobic soil conditions.

Before 1963 the prevalence vegetation on the project area was cropland with sugar cane high yield cultivation, with an efficient drainage pattern. This cropland agricultural product was discontinued because the drainage channels pattern were affected, causing impoundment on project area due to the realignment of the Algarrobos and "El Maní" channels, and dredge and fill material placement by PRIDCO into a deepwater aquatic habitat as is Mayagüez Bay, finished on November 1963 (See Figures #35;37;38;39;40 and Exhibit #26). That's why Soil Conservation Service had to design new drainage channels in 1964 to try to improve the affected drainage pattern. Final works for the Boquilla channel were completed in 1972. In doing so, Soil Conservation Service had to remove approximately 8 acres of mangrove located on the Boquilla Natural Reserve. As a result, the channel construction of the Boquilla Unit finished in that area is much improved. This is due to opening of the channels, which were so clogged, and shallow that fish could not freely move through them. Now fish do move from the sea upstream through all existing channels connected to the Boquilla Natural Reserve.

The Commonwealth Department of Agriculture made the initial application for the Añasco River Watershed Project in august of 1958. Planning on the project was started on January 1959. The work plan was completed and approved by Congress in September 1962, a work plan supplement was approved deleting those sites in August 1964 (See Figure #25). La Boquilla channel, the first construction unit, was completed by Soil Conservation Services on June of 1972. The Commonwealth Department of Natural Resources will be responsible for the operation and maintenance of the structural measures.

For the smaller drainage areas near Mayaguez (La Boquilla), a historical series was developed from the U.S. Weather Bureau Station records at Mayagüez. In these sub-watersheds, more frequent storm events occur and damages are caused by runoff from their own watersheds, rather than from the Añasco River. The average annual rainfall at stations in or near the watershed varies from 80 inches at Mayagüez to 105 inches in

Maricao. As you can deduct from what I have written in the above paragraph, the referred project area watershed flooding is sufficient to cause serious drainage problems. This situation is aggravated by the potential man-induced authorized and unauthorized alterations done in Punta Algarrobos area in 1961 and in 1972, the Boquilla tube bridge obstacle outlet to the sea, the onsite placement of fill material on two (2) existing drainage channel northern part of project areas at "Camioneros" property, and the two existing drainage channels west and south of the K-Mart property filled recently. A record of significant storm events in the Añasco River watershed, from 1928 to 1974 can be seen in Figures #33 and #34.

Examples of present or future government involvement in correction of alterations done by the government in the past with or without the approval of Corps of Engineers.

1. The recent building of elevated bridge at the Boquilla creek outlet to the sea. (See Figure #32)
2. To carry out what was recommended in 1971 by the Planning Board on improvements to the Hydraulic System of "El Maní" (creek) actually reevaluated and approved in 1989 H/H Study by Federal and Local Agencies.
3. At the Algarrobos creek and "El Maní" creek, correction of the realignment of existing Algarrobos stream channels in 1963 due to discharge of dredge and fill material on a deepwater aquatic habitat on Mayagüez Bay (PRIDCO Property). And this would be corrected by approving March 1993 Hydrologic-Hydraulic Study done by Law Environmental to be presented in the near future to the Planning Board of P.R. (See Figures #27;28).

Mayaguez Elite Valley
October, 1999

2.4B DATA FORM #3 REPORT "ATYPICAL SITUATIONS"

DATA FORM #3

ATYPICAL SITUATIONS

Applicant	Application	Project
Name: <u>Investment GP & SR, Inc.</u>	Number: _____	Name: <u>Mayaguez Elite Valley</u>
Location: <u>Mayaguez, P.R.</u>	Plot Number: <u>I-1</u>	Date: <u>August 17, 1999</u>

A. VEGETATION:

1. Type of Alteration: _____ N/A _____
2. Effect on Vegetation: _____ N/A _____
3. Previous Vegetation: There were none because this area is considered a drainage ditches
(Attach documentation)
4. Hydrophytic Vegetation? Yes X No _____

