U.S. Department of Housing
and Urban
Development
451 Seventh Street, SW
Washington, DC 20410
www.hud.govespanol.hud.gov

# Environmental Assessment
# Determinations and Compliance Findings for HUD-assisted Projects
# 24 CFR Part 58

## Project Information

**Project Name:** Paseo Hatchery (PR-CRP-000721)

**Responsible Entity:** Puerto Rico Department of Housing

**Grant Recipient** (if different than Responsible Entity):

**State/Local Identifier**: Puerto Rico

**Preparer:** C&G Consultants

**Certifying Officer Name and Title:**
Juan Carlos Pérez-Bofill - Director, Disaster Recovery CDBG-DR;
Aldo Rivera, Permits and Environmental Compliance Director;
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Limary Vélez Marrero - Permits and Environmental Compliance Specialist;
Mónica Machuca Ríos - Permits and Environmental Compliance Specialist
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Javier Mercado-Barrera: Permits and Environmental Compliance Specialist

**Consultant** (if applicable): Reforesta Inc.

**Direct Comments to:** Puerto Rico Department of Housing and Angel López Guzmán at (environmentalcdbg@vivienda.pr.gov)

**Project Location:**
State Road PR 410, from km. 0.3 to km. 1.7, Maricao, Puerto Rico 00606
Start - Lat/Long: 18.179253 -66980708, End - Lat/Long: 18.170269 -66.985604

**Description of the Proposed Project** [24 CFR 50.12 & 58.32; 40 CFR 1508.25]**:**

The objective of the project consists in the development of a "shared road" concept with a pedestrian and bicycle recreation path "paseo" parallel to Rio Maricao along PR Road 410, also known as "Calle del Vivero". The actual route is a dead-end street along the river Maricao edge which leads to a Fish Hatchery located within the Maricao Forest Reserve. Only about 10 residences are located along the proposed "paseo". The road location generates little vehicular traffic, and its narrow travel path and winding road curves manage to control speed limits. Therefore, the contextual location and roadway alignment characterize the Paseo Hatchery route as a low volume low speed local rural road. The average existing roadway cross section is 6.15 meters wide and consists of a surface asphalt pavement width of 3.65 meters and two grass shoulders of 1.25 meters each. The "paseo" pavement along the existing grass shoulders will preferably be permeable, with variable widths between 0.762 (2'-6") and 1.25 (4'-1") meters along a length of approximately 1.4 km. The proposed design program includes a sequence of "speed tables" intended to control vehicular speeds at 15 mph, new signage and pavement marking, complementary lighting, stormwater management culverts, replacement of guardrails, visual enhancement landscape planting and erosion control measures when applicable. The "Paseo Hatchery" project also includes a rest and information area located at the start of the "paseo" where the Gruta de San Juan Bautista is located and another at the end of the "paseo" at the entrance gate to the fish hatchery. A speed table facilitates a pedestrian crossing to the adjacent Gruta de San Juan Bautista Plaza which will be renovated. The Gruta rest area will be provided with a gazebo, improvements to an existing storm water discharge structure, asphalt pavement replacement, parallel parking over permeable surface for three vehicles, lighting, landscape access planting and a waste receptacle".
Renovations include an ADA ramp to provide access to the ground floor plaza, the extensive staircase steps will be restored, missing red clay bricks will be replaced, existing railings will also be replaced, the two retention tanks will be restored, light poles luminaires will be replaced with efficient led bulb fixtures, two new waste receptacles will be installed, landscape accent planting and embankment erosion control measures will also be installed.

**Statement of Purpose and Need for the Proposal** [40 CFR 1508.9(b)]:

The proposed project, **Paseo Hatchery**, is within a municipality with structures damaged by Hurricanes Irma and María. The proposed action is part of the Community Revitalization Plan sponsored by the Puerto Rico Department of Housing and the Municipal Government of Maricao.

The objective of the project consists in the development of a "shared road" concept with a pedestrian and bicycle recreation path "paseo" parallel to Rio Maricao along PR Road 410, also known as "Calle del Vivero". It also integrates two existing landmarks, Gruta de San Juan Bautista and Fish Hatchery; provides improvements to an existing popular residents and tourist

walking and jogging trail; enhances the natural scenery and develops an amenable scenic route for the benefit of residents and visitors.

Long term benefits to the Maricao community through increased accessibility to compatible recreational opportunities, community aesthetics and visitors' enjoyment of scenic landscape. Most communities want to increase greenspace and recreational opportunities. Floodplains provide the greenscape for pleasurable recreational activities and this project has the opportunity to educate the community on the importance of floodplain management and the protected riverine reserve.

**Existing Conditions and Trends** [24 CFR 58.40(a)]:

Paseo Hatchery proposed actions are located within the boundaries of the existing PR 410 ROW. The average ROW cross section 6.15 meters wide and consists of a surface asphalt pavement width of 3.65 meters and two grass shoulders of 1.25 meters each. Approximate ROW total area is 2.25 acres, almost 75% of which is located within a floodplain Zone A according to FEMA ABFE Map effective December 11, 2018.

The Gruta de San Juan Bautista is located off km.0.3 of PR 410. It is a ceremonial plaza located in a parcel belonging to the Municipal Government of Maricao. The plaza itself is above floodplain BFE. Proposed actions include maintenance to stormwater retention tanks, replacement of clay brick pavers, replacement of existing steps railings and installing erosion control measures of embankment.

Road PR 410 begins at the intersection with road PR 105 at the north end of the bridge that crosses Maricao river and connects to the urban center of Maricao. It is a very focal point to all visitors to the town. This access road is very narrow and since its beginning has very little opportunities for expansion. It is restricted by the existing urban development and/or topographic conditions on one side and the Maricao river on the other.

This road provides the only access to the fish hatchery located at km. 1.5 which is the end of the road. It was constructed in the 1930's to provide the only access to the hatchery. Little has changed since then.

The road is characterized by a narrow winding path delimited by the river and the steep cliff edges characteristic of the local topography. It is intermittently interrupted by the few existing residences located along the roadway oath. This exemplifies the unique characteristics which provide the project its environmental, educational, recreational value. At the same time, they are constraints which limit potential roadway expansion and potential density growth which preserve the project's value to the community of Maricao.

The winding path of the Maricao river also includes some eroded stone depressions which become ponds that provide swimming recreational experience and refuge for fish. "Los Muchachos" pond is one of such spots along the river. These are also important community landmarks which will be identified.

Communities are becoming a more health-conscious society and people are naturally drawn to water. Initiatives that provide linear trails for walking, jogging and biking have grown in popularity. Trails are one of the most common recreational uses within floodplains and are used for a variety of activities including walking, jogging and biking. Generally, multi-use trails are paved to improve accessibility, prevent erosion, increase longevity and minimize maintenance needs.

The Paseo Hatchery plan and design of the trail along greenway and floodplain along Maricao River includes interpretive/educational signage with information about the function and importance of floodplains and natural functions and ecological systems as part of community outreach.

The proposed action not only interconnects important landmarks such as the Gruta de San Juan Bautista and the Fish Hatchery, it also connects with Costa Formes Recreational Facilities providing additional interconnection to existing facilities and increasing the potential use of compatible recreational opportunities in the community.

## Funding Information

| Grant Number | HUD Program | Funding Amount |
|---|---|---|
| B-17-DM-72-0001<br>B-18-DP-72-0001<br>B-19-DP-78-0002<br>B-18-DE-72-0001 | CDBG-DR | $11,938,162,230 |

**Estimated Total HUD Funded Amount:** $2,039,210.00

**Estimated Total Project Cost** (HUD and non-HUD funds) [24 CFR 58.32(d)]**:** $2,039,210.00

## Compliance with 24 CFR 50.4, 58.5, and 58.6 Laws and Authorities

Record below the compliance or conformance determinations for each statute, executive order, or regulation. Provide credible, traceable, and supportive source documentation for each authority. Where applicable, complete the necessary reviews or consultations and obtain or note applicable permits of approvals. Clearly note citations, dates/names/titles of contacts, and page references. Attach additional documentation as appropriate.

| **Compliance Factors**: Statutes, Executive Orders, and Regulations listed at 24 CFR §58.5 and §58.6 | Are formal compliance steps or mitigation required? | Compliance determinations |
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| **STATUTES, EXECUTIVE ORDERS, AND REGULATIONS LISTED AT 24 CFR 50.4 and 58.6** | | |
| **Airport Hazards**<br><br>24 CFR Part 51 Subpart D | Yes ☐ No ☒ | The closest civilian airport "El Maní" is approximately 12 miles from project site. The distance to the nearest military airport "Coast Guard Air Station Borinquen" located at Rafael Hernandez Airport is approximately 22.83 miles.<br><br>The project is not located within an FAA-designated civilian airport Runway Clear Zone (RCA) or Runway Protection Zone, or within the military Airfield Clear Zone (CZ) or Accident Potential Zone/Approach Protection Zone (APZ), based upon information from the airport or military airfield administrator identifying the boundaries of such zones.<br>The project site is not within 2 500 feet of a civilian airport or 15,000 feet of a military airport.<br>The project is in compliance with Airport Hazards requirements.<br>Refer to map B01-Airport Hazards in Appendix B. |
| **Coastal Barrier Resources**<br><br>Coastal Barrier Resources Act, as amended by the Coastal Barrier Improvement Act of 1990 [16 USC 3501] | Yes ☐ No ☒ | This project is not located in a CBRS Unit. It is approximately 11 miles or 58,080 feet from a protected area. Therefore, this project has no potential to impact a CBRS Unit and is in compliance with the Coastal Barrier Resources Act. Refer to Appendix B: B02.1-CBR Distance.pdf, B02.2-Certification.pdf. |
| **Flood Insurance** | Yes No | Refer to floodplain map in Appendix B. |

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| Flood Disaster Protection Act of 1973 and National Flood Insurance Reform Act of 1994 [42 USC 4001-4128 and 42 USC 5154a] | ☐ ☒ | The Puerto Rico HUD CRP performed a Flood Zone Evaluation and determined it is located in a flood prone area. The Flood Insurance Rate Map (FIRM) 72000C1040H effective date April 19, 2005, locates a very small portion of the beginning of the project within the SFHA Zone A., approximately 200 square meters. However, the Advisory Base Flood Elevations Map (ABFE) locates approximately 1.69 acres of the project route within a SFHA, equivalent to 75% of the total estimated area of 2.25 acres. Proposed improvements within the state Road PR 410 do not occupy or modify the 100 year floodplain.<br>There are no residential or commercial properties that will require mortgage within the project scope of work of the project. Flood Insurance is required when residential or commercial properties are subject to a loan mortgage. Therefore, flood insurance is not mandatory in this instance. The project is in compliance with flood insurance requirements.<br>Refer to Appendix B: B03.1-Maricao_PR-CRP-000721FloodZone_Notification Letter.pdff, B03.2-720000C1040H.pdf, B03.3-JP-DeterminacióndeInundación.pdf, B03.4-PR-CRP-000721_FIRM Overlay & Firmettes.pdf, B03.5-NFHL-Firmette Limits.pdf. |
| **STATUTES, EXECUTIVE ORDERS, AND REGULATIONS LISTED AT 24 CFR 50.4 & 58.5** | | |
| **Clean Air**<br><br>Clean Air Act, as amended, particularly section 176(c) & (d); 40 CFR Parts 6, 51, 93 | Yes No<br>☐ ☒ | The Project Site is not located in a county or air quality management district that is in attainment status for all criteria pollutants. The Municipio of Maricao is not listed in the EPA Green Book "Puerto Rico Nonattainment/Maintenance Status for Each County by Year for all Criteria Pollutants". The project is in compliance with the Clean Air Act. |
| **Coastal Zone Management**<br><br>Coastal Zone Management Act, sections 307(c) & (d) | Yes No<br>☐ ☒ | This project is not located in or does not affect a Coastal Zone as defined in the state Coastal Management Plan. The project area is approximately 11 miles from the coastal zone. Therefore, this topic complies with the regulation.<br>Refer to Appendix B: B04.1-CBR-Distance.pdf. |

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| **Contamination and Toxic Substances**<br><br>24 CFR Part 50.3(i) & 58.5(i)(2) | Yes ☐ No ☒ | Site contamination was evaluated during the design review visits of existing site conditions. No on-site or nearby toxic, hazardous, or radioactive substances that could affect the health and safety of project users were identified. During the observation visits to the site, where the project will take place, no landfills/dumps, industrial sites, UST, substations or dry cleaners were identified in the surroundings. EPA Facilities inventory does not indicate potential contamination conflicts. The project is in compliance with contamination and toxic substances requirements. These site visits started on September 9, 2022, and are still periodically occurring during the procurement and design process. The topographic data and Existing Condition Plan testify no hazard sites exist along the route. Of the three listed EPA facilities within the 3,000 feet range of the project, two are related to water discharge permits NPDES which occur way downstream from the proposed Paseo Hatchery. Nevertheless both, Fenwal pharmaceutical and AAA water treatment plant are in compliance. The other EPA site is a gas station classified as hazardous waste RCRA but is not an issue because there have been no release or violations in the last 3 years. The project will not involve residents or increase occupancy of any structure. There would be no increase in risk associated with the proposed project. The project is in compliance with contamination and toxic substances requirements.<br><br>Refer to Appendix B Map: B05.1 and ECHO Reports in Appendix C. |
| **Endangered Species**<br><br>Endangered Species Act of 1973, particularly section 7; 50 CFR Part 402 | Yes ☐ No ☒ | Although the project is in close proximity to a protected area, this project will have No Effect on listed species due to the nature of the activities involved in the project on an existing roadway ROW.<br><br>The inventory of flora and fauna performed along the project route length by REFORESTA |

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| | | Inc., did not detect endangered species. Attached are a copy of the Flora and Fauna Inventory and the US Fish and Wildlife Service map of Protected Areas.<br><br>The areas close to the road PR 410 and its shoulders have been previously disturbed, therefore existing vegetation is characteristically a mixture of native and introduced vegetation. The proposed landscape planting of the existing shoulder will diversify this mixture with broad leaf flowering plants. As expected, in areas further apart from the road edge native planting dominates. Since the project occurs within the ROW of the existing road PR 410 there won't be a quantifiable impact upon plant and natural life.<br><br>Since the project development along the floodplain requires no fill and the proposed pedestrian path is a prefabricated permeable pavement, the construction will have minimal effects on water resources, natural flood and erosion control, water quality, and groundwater recharge are preserved along the shared road route.<br><br>Attached is a list with highlight of endangered species associated with the USFWS protected area along Maricao River.<br><br>Based on the nature of the project, scope of work, information available, and a careful analysis of the Project Site, and IPaC species list, it was determined that there would be No Effect for any of the listed species. If a Puerto Rican Boa is encountered, work will cease until it moves off site or, failing that, the Puerto Rico Department of Natural Resources (PRDNER) Rangers will be notified for safe capture and relocation of the reptile, in accordance with the USFW Puerto Rican Boa Conservation Measures guidelines and the July 27, 2023, Amended Programmatic Biological Opinion.<br><br>The iPac system identified federally listed species and critical habitats were noted within the Project Site. An Informal Consultation process was initiated to confirm our No Effect determination: however, the Informal Consultation was not submitted to USFWS because the No Effect Determination was |

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| | | certified by our environmental consultant, Rafael Cubiñá of Reforesta.<br><br>Refer to Map B06 in Appendix B and reports in Appendix D. |
| **Explosive and Flammable Hazards**<br><br>24 CFR Part 51 Subpart C | Yes ☐ No ☒ | The project does not include any hazardous facilities or a facility that mainly stores, handles or processes flammable or combustible chemicals such as bulk fuel storage facilities and refineries. The project activities will not increase residential densities or convert other uses into residential ones. Based on the project description (installation of precast permeable modules along an existing road shoulder and pavement replacement in specific segments), the project includes no activities that would require further evaluation under this section. The project is in compliance with explosive and flammable hazard requirements. |
| **Farmlands Protection**<br><br>Farmland Protection Policy Act of 1981, particularly sections 1504(b) and 1541; 7 CFR Part 658 | Yes ☐ No ☒ | Project activities include installation of precast permeable modules along an existing road shoulder and pavement replacement in specific segments of that same existing road. Although a segment of the road crosses soils of farmland of statewide importance, this project does not include any activities that could potentially convert agricultural land to a non-agricultural use because it is designed within an existing road ROW. However, the area adjacent to the road has been also impacted previously by housing units on big parcels. The area was previously impacted by urban uses for decades. The project is in compliance with the Farmland Protection Policy Act.<br>Refer to Appendix B: B07.1<br>and report in Appendix F. |
| **Floodplain Management**<br><br>Executive Order 11988, particularly section 2(a); 24 CFR Part 55 | Yes ☒ No ☐ | The proposed project is located in the Federal Flood Risk Management Standard (FFRMS) floodplain. The extent of the FFRMS floodplain was determined using the 500-year floodplain as indicated on the ABFE Map effective December 11, 2018 as shown at https://gis-r2-fema.hub.arcgis.com/pages/puertorico. |

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| | | The ABFE map shows that the approximately 75 percent or 1.69 acres of the proposed project area is within 0.2 percent annual chance flood zone (500-year floodplain) and so the project site is within the FFRMS. (See Figures B10.5 and 10.6 in Appendix B).<br><br>PFIRMs in Puerto Rico were only developed for certain sections of the Municipalities of Carolina, Canovanas, Loíza, San Juan and Trujillo Alto. The proposed project is located in the Municipality of Maricao: therefore, PFIRM information was not available for the area and therefore not considered in the review.<br><br>Although the proposed action site is in a floodplain, it has no impact on floodplain natural values or functions. The proposed action is developed within the existing road ROW on previously disturbed soils and does not include fill.<br><br>Because this project involves ground disturbance and is in the floodplain, an 8-step analysis was performed. As part of this analysis, the community and general public was notified of the project scope of work in two occasions during the process. Both notifications were published, and no comments were received. First Notification was published in July 25, 2023 and the Final Notification was published in Jan. 19, 2024.<br><br>The 8-step process evaluated 3 alternatives: construction of the "Paseo Hatchery" street improvements along State Road PR 410, locate the "Paseo Hatchery" outside of the floodplain and finally take no action. Therefore, these process is in compliance for the mitigation in floodplain mitigation.<br><br>Refer to Figures in Appendix B and refer to Appendix G for complete report of 8-step Analysis. |
| **Historic Preservation**<br><br>National Historic Preservation Act of 1966, particularly sections 106 and 110; 36 CFR Part 800 | Yes ☐ No ☒ | The archaeological potential of the proposed project is high. Within the 0.25-miles area of the PR-CRP-000721 project we have fourteen (14) cultural resources, six (6) located within the project area and two (2) adjacent to the project. |

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| | | The cultural resources within the project area are four (4) stone culvert and the PR-410 road built in the first half of the 20th century as an access road to the Maricao Insular Forest and in 1937 as access to the Maricao Fish Hatchery located within the Insular Forest.<br><br>Adjacent to the project and included in the NRHP is the Maricao Fish Hatchery located within the Maricao Insular Forest and also built in stone by the CCCs. Adjacent and within the river near kilometer 0.7 we have a brick dam.<br><br>On Dec. 8, 2023, a SOI Qualified archaeologist evaluated the site. Based on the results of our historic property identification effort and viewshed assessment, the Program has determined that project actions will not affect the historic properties that comprise the Area of Potential Effect, provided that archaeological monitoring is conducted, and the culverts are preserved and documented.<br><br>We recommend that archaeological monitoring be conducted during excavation work. We further recommend that the culverts be documented, and that conservation work be carried out, including but not limited to cleaning and removal of soil, debris and vegetation, and that they be consolidated if necessary.<br><br>In a letter dated March 1, 20204, the Program on behalf of PRDOH and the subrecipient, the Municipality of Maricao requested to SHPO a concurrence with a determination that no adverse effect to historic properties with the implementation of the project provided that the previously described mitigation measures be implemented, and an archaeological plan and conservation plan be submitted prior to project implementation.<br><br>On a letter dated March 14, 2024, Carlos A Rubio-Cancela, State Historic Preservation Officer agreed to the finding of no adverse effect with the conditions previously described.<br><br>Recently, on a letter dated May 20, 2024, Carlos A Rubio-Cancela, State Historic Preservation Officer approved the Archaeological Monitoring, Protection and Conservation Plan.<br><br>Appendix E11. |
| **Noise Abatement and Control** | Yes No | Project activities include installation of precast permeable modules along an existing road |

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| Noise Control Act of 1972, as amended by the Quiet Communities Act of 1978; 24 CFR Part 51 Subpart B | ☐ ☒ | shoulder and pavement replacement in specific segments of that same existing road. Based on the project description, this project includes no activities that would require further evaluation under HUD's noise regulation. The project is in compliance with HUD's Noise regulation. |
| **Sole Source Aquifers**<br><br>Safe Drinking Water Act of 1974, as amended, particularly section 1424(e); 40 CFR Part 149 | Yes No<br>☐ ☒ | According to USGS area map, there are no sole source aquifers present in the project area. As a matter of fact, there are no EWPA sole source aquifers in Puerto Rico.<br>The project is in compliance with Sole Source Aquifer requirements.<br>Refer to Appendix B:<br>B10.1-Sole Source Aquifer Map.pdf. |
| **Wetlands Protection**<br><br>Executive Order 11990, particularly sections 2 and 5 | Yes No<br>☐ ☒ | Based on the project description this project includes no activities that would require expansion of the existing footprint or right of way. According to the definition of wetland by US Corps of Engineers, visual inspection of the area and the National Wetland Inventory, no wetland was located near the project limits, therefore further evaluation under this section is not required. The project is in compliance with Executive Order 11990.<br><br>Almost 80% of the project runs parallel to the Maricao river and its riverine wetland where occurring. The project footprint is within 100 foot buffer zone which will be protected with erosion control BMP measures such as: silt fences and straw or hay log filters. Further BMP practices are described in the Mitigation Measures and Conditions [40 CFR 1505.2.(c)]<br><br>Refer to Appendix B: B11.1-USFWS-NationalWetlandMap.pdf, B11.2-National Wetlands Inventory.pdf. |
| **Wild and Scenic Rivers**<br><br>Wild and Scenic Rivers Act of 1968, particularly section 7(b) and (c) | Yes No<br>☐ ☒ | The proposed project is approximately 84 miles from a National Wild and Scenic Rivers (NWSRS) river. The Municipality of Maricao does not have any river registered as a Wild and Scenic River, Study River or listed in the Nationwide Rivers Inventory (NRI). This project is not within proximity of a NWSRS river. The |

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| | | project is in compliance with the Wild and Scenic Rivers Act.<br><br>However, one of the objectives of this project is to expose and promote the scenic and ecological values of the Maricao River.<br><br>Refer to Appendix B: B12.1-Inventory Map Wild Scenic Rivers.pdf. |
| **ENVIRONMENTAL JUSTICE** | | |
| **Environmental Justice**<br><br>Executive Order 12898 | Yes ☐ No ☒ | No adverse environmental impacts were identified in any other compliance review portion of this project that may disproportionately be high for low-income and/or communities. Refer to worksheet in Appendix B13. |

**Environmental Assessment Factors** [24 CFR 58.40; Ref. 40 CFR 1508.8 &1508.27] Recorded below is the qualitative and quantitative significance of the effects of the proposal on the character, features and resources of the project area. Each factor has been evaluated and documented, as appropriate and in proportion to its relevance to the proposed action. Verifiable source documentation has been provided and described in support of each determination, as appropriate. Credible, traceable and supportive source documentation for each authority has been provided. Where applicable, the necessary reviews or consultations have been completed and applicable permits of approvals have been obtained or noted. Citations, dates/names/titles of contacts, and page references are clear. Additional documentation is attached, as appropriate. **All conditions, attenuation or mitigation measures have been clearly identified.**

**Impact Codes**: Use an impact code from the following list to make the determination of impact for each factor.
**(1)** Minor beneficial impact
**(2)** No impact anticipated
**(3)** Minor Adverse Impact – May require mitigation
**(4)** Significant or potentially significant impact requiring avoidance or modification which may require an Environmental Impact Statement

| Environmental Assessment Factor | Impact Code | Impact Evaluation |
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| **LAND DEVELOPMENT** | | |
| Conformance with Plans / Compatible Land Use and Zoning / Scale and Urban Design | 2 | The project site is located on land use zone classified as SREP-A according to the Puerto Rico Land Use Plan. SREP is a special protected area, when accompanied by an A it means a specially protected agricultural area. The proposed leisure recreational use |

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| | | is compatible with the existing land use zoning and the existing neighborhood scale; therefore, no land use zone change will be required. |
| Soil Suitability/ Slope/ Erosion/ Drainage/ Storm Water Runoff | 2 | Soil data for the project site included in prior farmland Site Assessment was obtained from the U.S. Geological Survey (USGS) and U.S. Department of Agriculture's Natural Resources Conservation Science Web Soil Survey online database. According to USGS, predominant soil types are mapped as Humatas Clay (HME-2) and Consumo Clay (CoF2). Both have a high clay content with high runoff potential that contributes to the high humidity in the area. Although a segment of the road crosses Humatas Clay, soils of farmland of statewide importance, this project does not include any activities that could potentially convert agricultural land to a non-agricultural use because it is designed within an existing road ROW. However, the area adjacent to the road has been also impacted previously by housing units on big parcels.<br><br>The project site is generally flat and lacks slopes that would adversely affect the project. Average slope gradients fluctuate between 2% and 3%. The project length is approximately 1.5 km, elevation at the start near the Gruta is 423.00 m MSL, elevation at the edge of the gate of the fish hatchery is 450.00 m MSL. A High Point of 447.70m MSL is located near km. 1.1, gently sloping at opposite directions. This existing topographic condition provides for a smooth leisure recreational walk not common in Maricao characterized by steep mountain slopes.<br><br>Erosion due to stormwater runoff at the project site is minimized due to the flat topography of the area and the lack of exposed soils. With the majority of the project site paved or covered by the existing road, risk of erosion is minimal. The nature of the project tasks, mainly installation of precast pavers and repaving of existing road don't expose soils for extended periods. The patches of erosion detected along existing road embankments have been assigned stabilizing measures. Runoff from the project site is not anticipated to exceed the capacity of stormwater drainage systems distributed along the road or contribute to stormwater pollution. |
| Hazards and Nuisances | 2 | Previous assessments did not find evidence of any recognized environmental conditions. No containers of |

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| including Site Safety and Noise | | hazardous materials were observed during the site reconnaissance. Project activities include installation of precast permeable modules along an existing road shoulder and pavement replacement in specific segments of that same existing road. Based on the project description, this project includes no activities that would require further evaluation under HUD's noise regulation.<br><br>The project would be constructed consistent with the current OSHA and PRDOT requirements for fencing, lighting, and other features related to site safety. No impacts related to hazards, nuisance, or site safety would occur. |
| Energy Consumption | 2 | The proposed project is not a high energy consumer. Proposed road lighting uses LED luminaires which are energy efficient. |

| Environmental Assessment Factor | Impact Code | Impact Evaluation |
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| **SOCIOECONOMIC** | | |
| Employment and Income Patterns | 1 | The proposed project has the potential to create temporary employment opportunities during the renovation and construction phases. Income patterns in the town of Maricao would benefit from the proposed project, which would stimulate an increase in visitors spending in Maricao. |
| Demographic Character Changes, Displacement | 1 | The proposed project would not have an adverse impact on community character or result in the displacement of existing businesses or individuals because the project would occur on land which is the Right of Way of existing road PR 410 and the existing “Gruta de San Juan Bautista” plaza.<br><br>Although community character would remain similar because it is conforming with existing land use designation and design, there would be a visual landscape quality improvement and user experience. |

| Environmental Assessment Factor | Impact Code | Impact Evaluation |
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| **COMMUNITY FACILITIES AND SERVICES** | | |
| Educational and Cultural Facilities | 1 | The Paseo Hatchery can certainly provide a beneficial impact to nearby educational facilities by providing the stage to perform educational extracurricular activities while enjoying nature. |

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| | | The project is near various educational and cultural facilities, including the following:<br><br>• Raul Ybarra School, an approximate radius of 2.3 miles north of the project site<br>• Mariana Bracetti School, an approximate radius of 2.2 miles north of the project site<br>(now closed but with excellent potential for reuse)<br>• "Plaza de Recreo", an approximate radius of 1.25 miles north of the project site<br>• "Casa Alcaldía", an approximate radius of 1.25 miles north of the project site |
| Commercial Facilities | 1 | No adverse impacts to surrounding commercial facilities are anticipated. The project site is less than a mile from residential, retail, and commercial uses. Restaurants occupying nearby commercial retail spaces could experience an increase in business from increase of visitors stimulated by the proposed project. Therefore, businesses near the proposed development would not be adversely impacted. |
| Health Care and Social Services | 2 | There would be no adverse impact upon existing health care and social services in the community. The project site is near health care facilities, including the following:<br><br>• CDT Servicios Médicos, an approximate radius of 0.29 miles north of the project site<br>• Migrants Health Care, an approximate radius of 0.16 miles north of the project site |
| Solid Waste Disposal / Recycling | 2 | Trash receptacles serviced by the Municipal Government of Maricao will be installed on the rest areas and the "Gruta" as part of the project improvements. Only household trash is collected in the waste baskets.<br><br>Because the proposed project would involve improvements to an existing road, solid waste generated during the construction phase would be minimized. All generated waste would be properly disposed of and recycled where possible. The amount of solid waste generated by the proposed project during the operational phase is not a significant quantity. As a result, adverse impacts from solid waste disposal associated with the proposed project are not anticipated. |
| Waste Water / Sanitary Sewers | 2 | The project will not generate domestic wastewater. No sanitary facilities are included within the project scope of work. No sanitary sewer infrastructure is located within the |

| | | |
|---|---|---|
| | | project length. Therefore, no adverse or negative impacts to wastewater systems and sanitary sewers are anticipated. |
| Water Supply | 2 | The project scope of work does not include any facilities that require servicing of potable water infrastructure. Therefore, the operational phase of the proposed project will not adversely impact existing potable water service infrastructure.<br><br>There are two potable water lines of 4 and 6 inches diameter that run aligned through PR 410. The 4" line services the neighboring community and the 6" line services intake from Maricao River. During the construction phase no adverse impact is anticipated because before any excavation the Contractor has to obtain a permit from the agency which coordinates to protect existing infrastructure. This agency is part of the Department of Transportation and Public Works, "Directoría de Excavaciones, Demoliciones y Tuberías". |
| Public Safety - Police, Fire and Emergency Medical | 2 | The project site is in close proximity to public safety providers, including the following:<br><br>• Migrants Health Care, an approximate radius of 0.16 miles north of the project site<br>• Municipal Police, an approximate radius of 0.15 miles north of the project site |
| Parks, Open Space and Recreation | 1 | The recreational spaces which complement and are in close proximity to the proposed Paseo Hatchery project are:<br><br>• Recreational Area Alfonso Acosta Fornes, an entrance gate to the facilities are adjacent to the start of the project along the "Gruta de San Juan Bautista". Its facilities include an auditorium with basketball/volleyball courts, an exterior swimming pool and various gazebos for family picnics.<br>• Plaza de Recreo, an approximate radius of 0.12 miles north of the project site.<br>• Parque Pasivo, an approximate radius of 0.19 miles north of the project site. The park existing facilities will be renovated and outdoor auditorium will be incorporated.<br>• The project itself provides improved access to la "Gruta de San Juan Bautista" at the beginning and the fish hatchery at the end. |
| Transportation and Accessibility | 2 | The proposed project is within walking distance of the urban town center (0.12 miles), the adjacent Costa Fornes recreational facilities and Parque Pasivo (0.19 miles). The |

| | | |
|---|---|---|
| | | Costa Fornes facilities and the project's rest areas provide limited parking for visitors. Relative accessibility to urban development reduces transportation and accessibility issues, such as limited parking and traffic. Considering the nature of the project, a bicycle and pedestrian path along the river, it is not expected to adversely affect transportation or accessibility in the area.<br><br>The scope of the street improvements minimizes obstruction of traffic because the project construction tasks are performed along the existing shoulder. The road may be temporarily interrupted when constructing the speed tables. Even then simple temporary provisions are available to preserve traffic continuity. |

| Environmental Assessment Factor | Impact Code | Impact Evaluation |
|---|---|---|
| **NATURAL FEATURES** | | |
| Unique Natural Features,<br>Water Resources | 2 | The project site is adjacent or within the natural reserve and unique natural features of the Maricao River. It can be related to 10 endangered species identified in the USFWS data list. Based on the nature of the project, scope of work, information available, and a careful analysis of the Project Site, and IPaC species list, it was determined that there would be No Effect for any of the listed species nor its habitats.<br>The project construction tasks mainly consist of installing precast permeable modular pavers along the existing shoulder of PR 410. As indicated previously, the road has gentle slopes, and the pavers are permeable which precludes potential runoff erosion and guarantee groundwater recharge. |
| Vegetation, Wildlife | 2 | Although the proposed project is within the ranges of 10 endangered species: 5 birds, 1 reptile, 1 insect and 3 flowering plants. None of these species are found on the project site because it is developed along an existing road shoulder ROW which has already been urbanized. |

| Environmental Assessment Factor | Impact Code | Impact Evaluation |
|---|---|---|
| **NATURAL FEATURES** | | |
| Climate Change Impacts | 2 | This is a project with a small footprint within an existing road, PR 410. The project proposes streetscape improvements which do not increase roadway pavement |

| | | |
|---|---|---|
| | | width. Therefore, the project has no impact on urban heat island effects and/or rainfall intensity.<br>Project is located 450 meters above mean sea level which does not raises the possibility of rising sea levels. |
| Energy Efficiency/Energy Consumption | 2 | The streetscape improvement project with LED lighting for pedestrians significantly reduces energy consumption compared to traditional lighting technologies. By leveraging the high efficiency, longer lifespan, and advanced control capabilities of LEDs, the project not only lowers operational costs but also contributes to environmental sustainability through reduced carbon emissions. This makes LED lighting an optimal choice for modern urban infrastructure projects aiming to enhance both functionality and energy efficiency. |

**Additional Studies Performed**:

- "Estudio de Flora y Fauna. Proyecto PR-CRP-000721 Paseo Hatchery Maricao Afuera, Maricao, PuertoRico." Prepared by: Reforesta, Inc., May 2023.
- Informal consultation under Section 7 (a)(2) of the Endangered Species Act (Act) (87 Stat. 884, as amended; 16 United States Code 1531 et seq.), and in accordance with the Fish and Wildlife Coordination Act (47 Stat. 401, as amended; 16 U.S.C. 661 et seq.) for the proposed project PR-CRP-000721, located at PR Road 410 from Km 0.3 to km 1.7, Maricao, PR 00606, from coordinates 18.179253, -66.980708 to coordinates 18.170269, -66.985604.
- Section 106 Effect Determination Submittal for PR-CRP-000721: Paseo Hatchery Project, Maricao, Puerto Rico–No Adverse Effect**,** Conditioned**.** March 1, 2024.

**Field Inspection** (Date and completed by)**:**

- Preliminary design site visits to become aware of existing conditions. Performed by C&G on: 05/31/22, 02/14/2023, 04/26/2023, 06/23/2023, 12/01/2023.
- Inventory of flora and fauna report site visits. Performed by Reforesta Inc.: 04/29/2023, 05/08/2023.
- Section 106 NHPA Effect Determination. Performed by SOI Qualified Archaeologist Jaqueline López Meléndez, 12/08/2023.

**List of Sources, Agencies and Persons Consulted** [40 CFR 1508.9(b)]**:**

- "2020 Municipio de Maricao Plan de Mitigación contra Peligros Naturales."
- "Plan de Usos de Terrenos Municipio de Maricao, Junta de Planificación 2016, Borrador Vista Pública."
- "Plan de Recuperación del Municipio de Maricao, noviembre 2022."

- National Register of Historic Places Multiple Property Documentation Form. New Deal Era Constructions in the Forest Reserves in Puerto Rico, 1933-1942 Amendment. Mar. 25, 2016.
- National Register of Historic Places Registration Form. "Vivero de Peces de Maricao" New Deal Era Constructions in the Forest Reserves in Puerto Rico, 1933-1942 Amendment. Jan. 6, 2017.
- Map of Puerto Rico Airport Locations. "Autoridad de los Puertos de Puerto Rico." https:www.prpa.pr.gov/
- Coastal Barrier resources System Mapper, USFWS. https://fwsprimary.wim.usgs.gov/CBRSMapper-v2/
- HUD EXCHANGE, Are there any exceptions to the flood insurance purchase requirements? https://www.hudexchange.info/faqs/crosscutting-requirements/environmental-review/flood-insurance/are-there-any-exceptions-to-the-flood-insurance-purchase-requirements/
- EPA NEPAssit- EPA Facilities - https://nepassisttool.epa.gov/nepassist/nepamap.aspx
- USFWS Information for Planning and Consultation (IPaC) https://ipac.ecosphere.fws.gov/.
- USFWS National Wetlands Inventory, Surface Waters and Wetlands Map. https://www.fws.gov/wetlands/data/mapper.html.
- US National Park Service, Interactive Map of NPS Wild and Scenic Rivers. https://nps.maps.arcgis.com.apps/View.
- USDA, (U. S. Department of Agriculture) Web Soil Service http.//websoilsurvey.nrcs.usda.gov/.
- FEMA (Federal Emergency Management Agency). FEMA Flood Map Service Center https://gis-r2-fema.hub.arcgis.com/pages/puertorico

**List of Permits Obtained:**

- Federal – None
- Local - OGPe

**Public Outreach** [24 CFR 50.23 & 58.43]**:**

A first public notice publishing project location and scope of work was posted on July 25, 2023.
A final notice was published and posted consistent with the prior notice on Jan. 19, 2024.
Both published at a local daily newspaper, Primera Hora.

**Cumulative Impact Analysis** [24 CFR 58.32]**:**

The proposed project would not contribute to a significant cumulative impact under the National Environmental Policy Act because it is a recreational project consistent with land use and zoning designations and will be developed within the existing right of way (ROW) of sate road PR 410. Therefore, there will be no increase in soil disturbance and traffic density or speed. The City Revitalization Program planning guidelines encourage the development of this project because it provides improvements to an existing popular residents and tourist walking and jogging trail;

enhances the natural scenery and develops an amenable scenic route for the benefit of residents and visitors.

**Alternatives** [24 CFR 58.40(e); 40 CFR 1508.9]

The Municipality of Maricao Government project site selection criteria are:
Integrate the 2 existing landmarks, Gruta de San Juan Bautista and Fish Hatchery;
Provide improvements to an existing popular residents and tourist walking and jogging trail; enhance natural scenery and develop an amenable scenic route for the benefit of residents and visitors;

The local government evaluated alternatives that could satisfy these requirements of the Maricao Community Revitalization Plan (CRP):

The CRP funds projects that contribute to economic revitalization throughout Puerto Rico typically include public improvement or streetscape revitalization. The proposed project "Paseo Hatchery" fits into the category of streetscape revitalization. It is divided into 2 subareas, all directly interconnected with existing road PR 410.

I Gruta de San Juan Bautista
Gruta de San Juan Bautista is located outside the floodplain above Base Flood Elevations (BFE). Therefore, it is not subject to EO11988 and was not part of this analysis.

II PR 410 Paseo Hatchery

**Alternative A - Construction of Paseo Hatchery streetscape improvements along State Road PR 410**

Communities are becoming a more health-conscious society and people are naturally drawn to water. Initiatives that provide linear trails for walking, jogging and biking have grown in popularity. Trails are one of the most common recreational uses within floodplains and are used for a variety of activities including walking, jogging and biking. Generally, multi-use trails are paved to improve accessibility, prevent erosion, increase longevity and minimize maintenance needs.

The Paseo Hatchery plan and design of the trail along greenway and floodplain along Maricao River includes interpretive/educational signage with information about the function and importance of floodplains and natural functions and ecological systems as part of community outreach.

The proposed action not only interconnects important landmarks such as the Gruta de San Juan Bautista and the Fish Hatchery, it also connects with Costa Formes Recreational Facilities providing additional interconnection to existing facilities and increasing the potential use of compatible recreational opportunities in the community.

The proposed project along the existing road PR 410 ROW runs for the most part along the Maricao River floodplain parallel to the road. The existing road is low volume speed rural road. The project proposes improvement of current activities by enhancing existing scenic quality, pedestrian and bicycle safety. Improvements include a sidewalk, signage, speed control tables, stormwater management, erosion control measures, new guardrails and landscape diversification.

Initial preliminary design program called for a concrete sidewalk parallel to the embankment at the Western shoulder of the existing road opposite the Maricao River edge. Further site analysis concluded that a continuous concrete sidewalk along that shoulder was not physically or environmentally feasible.

The road PR 410 shoulders are sometimes constricted by a cliff to the West or the Maricao River to the East and therefore shoulder lengths are not continuous along either side of the road route. This condition prevents developing a continuous pedestrian sidewalk which suggests developing the Paseo Hatchery route as a shared road because there are inevitable gaps where a pedestrian path along the shoulder is not feasible.

Representatives of the local government eventually determined that the concrete sidewalk be substituted with a permeable path of varying width adapting to the existing condition of the shoulder. The path varies in width between 0.762 (2'-6") and 1.25 (4'-1") meters along a length of 1.466 km. The proposed design program includes a sequence of "speed tables" intended to control vehicular speeds at 15 mph, new signage, led luminaires, replacement of guardrails, and discreet garbage disposal containers among others. There are 4 gaps that are identified as a shared road. Their length is 478 meters equivalent to 33% of the Paseo Hatchery length.

These modifications to the existing impacted footprint preserve existing grades and drainage patterns. The proposed gazebo has columns and a paved ground floor to match existing grades.
Although only 25% of the proposed project is outside the ABFE floodplain limits, this action is convenient because it complies with the City Revitalization Program Objectives. Proposed project is constructed at existing grades, no topographic fill is required, and no impact or damage is exerted over the existing drainage patterns and flood plain natural functions.

## Alternate B - Locate the Paseo Hatchery Project Outside of the Floodplain

The City Revitalization Program recognized the intrinsic recreational and economic values of the existing state road PR 410 which provides the only access to the fish hatchery and 10 residences located along its length. To relocate the road will diminish these intrinsic values and exponentially increase development costs, rendering the project economically unfeasible. The existing road is old and has sustained without serious damage multiple hurricane events.
Maricao has a particular topography characterized by very steep slopes. Shifting the road to the east encounters the river. Shifting to higher grounds to the west encounters steep slopes or private properties. Land acquisition or resident displacements is outside the realm of consideration for this specific project.

The cost of the mitigating measures for the environmental and combined potential social costs of relocating the alignment of the road PR 410 will make the project prohibitively expensive to develop and would not meet the programmatic objectives of the CRP.

## Alternate C - No Action

No action, under this alternative no streetscape improvements will be performed, and the CRP objectives will be truncated. This would not assist the need to rehabilitate and revitalize the community.

## Alternate Evaluation Determination

The proposed project recognizes an opportunity to integrate two existing landmarks and a scenic road and expand the recreational facilities that the town of Maricao can offer its residents and visitors. Our analysis concludes that developing the project within the floodplain is not a hazard and taking no action will deprive the local community of social and economic benefits.

It is the Municipal Government of Maricao determination that there is no practicable alternative to partially locating the proposed action "Paseo Hatchery" along the Special Flood Hazard Area of State Road PR 410.

This is due to:
1) the desire to interconnect two town landmarks;
2) revitalize the existing right of way of PR 410;
3) develop the shared roadway concept to improve quality of the recreation experience of pedestrian and cycling users;
4) the need to construct an economically feasible project;
5) the ability to mitigate and minimize impacts on human health, public property and floodplain values.

A first public notice publishing project location and scope of work was posted on July 25, 2023. A final notice was published and posted consistent with the prior notice on Jan. 19, 2024. The notice listed the objectives of the proposed action, explained the alternatives considered and mitigation measures to be taken to minimize adverse impacts and to restore and preserve natural and beneficial values. No concerns were expressed by the public concerning both notifications.

**Summary of Findings and Conclusions:**

Although the Paseo Hatchery street site is in a floodplain, it has no impact on floodplain natural values. One of its design objectives is to showcase the intrinsic values of the Maricao River riparian ecosystem which can be appreciated along the Paseo Hatchery. Construction method was modified to include permeable pavement modules for the pedestrian path which will provide soil perviousness to the previously compacted road shoulders and minimize the use of large machinery which minimizes potential construction impact.

The proposed road or street improvements will result in no impact to the floodplain values and will result in long term benefits to the Maricao community through increased accessibility to compatible recreational opportunities, community aesthetics and visitors' enjoyment of scenic landscape. Most communities want to increase greenspace and recreational opportunities. Floodplains provide the greenscape for pleasurable recreational activities and this project has the opportunity to educate the community on the importance of floodplain management and the protected riverine reserve.

The USFWS data listed endangered species along the protected area along the Maricao River. Critical Habitats were noted within the project area. Based on the nature of the project, scope of work, information available, and a careful analysis of the Project Site, and IPaC species list, we have made the following effects determinations:

A No effect has been made based on project scope of work, as well as the scarce need for vegetation removal in the proposed project area. Contractor will be oriented as to the environmental context he will be performing his work. This determination was submitted for concurrence as an informal consultation to the USFWS.

Based on the results of our historic property identification effort and viewshed assessment, the Program has determined that project actions will not affect the historic properties that comprise the Area of Potential Effect, provided that archaeological monitoring is conducted, and the culvert are preserved and documented.

The project would conform to all applicable federal, state, and regional regulations associated with land use compatibility, air emissions, water quality, geologic hazards, and related environmental resources addressed herein. Neither the project site, the proposed existing roadway improvements nor the surrounding neighborhood suffer from adverse environmental impacts tendencies. Based on the analyses of environmental issues contained in this document, the proposed project is not expected to have significant environmental impacts.

## Mitigation Measures and Conditions [40 CFR 1505.2(c)

Summarize below all mitigation measures adopted by the Responsible Entity to reduce, avoid, or eliminate adverse environmental impacts and to avoid non-compliance or non-conformance with the above-listed authorities and factors. These measures/conditions must be incorporated into project contracts, development agreements, and other relevant documents. The staff responsible for implementing and monitoring mitigation measures should be clearly identified in the mitigation plan.

Street improvements often involve a variety of erosion control Best Management Practices (BMPs) to minimize soil erosion and manage stormwater runoff effectively during construction and post-construction phases.

| **Law, Authority, or Factor** | **Mitigation Measure** |
|---|---|
| Erosion Control – Stormwater Management | • Silt Fences<br>• Erosion Control Blankets<br>• Straw or Hay Logs<br>• Sediment Basins.<br>• Check Dams<br>• Storm Drain Inlet Protection:<br>• Vegetative Buffers<br>• Street Sweeping<br>• Stabilized Construction Entrances/Exits<br>• Temporary Seeding<br>• Mulching<br>• Retention/Detention Ponds.<br>• Gabions<br>• Riprap |
| Air Quality – Fugitive Dust | • Backfilling<br>• Clearing and Grubbing<br>• Clearing Forms<br>• Sprinkle Cut and Fill Earth Moving Activities |

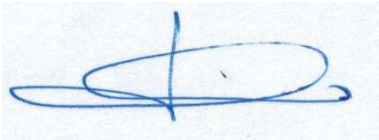
| | |
|---|---|
| | • Importing/Exporting of Bulk Materials: Stabilize material while loading and transporting.<br>• Landscaping: Stabilize soils, materials, slopes.<br>• Road Shoulder Maintenance<br>• Staging Areas<br>• Stockpiles/Bulk Material Handling |
| Historic Preservation | We recommend that archaeological monitoring be conducted during excavation work. Monitoring plan has been approved and is part of this document located in Appendix E.<br>We further recommend that the 5 stone-built culverts be documented, and that conservation work be carried out, including but not limited to cleaning and removal of soil, debris and vegetation, and that they be consolidated if necessary. Conservation plan has been approved and is part of this document located in Appendix E. |
| Endangered Species | If a Puerto Rican Boa is encountered, work will cease until it moves off site or, failing that, the Puerto Rico Department of Natural Resources (PRDNER) Rangers will be notified for safe capture and relocation of the reptile, in accordance with the USFW Puerto Rican Boa conservation Measures guidelines and the July 27, 2023, Amended Programmatic Biological Opinion. |
| Floodplain Management | Construction material and installation method was modified to include permeable pavement modules for the pedestrian path which will provide soil perviousness to the previously compacted road shoulders and minimize the use of large machinery which minimizes potential construction impact.<br>The design incorporates information in the rest areas which provide information and warnings to users in order to minimize risks to human life. |

**Determination:**

☒ **Finding of No Significant Impact** [24 CFR 58.40(g)(1); 40 CFR 1508.27]
The project will not result in a significant impact on the quality of the human environment.

☐ **Finding of Significant Impact** [24 CFR 58.40(g)(2); 40 CFR 1508.27]
The project may significantly affect the quality of the human environment.

Preparer Signature: Date: 08/20/2024



Name/Title/Organization: C & G

Certifying Officer Signature: Janette Cambrelen Date: 12/02/2024

Name/Title: Janette I. Cambrelén, Permit and Environmental Compliance Specialist

This original, signed document and related supporting material must be retained on file by the Responsible Entity in an Environmental Review Record (ERR) for the activity/project (ref: 24 CFR Part 58.38) and in accordance with recordkeeping requirements for the HUD program(s).

# EA Appendix A

# Worksheets

# PR-CRP-000721 Paseo Hatchery

| | |
|---|---|
| A01 | Airport Hazards |
| A01 | Airport Runway Clear Zones |
| A02 | Coastal Barrier Resources Act |
| A03 | Flood Insurance |
| A04 | Air Quality |
| A05 | Coastal Zone Management Act |
| A06 | Contamination-and-Toxic-Substances |
| A07 | Endangered-Species-Act |
| AO8 | Explosives and Flammable |
| A09 | Farmlands-Partner |
| A10 | Floodplain-Management |
| A11 | Historic-Preservation |
| A12 | Noise-EA |
| A13 | Sole-Source-Aquifers |
| A14 | Wetlands |
| A15 | Wild-and-Scenic-Rivers |
| A16 | Environmental-Justice |

OMB No. 2506-0177
(exp.9/30/2021)

U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
WASHINGTON, DC 20410-1000

# PR-CRP-000721_Paseo Hatchery
# Airport Runway Clear Zones (CENST) – PARTNER

https://www.hudexchange.info/environmental-review/airport-hazards

1. **Does the project involve the sale or acquisition of developed property?**

   ☒No → *If the RE/HUD agrees with this recommendation, the review is in compliance with this section. Continue to the Worksheet Summary below.*

   ☐Yes → *Continue to Question 2.*

2. **Is the project in the Runway Protection Zone/Clear Zone (RPZ/CZ)[1]?**

   ☐No → *If the RE/HUD agrees with this recommendation, the review is in compliance with this section. Continue to the Worksheet Summary below. Provide a map showing that the site is not within either zone.*

   ☐Yes → Written notice must be provided to prospective buyers to inform them of the potential hazards from airplane accidents as well as the potential for the property to be purchased as part of an airport expansion project. A sample notice is available through the HUD Exchange.

   *Provide a map showing that the site within RPZ/CZ. Work with the RE/HUD to provide written notice to the prospective buyers. Continue to the Worksheet Summary below.*

**Worksheet Summary**

Provide a full description of your determination and a synopsis of the information that it was based on, such as:

- Map panel numbers and dates
- Names of all consulted parties and relevant consultation dates
- Names of plans or reports and relevant page numbers
- Any additional requirements specific to your program or region

**Include all documentation supporting your findings in your submission to HUD.**

The project site is not within 2,500 feet of a civilian airport. The distance to the nearest military airport, "Coast Guard Air Station Borinquen" located within the Rafael Hernandez Airport is 22.83 miles.
The project is in compliance with Airport Hazards requirements. Refer to Appendix B:
B01.1-AIRPORT HAZARDS PLAN-1

[1] Runway Protection Zone/Clear Zones are defined as areas immediately beyond the ends of runways. The standards are established by FAA regulations. The term in 24 CFR Part 51, Runway Clear Zones, was redefined in FAA's Airport Design Advisory Circular (AC) 150/5300-13 to refer to Runway Protection Zones for civil airports. See link above for additional information.