B. SOILS:

1. Type of Alteration: Original Soil of existing drainage ditches (Sanja) channel covered by 19 inches of sediment deposit.
2. Effect on Soils: Original Soil buried since 1972 (See Figures #25:#26) with sediment deposit, depleted matrix, high concentration of reddish mottles and several concretions on a Horizon, reducing conditions and Low-Chroma Colors.
3. Previous Soils: Bottom of Drainage Ditches for past Rail Way have a Coloso Silty Clay Soil.
(Attach documentation) (See Figure #23)
4. Hydric Soils? Yes _____ No X

C. HYDROLOGY:

1. Type of Alteration: 18 inches of Sediment Deposit on original drainage ditches.
2. Effect on Hydrology: Changed and Poor drainage pattern causing impoundment areas that would no longer exist if these sediments deposits were removed from the referred ditches.
3. Previous Hydrology: Examination of 1936 and 1951 photo (See Figures #2; #3) showed sugar cane crops with the correct maintenance of its drainage channels and ditches.
(Attach documentation)
4. Wetland Hydrology? Yes _____ No X

Characterized by Gilberto Acevedo Ramos
Mr. Gilberto Acevedo Ramos

Mayaguez Elite Valley
October, 1999

2.4B DATA FORM #3 REPORT "ATYPICAL SITUATIONS"

DATA FORM #3

ATYPICAL SITUATIONS

Applicant	Application	Project
Name: <u>Investment GP & SR, Inc</u>	Number: _____	Name: <u>Mayaguez Elite Valley</u>
Location: <u>Mayaguez, P.R.</u>	Plot Number: <u>L-4</u>	Date: <u>August 17, 1999</u>

A. VEGETATION:

1. Type of Alteration : _____ N/A
2. Effect on Vegetation : _____ N/A
3. Previous Vegetation : _____ Sugar Cane Crops. (See Figures #2; #3).
(Attach documentation)
4. Hydrophytic Vegetation? Yes X No _____

B. SOILS:

1. Type of Alteration : _____ Adjacent to soil originally covered by 3 feet of Fill Material excavated from "La Boquilla" Channel.
2. Effect on Soils : _____ Original soil buried after 1972, causing depresional areas due to berms of dredge material (sediment). (See Figure #31).
3. Previous Soils : _____ Talante Loam is the original soil examined at 2 feet below original soil surface.
(Attach Documentation)
4. Hydric Soils? Yes _____ No X

C. HYDROLOGY:

1. Type of Alteration _____ Berms of 3 feet of Fill Material placed on original surface.
2. Effect on Hydrology: _____ Depresional Areas causing impoundment and inundated areas that would no longer exist if these Berms were removed. (see Figure #31).
3. Previous Hydrology: _____ 1972 Photo showed Boquilla Channel built by SCS (See Figures #25;#26: and the creating of Berms. before 1972 good Drainage System existed with Non-Wetland Hydrology and good Sugar Cane yield production. (See Figures #2;#3).
(Attach Documentation)
4. Wetland Hydrology? Yes _____ No X

Characterized by: Mr. Gilberto Acevedo Ramos

Mayagüez Elite Valley
October, 1999

2.4B DATA FORM #3 REPORT "ATYPICAL SITUATIONS"

DATA FORM #3

ATYPICAL SITUATIONS

Applicant	Application	Project
Name: <u>Invest. GP&SR, Inc.</u>	Number: _____	Name: <u>Mayagüez Elite Valley</u>
Location: <u>Mayagüez P. R.</u>	Plot Number: <u>II-1</u>	Date: <u>August 17, 1999</u>

A. VEGETATION:

1. Type of Alteration: N/A
2. Effect on Vegetation: N/A
3. Previous Vegetation:
(Attach documentation) N/A
4. Hydrophytic Vegetation? Yes No

B. SOILS:

1. Type of Alteration: Original Soil of existing Drainage Channel covered by 20 inches of sediment deposit.
2. Effect on Soils: Original Soil buried since 1972 with sediment deposit. Depleted matrix and high concentration of reddish masses.
3. Previous Soils:
(Attach documentation) Bottom of Drainage Channel for Past Rail Road Way. Have a Coloso Silty Clay loam Soil. (See Figure #23).
4. Hydric Soils? Yes _____ No

C. HYDROLOGY:

1. Type of Alteration: 20 inches of Sediment Deposit on original drainage channel.
2. Effect on Hydrology: Poor channel drainage Pattern causing Impoundment areas that would no longer exist if these sediments were removed.
3. Previous Hydrology:
(Attach documentation) Examination of 1936 and 1951 photo showed sugar cane crops with the correct maintenance of its drainage channels and ditches.
4. Wetland Hydrology? Yes _____ No

Characterized by: Gilberto Acevedo Ramos
Mr. Gilberto Acevedo Ramos

Mayaguez Elite Valley
October, 1999

2.4B DATA FORM #3 REPORT "ATYPICAL SITUATIONS"

DATA FORM #3

ATYPICAL SITUATIONS

Applicant	Application	Project
Name: <u>Investments GP&SR, Inc.</u>	Number: _____	Name: <u>Mayaguez Elite Valley</u>
Location: <u>Mayaguez</u>	Plot Number: <u>II-3</u>	Date: <u>August 17, 1999</u>

A. VEGETATION:

1. Type of Alteration : _____ N/A _____
2. Effect on Vegetation: _____ N/A _____
3. Previous Vegetation : There were none because this area is considered a drainage ditches.
(Attach documentation)
4. Hydrophytic Vegetation ? Yes _____ X _____ No _____

B. SOILS:

1. Type of Alteration : Original soil of existing drainage channel or ditch covered by 19 inches of sediment deposit.
2. Effect on Soils : Original Soil buried since 1972 (See Figures #25; #26) with sediment deposit depleted matrix, high concentration of redish mottles and several concretions on a Horizon.
3. Previous Soils : Bottom of Drainage Ditches for rust Rail Way. Have a Coloso Siltv Clay Soil. (See Figure #23).
(Attach documentation)
4. Hydric Soils ? Yes _____ No _____ X _____

C. HYDROLOGY

1. Type of Alteration 19 inches of sediment deposit on original drainage ditches.
2. Effect on Hydrology Changed and poor drainage pattern causing wetland by ponding that would no longer exist if these deposits were removed from the refered ditches.
3. Previous Hydrology: Examination of 1936 and 1951 (Attached documentation) Photos (See Figures #2; #3) showed sugar cane crops with the correct maintenance of its drainage channels and ditches.
4. Wetland Hydrology? Yes _____ No _____ X _____

Characterized by Gilberto Acevedo Ramos
Mr. Gilberto Acevedo Ramos

Mayagüez Elite Valley
October, 1999

2.4B DATA FORM #3 REPORT "ATYPICAL SITUATIONS"

DATA FORM #3

ATYPICAL SITUATIONS

Applicant	Application	Project
Name: <u>Investments GP&SR, Inc.</u>	Number: _____	Name: <u>Mayagüez Elite Valley</u>
Location: <u>Mayagüez, P.R.</u>	Plot Number: <u>II-6</u>	Date: <u>August 17, 1999</u>

A. VEGETATION:

1. Type of Alteration : N/A
2. Effect on Vegetation : N/A
3. Previous Vegetation : N/A
(Attach documentation)
4. Hydrophytic Vegetation ? Yes X No _____

B. SOILS:

1. Type of Alteration : Original Soil of existing drainage channel covered by 8 feet of Fill Material.
2. Effect on Soils : Original soil buried in oct. 1989 (See Figures #6 ; #13; 23).
3. Previous Soils : Talante Loam- Figure # 23.
(Attach documentation)
3. Hydric Soils ? Yes _____ No X