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**U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT**
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# Coastal Barrier Resources (CEST and EA) – PARTNER

https://www.hudexchange.info/environmental-review/coastal-barrier-resources

Projects located in the following states must complete this form.

| | | | | | |
|---|---|---|---|---|---|
| Alabama | Georgia | Massachusetts | New Jersey | Puerto Rico | Virgin Islands |
| Connecticut | Louisiana | Michigan | New York | Rhode Island | Virginia |
| Delaware | Maine | Minnesota | North Carolina | South Carolina | Wisconsin |
| Florida | Maryland | Mississippi | Ohio | Texas | |

**1. Is the project located in a CBRS Unit?**

☒No → *If the RE/HUD agrees with this recommendation, the review is in compliance with this section. Continue to the Worksheet Summary below. Provide a map showing that the site is not within a CBRS Unit.*

☐Yes → *Continue to 2.*

> Federal assistance for most activities may not be used at this location. You must either choose an alternate site or cancel the project. In very rare cases, federal monies can be spent within CBRS units for certain exempted activities (e.g., a nature trail), after consultation with the Fish and Wildlife Service (FWS) (see 16 USC 3505 for exceptions to limitations on expenditures).

**2. Indicate your recommended course of action for the RE/HUD**

☐ Consultation with the FWS

☐ Cancel the project

**Worksheet Summary**

Provide a full description of your determination and a synopsis of the information that it was based on, such as:

- Map panel numbers and dates
- Names of all consulted parties and relevant consultation dates
- Names of plans or reports and relevant page numbers
- Any additional requirements specific to your program or region

**Include all documentation supporting your findings in your submission to HUD.**

This project is not located in a CBRS Unit. It is approximately 12.5 miles 44,189 feet from a protected area. Therefore, this project has no potential to impact a CBRS Unit and is in compliance with the Coastal Barrier Resources Act.

Refer to Appendix B:
B02.1-CBR Distance.pdf, B02.2-Certification.pdf.
https://fwsprimary.wim.usgs.gov/CBRSMapper-v2/

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# PR-CRP-000721_Paseo Hatchery
# Flood Insurance (CEST and EA) – PARTNER

https://www.hudexchange.info/environmental-review/flood-insurance

1. **Does this project involve mortgage insurance, refinance, acquisition, repairs, rehabilitation, or construction of a structure, mobile home, or insurable personal property**?
   ☒No. This project does not require flood insurance or is excepted from flood insurance.
   → *Continue to the Worksheet Summary.*

   ☐Yes → *Continue to Question 2.*

2. **Provide a FEMA/FIRM map showing the site.**
   The Federal Emergency Management Agency (FEMA) designates floodplains. The FEMA Map Service Center provides this information in the form of FEMA Flood Insurance Rate Maps (FIRMs).

   **Is the structure, part of the structure, or insurable property located in a FEMA-designated Special Flood Hazard Area?**
   ☐ No → *Continue to the Worksheet Summary.*

   ☐ Yes → *Continue to Question 3.*

3. **Is the community participating in the National Flood Insurance Program *or* has less than one year passed since FEMA notification of Special Flood Hazards?**

   ☐ Yes, the community is participating in the National Flood Insurance Program.
   Flood insurance is required. Provide a copy of the flood insurance policy declaration or a paid receipt for the current annual flood insurance premium and a copy of the application for flood insurance.
   → *Continue to the Worksheet Summary.*

   ☐ Yes, less than one year has passed since FEMA notification of Special Flood Hazards.
   If less than one year has passed since notification of Special Flood Hazards, no flood Insurance is required.
   → *Continue to the Worksheet Summary.*

   ☐ No. The community is not participating, or its participation has been suspended.
   Federal assistance may not be used at this location. Cancel the project at this location.

**Worksheet Summary**

**Include all documentation supporting your findings in your submission to HUD.**
Refer to floodplain map in Appendix B.
The Puerto Rico HUD CRP performed a Flood Zone Evaluation and determined it is located in a flood prone area. The Flood Insurance Rate Map (FIRM) 72000C1040H Panel 1040 effective date April 19, 2005 locates a very small portion of the beginning of the project within the SFHA Zone A. However the Advisory Base Flood Elevations Map (ABFE) locates approximately 75% of the project route within a SFHA.
Proposed improvements within the state Road PR 410 do not occupy or modify the 100 year floodplain. There are no residential or commercial properties that will require mortgage within the project scope of work of the project. Flood Insurance is required when residential or commercial properties are subject to a loan mortgage. Therefore flood insurance is not mandatory in this instance. The project is in compliance with flood insurance requirements.
https://www.hudexchange.info/faqs/crosscutting-requirements/environmental-review/flood-insurance/are-there-any-exceptions-to-the-flood-insurance-purchase-requirements/
https://www.fema.gov/sites/default/files/2020-07/fema_nfip_eval_mandatory_purchase_requirement.pdf

Refer to Appendix B:
B03.1-Maricao_PR-CRP-000721FloodZone_Notification Letter.pdf,
B03.2-720000C1040H.pdf, B03.3-JP-DeterminacióndeInundació.pdf,
B03.4-PR-CRP-000721_FIRM Overlay & Firmettes.pdf, B03.5-NFHL-Firmette Limits.pdf.

OMB No. 2506-0177
(exp.9/30/2021)

**U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT**
WASHINGTON, DC 20410-1000

# PR-CRP-000721_Paseo Hatchery
# Air Quality (CEST and EA) – PARTNER

https://www.hudexchange.info/environmental-review/air-quality

1. **Does your project include new construction or conversion of land use facilitating the development of public, commercial, or industrial facilities OR five or more dwelling units?**

   ☐ Yes → *Continue to Question 2.*

   ☒ No → *If the RE/HUD agrees with this recommendation, the review is in compliance with this section. Provide any documents used to make your determination.*

2. **Is your project's air quality management district or county in non-attainment or maintenance status for any criteria pollutants?**
   Follow the link below to determine compliance status of project county or air quality management district:
   http://www.epa.gov/oaqps001/greenbk/

   ☐ No, project's county or air quality management district is in attainment status for all criteria pollutants
   → *If the RE/HUD agrees with this recommendation, the review is in compliance with this section. Continue to the Worksheet Summary below. Provide any documents used to make your determination.*

   ☐ Yes, project's management district or county is in non-attainment or maintenance status for one or more criteria pollutants. → *Continue to Question 3.*

3. **Determine the <u>estimated emissions levels of your project for each of those criteria pollutants</u> that are in non-attainment or maintenance status on your project area. Will your project exceed any of the *de minimis or threshold* emissions levels of non-attainment and maintenance level pollutants or exceed the screening levels established by the state or air quality management district?**

   ☐ No, the project will not exceed *de minimis* or threshold emissions levels or screening levels
   → *If the RE/HUD agrees with this recommendation, the review is in compliance with this section. Explain how you determined that the project would not exceed de minimis or threshold emissions.*

   ☐ Yes, the project exceeds *de minimis* emissions levels or screening levels.

→ *Continue to Question 4. Explain how you determined that the project would not exceed de minimis or threshold emissions in the Worksheet Summary.*

4. **For the project to be brought into compliance with this section, all adverse impacts must be mitigated. Explain in detail the exact measures that must be implemented to mitigate for the impact or effect, including the timeline for implementation.**
   Click here to enter text.

**Worksheet Summary**

Provide a full description of your determination and a synopsis of the information that it was based on, such as:

- Map panel numbers and dates
- Names of all consulted parties and relevant consultation dates
- Names of plans or reports and relevant page numbers
- Any additional requirements specific to your program or region

**Include all documentation supporting your findings in your submission to HUD.**

The proposed actions include installation of permeable pavement along segments of an existing road shoulder, speedtables to maintain speed limits, replacement of guardrails, complmentary lighting, are not activities that require conversion of land use. No emissions will be generated from the full functionality of the street improvements are in place.

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**U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT**
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## Coastal Zone Management Act (CEST and EA) – PARTNER

https://www.onecpd.info/environmental-review/coastal-zone-management

Projects located in the following states must complete this form.

| | | | | | |
|---|---|---|---|---|---|
| Alabama | Florida | Louisiana | Mississippi | Ohio | Texas |
| Alaska | Georgia | Maine | New Hampshire | Oregon | Virgin Islands |
| American Samona | Guam | Maryland | New Jersey | Pennsylvania | Virginia |
| California | Hawaii | Massachusetts | New York | Puerto Rico | Washington |
| Connecticut | Illinois | Michigan | North Carolina | Rhode Island | Wisconsin |
| Delaware | Indiana | Minnesota | Northern Mariana Islands | South Carolina | |

**1. Is the project located in, or does it affect, a Coastal Zone as defined in your state Coastal Management Plan?**

☐Yes → *Continue to Question 2.*
☒No → *If the RE/HUD agrees with this recommendation, the review is in compliance with this section. Continue to the Worksheet Summary below. Provide a map showing that the site is not within a Coastal Zone.*

**2. Does this project include activities that are subject to state review**?

☐Yes → *Continue to Question 3.*
☐No → *If the RE/HUD agrees with this recommendation, the review is in compliance with this section. Continue to the Worksheet Summary below. Provide documentation used to make your determination.*

**3. Has this project been determined to be consistent with the State Coastal Management Program**?

☐Yes, with mitigation. → *The RE/HUD must work with the State Coastal Management Program to develop mitigation measures to mitigate the impact or effect of the project.*

☐Yes, without mitigation. → *If the RE/HUD agrees with this recommendation, the review is in compliance with this section. Continue to the Worksheet Summary below. Provide documentation used to make your determination.*

☐No → Project cannot proceed at this location.

**Worksheet Summary**

Provide a full description of your determination and a synopsis of the information that it was based on,
such as:

- Map panel numbers and dates
- Names of all consulted parties and relevant consultation dates
- Names of plans or reports and relevant page numbers
- Any additional requirements specific to your program or region

**Include all documentation supporting your findings in your submission to HUD.**
This project is not located in or does not affect a Coastal Zone as defined in the state Coastal Management Plan. The project area is 12.5 miles from the coastal zone. The project is in compliance with the Coastal Zone Management Act.
Refer to Appendix B:
B05.1-CBR-Distance.pdf.

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# PR-CRP-000721_Paseo Hatchery
# Contamination and Toxic Substances (Multifamily and Non-Residential Properties) – PARTNER

https://www.hudexchange.info/programs/environmental-review/site-contamination

1. **How was site contamination evaluated?** [1] **Select all that apply.**

   ☐ ASTM Phase I ESA
   ☐ ASTM Phase II ESA
   ☐ Remediation or clean-up plan
   ☐ ASTM Vapor Encroachment Screening
   ☒ None of the above

   → *Provide documentation and reports and include an explanation of how site contamination was evaluated in the Worksheet Summary.*
   *Continue to Question 2.*

2. **Were any on-site or nearby toxic, hazardous, or radioactive substances found that could affect the health and safety of project occupants or conflict with the intended use of the property? (Were any recognized environmental conditions or RECs identified in a Phase I ESA and confirmed in a Phase II ESA?)**

   ☒ No → **Explain below.**

   The project route has been thoroughly observed during the design review of existing site conditions. As a result, no on-site or nearby toxic, hazardous, or radioactive substances that could affect the health and safety of project users were identified. Where the project will take place, no landfills/dumps, industrial sites, UST, substations or dry cleaners were identified in the surroundings. EPA Facilities Map inventory within 3,000 feet of the project does not indicate potential contamination conflicts.

   → *If the RE/HUD agrees with this recommendation, the review is in compliance with this section. Continue to the Worksheet Summary below.*

   or dry cleaners were identified in the surroundings. EPA Facilities Map inventory within 3,000 feet of the project does not indicate potential contamination conflicts.

   ☐ Yes → *Describe the findings, including any recognized environmental conditions (RECs), in Worksheet Summary below. Continue to Question 3.*

[1] HUD regulations at 24 CFR § 58.5(i)(2)(ii) require that the environmental review for multifamily housing with five or more dwelling units or non-residential property include the evaluation of previous uses of the site or other evidence of contamination on or near the site. For acquisition and new construction of multifamily and nonresidential properties HUD strongly advises the review include an ASTM Phase I Environmental Site Assessment (ESA) to meet real estate transaction standards of due diligence and to help ensure compliance with HUD's toxic policy at 24 CFR §58.5(i) and 24 CFR §50.3(i). Also note that some HUD programs require an ASTM Phase I ESA.

3. **Can adverse environmental impacts be mitigated?**

   ☐ Adverse environmental impacts cannot feasibly be mitigated → HUD assistance may not be used for the project at this site. Project cannot proceed at this location.

   ☐ Yes, adverse environmental impacts can be eliminated through mitigation.
   → *Provide all mitigation requirements*[2] *and documents. Continue to Question 4.*

4. **Describe how compliance was achieved. Include any of the following that apply: State Voluntary Clean-up Program, a No Further Action letter, use of engineering controls**[3]**, or use of institutional controls**[4]**.**

   Click here to enter text.

   **If a remediation plan or clean-up program was necessary, which standard does it follow?**

   ☐ Complete removal

   ☐ Risk-based corrective action (RBCA)

   → *Continue to the Worksheet Summary.*

**Worksheet Summary**

Provide a full description of your determination and a synopsis of the information that it was based on, such as:

- Map panel numbers and dates
- Names of all consulted parties and relevant consultation dates
- Names of plans or reports and relevant page numbers
- Any additional requirements specific to your program or region

**Include all documentation supporting your findings in your submission to HUD.**

Within 3000 feet (0.5 mile) of the Project site, (3) EPA sites were identified. The two NPDES water discharge sites (PRASA WTP Water Filter Plant and FENWALL) had no violations identified for the last 5 years. FENWALL had terminated permit. The Hazardous waste site (RCRA), TOTAL Petroleum gas station also had no violations identified for the last 5 years. The project is in compliance with contamination and toxic substances requirements. The Project will not involve residents or increase in occupancy of any structure. There would be no increase in risk associated with the proposed project.
Refer to map in Appendix B and supporting documentation in Appendix C.

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[2] Mitigation requirements include all clean-up actions required by applicable federal, state, tribal, or local law. Additionally, provide, as applicable, the long-term operations and maintenance plan, Remedial Action Work Plan, and other equivalent documents.

[3] Engineering controls are any physical mechanism used to contain or stabilize contamination or ensure the effectiveness of a remedial action. Engineering controls may include, without limitation, caps, covers, dikes, trenches, leachate collection systems, signs, fences, physical access controls, ground water monitoring systems and ground water containment systems including, without limitation, slurry walls and ground water pumping systems.

[4] Institutional controls are mechanisms used to limit human activities at or near a contaminated site, or to ensure the effectiveness of the remedial action over time, when contaminants remain at a site at levels above the applicable remediation standard which would allow for unrestricted use of the property. Institutional controls may include structure, land, and natural resource use restrictions, well restriction areas, classification exception areas, deed notices, and declarations of environmental restrictions.

Appendix B:
B06.1-EPA Facilities Map.pdf
Appendix C:
C06.2-NEPAssistReport.pdf
C06.3-Gasstation_DetailedFacilityReport_ECHO_US_EPA.pdf
C06.4-AAA_DetailedFacilityReport_ECHO_US_EPA.pdf,
C06.5-FENWAL_DetailedFacilityReport_ECHO_US_EPA.pdf.

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# PR-CRP-000721 – Paseo Hatchery

## Endangered Species Act (CEST and EA) – PARTNER

https://www.hudexchange.info/environmental-review/endangered-species

1. **Does the project involve any activities that have the potential to affect species or habitats?**

☒No, the project will have No Effect due to the nature of the activities involved in the project.

→ *If the RE/HUD agrees with this recommendation, the review is in compliance with this section. Continue to the Worksheet Summary below. Provide any documents used to make your determination.*

☐No, the project will have No Effect based on a letter of understanding, memorandum of agreement, programmatic agreement, or checklist provided by local HUD office.

**Explain your determination:**

Click here to enter text.

→ *If the RE/HUD agrees with this recommendation, the review is in compliance with this section. Continue to the Worksheet Summary below. Provide any documents used to make your determination.*

☐Yes, the activities involved in the project have the potential to affect species and/or habitats. → *Continue to Question 2.*

2. **Are federally listed species or designated critical habitats present in the action area?**

Obtain a list of protected species from the Services. This information is available on the FWS Website.

☐No, the project will have No Effect due to the absence of federally listed species and designated critical habitat.

→ *If the RE/HUD agrees with this recommendation, the review is in compliance with this section. Continue to the Worksheet Summary below. Provide any documents used to make your determination. Documentation may include letters from the Services, species lists from the Services' websites, surveys or other documents and analysis showing that there are no species in the action area.*

☒Yes, there are federally listed species or designated critical habitats present in the action area. → *Continue to Question 3.*

3. **Recommend one of the following effects that the project will have on federally listed species or designated critical habitat:**

☒No Effect: Based on the specifics of both the project and any federally listed species in the action area, you have determined that the project will have absolutely no effect on listed species or critical habitat.

→ *If the RE/HUD agrees with this recommendation, the review is in compliance with this section. Continue to the Worksheet Summary below. Provide any documents used to make your determination. Documentation should include a species list and explanation of your conclusion, and may require maps, photographs, and surveys as appropriate.*

☐May Affect, Not Likely to Adversely Affect: Any effects that the project may have on federally listed species or critical habitats would be beneficial, discountable, or insignificant.

→ Partner entities should not contact the Services directly. *If the RE/HUD agrees with this recommendation, they will have to complete Informal Consultation. Provide the RE/HUD with a biological evaluation or equivalent document. They may request additional information, including surveys and professional analysis, to complete their consultation.*

☐Likely to Adversely Affect: The project may have negative effects on one or more listed species or critical habitat.

→ Partner entities should not contact the Services directly. *If the RE/HUD agrees with this recommendation, they will have to complete Formal Consultation. Provide the RE/HUD with a biological evaluation or equivalent document. They may request additional information, including surveys and professional analysis, to complete their consultation.*

**Worksheet Summary**

Provide a full description of your determination and a synopsis of the information that it was based on, such as:

- Map panel numbers and dates
- Names of all consulted parties and relevant consultation dates
- Names of plans or reports and relevant page numbers
- Any additional requirements specific to your program or region

**Include all documentation supporting your findings in your submission to HUD.**

Although the project is in close proximity to a protected area, this project will have No Effect on listed species due to the nature of the activities involved in the project on an existing roadway ROW. The inventory of flora and fauna performed along the project route length by REFORESTA Inc., did not detect endangered species. Attached are a copy of the Flora and Fauna Inventory and the US Fish and Wildlife Service map of Protected Areas.

The areas close to the road PR 410 and its shoulders have been previously disturbed, therefore existing vegetation is characteristically a mixture of native and introduced vegetation. The proposed landscape planting of the existing shoulder will diversify this mixture with broad leaf flowering plants. As expected, in areas further apart from the road edge native planting dominates. Since the project occurs within the ROW of the existing road PR 410 there won't be a quantifiable impact upon plant and natural life.

Since the project development along the floodplain requires no fill and the proposed pedestrian path is a prefabricated permeable pavement, the construction will have minimal effects on water resources, natural flood and erosion control, water quality, and groundwater recharge are preserved along the shared road route.

Based on the nature of the project, scope of work, information available , and a careful analysis of the Project Site, and iPaC species list, it was determined that there would be No Effect for any of the species listed. If a Puerto Rican boa is  encountered, work will cease until until it moves off the site or, failing that, the Puerto Rico Department of Natural Resources (PRDNER) Rangers will be notified for safe capture and relocation of the reptile, in accordance with the USFW Puerto Rican Boa Conservation Measures Guidelines and the July, 2023 Amended Programmatic Biological Opinion.

However since the iPac system identified federally listed species and critical habitats were noted within the Project Site an Informal Consultation process was initiated with local USFWS to confirm our No Effect determination.

Refer to Appendix D:

D07 - USFWS Informal Consultation

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**PR-CRP-000721_Paseo Hatchery**
**Explosive and Flammable Hazards (CEST and EA) – PARTNER**
https://www.hudexchange.info/environmental-review/explosive-and-flammable-facilities

1. **Does the proposed HUD-assisted project include a hazardous facility (a facility that mainly stores, handles or processes flammable or combustible chemicals such as bulk fuel storage facilities and refineries)?**

   ☒ No
   → *Continue to Question 2.*

   ☐ Yes
   **Explain**:
   Click here to enter text.
   → *Continue to Question 5.*

2. **Does this project include any of the following activities: development, construction, rehabilitation that will increase residential densities, or conversion?**

   ☒ No → *If the RE/HUD agrees with this recommendation, the review is in compliance with this section. Continue to the Worksheet Summary below.*

   ☐ Yes → *Continue to Question 3.*

3. **Within 1 mile of the project site, are there any current *or planned* stationary aboveground storage containers:**
   - Of more than 100-gallon capacity, containing common liquid industrial fuels OR
   - Of any capacity, containing hazardous liquids or gases that are not common liquid industrial fuels?

   ☐ No → *If the RE/HUD agrees with this recommendation, the review is in compliance with this section. Continue to the Worksheet Summary below. Provide all documents used to make your determination.*

   ☐ Yes → *Continue to Question 4.*

4. **Is the Separation Distance from the project acceptable based on standards in the Regulation?**
   Please visit HUD's website for information on calculating Acceptable Separation Distance.

   ☐ Yes
   → *If the RE/HUD agrees with this recommendation, the review is in compliance with this section. Continue to the Worksheet Summary below.*
   *Provide map(s) showing the location of the project site relative to any tanks and your separation distance calculations. If the map identifies more than one tank, please identify the tank you have chosen as the "assessed tank."*

☐ No

→ *Continue to Question 6.*

*Provide map(s) showing the location of the project site relative to any tanks and your separation distance calculations. If the map identifies more than one tank, please identify the tank you have chosen as the "assessed tank."*

5. **Is the hazardous facility located at an acceptable separation distance from residences and any other facility or area where people may congregate or be present?**

   Please visit HUD's website for information on calculating Acceptable Separation Distance.

   ☐ Yes

   → *If the RE/HUD agrees with this recommendation, the review is in compliance with this section. Continue to the Worksheet Summary below.*

   *Provide map(s) showing the location of the project site relative to residences and any other facility or area where people congregate or are present and your separation distance calculations.*

   ☐ No

   → *Continue to Question 6.*

   *Provide map(s) showing the location of the project site relative to residences and any other facility or area where people congregate or are present and your separation distance calculations.*

6. **For the project to be brought into compliance with this section, all adverse impacts must be mitigated. Explain in detail the exact measures that must be implemented to make the Separation Distance acceptable, including the timeline for implementation. If negative effects cannot be mitigated, cancel the project at this location.**

   Note that only licensed professional engineers should design and implement blast barriers. If a barrier will be used or the project will be modified to compensate for an unacceptable separation distance, provide approval from a licensed professional engineer.

   Click here to enter text.

**Worksheet Summary**

Provide a full description of your determination and a synopsis of the information that it was based on, such as:

- Map panel numbers and dates
- Names of all consulted parties and relevant consultation dates
- Names of plans or reports and relevant page numbers
- Any additional requirements specific to your program or region

**Include all documentation supporting your findings in your submission to HUD.**

The project does not include any hazardous facilities or a facility that mainly stores, handles or processes flammable or combustible chemicals such as bulk fuel storage facilities and refineries. The project activities will not increase residential densities, or convert other uses into residential ones. Based on the project description (installation of precast permeable modules along an existing road shoulder and pavement replacement in specific segments), the project includes no activities that would

require further evaluation under this section. The project is in compliance with explosive and flammable hazard requirements.

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# Farmlands Protection (CEST and EA) - PARTNER

https://www.hudexchange.info/environmental-review/farmlands-protection

1. **Does your project include any activities, including new construction, acquisition of undeveloped land or conversion, that could convert agricultural land to a non-agricultural use?**
   ☐ Yes → *Continue to Question 2.*
   ☒ No
   → *If the RE/HUD agrees with this recommendation, the review is in compliance with this section. Continue to the Worksheet Summary below.*

2. **Does "important farmland," including prime farmland, unique farmland, or farmland of statewide or local importance regulated under the Farmland Protection Policy Act, occur on the project site?**
   You may use the links below to determine important farmland occurs on the project site:
   - Utilize USDA Natural Resources Conservation Service's (NRCS) Web Soil Survey http://websoilsurvey.nrcs.usda.gov/app/HomePage.htm
   - Check with your city or county's planning department and ask them to document if the project is on land regulated by the FPPA (zoning important farmland as non-agricultural does not exempt it from FPPA requirements)
   - Contact NRCS at the local USDA service center http://offices.sc.egov.usda.gov/locator/app?agency=nrcs or your NRCS state soil scientist http://soils.usda.gov/contact/state_offices/ for assistance

   ☐ No → *If the RE/HUD agrees with this recommendation, the review is in compliance with this section. Continue to the Worksheet Summary below. Provide any documents used to make your determination.*

   ☐ Yes → *Continue to Question 3.*

3. **Consider alternatives to completing the project on important farmland and means of avoiding impacts to important farmland.**
   - Complete form **AD-1006**, "Farmland Conversion Impact Rating" and contact the state soil scientist before sending it to the local NRCS District Conservationist.
   - Work with NRCS to minimize the impact of the project on the protected farmland. When you have finished with your analysis, return a copy of form AD-1006 to the USDA-NRCS State Soil Scientist or his/her designee informing them of your determination.

   **Work with the RE/HUD to determine how the project will proceed. Document the conclusion:**
   ☐Project will proceed with mitigation.
   **Explain in detail the proposed measures that must be implemented to mitigate for the impact or effect, including the timeline for implementation.**

Click here to enter text.

→ *If the RE/HUD agrees with this recommendation, the review is in compliance with this section. Continue to the Worksheet Summary below. Provide form AD-1006 and all other documents used to make your determination.*

☐Project will proceed without mitigation.

**Explain why mitigation will not be made here:**

Click here to enter text.

→ *If the RE/HUD agrees with this recommendation, the review is in compliance with this section. Continue to the Worksheet Summary below. Provide form AD-1006 and all other documents used to make your determination.*

**Worksheet Summary**

Provide a full description of your determination and a synopsis of the information that it was based on, such as:

- Map panel numbers and dates
- Names of all consulted parties and relevant consultation dates
- Names of plans or reports and relevant page numbers
- Any additional requirements specific to your program or region

**Include all documentation supporting your findings in your submission to HUD.**

Project activities include installation of precast permeable modules along an existing road shoulder and pavement replacement in specific segments of that same existing road. Although a segment of the road crosses soils of farmland of statewide importance, this project does not include any activities that could potentially convert agricultural land to a non-agricultural use because it is designed within an existing road ROW. However, the area adjacent to the road has been also impacted previously by housing units on big parcels. The area was previously impacted by urban uses for decades. The project is in compliance with the Farmland Protection Policy Act.

https://websoilsurvey.nrcs.usda.gov/app/
Refer to Appendix B:
B09-Paseo Hatchery_Soil_Report Location Map.pdf
Refer to Appendix E:
E09-Paseo Hatchery_Soil_Report.pdf

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# Floodplain Management (CEST and EA) – PARTNER

https://www.hudexchange.info/environmental-review/floodplain-management

1. **Does 24 CFR 55.12(c) exempt this project from compliance with HUD's floodplain management regulations in Part 55?**

   ☐ Yes

   **Provide the applicable citation at 24 CFR 55.12(c) here. If project is exempt under 55.12(c)(6) or (8), provide supporting documentation.**

   Click here to enter text.

   → *If the RE/HUD agrees with this recommendation, the review is in compliance with this section. Continue to the Worksheet Summary below. Continue to the Worksheet Summary.*

   ☒ No → *Continue to Question 2.*

2. **Provide a FEMA/FIRM map showing the site.**

   The Federal Emergency Management Agency (FEMA) designates floodplains. The FEMA Map Service Center provides this information in the form of FEMA Flood Insurance Rate Maps (FIRMs).

   **Does your project occur in a floodplain?**

   ☐ No → *Continue to the Worksheet Summary below.*

   ☒ Yes

   **Select the applicable floodplain using the FEMA map or the best available information:**

   ☐ Floodway → *Continue to Question 3, Floodways*

   ☐ Coastal High Hazard Area (V Zone) → *Continue to Question 4, Coastal High Hazard Areas*

   ☐ 500-year floodplain (B Zone or shaded X Zone) → *Continue to Question 5, 500-year Floodplains*

   ☒ 100-year floodplain (A Zone) → *The 8-Step Process is required. Continue to Question 6, 8-Step Process*

3. **Floodways**

   **Is this a functionally dependent use?**

   ☐ Yes

   The 8-Step Process is required. Work with HUD or the RE to assist with the 8-Step Process.

   → *Continue to Worksheet Summary.*

☐ No → *Federal assistance may not be used at this location unless an exception in 55.12(c) applies. You must either choose an alternate site or cancel the project.*

4. **Coastal High Hazard Area**

**Is this a critical action such as a hospital, nursing home, fire station, or police station?**

☐ Yes → *Critical actions are prohibited in coastal high hazard areas unless an exception in 55.12(c) applies. You must either choose an alternate site or cancel the project.*

☐ No

**Does this action include new construction that is not a functionally dependent use, existing construction (including improvements), or reconstruction following destruction caused by a disaster?**

☐ Yes, there is new construction of something that is not a functionally dependent use. New construction must be designed to FEMA standards for V Zones at 44 CFR 60.3(e) (24 CFR 55.1(c)(3)(i)).
→ *Continue to Question 6, 8-Step Process*

☐ No, this action concerns only existing construction.
Existing construction must have met FEMA elevation and construction standards for a coastal high hazard area or other standards applicable at the time of construction.
→ *Continue to Question 6, 8-Step Process*

5. **500-year Floodplain**

**Is this a critical action?**

☐ No → *If the RE/HUD agrees with this recommendation, the review is in compliance with this section. Continue to the Worksheet Summary below. Continue to the Worksheet Summary below.*

☐Yes → *Continue to Question 6, 8-Step Process*

6. **8-Step Process**.

**Is this 8-Step Process required? Select one of the following options:**

☒ 8-Step Process applies.
This project will require mitigation and may require elevating structure or structures. See the link to the HUD Exchange above for information on HUD's elevation requirements.
→ *Work with the RE/HUD to assist with the 8-Step Process. Continue to Worksheet Summary.*

☐ 5-Step Process is applicable per 55.12(a)(1-3).
**Provide the applicable citation at 24 CFR 55.12(a) here.**
Click here to enter text.
→ *Work with the RE/HUD to assist with the 5-Step Process. Continue to Worksheet Summary.*

☐ 8-Step Process is inapplicable per 55.12(b)(1-4).
**Provide the applicable citation at 24 CFR 55.12(b) here.**
Click here to enter text.
→ *If the RE/HUD agrees with this recommendation, the review is in compliance with this section. Continue to the Worksheet Summary below.*

**Worksheet Summary**

Provide a full description of your determination and a synopsis of the information that it was based on, such as:

- Map panel numbers and dates
- Names of all consulted parties and relevant consultation dates
- Names of plans or reports and relevant page numbers
- Any additional requirements specific to your program or region

**Include all documentation supporting your findings in your submission to HUD.**

Although the proposed action site is in a floodplain, it has no impact on floodplain natural values or functions. The proposed action is developed within the existing road ROW on previously disturbed soils and does not include fill. The project route encompasses an area of 2.25 acres, 75% (1.69 acres) are located within the floodplain.

Because this project involves ground disturbance and is in the floodplain, an 8-step analysis was performed. Both notifications were published and no comments were received.

One of its design objectives is to showcase the intrinsic values of the Maricao River riparian ecosystem which can be appreciated along the Paseo Hatchery. As a mitigation measure, construction materials and method was modified to include permeable pavement modules for the pedestrian path which will provide soil perviousness to the previously compacted road shoulders and minimize the use of large machinery which minimizes potential construction impact.

Additionally, to promote and preserve the floodplain natural intrinsic values, the project includes native planting in focus points along the project path.

FEMA Map Service Center https://gis-r2-fema.hub.arcgis.com/pages/puertorico

Refer to Appendix B:
B10.1-Maricao_PR-CRP-000721FloodZone.pdf, B10.2-FIRMETTE-720001040H.pdf, B10.3-PR-CRP000721_FIRM Overlay & FIRMETTES.pdf, B10.4-NFHL-Firmette Limits.pdf, B10.5-ABFE-PR-CRP-000721_StreetMap.pdf, B10.6-ABFE-PR-CRP-000721-MAP.pdf
Refer to Appendix E:
E10 - 8 Step Process

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# PR-CRP-000721_Paseo Hatchery

# Historic Preservation (CEST and EA) – PARTNER

https://www.hudexchange.info/environmental-review/historic-preservation

## Threshold

**Is Section 106 review required for your project?**

☐ No, because a Programmatic Agreement states that all activities included in this project are exempt. (See the PA Database to find applicable PAs.)
**Either provide the PA itself or a link to it here. Mark the applicable exemptions or include the text here:**
Click here to enter text.
→ *Continue to the Worksheet Summary.*

☐ No, because the project consists solely of activities included in a No Potential to Cause Effects memo or other determination [36 CFR 800.3(a)(1)].
**Either provide the memo itself or a link to it here. Explain and justify the other determination here:**
Click here to enter text.
→ *Continue to the Worksheet Summary.*

☒Yes, because the project includes activities with potential to cause effects (direct or indirect). → *Continue to Step 1.*

**The Section 106 Process**
After determining the need to do a Section 106 review, HUD or the RE will initiate consultation with regulatory and other interested parties, identify and evaluate historic properties, assess effects of the project on properties listed on or eligible for the National Register of Historic Places, and resolve any adverse effects through project design modifications or mitigation.
Step 1: Initiate consultation
Step 2: Identify and evaluate historic properties
Step 3: Assess effects of the project on historic properties
Step 4: Resolve any adverse effects

Only RE or HUD staff may initiate the Section 106 consultation process. Partner entities may gather information, including from SHPO records, identify and evaluate historic properties, and make initial assessments of effects of the project on properties listed in or eligible for the National Register of Historic Place. Partners should then provide their RE or HUD with all of their analysis and documentation so that they may initiate consultation.

### Step 1 - Initiate Consultation

The following parties are entitled to participate in Section 106 reviews: Advisory Council on Historic Preservation; State Historic Preservation Officers (SHPOs); federally recognized Indian tribes/Tribal Historic Preservation Officers (THPOs); Native Hawaiian Organizations (NHOs); local governments; and project grantees. The general public and individuals and organizations with a demonstrated interest in a project may participate as consulting parties at the discretion of the RE or HUD official. Participation varies with the nature and scope of a project. Refer to HUD's website for guidance on consultation, including the required timeframes for response. Consultation should begin early to enable full consideration of preservation options.

Use the When To Consult With Tribes checklist within Notice CPD-12-006: Process for Tribal Consultation to determine if the RE or HUD should invite tribes to consult on a particular project. Use the Tribal Directory Assessment Tool (TDAT) to identify tribes that may have an interest in the area where the project is located. Note that only HUD or the RE may initiate consultation with Tribes. Partner entities may prepare a draft letter for the RE or HUD to use to initiate consultation with tribes, but may not send the letter themselves.

**List all organizations and individuals that you believe may have an interest in the project here:**

The Maricao County Government
The State Historic Preservation Office (SHPO)

→ *Continue to Step 2.*

### Step 2 - Identify and Evaluate Historic Properties

**Provide a preliminary definition of the Area of Potential Effect (APE), either by entering the address(es) or providing a map depicting the APE.** Attach an additional page if necessary.
Area of Potential Effects
As defined in 36 CFR §800.16(d), the area of potential effects (APE) is the geographic area or areas within which an undertaking may directly or indirectly cause changes in the character or use of historic properties if any such properties exist. Based on this definition and the nature and scope of the Project, the Program has determined that the direct APE for this project is the entire segment of the PR-410 road from kilometer 0.3 to kilometer 1.7 plus the area of the Gruta deSan Juan Bautista to the north and the entrance to the fish hatchery to the south, and the viewshed of the proposed project (Figures 1-3).

Refer to Appendix B11.3, B11.4, B11.5 for related figures.

Gather information about known historic properties in the APE. Historic buildings, districts and archeological sites may have been identified in local, state, and national surveys and registers, local historic
districts, municipal plans, town and county histories, and local history websites. If not already listed on the
National Register of Historic Places, identified properties are then evaluated to see if they are eligible for

the National Register. Refer to HUD's website for guidance on identifying and evaluating historic properties.

**In the space below, list historic properties identified and evaluated in the APE.**
Every historic property that may be affected by the project should be listed. For each historic property or district, include the National Register status, whether the SHPO has concurred with the finding, and whether information on the site is sensitive. Attach an additional page if necessary.
Identification of Historic Properties– Archaeology
Existing information on previously identified historic properties has been reviewed to determine if any such properties are located within the APE of this undertaking. The review of this existing information, by a Program contracted Historic Preservation Specialist meeting the Secretary of the Interior's Professional Qualification Standards (36CFRPart61), shows that within a 0.25-mile radius of the project area we have thirteen (13) cultural resources, two of which are included in the NRHP (see Table1). All sites located within the 0.25-mile radius are historic. The sites included in the NRHP located within the 0.25-mile radius are the Maricao Fish Hatchery and the San Juan Bautista de Maricao Church (SHPO: MI0200001). At the southern end adjacent to the project Paseo Hatchery, we have the Maricao Fish Nursery and the San Juan Bautista Church is 0.13 miles northeast. Eight of the thirteen sites reported appear as eligible for the NRHP in the survey for Maricao (NPS Grant money).These are: Maricao Town Square located 0.11 miles northeast; Raul Ybarra school located 0.24 miles northeast; Commercial Building located 0.15 miles northeast; El Buen Pastor Presbyterian Church located 0. 11 miles northeast; City Hall located 0.10miles northeast; Sisters of Fatima Convent located 0.14 miles northeast; Mariana Bracetti school located 0.23 miles northeast; and Rafael Janer school located 0.13 miles northeast. The information shown in the table for eligible sites is what we have available in the survey (NPS grant money). Within the 0.25-miles radius we also have the Maricao Town Square (ICP: MR-47), located 0.09 miles northeast; the Hacienda Rolón (ICP: MR-76) located 0.16 miles northwest; the Hacienda Santa Rita (ICP: MR-18), located 0.17 Miles southeast; and the brick kiln (SHPO: MI0100005), located 0.03 miles southeast (see Table1). The Traditional Urban Center of Maricao is 0.05 miles northeast of the project area.
Refer to tables in Attachment B11.6.

*Provide the documentation (survey forms, Register nominations, concurrence(s) and/or objection(s), notes, and photos) that justify your National Register Status determination.*

**Was a survey of historic buildings and/or archeological sites done as part of the project?**
If the APE contains previously unsurveyed buildings or structures over 50 years old, or there is a likely presence of previously unsurveyed archeological sites, a survey may be necessary. For Archeological surveys, refer to HP Fact Sheet #6, Guidance on Archeological Investigations in HUD Projects.

☐ Yes → *Provide survey(s) and report(s) and continue to Step 3.*
Additional notes:
Click here to enter text.

☒ No → *Continue to Step 3.*

### Step 3 - Assess Effects of the Project on Historic Properties

Only properties that are listed on or eligible for the National Register of Historic Places receive further consideration under Section 106. Assess the effect(s) of the project by applying the Criteria of Adverse Effect. (36 CFR 800.5) Consider direct and indirect effects as applicable as per HUD guidance.

**Choose one of the findings below to recommend to the RE or HUD.**
Please note: this is a recommendation only. It is **not** the official finding, which will be made by the RE or HUD, but only your suggestion as a Partner entity.

☐ No Historic Properties Affected

**Document reason for finding:**

☐ No historic properties present.

☐ Historic properties present, but project will have no effect upon them.

☒ No Adverse Effect

**Document reason for finding and provide any comments below.**

Comments may include recommendations for mitigation, monitoring, a plan for unanticipated discoveries, etc.

**Determination**

The archaeological potential of the proposed project is high. Within the 0.25-miles area of the PR-CRP-000721 project we have fourteen (14) cultural resources, six (6) located within the project area and two (2) adjacent to the project. The cultural resources within the project area are four (4) stone culvert and the PR-410 road built in the first half of the 20th century as an access road to the Maricao Insular Forest and in 1937 as access to the Maricao Fish Hatchery located within the Insular Forest.

In 2002 we had the opportunity to document several culverts and a stone road built by the CCCs in the Villalba area for a project of the Aqueduct and Sewer Authority. The road, known as Camino El Bolo, also had several stone culverts (Figure 10). This road reached the observation tower located in the Toro Negro Forest in Villalba (López 2002). It is very possible that under the asphalt layer of the PR-410 road there are remains of the old stone road built between 1920 and 1937.

Adjacent to the project and included in the NRHP is the Maricao Fish Hatchery located within the Maricao Insular Forest and also built in stone by the CCCs. Adjacent and within the river near kilometer 0.7 we have a brick dam.

Based on the results of our historic property identification effort and viewshed assessment, the Program has determined that project actions will not affect the historic properties that comprise the Area of Potential Effect, provided that archaeological monitoring is conducted and the culvert are preserved and documented.

We recommend that archaeological monitoring be conducted during excavation work. We further recommend that the culverts be documented and that conservation work be carried out, including but not limited to cleaning and removal of soil, debris and vegetation, and that they be consolidated if necessary.

Refer to Attachments B11.7 and B11.8.

☐ Adverse Effect

**Document reason for finding:**

Copy and paste applicable Criteria into text box with summary and justification.
Criteria of Adverse Effect: 36 CFR 800.5]
Click here to enter text.

**Provide any comments below:**

Comments may include recommendations for avoidance, minimization, and/or mitigation.

Click here to enter text.

*Remember to provide all documentation that justifies your National Register Status determination and recommendations along with this worksheet.*

OMB No. 2506-0177
(exp. 9/30/2021)

**U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT**
WASHINGTON, DC 20410-1000

# PR-CRP-000721_Paseo Hatchery

## Noise (EA Level Reviews) – PARTNER

https://www.hudexchange.info/programs/environmental-review/noise-abatement-and-control

1. **What activities does your project involve? Check all that apply:**

☐ New construction for residential use

NOTE: HUD assistance to new construction projects is generally prohibited if they are located in an Unacceptable zone, and HUD discourages assistance for new construction projects in Normally Unacceptable zones. See 24 CFR 51.101(a)(3) for further details.
→ *Continue to Question 2.*

☐ Rehabilitation of an existing residential property

NOTE: For major or substantial rehabilitation in Normally Unacceptable zones, HUD encourages mitigation to reduce levels to acceptable compliance standards. For major rehabilitation in Unacceptable zones, HUD strongly encourages mitigation to reduce levels to acceptable compliance standards. See 24 CFR 51 Subpart B for further details.
→ *Continue to Question 2.*

☒ None of the above

→ *If the RE/HUD agrees with this recommendation, the review is in compliance with this section. Continue to the Worksheet Summary below.*

2. **Complete the Preliminary Screening to identify potential noise generators in the vicinity (1000' from a major road, 3000' from a railroad, or 15 miles from an airport).**
**Indicate the findings of the Preliminary Screening below:**

☐ There are no noise generators found within the threshold distances above.

→ *If the RE/HUD agrees with this recommendation, the review is in compliance with this section. Continue to the Worksheet Summary below. Provide a map showing the location of the project relative to any noise generators.*

☐ Noise generators were found within the threshold distances.

→ *Continue to Question 3.*

3. **Complete the Noise Assessment Guidelines to quantify the noise exposure. Indicate the findings of the Noise Assessment below:**

☐ Acceptable (65 decibels or less; the ceiling may be shifted to 70 decibels in circumstances described in §24 CFR 51.105(a))

**Indicate noise level here:** Click here to enter text.

→ *If the RE/HUD agrees with this recommendation, the review is in compliance with this section. Continue to the Worksheet Summary below. Provide noise analysis, including noise level and data used to complete the analysis.*

☐ Normally Unacceptable: (Above 65 decibels but not exceeding 75 decibels; the floor may be shifted to 70 decibels in circumstances described in 24 CFR 51.105(a))

**Indicate noise level here:** Click here to enter text.

<u>If project is rehabilitation:</u>

→ *Continue to Question 4. Provide noise analysis, including noise level and data used to complete the analysis.*

<u>If project is new construction:</u>

**Is the project in a largely undeveloped area[1]?**

☐ No

☐ Yes → ***The project requires completion of an Environmental Impact Statement (EIS) pursuant to 51.104(b)(1)(i).***

→ *Continue to Question 4. Provide noise analysis, including noise level and data used to complete the analysis.*

☐ Unacceptable: (Above 75 decibels)

**Indicate noise level here:** Click here to enter text.

<u>If project is rehabilitation:</u>

*HUD strongly encourages conversion of noise-exposed sites to land uses compatible with high noise levels. Consider converting this property to a non-residential use compatible with high noise levels.*

→ *Continue to Question 4. Provide noise analysis, including noise level and data used to complete the analysis, and any other relevant information.*

<u>If project is new construction:</u>

***The project requires completion of an Environmental Impact Statement (EIS) pursuant to 51.104(b)(1)(i).*** *Work with HUD or the RE to either complete an EIS or obtain a waiver signed by the appropriate authority.*

→ *Continue to Question 4.*

4. **HUD strongly encourages mitigation be used to eliminate adverse noise impacts. Work with the RE/HUD on the development of the mitigation measures that must be implemented to mitigate for the impact or effect, including the timeline for implementation.**

☐ Mitigation as follows will be implemented:

Click here to enter text.

→ *Provide drawings, specifications, and other materials as needed to describe the project's noise mitigation measures.*

[1] A largely undeveloped area means the area within 2 miles of the project site is less than 50 percent developed with urban uses and does not have water and sewer capacity to serve the project.

*Continue to the Worksheet Summary.*

☐ No mitigation is necessary.

**Explain why mitigation will not be made here:**

Click here to enter text.

→ *Continue to the Worksheet Summary.*

**Worksheet Summary**

Provide a full description of your determination and a synopsis of the information that it was based on, such as:

- Map panel numbers and dates
- Names of all consulted parties and relevant consultation dates
- Names of plans or reports and relevant page numbers
- Any additional requirements specific to your program or region

**Include all documentation supporting your findings in your submission to HUD.**

Project activities include installation of precast permeable modules along an existing road shoulder and pavement replacement in specific segments of that same existing road. Based on the project description, this project includes no activities that would require further evaluation under HUD's noise regulation. The project is in compliance with HUD's Noise regulation.

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**U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT**
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# PR-CRP-000721_Paseo Hatchery

## Sole Source Aquifers (CEST and EA) - PARTNER

https://www.hudexchange.info/environmental-review/sole-source-aquifers

1. **Is the project located on a sole source aquifer (SSA)[1]?**
   ☒No → *If the RE/HUD agrees with this recommendation, the review is in compliance with this section. Continue to the Worksheet Summary below. Provide documentation used to make your determination, such as a map of your project or jurisdiction in relation to the nearest SSA.*

   ☐Yes → *Continue to Question 2.*

2. **Does the project consist solely of acquisition, leasing, or rehabilitation of an existing building(s)?**
   ☐Yes → *The review is in compliance with this section. Continue to the Worksheet Summary below.*

   ☒No → *Continue to Question 3.*

3. **Does your region have a memorandum of understanding (MOU) or other working agreement with EPA for HUD projects impacting a sole source aquifer?**
   Contact your Field or Regional Environmental Officer or visit the HUD webpage at the link above to determine if an MOU or agreement exists in your area.
   ☐Yes → *Continue to Question 4.*

   ☒No → *Continue to Question 5.*

4. **Does your MOU or working agreement exclude your project from further review?**
   ☐Yes → *If the RE/HUD agrees with this recommendation, the review is in compliance with this section. Continue to the Worksheet Summary below. Provide documentation used to make your determination and document where your project fits within the MOU or agreement.*

   ☐No → *Continue to Question 5.*

5. **Will the proposed project contaminate the aquifer and create a significant hazard to public health?**
   Consult with your Regional EPA Office. Your consultation request should include detailed information about your proposed project and its relationship to the aquifer and associated streamflow source area. EPA will also want to know about water, storm water and waste water at the proposed project. Follow your MOU or working agreement or contact your Regional EPA office for specific information you may need to provide. EPA may request additional information if impacts to the aquifer are questionable after this information is submitted for review.

[1] A sole source aquifer is defined as an aquifer that supplies at least 50 percent of the drinking water consumed in the area overlying the aquifer. This includes streamflow source areas, which are upstream areas of losing streams that flow into the recharge area.

☒No → *If the RE/HUD agrees with this recommendation, the review is in compliance with this section. Continue to the Worksheet Summary below. Provide your correspondence with the EPA and all documents used to make your determination.*

☐Yes → *The RE/HUD will work with EPA to develop mitigation measures. If mitigation measures are approved, attach correspondence with EPA and include the mitigation measures in your environmental review documents and project contracts. If EPA determines that the project continues to pose a significant risk to the aquifer, federal financial assistance must be denied. Continue to Question 6.*

**Worksheet Summary**

Provide a full description of your determination and a synopsis of the information that it was based on, such as:

- Map panel numbers and dates
- Names of all consulted parties and relevant consultation dates
- Names of plans or reports and relevant page numbers
- Any additional requirements specific to your program or region

**Include all documentation supporting your findings in your submission to HUD.**

According to USGS area map, there are no sole source aquifers present in the project area. As a matter of fact, there are no EPA sole source aquifers in Puerto Rico. The project is in compliance with Sole Source Aquifer requirements.
https://epa.maps.arcgis.com/apps/webappviewer/index.html?id=9ebb047ba3ec41ada1877155fe31356b

Refer to Appendix B:

B13.1-Sole Source Aquifer Map.pdf.

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U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
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# PR-CRP-000721_Paseo Hatchery

## Wetlands (CEST and EA) – Partner

https://www.hudexchange.info/environmental-review/wetlands-protection

1. **Does this project involve new construction as defined in Executive Order 11990, expansion of a building's footprint, or ground disturbance?**
   The term "new construction" includes draining, dredging, channelizing, filling, diking, impounding, and related activities and construction of any structures or facilities.

   ☐ No → *If the RE/HUD agrees with this recommendation, the review is in compliance with this section. Continue to the Worksheet Summary below.*

   ☒ Yes → *Continue to Question 2.*

2. **Will the new construction or other ground disturbance impact a wetland as defined in E.O. 11990?**

   ☒ No → *If the RE/HUD agrees with this recommendation, the review is in compliance with this section. Continue to the Worksheet Summary below. Provide a map or any other relevant documentation to explain your determination.*

   ☐ Yes → *Work with HUD or the RE to assist with the 8-Step Process. Continue to Question 3.*

3. **Does Section 55.12 state that the 8-Step Process is not required?**

   ☐ No, the 8-Step Process applies.
   This project will require mitigation and may require elevating structure or structures. See the link to the HUD Exchange above for information on HUD's elevation requirements.
   → *Work with the RE/HUD to assist with the 8-Step Process. Continue to Worksheet Summary.*

   ☐ 5-Step Process is applicable per 55.12(a).
   **Provide the applicable citation at 24 CFR 55.12(a) here.**
   Click here to enter text.
   → *Work with the RE/HUD to assist with the 5-Step Process. This project may require mitigation or alternations. Continue to Worksheet Summary.*

   ☐ 8-Step Process is inapplicable per 55.12(b).
   **Provide the applicable citation at 24 CFR 55.12(b) here.**
   Click here to enter text.
   → *If the RE/HUD agrees with this recommendation, the review is in compliance with this section. Continue to Worksheet Summary.*

   ☐ 8-Step Process is inapplicable per 55.12(c).
   **Provide the applicable citation at 24 CFR 55.12(c) here.**

Click here to enter text.