C. HYDROLOGY:

1. Type of Alteration 8 feet of unauthorized deposit of fill material on existing drainage channel located at Orlando González Trucking Property COE Cease and Desist. Order Num. 89-67066.
2. Effect on Hydrology Changed and Poor Drainage Pattern causing impoundment and inundated areas creating an artificial wetland hydrologic condition along Transects Num. I,II,III,IV.
3. Previous Hydrology Examination of 1974 and 1989 Photos showed the drainage channel before and after Fill Material deposit (See Figures #6, #13 and 36 and Exhibit #31.
(Attach documentation)
4. Wetland Hydrology ? Yes _____ No X

Characterized by Gilberto Acevedo Ramos
Mr. Gilberto Acevedo Ramos

Mayagüez Elite Valley
October, 1999

2.4B DATA FORM #3 REPORT "ATYPICAL SITUATIONS"

DATA FORM #3

ATYPICAL SITUATIONS

Applicant	Application	Project
Name: <u>Investments GP & Sr. Inc.</u>	Number: _____	Name: <u>Mayagüez Elite Valley</u>
Location: _____	Plot Number: <u>IV-3</u>	Date: <u>August 17, 1999</u>

A. VEGETATION:

1. Type of Alteration: N/A
2. Effect on Vegetation: N/A
3. Previous Vegetation : N/A
(Attach documentation)
4. Hydrophytic Vegetation? Yes _____ X _____ No _____

B. SOILS:

1. Type of Alteration: Original Soil of Existing Drainage Channel covered by sediment deposit.
2. Effect on Soils: Few and distinct mottle with Hydric Soil Indicators of Reducing Conditions, Gleyed or Low Chroma Colors, Concretions.
3. Previous Soils: Bottom of existing drainage channel classified Coloso Silty
(Attach documentation Clay Loam.)
4. Hydric Soils? Yes _____ No X _____

C. HYDROLOGY:

1. Type of Alteration: Sediment and Fill Material deposit since 1995 on existing Drainage Channel on Western Plaza Project.
2. Effect on Hydrology: Changed and poor drainage pattern causing Impoundment or ponding around Plot Num IV-3.
3. Previous Hydrology: Previous 1995 a normal Drainage System existed on Plot
(Attach documentation) Num. IV-3 (See Figures #6, #20).
4. Wetland Hydrology ? Yes _____ No X _____

Characterized by: Gilberto Acevedo Ramos
Mr. Gilberto Acevedo Ramos

Mayagüez Elite Valley
October, 1999

2.4B DATA FORM #3 REPORT "ATYPICAL SITUATIONS"

DATA FORM #3

ATYPICAL SITUATIONS

Applicant	Application	Project
Name: <u>Investments GP&SR, Inc.</u>	Number:	Name: <u>Mayagüez Elite Valley</u>
Location: <u>Mayagüez, P.R.</u>	Plot Number: <u>IX-2</u>	Date: <u>August 17, 1999</u>

A. VEGETATION:

1. Type of Alteration: Hydraulic System changes cause changes in Hydrology which At the same time causes changes in vegetation.
2. Effect on Vegetation: Vegetation totally changed from Upland (sugar cane crop) to Wetland (Cyperus and Typha).
3. Previous Vegetation: Sugar cane crop good yield. (See Figures #2; #3; #4).
(Attach documentation)
4. Hydrophytic Vegetation? Yes No

B. SOILS:

1. Type of Alteration: Water on the surface.
2. Effect on Soils: Changes in texture; matrix and Hydric Soil indicators.
3. Previous Soils: Non-hydric talante loam.
(Attach documentation)
4. Hydric Soils? Yes No

C. HYDROLOGY:

1. Type of Alteration: Authorized and unauthorized Onsite and Offsite Potential Man-Induced alterations in Hydrology occurred recently and in the past. (See Pages 21 to 21A - Table of Events).
2. Effect on Hydrology: Changed and poor drainage pattern causing impoundment and inundated areas, creating an Artificial Wetland Hydrologic condition.
3. Previous Hydrology: Previous 1961, good drainage system existed with non-wetland hydrology and from 1961 to 1995 Wetland Hydrology is due to man-induced alterations and modifications. (See Pages 21 to 21A).
(Attach documentation)
4. Wetland Hydrology? Yes No