→ *If the RE/HUD agrees with this recommendation, the review is in compliance with this section. Continue to Worksheet Summary.*

**Worksheet Summary**

Provide a full description of your determination and a synopsis of the information that it was based on, such as:

- Map panel numbers and dates
- Names of all consulted parties and relevant consultation dates
- Names of plans or reports and relevant page numbers
- Any additional requirements specific to your program or region

**Include all documentation supporting your findings in your submission to HUD.**

Based on the project description this project includes no activities that would require expansion of the existing footprint or right of way. According to the definition of wetland by US Corps of Engineers, visual inspection of the area and the National Wetland Inventory, no wetland was located near the project limits, therefore further evaluation under this section is not required. The project is in compliance with Executive Order 11990.

Refer to Appendix B:
B14.1-USFWS-NationalWetlandMap.pdf, B14.2-National Wetlands Inventory.pdf.

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(exp. 9/30/2021)

U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
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# PR-CRP-000721_Paseo Hatchery
# Wild and Scenic Rivers (CEST and EA) – PARTNER

https://www.hudexchange.info/environmental-review/wild-and-scenic-rivers

**1. Is your project within proximity of a Wild and Scenic River, Study River, or Nationwide Rivers Inventory River?**

☒ No → *If the RE/HUD agrees with this recommendation, the review is in compliance with this section. Provide documentation used to make your determination.*

☐ Yes → *Continue to Question 2.*

**2. Could the project do *any* of the following?**

- Have a direct and adverse effect within Wild and Scenic River Boundaries,
- Invade the area or unreasonably diminish the river outside Wild and Scenic River Boundaries, or
- Have an adverse effect on the natural, cultural, and/or recreational values of a NRI segment.

Consult with the appropriate federal/state/local/tribal Managing Agency(s), pursuant to Section 7 of the Act, to determine if the proposed project may have an adverse effect on a Wild & Scenic River or a Study River and, if so, to determine the appropriate avoidance or mitigation measures.

**Select one:**

☐ The Managing Agency has concurred that the proposed project will not alter, directly, or indirectly, any of the characteristics that qualifies or potentially qualifies the river for inclusion in the NWSRS.

→ *If the RE/HUD agrees with this recommendation, the review is in compliance with this section. Provide documentation of the consultation (including the Managing Agency's concurrence) and any other documentation used to make your determination.*

☐ The Managing Agency was consulted and the proposed project may alter, directly, or indirectly, any of the characteristics that qualifies or potentially qualifies the river for inclusion in the NWSRS.

→ *The RE/HUD must work with the Managing Agency to identify mitigation measures to mitigate the impact or effect of the project on the river.*

**Worksheet Summary**

Provide a full description of your determination and a synopsis of the information that it was based on, such as:

- Map panel numbers and dates
- Names of all consulted parties and relevant consultation dates
- Names of plans or reports and relevant page numbers

- Any additional requirements specific to your program or region

**Include all documentation supporting your findings in your submission to HUD.**
The proposed project is not within proximity of a National Wild and Scenic Rivers (NWSRS) river. The Municipality of Maricao does not have any river registered as a Wild and Scenic River, Study River or listed in the Nationwide Rivers Inventory (NRI). This project is not within proximity of a NWSRS river. The project is in compliance with the Wild and Scenic Rivers Act. However, one of the objectives of this project is to expose and promote the scenic and ecological values of the Maricao River.
https://www.nps.gov/maps/full.html?mapId=8adbe798-0d7e-40fb-bd48-225513d64977

Refer to Appendix B:
B15.1-Inventory Map Wild Scenic Riivers.pdf.

# EA Appendix B

# Maps

# PR-CRP-000721 Paseo Hatchery

B00 Location Map

B01 Airport Hazards

B02 Coastal Barrier Resources Act

B03 Flood Insurance

B04 Coastal Zone Management Act

B05 EPA Facilities Map

B06 Endangered Species

B07 Farmlands

B08 Floodplain Management

B09 Sole-Source-Aquifers

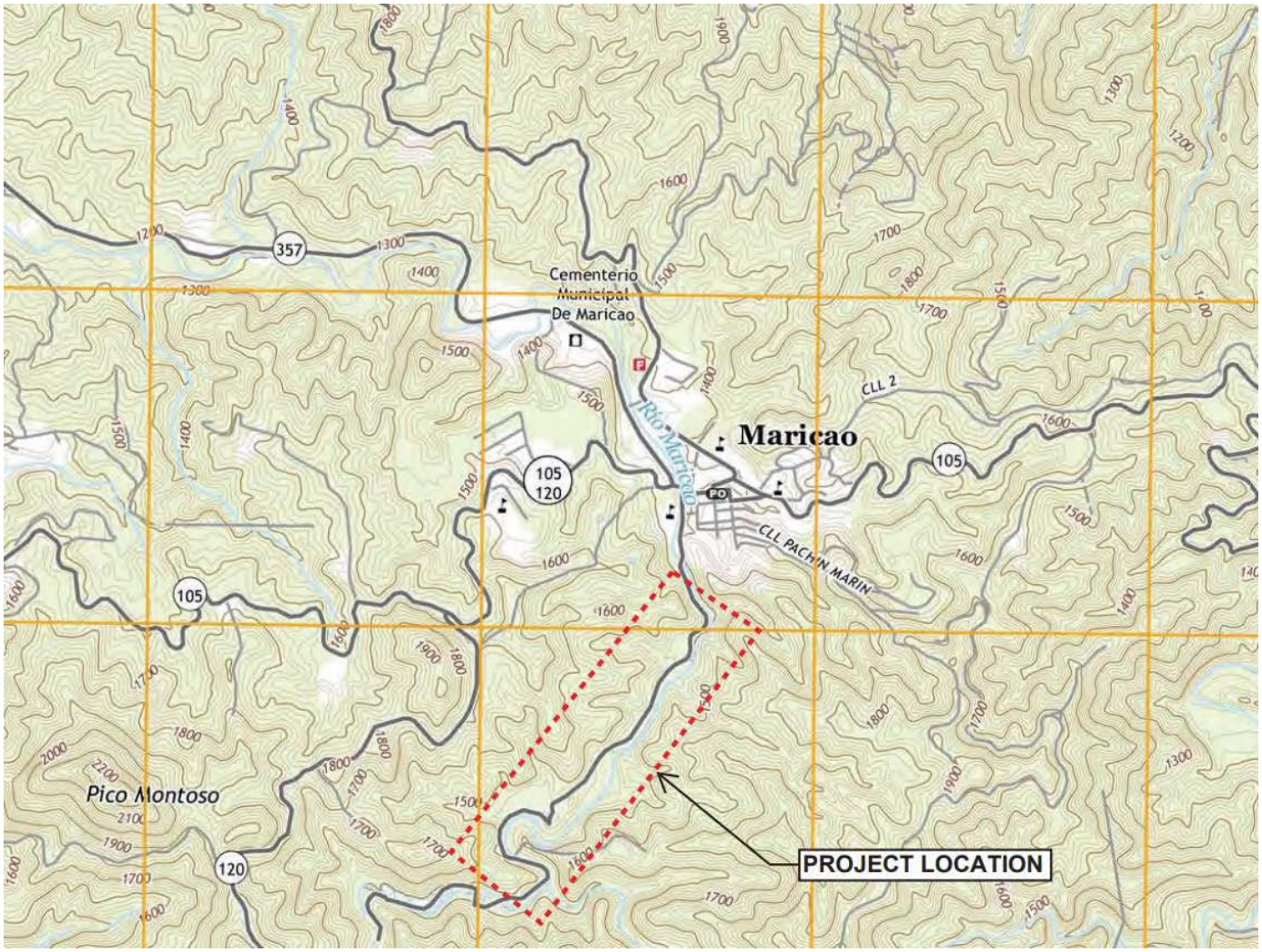
B10 Wetlands

B11 Wild-and-Scenic-Rivers

B12 Environmental-Justice

# B00 -Location Map

**Map Name: Location Map**
**Project Number: PR-CRP-000721**
**Project Name: Paseo Hatchery**



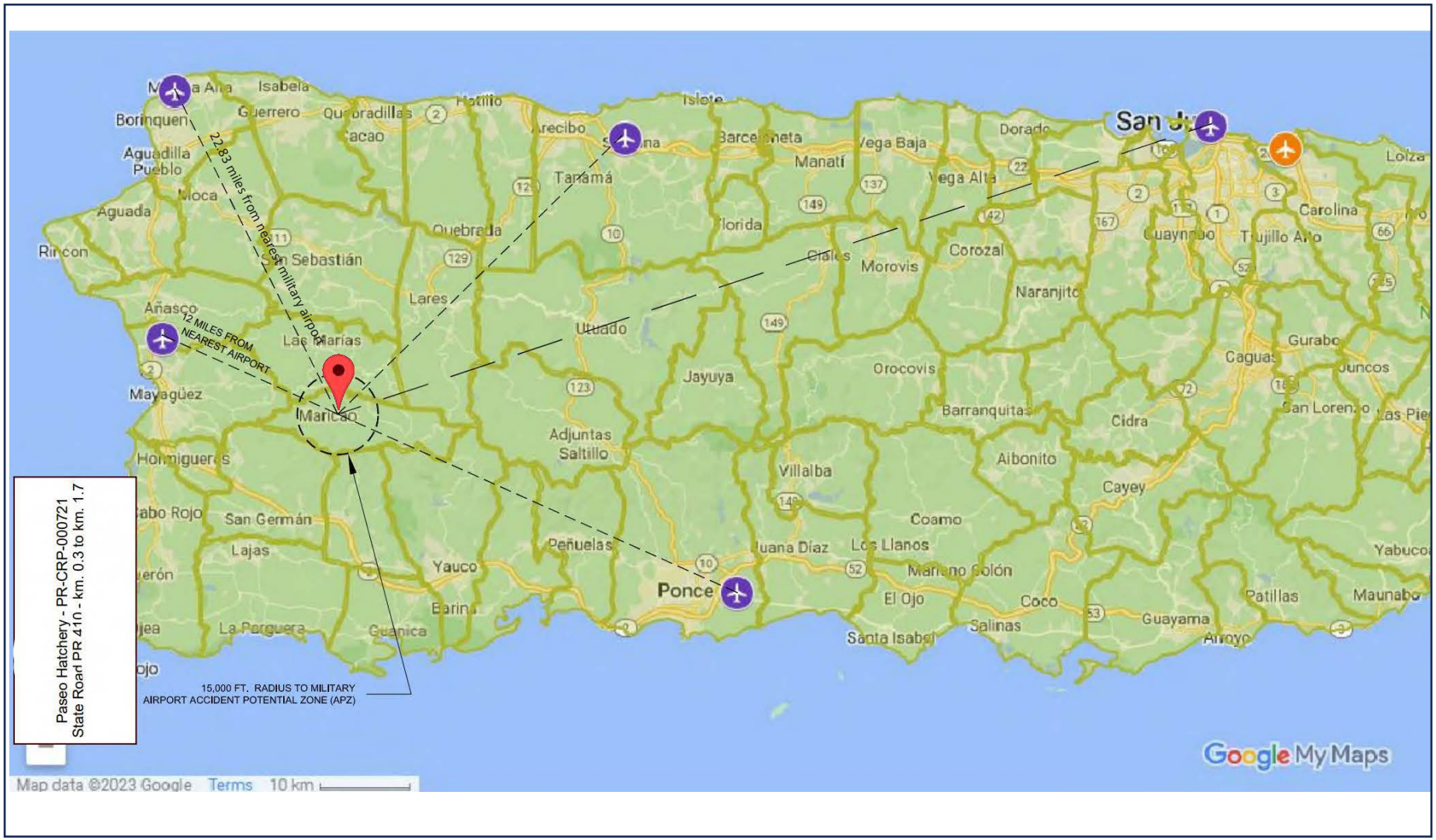

**Legend:**

Site Location

**Project Location: State Road P.R. 410, Km. 0.3 to 1.7, Maricao, P.R.**
**Project Coordinates: From X= 18.179253, Y= -66.980708 to X: 18.170269, Y: -66.985604**
**Data Source: USGS**

# B01 - Airport Hazards

**Map Name: Airport Hazards Map**
**Project Number: PR-CRP-000721**
**Project Name: Paseo Hatchery**




**Project Location: State Road P.R. 410, Km. 0.3 to 1.7, Maricao, P.R.**
**Project Coordinates: From X= 18.179253, Y= -66.980708 to X: 18.170269, Y: -66.985604**
**Data Source: https://www.prpa.pr.gov/**

**Legend:**

- Site Location
- Airports
- Airports

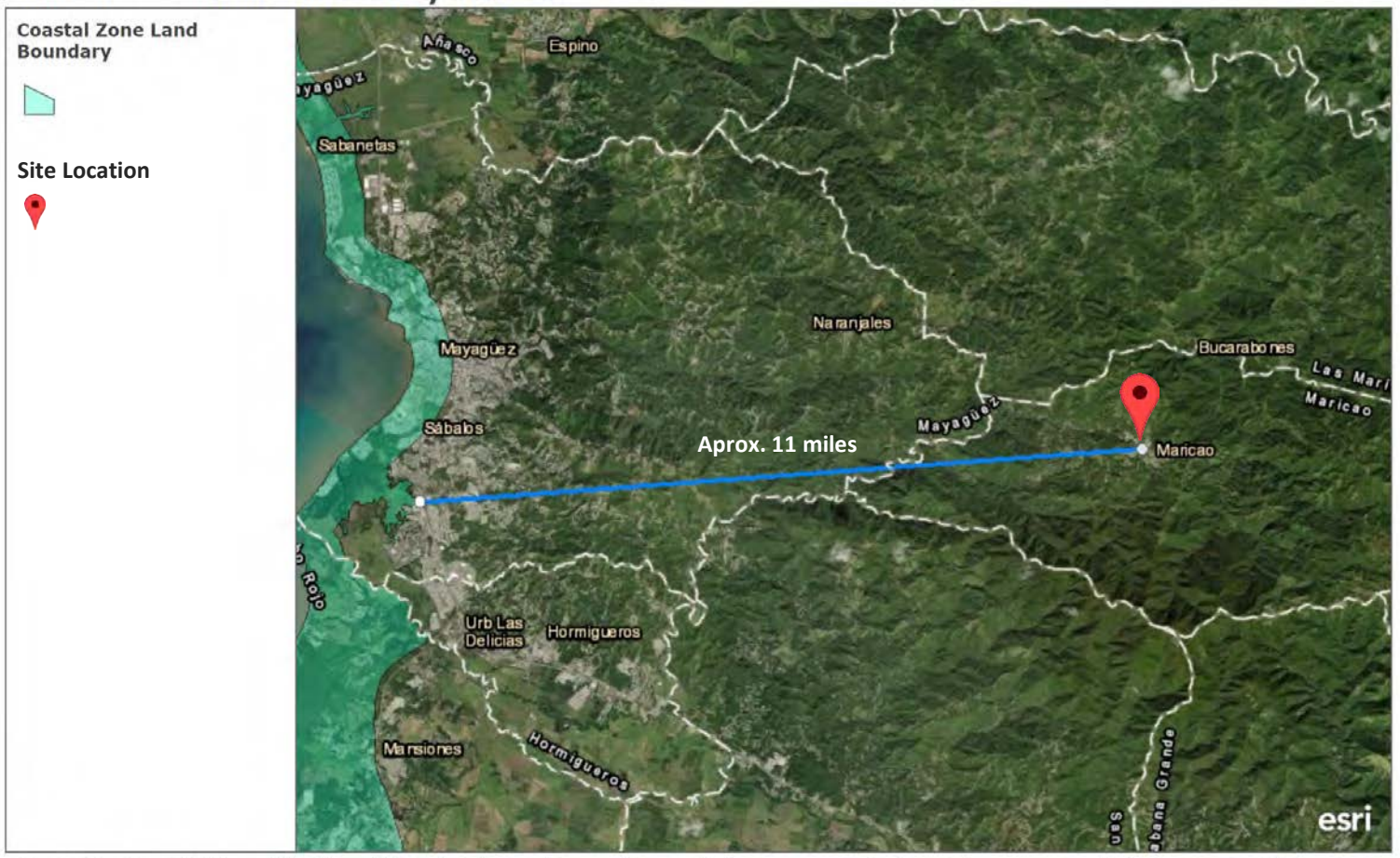
# B02 - Coastal Barriers

Map Name: CBR Distance Map
Project Number: PR-CRP-000721
Project Name: Paseo Hatchery

N

C&G
JMCP + JLGARCHITECTS
BAIGES GEOTECHNICAL ENGINEERS, LLC

## Puerto Rico Coastal Vulnerability Viewer




Puerto Rico Coastal Vulnerability ViewerThis tool is intended to provide a preliminary assessment of coastal resources and infrastructure at risk due to climate change and sea le ...

Earthstar Geographics | Esri, HERE, Garmin

Project Location: State Road P.R. 410, Km. 0.3 to 1.7, Maricao, P.R.
Project Coordinates: From X= 18.179253, Y= -66.980708 to X: 18.170269, Y: -66.985604
Data Source:
https://www.arcgis.com/home/webmap/viewer.html?webmap=1d0eff6661f340dcabb0e9928d01ec57

# U.S. Fish and Wildlife Service

## Coastal Barrier Resources System Mapper Documentation




**CBRS Units**

Otherwise Protected Area
System Unit
CBRS Buffer Zone
-66.981789, 18.175226

0 65 130 260 390 ft

1:4,514

The pin location displayed on the map is a point selected by the user. Failure of the user to ensure that the pin location displayed on this map correctly corresponds with the user supplied address/location description below may result in an invalid federal flood insurance policy. **The U.S. Fish and Wildlife Service (Service) has not validated the pin location with respect to the user supplied address/location description below. The Service recommends that all pin locations be verified by federal agencies prior to use of this map for the provision or denial of federal funding or financial assistance** . Please note that a structure bisected by the Coastal Barrier Resources System (CBRS) boundary (i.e., both "partially in" and "partially out") is within the CBRS and therefore affected by CBRA's restrictions on federal flood insurance. A pin placed on a bisected structure must be placed on the portion of the structure within the unit (including any attached features such as a deck or stairs).

**User Name:** Maricao Municipal Government
**User Organization:** Local Government
**User Supplied Address/Location Description:** 18.175017, -66.981874
**Pin Location:** Outside CBRS
**Pin Flood Insurance Prohibition Date:** N/A
**Pin System Unit Establishment Date:** N/A

The user placed pin location is not within the CBRS. The official CBRS maps are accessible at https://www.fws.gov/library/collections/official-coastal-barrier-resources-system-maps .

The CBRS information is derived directly from the CBRS web service provided by the Service. This map was exported on 3/20/2023 and does not reflect changes or amendments subsequent to this date. The CBRS boundaries on this map may become superseded by new boundaries over time.

This map image may be void if one or more of the following map elements do not appear: basemap imagery, CBRS unit labels, prohibition date labels, legend, scale bar, map creation date. For additional information about flood insurance and the CBRS, visit: https://www.fws.gov/node/263838 .

C&G
115 DEL PARQUE, STE 7
SAN JUAN PR 00911
787.309.1837

MARICAO
CAPITAL DE LA MONTAÑA

Paseo Hatchery - PR-CRP-000721

State Road PR 410 - km. 0.3 to km. 1.7
Lat/Lon: 18.179253, -66.980708 to
18.170269, -66.985604
Source of Data: USFWS

Figure B02.2 This page was produced by the CBRS Mapper

# B03 - Flood Insurance

# PUERTO RICO DEPARTMENT OF HOUSING
# CDBG-DR PROGRAM
# CITY REVITALIZATION PROGRAM

**Flood Zone Evaluation**

Date: March 29, 2023
POC Name: Ovidio González Feliciano
Subrecipient: Maricao
Address: PO BOX 835
Title: Director de Obras Publicas
Email: director.opmaricao@gmail.com

Re: **Flood Zone Evaluation**
City Revitalization Program
Community Development Block Grant for Disaster Recovery (CDBG-DR)

Project Number: **PR-CRP-000721**
Project Name: **Paseo Hatchery**
Location: **18.174231°, -66.982605°**
Map Source: **FEMA Flood Insurance Rate Maps (FIRMs)**
Panel Number: **72000C1040H**
Panel Date: **04/19/2005**

Dear Mr./Mrs. Ovidio González Feliciano,

The Puerto Rico Department of Housing (PRDOH) completed the Flood Zone Evaluation of the Paseo Hatchery project submitted to the City Revitalization Program. Below is the result of the evaluation.

- [ ] **1.** The project location provided by the Subrecipient **is not within a flood prone area** based on the current FEMA flood maps and is not required to meet HUD elevation and flood insurance requirements detailed below.
- [x] **2.** The project location provided by the Subrecipient **is in a flood prone area** based on the current FEMA flood maps. The project must meet the following conditions:
  - [ ] **2.1** Per HUD's Floodplain Management and Protection of Wetlands regulation, (24 CFR Part 55 ("Part 55"), no HUD financial assistance may be approved after May 23, 1994 with respect to any action other than a functionally dependent use or floodplain function restoration activity located in a floodway unless an exception excludes the action from Part 55 compliance. HUD permits only three categories of activities in a floodway: functionally dependent uses, floodplain restoration activities, and activities listed in Part 55.12(c).

- [ ] **2.1.1** The project does not comply with the exceptions for activities in the floodway and HUD financial assistance may not be used. The project is no longer eligible for the City Revitalization Program.
- [ ] **2.1.2** The project complies with the following exception for activity in the floodway:
  - [ ] **2.1.2.1** Functionally Dependent Uses
  - [ ] **2.1.2.2** Floodplain Restoration Activities
  - [ ] **2.1.2.3** Activities listed in section 55.12(c)
    Refer to the section Additional Project Evaluation in the CRP portal at https://horne2.outsystemsenterprise.com/CRP_Layout/NoPermission.aspx the justification memorandum provided by the Subrecipient.
  - [ ] **2.1.2.4** Project is in the floodway but consist of repairs to existing construction (including improvements) or reconstruction following destruction caused by a disaster [24 Part 55.1 (c)(3)].
- [ ] **2.2** The project must be elevated or floodproofed, in accordance with FEMA floodproofing standards at 44 C.F.R. § 60.3(c)(3)(ii) or successor standard, up to at least two feet (2′) above the 100-year (or one percent (1%) annual chance) floodplain.
- [ ] **2.3** Due to the important nature of the proposed project, PRDOH considers the project a Critical Action project. Per 24 C.F.R. § 55.2(b)(3), all Critical Actions within the 500-year (or 0.2 percent annual chance) floodplain must be elevated or floodproofed (in accordance with the FEMA standards) to the higher of the 500-year floodplain elevation or three feet (3′) above the 100-year floodplain elevation. If the 500-year floodplain is unavailable, and the Critical Action is in the 100-year floodplain, then the structure must be elevated or floodproofed at least three feet (3′) above the 100-year floodplain elevation.
- [x] **2.4** Subrecipients of Federal funding must ensure that procedures and mechanisms are put into place to monitor compliance with all flood insurance requirements as found in the Flood Disaster Protection Act of 1973, 24 C.F.R. § 570.605- National Flood Insurance Program and 24 C.F.R. § 570.202- Eligible Rehabilitation and Preservation Activities. These regulations, along with alternative requirements provided in 83 FR 5844.
- [x] **2.5** The action is in a floodplain but does not require to be elevated above the floodplain, or floodproofed or insured because it consists of civil works (roadway, parking, street repairs, sidewalk repairs, building façade repairs).
- [x] **2.6** The project must comply with the procedures of Making Determinations of Floodplain Management at 24 CFR 55.20 and the 8-step decision making process of Executive Order 11988.

In addition to HUD requirements above, the project must adhere to any applicable State, local, and tribal codes and standards for floodplain management that exceeds these requirements, including elevation, setbacks, and cumulative substantial damage requirements.
Adherence to flood-related requirements is critical. Failure to meet elevation, floodproofing, and insurance requirements will result in the project being found non-compliant and may result in a repayment of funds to

PRDOH.

If you have any questions, comments or need additional information regarding the decision, feel free to send your request by email to cityrevcdbg@vivienda.pr.gov.

Sincerely,

City Revitalization Program - CDBG-DR
Department of Housing

## NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The **community map repository** should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations** (BFEs) and/or **floodways** have been determined, users are encouraged to consult the Flood Profiles, Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent elevations rounded to the nearest 0.1 meter elevation. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

**Coastal Base Flood Elevations** shown on this map apply only landward of 0.0m Mean Sea Level (MSL). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations table in the Flood Insurance Study report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations table should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures.** Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The **projection** used in the preparation of this map was Universal Transverse Mercator (UTM) zone 19. The **horizontal datum** was NAD 83, GRS80 spheroid. Differences in datum, spheroid, projection or UTM zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to Mean Sea Level. These flood elevations must be compared to structure and ground elevations referenced to the same **vertical datum.** For information regarding vertical datums, visit the National Geodetic Survey website at http://www.ngs.noaa.gov or contact the National Geodetic Survey at the following address:

Spatial Reference System Division
National Geodetic Survey, NOAA
Silver Spring Metric Center
1315 East-West Highway
Silver Spring, Maryland 20910
(301) 713-3191

To obtain current elevation, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at **(301) 713-3242**, or visit their website at http://www.ngs.noaa.gov.

**Base map** information shown on this FIRM was derived from U.S.Geological Survey Digital Orthophoto Quadrangles (DOQs) produced at a scale of 1: 5000 from photography dated 1993 or later.

This map reflects more detailed and up-to-date **stream channel and shoreline configurations** than those shown on the previous FIRM for this jurisdiction. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to conform to these new stream channel and shoreline configurations. As a result, the Flood Profiles and Floodway Data tables in the Flood Insurance Study report (which contains authoritative hydraulic data) may reflect stream channel distances that differ from what is shown on this map.

**Corporate limits** shown on this map are based on the best data available at the time of publication. Because changes due to annexation or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed **Map Index** for an overview map of the Commonwealth of Puerto Rico showing the layout of map panels, community map repository addresses, and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

Contact the **FEMA Map Service Center** at 1-800-358-9616 for information on available products associated with this FIRM. Available products may include previously issued Letters of Map Change, a Flood Insurance Study report, and/or digital versions of this map. The FEMA Map Service Center may also be reached by Fax at 1-800-358-9620 and it's website at http://www.msc.fema.gov.

If you have **questions about this map** or questions concerning the National Flood Insurance Program in general, please call 1-877-FEMA-MAP (1-877-336-2627) or visit the FEMA website at http://www.fema.gov.

This digital Flood Insurance Rate Map (FIRM) was prepared with the assistance of the Puerto Rico Planning Board (PRPB, Junta de Planificacion), the National Flood Insurance Program administrator for the Commonwealth of Puerto Rico. As a part of this effort, PRPB, a Federal Emergency Management Agency Cooperating Technical Partner, will adopt this FIRM, once finalized, as the official flood map for the Commonwealth.

**FIRM - Flood Insurance Rate Map**

Paseo Hatchery - PR-CRP-000721
State Road PR 410 - km. 0.3 to km. 1.7
Lat/Lon: 18.179253, -66.980708 **to** 18.170269, -66.985604
Source of Data: FEMA

MARICAO
Centro de la Montaña

C&G
113 DEL PARQUE STE 7
SAN JUAN PR 00911
787.309.1837

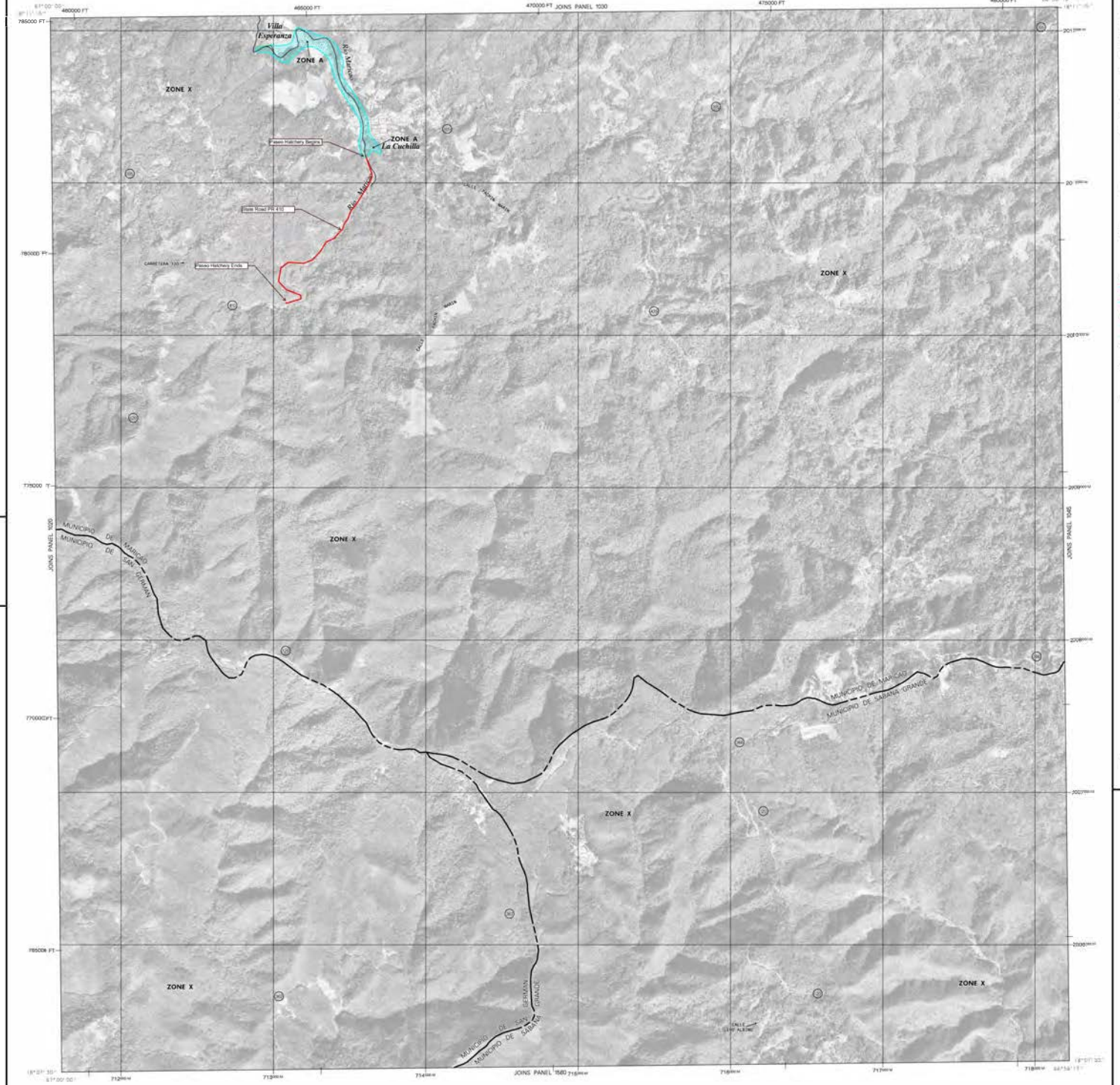



Figure B03.2

## LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

- **ZONE A** — No Base Flood Elevations determined.
- **ZONE AE** — Base Flood Elevations determined.
- **ZONE AH** — Flood depths of 0.3 to 0.9 meter (usually areas of ponding); Base Flood Elevations determined.
- **ZONE AO** — Flood depths of 0.3 to 0.9 meter (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
- **ZONE AR** — Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
- **ZONE A99** — Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
- **ZONE V** — Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
- **ZONE VE** — Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

- **ZONE X** — Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1.0 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

- **ZONE X** — Areas determined to be outside the 0.2% annual chance floodplain.
- **ZONE D** — Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

- 1% annual chance floodplain boundary
- 0.2% annual chance floodplain boundary
- Floodway boundary
- Zone D boundary
- CBRS and OPA boundary
- Boundary dividing Special Flood Hazard Area Zones and boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.
- 513 — Base Flood Elevation line and value; elevation in meters* (EL 987) — Base Flood Elevation value where uniform within zone; elevation in meters* (EL 987)

*Referenced to Mean Sea Level

- Cross-section line (A — A)
- Transect line (23 — 23)
- 4679000 mN — Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western Hemisphere
- 1080 meter Universal Transverse Mercator grid values, zone 19
- 400000 FT — 1000-foot grid values: Puerto Rico State Plane coordinate system, NAD 83 ZONE 5200 Lambert Conformal Conic projection
- DX56 10 — Bench mark (see explanation in Notes to Users section of this FIRM panel)

MAP REPOSITORY
Refer to listing of Map Repositories on Map Index

EFFECTIVE DATE OF COMMONWEALTH OF PUERTO RICO AND MUNICIPALITIES FLOOD INSURANCE RATE MAP
April 19, 2005

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

For community map revision history prior to Commonwealth of Puerto Rico and Municipalities mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1:10,000

Kilometers 0 .25 0 .5
Feet 500 0 500 1000 1500 2000 2500 3000
Miles 1/4 0 1/4

NFIP NATIONAL FLOOD INSURANCE PROGRAM

PANEL 1040H

# FIRM
## FLOOD INSURANCE RATE MAP

COMMONWEALTH OF PUERTO RICO
AND MUNICIPALITIES

**PANEL 1040 OF 2160**

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

| CONTAINS: COMMUNITY | NUMBER | PANEL | SUFFIX |
|---|---|---|---|
| PUERTO RICO | 720000 | 1040 | H |

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

**MAP NUMBER 72000C1040H**

**EFFECTIVE DATE APRIL 19, 2005**

Federal Emergency Management Agency

**Gobierno de Puerto Rico**
**Junta De Planificación de Puerto Rico**
**Administrador Estatal de Valles Inundables**
**Oficina de Geología e Hidrogeología**

**Determinación Número**
2023-00-JDI-3861

# DETERMINACIÓN DE INUNDACIÓN

Determinación sobre la clasificación de una propiedad respecto a las Áreas Especiales de Riesgo a Inundación en Puerto Rico

| Número de Catastro | Nombre de la Comunidad Participante | Número de la Comunidad Participante |
|---|---|---|
| 262-000-002-98 | Comunidad Participante de Puerto Rico | 720000# |

## Información de la Propiedad

| Municipio | Barrio | Carretera y Sector | Plus Code | Coordenadas |
|---|---|---|---|---|
| Maricao | Maricao Afuera | Gruta de San Juan Bautista, Carr. 410, Maricao, PR | 77CM52H9+RG | X:142038.9 Y:238411.8 |

## Información sobre el Mapa de Tasas del Seguro de Inundación

(FIRM, por sus siglas en inglés)

| Número del Mapa de Inundación, FIRM | Vigencia | Status de Panel | Zona Inundable |
|---|---|---|---|
| 72000C1040H | 19/Apr/2005 | Printed | X (92.8%), A (7.2%) |

| Cauce Mayor (Sí, No, No determinado) | ¿La propiedad ubica en un área especial de riesgo a inundación del 1% de probabilidad? | Nivel de Inundación Base (MSL) | Profundidad de Inundación Base (Solo aplica a Zona AO) |
|---|---|---|---|
| No | Sí | 89.6 m. | No Aplica |

| Sistema de Barreras Costeras (Sí o No)/Fecha de Designación | Tipo de Barrera Costera | Cuenca Hidrográfica (USGS) |
|---|---|---|
| No Aplica | No Aplica | Cuenca del Río Guanajibo |

| Nombre del Cuerpo de Agua Adyacente (cuando es VE es el mar, primera fase el cuerpo de agua mas cercano) | ¿Se propone depósito de relleno? |
|---|---|
| Río Maricao (Quebradas) a 55.2 m. | No |

## Información sobre el Mapa de Niveles de Inundación Base Recomendados

(ABFE, por sus siglas en inglés)

| Número del Mapa de Inundación | Vigencia | Zona Inundable |
|---|---|---|
| 72000C1040H | 13/Apr/2018 | Fuera mapa (ABFE) (74.1%), A (20.6%), X (0.2% ACE) (5.3%) |

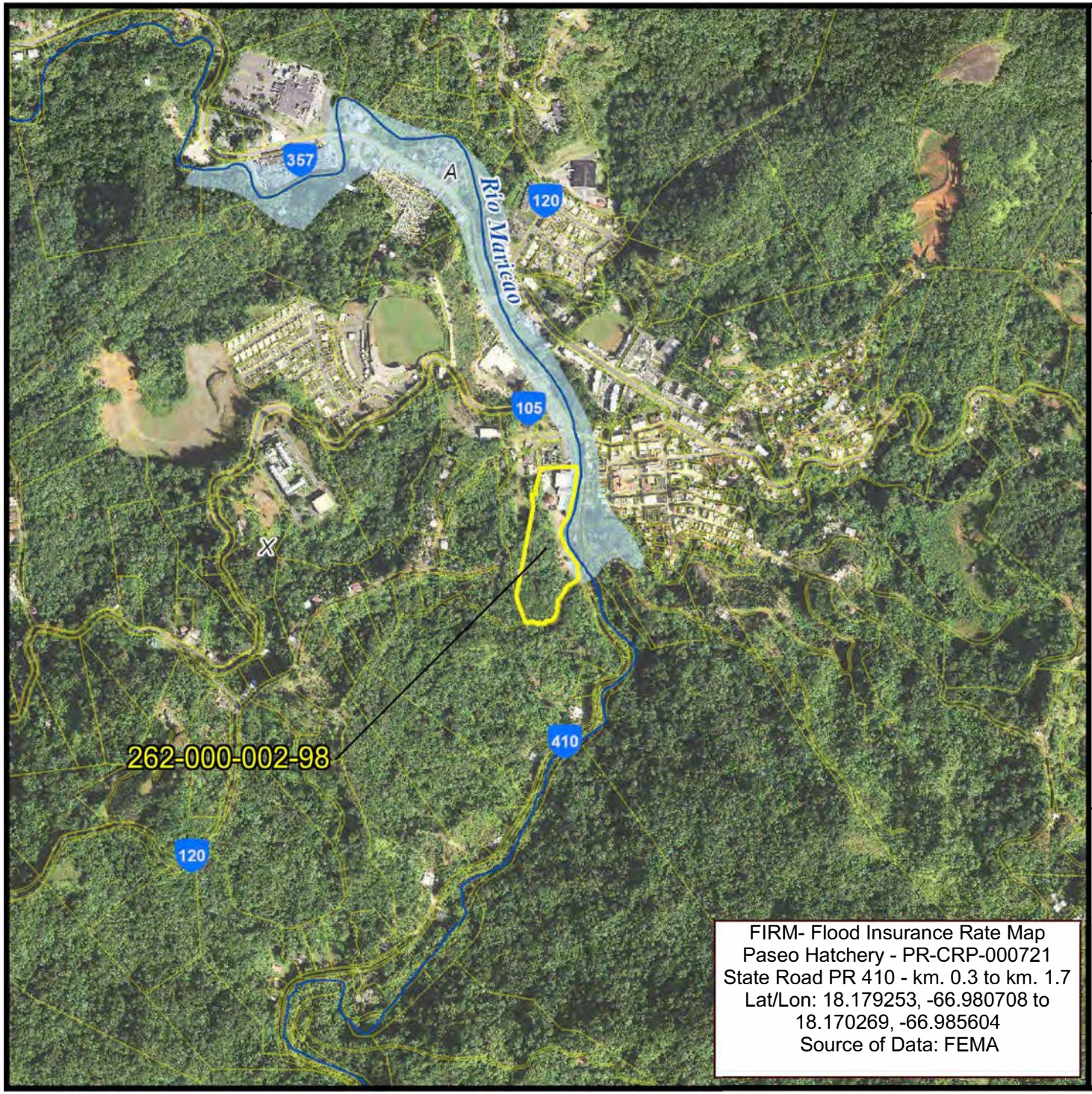
La Junta de Planificación de Puerto Rico, en su resolución JP-ABFE_01 del 23 de marzo de 2018, **requiere que para toda nueva construcción o mejora sustancial, otorgación de permisos según aplique en su ámbito jurisdiccional cumpla con los Mapas de Niveles de Inundación Base Recomendados** preparados por la Agencia Federal para el Manejo de Emergencias (FEMA, por sus siglas en inglés); excluyendo de su uso determinaciones o decisiones relacionadas al seguro de inundación NFIP, por sus siglas en inglés.

## Determinación

Esta determinación está basada en datos de la Junta de Planificación y datos obtenidos de los Mapas de Tasas del Seguro de Inundación vigentes y no determina la localización exacta de una estructura dentro de una propiedad. Se advierte que una propiedad no localizada dentro del área inundable regulatoria (inundación del 1% de probabilidad o inundación con recurrencia de 100 años) pudiera ser afectada por inundaciones locales o inundaciones de otras recurrencias no reflejadas en estos mapas. Para propósitos del seguro de inundación, el mapa oficial es el DFIRM, adoptado por la Junta de Planificación de Puerto Rico. La clasificación parcial entre dos o más zonas, prevalecerá la más estricta.

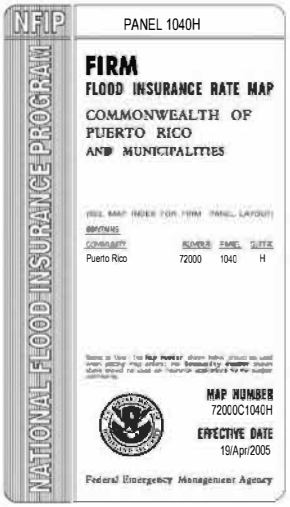
Si la propiedad está en un Área Especial de Riesgo [Peligro] a Inundación, se requiere cumplir con las disposiciones del Reglamento de Planificación No. 13 vigente y será requerido cumplir con la Ley Federal de Protección a Desastres del año 1973. Para las zonas A, AE, AO, AH, A99 y VE es requisito obligatorio adquirir un seguro de inundación para propiedades con hipotecas respaldadas federalmente.

| Solicitante | | Fecha de Emisión |
|---|---|---|
| Jose L Godinez Roman | Contáctenos en avipr@jp.pr.gov | 30/Mar/2023 |




FIRM- Flood Insurance Rate Map
Paseo Hatchery - PR-CRP-000721
State Road PR 410 - km. 0.3 to km. 1.7
Lat/Lon: 18.179253, -66.980708 to 18.170269, -66.985604
Source of Data: FEMA

## Mapa sobre Tasas del Seguro de Inundación (Flood Insurance Rate Maps, FIRM)




**Leyenda**

| | |
|---|---|
| 0.2% ACF | AE |
| A | AH |
| A99 | AO |
| Cauce Mayor | VE |
| Coastal Barrier | X |

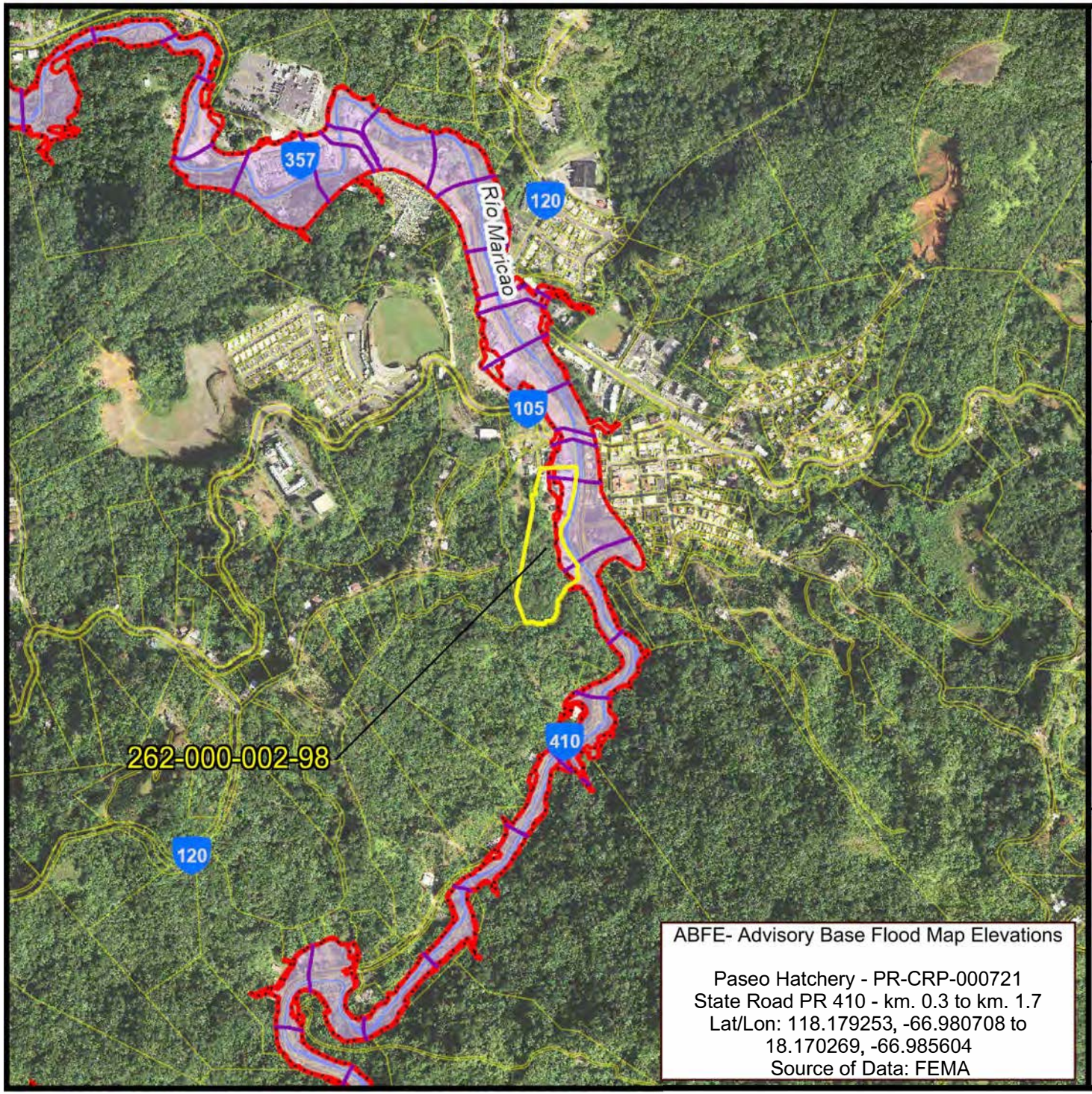
**Notas:**
Las elevaciones mostradas en estos mapas son consideradas la mejor información disponible hasta que se desarrollen Mapas de Tasas del Seguro de Inundación (FIRM, por sus siglas en inglés) actualizados.
Estos mapas NO han sido desarrollados para tomar determinaciones respecto al seguro de inundación del Programa Nacional del Seguro de Inundación (NFIP, por sus siglas en inglés). Para propósitos del seguro de inundación, se debe hacer referencia a los FIRMs vigentes para Puerto Rico y disponibles en http://msc.fema.gov o en la herramienta MiPR de la Junta de Planificación (http://gis.pr.gov/mipr/)

**MAP SCALE**
1 : 10,000

.25 0 .25
Kilometers

250 0 250 500 750 1000 1250
Feet

1/8 0 1/8
Miles




ABFE- Advisory Base Flood Map Elevations

Paseo Hatchery - PR-CRP-000721
State Road PR 410 - km. 0.3 to km. 1.7
Lat/Lon: 118.179253, -66.980708 to 18.170269, -66.985604
Source of Data: FEMA

# Mapa de Niveles de Inundación Base Recomendados

## Para propósitos de nueva construcción o mejora substancial.

Estos mapas desarrollados por la Agencia Federal para el Manejo de Emergencias (FEMA, por sus siglas en inglés) identifican cuales áreas se encuentran en las nuevas zonas inundables recomendadas del 1% y 2% de probabilidad, así como los niveles de inundación base recomendados (ABFE, por sus siglas en inglés) que pueden afectar las prácticas de construcción en Puerto Rico.

| Zona Inundabilidad | Porciento |
|---|---|
| Fuera mapa (ABFE) | 74.1 |
| A | 20.6 |
| X (0.2% ACF) | 5.3 |

Nivel de Inundación Base Recomendado: 423.8 m.

Panel Inundabilidad: 72000C1040H

Fecha de Efectividad: 18 de abril de 2018

Ver Resolución JP-ABFE_01 del 23 de marzo de 2018

**Leyenda**

- Hidrografía
- Límite ABFE
- Cauce Mayor
- A
- AE
- AO
- Coastal A Zone
- VE
- X (0.2% ACF)

**Notas:**

La elevación de inundación base que se muestra en este mapa utiliza el nivel medio del mar (MSL). Se advierte al usuario que toda información obtenida del mapa deberá corroborarse con el Estudio del Seguro de Inundación (FIS, por sus siglas en ingles) de Puerto Rico. Se deberá utilizar la tabla de niveles de inundación provista por dicho estudio que muestra la elevación para inundación, dichos datos deberán ser utilizados en proyectos de construcción o propósitos relacionados con la administración de Valles Inundables en Puerto Rico cuando estos sean mayores a las elevaciones que muestra el mapa de inundaciones (FIRM).

MAP SCALE
1 : 10,000

.25 0 .25
Kilometers

250 0 250 500 750 1000 1250
Feet

1/8 0 1/8
Miles

C&G
115 DEL PARQUE, STE 7
SAN JUAN PR 00911
787.309.1837

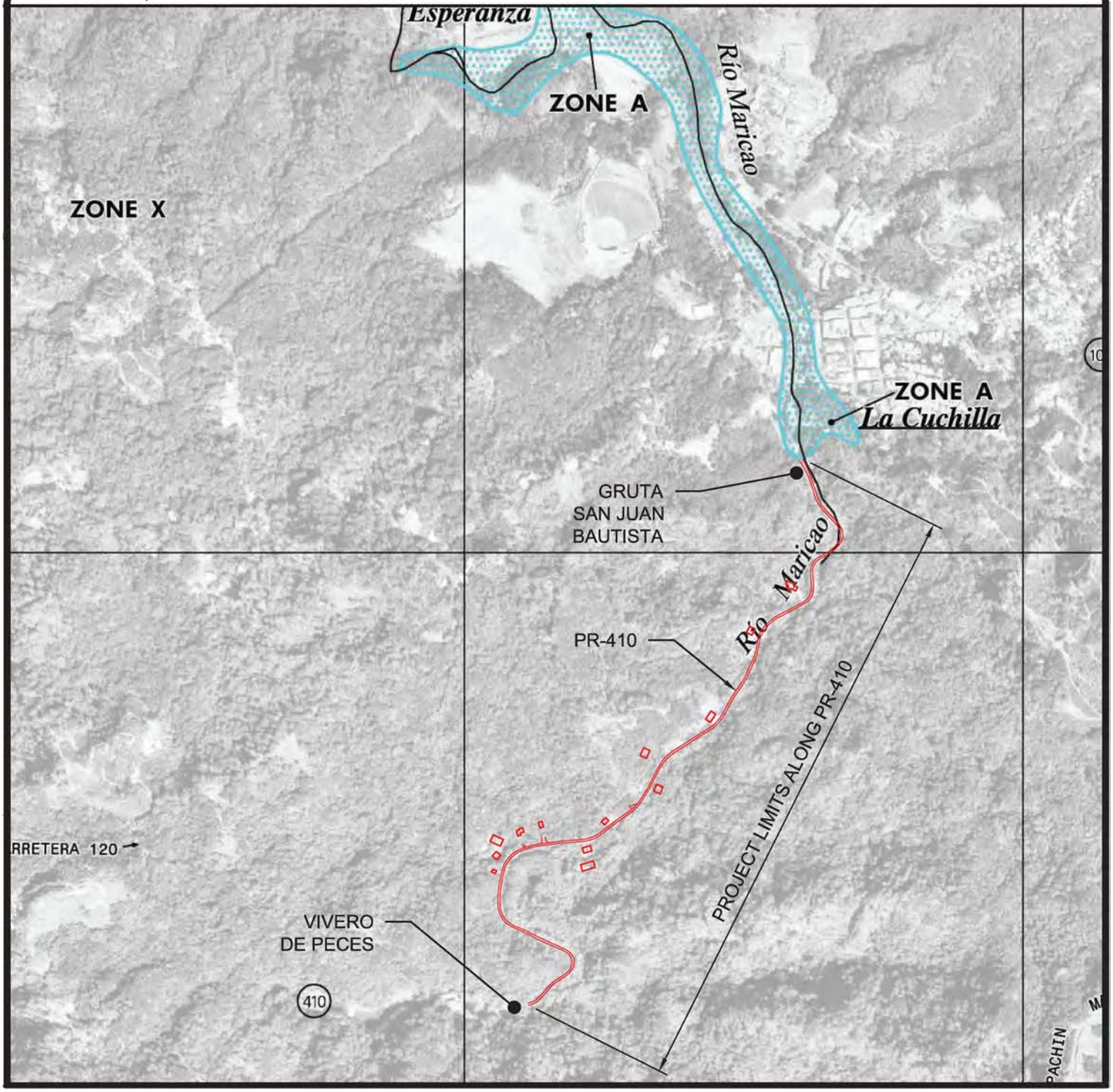
MARICAO
CAPITAL DE LA MONTAÑA

Flood Map
Paseo Hatchery - PR-CRP-000721
State Road PR 410 - km. 0.3 to km. 1.7
Lat/Lon: 18.179253, -66.980708 to 18.170269, -66.985604
Source of Data: FEMA-FIRM

# FLOOD MAP

SCALE: 1:10,000

PANEL 72000C1040H
REV. 04/19/2005




**Overlay of Project Limits over FEMA Panel 72000C1040H.**
Please refer to the attached FIRMettes generated at the beginning and at the end of the project extents.