Characterized by: Gilberto Acevedo Ramos
Mr. Gilberto Acevedo Ramos

2.4 C TABLE OF EVENTS (Man-Induced Changes and Situations)

ACTIVITY DESCRIPTION	YEAR	LOCATION	HYDROLOGICAL RESULTS ONSITE REFERENCE AREA
1a. COE approval for induced wetland discharge of dredged and fill material on 35 acres at Mayaguez Bay. Proposed Cogentrix. Site See Exhibit # 26; Fgs. # 35; 37; 38; 4; 40; 41	1960 to 1963	Offsite	Impoundment resulting from filling at Mayaguez Bay.
1b. This included the unauthorized realignment of Algarrobos Creek at Punta Algarrobos outlet to the sea at the existing proposed site for Cogentrix. See Figures # 35, 4, 37, 40, 41.	1960 to 1963	Offsite	Potential man-induced wetland resulting from impoundment due to stream channel realignment. Backflow effect, which significantly altered the Project Area Hydrology.
2a. SCS designed drainage channels and ditches from impoundment pattern for the 400 acres land (Bo. Sabanetas) including the 32 acres. Due to water impoundment which was negatively affecting yields of the sugar cane crops in the subject land, water from channels was directed toward the Algarrobos Creek in this desing. See Figures # 6; # 25	1964	Offsite and Onsite	Induced wetland resulting since designed channels were not done.
2b. Construction of channels with berms for proper maintenance. In this construction the water from the channels was finally directed to Boquilla Creek instead of Algarrobos Creek due to (ongoing) fill of 80 acres at Rexach land at that time. See Figs. #6; 31; 25; 26	1972	Onsite And Offsite	Wetlands resulting from impoundment due to drainage ditches realignment.
2c. Channels lack proper maintenance by the Natural Resource Department, since inactivation followed the recommendations to that department after the EIS on Añasco River Watershed. See Figure #31.	1976	Onsite and Offsite	Wetlands resulting from impoundment, which significantly altered the Project Area Hydrology.
3a. SCS re-alignment of Boquilla Creek from East-West to present South-North direction. See Figures #6; 25; 26	1972	Offsite	Wetland resulting from impoundment due to stream channel realignment. Backflow Effect.
3b. Installation of small diameter pipes in the Boquilla Creek outlet to the sea served as an obstacle for a proper downflow. See Fig. #3; 10; 32	1972	Offsite	Wetland resulting from impoundment due to backflow of the Boquilla Creek at the subject land location.

Mayaguez Elite Valle
October, 1999

ACTIVITY DESCRIPTION	YEAR	LOCATION	HYDROLOGICAL RESULTS ONSITE REFERENCE AREA
4. Authorized fill material placement in 80 acres of Rexach property for an approved residential development of 1,300 units, conditioned to hydrologic improvements in the Mani Creek. The latter Was never Done by the Government but is currently proposed by Investments GP&SR, Inc. and Approved by the Commonwealth of P.R. (1989. H/H Study Approved) See Figure #6 See Exhibits # 2; 3, 6.	1971 to 1974	Offsite and Onsite	Onsite impoundment resulted due to an alteration of drainage pattern at the subject land after Fill Material placement which significantly altered the Project Area Hydrology.
5. Unauthorized placement of fill material on existing drainage channel located at Camioneros (Coop) Property Transport. See Figures # 6; 7; 8	1985	Offsite	Wetland Hydrology resulting from impoundment due to backflow of existing channels once the mentioned channel was blocked with Fill Material disconnecting project area Drainage System to La Boquilla Reserve.
6. Unauthorized (Case #89-57-066) placement of fill material on existing drainage channel locate at " Rodriguez Trucking" and the partial restoration recommended by COE'S San Juan office, contrary to COE jacksonville's office recommendations on permit 89-IPW-90684 See Exhibit #31 See Figure #13, 36; 6.	1989 to 1999	Onsite and Offsite	Wetland Hydrology resulting from impoundment due to backflow of existing channels once the mentioned channel was blocked with Fill Material and disconnecting Project Area Drainage System to "La Boquilla" Reserve, which significantly altered the Project Area Hydrology.
7. Inappropriate cleaning of Boquilla channel and ditches by DRN and Mayaguez Municipal Government. See Figure #31.	1989 to 1999	Onsite and Offsite	Wetland Hydrology resulting from impoundment due to Sediment Deposit on maintenance Berms which altered Project Area Hydrology.
8. Unauthorized Placement of fill Material on two existing drainage channel located on Western Plaza Shopping Center. See Figures # 1; 18, 20; 21.	1993 and 1995	Onsite	No drainage conection to La Boquilla Reserve causing wetland hydrology from Onsite impoundment due to backflow Existing Disconnected channels.