Figure B03.4

# National Flood Hazard Layer FIRMette

FEMA

66°59'8"W 18°10'58"N




66°58'31"W 18°10'23"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

*Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020*

## Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

**SPECIAL FLOOD HAZARD AREAS**
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

**OTHER AREAS OF FLOOD HAZARD**
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

**OTHER AREAS**
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

**GENERAL STRUCTURES**
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

**OTHER FEATURES**
- 20.2 / 17.5 Cross Sections with 1% Annual Chance / Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

**MAP PANELS**
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

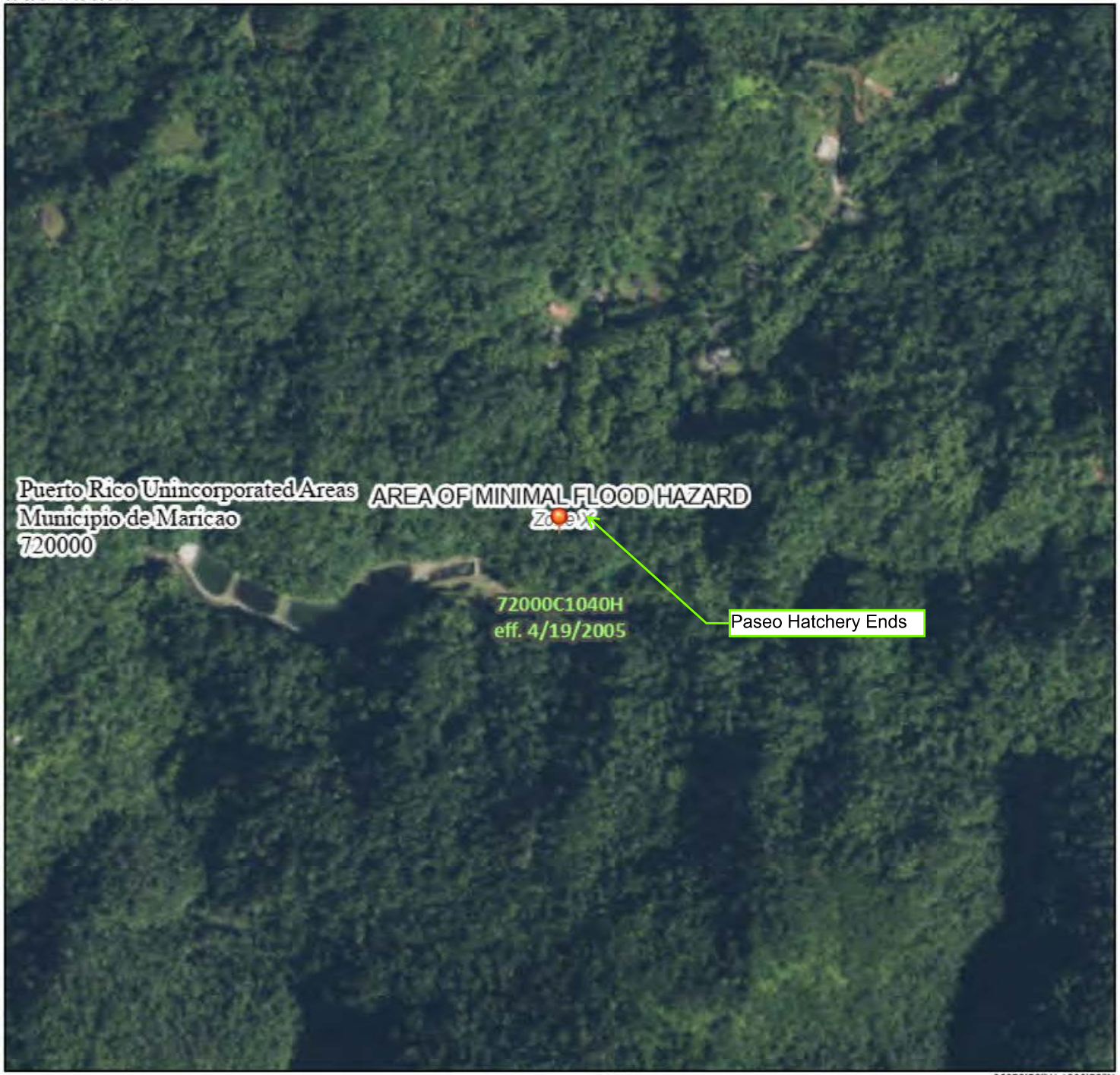
The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 5/3/2023 at 1:39 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

# National Flood Hazard Layer FIRMette

FEMA

66°59'27"W 18°10'32"N




66°58'50"W 18°9'58"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

*Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020*

## Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

**SPECIAL FLOOD HAZARD AREAS**
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

**OTHER AREAS OF FLOOD HAZARD**
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

**OTHER AREAS**
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

**GENERAL STRUCTURES**
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

**OTHER FEATURES**
- 20.2 / 17.5 Cross Sections with 1% Annual Chance / Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

**MAP PANELS**
- Digital Data Available
- No Digital Data Available
- Unmapped

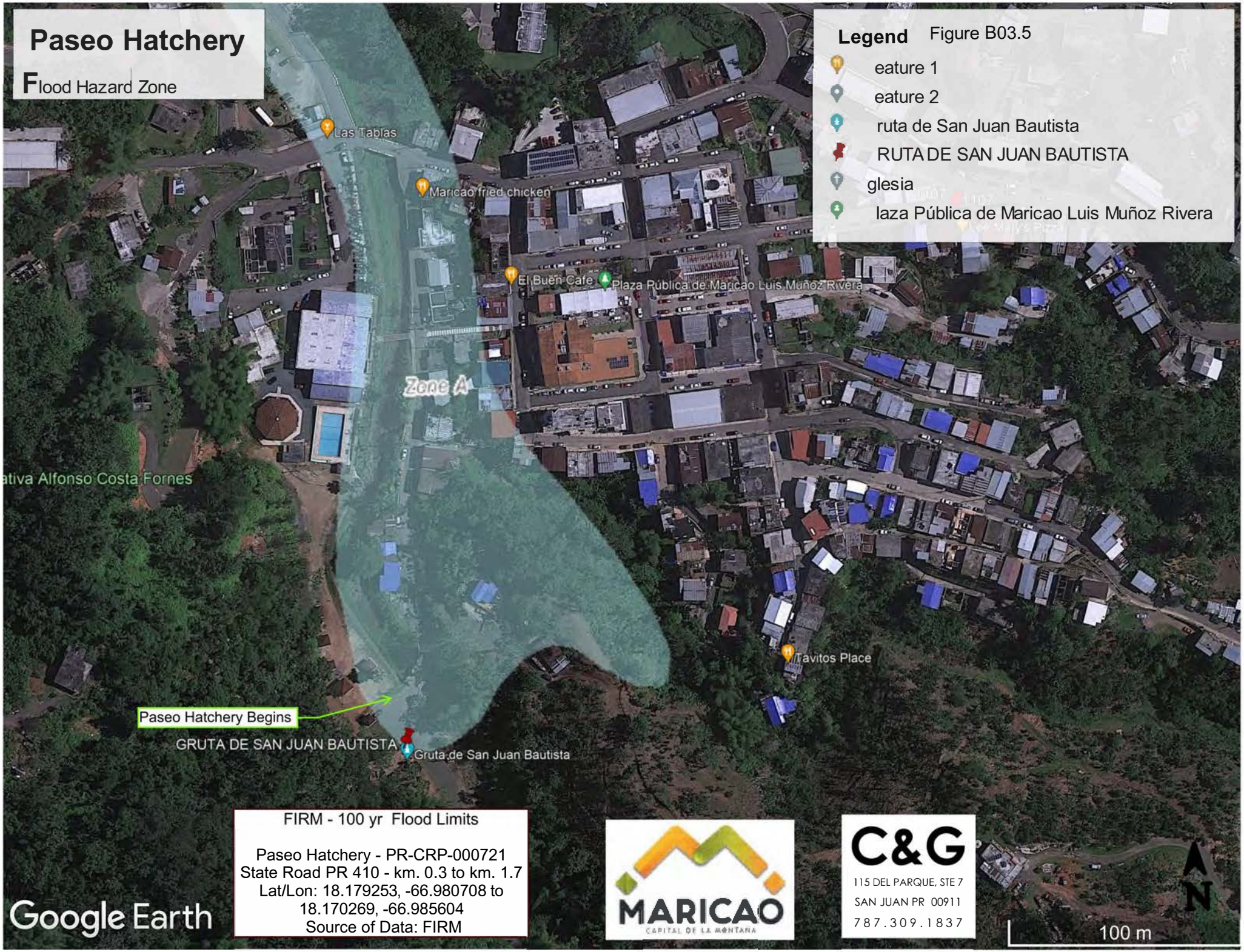
N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 5/3/2023 at 1:35 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.


Paseo Hatchery
Flood Hazard Zone
Legend
Figure B03.5
eature 1
eature 2
ruta de San Juan Bautista
RUTA DE SAN JUAN BAUTISTA
glesia
laza Pública de Maricao Luis Muñoz Rivera
Las Tablas
Maricao fried chicken
El Buen Cafe
Plaza Pública de Maricao Luis Muñoz Rivera
Zone A
ativa Alfonso Costa Fornes
Tavitos Place
Paseo Hatchery Begins
GRUTA DE SAN JUAN BAUTISTA
Gruta de San Juan Bautista
FIRM - 100 yr Flood Limits
Paseo Hatchery - PR-CRP-000721
State Road PR 410 - km. 0.3 to km. 1.7
Lat/Lon: 18.179253, -66.980708 to
18.170269, -66.985604
Source of Data: FIRM
MARICAO
CAPITAL DE LA MONTAÑA
C&G
115 DEL PARQUE, STE 7
SAN JUAN PR 00911
787.309.1837
N
100 m
Google Earth

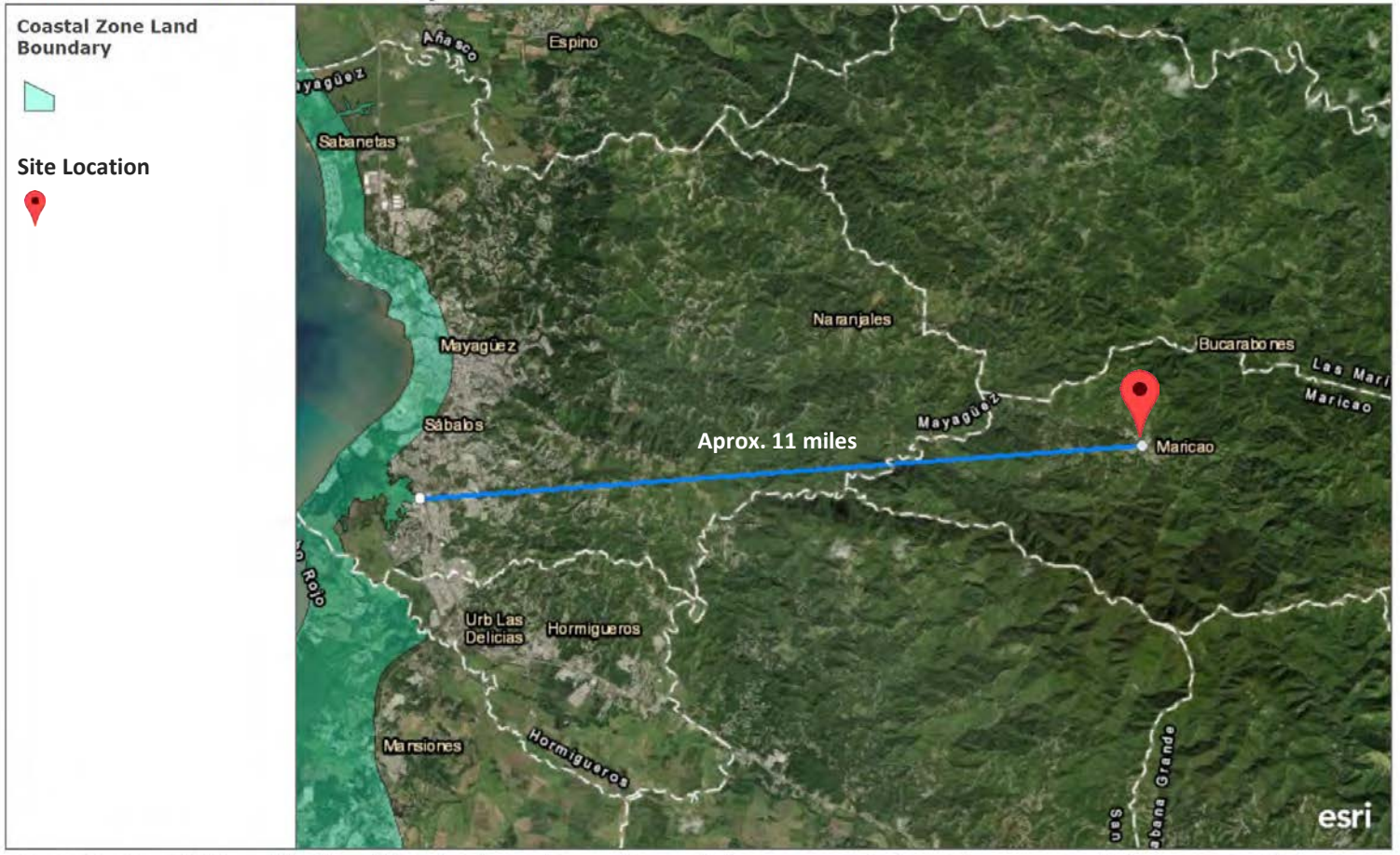
# B04 - Coastal Zone Management

Map Name: CBR Distance Map
Project Number: PR-CRP-000721
Project Name: Paseo Hatchery

N

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JMCP + JLGARCHITECTS
BAIGES GEOTECHNICAL ENGINEERS, LLC

## Puerto Rico Coastal Vulnerability Viewer




Puerto Rico Coastal Vulnerability ViewerThis tool is intended to provide a preliminary assessment of coastal resources and infrastructure at risk due to climate change and sea le ...

Earthstar Geographics | Esri, HERE, Garmin

Project Location: State Road P.R. 410, Km. 0.3 to 1.7, Maricao, P.R.
Project Coordinates: From X= 18.179253, Y= -66.980708 to X: 18.170269, Y: -66.985604
Data Source:
https://www.arcgis.com/home/webmap/viewer.html?webmap=1d0eff6661f340dcabb0e9928d01ec57

**B05 - EPA Facillities Map**

**Map Name: EPA Facilities Map**
**Project Number: PR-CRP-000721**
**Project Name: Paseo Hatchery**

N

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JMCP +
JLGARCHITECTS
BAIGES GEOTECHNICAL ENGINEERS, LLC




**Legend:**

- Toxic Releases (TRI)
- Water Dischargers (NPDES)
- Site Location
- Water Dischargers (NPDES)
- Air Pollution (ICIS-AIR)
- Hazardous Waste (RCRAInfo)
- Parque Pasivo

**Project Location: State Road P.R. 410, Km. 0.3 to 1.7, Maricao, P.R.**
**Project Coordinates: From X= 18.179253, Y= -66.980708 to X: 18.170269, Y: -66.985604**
**Data Source: EPA NEPAssist**

Paseo Hatchery - PR-CRP-000721
State Road PR 410 - km. 0.3 to km. 1.7 18.179253, -66.980708 to 18.170269, -66.985604

# NEPAssist Report

## Paseo Hatchery Begins

C&G
115 DEL PARQUE, STE 7
SAN JUAN PR 00911
787.309.1837

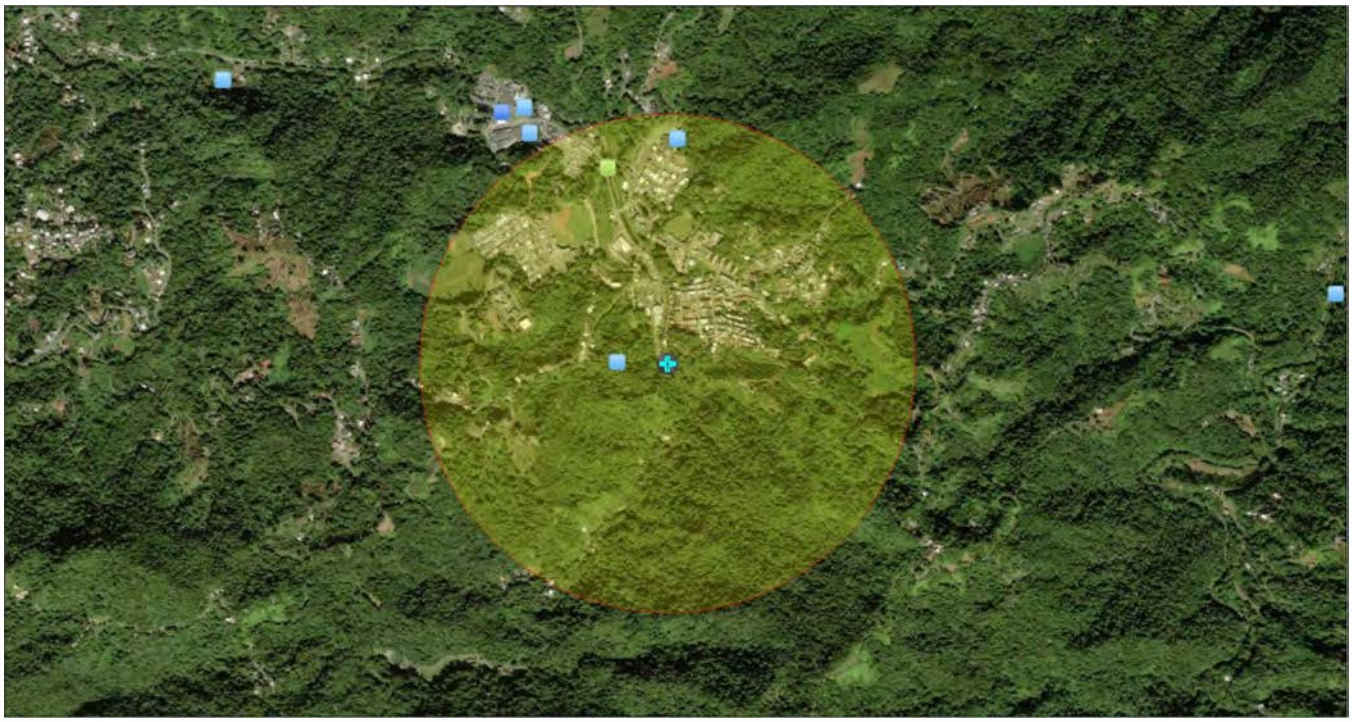



Figure C06.2

| Project Location | 18.179094,-66.980597 |
|---|---|
| Within 0.5 miles of an Ozone 8-hr (1997 standard) Non-Attainment/Maintenance Area? | no |
| Within 0.5 miles of an Ozone 8-hr (2008 standard) Non-Attainment/Maintenance Area? | no |
| Within 0.5 miles of a Lead (2008 standard) Non-Attainment/Maintenance Area? | no |
| Within 0.5 miles of a SO2 1-hr (2010 standard) Non-Attainment/Maintenance Area? | no |
| Within 0.5 miles of a PM2.5 24hr (2006 standard) Non-Attainment/Maintenance Area? | no |
| Within 0.5 miles of a PM2.5 Annual (1997 standard) Non-Attainment/Maintenance Area? | no |
| Within 0.5 miles of a PM2.5 Annual (2012 standard) Non-Attainment/Maintenance Area? | no |
| Within 0.5 miles of a PM10 (1987 standard) Non-Attainment/Maintenance Area? | no |
| Within 0.5 miles of a Federal Land? | no |
| Within 0.5 miles of an impaired stream? | no |
| Within 0.5 miles of an impaired waterbody? | yes |
| Within 0.5 miles of a waterbody? | yes |
| Within 0.5 miles of a stream? | yes |
| Within 0.5 miles of an NWI wetland? | Available Online |
| Within 0.5 miles of a Brownfields site? | no |
| Within 0.5 miles of a Superfund site? | no |
| Within 0.5 miles of a Toxic Release Inventory (TRI) site? | no |
| Within 0.5 miles of a water discharger (NPDES)? | yes |
| Within 0.5 miles of a hazardous waste (RCRA) facility? | yes |
| Within 0.5 miles of an air emission facility? | no |

| | |
|---|---|
| Within 0.5 miles of a school? | no |
| Within 0.5 miles of an airport? | no |
| Within 0.5 miles of a hospital? | no |
| Within 0.5 miles of a designated sole source aquifer? | no |
| Within 0.5 miles of a historic property on the National Register of Historic Places? | yes |
| Within 0.5 miles of a Toxic Substances Control Act (TSCA) site? | no |
| Within 0.5 miles of a Land Cession Boundary? | no |
| Within 0.5 miles of a tribal area (lower 48 states)? | no |
| Within 0.5 miles of the service area of a mitigation or conservation bank? | no |
| Within 0.5 miles of the service area of an In-Lieu-Fee Program? | no |
| Within 0.5 miles of a Public Property Boundary of the Formerly Used Defense Sites? | no |
| Within 0.5 miles of a Munitions Response Site? | no |
| Within 0.5 miles of an Essential Fish Habitat (EFH)? | no |
| Within 0.5 miles of a Habitat Area of Particular Concern (HAPC)? | no |
| Within 0.5 miles of an EFH Area Protected from Fishing (EFHA)? | yes |
| Within 0.5 miles of a Bureau of Land Management Area of Critical Environmental Concern? | no |
| Within 0.5 miles of an ESA-designated Critical Habitat Area per U.S. Fish & Wildlife Service? | yes |
| Within 0.5 miles of an ESA-designated Critical Habitat river, stream or water feature per U.S. Fish & Wildlife Service? | no |

Created on: 9/26/2023 2:53:27 PM

# B06 - Endangered Species

Map Name: Critical Habitat Map
Project Number: PR-CRP-000721
Project Name: Paseo Hatchery

N

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JMCP + JLGARCHITECTS
BAIGES GEOTECHNICAL ENGINEERS, LLC

## Critical Habitat for Threatened & Endangered Species [USFWS]




A specific geographic area(s) that contains features essential for the conservation of a threatened or endangered species and that may require special management and protection.

Maxar | Esri Community Maps Contributors, Esri, TomTom, Garmin, Foursquare, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, NPS, US Census Bureau, USFWS

**Legend:**

Site Location

Project road section

Project Location: State Road P.R. 410, Km. 0.3 to 1.7, Maricao, P.R.
Project Coordinates: From X= 18.179253, Y= -66.980708 to X: 18.170269, Y: -66.985604
Data Source: https://fws.maps.arcgis.com/home/webmap/print.html

# B07 - Farmlands

Map Name: Farmlands Map
Project Number: PR-CRP-000721
Project Name: Paseo Hatchery




**Legend:**

Site Location

Project Location: State Road P.R. 410, Km. 0.3 to 1.7, Maricao, P.R.
Project Coordinates: From X= 18.179253, Y= -66.980708 to X: 18.170269, Y: -66.985604
Data Source: NRCS

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

# Custom Soil Resource Report for Mayaguez Area, Puerto Rico Western Part

## Paseo Hatchery

Soil Report

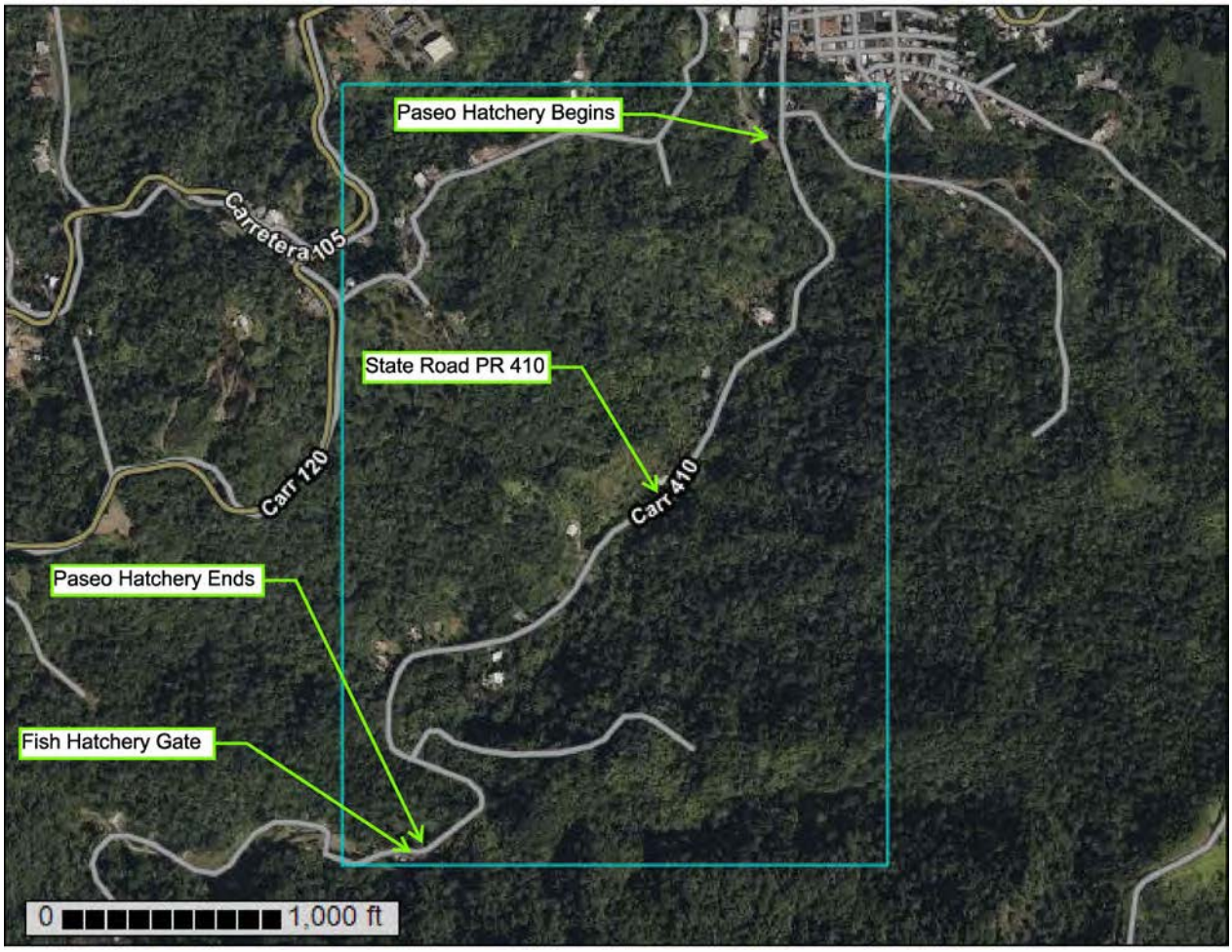
Paseo Hatchery - PR-CRP-000721
State Road PR 410 - km. 0.3 to km. 1.7

Lat/Lon: 18.179253, -66.980708 to 18.170269, -66.985604

Source of Data: NRCS

MARICAO
CAPITAL DE LA MONTAÑA

C&G
115 DEL PARQUE, STE 7
SAN JUAN PR 00911
787.309.1837




August 24, 2023

# B08 - Floodplain Management

# PUERTO RICO DEPARTMENT OF HOUSING
# CDBG-DR PROGRAM
# CITY REVITALIZATION PROGRAM

**Flood Zone Evaluation**

Date: March 29, 2023
POC Name: Ovidio González Feliciano
Subrecipient: Maricao
Address: PO BOX 835
Title: Director de Obras Publicas
Email: director.opmaricao@gmail.com

Re: **Flood Zone Evaluation**
City Revitalization Program
Community Development Block Grant for Disaster Recovery (CDBG-DR)

Project Number: **PR-CRP-000721**
Project Name: **Paseo Hatchery**
Location: **18.174231°, -66.982605°**
Map Source: **FEMA Flood Insurance Rate Maps (FIRMs)**
Panel Number: **72000C1040H**
Panel Date: **04/19/2005**

Dear Mr./Mrs. Ovidio González Feliciano,

The Puerto Rico Department of Housing (PRDOH) completed the Flood Zone Evaluation of the Paseo Hatchery project submitted to the City Revitalization Program. Below is the result of the evaluation.

- [ ] **1.** The project location provided by the Subrecipient **is not within a flood prone area** based on the current FEMA flood maps and is not required to meet HUD elevation and flood insurance requirements detailed below.
- [x] **2.** The project location provided by the Subrecipient **is in a flood prone area** based on the current FEMA flood maps. The project must meet the following conditions:
  - [ ] **2.1** Per HUD's Floodplain Management and Protection of Wetlands regulation, (24 CFR Part 55 ("Part 55"), no HUD financial assistance may be approved after May 23, 1994 with respect to any action other than a functionally dependent use or floodplain function restoration activity located in a floodway unless an exception excludes the action from Part 55 compliance. HUD permits only three categories of activities in a floodway: functionally dependent uses, floodplain restoration activities, and activities listed in Part 55.12(c).

- [ ] **2.1.1** The project does not comply with the exceptions for activities in the floodway and HUD financial assistance may not be used. The project is no longer eligible for the City Revitalization Program.
- [ ] **2.1.2** The project complies with the following exception for activity in the floodway:
  - [ ] **2.1.2.1** Functionally Dependent Uses
  - [ ] **2.1.2.2** Floodplain Restoration Activities
  - [ ] **2.1.2.3** Activities listed in section 55.12(c)
    Refer to the section Additional Project Evaluation in the CRP portal at https://horne2.outsystemsenterprise.com/CRP_Layout/NoPermission.aspx the justification memorandum provided by the Subrecipient.
  - [ ] **2.1.2.4** Project is in the floodway but consist of repairs to existing construction (including improvements) or reconstruction following destruction caused by a disaster [24 Part 55.1 (c)(3)].
- [ ] **2.2** The project must be elevated or floodproofed, in accordance with FEMA floodproofing standards at 44 C.F.R. § 60.3(c)(3)(ii) or successor standard, up to at least two feet (2′) above the 100-year (or one percent (1%) annual chance) floodplain.
- [ ] **2.3** Due to the important nature of the proposed project, PRDOH considers the project a Critical Action project. Per 24 C.F.R. § 55.2(b)(3), all Critical Actions within the 500-year (or 0.2 percent annual chance) floodplain must be elevated or floodproofed (in accordance with the FEMA standards) to the higher of the 500-year floodplain elevation or three feet (3′) above the 100-year floodplain elevation. If the 500-year floodplain is unavailable, and the Critical Action is in the 100-year floodplain, then the structure must be elevated or floodproofed at least three feet (3′) above the 100-year floodplain elevation.
- [x] **2.4** Subrecipients of Federal funding must ensure that procedures and mechanisms are put into place to monitor compliance with all flood insurance requirements as found in the Flood Disaster Protection Act of 1973, 24 C.F.R. § 570.605- National Flood Insurance Program and 24 C.F.R. § 570.202- Eligible Rehabilitation and Preservation Activities. These regulations, along with alternative requirements provided in 83 FR 5844.
- [x] **2.5** The action is in a floodplain but does not require to be elevated above the floodplain, or floodproofed or insured because it consists of civil works (roadway, parking, street repairs, sidewalk repairs, building façade repairs).
- [x] **2.6** The project must comply with the procedures of Making Determinations of Floodplain Management at 24 CFR 55.20 and the 8-step decision making process of Executive Order 11988.

In addition to HUD requirements above, the project must adhere to any applicable State, local, and tribal codes and standards for floodplain management that exceeds these requirements, including elevation, setbacks, and cumulative substantial damage requirements.
Adherence to flood-related requirements is critical. Failure to meet elevation, floodproofing, and insurance requirements will result in the project being found non-compliant and may result in a repayment of funds to

PRDOH.

If you have any questions, comments or need additional information regarding the decision, feel free to send your request by email to cityrevcdbg@vivienda.pr.gov.

Sincerely,

City Revitalization Program - CDBG-DR
Department of Housing

## NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not ~~necessarily identify all areas~~ subject to flooding, particularly from local drainage sources of small size. The **community map repository** should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations** (BFEs) and/or **floodways** have been determined, **users** are encouraged to consult the Flood Profiles, Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent elevations rounded to the nearest 0.1 meter elevation. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

**Coastal Base Flood Elevations** shown on this map apply only landward of 0.0m Mean Sea Level (MSL). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations table in the Flood Insurance Study report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations table should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures.** Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The **projection** used in the preparation of this map was Universal Transverse Mercator (UTM) zone 19. The **horizontal datum** was NAD 83, GRS80 spheroid. Differences in datum, spheroid, projection or UTM zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to Mean Sea Level. These flood elevations must be compared to structure and ground elevations referenced to the same **vertical datum.** For information regarding vertical datums, visit the National Geodetic Survey website at http://www.ngs.noaa.gov or contact the National Geodetic Survey at the following address:

Spatial Reference System Division
National Geodetic Survey, NOAA
Silver Spring Metric Center
1315 East-West Highway
Silver Spring, Maryland 20910
(301) 713-3191

To obtain current elevation, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at **(301) 713-3242**, or visit their website at http://www.ngs.noaa.gov.

**Base map** information shown on this FIRM was derived from U.S. Geological Survey Digital Orthophoto Quadrangles (DOQs) produced at a scale of 1: 12000 from photography dated 1993 or later.

This map reflects more detailed and up-to-date **stream channel and shoreline configurations** than those shown on the previous FIRM for this jurisdiction. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to conform to these new stream channel and shoreline configurations. As a result, the Flood Profiles and Floodway Data tables in the Flood Insurance Study report (which contains authoritative hydraulic data) may reflect stream channel distances that differ somewhat from those shown on this map.

**Corporate limits** shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed **Map Index** for an overview map of the Commonwealth of Puerto Rico showing the layout of map panels, community map repository addresses, and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

Contact the **FEMA Map Service Center** at 1-800-358-9616 for information on available products associated with this FIRM. Available products may include previously issued Letters of Map Change, a Flood Insurance Study report, and/or digital versions of this map. The FEMA Map Service Center may also be reached by Fax at 1-800-358-9620 and it's website at http://www.msc.fema.gov.

If you have **questions about this map** or questions concerning the National Flood Insurance Program in general, please call 1-~~877-FEMA-MAP~~ (1-877-336-2627) or visit the FEMA website at http://www.fema.gov.

This digital Flood Insurance Rate Map (FIRM) was pr. duced with the assistance of the Puerto Rico Plann ingBoard (PRPB, Junta de Planificacion), the National Flood Insurance Program administ.ator for the Commonwealth of Puerto Rico. As a part of this effort, PRPB, a Federal Emergency Management Agency Cooperating Technical Partner, will adopt this FIRM, once finalized, as the official flood map for the Commonwealth.

**FIRM - Flood Insurance Rate Map**

Paseo Hatchery - PR-CRP-000721
State Road PR 410 - km. 0.3 to km. 1.7

Lat/Lon: 18.179253, -66.980708 **to** 18.170269, -66.985604

Source of Data: FEMA

MARICAO

C&G
115 DE PARQUE, STE 7
SAN JUAN PR 00911
787.309.1837

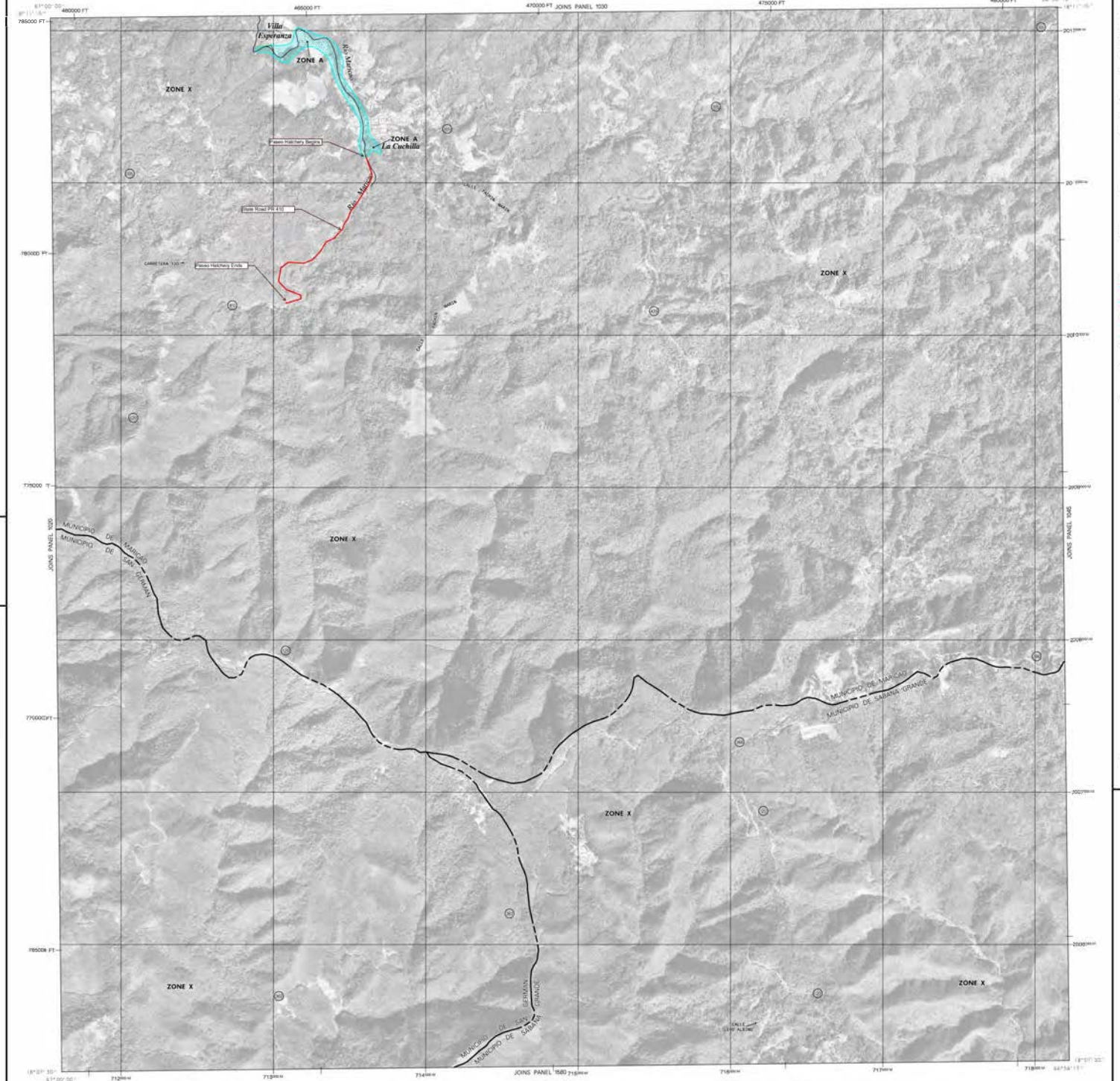



Figure B08.2

## LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

- **ZONE A** — No Base Flood Elevations determined.
- **ZONE AE** — Base Flood Elevations determined.
- **ZONE AH** — Flood depths of 0.3 to 0.9 meter (usually areas of ponding); Base Flood Elevations determined.
- **ZONE AO** — Flood depths of 0.3 to 0.9 meter (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
- **ZONE AR** — Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
- **ZONE A99** — Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
- **ZONE V** — Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
- **ZONE VE** — Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

- **ZONE X** — Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 0.3 meter or with drainage areas less than 2.6 square kilometers; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

- **ZONE X** — Areas determined to be outside the 0.2% annual chance floodplain.
- **ZONE D** — Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

- 1% annual chance floodplain boundary
- 0.2% annual chance floodplain boundary
- Floodway boundary
- Zone D boundary
- CBRS and OPA boundary
- Boundary dividing Special Flood Hazard Area Zones and boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.
- 513 — Base Flood Elevation line and value; elevation in meters* (EL 987) — Base Flood Elevation value where uniform within zone; elevation in meters* *Referenced to Mean Sea Level
- Cross section line
- Transect line
- Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western Hemisphere
- 1000-meter Universal Transverse Mercator grid values, zone 19
- 5000-foot grid values: Puerto Rico State Plane coordinate system, NAD/CONE 5200 Lambert Conformal Conic projection
- DX55 — Bench mark (see explanation in Notes to Users section of this FIRM panel)

MAP REPOSITORIES
Refer to listing of Map Repositories on Map Index

EFFECTIVE DATE OF COMMONWEALTH OF PUERTO RICO AND MUNICIPALITIES FLOOD INSURANCE RATE MAP
April 19, 2005

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

For community map revision history prior to Commonwealth of Puerto Rico and Municipalities mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1:10,000

Kilometers 0 .25 0 .5
Feet 500 0 500 1000 1500 2000 2500 3000
Miles 1/4 0 1/4

NFIP NATIONAL FLOOD INSURANCE PROGRAM

PANEL 1040H

# FIRM
## FLOOD INSURANCE RATE MAP

COMMONWEALTH OF PUERTO RICO
AND MUNICIPALITIES

**PANEL 1040 OF 2160**

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINING:

| COMMUNITY | NUMBER | PANEL | SUFFIX |
|---|---|---|---|
| PUERTO RICO | 720000 | 1040 | H |

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

**MAP NUMBER 72000C1040H**

**EFFECTIVE DATE APRIL 19, 2005**

Federal Emergency Management Agency

Paseo Hatchery - PR-CRP-000721
State Road PR 410 - km. 0.3 to km. 1.7

Lat/Lon: 18.179087 -66.980567
Lat/Lon: 18.175017 -66.981874
Source of Data: FEMA-FIRM

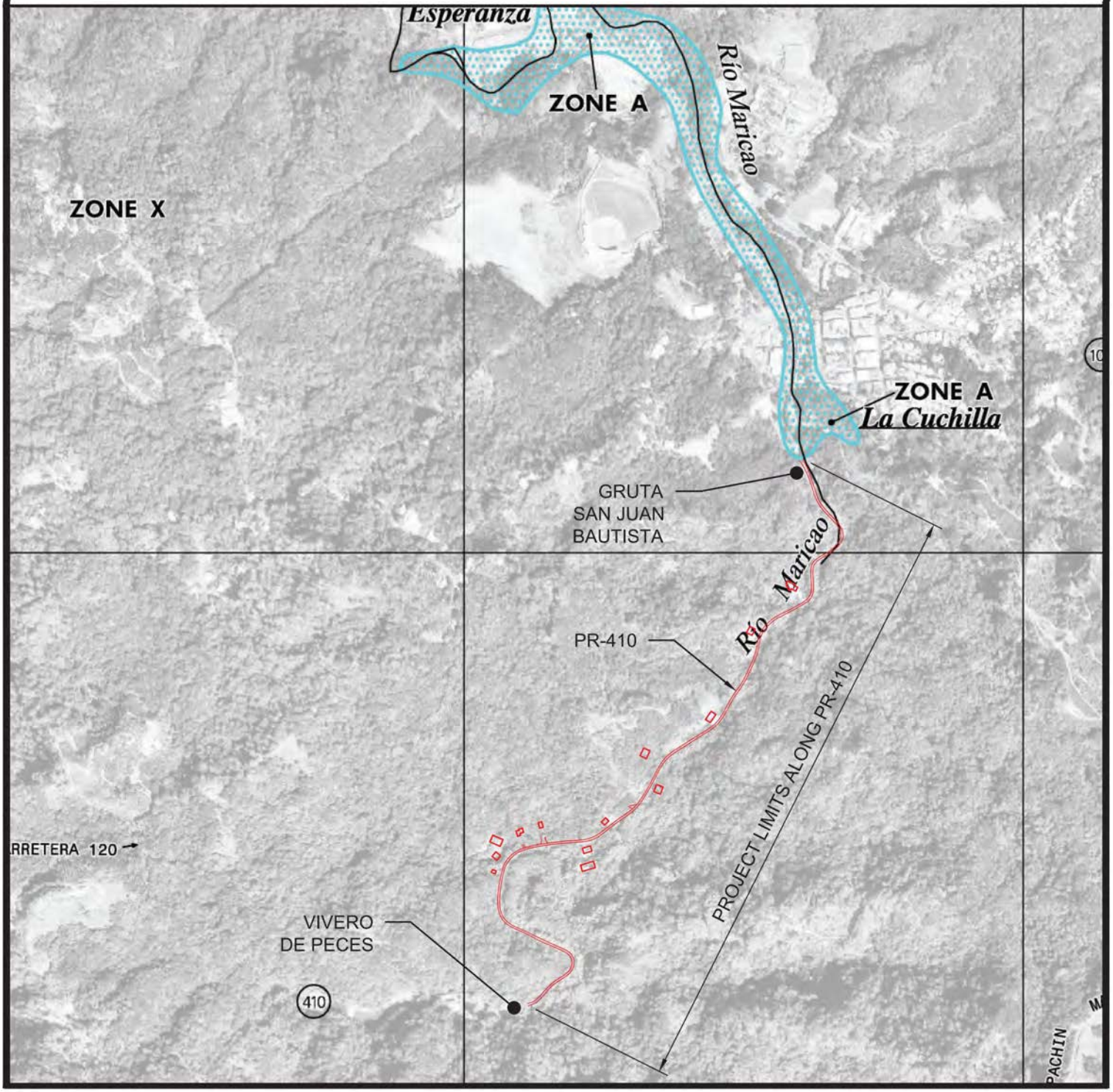
MARICAO
CAPITAL DE LA MONTAÑA

C&G
115 DEL PARQUE, STE 7
SAN JUAN PR 00911
787.309.1837

# FLOODMAP Figure 08.3

SCALE: 1:10,000

PANEL 72000C1040H
REV. 04/19/2005




**Overlay of Project Limits over FEMA Panel 72000C1040H.**
Please refer to the attached FIRMettes generated at the beginning and at the end of the project extents.

# National Flood Hazard Layer FIRMette

FEMA

66°59'8"W 18°10'58"N




66°58'31"W 18°10'23"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

*Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020*

## Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

**SPECIAL FLOOD HAZARD AREAS**
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

**OTHER AREAS OF FLOOD HAZARD**
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

**OTHER AREAS**
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

**GENERAL STRUCTURES**
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

**OTHER FEATURES**
- 20.2 / 17.5 Cross Sections with 1% Annual Chance Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

**MAP PANELS**
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

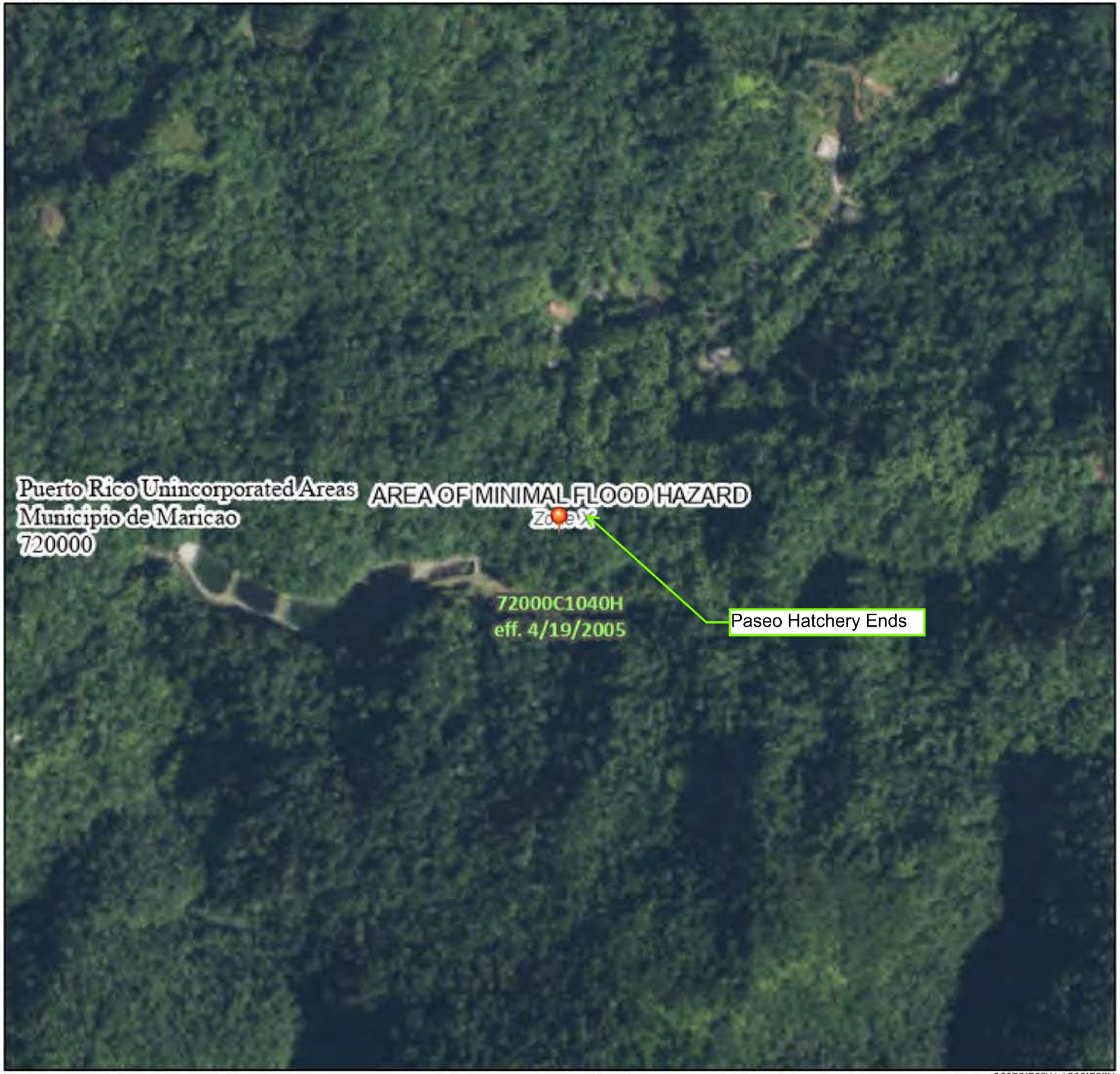
The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 5/3/2023 at 1:39 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

# National Flood Hazard Layer FIRMette

FEMA

66°59'27"W 18°10'32"N




66°58'50"W 18°9'58"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

*Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020*

## Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

**SPECIAL FLOOD HAZARD AREAS**
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

**OTHER AREAS OF FLOOD HAZARD**
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

**OTHER AREAS**
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

**GENERAL STRUCTURES**
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

**OTHER FEATURES**
- 20.2 / 17.5 Cross Sections with 1% Annual Chance / Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

**MAP PANELS**
- Digital Data Available
- No Digital Data Available
- Unmapped

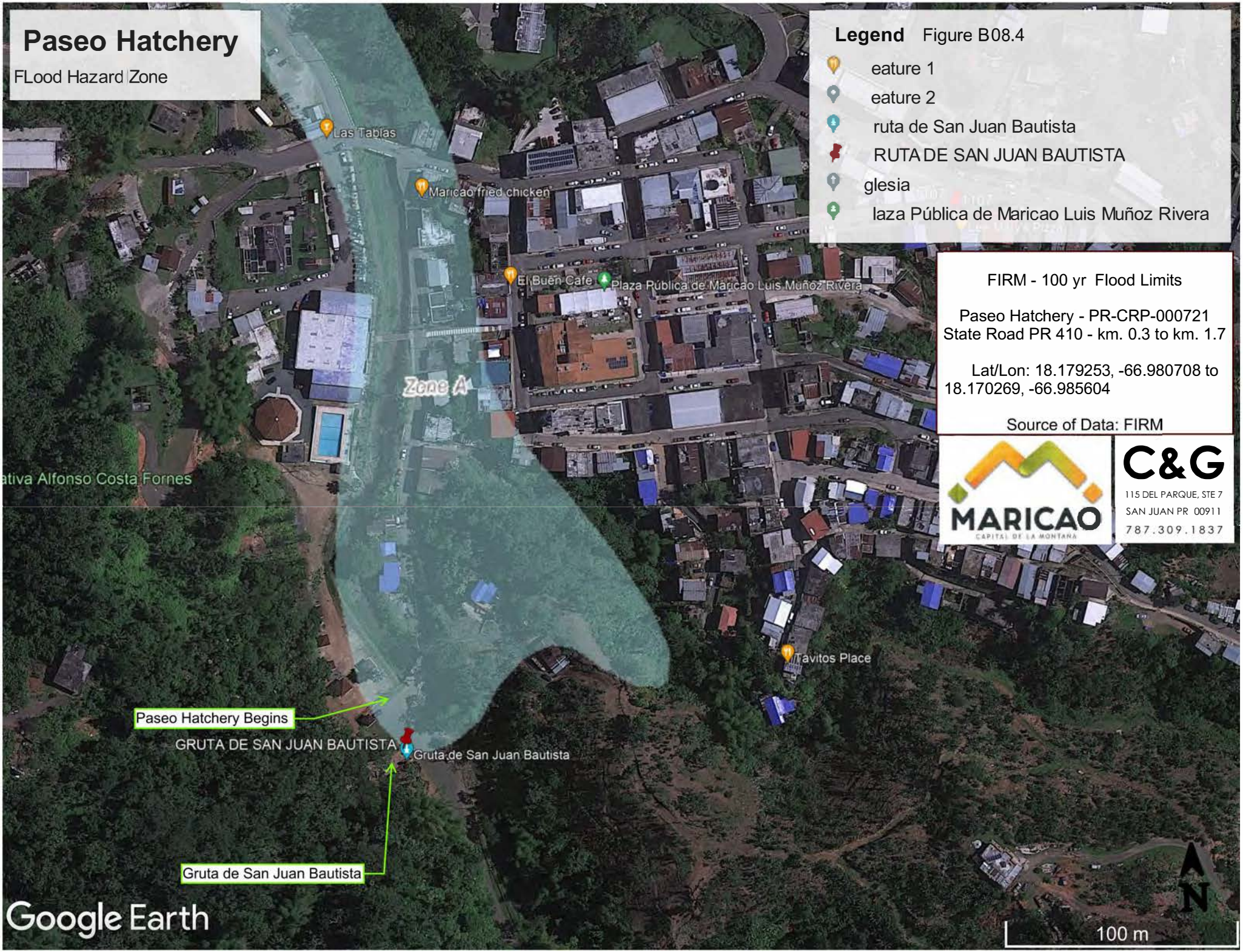
N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 5/3/2023 at 1:35 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.


Paseo Hatchery
FLood Hazard Zone
Legend Figure B08.4
eature 1
eature 2
ruta de San Juan Bautista
RUTA DE SAN JUAN BAUTISTA
glesia
laza Pública de Maricao Luis Muñoz Rivera
FIRM - 100 yr Flood Limits
Paseo Hatchery - PR-CRP-000721
State Road PR 410 - km. 0.3 to km. 1.7
Lat/Lon: 18.179253, -66.980708 to 18.170269, -66.985604
Source of Data: FIRM
MARICAO
CAPITAL DE LA MONTAÑA
C&G
115 DEL PARQUE, STE 7
SAN JUAN PR 00911
787.309.1837
Las Tablas
Maricao fried chicken
El Buen Cafe
Plaza Pública de Maricao Luis Muñoz Rivera
Zone A
ativa Alfonso Costa Fornes
Tavitos Place
Paseo Hatchery Begins
GRUTA DE SAN JUAN BAUTISTA
Gruta de San Juan Bautista
Gruta de San Juan Bautista
Google Earth
N
100 m

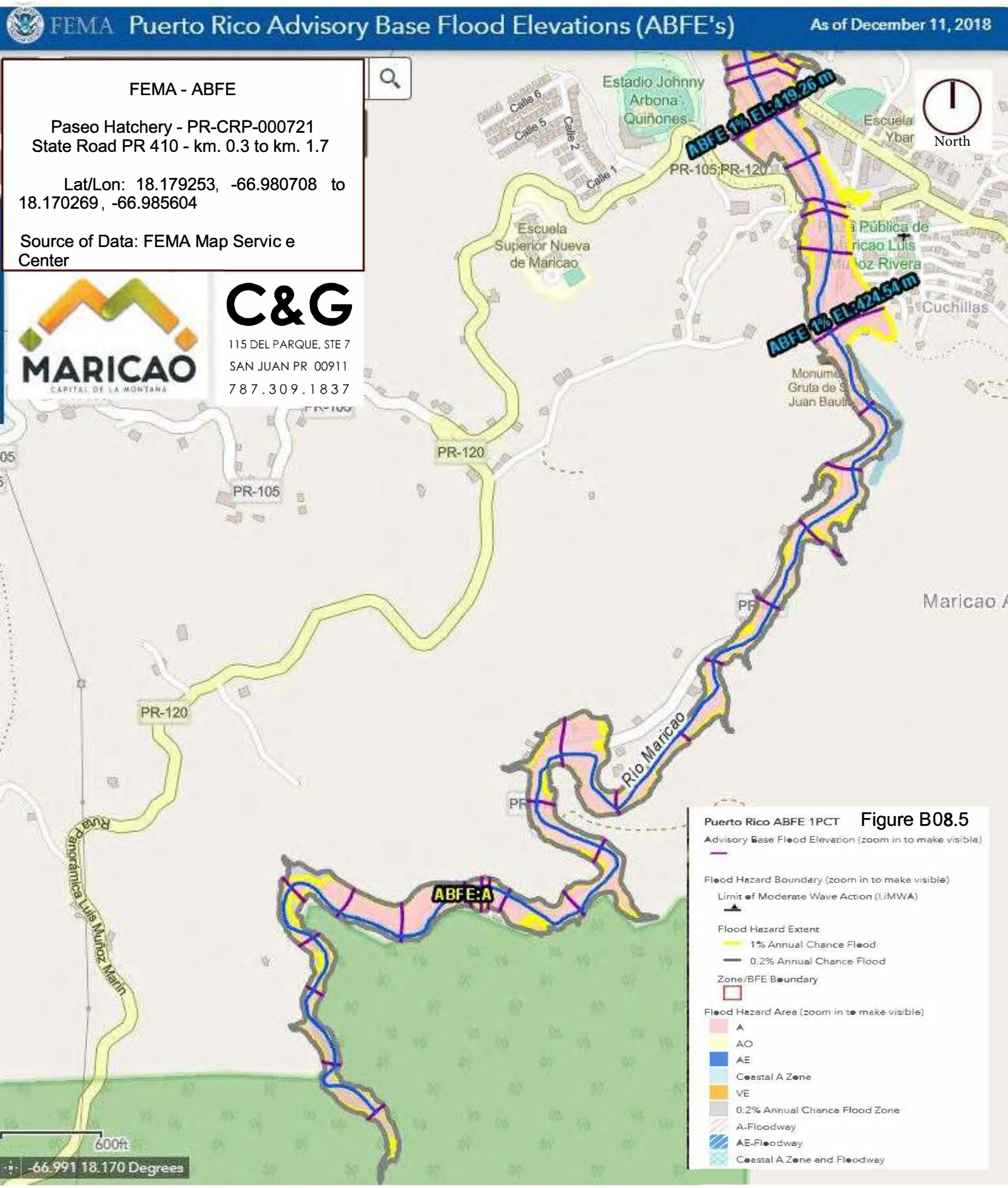
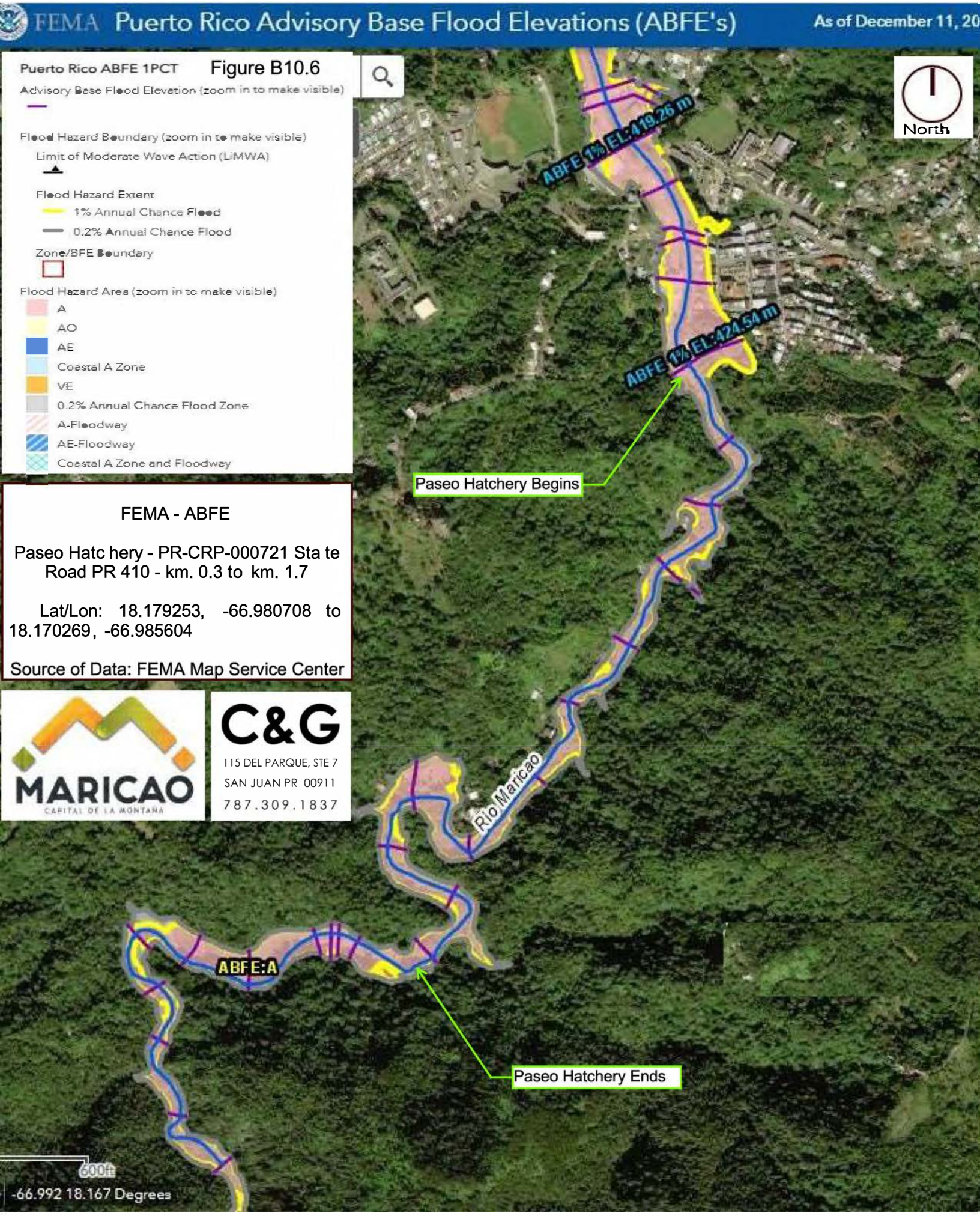

FEMA Puerto Rico Advisory Base Flood Elevations (ABFE's)
As of December 11, 2018
FEMA - ABFE
Paseo Hatchery - PR-CRP-000721
State Road PR 410 - km. 0.3 to km. 1.7
Lat/Lon: 18.179253, -66.980708 to 18.170269, -66.985604
Source of Data: FEMA Map Servic e Center
C&G
115 DEL PARQUE, STE 7
SAN JUAN PR 00911
787.309.1837
MARICAO
CAPITAL DE LA MONTAÑA
North
ABFE 1% EL:419.26 m
ABFE 1% EL:424.54 m
ABFE:A
Estadio Johnny Arbona Quiñones
Escuela Superior Nueva de Maricao
Escuela Ybar
Cuchillas
PR-105;PR-120
PR-120
PR-105
Río Maricao
Maricao
Puerto Rico ABFE 1PCT
Advisory Base Flood Elevation (zoom in to make visible)
Flood Hazard Boundary (zoom in to make visible)
Limit of Moderate Wave Action (LiMWA)
Flood Hazard Extent
1% Annual Chance Flood
0.2% Annual Chance Flood
Zone/BFE Boundary
Flood Hazard Area (zoom in to make visible)
A
AO
AE
Coastal A Zone
VE
0.2% Annual Chance Flood Zone
A-Floodway
AE-Floodway
Coastal A Zone and Floodway
600ft
-66.991 18.170 Degrees

Figure B08.5




FEMA - ABFE

Paseo Hatc hery - PR-CRP-000721 Sta te Road PR 410 - km. 0.3 to km. 1.7

Lat/Lon: 18.179253, -66.980708 to 18.170269, -66.985604

Source of Data: FEMA Map Service Center

MARICAO
CAPITAL DE LA MONTAÑA

C&G
115 DEL PARQUE, STE 7
SAN JUAN PR 00911
787.309.1837

# B09- Sole Source Aquifer

**Map Name: Sole Source Aquifer Map**
**Project Number: PR-CRP-000721**
**Project Name: Paseo Hatchery**

C&G
JMCP + JLGARCHITECTS
BAIGES GEOTECHNICAL ENGINEERS, LLC

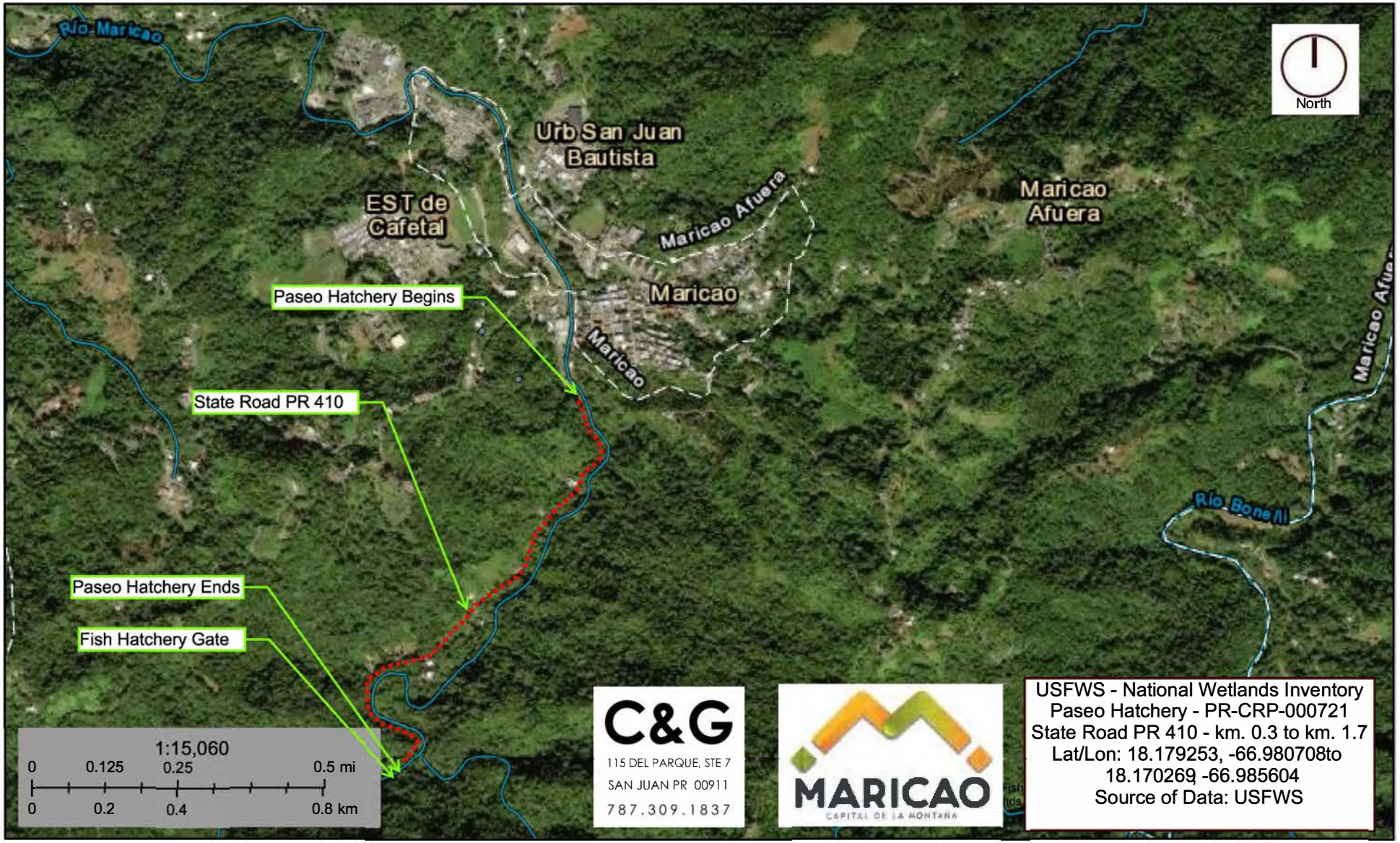



**Project Location: State Road P.R. 410, Km. 0.3 to 1.7, Maricao, P.R.**
**Project Coordinates: From X= 18.179253, Y= -66.980708 to X: 18.170269, Y: -66.985604**
**Data Source: https://epa.maps.arcgis.com/apps/webappviewer/index.html?id=9ebb047ba3ec41ada1877155fe31356b**

# B10 - Wetlands

U.S. Fish and Wildlife Service
National Wetlands Inventory

# Paseo Hatchery National Wetland Map




August 23, 2023

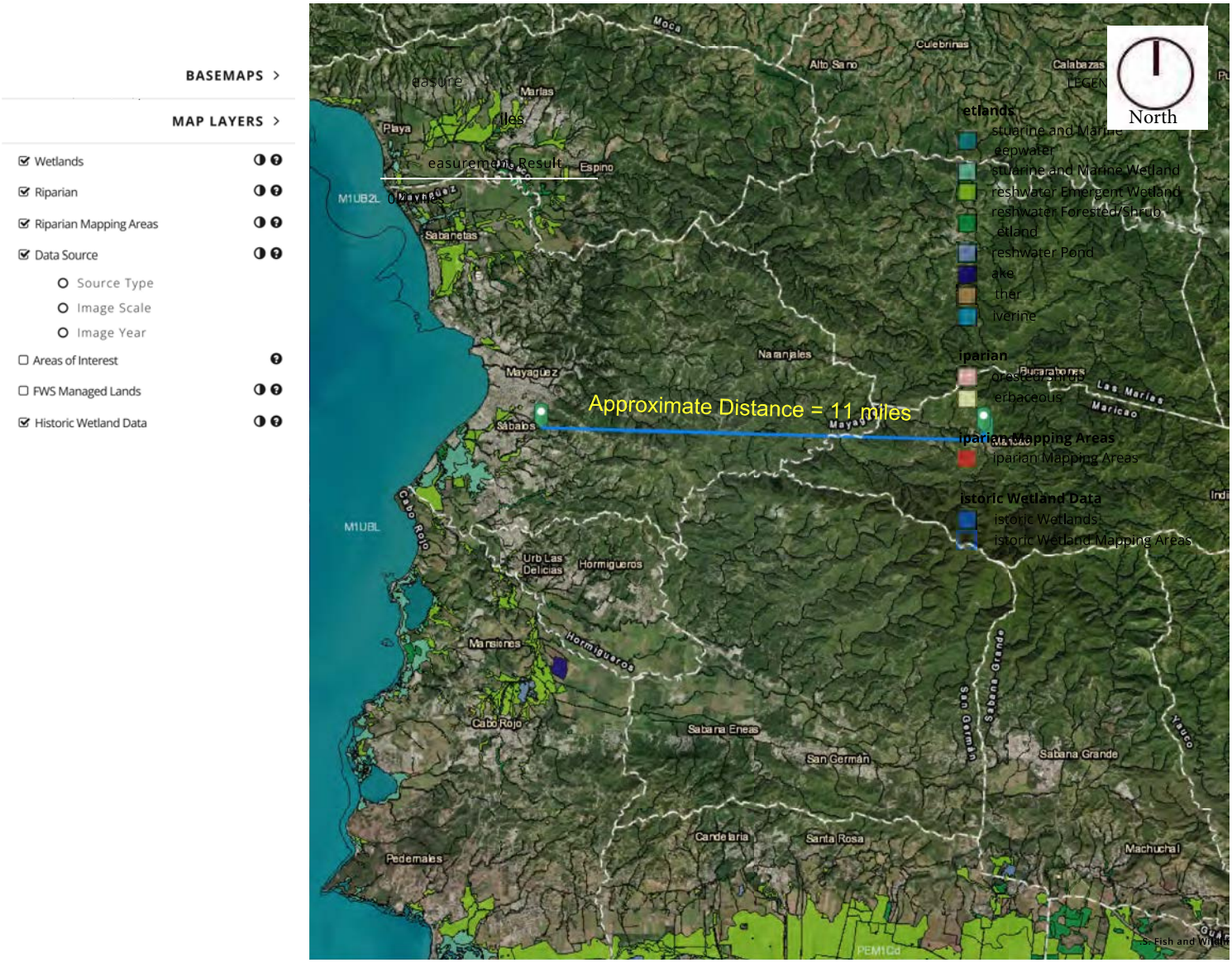
**Wetlands**

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

Figure B10.1

National Wetlands Inventory (NWI)
This page was produced by the NWI mapper




C&G
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SAN JUAN PR 00911
787.309.1837

MARICAO
CAPITAL DE LA MONTAÑA

USFWS - National Wetlands Inventory
Paseo Hatchery - PR-CRP-000721
State Road PR 410 - km. 0.3 to km. 1.7
Lat/Lon: 18.179087 -66.980567
Lat/Lon: 18.175017 -66.981874
Source of Data: USFWS

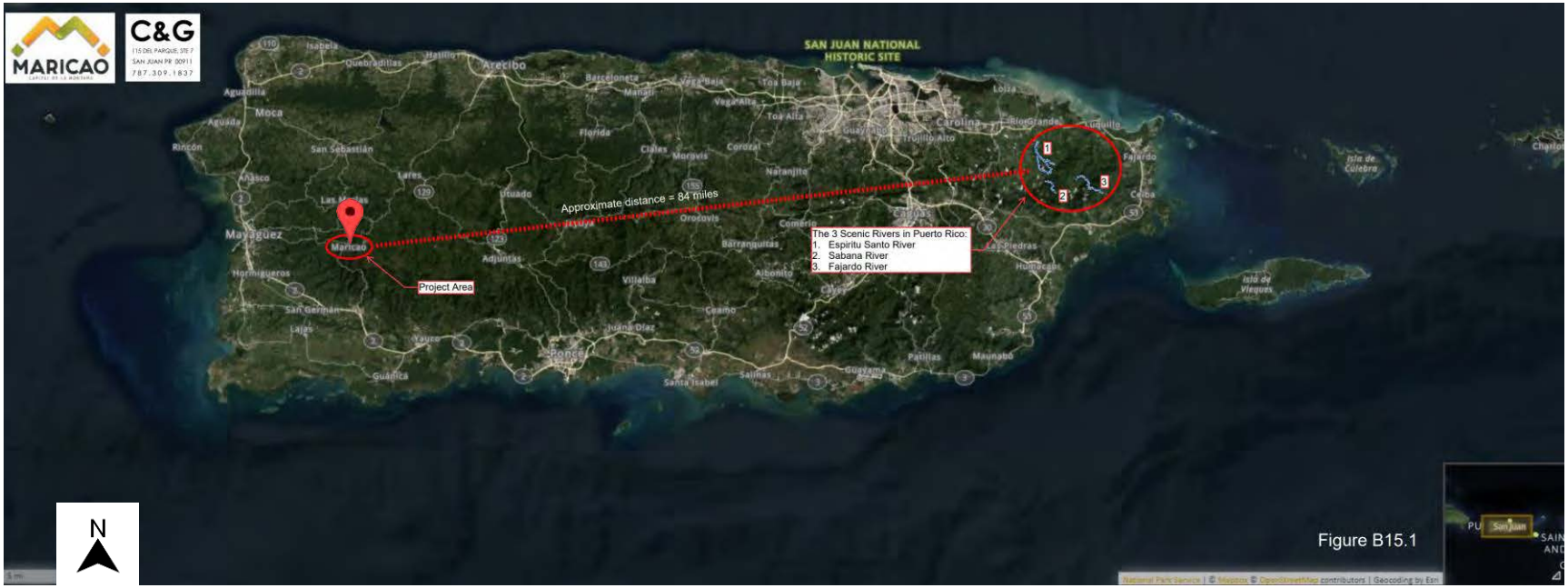
: 44,448
8.185 | 66.981



Figure B10.2

# B11 - Wild and Scenic Rivers

**Map Name: Inventory Map Wild Scenic Rivers**
**Project Number: PR-CRP-000721**
**Project Name: Paseo Hatchery**




**Project Location: State Road P.R. 410, Km. 0.3 to 1.7, Maricao, P.R.**
**Project Coordinates: From X= 18.179253, Y= -66.980708 to X: 18.170269, Y: -66.985604**
**Data Source: https://www.nps.gov/maps/full.html?mapId=8adbe798-0d7e-40fb-bd48-225513d64977**

**Legend:**

**Site Location**

**Rivers**

B12-Environmental Justice

**OMB No. 2506-0177**
(exp.9/30/2021)

**U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT**
WASHINGTON, DC 20410-1000

# PR-CRP-000721_Paseo Hatchery

## Environmental Justice (CEST and EA) – PARTNER

https://www.hudexchange.info/environmental-review/environmental-justice

**HUD strongly encourages starting the Environmental Justice analysis only after all other laws and authorities, including Environmental Assessment factors if necessary, have been completed.**

1. **Were any adverse environmental impacts identified in any other compliance review portion of this project's total environmental review?**

   ☐Yes → *Continue to Question 2.*

   ☒No → *If the RE/HUD agrees with this recommendation, the review is in compliance with this section. Continue to the Worksheet Summary below.*

2. **Were these adverse environmental impacts disproportionately high for low-income and/or minority communities?**

   ☐Yes

   **Explain:**

   Click here to enter text.

   → *The RE/HUD must work with the affected low-income or minority community to decide what mitigation actions, if any, will be taken. Provide any supporting documentation.*

   ☒No

   **Explain:**

   Click here to enter text.

   → *If the RE/HUD agrees with this recommendation, the review is in compliance with this section. Continue to the Worksheet Summary below.*

**Worksheet Summary**

Provide a full description of your determination and a synopsis of the information that it was based on, such as:

- Map panel numbers and dates
- Names of all consulted parties and relevant consultation dates
- Names of plans or reports and relevant page numbers
- Any additional requirements specific to your program or region

**Include all documentation supporting your findings in your submission to HUD.**

The activities involved in this project consist of improvements to the existing State Road PR #410 also known as "Paseo del Vivero" and the existing religious and natural shrine "Gruta de San Juan Bautista". After the completion of the previous sections of the environmental review, we conclude that neither the project site, nor the surrounding neighborhood will be subjected to adverse environmental impacts.

The project is in compliance with airport hazards requirements. The closest civilian airport is approximately 12 miles from project site. This project has no potential to impact a CBRS Unit nor a Coastal Zone, therefore is in compliance with the Coastal Barrier Resources Act.

Proposed improvements within the state Road PR 410 do not occupy or modify the 100 year floodplain. There are no residential or commercial properties that will require mortgage within the project scope of work of the project. Flood Insurance is required when residential or commercial properties are subject to a loan mortgage. Therefore flood insurance is not mandatory in this instance. The project is in compliance with flood insurance requirements.

No emissions will be generated from the full functionality of the park facilities when improvements are in place, therefore the project will have no impact on air quality to the surrounding neighborhood. The three facilities within the 3,000 feet range of the project are in compliance with EPA regulations. The project will not involve residents or increase occupancy of any structure. There would be no increase in risk associated with the proposed project. The project is in compliance with contamination and toxic substances requirements.

The proposed actions include installation of permeable pavement along segments of an existing road shoulder, speedtables to maintain speed limits, replacement of guardrails, complementary lighting. These are not activities that require conversion of land use. No emissions will be generated from the full functionality of the street improvements are in place, therefore the project is in compliance with air quality parameters.

This project is not located in or does not affect a Coastal Zone as defined in the state Coastal Management Plan. The project area is 12.5 miles from the coastal zone. The project is in compliance with the Coastal Zone Management Act.

The USFWS data listed endangered species along the protected area along the Maricao River. Critical Habitats were noted within the project area. Based on the nature of the project, scope of work, information available, and a careful analysis of the Project Site, and IPaC species list, we have made the following effects determinations:

A No effect has been made based on project scope of work, as well as the scarce need for vegetation removal in the proposed project area. Contractor will be oriented as to the environmental context he will be performing his work. This determination was submitted for concurrence as an informal consultation to the USFWS.

The project activities do not include use of explosives or flammable materials. The project does not represent a risk and therefore is in compliance with explosive and flammable hazard requirements. Parque Pasivo project does not include any activities that could potentially convert agricultural land to a non-agricultural use because it is an existing facility. The project is in compliance with the Farmland Protection Policy Act.

Although the proposed action site is partially located within the boundaries of a floodplain, it has no impact on floodplain natural values or functions. The proposed action is developed within the existing

road ROW on previously disturbed soils and does not include fill. The project is in compliance with Floodplain Management.

Based on the results of our historic property identification effort and viewshed assessment, the Program has determined that project actions will not affect the historic properties that comprise the Area of Potential Effect, provided that archaeological monitoring is conducted and the culvert are preserved and documented.

We recommend that archaeological monitoring be conducted during excavation work. We further recommend that the culverts be documented and that conservation work be carried out, including but not limited to cleaning and removal of soil, debris and vegetation, and that they be consolidated if necessary.

The project improvements to existing facilities include no activities that would require further evaluation under HUD's noise regulation. The project is in compliance with HUD's Noise regulation. There are no EWPA sole source aquifers in Puerto Rico. The project is in compliance with Sole Source Aquifer requirements.

According to the definition of wetland by US Corps of Engineers, visual inspection of the area and the National Wetland Inventory, no wetland was located near the project limits, therefore further evaluation under this section is not required. The project is in compliance with Executive Order 11990.
Wild and Scenic Rivers

The proposed project is not within proximity of a National Wild and Scenic Rivers (NWSRS) river. The project is in compliance with the Wild and Scenic Rivers Act.

Neither the project site, the proposed existing roadway improvements nor the surrounding neighborhood suffer from adverse environmental impacts tendencies. No adverse environmental impacts were identified in the project's total environmental review. The project is in compliance with Executive Order 12898.

# Appendix C

# C06 – Contamination and Toxics

# Detailed Facility Report

## Detailed Facility Report

## Facility Summary

**TOTAL PETROLEUM PUERTO RICO CORP-SERVICE STATION 110238**

**CARR 357 KM 0.4, MARICAO, PR 00606**

**FRS (Facility Registry Service) ID:** 110042422786
**EPA Region:** 02
**Latitude:** 18.1848
**Longitude:** -66.98243
**Locational Data Source:** RCRAINFO
**Industries:** Gasoline Stations
**Indian Country:** N

### Enforcement and Compliance Summary

| Statute | RCRA |
|---|---|
| Compliance Monitoring Activities (5 years) | -- |
| Date of Last Compliance Monitoring Activity | -- |
| Compliance Status | No Violation Identified |
| Qtrs in Noncompliance (of 12) | 0 |
| Qtrs with Significant Violation | 0 |
| Informal Enforcement Actions (5 years) | -- |
| Formal Enforcement Actions (5 years) | -- |
| Penalties from Formal Enforcement Actions (5 years) | -- |
| EPA Cases (5 years) | -- |
| Penalties from EPA Cases (5 years) | -- |

### Regulatory Information

**Clean Air Act (CAA):** No Information
**Clean Water Act (CWA):** No Information
**Resource Conservation and Recovery Act (RCRA):** Active VSQG, (PRR000023028)
**Safe Drinking Water Act (SDWA):** No Information

Go To Enforcement/Compliance Details
Known Data Problems

### Other Regulatory Reports

**Air Emissions Inventory (EIS):** No Information
**Greenhouse Gas Emissions (eGGRT):** No Information
**Toxic Releases (TRI):** No Information
**Compliance and Emissions Data Reporting Interface (CEDRI):** No Information

## Facility/System Characteristics

### Facility/System Characteristics

| System | Statute | Identifier | Universe | Status | Areas | Permit Expiration Date | Indian Country | Latitude | Longitude |
|---|---|---|---|---|---|---|---|---|---|
| FRS | | 110042422786 | | | | | N | 18.1848 | -66.98243 |
| RCRAInfo | RCRA | PRR000023028 | VSQG | Active (H ) | | | N | 18.1848 | -66.98243 |

### Facility Address

| System | Statute | Identifier | Facility Name | Facility Address | Facility County |
|---|---|---|---|---|---|
| FRS | | 110042422786 | TOTAL PETROLEUM PUERTO RICO CORP-SERVICE STATION 110238 | CARR 357 KM 0.4, MARICAO, PR 00606 | Maricao Municipio |
| RCRAInfo | RCRA | PRR000023028 | TOTAL PETROLEUM PUERTO RICO CORP-SERVICE STATION 110238 | CARR #357 KM 0.4, MARICAO, PR 00606 | Maricao Municipio |

### Facility SIC (Standard Industrial Classification) Codes

| System | Identifier | SIC Code | SIC Description |
|---|---|---|---|
| No data records returned | | | |

### Facility NAICS (North American Industry Classification System) Codes

| System | Identifier | NAICS Code | NAICS Description |
|---|---|---|---|
| RCRAInfo | PRR000023028 | 44711 | Gasoline Stations with Convenience Stores |
| RCRAInfo | PRR000023028 | 44719 | Other Gasoline Stations |

### Facility Tribe Information

| Reservation Name | Tribe Name | EPA Tribal ID | Distance to Tribe (miles) |
|---|---|---|---|
| No data records returned | | | |

## Enforcement and Compliance

### Compliance Monitoring History

Last 5 Years

| Statute | Source ID | System | Activity Type | Compliance Monitoring Type | Lead Agency | Date | Finding (if applicable) |
|---|---|---|---|---|---|---|---|
| No data records returned | | | | | | | |

*Entries in italics are not counted as EPA official inspections.*

### Compliance Summary Data

| Statute | Source ID | Current SNC (Significant Noncompliance)/HPV (High Priority Violation) | Current As Of | Qtrs with NC (Noncompliance) (of 12) | Data Last Refreshed |
|---|---|---|---|---|---|
| RCRA | PRR000023028 | No | 09/23/2023 | 0 | 09/22/2023 |

### Three-Year Compliance History by Quarter

| Statute | Program/Pollutant/Violation Type | QTR 1 | QTR 2 | QTR 3 | QTR 4 | QTR 5 | QTR 6 | QTR 7 | QTR 8 | QTR 9 | QTR 10 | QTR 11 | QTR 12+ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RCRA (Source ID: PRR000023028) | | 10/01-12/31/20 | 01/01-03/31/21 | 04/01-06/30/21 | 07/01-09/30/21 | 10/01-12/31/21 | 01/01-03/31/22 | 04/01-06/30/22 | 07/01-09/30/22 | 10/01-12/31/22 | 01/01-03/31/23 | 04/01-06/30/23 | 07/01-09/30/23 |
| | Facility-Level Status | No Violation Identified | No Violation Identified | No Violation Identified | No Violation Identified | No Violation Identified | No Violation Identified | No Violation Identified | No Violation Identified | No Violation Identified | No Violation Identified | No Violation Identified | No Violation Identified |
| | Violation / Agency | | | | | | | | | | | | |

### Informal Enforcement Actions

Last 5 Years

| Statute | System | Source ID | Type of Action | Lead Agency | Date |
|---|---|---|---|---|---|
| No data records returned | | | | | |

*Entries in italics are not counted as "informal enforcement actions" in EPA policies pertaining to enforcement response tools.*

### Formal Enforcement Actions

Last 5 Years

| Statute | System | Law/Section | Source ID | Type of Action | Case No. | Lead Agency | Case Name | Issued/Filed Date | Settlements/Actions | Settlement/Action Date | Federal Penalty Assessed | State/Local Penalty Assessed | Penalty Amount Collected | SEP Value | Comp Action Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| No data records returned | | | | | | | | | | | | | | | |

## Environmental Conditions

### Watersheds

| 12-Digit WBD (Watershed Boundary Dataset) HUC (RAD (Reach Address Database)) | WBD (Watershed Boundary Dataset) Subwatershed Name (RAD (Reach Address Database)) | State Water Body Name (ICIS (Integrated Compliance Information System)) | Beach Closures Within Last Year | Beach Closures Within Last Two Years | Pollutants Potentially Related to Impairment | Watershed with ESA (Endangered Species Act)-listed Aquatic Species? |
|---|---|---|---|---|---|---|
| No data records returned | | | | | | |

### Assessed Waters From Latest State Submission (ATTAINS)

| State | Report Cycle | Assessment Unit ID | Assessment Unit Name | Water Condition | Cause Groups Impaired | Drinking Water Use | Ecological Use | Fish Consumption Use | Recreation Use | Other Use |
|---|---|---|---|---|---|---|---|---|---|---|

No data records returned

**Air Quality Nonattainment Areas**

| Pollutant | Within Nonattainment Status Area? | Nonattainment Status Applicable Standard(s) | Within Maintenance Status Area? | Maintenance Status Applicable Standard(s) |
|---|---|---|---|---|

No data records returned

## Pollutants

**Toxics Release Inventory History of Reported Chemicals Released in Pounds per Year at Site**

| TRI Facility ID | Year | Total Air Emissions | Surface Water Discharges | Off-Site Transfers to POTWs (Publicly Owned Treatment Works) | Underground Injections | Releases to Land | Total On-Site Releases | Total Off-Site Transfers |
|---|---|---|---|---|---|---|---|---|

No data records returned

**Toxics Release Inventory Total Releases and Transfers in Pounds by Chemical and Year**

| Chemical Name |
|---|

No data records returned

DMR and TRI Multi-Year Loading Report

**CWA (Clean Water Act) Discharge Monitoring Report (DMR) Pollutant Loadings**

No data records returned

## Community

**Environmental Justice**

This section shows indexes from EJScreen, EPA's screening tool for environmental justice (EJ) concerns. EPA uses these indexes to identify geographic areas that may warrant further consideration or analysis for potential EJ concerns. Use of these indexes does not designate an area as an "EJ community" or "EJ facility." EJScreen provides screening level indicators, not a determination of the existence or absence of EJ concerns. For more information, see the EJScreen home page.

**EJScreen Indexes Shown**

Compare to (•) US ( ) State

Index Type ( ) Environmental Justice (•) Supplemental

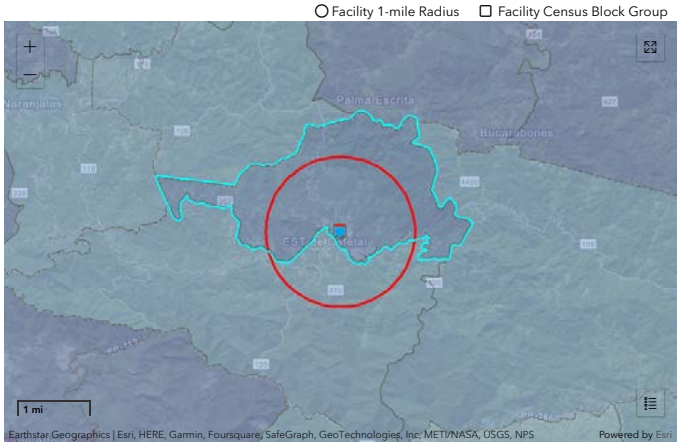
**Related Reports**

EJScreen Community Report

Download Data

| Census Block Group ID: 720939602001 | US (Percentile) | |
|---|---|---|
| **Supplemental Indexes** | **Facility Census Block Group** | **1-mile Max** |
| **Count of Indexes At or Above 80th Percentile** | **6** | **6** |
| Particulate Matter 2.5 | 0 | -- |
| Ozone | 0 | -- |
| Diesel Particulate Matter | 5 | 5 |
| Air Toxics Cancer Risk | 36 | 36 |
| Air Toxics Respiratory Hazard Index | 38 | 38 |
| Toxic Releases to Air | 88 | 88 |
| Traffic Proximity | 77 | 77 |
| Lead Paint | 98 | 98 |
| Risk Management Plan (RMP) Facility Proximity | 83 | 83 |
| Hazardous Waste Proximity | 68 | 69 |
| Superfund Proximity | 99 | 99 |
| Underground Storage Tanks (UST) | 95 | 95 |
| Wastewater Discharge | 98 | 98 |

( ) Facility 1-mile Radius ( ) Facility Census Block Group




**Demographic Profile of Surrounding Area (1 mile)**

This section provides demographic information regarding the community surrounding the facility. ECHO compliance data alone are not sufficient to determine whether violations at a particular facility had negative impacts on public health or the environment. Statistics are based upon the 2010 U.S. Census and 2017 - 2021 American Community Survey (ACS) 5-year Summary and are accurate to the extent that the facility latitude and longitude listed below are correct. EPA's spatial processing methodology considers the overlap between the selected radii and the census blocks (for U.S. Census demographics) and census block groups (for ACS demographics) in determining the demographics surrounding the facility. For more detail about this methodology, see the DFR Data Dictionary.

| General Statistics (U.S. Census) | |
|---|---|
| Total Persons | 1,971 |
| Population Density | 607/sq.mi. |
| Housing Units in Area | 974 |

| General Statistics (ACS (American Community Survey)) | |
|---|---|
| Total Persons | 1,081 |
| Percent People of Color | 98% |
| Households in Area | 404 |
| Households on Public Assistance | 17 |
| Persons With Low Income | 921 |
| Percent With Low Income | 85% |

| Geography | |
|---|---|
| Radius of Selected Area | 1 mi. |
| Center Latitude | 18.1848 |
| Center Longitude | -66.98243 |
| Land Area | 100% |
| Water Area | 0% |

| Income Breakdown (ACS (American Community Survey)) - Households (%) | |
|---|---|
| Less than $15,000 | 160 (39.6%) |
| $15,000 - $25,000 | 90 (22.28%) |
| $25,000 - $50,000 | 110 (27.23%) |
| $50,000 - $75,000 | 35 (8.66%) |
| Greater than $75,000 | 9 (2.23%) |

| Age Breakdown (U.S. Census) - Persons (%) | |
|---|---|
| Children 5 years and younger | 131 (7%) |
| Minors 17 years and younger | 446 (23%) |
| Adults 18 years and older | 1,524 (77%) |
| Seniors 65 years and older | 335 (17%) |

| Race Breakdown (U.S. Census) - Persons (%) | |
|---|---|
| White | 1,768 (90%) |
| African-American | 83 (4%) |
| Hispanic-Origin | 1,960 (99%) |
| Asian/Pacific Islander | 0 (0%) |
| American Indian | 4 (0%) |
| Other/Multiracial | 116 (6%) |

| Education Level (Persons 25 & older) (ACS (American Community Survey)) - Persons (%) | |
|---|---|
| Less than 9th Grade | 230 (27.25%) |
| 9th through 12th Grade | 88 (10.43%) |
| High School Diploma | 245 (29.03%) |
| Some College/2-year | 108 (12.8%) |
| B.S./B.A. (Bachelor of Science/Bachelor of Arts) or More | 110 (13.03%) |

LAST UPDATED ON SEPTEMBER 21, 2022

DATA REFRESH INFORMATION

# Detailed Facility Report

## Detailed Facility Report

## Facility Summary

**PRASA WTP MARICAO FILTER PLANT**

**PR-105 KM 24.4, MARICAO, PR 00606**

**FRS (Facility Registry Service) ID:** 110009815165
**EPA Region:** 02
**Latitude:** 18.179148
**Longitude:** -66.982138
**Locational Data Source:** NPDES
**Industries:** --
**Indian Country:** N

### Enforcement and Compliance Summary

| Statute | CWA |
|---|---|
| Compliance Monitoring Activities (5 years) | 2 |
| Date of Last Compliance Monitoring Activity | 06/01/2023 |
| Compliance Status | No Violation Identified |
| Qtrs in Noncompliance (of 12) | 4 |
| Qtrs with Significant Violation | 0 |
| Informal Enforcement Actions (5 years) | -- |
| Formal Enforcement Actions (5 years) | -- |
| Penalties from Formal Enforcement Actions (5 years) | -- |
| EPA Cases (5 years) | -- |
| Penalties from EPA Cases (5 years) | -- |

### Regulatory Information

**Clean Air Act (CAA):** No Information
**Clean Water Act (CWA):** Non-Major, Permit Effective (PR0022969)
**Resource Conservation and Recovery Act (RCRA):** No Information
**Safe Drinking Water Act (SDWA):** No Information

Go To Enforcement/Compliance Details
Known Data Problems

### Other Regulatory Reports

**Air Emissions Inventory (EIS):** No Information
**Greenhouse Gas Emissions (eGGRT):** No Information
**Toxic Releases (TRI):** No Information
**Compliance and Emissions Data Reporting Interface (CEDRI):** No Information

## Facility/System Characteristics

### Facility/System Characteristics

| System | Statute | Identifier | Universe | Status | Areas | Permit Expiration Date | Indian Country | Latitude | Longitude |
|---|---|---|---|---|---|---|---|---|---|
| FRS | | 110009815165 | | | | | N | 18.179148 | -66.982138 |
| ICIS | | 6684025 | | | | | N | 18.179123 | -66.982122 |
| ICIS-NPDES | CWA | PR0022969 | Non-Major: NPDES Individual Permit | Effective | | 10/31/2024 | N | 18.181111 | -66.9825 |

### Facility Address

| System | Statute | Identifier | Facility Name | Facility Address | Facility County |
|---|---|---|---|---|---|
| FRS | | 110009815165 | PRASA WTP MARICAO FILTER PLANT | PR-105 KM 24.4, MARICAO, PR 00606 | Maricao Municipio |
| ICIS | | 6684025 | PRASA WTP MARICAO FILTER PLANT | ROAD 105, KM 24.4, MARICAO, PR 00606 | Maricao Municipio |
| ICIS-NPDES | CWA | PR0022969 | PRASA MARICAO WTP | ROAD 105, KM 24.4, MARICAO, PR 00606 | Maricao Municipio |

### Facility SIC (Standard Industrial Classification) Codes

| System | Identifier | SIC Code | SIC Description |
|---|---|---|---|
| ICIS-NPDES | PR0022969 | 4941 | Water Supply |

### Facility NAICS (North American Industry Classification System) Codes

| System | Identifier | NAICS Code | NAICS Description |
|---|---|---|---|

No data records returned

### Facility Industrial Effluent Guidelines

| Identifier | Effluent Guideline (40 CFR Part) | Effluent Guideline Description |
|---|---|---|
| PR0022969 | 000 | No Applicable Effluent Guidelines |

### Facility Tribe Information

| Reservation Name | Tribe Name | EPA Tribal ID | Distance to Tribe (miles) |
|---|---|---|---|

No data records returned

## Enforcement and Compliance

### Compliance Monitoring History

Last 5 Years

| Statute | Source ID | System | Activity Type | Compliance Monitoring Type | Lead Agency | Date | Finding (if applicable) |
|---|---|---|---|---|---|---|---|
| CWA | PR0022969 | ICIS-NPDES | Inspection/Evaluation | Base Program - Evaluation | EPA | 06/01/2023 | |
| CWA | PR0022969 | ICIS-NPDES | Inspection/Evaluation | Base Program - Evaluation | EPA | 07/23/2019 | |

*Entries in italics are not counted as EPA official inspections.*

### Compliance Summary Data

| Statute | Source ID | Current SNC (Significant Noncompliance)/HPV (High Priority Violation) | Current As Of | Qtrs with NC (Noncompliance) (of 12) | Data Last Refreshed |
|---|---|---|---|---|---|
| CWA | PR0022969 | No | 06/30/2023 | 4 | 09/22/2023 |

### Three-Year Compliance History by Quarter

| Statute | Program/Pollutant/Violation Type | | | | QTR 1 | QTR 2 | QTR 3 | QTR 4 | QTR 5 | QTR 6 | QTR 7 | QTR 8 | QTR 9 | QTR 10 | QTR 11 | QTR 12 | QTR 13+ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | CWA (Source ID: PR0022969) | | | | 07/01-09/30/20 | 10/01-12/31/20 | 01/01-03/31/21 | 04/01-06/30/21 | 07/01-09/30/21 | 10/01-12/31/21 | 01/01-03/31/22 | 04/01-06/30/22 | 07/01-09/30/22 | 10/01-12/31/22 | 01/01-03/31/23 | 04/01-06/30/23 | 07/01-09/22/23 |
| | Facility-Level Status | | | | Violation Identified | Violation Identified | Violation Identified | Violation Identified | No Violation Identified | No Violation Identified | No Violation Identified | No Violation Identified | No Violation Identified | No Violation Identified | No Violation Identified | No Violation Identified | Undetermined |
| | Quarterly Noncompliance Report History | | | | Reportable Noncompliance | Reportable Noncompliance | Reportable Noncompliance | Reportable Noncompliance | Resolved - Pending | Resolved - Pending | Resolved - Pending | Resolved - Pending | Resolved - Pending | Resolved - Pending | Resolved - Pending | Resolved - Pending | |
| | Pollutant | Disch Point | Mon Loc | Freq | | | | | | | | | | | | | |
| CWA | BOD, 5-day, 20 deg. C | 001 - A | Effluent Gross | NMth | | | 32% | 140% | | | 40% | | 760% | | | | |
| CWA | Copper, total [as Cu] | 001 - A | Effluent Gross | NMth | | | | | | 7% | | | | | | | |
| CWA | Phosphorus, total [as P] | 001 - A | Effluent Gross | NMth | 69% | | | | 363% | | | | | | | 6% | |
| CWA | Turbidity | 001 - A | Effluent Gross | NMth | | | | | LIMIT VIOLATION | | | | | | | | |

### Informal Enforcement Actions

Last 5 Years

| Statute | System | Source ID | Type of Action | Lead Agency | Date |
|---|---|---|---|---|---|

No data records returned

*Entries in italics are not counted as "informal enforcement actions" in EPA policies pertaining to enforcement response tools.*

**Formal Enforcement Actions** Last 5 Years

| Statute | System | Law/Section | Source ID | Type of Action | Case No. | Lead Agency | Case Name | Issued/Filed Date | Settlements/Actions | Settlement/Action Date | Federal Penalty Assessed | State/Local Penalty Assessed | Penalty Amount Collected | SEP Value | Comp Action Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| No data records returned | | | | | | | | | | | | | | | |

## Environmental Conditions

### Watersheds

| 12-Digit WBD (Watershed Boundary Dataset) HUC (RAD (Reach Address Database)) | WBD (Watershed Boundary Dataset) Subwatershed Name (RAD (Reach Address Database)) | State Water Body Name (ICIS (Integrated Compliance Information System)) | Beach Closures Within Last Year | Beach Closures Within Last Two Years | Pollutants Potentially Related to Impairment | Watershed with ESA (Endangered Species Act)-listed Aquatic Species? |
|---|---|---|---|---|---|---|
| 210100030204 | Rio Prieto below Dam | MARICAO RIVER | No | No | -- | Yes |

### Assessed Waters From Latest State Submission (ATTAINS)

| State | Report Cycle | Assessment Unit ID | Assessment Unit Name | Water Condition | Cause Groups Impaired | Drinking Water Use | Ecological Use | Fish Consumption Use | Recreation Use | Other Use |
|---|---|---|---|---|---|---|---|---|---|---|
| PR | 2020 | PRWR83I | RIO PRIETO | Impaired - 303(d) Listed - With Restoration Plan | PATHOGENS \| PESTICIDES | Not Supporting | Not Supporting | -- | Not Supporting | -- |

### Air Quality Nonattainment Areas

| Pollutant | Within Nonattainment Status Area? | Nonattainment Status Applicable Standard(s) | Within Maintenance Status Area? | Maintenance Status Applicable Standard(s) |
|---|---|---|---|---|
| No data records returned | | | | |

## Pollutants

### Toxics Release Inventory History of Reported Chemicals Released in Pounds per Year at Site

| TRI Facility ID | Year | Total Air Emissions | Surface Water Discharges | Off-Site Transfers to POTWs (Publicly Owned Treatment Works) | Underground Injections | Releases to Land | Total On-Site Releases | Total Off-Site Transfers |
|---|---|---|---|---|---|---|---|---|
| No data records returned | | | | | | | | |

### Toxics Release Inventory Total Releases and Transfers in Pounds by Chemical and Year

| Chemical Name |
|---|
| No data records returned |

DMR and TRI Multi-Year Loading Report

### CWA (Clean Water Act) Discharge Monitoring Report (DMR) Pollutant Loadings

| NPDES ID | Description | 2019 | 2020 | 2021 | 2022 | 2023 |
|---|---|---|---|---|---|---|
| PR0022969 | DMR Pollutant Loadings (lb/year) | 5,075 | 2,079 | 2,488 | 5,340 | 745 |
| PR0022969 | DMR Pollutant Loadings - Load Over Limit (lb/year) | 659 | 215 | 651 | 3,428 | 0.5759 |
| PR0022969 | DMR Conventional Loadings (lb/year) | -- | -- | -- | 5,287 | -- |
| PR0022969 | DMR Conventional Loadings - Load Over Limit (lb/year) | -- | -- | -- | 3,428 | -- |
| PR0022969 | DMR Toxic-Weighted Loadings (lb-eq/year) | 113 | 5.99 | 16.09 | 7.61 | 1.10 |
| PR0022969 | DMR Toxic-Weighted Loadings - Load Over Limit (lb-eq/year) | 0 | 0 | 0.6356 | 0 | 0 |

## Community

### Environmental Justice

This section shows indexes from EJScreen, EPA's screening tool for environmental justice (EJ) concerns. EPA uses these indexes to identify geographic areas that may warrant further consideration or analysis for potential EJ concerns. Use of these indexes does not designate an area as an "EJ community" or "EJ facility." EJScreen provides screening level indicators, not a determination of the existence or absence of EJ concerns. For more information, see the EJScreen home page.