CHAPTER 3: CONCLUSIONS

Based on the result of this evaluation, the following conclusions are made:

- After the obtention of Data Field and the technical interpretation of 43 Observation Points included in the Report of 43 Data Form #1, which is recommended by the Corp of Engineers as the Official Document to be used for the Routine Delineation or Determination of Wetland and Not-Wetland areas.

There is sufficient and overwhelming documented evidence which states that the Mayagüez Elite Valley Project has developed at least some characteristics of artificial occurring wetlands due to atypical situation created by intentional human activity with and/or without Local and/or Federal Permits or Approvals. The approach in making the referred project area COE's Jurisdictional Determination must be based on the presence of Wetland Hydrology before and/or after, Onsite and/or Offsite alterations or modifications that did significantly alter the reference project area vegetation as a Potential Man-Induced Artificial Wetland on 45% (90 acres) of referred project, the remaining 110 acres (55%) are determined and classified as Non-Wetland because one or more parameters of Wetland Indicators are absent.

- After discussion and analysis of Potencial Man-Induced Changes and Situations (See Page 21 and Page 21A "Table of Events") which created the referred wetlands, we believe the area should not be considered a Wetland because hydrophitic vegetation is being maintained only because of Man-Induced Wetland Hydrology that would no longer exists if these activities or alterations were to be terminated, rectified or corrected. This Report is included on the Data Form #3 of Seven Atypical Situations from Page 20 to 20 F.
- Corps regulations state that under normal circumstances, there must be a prevalence of vegetation typically adapted for life in saturated soil conditions, but normal circumstances end when an activity (done by landowner, Local or Federal Agency) modify the Onsite and Offsite Hydrological conditions of the project area.
- The proposed use or activity on referred project area of 200 acres should be exempted from permit requirements by Virtue of Equitable Grounds. For example, certain activities are under the "Grandfather Clause" which are exempted because the normal and natural activities on the project area are such that should not be considered a wetland.
- It's obvious that Corps cannot expand it's own jurisdiction by creating wetlands conditions, as is the case where Corps own intervention in 1959, authorizing a discharge of Dredge and Fill Material on a deepwater aquatic habitat, realignment of stream Algarrobos Channel outlet to the sea on Punta Algarrobos, and COE unauthorized or not intervention in (1) past tube bridge obstacle on the Boquilla outlet to the sea, (2) unauthorized placement of Fill Material on four existing drainage

Mayagüez Elite Valley
October, 1999.

channels that had created Onsite floodable area and deficient drainage system in some parts of reference project area, generating 90 acres of impoundment artificial wetland due to backflow effect, which significantly altered the project area hydrology and vegetation where no such ecological system had existed in the past. (3) Total disconnection of project drainage system to La Boquilla Reserve.