**EJScreen Indexes Shown**

Compare to (●) US ( ) State

Index Type ( ) Environmental Justice (●) Supplemental

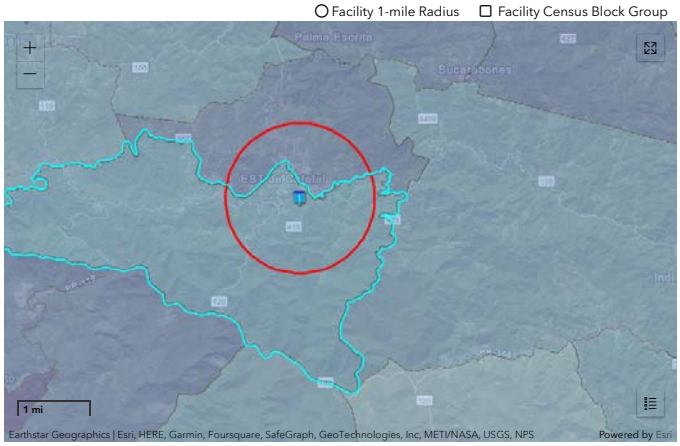
**Related Reports**

EJScreen Community Report

Download Data

( ) Facility 1-mile Radius ☐ Facility Census Block Group

| Census Block Group ID: 720939601003 | US (Percentile) | |
|---|---|---|
| Supplemental Indexes | Facility Census Block Group | 1-mile Max |
| Count of Indexes At or Above 80th Percentile | 5 | 6 |
| Particulate Matter 2.5 | 0 | -- |
| Ozone | 0 | -- |
| Diesel Particulate Matter | 0 | 5 |
| Air Toxics Cancer Risk | 36 | 36 |
| Air Toxics Respiratory Hazard Index | 20 | 38 |
| Toxic Releases to Air | ! 88 | ! 88 |
| Traffic Proximity | 70 | 77 |
| Lead Paint | ! 88 | ! 98 |
| Risk Management Plan (RMP) Facility Proximity | 77 | ! 83 |
| Hazardous Waste Proximity | 69 | 69 |
| Superfund Proximity | ! 99 | ! 99 |
| Underground Storage Tanks (UST) | ! 91 | ! 95 |
| Wastewater Discharge | ! 96 | ! 98 |




### Demographic Profile of Surrounding Area (1 mile)

This section provides demographic information regarding the community surrounding the facility. ECHO compliance data alone are not sufficient to determine whether violations at a particular facility had negative impacts on public health or the environment. Statistics are based upon the 2010 U.S. Census and 2017 - 2021 American Community Survey (ACS) 5-year Summary and are accurate to the extent that the facility latitude and longitude listed below are correct. EPA's spatial processing methodology considers the overlap between the selected radii and the census blocks (for U.S. Census demographics) and census block groups (for ACS demographics) in determining the demographics surrounding the facility. For more detail about this methodology, see the DFR Data Dictionary.

| General Statistics (U.S. Census) | |
|---|---|
| Total Persons | 1,864 |
| Population Density | 645/sq.mi. |
| Housing Units in Area | 932 |

| General Statistics (ACS (American Community Survey)) | |
|---|---|
| Total Persons | 841 |
| Percent People of Color | 99% |
| Households in Area | 316 |
| Households on Public Assistance | 11 |
| Persons With Low Income | 715 |
| Percent With Low Income | 85% |

| Geography | |
|---|---|
| Radius of Selected Area | 1 mi. |
| Center Latitude | 18.179124 |
| Center Longitude | -66.982123 |
| Land Area | 100% |
| Water Area | 0% |

| Income Breakdown (ACS (American Community Survey)) - Households (%) | |
|---|---|
| Less than $15,000 | 115 (36.39%) |
| $15,000 - $25,000 | 69 (21.84%) |
| $25,000 - $50,000 | 94 (29.75%) |
| $50,000 - $75,000 | 33 (10.44%) |
| Greater than $75,000 | 5 (1.58%) |

| Age Breakdown (U.S. Census) - Persons (%) | |
|---|---|
| Children 5 years and younger | 126 (7%) |
| Minors 17 years and younger | 426 (23%) |
| Adults 18 years and older | 1,438 (77%) |
| Seniors 65 years and older | 315 (17%) |

| Race Breakdown (U.S. Census) - Persons (%) | |
|---|---|
| White | 1,674 (90%) |
| African-American | 76 (4%) |
| Hispanic-Origin | 1,854 (99%) |
| Asian/Pacific Islander | 0 (0%) |
| American Indian | 3 (0%) |
| Other/Multiracial | 112 (6%) |

| Education Level (Persons 25 & older) (ACS (American Community Survey)) - Persons (%) | |
|---|---|
| Less than 9th Grade | 166 (25.74%) |
| 9th through 12th Grade | 58 (8.99%) |
| High School Diploma | 195 (30.23%) |
| Some College/2-year | 90 (13.95%) |
| B.S./B.A. (Bachelor of Science/Bachelor of Arts) or More | 92 (14.26%) |

LAST UPDATED ON SEPTEMBER 21, 2022

DATA REFRESH INFORMATION

# Detailed Facility Report

## Detailed Facility Report

## Facility Summary

**FENWAL, A FRESENIUS KABI COMPANY, EXTERNAL WAREHOUSE - PUEBLO**

**357 KM 0.8, MARICAO, PR 00606**

**FRS (Facility Registry Service) ID:** 110067023660
**EPA Region:** 02
**Latitude:** 18.185647
**Longitude:** -66.980297
**Locational Data Source:** NPDES
**Industries:** --
**Indian Country:** N

### Enforcement and Compliance Summary

| Statute | CWA |
|---|---|
| Compliance Monitoring Activities (5 years) | -- |
| Date of Last Compliance Monitoring Activity | -- |
| Compliance Status | Terminated Permit |
| Qtrs in Noncompliance (of 12) | 0 |
| Qtrs with Significant Violation | 0 |
| Informal Enforcement Actions (5 years) | -- |
| Formal Enforcement Actions (5 years) | -- |
| Penalties from Formal Enforcement Actions (5 years) | -- |
| EPA Cases (5 years) | -- |
| Penalties from EPA Cases (5 years) | -- |

### Regulatory Information

**Clean Air Act (CAA):** No Information
**Clean Water Act (CWA):** Non-Major, Permit Terminated; Compliance Tracking Off (PRR053229)
**Resource Conservation and Recovery Act (RCRA):** No Information
**Safe Drinking Water Act (SDWA):** No Information

Go To Enforcement/Compliance Details
Known Data Problems

### Other Regulatory Reports

**Air Emissions Inventory (EIS):** No Information
**Greenhouse Gas Emissions (eGGRT):** No Information
**Toxic Releases (TRI):** No Information
**Compliance and Emissions Data Reporting Interface (CEDRI):** No Information

## Facility/System Characteristics

### Facility/System Characteristics

| System | Statute | Identifier | Universe | Status | Areas | Permit Expiration Date | Indian Country | Latitude | Longitude |
|---|---|---|---|---|---|---|---|---|---|
| FRS | | 110067023660 | | | | | N | 18.185647 | -66.980297 |
| ICIS-NPDES | CWA | PRR053229 | Non-Major: General Permit Covered Facility | Terminated; Compliance Tracking Off | Industrial Stormwater | 06/03/2020 | N | 18.185647 | -66.980297 |

### Facility Address

| System | Statute | Identifier | Facility Name | Facility Address | Facility County |
|---|---|---|---|---|---|
| FRS | | 110067023660 | FENWAL, A FRESENIUS KABI COMPANY, EXTERNAL WAREHOUSE - PUEBLO | 357 KM 0.8, MARICAO, PR 00606 | |
| ICIS-NPDES | CWA | PRR053229 | FENWAL, A FRESENIUS KABI COMPANY, EXTERNAL WAREHOUSE - PUEBLO | 357 KM 0.8, MARICAO, PR 00606 | Maricao Municipio |

### Facility SIC (Standard Industrial Classification) Codes

| System | Identifier | SIC Code | SIC Description |
|---|---|---|---|
| ICIS-NPDES | PRR053229 | 2834 | Pharmaceutical Preparations |

### Facility NAICS (North American Industry Classification System) Codes

| System | Identifier | NAICS Code | NAICS Description |
|---|---|---|---|

No data records returned

### Facility Industrial Effluent Guidelines

| Identifier | Effluent Guideline (40 CFR Part) | Effluent Guideline Description |
|---|---|---|

No data records returned

### Facility Tribe Information

| Reservation Name | Tribe Name | EPA Tribal ID | Distance to Tribe (miles) |
|---|---|---|---|

No data records returned

## Enforcement and Compliance

### Compliance Monitoring History

Last 5 Years

| Statute | Source ID | System | Activity Type | Compliance Monitoring Type | Lead Agency | Date | Finding (if applicable) |
|---|---|---|---|---|---|---|---|

No data records returned

*Entries in italics are not counted as EPA official inspections.*

### Compliance Summary Data

| Statute | Source ID | Current SNC (Significant Noncompliance)/HPV (High Priority Violation) | Current As Of | Qtrs with NC (Noncompliance) (of 12) | Data Last Refreshed |
|---|---|---|---|---|---|
| CWA | PRR053229 | No | 06/30/2023 | 0 | 09/22/2023 |

### Three-Year Compliance History by Quarter

| Statute | Program/Pollutant/Violation Type | QTR 1 | QTR 2 | QTR 3 | QTR 4 | QTR 5 | QTR 6 | QTR 7 | QTR 8 | QTR 9 | QTR 10 | QTR 11 | QTR 12 | QTR 13+ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | CWA (Source ID: PRR053229) | 07/01-09/30/20 | 10/01-12/31/20 | 01/01-03/31/21 | 04/01-06/30/21 | 07/01-09/30/21 | 10/01-12/31/21 | 01/01-03/31/22 | 04/01-06/30/22 | 07/01-09/30/22 | 10/01-12/31/22 | 01/01-03/31/23 | 04/01-06/30/23 | 07/01-09/22/23 |
| | Facility-Level Status | Terminated Permit | Terminated Permit | Terminated Permit | Terminated Permit | Terminated Permit | Terminated Permit | Terminated Permit | Terminated Permit | Terminated Permit | Terminated Permit | Terminated Permit | Terminated Permit | Terminated Permit |
| | Quarterly Noncompliance Report History | | | | | | | | | | | | | |

### Informal Enforcement Actions

Last 5 Years

| Statute | System | Source ID | Type of Action | Lead Agency | Date |
|---|---|---|---|---|---|

No data records returned

*Entries in italics are not counted as "informal enforcement actions" in EPA policies pertaining to enforcement response tools.*

### Formal Enforcement Actions

Last 5 Years

| Statute | System | Law/Section | Source ID | Type of Action | Case No. | Lead Agency | Case Name | Issued/Filed Date | Settlements/Actions | Settlement/Action Date | Federal Penalty Assessed | State/Local Penalty Assessed | Penalty Amount Collected | SEP Value | Comp Action Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

No data records returned

## Environmental Conditions

### Watersheds

| 12-Digit WBD (Watershed Boundary Dataset) HUC (RAD (Reach Address Database)) | WBD (Watershed Boundary Dataset) Subwatershed Name (RAD (Reach Address Database)) | State Water Body Name (ICIS (Integrated Compliance Information System)) | Beach Closures Within Last Year | Beach Closures Within Last Two Years | Pollutants Potentially Related to Impairment | Watershed with ESA (Endangered Species Act)-listed Aquatic Species? |
|---|---|---|---|---|---|---|
| 21010030407 | Rio Rosario | RIO MARICAO | No | No | -- | Yes |

### Assessed Waters From Latest State Submission (ATTAINS)

| State | Report Cycle | Assessment Unit ID | Assessment Unit Name | Water Condition | Cause Groups Impaired | Drinking Water Use | Ecological Use | Fish Consumption Use | Recreation Use | Other Use |
|---|---|---|---|---|---|---|---|---|---|---|
| PR | 2020 | PRWR77C | RIO ROSARIO | Impaired - 303(d) Listed - With Restoration Plan | METALS (OTHER THAN MERCURY) \| PATHOGENS \| PESTICIDES | Not Supporting | Not Supporting | -- | Not Supporting | -- |

**Air Quality Nonattainment Areas**

| Pollutant | Within Nonattainment Status Area? | Nonattainment Status Applicable Standard(s) | Within Maintenance Status Area? | Maintenance Status Applicable Standard(s) |
|---|---|---|---|---|
| No data records returned | | | | |

## Pollutants

**Toxics Release Inventory History of Reported Chemicals Released in Pounds per Year at Site**

| TRI Facility ID | Year | Total Air Emissions | Surface Water Discharges | Off-Site Transfers to POTWs (Publicly Owned Treatment Works) | Underground Injections | Releases to Land | Total On-Site Releases | Total Off-Site Transfers |
|---|---|---|---|---|---|---|---|---|
| No data records returned | | | | | | | | |

**Toxics Release Inventory Total Releases and Transfers in Pounds by Chemical and Year**

| Chemical Name |
|---|
| No data records returned |

DMR and TRI Multi-Year Loading Report

**CWA (Clean Water Act) Discharge Monitoring Report (DMR) Pollutant Loadings**

No data records returned

## Community

**Environmental Justice**

This section shows indexes from EJScreen, EPA's screening tool for environmental justice (EJ) concerns. EPA uses these indexes to identify geographic areas that may warrant further consideration or analysis for potential EJ concerns. Use of these indexes does not designate an area as an "EJ community" or "EJ facility." EJScreen provides screening level indicators, not a determination of the existence or absence of EJ concerns. For more information, see the EJScreen home page.

**EJScreen Indexes Shown**

Compare to (•) US ( ) State

Index Type ( ) Environmental Justice (•) Supplemental

**Related Reports**

EJScreen Community Report

Download Data

| Census Block Group ID: 720939602001 | US (Percentile) | |
|---|---|---|
| Supplemental Indexes | Facility Census Block Group | 1-mile Max |
| **Count of Indexes At or Above 80th Percentile** | **6** | **6** |
| Particulate Matter 2.5 | 0 | -- |
| Ozone | 0 | -- |
| Diesel Particulate Matter | 5 | 5 |
| Air Toxics Cancer Risk | 36 | 36 |
| Air Toxics Respiratory Hazard Index | 38 | 38 |
| Toxic Releases to Air | ! 88 | ! 88 |
| Traffic Proximity | 77 | 77 |
| Lead Paint | ! 98 | ! 98 |
| Risk Management Plan (RMP) Facility Proximity | ! 83 | ! 83 |
| Hazardous Waste Proximity | 68 | 69 |
| Superfund Proximity | ! 99 | ! 99 |
| Underground Storage Tanks (UST) | ! 95 | ! 95 |
| Wastewater Discharge | ! 98 | ! 98 |

( ) Facility 1-mile Radius ☐ Facility Census Block Group




**Demographic Profile of Surrounding Area (1 mile)**

This section provides demographic information regarding the community surrounding the facility. ECHO compliance data alone are not sufficient to determine whether violations at a particular facility had negative impacts on public health or the environment. Statistics are based upon the 2010 U.S. Census and 2017 - 2021 American Community Survey (ACS) 5-year Summary and are accurate to the extent that the facility latitude and longitude listed below are correct. EPA's spatial processing methodology considers the overlap between the selected radii and the census blocks (for U.S. Census demographics) and census block groups (for ACS demographics) in determining the demographics surrounding the facility. For more detail about this methodology, see the DFR Data Dictionary.

| General Statistics (U.S. Census) | |
|---|---|
| Total Persons | 1,897 |
| Population Density | 582/sq.mi. |
| Housing Units in Area | 939 |

| General Statistics (ACS (American Community Survey)) | |
|---|---|
| Total Persons | 1,104 |
| Percent People of Color | 98% |
| Households in Area | 413 |
| Households on Public Assistance | 18 |
| Persons With Low Income | 941 |
| Percent With Low Income | 85% |

| Geography | |
|---|---|
| Radius of Selected Area | 1 mi. |
| Center Latitude | 18.185647 |
| Center Longitude | -66.980297 |
| Land Area | 100% |
| Water Area | 0% |

| Income Breakdown (ACS (American Community Survey)) - Households (%) | |
|---|---|
| Less than $15,000 | 165 (39.95%) |
| $15,000 - $25,000 | 93 (22.52%) |
| $25,000 - $50,000 | 111 (26.88%) |
| $50,000 - $75,000 | 35 (8.47%) |
| Greater than $75,000 | 9 (2.18%) |

| Age Breakdown (U.S. Census) - Persons (%) | |
|---|---|
| Children 5 years and younger | 128 (7%) |
| Minors 17 years and younger | 431 (23%) |
| Adults 18 years and older | 1,465 (77%) |
| Seniors 65 years and older | 326 (17%) |

| Race Breakdown (U.S. Census) - Persons (%) | |
|---|---|
| White | 1,706 (90%) |
| African-American | 75 (4%) |
| Hispanic-Origin | 1,886 (99%) |
| Asian/Pacific Islander | 0 (0%) |
| American Indian | 2 (0%) |
| Other/Multiracial | 113 (6%) |

| Education Level (Persons 25 & older) (ACS (American Community Survey)) - Persons (%) | |
|---|---|
| Less than 9th Grade | 236 (27.35%) |
| 9th through 12th Grade | 91 (10.54%) |
| High School Diploma | 250 (28.97%) |
| Some College/2-year | 111 (12.86%) |
| B.S./B.A. (Bachelor of Science/Bachelor of Arts) or More | 112 (12.98%) |

LAST UPDATED ON SEPTEMBER 21, 2022

DATA REFRESH INFORMATION

# Appendix D

# D07 - Endangered Species

# FEDERALLY LISTED SPECIES NO EFFECTS DETERMINATION
# PR-CRP-000721 _ PASEO HATCHERY

The list of protected species was reviewed based on the nature of the project, scope of work, information available, and a careful analysis of the Project Site, and IPaC species data. It was determined that there would be "**No Effect"** for all of the listed species. After further evaluation, it was determined that the two critical habitats listed will also suffer **"No Effect".** Below is the result of our Effects Determination.

**Threatened Birds**

**1 - Elfin-woods Warbler *Setophaga angelae***
The Elfin-woods Warbler **critical habitat** includes the western part of the Maricao Commonwealth Forest close to the Project area. The Project development does not include removal of existing trees. Soil cover beyond the existing roadway right of way won't be removed. The species will therefore suffer **"No Effect".**

**Endangered Birds**

**2 - Puerto Rican Broad-winged Hawk *Buteo platypterus brunnescens***
According to the Recovery Plan of 1997, Puerto Rican BWHAs are found primarily in limestone forests of the karst region in north-central Puerto Rico, and mature closed canopy forests including elfin woodlands, sierra palm, caimitillo-granadillo, and tabonuco forests found in the Central Mountain Range (Cordillera Central) region of the Island (USFWS 1997, 2010). At the time of the last 5-year review, the BWHA island-wide population was estimated at approximately 125 individuals (USFWS 2010). It was not found in the Maricao Commonwealth Forest (MCF) or Toro Negro Commonwealth Forest (TNCF).

Surveys in 2016-2017 (Vilella and Gallardo 2018) re-emphasized the geographic hub of this species is the karst region of the Rio Abajo Commonwealth Forest and surrounding private land.

Since this is not the preferred habitat of the BWHA and project development scope does not include removal of existing forest cover, the species will suffer **"No effect".**

**3 - Puerto Rican Nightjar *Antrostomus noctitherus***
The Puerto Rican nightjar primarily occurs in the coastal dry and lower montane forests in southern and southwestern Puerto Rico. Since this is not the preferred habitat of the Puerto Rican nightjar and project development scope does not include removal of existing forest cover, the species will suffer **"No effect".**

**4 - Puerto Rican Parrot *Amazona vittata***
A small population of wild parrots were released in the Maricao State Forest. The Project development does not include removal of existing forest cover. Soil cover beyond the existing roadway right of way won't be removed. The species will suffer **"No effect".**

**5 - Puerto Rican Sharp-shinned Hawk *Accipiter striatus venator***
The distribution of the sharp-shinned hawk is limited to mature, dense-canopied, montane forests of Puerto Rico. The Maricao Forest harbors a population of this species. The Project development does not

include removal of existing forest cover. Soil cover beyond the existing roadway right of way won't be removed. The species will suffer, **"No effect".**

**Endangered Reptiles**

**6 - Puerto Rican Boa *Chilabothrus inornatus***
The Puerto Rican boa has proven to be adaptable to a large variety of habitats and its population has spread throughout the island. If a Puerto Rico Boa is encountered, work will cease until it moves off the site or, failing that, the Puerto Rico Department of Natural and Environmental Resources (PRDNER) Rangers will be notified for safe capture and relocation of the reptile, in accordance with the USFW Puerto Rican Boa Conservation Measures guidelines and the July 27, 2023 Amended Programmatic Biological Opinion. The species will suffer **"No effect".**

**Threatened Insects**

**7 - Puerto Rican Harlequin Butterfly *Atlantea tulita***
Project development does not include removal of existing trees. Soil cover beyond the existing roadway right of way won't be removed. The species will suffer **"No effect".**

*Odontonema cuspidatum* is one of the documented species which provides food for the caterpillar. The presence of this species near the project limits has been documented. Project scope of work does not include removal of soil cover within roadway right of way. So food habits of the species will have **"No effect"** even if the species is present**.**

**Threatened Flowering Plants**

**8 - *Gesneria pauciflora***
Gesneria pauciflora is an endemic small gregarious shrub known to occur only on serpentine derived substrates with little or no soil formation and associated with wet habitats, conditions typical to the Maricao Forest. The Flora and Fauna study performed on the project site did not identified a specimen in the proximity of the Project limits. Project scope of work does not include removal of soil cover or shrubs outside the roadway right of way. The species will suffer **"No effect".**

**Endangered Flowering Plants**

**9 - *Cordia bellonis***
is a shrub species with a population on serpentine soils within the Maricao Forest. The species is not uniformly distributed across the suitable habitat, and despite evidence of natural recruitment across the species' range, it remains rare within its habitat. The Flora and Fauna study performed on the project site did not identify any specimens in the proximity of the Project limits. Project scope of work does not include removal of soil cover or shrubs outside the roadway right of way. The species will suffer **"No effect".**

**10 - Higuero De Sierra *Crescentia portoricensis***
Higüero de sierra is a vine-like shrub or small tree (up to about 7 meters (23 feet) height) endemic to evergreen, semi-evergreen, and deciduous forests on serpentine soils in the lower Cordillera region of southwestern Puerto Rico. The Flora and Fauna study performed on the project site did not identified a

specimen in the proximity of the Project limits. Project scope of work does not include removal of soil cover or shrubs outside the roadway right of way. The species will suffer **“No effect”.**

Revised by:



**Alejandro Cubiñá**

Senior Biologist

# Informal Consutation
## Appendix

## USFWS Self Certification Checklist
## PR-CRP-000721 Paseo Hatchery

## Content:


1. Project Location Map
2. USFWS Protected Areas of Puerto Rico
3. USFWS Maricao Protected Areas
4. Wetland Map
5. IPAC Species List
6. USFWS Puerto Rican Boa Conservation Measures rev 2020
7. USFWS Conservation Measures for the Sharp-shinned Hawk rev 2020
8. Flora y Fauna Paseo Hatchery
9. Existing Conditions & Proposed Project Drawings
10. Project Limits
11. Existing Conditions Photos
12. Project Route Video

Content:

1. Project Location Map




C&G
115 DEL PARQUE, STE 7
SAN JUAN PR 00911
787.309.1837

MARICAO
CAPITAL DE LA MONTAÑA

SCALE 1:20 000

1 0.5 0 KILOMETERS 1 2
1000 500 0 METERS 1000 2000
1 0.5 0 1
MILES
1000 500 0 1000 2000 3000 4000 5000 6000 7000 8000
FEET

PUERTO RICO
QUADRANGLE LOCATION

USGS
science for a changing world

U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

# MARICAO QUADRANGLE
PUERTO RICO
7.5-MINUTE SERIES
MARICAO, PR
2018

Content:

2. USFWS Protected Areas of Puerto Rico

# PROTECTED AREAS OF PUERTO RICO

**2018** Figure D07.2




C&G
1550 Ponce de Leon Ave
San Juan PR 00911
787.309.1837

MARICAO

USFWS -Endangered Species

Paseo Hatchery - PR-CRP-000721
State Road PR 410 - km. 0.3 to km. 1.7

Lat/Lon: 18.179087 -66.980567
Lat/Lon: 18.175017 -66.981874

Source of Data: USFWS

*Terrestrial protected areas include: Nature Reserves, State Forests, Wildlife Refuges (state and federal), National Forest, Urban Forests, National Estuarine Research Reserve, among others. DNER lands acquired through the Forest Legacy Program and other mechanisms have been added to the management unit of the nearest Commonwealth Forest.

1. Antiguo Acueducto del río Piedras / SJEC
2. Cupey Arboretum/ SJEC
3. Guayabra Research Area
4. Manatí Research Area
5. Bosque de Pterocarpus de Dorado Protected Natural Area
6. Cañón Las Bocas Protected Natural Area
7. Cañón San Cristóbal Protected Natural Area
8. Cerro Felíz Protected Natural Area
9. Cerro La Tuna Protected Natural Area
10. Cerro las Mesas Protected Natural Area
11. Cordillera Salvana Alta Protected Natural Area
12. Cuevas El Convento Protected Natural Area
13. Culebras Protected Natural Area
14. El Corozo Protected Natural Area
15. Freddie Ramírez Protected Natural Area
16. Hacienda Buena Vista Protected Natural Area
17. Hacienda Lago Protected Natural Area
18. Hacienda Margarita Protected Natural Area
19. Hacienda Perlejas Protected Natural Area
20. Hermanas Sendra Protected Natural Area
21. Jájome Protected Natural Area
22. Jorge Soltamayor del Toro Protected Natural Area
23. La Pitahaya Protected Natural Area
24. La Robleca Protected Natural Area
25. Los Frailes Protected Natural Area
26. Los Llanos Protected Natural Area
27. Luz Martínez de Beltrez Protected Natural Area
28. Martín Alto Protected Natural Area
29. Medio Mundo y Daguao Protected Natural Area
30. Ojo de Agua Protected Natural Area
31. Paraíso de las Lunas Protected Natural Area
32. Punta Cabullones Protected Natural Area
33. Punta Pozuelo Protected Natural Area
34. Quebrada Jarer Protected Natural Area
35. Río Bairoa Protected Natural Area
36. Río Encantado Protected Natural Area
37. Río Guaysabo Protected Natural Area
38. Río Jacaboa Protected Natural Area
39. Río Maricao Protected Natural Area
40. Río Sana Muerto Protected Natural Area
41. Río Toa Vaca Protected Natural Area
42. Río Toro Negro Protected Natural Area
43. San Juan Park Protected Natural Area
44. Shapiro Protected Natural Area
45. Sierra La Pancura Protected Natural Area
46. Ulpiano Casal Protected Natural Area
47. Aguirre Commonwealth Forest
48. Boquerón Commonwealth Forest
49. Cambalache Commonwealth Forest
50. Carite Commonwealth Forest
51. Ceiba Commonwealth Forest
52. Carrillos Commonwealth Forest / Carrillos Wildlife Refuge
53. Guajataca Commonwealth Forest
54. Guánica Commonwealth Forest
55. Maricao Commonwealth Forest
56. Monte Choca Commonwealth Forest
57. Monte Guilarte Commonwealth Forest
58. Piñones Commonwealth Forest
59. Río Abajo Commonwealth Forest
60. Susúa Commonwealth Forest
61. Toro Negro Commonwealth Forest
62. Tres Picachos Commonwealth Forest
63. Vega Commonwealth Forest
64. Bosque del Pueblo de Adjuntas Commonwealth Forest
65. La Olimpia Commonwealth Forest
66. San Patricio Commonwealth Forest
67. Bosque Urbano del Nuevo Milenio Commonwealth Forest / SJEC
68. Los Capachinos Forest
69. El Yunque National Forest
70. Doña Inés Mendoza Urban Forest / SJEC
71. Río Camuy Cave System
72. San Juan Ecological Corridor (SJEC)
73. El Tallonal
74. Finca El Verde
75. Finca José Santiago
76. Finca Nolla
77. Botanical Garden of the University of Puerto Rico
78. Las Casas de la Selva
79. Caguana Indigenous Ceremonial Park
80. Guajataca Wildlife Refuge
81. La Plata Wildlife Refuge
82. Luchetti Wildlife Refuge
83. Las Alamedas Wildlife Refuge in Boquerón
84. Cabo Rojo National Wildlife Refuge
85. Culebra National Wildlife Refuge
86. Culebra National Wildlife Refuge / Culebrita Lighthouse
87. Desecheo National Wildlife Refuge
88. Laguna Cartagena National Wildlife Refuge
89. Vieques National Wildlife Refuge
90. El Buey Nature and Wildlife Refuge
91. Desecheo Coastal Waters Marine Reserve
92. Arrecife de Isla Verde Marine Reserve
93. Tres Palmas Marine Reserve
94. Jobos Bay National Estuarine Research Reserve
95. Arrecifes de Guayanilla Nature Reserve
96. Arrecifes de La Cordillera Nature Reserve
97. Arrecifes de Tourmaline Nature Reserve
98. Bosque Pterocarpus Nature Reserve
99. Canal Luis Peña Nature Reserve
100. Caño La Boquilla Nature Reserve
101. Caño Martín Peña Nature Reserve
102. Caño Tiburones Nature Reserve
103. Cayo Ratones Nature Reserve / Boquerón CF
104. Ciénaga Las Cucharillas Nature Reserve
105. Northeast Ecological Corridor Nature Reserve (NECNR)
106. Cueva del Indio Nature Reserve
107. Isla de Mona y Monito Nature Reserve
108. Vieques Bioluminiscent Bays Nature Reserve
109. Río Cialitos Nature Reserve
110. Río Espíritu Santo Nature Reserve
111. Efraín Archilla Díez Nature Reserve in HumacaoPantano, Bosque de Pterocarpus, Lagunas Mandry y Santa Teresa
112. Laguna del Condado Estuarine Reserve
113. Finca Belverede Nature Reserve / Boquerón CF
114. Finca Seven Seas Nature Reserve / NECNR
115. Hacienda La Esperanza Nature Reserve
116. Humedal de Punta Vientos Nature Reserve
117. Inés María Mendoza (Punta Yeguas) Nature Reserve
118. Isla Caja de Muertos Nature Reserve
119. La Parguera Nature Reserve / Boquerón CF
120. Laguna Joyuda Nature Reserve / Boquerón CF
121. Laguna Tortuguero Nature Reserve
122. Las Cabezas de San Juan Nature Reserve
123. Las Piedras del Collado Nature Reserve
124. Manglar de Punta Tuna Nature Reserve
125. Mata de Platano Field Station and Nature Reserve
126. Pantano Cibuco Nature Reserve
127. Planadas - Yeyesa Nature Reserve
128. Playa Grande El Paraiso Nature Reserve
129. Punta Ballenas Nature Reserve / Guánica CF
130. Punta Cucharas Nature Reserve
131. Punta Guanajuilla Nature Reserve / Boquerón CF
132. Punta Petrona Nature Reserve
133. Aguas Buenas Cave System Nature Reserve
134. Río Hondo Community Forest
135. Tropical Forest at Palmas del Mar Conservation Easement
136. Centro Espíritu Santo Conservation Easement
137. El Rabanal Conservation Easement
138. El Tambor Conservation Easement
139. Finca Guilo Conservation Easement
140. Finca Ledesma Moulier Conservation Easemen:
141. Finca María Luisa Conservation Easement
142. Foreman Conservation Easement
143. Picaflor Conservation Easement
144. Siembra Tres Vidas Conservation Easement
145. Montes Oscuros Scenic Easement
146. Karst Conservation Zone

Ortiz-Maldonado, C., Quiñones, M., Castro-Prieto, J. & Gaztambide-Arances, S. 2019. Protected Natural Areas of Puerto Rico. In: Castro-Prieto, Jessica; Gould, William A.; Ortiz-Maldonado, Coralys; Soto-Bayó, Sandra; Llerandi-Román, Iván; Gaztambide-Arandes, Soledad; Quiñones, Mayín; Cañón, Marcela; Jacobo, Kasey R. 2019. A Comprehensive Inventory of Protected Areas and other Land Conservation Mechanisms in Puerto Rico. Gen. Tech. Report IITF-GTR-50. San Juan, PR: U.S. Department of Agriculture Forest Service, International Institute of Tropical Forestry. 156 p.

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Content:

3. USFWS Maricao Protected Areas

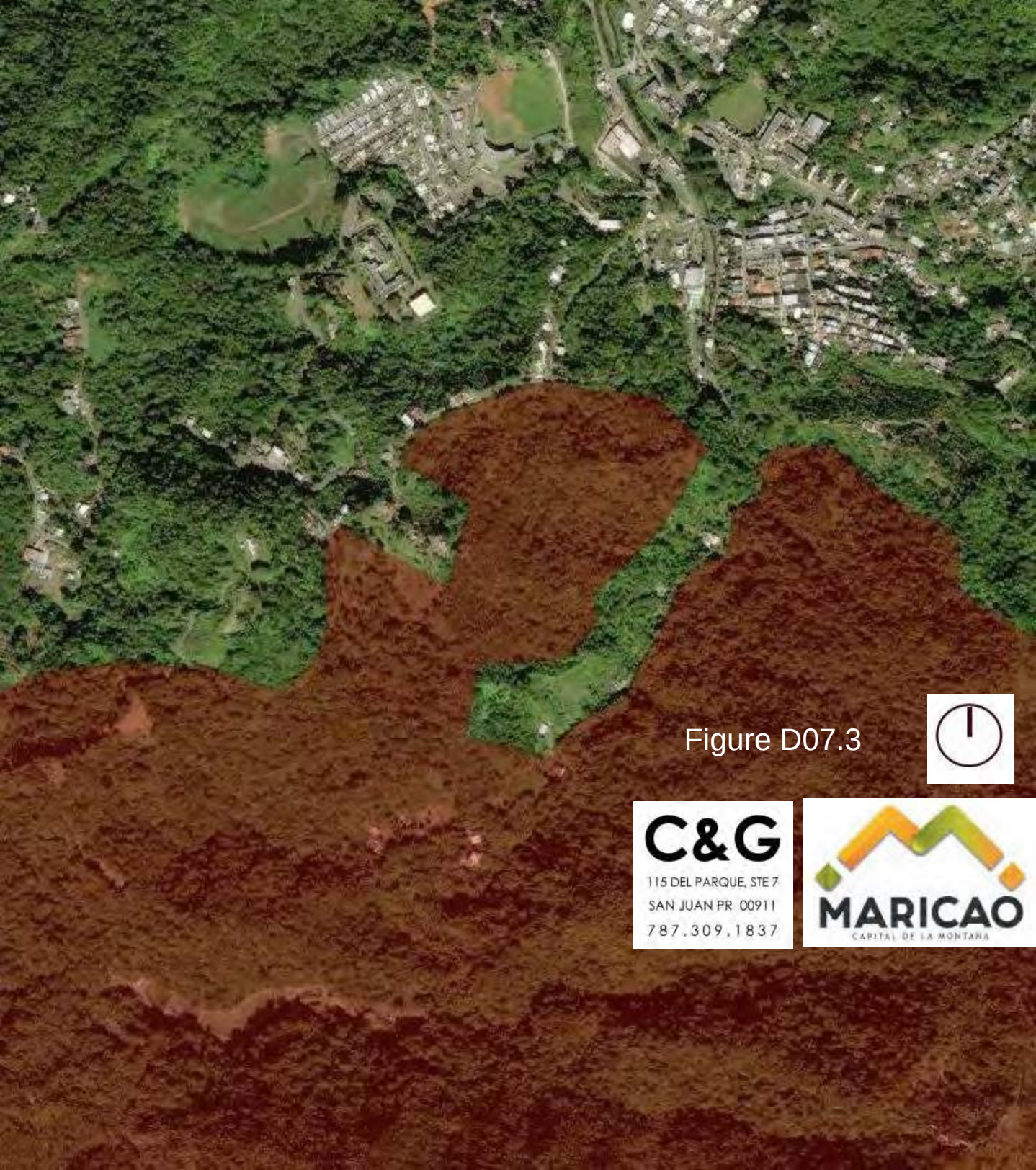


Figure D07.3

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787.309.1837

MARICAO
CAPITAL DE LA MONTAÑA

Content:

4. Wetland Map

U.S. Fish and Wildlife Service
National Wetlands Inventory

# Paseo Hatchery National Wetland Map




August 23, 2023

**Wetlands**

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

Figure B14.1

National Wetlands Inventory (NWI)
This page was produced by the NWI mapper

Content:

5. IPAC Species List

# United States Department of the Interior

FISH AND WILDLIFE SERVICE
Caribbean Ecological Services Field Office
Post Office Box 491
Boqueron, PR 00622-0491
Phone: (787) 834-1600 Fax: (787) 851-7440
Email Address: CARIBBEAN_ES@FWS.GOV

In Reply Refer To:
Project Code: 2023-0133558
Project Name: Paseo Hatchery

September 26, 2023

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

***THE FOLLOWING SPECIES LIST IS NOT A SECTION 7 CONSULTATION. PLEASE CONTACT OUR OFFICE TO COMPLETE THE CONSULTATION PROCESS***

The purpose of the Endangered Species Act (Act) is to provide a means whereby threatened, and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 et seq.), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect those species and/or their designated critical habitat.

Federal agencies are required to "request of the Secretary of Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action". The enclosed species list provides information to assist with the U.S. Fish and Wildlife Service (Service) consultation process under section 7 of the Act. However, **the enclosed species list does not complete the required consultation process.** The species list identifies threatened, endangered, proposed and candidate species, as well as proposed and designated critical habitats, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. A discussion between the Federal agency and the Service should include what types of listed species may occur in the proposed action area and what effect the proposed action may have on those species. This process initiates informal consultation.

Once a species list is obtained for the proposed project, an effect determination for endangered and threatened species should be made. The applicant could make an effect determination by using available keys on IPaC for specific species. For species with no determination keys, the applicant should request concurrence from the Service by sending a project package

to caribbean_es@fws.gov. To obtain guidance for completing this process and the minimum requirements for project packages, please visit:

https://www.fws.gov/sites/default/files/documents/consultation-under-section-7-of-the-endangered-species-act-with-the-caribbean-ecological%20Services-field-office-template-letter.pdf

When a federal agency, after discussions with the Service, determines that the proposed action is not likely to adversely affect any listed species, or adversely modify any designated critical habitat, and the Service concurs, the informal consultation is complete, and the proposed project moves ahead. If the proposed action is suspected to affect a listed species or modify designated critical habitat, the Federal agency may then prepare a Biological Assessment (B.A.) to assist in its determination of the project's effects on species and their habitat. However, a B.A. is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2) (c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a B.A. where the agency provides the Service with an evaluation on the likely effects of the action to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a B.A. are described at 50 CFR 402.12.

If a federal agency determines, based on its B.A. or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to further consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species, and proposed critical habitat be addressed within the consultation process. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.pdf

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species.

This list is provided pursuant to Section 7 of the Endangered Species Act and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action". Please use this list to determine whether your project requires consultation and to make your effects determination. For more guidance, use the Guideline for Consultation under Section 7 of the Endangered Species Act with the Caribbean Ecological Services Field Office by clicking here.

This species list is provided by:

Caribbean Ecological Services Field Office
caribbean_es@fws.gov
Post Office Box 491
Boqueron, PR 00622-0491
(786) 244-0081

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries
- Bald & Golden Eagles
- Migratory Birds
- Wetlands

# OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

**Caribbean Ecological Services Field Office**
Post Office Box 491
Boqueron, PR 00622-0491
(787) 834-1600

# PROJECT SUMMARY

Project Code: 2023-0133558
Project Name: Paseo Hatchery
Project Type: Recreation - New Construction
Project Description: Pedestrian route along existing ROW of State Road PR 410 for 1.5 kilometers.
Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@18.1738559,-66.98346857501582,14z




Counties: Maricao County, Puerto Rico

# ENDANGERED SPECIES ACT SPECIES

There is a total of 10 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

---

1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

## BIRDS

| NAME | STATUS |
|---|---|
| Elfin-woods Warbler *Setophaga angelae*<br>There is **final** critical habitat for this species. Your location overlaps the critical habitat.<br>Species profile: https://ecos.fws.gov/ecp/species/2972 | Threatened |
| Puerto Rican Broad-winged Hawk *Buteo platypterus brunnescens*<br>No critical habitat has been designated for this species.<br>Species profile: https://ecos.fws.gov/ecp/species/5512 | Endangered |
| Puerto Rican Nightjar *Antrostomus noctitherus*<br>No critical habitat has been designated for this species.<br>Species profile: https://ecos.fws.gov/ecp/species/6972 | Endangered |
| Puerto Rican Parrot *Amazona vittata*<br>No critical habitat has been designated for this species.<br>Species profile: https://ecos.fws.gov/ecp/species/3067 | Endangered |
| Puerto Rican Sharp-shinned Hawk *Accipiter striatus venator*<br>No critical habitat has been designated for this species.<br>Species profile: https://ecos.fws.gov/ecp/species/604 | Endangered |

## REPTILES

| NAME | STATUS |
|---|---|
| Puerto Rican Boa *Chilabothrus inornatus* | Endangered |

No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/6628
General project design guidelines:
https://ipac.ecosphere.fws.gov/project/6EIZDC2RLZG6NCAFJ2352FHRQQ/documents/generated/6941.pdf

## INSECTS

| NAME | STATUS |
|---|---|
| Puerto Rican Harlequin Butterfly *Atlantea tulita* | Threatened |

There is **final** critical habitat for this species. Your location overlaps the critical habitat.
Species profile: https://ecos.fws.gov/ecp/species/9005

## FLOWERING PLANTS

| NAME | STATUS |
|---|---|
| Cordia bellonis | Endangered |

No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/7228

| | |
|---|---|
| Gesneria pauciflora | Threatened |

No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/7349

| | |
|---|---|
| Higuero De Sierra *Crescentia portoricensis* | Endangered |

No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/6800

## CRITICAL HABITATS

There are 2 critical habitats wholly or partially within your project area under this office's jurisdiction.

| NAME | STATUS |
|---|---|
| Elfin-woods Warbler *Setophaga angelae* | Final |

https://ecos.fws.gov/ecp/species/2972#crithab

| | |
|---|---|
| Puerto Rican Harlequin Butterfly *Atlantea tulita* | Final |

https://ecos.fws.gov/ecp/species/9005#crithab

# USFWS NATIONAL WILDLIFE REFUGE LANDS AND FISH HATCHERIES

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

# BALD & GOLDEN EAGLES

Bald and golden eagles are protected under the Bald and Golden Eagle Protection Act[1] and the Migratory Bird Treaty Act[2].

Any person or organization who plans or conducts activities that may result in impacts to bald or golden eagles, or their habitats[3], should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

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1. The Bald and Golden Eagle Protection Act of 1940.
2. The Migratory Birds Treaty Act of 1918.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

THERE ARE NO BALD AND GOLDEN EAGLES WITHIN THE VICINITY OF YOUR PROJECT AREA.

# MIGRATORY BIRDS

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats[3] should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

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1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

THERE ARE NO FWS MIGRATORY BIRDS OF CONCERN WITHIN THE VICINITY OF YOUR PROJECT AREA.

# WETLANDS

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

RIVERINE

- R5UBH

## IPAC USER CONTACT INFORMATION

Agency: Municipio of Maricao
Name: José Castro-Pavia
Address: 555 Cuevillas street
City: San Juan
State: PR
Zip: 00907
Email jmcp.sitedesign@gmail.com
Phone: 7874091372

## LEAD AGENCY CONTACT INFORMATION

Lead Agency: Administracion de Vivienda Publica

Content:

6. USFWS Puerto Rican Boa Conservation Measures rev 2020

**U.S. Fish & Wildlife Service**

# *General Project Design Guidelines (1 Species)*

Generated September 26, 2023 09:16 PM UTC, IPaC v6.98.0-rc2

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IPaC - Information for Planning and Consultation (https://ipac.ecosphere.fws.gov/): A project planning tool to help streamline the U.S. Fish and Wildlife Service environmental review process.

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# Species Document Availability

## Species with general design guidelines

- Puerto Rican Boa *Chilabothrus inornatus*

## Species without general design guidelines available

- Cordia bellonis
- Elfin-woods Warbler *Setophaga angelae*
- Gesneria pauciflora
- Higuero De Sierra *Crescentia portoricensis*
- Puerto Rican Broad-winged Hawk *Buteo platypterus brunnescens*
- Puerto Rican Harlequin Butterfly *Atlantea tulita*
- Puerto Rican Nightjar *Antrostomus noctitherus*
- Puerto Rican Parrot *Amazona vittata*
- Puerto Rican Sharp-shinned Hawk *Accipiter striatus venator*

# General Project Design Guidelines - Puerto Rican Sharp-shinned Hawk and 9 more species

Published by Caribbean Ecological Services Field Office for the following species included in your project

- Puerto Rican Sharp-shinned Hawk *Accipiter striatus venator*
- Gesneria pauciflora
- Cordia bellonis
- Elfin-woods Warbler *Setophaga angelae*
- Puerto Rican Nightjar *Antrostomus noctitherus*
- Puerto Rican Parrot *Amazona vittata*
- Higuero De Sierra *Crescentia portoricensis*
- Puerto Rican Harlequin Butterfly *Atlantea tulita*
- Puerto Rican Boa *Chilabothrus inornatus*
- Puerto Rican Broad-winged Hawk *Buteo platypterus brunnescens*

# U.S. FISH AND WILDLIFE SERVICE
# CARIBBEAN ECOLOGICAL SERVICES FIELD OFFICE

## Conservation Measures for the Puerto Rican boa (*Chilabothrus inornatus*)

Section 7 (a)(1) of the Endangered Species Act (ESA) charges Federal agencies to aid in the conservation of listed species, and section 7 (a)(2) requires the agencies, through consultation with the U.S. Fish and Wildlife Service (Service), to ensure their activities are not likely to jeopardize the continued existence of listed species or adversely modify designated critical habitats. Section 7 applies to the management of Federal lands as well as Federal actions that may affect listed species, such as Federal approval of private activities through the issuance of Federal funding, permits, licenses, or other actions. Any person that injures, captures, or kills a Puerto Rico boa is subject to penalties under the ESA. If Federal funds or permits are needed, the funding or permitting agency should initiate Section 7 consultation with the Service. To initiate a consultation under the Section 7 of the ESA, you must submit a project package with the established minimum requirements. These conservation measures should be incorporated into the project plans to minimize possible impacts to the species.

The endangered Puerto Rican (PR) boa (*Chilabothrus inornatus*, formerly *Epicrates inornatus*) is the largest endemic snake species that inhabits Puerto Rico. The PR boa is non-venomous and does not pose any life threatening danger to humans, but some individuals may try to bite if disturbed or during capture or handling. Its body color ranges from tan to dark brown with irregular diffuse marking on the dorsum, but some individuals lack marking and are uniformly dark. Juveniles may have a reddish color with more pronounced markings. In general, as they mature, their body color tends to darken.



Adult PR boa – *Chilabothrus inornatus*
Photo: Puerto Rico by JP Zegarra

**Last Revised: November 2020**

The Puerto Rican boa was federally listed in 1970. Currently, the species has an island-wide distribution and occurs in a wide variety of habitat types ranging from wet montane to subtropical dry forest, and can be found from mature forest to areas with different degrees of human disturbance like roadsides or houses, especially if near their habitat in rural areas. This boa is considered mostly nocturnal, remaining less active, concealed or basking under the sun during the day.

The Service has developed the following conservation measures with the purpose of assisting others to avoid or minimize adverse effects to the PR boa and its habitat. These recommendations may be incorporated into new project plans and under certain circumstances into existing projects. Depending on the project, additional conservation measures can be implemented besides the ones presented in this document.

Conservation Measures:

1. Inform all project personnel about the potential presence of the PR boa in areas where the proposed work will be conducted. A pre-construction meeting should be conducted to inform all project personnel about the need to avoid harming the species as well as penalties for harassing or harming PR boas. An educational poster or sign with photo or illustration of the species should be displayed at the project site.

2. Prior to any construction activity, including removal of vegetation and earth movements, the boundaries of the project and areas to be excluded and protected should be clearly marked in the project plan and in the field in order to avoid further habitat degradation into forested and conservation areas.

3. Once areas are clearly marked, and prior to the use of heavy machinery and any construction activity (including removal of vegetation and earth movement), a biologist or personnel with experience on this species should survey the areas to be cleared to verify the presence of any PR boa within the work area.

4. The PR boa is considered more active at night. Thus, in order to maximize its detection, the species should be searched at nights prior to habitat disturbance.

5. Once the area has been searched for PR boas, vegetation should first be cleared by hand to the maximum extent possible. Vegetation should be cut about one meter above ground prior to the use of heavy machinery for land clearing. Cutting vegetation by hand will allow boas present on site to move away on their own to adjacent available habitat. Any stone walls or naturally occurring rock piles must be carefully dismantled by hand as these are refuges for the snake. This will allow any boas present to vacate the site without injury.

6. For all boa sightings (dead or alive), record the time and date of the sighting and the specific location where it was found. PR boa data should also include a photo of the animal (dead or alive), site GPS coordinates, the time and date, and comments on how the animal was detected and its behavior.

7. If a PR boa is found within any of the working or construction areas, activities should stop at that area and information recorded (see #6). **Do not capture the boa.** If boas need to be moved out of harm's way, designated personnel shall immediately contact the Puerto Rico Department of Natural and Environmental Resources (PRDNER) Rangers for safe capture and relocation of the animal (PRDNER phone #s: ((787) 724-5700, (787) 230-5550, (787) 771-1124). If immediate relocation is not an option, project-related activities at this area must stop until the boa moves out of harm's way on its own. Activities at other work sites, where no boas have been found after surveying the area, may continue.

8. If a PR boa is captured by the PRDNER, record the name of the PRDNER staff and information on where the PR boa will be taken. This information should be reported to the Service.

9. Measures should be taken to avoid and minimize PR boa casualties by heavy machinery or motor vehicles being used on site. Any heavy machinery left on site (staging) or near potential PR boa habitat (within 50 meters of potential boa habitat), needs to be thoroughly inspected each morning before work starts to ensure that no boas have sheltered within engine compartments or other areas of the equipment. If PR boas are found within vehicles or equipment, do not capture the animal and let it move on its own or call PRDNER Rangers for safe capture and relocation of the animal (see #7). If not possible, the animal should be left alone until it leaves the vehicle on its own.

10. PR boas may seek shelter in debris piles. Measures should be taken to avoid and minimize boa casualties associated with sheltering in debris piles as a result of project activities. Debris piles should be placed far away from forested areas. Prior to moving, disposing or shredding, debris piles should be carefully inspected for the presence of boas. If debris piles will be left on site, we recommend they be placed in areas that will not be disturbed in the future.

11. If a dead PR boa is found, immediately cease all work in that area and record the information accordingly (see #6). If the PR boa was accidentally? killed as part of the project actions, please include information on what conservation measures had been implemented and what actions that will be taken to avoid further killings. A dead boa report should be sent by email (see contacts below) to the Service within 48 hours of the event.

12. Projects must comply with all state laws and regulations. Please contact the PRDNER for further guidance.

If you have any questions regarding the above conservation measures, please contact the Service:

- Marelisa Rivera, Deputy Field Supervisor
  - Email: marelisa_rivera@fws.gov
  - Office phone (786) 244-0081 or mobile (305) 304-1814
- José Cruz-Burgos, Endangered Species Coordinator
  - Email: jose_cruz-burgos@fws.gov
  - Office phone (786) 244-0081 or mobile (305) 304-1386

**Last Revised: November 2020**

Content:

7. USFWS Conservation Measures for the Sharp-shinned Hawk rev 2020

# Recovery Plan for Puerto Rican Broad-Winged Hawk (*Buteo platypterus brunnescens*) and Sharp-Shinned Hawk (*Accipter striatus venator*)

**Original Approved: September 8, 1997**
**Original Prepared by: Marelisa Rivera**

## DRAFT AMENDMENT 1

We have identified best available information that indicates the need to amend recovery criteria for both the Puerto Rican broad-winged hawk and the Puerto Rican sharp-shinned hawk since the recovery plan was completed. In this proposed modification, we synthesize the currently available information, show amended recovery criteria, provide the rationale supporting the proposed recovery plan modification, and present some emergency actions, including captive rearing, to prevent the imminent extinction of the Puerto Rican sharp-shinned hawk. The proposed modification will be shown as an appendix that supplements the recovery plan, superseding only Section II Recovery, page 17 of the recovery plan. Recovery plans are a non-discretionary document that provides guidance on how best to help recover the species.

**For**
**U.S. Fish and Wildlife Service**
**Caribbean Ecological Service Field Office, Region 4**
**Boquerón, Puerto Rico**

**March 2019**

## METHODOLOGY USED TO COMPLETE THE RECOVERY PLAN AMENDMENT

The proposed amendments to the recovery criteria are based on the latest 5-year status review, information from recent field surveys, and information from species experts. This information was discussed among the U.S. Fish and Wildlife Service (Service) biologists and managers in the Caribbean Ecological Services Field Office in order to develop the delisting criteria for the Puerto Rican broad-winged and sharp-shinned hawks.

## ADEQUACY OF RECOVERY CRITERIA

Section 4(f)(1)(B)(ii) of the Endangered Species Act (Act) requires that each recovery plan shall incorporate, to the maximum extent practicable, "objective, measurable criteria which, when met, would result in a determination…that the species be removed from the list." Legal challenges to recovery plans (see Fund for Animals v. Babbitt, 903 F. Supp. 96 (D.D.C. 1995)) and a Government Accountability Audit (GAO 2006) have also affirmed the need to frame recovery criteria in terms of threats assessed under the five listing factors (ESA 4(a)(1)).

### Recovery Criteria

The existing recovery plan provides only downlisting criteria for the Puerto Rican broad-winged hawk and Puerto Rican sharp-shinned hawk. See previous version of criteria in Puerto Rican

Broad-Winged Hawk (*Buteo platypterus brunnescens*) and Sharp-Shinned Hawk (*Accipter striatus venator*) Recovery Plan on page 17.

**Synthesis**

**Puerto Rican Broad-winged Hawk (BWHA)**. The BWHA was formally listed in 1994 and the Recovery Plan was established in 1997. The latest 5-year review was completed in 2010 (USFWS 2010) and summarized relevant information between 1997 and 2010.

Puerto Rican BWHAs are found primarily in limestone forests of the karst region in north-central Puerto Rico, and mature closed canopy forests including elfin woodlands, sierra palm, caimitillo-granadillo, and tabonuco forests found in the Central Mountain Range (Cordillera Central) region of the Island (USFWS 1997, 2010). At the time of the last 5-year review, the BWHA island-wide population was estimated at approximately 125 individuals (USFWS 2010). The species was found in discrete non-connected patches with a population center in Río Abajo Commonwealth Forest (RACF; approximately 52 individuals) (Hengstenberg and Viella 2004) and other smaller populations in El Yunque National Forest (EYNF) and Carite Commonwealth Forest (CCF; Delannoy 1997). It was not found in the Maricao Commonwealth Forest (MCF) or Toro Negro Commonwealth Forest (TNCF; Delannoy 1997, USFWS 2010). These birds are highly territorial, suggesting little migration into adjacent habitats (Delannoy and Tossas 2002). In RACF the average annual home range size was 106 hectares (261.9 acres) and a breeding home range size was 82.5 hectares (203. 9 acres); and importantly, BWHAs utilized reforested and regenerated forest areas (Delannoy and Tossas 2002).

The population of BWHAs centered in the RACF appeared relatively stable (Hengstenberg and Viella 2005, Llerandi 2006) prior to the 2017 passing of Hurricanes Irma and María, but their distribution across the rest of their potential habitat was not well understood, which prompted an island-wide surveys in 2016-2017 (Vilella and Gallardo 2018). Vilella and Gallardo (2018) found BWHAs in 31 of 63 survey stations and a total of 117 individuals were observed. Seventy-seven BWHAs were found in the municipality of Arecibo, 36 in Utuado, and 10 inside RACF. These surveys re-emphasized the geographic hub of this species in the karst region of RACF and surrounding private lands where the majority of suitable habitat is found. Additional patches of suitable habitat are found in the eastern Cordillera Central, the eastern Cayey mountains, and southern sections of the Luquillo mountains in EYNF. Habitat models developed using these 2016-2017 surveys indicated that rainfall (100-300 mm, 3.9-11.8 inches) and elevation (150-700 m, 492-2,297 ft) were the best predictors of BWHA occurrence, 80% of which occurs on private lands (Vilella and Gallardo 2018).

Post-Hurricane María field surveys conducted in February 2018 in RACF and adjacent lands, recorded between 19 and 34 individuals per sampling day in and around the protected area (USFWS 2018a). Observed abundances are substantially reduced compared to earlier pre-storm estimates (e.g., 52 birds, Hengstenberg and Viella 2004). Moreover, this post-Hurricane María survey identified two nesting efforts in traditional nesting territories as well as a 3$^{rd}$ nesting effort in a new territory, giving hope of successful natural reproduction even though the forest sustained severe and extensive damage. Finally, surveyors also identified at least one bird in

Limon Ward, Utuado, which represents a new location and extension of its former range (USFWS 2018a).

It needs to be stressed that the major habitat characteristic that may limit this species, is mature closed canopy forests (Hengstenberg and Viella 2004). During the time preceding the 2010-5-year review, this species was found predominantly on public lands. However, there was ample evidence of their use of private lands resulting in recommendations to build conservation partnerships with private landowners outside of existing protected areas, and specifically RACF (Hengstenberg and Viella 2004, 2005, USFWS 2010). Destruction and modification of habitat was deemed the greatest threat to this species (USFWS 2010). This threat is notable after the recent passing of Hurricane's Irma and María in 2017, which caused extensive damage to the high elevation forests where BWHAs are found. Other threats such as take, disease or predation, inadequacy of regulation/enforcement were not deemed to be major threats (USFWS 2010). However, in direct connection to habitat destruction, the earlier threat analysis pointed out the risk inherent to the sustainability of such a small population and the threat of hurricanes/storms to directly or subsequently (i.e., post-storm habitat loss) lead to extinction. Population declines were observed after Hugo (1989) and possibly Georges (1998) (USFWS 2010). Thus, the primary threat to this species are Factors A and E.

**Puerto Rican Sharp-shinned Hawk (SSHA)**. The SSHA was formally listed in 1994 and the Recovery Plan was established in 1997. The latest 5-year status review for this species was completed in August 2018 (USFWS 2018b), and it summarized relevant new information between 2013 and 2018.

SSHAs are primarily found in high elevation mature closed canopy forests. Historically, this species was known to occur in five forests within the central mountains of Puerto Rico: MCF, TNCF, CCF, Guilarte Commonwealth Forest (GCF), and EYNF. TNCF and MCF were historically considered the main population strongholds (Vilella and Gallardo 2018, Thorstrom and Gallardo *in press*). Extensive surveys have shown that the population has been in decline for the past 30 years (Delannoy 1984, 1992, Vilella and Gallardo 2018, Thorstrom 2017). The island-wide SSHA population was estimated to be 150 individuals in 1992 but decreased to an estimated 100 individuals in 2016 (Vilella and Gallardo 2018, Thorstrom and Gallardo *in press*). Notable is the significant population decline of 86% (from 55.8 to 8 individuals), and 53% (from 55.4 to 26 individuals) in the MCF and TNCF, respectively (Delannoy 1992, USFWS 2018b, Thorstrom and Gallardo *in press*). The present population center of the species is thought to be in the central portions of the Cordillera Central, specifically in the region encompassing GCF, TNCF, Tres Picachos Commonwealth Forest (TPCF), and La Olimpia Commonwealth Forest (OCF), and the private lands around them. This newest set of research (i.e., since 2013) indicates far more occurrence on private lands than historical distributions (Vilella and Gallardo 2018, Thorstrom 2017). There is a gap in our knowledge of the eastern Cordillera Central, as CCF and EYNF received far less monitoring effort than the more central locations (USFWS 2018b). However, efforts in 2014 and 2016-2017 in CCF resulted in only a single male detected (Vilella and Gallardo 2018) and there are no recent observations in EYNF (USFWS 2018b).

There have been several habitat modeling efforts (Gould 2007, Vilella and Gallardo 2016, Gallardo and Vilella 2017), the most recent of which estimated 56.1 $km^2$ (13,862 acres) of

suitable habitat representing only about 0.6% of the island's area. The model predicts occurrence (>60% probability) in habitats over 400 m (1,312.3 ft) elevation and forest canopy cover ≥ 60% (Cruz and Delannoy 1986, Gallardo and Vilella 2017). Only 43.8% of highly suitable habitat is in public ownership (Gallardo and Vilella 2017). Historically, SSHA were observed in habitats above 400 m elevation (Delannoy 1997, Vilella and Gallardo 2016), but more recently (surveys between 2013 and 2016) most SSHAs were encountered between 800 m (2,625 ft) and 1,220 m (4,003 ft) elevation, and of 17 pairs observed, only 4 were observed between 600 and 800 m (1,969-2,625 ft) (Vilella and Gallardo 2016). Also, consistent with historic observations, all SSHA territories were within closed canopy patches (Delannoy 1984, Cruz and Delannoy 1986, Vilella and Gallardo 2016).

Surveys in early 2018 after Hurricane María in TNCF, MCF, and GCF detected only 19 individuals (Thorstrom and Gallardo 2018). Frequently, island raptors fail to produce fledglings after large disturbances (Thorstrom and Gallardo 2018), which greatly increases concern for the immediate survival of this species. Therefore, a hacking (release) program was recommended and implemented earlier this year in a collaborative effort between USFWS, Puerto Rico Department of Natural and Environmental Resources (PRDNER), and The Peregrine Fund (Thorstrom and Gallardo 2018). During the 2018 breeding season, six nesting pairs were identified of which 3 were managed (eggs taken into captivity for artificial incubation, hatched and young were placed in a hackbox for release back into the wild). Managed pairs produced 8 eggs, resulting in 6 nestlings with all 6 fledging. Additionally, the four unmanaged nests produced 9 eggs, 7 nestlings, but only 2 fledglings (Thorstrom, TPF, pers. comm. 2018). In years prior to the storm, 8-18 monitored nesting attempts resulted in 12-15 young fledged annually (42 total fledged from 38 nesting attempts 2015-2017; Thorstrom, TPF pers. comm. 2018).

Similar to the BWHA, the greatest threat to SSHA viability, at the time of listing through the present, is habitat destruction and modification. Similarly, hurricanes and tropical storms represent a related threat through direct, storm caused, mortality, as well as post-event mortality related to habitat destruction. Bot-fly, and Pearly-eyed Thrasher and Red-tailed Hawk parasitism and predation, respectively, are potential threats, especially given the small SSHA population size (USFWS 2018b), however, the primary threats of concern are Factors A and E.

## AMENDED RECOVERY CRITERIA

Recovery criteria serve as objective, measurable guidelines to assist in determining when an endangered species has recovered to the point that it may be downlisted to threatened, or that the protections afforded by the Act are no longer necessary and the species may be delisted. Delisting is the removal of a species from the Federal Lists of Endangered and Threatened Wildlife and Plants. Downlisting is the reclassification of a species from an endangered species to a threatened species. The term "endangered species" means any species (species, sub-species, or DPS) which is in danger of extinction throughout all or a significant portion of its range. The term "threatened species" means any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.

Revisions to the Lists, including delisting or downlisting a species, must reflect determinations made in accordance with sections 4(a)(1) and 4(b) of the Act. Section 4(a)(1) requires that the Secretary determine whether a species is an endangered species or threatened species (or not) because of threats to the species. Section 4(b) of the Act requires that the determination be made "solely on the basis of the best scientific and commercial data available." Thus, while recovery plans provide important guidance to the Service, States, and other partners on methods of minimizing threats to listed species and measurable objectives against which to measure progress towards recovery, they are guidance and not regulatory documents.

Recovery criteria should help indicate when we would anticipate that an analysis of the species' status under section 4(a)(1) would result in a determination that the species is no longer an endangered species or threatened species. A decision to revise the status of or remove a species from the Federal Lists of Endangered and Threatened Wildlife and Plants, however, is ultimately based on an analysis of the best scientific and commercial data then available, regardless of whether that information differs from the recovery plan, which triggers rulemaking. When changing the status of a species, we first propose the action in the *Federal Register* to seek public comment and peer review, followed by a final decision announced in the *Federal Register*.

We provide delisting criteria for the BWHA and SSHA, which will supersede those included in their recovery plan. The recovery criteria presented below represent our best assessment of the conditions that would most likely result in a determination that delisting the BWHA and SSHA is warranted as the outcome of a formal five-factor analysis in a subsequent regulatory rulemaking. Achieving the prescribed recovery criteria is an indication that the species is no longer threatened or endangered, but this must be confirmed by a thorough analysis of the five factors.

**Delisting Recovery Criteria**

The amended delisting criteria for BWHA and SSHA are as follows:

1. BWHA and SSHA occur in at least 75% of their respective suitable habitat (addresses Factors A and E).

2. Within the island-wide distribution there will be at least three (3) populations of each species within existing protected areas that show stable or increasing population trends, evidenced by natural recruitment and multiple age classes (addresses Factors A and E).

3. Habitat corridors exist between at least 3 protected areas that support BWHA and SSHA populations (as defined in criterion 2) (addresses Factors A and E).

**Justification**

*Justification for criterion 1*: The distribution of BWHA across Puerto Rico is limited to a few small patches that are not well connected, similarly, there are very few SSHAs remaining in the wild, this species is in grave danger of extinction due to limited population size. This first criterion aims to increase the distribution of both species across the landscape enhancing its

resiliency to environmental disturbances, such as hurricanes that typically (although not the case with Hurricane María) have stronger impacts on discrete portions of the island, thus assuring that these species occur in the majority of available suitable habitat will increase their resilience to such events.

*Justification for criterion 2*: This criterion for the BWHA and SSHA is intended to address redundancy and assuring that multiple stable populations exist within protected areas. The focus on protected areas assures a core area of security for each population center. For the BWHA and SSHA, it is believed that 3 populations exhibiting these traits provides sufficient redundancy to ensure the species will no longer require protection under the Act.

*Justification for criterion 3*: Assuring that the established populations of BWHA and SSHA are connected by green corridors enhances their resilience by facilitating natural recolonization after an event such as a hurricane that might damage habitat and/or reduce population size. Corridors also facilitate population connectivity increasing genetic diversity maintaining long-term representation of genes among the geographic populations.

**Rationale for Amended Recovery Criteria**

The proposed recovery criteria reflect the best available and most up-to-date information on the status of BWHA and SSHA. Both species have highly specialized habitat requirements, but are limited to very discrete patches of available habitat due to their low population size. The SSHA in particular is at acute risk of imminent extinction following Hurricane María. Assuming emergency recovery measures can reduce the imminent threats, the criteria are established to assure long-term resilience through multiple stable populations and connectivity among population centers. The first criteria however, is to increase numbers and more completely assure that BWHA and SSHA are more widely distributed throughout their potential range (of suitable habitat). Specifically assuring that BWHA and SSHA occur in the majority (at least 75%) of available suitable habitat will increase their resilience to such events. Suitable habitat may be defined as >60% probability of occurrence in habitat-based occupancy models (e.g. Vilella and Gallardo 2018). For SSHA, suitable breeding habitat is limited to >900 m elevation and mature closed canopy (>60% canopy cover) forest (Gallardo and Vilella 2017). Suitable habitat is highly limited for these species. Specifically, Gallardo and Vilella (2017) estimated that only 0.6% of the island's area provides suitable habitat for SSHA, or a total of 56.1 $km^2$ (13,862 acres). Further, it was also estimated that only 43% of suitable habitat is in public ownership. Earlier observations indicated that breeding territory size was approximately a pair per square kilometer, thus, particularly for SSHA available suitable habitat will always limit this population.

Assuring that population centers of both species are within existing protected areas provides security that population gains can be sustained and provides core areas where they may disperse from as the population increases. For BWHA, we suggest pair densities of 1 pair/0.8 $km^2$ (197 acres) (Delannoy and Tossas 2002) within the individual protected areas with spillover into adjacent private/other lands immediately surrounding the protected area. Surrounding lands should show similar (habitat adjusted) densities (i.e., habitats within the protected area appear saturated). For SSHA, we suggest stable breeding pair densities of 1 pair/1.0 $km^2$ (247 acres)

(USFWS 1997, average breeding pair density across 5 protected areas in surveys 1983-1985) over at least 20 years within the individual protected areas with spillover into adjacent private/other lands immediately surrounding the protected area as described above for BWHA. These density goals are based on the best available science as cited above, but should be updated as new science becomes available. The 'spillover', or nesting activity outside of the protected area is key to increase overall population size and increase connectivity to other population centers, but should also serve as an indicator of habitat saturation within the protected area. As suitable habitats reach carrying capacity, breeding and general use should increase in less ideal habitats. Maintaining a breeding density for 20 years for the BWHA and SSHA is recommended as this encompasses at least 6-20 generations of birds (assuming 1-3 years to sexual maturity).

Assuring that the established populations of BWHA are connected by green corridors enhances their resilience by facilitating natural recolonization after an event such as a hurricane that might damage habitat and/or reduce population size. Corridors also facilitate population connectivity maintaining genetic diversity and long-term representation of genes among the geographic populations. Effectiveness of corridors (e.g., sufficient forest width and canopy cover to facilitate movement) should be evidenced by successful movement of marked BWHAs among protected areas and through genetic markers.

These criteria were established based on the most recent information available with the ultimate conservation goals of: 1) increasing the population size island-wide, 2) assuring population centers are in habitats (i.e., protected areas) that will provide long-term security, 3) in the case of BWHA assure that the population centers are connected through suitable habitat so as to maximize the dispersal capacity of the species and more readily assure healthy meta-population structure and genetic diversity. Collectively reaching these criteria should lift the threat of extinction by assuring their wide distribution among suitable habitats (resilience), increasing redundancy with three stable populations, and increasing connectivity to maintain population structure (representation) and to facilitate natural recolonization (resilience and redundancy) after a disturbance.

## ADDITIONAL SITE SPECIFIC RECOVERY ACTIONS

1. Implement a captive breeding program or hacking program for the SSHA to stabilize the population to at least pre-hurricane levels to decrease the risk of imminent extinction. Continuing the hacking program until nesting pair densities reach target levels would greatly speed up recovery. This action relates to recovery task 1.9: study the possibility of translocating individuals.

2. Increase monitoring efforts and in particular coordinate with ongoing island-wide acoustic monitoring, especially in areas known to hold BWHA and SSHA (e.g. RACF, MCF, EYNF). This action relates to recovery tasks 1: Monitor BWHA and SSHA; 1.1: Conduct surveys within the known range of the species and determine population trends; and 1.5: determine spatial and temporal usage of habitat.

3. Plan and implement forest recovery and enhancement efforts in public lands that hold BWHA and/or SSHA, as well as surrounding private lands. The goal of the plans and

implementation should be to develop mature closed canopy forest of tree species preferred by BWHA and SSHA as quickly as possible. We recommend coordinating with U.S. Forest Service, PRDNER, and other partners on existing, ongoing, and future forest recovery and forest management efforts (e.g., hurricane recovery) to assure that preferred tree species are utilized and efforts focus on population centers and connecting corridors. Coordination with agency programs that purchase land or provide conservation easements through landowner agreements (e.g., USFWS Partners Program, USFS Forest Legacy Program, NRCS) is also recommended. This action relates to recovery tasks 2: Protect and manage populations and habitats of the BWHA and SSHA; 2.1: develop management plans; 2.2: implement management plans; and 2.4: obtain protective status for habitat on privately-owned lands.

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Content:

8. Flora y Fauna Paseo Hatchery

# Estudio de Flora y Fauna

# Proyecto PR-CRP-000721

# Paseo Hatchery

# Maricao Afuera
# Maricao, Puerto Rico

Preparado por: Reforesta, Inc.

Para: C + G JMCP +

JLGARCHITECTS

Mayo 2023

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## 1. Introducción y Descripción del Área de Estudio

El Gobierno Municipal de Maricao requiere de asistencia para una consulta ambiental ante la construcción de un paseo recreacional paralelo al Río Maricao. La ubicación para el desarrollo del proyecto es a lo largo de la carretera PR-410, Maricao 00637, históricamente conocida como la ruta hacia el "Vivero de Peces". Este proyecto es parte del Programa de Revitalización de la Ciudad- Municipalidad de Maricao.

Los terrenos de interés se encuentran en un margen ripario del Municipio de Maricao, en lo que se clasifica como la zona de vida de Bosque Muy Húmedo Subtropical según el sistema de L. R. Holdridge. Este tipo de ecosistema ocupa alrededor de un 22.6% de la superficie de Puerto Rico y se extiende a través de elevaciones medianas-altas de la Cordillera Central (Ewell & Whitmore 1973; Figura 1). Esta zona se caracteriza por una alta tasa de precipitación anual (78 pulgadas – 157 pulgadas), alta humedad relativa, y una relativa alta riqueza en composición y diversidad de especies. En el caso de las franjas de bosque cercanas al Bosque Estatal de Maricao, como es el caso del área estudiada, estas se encuentran sobre una geología derivada de serpentina. Debido a las propiedades físico-químicas de los suelos derivados de esta roca, se crean condiciones únicas a las que las plantas deben adaptarse o tolerar. La vegetación dominante se caracteriza por especies siempreverdes que dominan el dosel, mientras los espacios de sotobosque son dominados por plantas tolerantes a sombra o bejucos que buscan llegar a la copa de los árboles. Los espacios perturbados son colonizados por especies pioneras (introducidas o nativas). En los bosques de esta ecorregión, los helechos de las familias Cyatheaceae y Gleicheniaceae actúan como especies pioneras. Cabe destacar que debido a la alta humedad relativa la presencia de epífitas también es notoria en este tipo de ecosistema.

A pesar de esta descripción, los bosques de la montaña en Puerto Rico han sido sujeto de constante disturbio, tanto por causas naturales (huracanes, deslizamientos y erosión) como por actividad humana (agricultura, construcción e introducción de especies). Nuestra área de estudio no es ajena a este tipo de disturbio, pues la actividad humana ha transformado la composición de especies observables. Al tratarse de una franja de carretera donde existen viviendas y fincas, se espera que las comunidades de especies cambien según su cercanía a la fuente de perturbación.

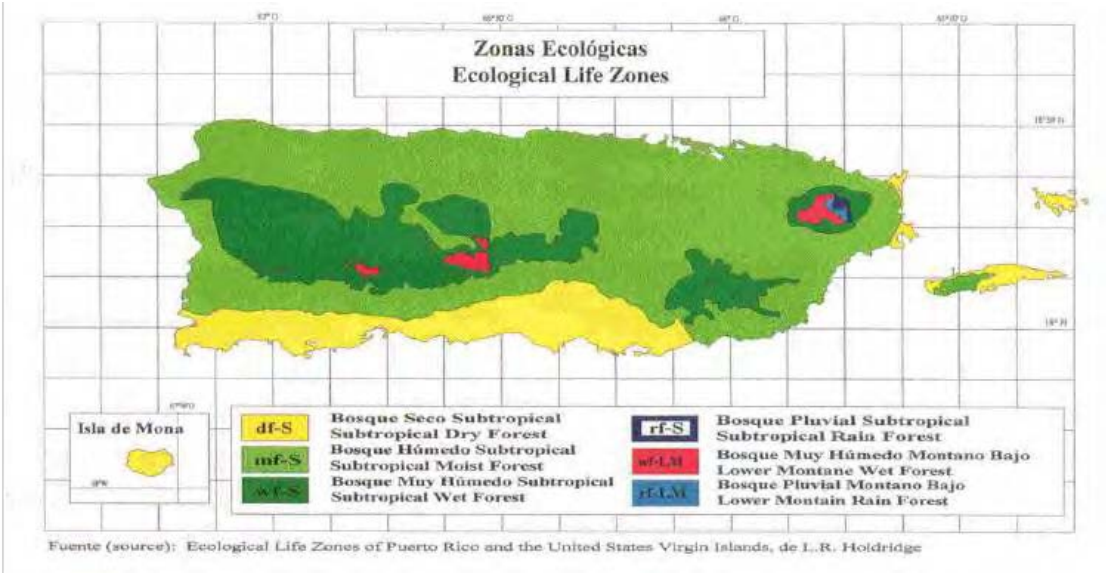



Figura 1. Mapa de zonas de vida de Puerto Rico (Ewell & Whitmore 1973).

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Figura 2. Imagen de la zona de estudio.

## 2. Metodología

Debido a la dualidad en la naturaleza del predio de estudio, donde crece bosque secundario nativo en conjunto con comunidades de especies introducidas y naturalizadas, la metodología consistió en dos monitoreos diurnos: un primer monitoreo el 29 de abril 2023 (8:37am-11:46am) y un segundo monitoreo el 8 de mayo 2023 (9:12am-12:30 pm). En ambos monitoreos se recorrió el área de estudio a lo largo de la PR-410 (≈1.5 kms) y zonas marginales, documentando toda especie animal o vegetal observada o escuchada dentro de los 30 metros (≈ 100 pies) a ambos lados de la carretera. La finalidad era cubrir el área de terreno que queda dentro del campo visual del caminante, teniendo en consideración que el proyecto precisamente consta de un paseo por el margen del Río Maricao. Aquellas especies observadas dentro de propiedad privada, no fueron consideradas. No obstante, individuos presentes en los márgenes de la carretera sí fueron considerados para este inventario.

## 3. Monitoreo de Flora y Fauna

El muestreo de especies animales se realizó siguiendo un versión modificada de los métodos descritos por Krebs (1989) y Bower et al. (1997). Dado al área de interés y el espacio donde se llevará a cabo el proyecto, la modificación consistió en recorrer la totalidad del predio que comprende unos 1.5 kms y realizando observaciones hasta a 30 metros a ambos lados de la carretera. Esto nos da un área aproximada de algunos 94,500$m^2$, esto es sin descontar el área de viviendas y propiedad privada. El censo y observaciones se realizaron en dos ocasiones. En estos recorridos se hicieron observaciones de la vida silvestre que visitaba exclusivamente la zona de interés. Las especies fueron identificadas según fueron documentadas y sus identificaciones, así como información de su ecología, fueron certificadas por publicaciones correspondientes: Biaggi (1997), Mari Mutt (2015), Raffaele (1989), Rivero (1998).

El muestreo de flora se hizo de manera simultánea con el de fauna, siguiendo parámetros y metodología similares. Se identificaron todas las especies de plantas creciendo directamente en los terrenos de interés, ya fueran plantadas o silvestres. Los árboles, arbustos y herbáceas fueron identificados in situ, posteriormente se consultaron los trabajos de Liogier & Martorell (2000), Little et al. (2001), Gann et al. (2015-2020) y Proctor (1989) para certificar las especies y su taxonomía.

## 4. Resultados

## Hallazgos del Inventario de Fauna:

| Categoría | Nombre científico | Nombre común | Origen | Comentarios |
|---|---|---|---|---|
| Invertebrados | | | | |
| -Moluscos | *Caracolus caracolla* | Caracol gigante | Nativo | Hueco en un tronco |
| | *Caracolus marginella* | Caracol de bandas | Nativo | En la hojarasca |
| | *Granodomus lima* | Caracol granoso | Nativo | Entre las raíces de un guaraguao (Guarea sp.) |
| Crustáceos | *Atya lanipes* | Chágara | Nativa | Entre la hojarasca al fondo del río |
| | *Xiphocaris elongata* | Salpiche | Nativo | Sobre rocas al fondo del río |
| -Insectos | *Apis melifera* | Abeja melífera | Introducida | |
| | *Dineutus longimanus* | Lanchita | Nativa | |
| | *Enallagma coecum* | Damisela azul | Nativa | En vegetación sobre drenaje natural |
| | *Grallipeza scurra* | Mosca de zancos | Nativa | |
| | *Macrothemis celeno* | Libélula antillana | Nativa | Volando activamente sobre el agua |
| | *Siproeta stelenes stelenes* | Mariposa malaquita | Nativa | |
| Vertebrados | | | | |
| -Peces | *Micropterus sp.* | Lobina | Introducida | |
| Anfibios | *Eleutherodactylus coqui* | Coquí común | Nativo | Escuchado |
| | *Leptodactylus albilabris* | Ranita de labio blanco | Nativa | Escuchada |
| Reptiles | *Anolis cristatellus* | Lagartijo crestado | Nativo | |
| | *Anolis pulchellus* | Lagartijo jardinero | Nativo | |
| | *Anolis stratulus* | Lagartijo manchado | Nativo | |
| | *Pholidoscelis exsul* | Siguana | Nativo | |
| Aves | *Buteo jamaicensis* | Guaraguao | Nativo | |
| | *Coccyzus vieilloti* | Pájaro bobo mayor | Nativo | |
| | *Coereba flaveola* | Reinita común | Nativa | |
| | *Margarops fuscatus* | Zorzal pardo | Nativo | |
| | *Melanerpes portoricensis* | Pájaro carpintero | Nativo | Escuchado |
| | *Melopyrrha portoricensis* | Comeñame | Nativo | Escuchado |
| | *Patagioenas squamosa* | Paloma turca | Nativa | |
| | *Spindalis portoricensis* | Reina mora | Nativa | |
| | *Todus mexicanus* | San Pedrito | Nativo | |
| | *Tyrannus dominicensis* | Pitirre | Nativo | |
| | *Vireo altiloquus* | Julián chiví | Nativo | Escuchado |
| | *Zenaida asiatica* | Tórtola aliblanca | Nativa | |

Tabla 1. Listado de especies de animales documentadas de la zona estudiada.



Figura 3: Individuo de libélula antillana (Macrothemis celeno), especie presente en el área de estudio. La misma utiliza el Río Maricao y sus tributarios para completar su ciclo de vida.

## Hallazgos del inventario de flora:

| Familia Botánica | Nombre científico | Nombre común | Hábito de crecimiento | Origen |
|---|---|---|---|---|
| Acanthaceae | *Lepidagathis alopecuroidea* | Pata de gallina | Herbácea | Nativa |
| | *Odontonema cuspidatum* | Coral de jardín | Arbusto | Introducida |
| | *Ruellia blechum* | Yerba papagayo | Herbácea | Nativa |

| | | | | |
|---|---|---|---|---|
| | *Sanchezia parvibracteata* | Sanchezia | Arbusto | Introducida |
| | *Thunbergia alata* | Ojo de poeta | Trepadora | Introducida |
| | *Thunbergia grandiflora* | Trompeta blanca | Trepadora | Introducida |
| Amaranthaceae | *Iresine diffusa* | Velo de novia | Trepadora | Nativa |
| Anacardiaceae | *Mangifera indica* | Mangó | Árbol | Introducido |
| Araceae | *Anthurium scandens* | | Trepador | Nativo |
| | *Colocasia escuelenta* | Malanga | Herbácea erecta | Introducida |
| | *Dieffenbachia seguine* | Rábano | Herbácea erecta | Nativa |
| | *Epipremnum aureum* | Bejuco de agua | Trepador | Introducido |
| | *Philodendron consaguineum* | Calabazón | Trepadora | Nativo |
| | *Monstera deliciosa* | Monstera | Trepadora/Rastrera | Introducida |
| | *Syngonium podophyllum* | Malanga trepadora | Trepadora | Introducida |
| Araliaceae | *Didymopanax morototoni* | Yagrumo macho | Árbol | Nativo |
| Areacaceae | *Cocos nucifera* | Palma de coco | Palma | Introducida |
| | *Prestoea acuminata* var. *montana* | Palma de sierra | Palma | Nativa |
| | *Roystonea borinquena* | Palma real | Palma | Nativa |
| Aristolochiaceae | *Aristolochia ringens* | Flor de pelícano | Trepadora | Introducida |
| Asparagaceae | *Cordyline fruticosa* | Bayoneta | Arbusto | Introducida |
| | *Dracaena fragrans* | Cacomacaco | Arbusto | Introducida |
| | *Dracaena reflexa var. angustifolia* | | Arbusto | Introducida |
| Aspleniaceae | *Asplenium cuneatum* | | Helecho-Herbáceo | Nativo |
| | *Diplazium unilobum* | | Helecho-Herbáceo | Nativo |
| Asteraceae | *Bidens alba* | Margarita silvestre | Herbácea | Nativa |
| | *Bidens pilosa* | Margarita peluda | Herbácea | Nativa |
| | *Chromolaena odorata* | Santa María | Arbustiva | Nativa |
| | *Crassocephalum crepidioides* | | Herbácea | Introducida |
| | *Cyanthillium cinereum* | Rabo de buey | Herbácea | Introducida |
| | *Elephantopus mollis* | Lengua de vaca | Herbácea | Nativa |
| | *Emilia fosbergii* | Yerba socialista | Herbácea | Nativa |
| | *Emilia praetermissa* | | Herbácea | Nativa |
| | *Erechtites valerianifolius* | Chicoria | Herbácea | Nativa |
| | *Erigeron bellioides* | Bellorita | Herbácea | Nativa |
| | *Erigeron laevigatus* | Manzanilla silvestre | Herbácea | Nativa |
| | *Mikania cordifolia* | Guaco | Trepadora | Nativa |
| | *Melanthera nivea* | Cariaquillo blanco | Arbustiva | Nativa |
| | *Mikania micrantha* | Guaco | Trepadora | Nativa |
| | *Neurolaena lobata* | | Herbácea | Nativa |
| | *Pseudelephantopus spicatus* | Lengua de vaca | Herbácea | Nativa |
| | *Sphagneticola trilobata* | Margarita de playa | Herbácea | Introducida |
| | *Synedrella nodiflora* | Cerbatana | Herbácea | Nativa |
| | *Tithonia diversifolia* | Girasol mejicano | Arbustiva | Introducida |
| | *Verbesina alata* | Capitaneja | Herbácea | Nativa |
| | *Youngia japonica* | | Herbácea | Introducida |
| Begoniaceae | *Begonia hirtella* | Begonia peluda | Herbácea | Introducida |
| Bignoniaceae | *Dolichandra unguis-cati* | Uña de gato | Trepadora | Nativa |
| | *Spathodea* | Tulipán africano | Árbol | Introducido |

| | | | | |
|---|---|---|---|---|
| | *campanulata* | | | |
| | *Tabebuia heterophylla* | Roble nativo | Árbol | Nativo |
| Bixaceae | *Bixa orellana* | Achiote | Árbol | Introducido |
| Blechnaceae | *Blechnum fragile* | | Helecho-Trepador | Nativo |
| | *Blechnum occidentale* | | Helecho-Herbáceo | Nativo |
| Bromeliaceae | *Guzmania monostachia* | | Herbácea | Nativa |
| | *Tillandsia recurvata* | Nido de gungulén | Herbácea | Nativa |
| Cactaceae | *Rhipsalis baccifera* | Barba de palo | Herbácea | Nativa |
| Campanulaceae | *Hippobroma longiflora* | Tibey blanco | Herbácea | Nativa |
| Cannaceae | *Canna indica* | Maraca | Herbácea | Nativa |
| Combretaceae | *Terminalia catappa* | Almendra tropical | Árbol | Introducida |
| Commelinaceae | *Callisia monandra* | Cohitre morado | Herbácea | Nativa |
| | *Commelina diffusa* | Cohitre | Herbácea | Nativa |
| | *Gibasis geniculata* | Cohitre blanco | Herbácea | Nativa |
| | *Tripogandra serrulata* | | Herbácea | Nativa |
| Cordiaceae | *Cordia alliodora* | Capá prieto | Árbol | Nativo |
| | *Cordia sulcata* | Moral | Árbol | Nativo |
| Costaceae | *Costus scaber* | Insulina | Herbácea | Introducida |
| Crassulaceae | *Kalanchoe pinnata* | Bruja | Herbácea | Introducida |
| Cucurbitaceae | *Cayaponia americana* | | Trepadora | Nativa |
| | *Momordica charantia* | Cundeamor | Trepadora | Introducido |
| Cyatheaceae | *Alsophila portoricensis* | Helecho arbóreo espinoso | Arborescente | Nativo |
| | *Cyathea arborea* | Camaroncillo | Arborescente | Nativo |
| | *Cyathea horrida* | Helecho arbóreo | Arborescente | Nativo |
| Cyperaceae | *Cyperus mindorensis* | | Herbáceo | Introducido |
| | *Cyperus odoratus* | | Herbáceo | Nativo |
| | *Rhynchospora pura* | Yerba estrella | Herbácea | Nativa |
| | *Rhynchospora radicans* | | Herbácea | Nativa |
| Dennstaedtiaceae | *Dennstaedtia bipinnata* | | Helecho-Herbáceo | Nativo |
| Dioscoreaceae | *Dioscorea alata* | Ñame | Trepador | Introducido |
| Dryopteridaceae | *Parapolystichum effusum* var. *efffusum* | | Helecho-Herbáceo | Nativo |
| | *Polystichopsis chaerophylloides* | | Helecho-Herbáceo | Nativo |
| Euphorbiaceae | *Codiaeum variegatum* | Crotón | Arbusto | Introducido |
| | *Euphorbia graminea* | | Herbácea | Introducida |
| | *Euphorbia heterophylla* | Leche vana | Herbácea | Nativa |
| | *Euphorbia hirta* | Lechecillo | Herbácea | Nativa |
| | *Euphorbia hypericifolia* | Lechera | Herbácea | Nativa |
| | *Sapium laurocerasus* | Tabaiba | Árbol | Nativo |
| Fabaceae | *Andira inermis* | Moca | Árbol | Nativo |
| | *Arachis repens* | Maní ornamental | Herbáceo | Introducido |
| | *Chamaecrista nictitans* | Tamarindillo | Herbácea | Nativa |
| | *Dalbergia monetaria* | | Trepadora | Nativa |
| | *Desmodium axillare* | Zarzabacoa | Herbácea | Nativa |
| | *Desmodium incanum* | Zarzabacoa | Herbácea | Nativa |
| | *Erythrina poeppigiana* | Brucayo | Árbol | Introducido |
| | *Flemingia strobilifera* | | Arbustiva | Introducida |
| | *Inga laurina* | Guamá | Árbol | Nativo |
| | *Inga vera* | Guaba | Árbol | Nativo |
| | *Macroptilium lathyroides* | Habichuela parada | Herbácea-Escandente | Nativa |
| | *Senna hirsuta* | Hedionda | Herbácea | Nativa |
| Gleicheniaceae | *Sticherus ferrugineus* | Helecho bifurcado | Helecho- | Nativo |

| | | | | |
|---|---|---|---|---|
| | | | Trepador/Rastrero | |
| Heliconiaceae | *Heliconia bihai* | Bijao | Herbácea-Arbustiva | Nativa |
| | *Heliconia caribaea* | Bijao | Herbácea-Arbustiva | Nativa |
| | *Heliconia wagneriana* | Heliconia | Herbácea-Arbustiva | Introducida |
| Hypoxidaceae | *Hypoxis decumbens* | Coquí | Herbácea | Nativa |
| | *Molineria capitulata* | | Herbácea | Introducida |
| Iridaceae | *Trimezia steyermarkii* | Iris del caminante | Herbácea | Introducida |
| Lamiaceae | *Clerodendrum chinense* | Flor de muerto | Arbustiva | Introducida |
| | *Clerodendrum quadriloculare* | | Arbusto | Introducido |
| | *Coleus scutellarioides* | Vergüenza | Herbácea | Introducida |
| | *Hyptis capitata* | Botoncillo | Herbácea | Nativa |
| | *Mesosphaerum pectinatum* | Marubio | Herbáceo-Arbustivo | Nativo |
| Lauraceae | *Persea americana* | Aguacate | Árbol | Introducido |
| Linderniaceae | *Torenia crustacea* | | Herbácea | Introducida |
| Lythraceae | *Cuphea strigulosa* | | Herbácea | Nativa |
| | *Lagerstroemia speciosa* | Reina de las flores | Árbol | Introducida |
| Malvaceae | *Hibiscus x archeri* | Hibisco | Arbusto | Introducido |
| | *Malvaviscus penduliflorus* | | Arbusto | Introducido |
| | *Sida rhombifolia* | Escobilla | Herbácea | Nativa |
| | *Theobroma cacao* | Cacao | Árbol | Introducido |
| | *Triumfetta semitriloba* | Cadillo de perro | Herbácea | Nativa |
| | *Urena lobata* | Cadillo | Herbácea | Nativa |
| Marattiaceae | *Danaea nodosa* | | Helecho-Herbáceo | Nativo |
| Marcgraviaceae | *Marcgravia rectiflora* | Bejuco de lira | Trepadora | Nativa |
| Melastomataceae | *Heterotis rotundifolia* | | Herbácea | Introducida |
| | *Miconia crenata* | Camasey peludo | Herbácea-Arbustiva | Nativa |
| | *Miconia impetiolaris* | Camasey de costilla | Arbusto | Nativa |
| | *Miconia laevigata* | Camasey | Arbusto | Nativa |
| | *Miconia prasina* | Camasey | Arbusto | Nativa |
| | *Miconia racemosa* | Camasey | Arbusto | Nativa |
| | *Miconia serrulata* | Camasey | Arbusto | Nativa |
| | *Miconia umbellata* | Camasey aterciopelado | Arbusto | Nativa |
| | *Nepsera aquatica* | Camasey enano | Herbácea | Nativa |
| | *Pleroma sp.* | Tibuchina | Arbustiva | Introducida |
| Meliaceae | *Guarea guidonia* | Guaraguao | Árbol | Nativo |
| Musaceae | *Musa acuminata* | Guineo | Herbácea | Introducida |
| Myrtaceae | *Myrcia deflexa* | Cieneguillo | Árbol | Nativo |
| | *Myrcia splendens* | Hoja menuda | Árbol | Nativo |
| | *Syzygium malaccense* | Pomarrosa | Árbol | Introducido |
| Ochnaceae | *Sauvagesia erecta* | | Herbácea | Nativa |
| Onagraceae | *Ludwigia octovalvis* | Clavito | Herbácea | Nativa |
| Oxalidaceae | *Oxalis barrelieri* | Trebolillo | Herbácea | Nativa |
| | *Oxalis debilis* | Vinagrillo | Herbácea | Nativa |
| Papaveraceae | *Bocconia frutescens* | Pan cimarrón | Arbusto | Nativo |
| Petiveriaceae | *Trichostigma octandrum* | Bejuco de paloma | Trepador | Nativo |
| Phyllanthaceae | *Phyllanthus urinaria* | | Herbácea | Introducida |
| Piperaceae | *Peperomia rotundifolia* | Peperomia | Herbácea | Nativa |
| | *Peperomia serpens* | Peperomia | Herbácea | Nativa |
| | *Piper aduncum* | Higuillo | Arbusto | Nativo |
| | *Piper amalago* | Higuillo | Arbusto | Nativo |
| | *Piper glabrescens* | Higuillo | Arbusto | Nativo |

| | | | | |
|---|---|---|---|---|
| | *Piper hispidum* | Higuillo | Arbusto | Nativo |
| | *Piper umbellatum* | Baquiña abierta | Arbusto | Nativo |
| Plantaginaceae | *Mecardonia procumbens* | | Herbácea | Nativa |
| | *Plantago major* | Llantén | Herbácea | Introducida |
| Poaceae | *Bambusa vulgaris* | Bambúa | Herbácea lignificada arborescente | Introducida |
| | *Pennisetum purpureum* | Yerba elefante | Herbácea | Introducida |
| | *Ichnanthus pallens* | Carruzo | Herbácea | Nativa |
| | *Lasiacis divaricata* | | Herbácea | Nativa |
| | *Sorghum halepense* | Yerba Johnson | Herbácea | Introducida |
| Polygalaceae | *Polygala paniculata* | | Herbácea | Nativa |
| Polypodiaceae | *Campyloneurum phyllitidis* | | Helecho-Herbáceo | Nativo |
| | *Microgramma lycopodioides* | | Helecho-Herbáceo | Nativo |
| | *Microgramma piloselloides* | | Helecho-Herbáceo | Nativo |
| | *Phlebodium pseudoaureum* | | Helecho-Herbáceo | Nativo |
| | *Pleopeltis astrolepis* | | Helecho-Herbáceo | Nativo |
| Primulaceae | *Parathesis crenulata* | Rasca-garganta | Arbusto | Nativo |
| Pteridaceae | *Adiantum latifolium* | | Helecho-Herbáceo | Nativo |
| | *Adiantum pyramidale* | | Helecho-Herbáceo | Nativo |
| | *Nephrolepis brownii* | Helecho espada | Helecho-Herbáceo | Introducido |
| | *Pityrogramma calomenlanos* | | Helecho-Herbáceo | Nativo |
| Rhamnaceae | *Gouania polygama* | Bejuco de sopla | Trepador | Nativo |
| Rosaceae | *Rubus rosifolius* | Frambuesa de montaña | Arbusto escandente | Introducida |
| Rubiaceae | *Coffea arabica* | Café | Arbusto | Introducido |
| | *Diodia sarmentosa* | | Trepadora | Nativa |
| | *Gonzalagunia hirsuta* | Mariposera | Herbácea | Nativa |
| | *Hamelia patens* | Bálsamo | Arbusto | Nativo |
| | *Neolamarckia cadamba* | Kadam | Árbol | Introducido |
| | *Richardia* | | Herbácea | Nativa |
| | *Spermacoce ocymifolia* | | Herbácea | Nativa |
| | *Spermacoce remota* | | Herbácea | Nativa |
| Rutaceae | *Zanthoxylum martinicense* | Espino rubial | Árbol | Nativo |
| Salicaceae | *Casearia sylvestris* | Cafeíllo | Arbusto | Nativo |
| Sapindaceae | *Cupania americana* | Guara | Árbol | Nativo |
| Solanaceae | *Browallia americana* | Margarita morada | Herbácea | Nativa |
| | *Brugmansia suaveolens* | Campana | Arbusto | Introducido |
| | *Brunfelsia pauciflora* | Ayer, hoy y mañana | Arbusto | Introducido |
| | *Cestrum macrophyllum* | Galán de monte | Arbusto | Nativo |
| | *Solanum americanum* | Mata gallina | Herbácea | Nativa |
| | *Solanum torvum* | Berenjena cimarrona | Arbustiva | Nativa |
| Thelypteridaceae | *Amauropelta balbisii* | | Helecho-Herbáceo | Nativo |
| | *Amauropelta germaniana* | | Helecho-Herbáceo | Nativo |
| | *Christella dentata* | | Helecho-Herbáceo | Introducido |
| | *Christella normalis* | | Helecho-Herbáceo | Nativo |
| | *Macrothelypteris torresiana* | | Helecho-Herbáceo | Introducido |
| | *Meniscium angustifolium* | Palmita de río | Helecho-Herbáceo | Nativo |

| | | | | |
|---|---|---|---|---|
| | *Meniscium reticulatum* | | Helecho-Herbáceo | Nativo |
| Urticaceae | *Cecropia schreberiana* | Yagrumo hembra | Árbol | Nativo |
| | *Phenax sonneratii* | | Herbácea | Introducida |
| | *Pilea inaequalis* | | Herbácea | Nativa |
| | *Pilea microphylla* | Madreperla | Herbácea | Nativa |
| | *Pilea nummulariifolia* | | Herbácea | Nativa |
| | *Pilea semidentata* | | Herbácea | Nativa |
| | *Urera baccifera* | Ortiga brava | Arbusto | Nativa |
| Verbenaceae | *Lantana camara* | Cariaquillo | Arbusto | Nativo |
| | *Stachytarpheta cayennensis* | Verbena | Herbácea-semileñosa | Nativa |
| Vitaceae | *Cissus verticillata* | Bejuco de caro | Trepador | Nativo |

Tabla 2: Listado del inventario florístico en el área de estudio. Las especies están organizadas por orden alfabético según la familia botánica a la que pertenecen.