- Past-1968 COE Intervention Grandfather Clause Application-state that: The Corps of Engineers (COE) won't have any responsibility of the results of COE past 1968 Permits or Determinations. It is obvious that COE does not have jurisdiction of Mayagüez Elite Valley 90 acres of impoundment Artificial Wetland because it is as a result of a Grand Father Clause 1960 COE Permit.
- The majority of Figures & Exhibits showed in this document, were used in the Data Gathering and Synthesis, specially in the past and present Project Area Vegetation. It also demonstrates the tendency of the Government of Puerto Rico during the past 30 years, to build the infrastructure needed within heavily Commercial and Residential Urban Areas in the peripheral area of Mayagüez Elite Valley.
- Developing this area, will not only minimize the impact on present Artificial Wetland Areas existing in Mayagüez Elite Valley Project but also the Ecological Value will be increasing Onsite and Offsite Project Area.

CHAPTER 4: RECOMMENDATIONS

- The primary proposed activity contemplated on the proposed Master Plan is to create a practicable alternative site (Hydrologic and Hydraulic works) which would mitigate by rectifying, reducing and compensating for loss of deepwater aquatic habitat which had been discharged with Dredge and Fill Material (PRIDCO property) by improving existing traditional Wetland, as for example in the Natural Reserve of Boquilla and creating new deepwater aquatic habitat of high ecological wetland value, improving present conditions either Onsite or Offsite as is the reference project area (Onsite) primary proposed activity or phase of great public interest.

Examples:

1. Removal of Fill Material placed on an existing drainage channel (Camioneros Property Violations No. 89-57-066) and two other drainage channels West and South of K-Mart Shopping Center Onsite 62 acres.
2. Construction (already done) of a new elevated bridge on Boquilla Creek outlet to the sea.
3. The damage caused by the realignment of an existing channel (Algarrobos and El Mani) and the placement of Dredge and Fill Material on 35 acres of deepwater habitat located on Punta Algarrobos (Southwest of project area) would be corrected by approving the recommendations included on March 1993 and 1965 Hydrologic and Hydraulic Study done by Law Environmental-Caribe and P.R. Planning Board respectively.
4. Implementation of Department of Defense - DoD's Environmental Justice Strategy, Executive order 12898, that will be presented by the Minority and Low Income El Mani Community with the help of Leaders of the Environmental Justice Movement "Mayagüezanos Pro-Ambiente y Salud" which have taken leadership roles in this process, in coordination with Local and Federal Interagency and Intergovernmental with EPA as the Leading Agency.

Mayagüez Elite Valley
October, 1999.

FIGURES



DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT CORPS OF ENGINEERS, ANTILLES OFFICE
400 FERNANDEZ JUNCOS AVENUE
SAN JUAN, PUERTO RICO 00901-3299

February 17, 1994

REPLY TO
ATTENTION OF
Regulatory Section
199250137(JF-JT)

SUBJECT: Jurisdictional Determination for K-Mart Project,
El Maní Sector, Mayaguez, Puerto Rico

Mr. Frank Torres
Ecosystems & Associates
P.O. Box 879
Humacao, Puerto Rico 00792

Dear Mr. Torres:

This is in response to your request for a jurisdictional determination. Enclosed is an aerial photograph showing approximately the Corps of Engineers jurisdiction on the study area.

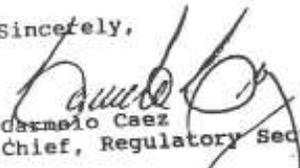
The study area has been determined to be uplands.

We have made this determination based on our judgement considering the best information available. This determination applies only to this case and shall not be understood to establish any precedent to be applied in any other case past or future. It may be that in the future after study of another area showing some of the characteristics present in this case, the area may be determined to be a wetland. The Corps continues to study and consider situations where there is hydrophytic vegetation on clayey soils and where the soils may be classified as hydric solely on the basis of ponding without any indication of prolonged saturation.

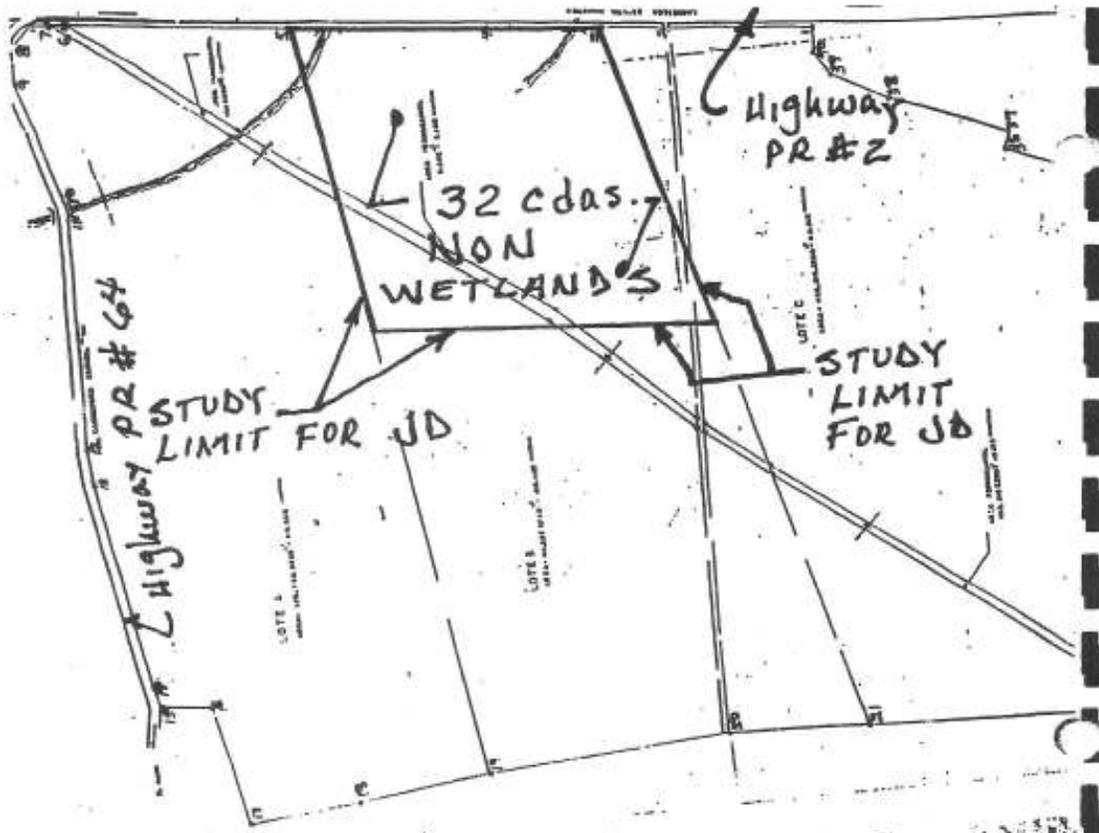
Please be advised that this determination reflects current policy and regulations, and is valid for a period no longer than three years from the date of this letter. If after the three year period this determination has not been specifically revalidated by the Corps of Engineers, it shall automatically expire.

Thank you for your cooperation with our Regulatory Program. If you have any questions concerning this matter, please contact this office at telephones 729-6905/6944, or at the letterhead address.

Sincerely,


Carmelo Caez
Chief, Regulatory Section

COE Antilles Office-Regulatory Section, Feb. 17, 1994
Jurisdictional Determination (JD) Numbered 199250137 (JT-JD).



U.S. ARMY CORPS OF ENGINEERS ANTILLES AREA OFFICE JURISDICTIONAL DETERMINATION JD No. <u>3992 50187 (JF-77)</u>	LOCATION: <u>El Mani Sector</u> <u>Mayaguez, P.R.</u>
FIELD WORK BY: <u>Jose A. Torres</u> JOSE A. TORRES CORPS BIOLOGIST <u>17 FEB 94</u>	APPROVED BY: <u>Carmelo Caez</u> CARMELO CAEZ CHIEF, REGULATORY SECTION
JURISDICTIONAL LIMIT _____ STUDY LIMIT _____	_____ _____