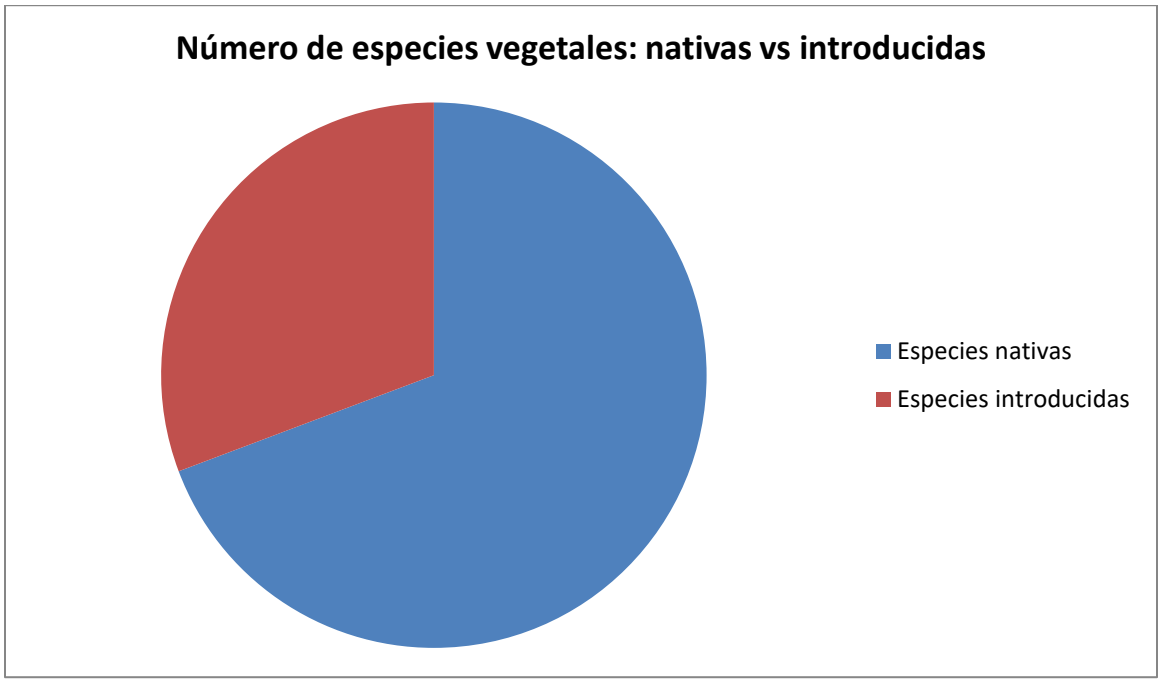



Figura 4: Comparación de número de especies nativas encontradas (142) vs el número de especies introducidas observadas (63).



Figura 5: *Browallia americana*, una especie nativa en la familia de la papá y el tomate, Solanaceae, que ocurre en los márgenes de los caminos y la carretera,

## 5. Discusión

En este inventario de fauna se confirmó la presencia de 30 especies de animales pertenecientes a 25 familias taxonómicas distintas (Tabla 1). De las especies observadas, 28 (93.33%) son nativas/endémicas, el restante corresponde a especies introducidas. De igual manera, las observaciones están dominadas por especies de vertebrados; 19 (63.33%) y dentro de este grupo, las especies ornitológicas (aves) fueron las más prevalentes en el momento de hacer el monitoreo. Contrario de lo que pasa con la flora, las comunidades de animales no son estáticas al momento de hacer el monitoreo. Esto lo que quiere decir es que existen fluctuaciones en la composición y cantidad de individuos presentes en el predio de estudio en un momento dado. A su vez, factores ambientales pueden influir o alterar estas comunidades. Por esta razón enfatizo que los resultados del monitoreo de fauna es un solo representativo de las condiciones y horarios a los cuales se llevó a cabo.

En relación al inventario florístico, se lograron documentar 205 especies de plantas en 70 familias botánicas. La familia botánica con mayor representantes en el predio, lo es la familia de la margarita y el girasol, Asteraceae, que tuvo 21 taxones (10.24%) representados en el área de estudio. A pesar de que la cantidad de especies de plantas nativas duplica aquella de especies introducidas (Tabla 3), esto no refleja la incidencia y la composición de comunidades en el área de estudio. Es decir, la frecuencia de especies introducidas y naturalizadas puede, en ocasiones, superar la incidencia de especies nativas, particularmente en zonas de constante disturbio tales como: áreas próximas a viviendas, márgenes de caminos, áreas de constante tránsito (vehículos o transeúntes), etc. El dosel de bosque secundario nativo se ve reflejada en el área de estudio en la forma de: *Guarea guidonia, Inga vera, Cecropia schreberiana, Roystonea borinquena* y *Tabebuia heterophylla*. Esta es seguida por una transición de individuos de porte bajo, en su mayoría arbustos o especies arbustivas. Esta composición está representada por especies tales como: *Miconia prasina, Miconia umbellata, Cyathea arborea* y *Cyathea horrida*. Por último, está el sotobosque que cuenta con mayor diversidad de especies que los niveles anteriores. Esto se debe a la gran cantidad de especies herbáceas que buscan colonizar los espacios perturbados del suelo boscoso o el margen ripario. Es aquí, donde comunidades de especies introducidas y naturalizadas son más evidentes. En los márgenes de la carretera o caminos, especies tales como: *Phenax sonneratii*, *Rubus rosifolius* y *Heterotis rotundifolia* crean parchos que disrumpen con las comunidades de especies nativas. En la zona riparia, particularmente en áreas marginales, las especies: *Odontonema cuspidatum*, *Colocasia esculenta* y *Clerodendrum chinense* se establecen y desplazan la flora nativa. Quizás el nicho ecológico menos impactado en el área de estudio lo son las epífitas. Los espacios colonizados por plantas epífitas

parecen ser dominados por especies nativas, con excepción de aquellos árboles que están sirviendo de soporte para especies trepadoras introducidas, por ejemplo, *Thunbergia grandiflora*.

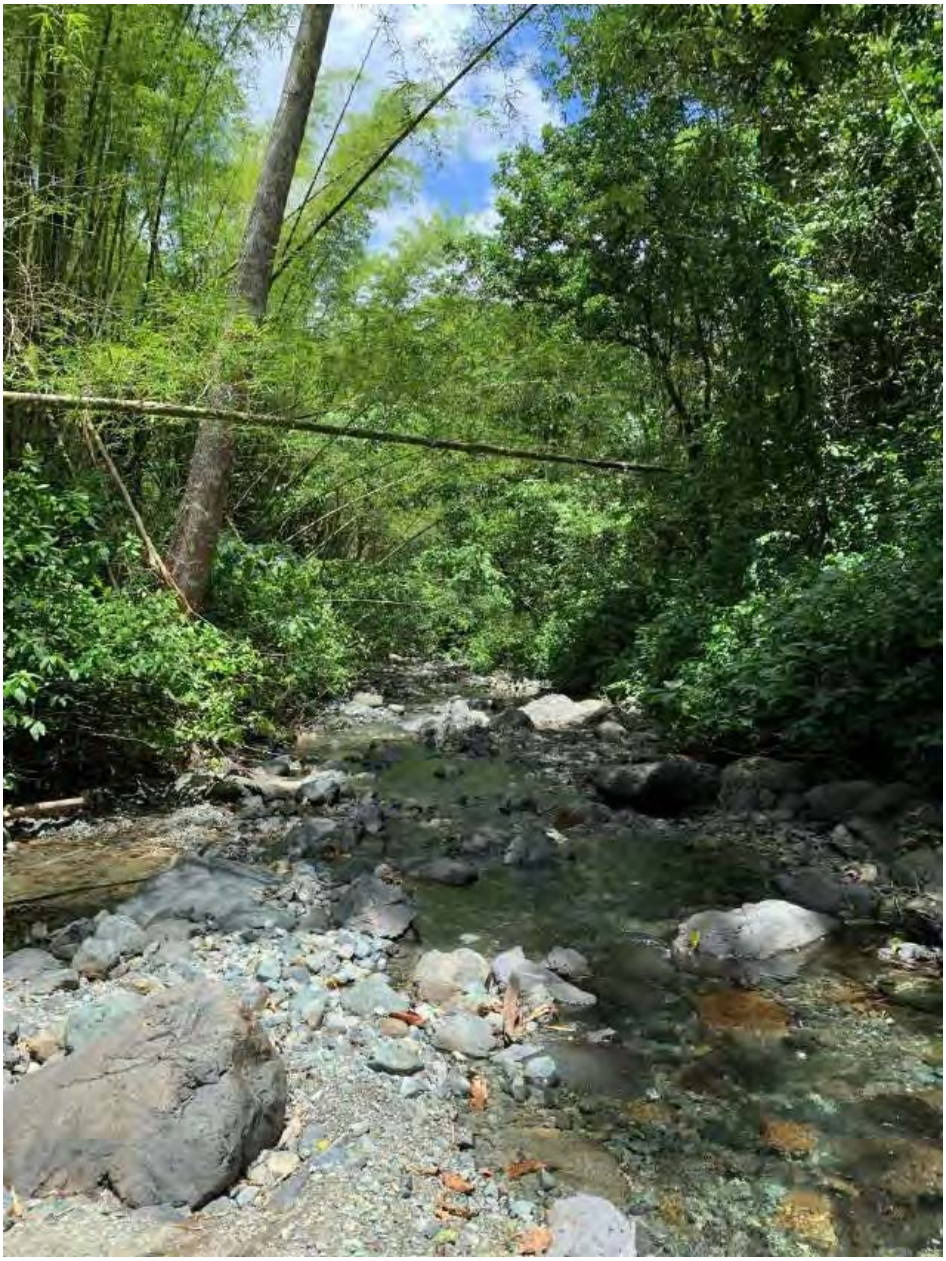


Figura 5: Comunidades presentes en el margen ripario del área estudiada. La composición observada incluye tanto especies nativas: *Cecropia schreberiana*, *Dalbergia monetaria* y *Guara guidonia*; como especies introducidas: *Bambusa vulgaris*, *Brugmansia suaveolens* y *Odontonema cuspidatum*.

## 6. Conclusiones

Dado a las observaciones y censos realizados, se concluye que los terrenos contemplados para el

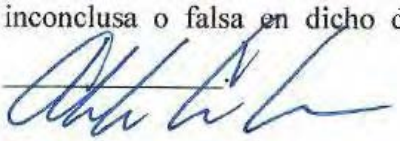
desarrollo del proyecto en la carretera PR-140, Maricao Afuera, Maricao 00637 representan una composición de bosque secundario asociado a un sistema ripario que ha sido perturbado por la actividad humana. Este disturbio explica la presencia de comunidades, tanto vegetales como animales, introducidas y naturalizadas. Sin embargo, se destaca que en el recorrido de poco menos de 1.5kms se documentó un total de 235 especies. Esta cifra pudiera aumentar dependiendo del momento donde se realice el inventario, particularmente en el renglón de invertebrados. Cabe mencionar que en estos monitoreos no se detectaron elementos críticos o especies cobijadas por algún tipo de protección legal, estatal y/o federal (DRNA 2000).

## 7. Recomendaciones y comentarios adicionales

Dado a que un inventario de flora y fauna consiste en muestrear un área en un momento determinado del año, el inventario solo puede cubrir las especies presentes en ese instante. Para un entendimiento más completo de las comunidades y especies que utilizan el área propuesta para el proyecto, sería óptimo realizar varios inventarios a lo largo del año. Considerando la existencia de especies migratorias y la cercanía del área estudiada al Bosque Estatal de Maricao, no puede descartarse la posibilidad de que algunas de estas especies visiten el predio y sumen así a la biodiversidad que puede apreciarse en el área. De igual manera, se puede presentar el caso para especies de invertebrados y plantas que tienen un ciclo de vida corto (menos de un año) y que pueden o no estar presentes en el predio en determinados meses.

## 8. Certificación

Yo, Alejandro Cubiñá, certifico que he completado y revisado este documento ambiental. La misma fue preparada por el equipo compuesto por: Octavio Rivera Hernández y el firmante. Certifico que toda la información vertida en el documento ambiental es CIERTA, CORRECTA Y COMPLETA a mi mejor saber y entender. AFIRMO Y RECONOZCO las consecuencias de incluir y someter información incompleta, inconclusa o falsa en dicho documento, y para que así conste, firmo la presente certificación, hoy día



Firma:

## 9. Literatura Citada


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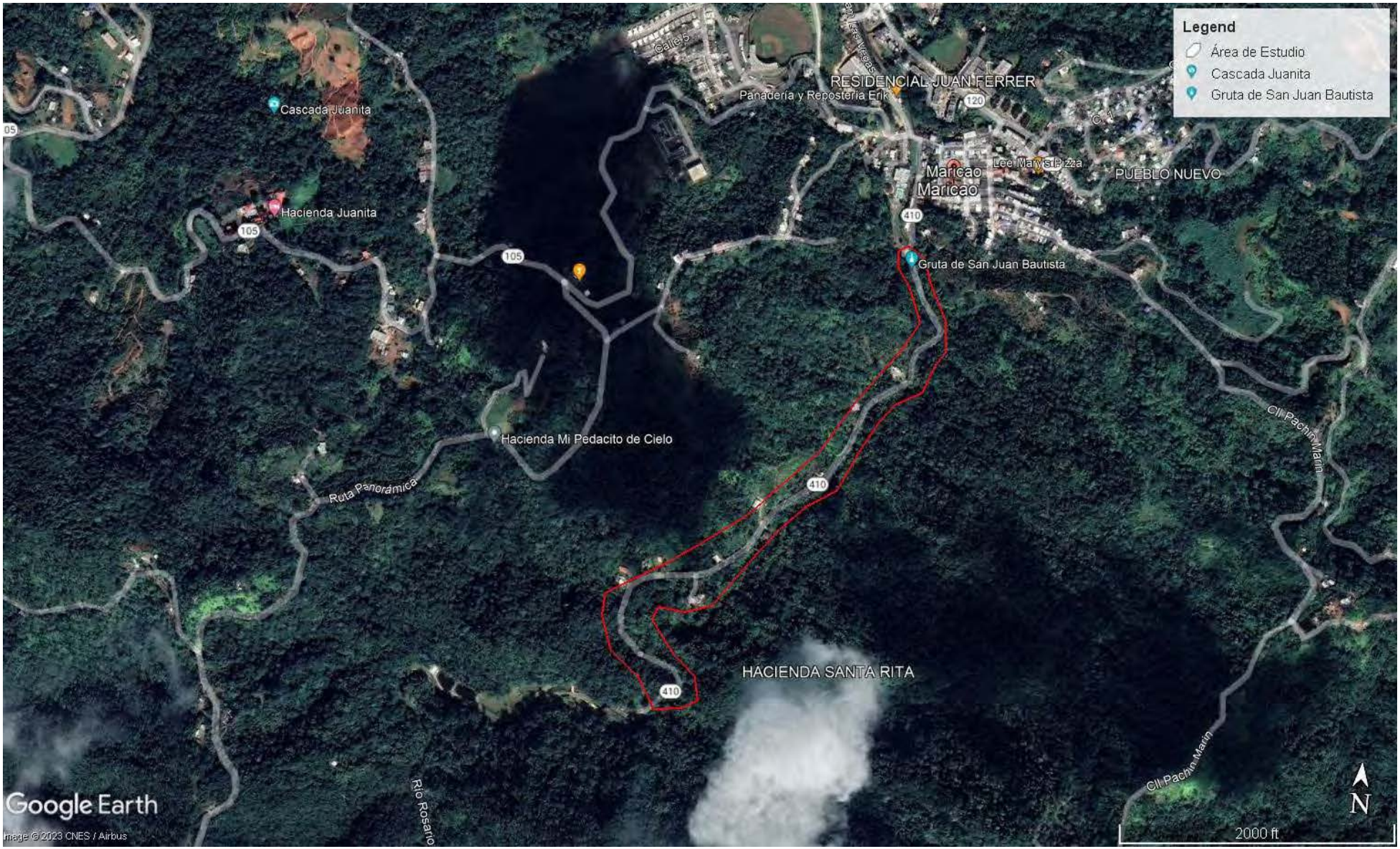
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Anejo 1. Área de estudio.



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# PASEO HATCHERY

## PROJECT PR-CRP-000721

STATE ROAD PR 410, KM. 3.0 - KM. 4.5, MARICAO, PR

90% PROGRESS SET - AUG/09/2023

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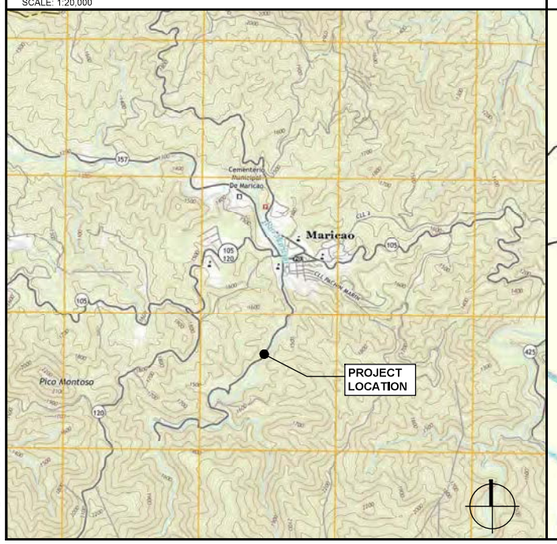
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## TOPOGRAPHIC MAP

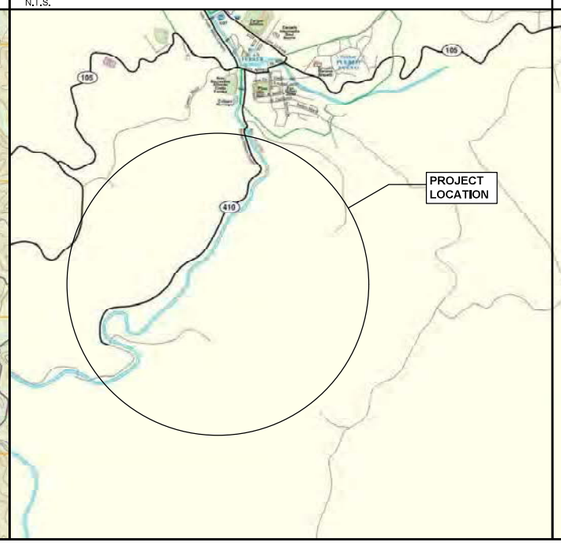
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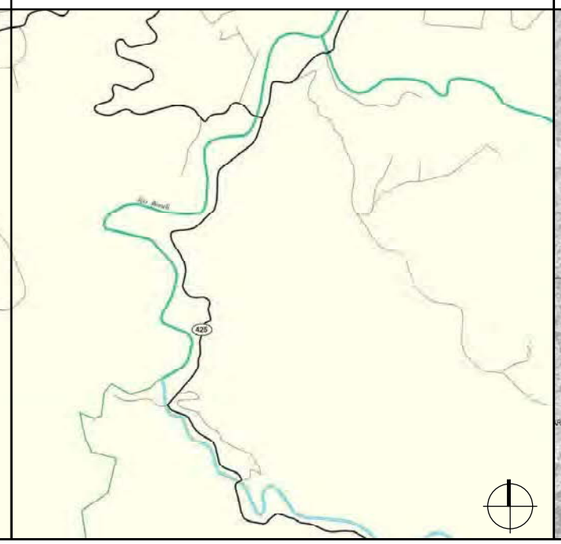



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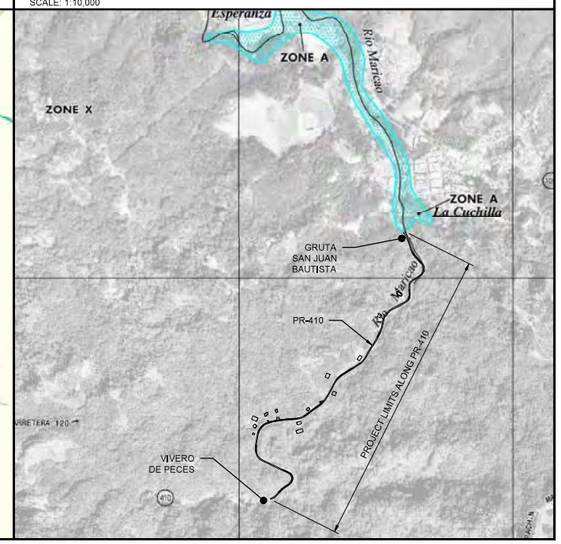

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## GENERAL NOTES

1. CONTRACTOR SHALL ASSURE ALL REQUIRED PERMITS PRIOR TO BEGINNING ANY EARTH MOVEMENTS OR EXCAVATIONS IN THE PROJECT. BEFORE ANY EXCAVATION CONTRACTOR SHALL NOTIFY "CENTRO DE COORDINACION DE EXCAVACIONES Y DEMOLICIONES" HTTP://DDED.DTOP.GOV.PR/EXC/, TELEPHONES: 787-722-2929, X 12277, 12274, 12400, 12513.

2. THE CONTRACTOR SHALL PROVIDE ADEQUATE COFFERDAM OR PROTECTION SYSTEM FOR THE EXCAVATIONS, FOR THE STORM SEWER PIPES AND STRUCTURES CONSTRUCTION, AS TO AVOID ANY ACCIDENT OR SLIDING OF EARTH IN THE PROJECT. EXCAVATION OF TRENCHES MUST BE SUFFICIENTLY WIDE TO ENABLE INSTALLATION AND ALLOW INSPECTION. ALL CONSTRUCTION AND OSHA SAFETY REGULATIONS MUST BE FOLLOWED AT ALL TIMES. CONTRACTOR SHALL COMPLY TO THE FULLEST EXTENT THE LATEST STANDARDS OF OSHA DIRECTIVES OR ANY OTHER AGENCY HAVING JURISDICTION FOR EXCAVATION AND TRENCHING PROCEDURES. THE CONTRACTOR SHALL PROVIDE ALL SUPPORT SYSTEMS, SLOPING, BENCHING, AND OTHER MEANS OF PROTECTION. THIS IS TO INCLUDE, BUT NOT LIMITED TO ACCESS AND EGRESS FROM ALL EXCAVATION AND TRENCHING. CONTRACTOR IS RESPONSIBLE TO COMPLY WITH PERFORMANCE CRITERIA FOR OSHA.

3. SHORING SHALL BE USED IN OPEN TRENCHES WITHIN 1.5 METERS (ANY DIRECTION) OF LIGHT OR POWER POLES, 7.0 METERS OF TOWERS, AND WITHIN 45° BEARING SPLAY OF ANY STRUCTURE UNLESS OTHERWISE NOTED. THE CONTRACTOR SHALL DESIGN THE SHORING TO ACCOUNT FOR ADDITIONAL SURCHARGE LOADS OF THE POLE, TOWER, OR STRUCTURE FOUNDATIONS ACTING ON THE SHORING. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR DESIGNING ALL SHORING AND FOR PROTECTING ALL ELECTRICAL AND TELECOMMUNICATIONS POLES AND TOWERS.

4. THE CONTRACTOR SHALL ABIDE BY ALL APPLICABLE DNER, NSF, EQB, AWWA, USACE AND OGPE STANDARDS FOR INSTALLING STORM SEWER PIPELINES.

5. UPON COMPLETION OF CONSTRUCTION, FINISHED GRADES WILL BE BROUGHT BACK TO PRE-CONSTRUCTION CONDITIONS UNLESS APPROVED BY THE PROPERTY OWNER OR NOTED ON THE PLANS. FENCES, GATES, ROADWAYS, DRIVES, GROUND SURFACES, ETC., SHALL BE LEFT IN A CONDITION EQUAL TO OR BETTER THAN THAT FOUND BEFORE CONSTRUCTION. COORDINATE WITH THE PROPERTY OWNERS.

6. ALL IMPACTED FENCES AND OR STRUCTURES SHALL BE REINSTALLED IN ORIGINAL LOCATION AND OF SAME TYPE UNLESS OTHERWISE SHOWN ON PLANS DIRECTED OR BY THE ENGINEER.

7. IF CONTRACTOR ENCOUNTERS WET OR SEEPING SOIL CONDITIONS IN TRENCH OR CONDITIONS INDICATING THE POSSIBLE LOCATION OF SINKHOLE. CONTRACTOR SHALL NOTIFY ENGINEER AND NOT PROCEED WITH PIPE INSTALLATION IN THIS AREA UNTIL DIRECTION ON HOW TO PROCEED IS RECEIVED FROM THE ENGINEER. IF GROUNDWATER IS ENCOUNTERED, CONTRACTOR SHALL TAKE MEASURES TO PREVENT AND TO NOT PROMOTE THE MIGRATION OF THE GROUNDWATER IN THE TRENCH EXCAVATION AND PIPE EMBEDMENT ZONE. CONTRACTOR IS RESPONSIBLE FOR DEWATERING COSTS IF DEEMED NECESSARY.

8. DISCOVERY OF UNSUITABLE SOILS OR ROCK MUST BE IMMEDIATELY REPORTED TO THE OWNER, OWNER REPRESENTATIVE, AND ENGINEER. ALL EARTHWORK OPERATION IN THIS AREA MUST NOT PROCEED UNTIL PROJECT GEOTECHNICAL ENGINEER REVIEWS THE AREA AND THE OWNER RELEASES THE CONTRACTOR TO PROCEED.

9 CONTRACTOR SHALL PROVIDE ALL MAINTENANCE AND PROTECTION OF TRAFFIC DURING THE EXECUTION OF THE CONTRACTOR'S WORK. THE CONTRACTOR SHALL PROVIDE ALL THE SAFETY MEASUREMENTS TO AVOID HAZARDOUS CONDITIONS DURING THE CONSTRUCTION PERIOD. SAFETY TRAFFIC AND CONSTRUCTION PLAN SHOULD BE SUBMITTED TO THE PROJECT MANAGER APPROVAL BEFORE ANY HAZARDOUS OR RISKY WORK IS STARTED.

10. NEW CONSTRUCTION SHALL MEET HORIZONTAL AND VERTICAL ALIGNMENTS OF EXISTING FACILITIES.

11. CONTRACTOR SHALL NOTIFY THE OCCURRENCE OF ANY CHANGES ON THE PIPING HORIZONTAL OR VERTICAL ALIGNMENT TO THE DESIGNER PRIOR TO MAKING THEM.

12. THE CONTRACTOR WILL ASSUME ALL RESPONSIBILITY FOR ANY PROPERTY OR PERSONAL DAMAGE OR LOSS, THAT MAY OCCUR, PRIVATE OR PUBLIC RELATED TO THE CONSTRUCTION OF THE PROJECT OR DURING THE CONSTRUCTION PROCESS, THE OWNER WILL BE RELIEVED BY THE CONTRACTOR FROM ANY LOSS OR DAMAGE CAUSED .

13. CONTRACTOR SHALL BE CAREFUL DURING THE CONSTRUCTION OPERATIONS IN ORDER TO PRESERVE ALL EXISTING TREES, PLANTS, BUSHES OR CROPS WITHIN THE PROJECT SITE HAVING NO INTERFERENCE.

14. CONTRACTOR SHALL PREPARE AN INVENTORY OF ALL TREES THAT REQUIRE CUTTING, PRUNING AND/OR REMOVAL AND CONSEQUENTLY PREPARE AND EXECUTE A TREE MITIGATION PLAN ACCORDING TO OGPE'S REGULATIONS.

15. THE CONTRACTOR SHALL PROTECT AND PRESERVE ALL EXISTING PROPERTY, PAVED AREAS, TREES, GRASS AND VEGETATION FROM CONSTRUCTION PERSONNEL TRAFFIC AND SHOULD KEEP THESE AREAS FREE FROM TRASH OR WEEDS.

16. CONTRACTOR SHALL SUBMIT TO THE RESIDENT ENGINEER INSPECTOR A DETAILED PLAN OF CONSTRUCTION, THAT WILL INCLUDE DEFINED STAGING AREAS AND TEMPORARY STORAGE AREAS TO BE USED TO PILE EXCAVATED MATERIALS OR SELECTED BACKFILL DUE TO SPACE LIMITATION IN THE AREA OF WORK.

17. THE CONTRACTOR SHALL ACQUIRE AT HIS OWN EXPENSE ALL TEMPORARY RIGHT OF WAY NECESSARY TO PERFORM HIS WORK, INCLUDING STAGING AREAS AND TEMPORARY FACILITIES.

18. CONTRACTOR SHALL COORDINATE WITH LUMA THE MINIMUM CLEARANCE REQUIRED FOR OVERHEAD POWER LINES. ANY WORK WITHIN THIS MINIMUM CLEARANCE DISTANCE IS STRICTLY PROHIBITED. IN THE EVENT THAT WORK NEAR THE POWER LINES, WITHIN THE CLEARANCE DISTANCE. IS REQUIRED, CONTRACTOR MUST COORDINATE WITH LUMA ENERGY THE DE-ENERGIZING OF THE POWER LINES ("VIA LIBRE") WHILE THE CONSTRUCTION ACTIVITIES ARE PERFORMED, AND ITS ASSOCIATED COST.

19. DETAILS OF CONSTRUCTION NOT SPECIFICALLY SHOWN SHALL BE CONSTRUCTED IN ACCORDANCE WITH DETAILS SHOWN FOR SIMILAR CONDITIONS AND MATERIALS, AND IN ACCORDANCE WITH ACCEPTED PUERTO RICO STANDARDS.

20. THE OWNER SHALL RETAIN A QUALIFIED PROFESSIONAL TO OBSERVE THE CONSTRUCTION IN ORDER TO VERIFY THAT THE PROJECT IS BEING CONSTRUCTED IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS.

21. ALL DISTANCES AND ELEVATIONS ARE IN METERS UNLESS OTHERWISE NOTED.

22. COORDINATES AND ELEVATIONS ARE REFERRED TO THE STATE PLANE COORDINATES SYSTEM FOR PUERTO RICO AND THE US VIRGIN ISLANDS, NAD 83.

23. THE CONTRACTOR IS RESPONSIBLE TO OBTAIN THE FOLLOWING PERMITS PRIOR TO COMMENCE WITH THE CONSTRUCTION.
    A. EROSION AND SEDIMENTATION CONTROL (CES)
    B. ATMOSPHERIC EMISSION (PFE)
    C. NON HAZARDOUS SOLID WASTE (DS-3)
    D. DISPOSAL OF HAZARDOUS WASTE
    E. DISCHARGE OF STORM WATER RUNOFF DURING CONSTRUCTION (NPDES)
    F. IN CASE OF REMOVAL AND DISPOSAL OF MATERIALS CONTAINING ASBESTOS AND LEAD PAINT, THE CONTRACTOR SHALL SUBMIT A PLAN FOR REMOVAL, MANAGEMENT AND DISPOSAL OF SUCH MATERIALS.
    G. OGPE INCIDENTAL PERMIT (PUI-IN SPANISH)

24. ALL EROSION AND SEDIMENTATION CONTROL DEVICES SHALL BE INSTALLED PRIOR TO COMMENCE WITH ANY EARTHWORK OR EXCAVATION AND MAINTAINED THROUGHOUT THE DURATION OF THE CONSTRUCTION.

25. THE SIZE AND LOCATION OF EXISTING UTILITIES SHOWN ON THE CONTRACT PLANS, BOTH ABOVE AND BELOW GROUND IS BASED ON AN EXAMINATION OF EXISTING PLANS AND THE RESULT OF FIELD INSPECTION. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING IN THE FIELD THE LOCATION AND SIZE OF ALL UTILITIES INCLUDING ELECTRIC, SANITARY, TELEPHONE, STORM SEWER AND WATER. NO EXTRA COMPENSATION WILL BE MADE TO THE CONTRACTOR FOR DISCREPANCIES BETWEEN THE SIZE AND LOCATION OF THE UTILITIES SHOWN ON THE PLANS AND THE UTILITIES AS DETERMINED BY HIS FIELD VERIFICATION. HOWEVER, ANY MAJOR CONFLICT THAT CANNOT BE RESOLVED IN THE FIELD SHALL BE NOTIFIED TO THE ENGINEER FOR ITS RESOLUTION. DAMAGES CAUSED TO EXISTING UTILITIES WITHIN THE PROJECT AREA SHALL BE REPAIRED BY CONTRACTOR AT NO COST TO THE OWNER.

26. THE CONTRACTOR SHALL VERIFY ALL HORIZONTAL AND VERTICAL CONTROLS.

27. ALL DEMOLITION TO BE PERFORMED BY THE CONTRACTOR ACCORDING TO SPEC. 202 REMOVAL OF STRUCTURES AND OBSTRUCTIONS UNLESS OTHERWISE NOTED.

28. IN CASE OF DOUBT IN THE INTERPRETATION OF ANY ASPECTS OF THESE DRAWINGS AND/OR SPECIFICATIONS THE ENGINEER SHALL BE CONSULTED.

29. CONTRACTOR SHALL COORDINATE WITH PRHTA (OFICINA DE CONTROL DE ACCESOS) THE CONSTRUCTION WORKS TO BE PERFORMED DURING SPECIAL EVENTS IN THE AREA. CONTRACTOR SHALL SUBMIT TO PRTHA (CONTROL ACCESOS) THE CONSTRUCTION SCHEDULE FOR REVISION AND TO COORDINATE THESE SPECIAL EVENTS.

30. THE MOT PLAN INCLUDED ON THIS SET WAS DESIGNED CONSIDERING PROPOSED ROAD IMPROVEMENTS TO PR 410. ANY CHANGES IN THE MOT PLANS SHALL BE SUBMITTED TO THE DESIGNER AND PRHTA FOR REVISION AND FINAL APPROVAL.

31. THE CONTRACTOR SHALL OBTAIN ALL THE PERMITS AND ENDORSEMENTS REQUIRED AND PAY ALL THE FEES REQUESTED BY LOCAL OR FEDERAL AGENCY, PRIOR THE CONSTRUCTION WORKS BEGINS AND/OR DURING THE CONSTRUCTION WORKS, AT NO ADDITIONAL COST TO THE OWNER.

32. THE CONSTRUCTOR IS RESPONSIBLE TO PAY THE COSTS ASSOCIATED TO THE LABORATORY TESTS REQUIRED FOR ALL THE MATERIALS AS PER SPECIFICATIONS AND DURING CONSTRUCTION THE COSTS INCLUDE SAMPLES,TRANSPORTATION, TECHNICAL SUPPORT, TESTS, LABORATORY EXPENSES, AND OTHERS.

33. THE CONTRACTOR SHALL NOTIFY THE SOIL ENGINEER AT LEAST THREE DAYS PRIOR TO COMPLETION OF EXCAVATIONS. NO FOUNDATION FILL OR CONCRETE SHALL BE DEPOSITED UNTIL THE SOIL BEARING CAPACITY IS VALIDATED BY THE GEOTECHNICAL ENGINEER.

34. IT IS THE CONTRACTOR'S RESPONSIBILITY TO RESTORE TO THE ORIGINAL CONDITION, DAMAGES MADE TO SIDEWALKS, CURBS, PAVEMENT OR PRIVATE PROPERTY OUTSIDE THE CONSTRUCTION LIMIT OR NOT INCLUDED IN THE SCOPE.

35. THE CONTRACTOR SHALL MAINTAIN ALL UTILITIES IN SERVICE AT ALL TIMES DURING THE CONSTRUCTION.

36. ALL METAL BARRIERS TO BE INSTALLED IN THIS PROJECT SHALL BE DONE AS MASH STANDARD DRAWINGS DATED JUNE 2018.

37. ALL DRAINAGE STRUCTURES. (PIPES, MANHOLES, INLETS, HEADWALLS) INDICATED TO REMAIN SHALL BE CLEANED AND REPAIRED AS PER SPEC. 632.

38. PAVEMENT MARKING SHALL BE AS PER SPEC. 618. PROPOSED PAVEMENT MARKING SHALL MATCH WITH EXISTING PAVEMENT MARKING OF THE ROADWAY.

39. ALL AREAS DISTURBED BY THE CONSTRUCTION SHALL BE GRADED AND FINISHED AS INDICATED ON PLANS OR AS DIRECTED BY THE ENGINEER.

40. FINAL ELEVATION FOR SETTING MANHOLE CASTINGS SHOULD BE BASED ON ACTUAL FINISHED GRADE OF SURFACE AT MANHOLE.

41. NEW CONSTRUCTION SHALL MEET HORIZONTAL AND VERTICAL ALIGNMENTS OF EXISTING ROADWAYS.

42. EQUIPMENT, MATERIALS AND OTHER DEVICES USED FOR CONSTRUCTION SHALL BE REMOVED FROM THE TRAFFIC LANES AFTER WORK HOURS, EVERY DAY AND SHALL BE STAGED A MINIMUM OF TEN METERS FROM THE TRAVELED WAY.

43. THE CONTRACTOR SHALL BE RESPONSIBLE TO KEEP ACCESS PAVED AT ALL TIME ADJACENT TO ALL PROPERTIES DURING THE PROJECT CONSTRUCTION. MAINTAIN PROTECT THROUGH LOCAL TRAFFIC WITHIN THE LIMITS OF THE PROJECT INCLUDING TRAFFIC ON ACCEPTANCE OF PROJECT. THIS TASK WILL REQUIRE COORDINATION WITH BUSINESSES AND PRIVATE OWNERS.

## PAVING, GRADING AND DRAINAGE NOTES

1. ALL SPOT ELEVATIONS WITHIN VEHICULAR CIRCULATION AREAS ARE AT THE EDGE OF PAVEMENT AND / OR THE TOP OF CURB, WHERE SOD IS APPLIED, FINISHED GRADE SHALL BE NOMINAL HEIGHT OF GRASS AFTER SOD IS FIRMLY PLACED.

2. CONCRETE PAVEMENT CONSTRUCTION AND JOINTING SHALL BE IN ACCORDANCE WITH ACI-330R. CONCRETE PAVING SHALL INCLUDE THE USE OF FULL DEPTH EXPANSION JOINTS CONTAINING PREMOLDED JOINT FILLER AT ALL MANHOLES, STORM SEWER STRUCTURES, BUILDINGS, SIDEWALKS, POWER POLES, OR OTHER PERMANENT STRUCTURES. COORDINATE FINISH AND PATTERNS WITH ARCHITECTURAL DRAWINGS. OTHERWISE, PROVIDE LIGHT BROOM FINISH.

3. ALL CONCRETE PAVING SUBJECT TO VEHICULAR TRAFFIC SHALL BE 4,000 PSI AT 28 DAYS, BROOM FINISH, MATERIALS AND WORKMANSHIP TO MEET OR EXCEED PRHTA SPECIFICATIONS FOR PORTLAND CEMENT CONCRETE PAVING.

4. PROVIDE ISOLATION JOINTS WITH THICKENED EDGE PAVEMENT AT CONNECTIONS TO EXISTING ASPHALT OR CONCRETE PAVING.

5. SUBGRADE FOR CONCRETE PAVING SHALL BE COMPACTED TO 95% STANDARD PROCTOR. COMPACTION AROUND STRUCTURES, MANHOLES AND STORM INLETS SHALL BE VERIFIED. PRIOR TO PLACING CONCRETE PAVING, THE SUBGRADE SHALL BE SMOOTH AND LEVEL, ANY WHEEL RUTS OR OTHER DISTURBANCES SHALL BE LEVELED, MOISTEN SUBGRADE PRIOR TO PLACING PAVEMENT.

6. SOD AND LANDSCAPING SHALL NOT IMPEDE THE FLOW OF RUN OFF FROM PAVED SURFACES. SOIL, GRASS AND PLANTING BEDS SHALL PROVIDE POSITIVE DRAINAGE AWAY FROM SIDEWALKS.

7. BEFORE REQUESTING FINAL INSPECTION BY THE ENGINEER AND BEFORE PLACING SOD, THE CONTRACTOR SHALL PROVIDE THE ENGINEER WITH A COMPLETE AS-BUILT SURVEY FROM A REGISTERED SURVEYOR, AS FOLLOWS:

   a. LOCATION AND FINISH FLOOR ELEVATION OF CONSTRUCTED STRUCTUES WITH TIES TO PROPERTY LINE,
   b. LOCATION AND ELEVATION OF PAVEMENT AT ELEVATION POINTS SHOWN ON PLANS, AND WHERE EXISTING PAVEMENT IS REPLACED OR OVERLAYED, AT SUFFICIENT POINT TO DETERMINE GRADE AND DRAINAGE PATTERNS.
   c. LOCATION AND ELEVATION OF WALKS, AND OTHER CONSTRUCTED IMPROVEMENTS SUCH AS DUMPSTER ENCLOSURES, MECHANICAL PADS, FENCING, ETC.
   d. PERIMETER, SLOPE BREAK AND BOTTOM ELEVATIONS OF ALL SWALES AND RETENTION AREAS.
   e. LOCATION, RIM/FLOW AND INVERT ELEVATIONS, TYPE AND SIZE OF ALL DRAINAGE STRUCTURES AND PIPES, INCLUDING WEIRS, ORIFICES AND OTHER APPURTENANCES.

8. ALL FILL MATERIAL SHALL MEET RECOMMENDATIONS SPECIFIED IN THE SOIL'S REPORT.

## SOURCES OF DATA

1. THE SURVEY PLAN WAS PREPARED BY JUAN TORRES, LIC. # 8765 .
2. THE GEOTECHNICAL REPORT PREPARED ON THE GEOTECHNICAL EXPLORATION PERFORMED AT THE PROPOSED PROJECT'S SITE BY * FORMS PART OF THE CONSTRUCTION DOCUMENTS. THE CONTRACTOR SHALL NOTIFY THE ENGINEER BEFORE CONTINUING WORK IF DISCREPANCIES ARE FOUND BETWEEN THE REPORT AND THE CONSTRUCTION DESIGN PLANS.

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JAMES@BAIGESPR.COM • (787) 399-0077

90% DESIGN SET
NOT FOR CONSTRUCTION

PROJECT: PR-CRP-000721

# PASEO LA GRUTA-VIVERO DE PECES

CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

GOBIERNO MUNICIPAL DE MARICAO

PASEO HATCHERY [PR-CRP-000721]

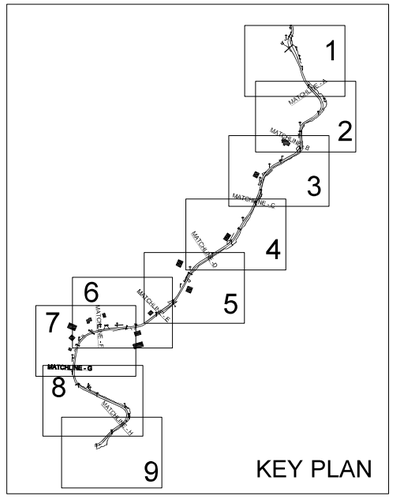
| NO. | DATE | DRAWING ISSUE | BY | APP. |
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DRAWN BY:
REVIEWED BY:
DATE: 05/23

SHEET TITLE: GENERAL NOTES

DRAWING NO.: G-001

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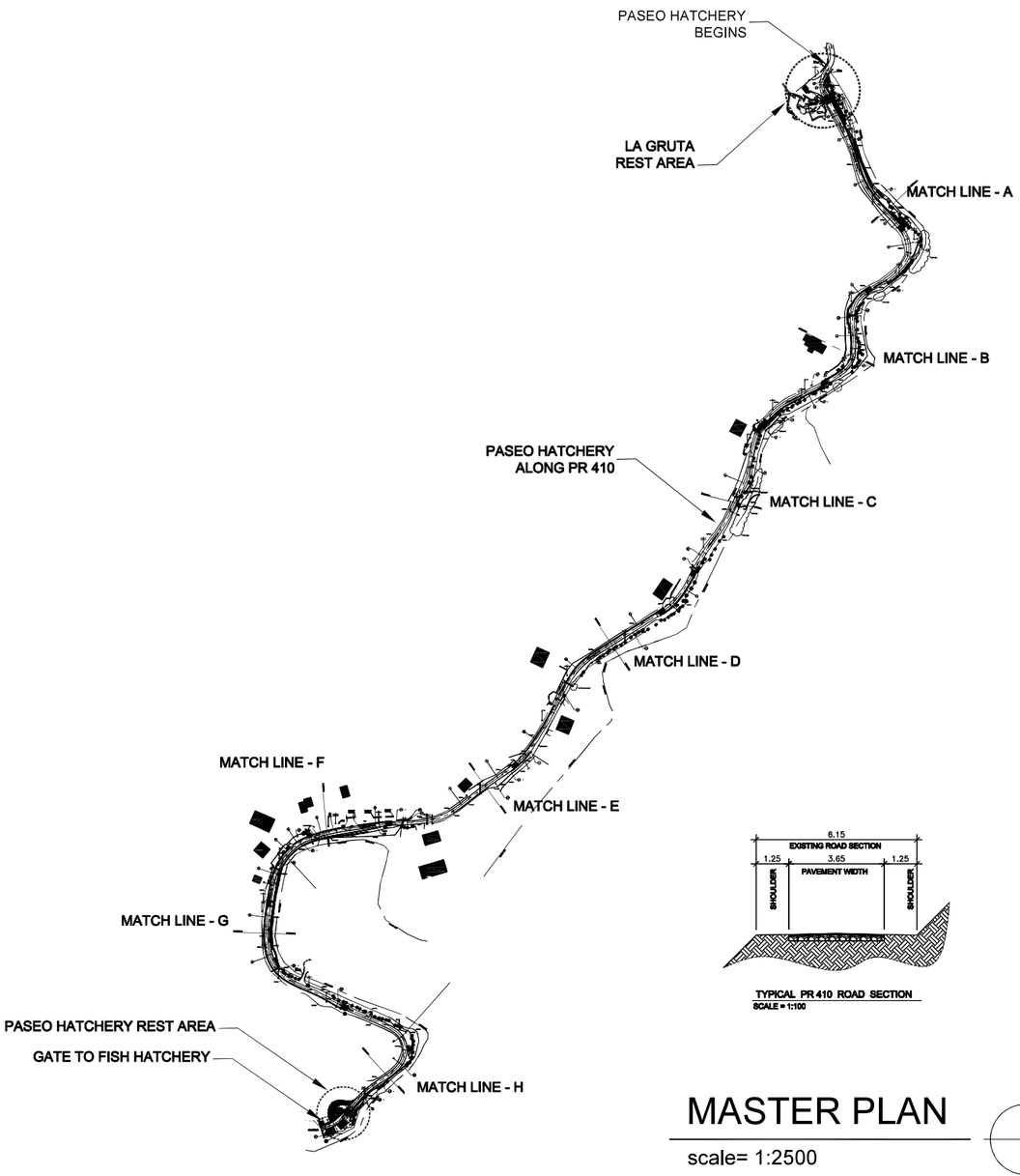

KEY PLAN

## EXISTING CONDITIONS LEGEND

| SYMBOL | DESCRIPTION |
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| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

0 5 10 30

SCALE = 1:300







TYPICAL PR 410 ROAD SECTION
SCALE = 1:100

# MASTER PLAN

scale= 1:2500

C&G
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JAMES@BAIGESGROUP.COM • (787) 399-0077

90% DESIGN SET
NOT FOR CONSTRUCTION

PROJECT: PR-CRP-000721

**PASEO LA GRUTA-VIVERO DE PECES**
CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.3

**GOBIERNO MUNICIPAL DE MARICAO**
PASEO HATCHERY [PR-CRP-000721]

| NO. | DATE | DRAWING ISSUE | BY | APP. |
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DRAWN BY:
REVIEWED BY:
DATE: 05/23

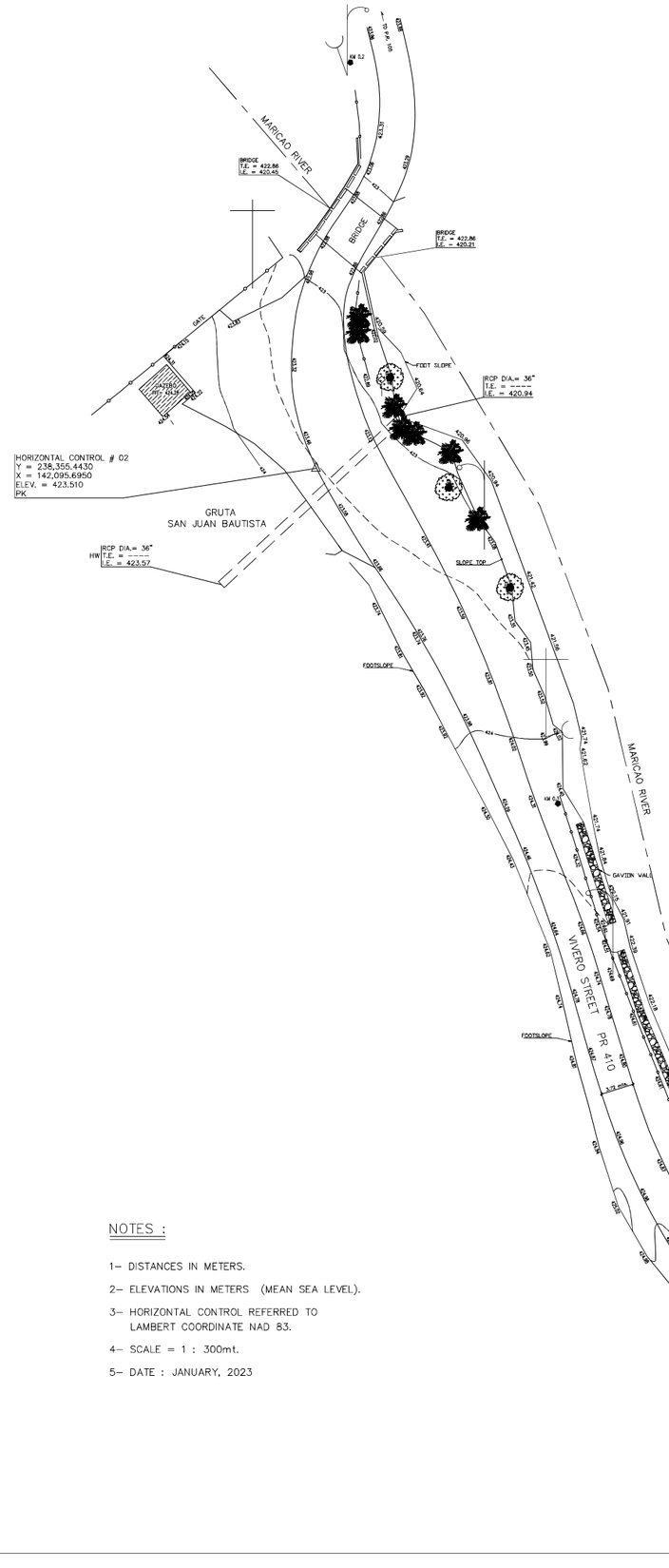
SHEET TITLE: MASTER PLAN
DRAWING NO.: G-100

NORTH

SCALE = 1 : 300

## LEGEND

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| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |




NOTES :

1– DISTANCES IN METERS.

2– ELEVATIONS IN METERS (MEAN SEA LEVEL).

3– HORIZONTAL CONTROL REFERRED TO LAMBERT COORDINATE NAD 83.

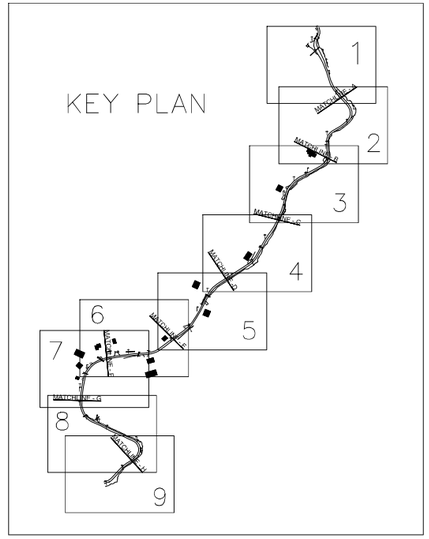
4– SCALE = 1 : 300mt.

5– DATE : JANUARY, 2023




LOCATION MAP

SCALE = 1 : 20,000




REVISIONS

| SYMBOL | DATE | BY |
|---|---|---|
| | | |

# AS BUILT & TOPOGRAPHY PLAN
# PROJECT PASEO HATCHERY
State Road No. 410 Km. 0.2
MARICAO PUERTO RICO

STAMP:
I CERTIFY CORRECT :
JUAN TORRES BERRIOS
ENGINEER LIC. NO. 8745, RPA

TECHNIGROUP
Riverside Park Street # No. B-4, Bayamon, P.R. 00961 – Tel. (787) 379-9500

Project:
DATE : 01/2023
SCALE : 1: 300

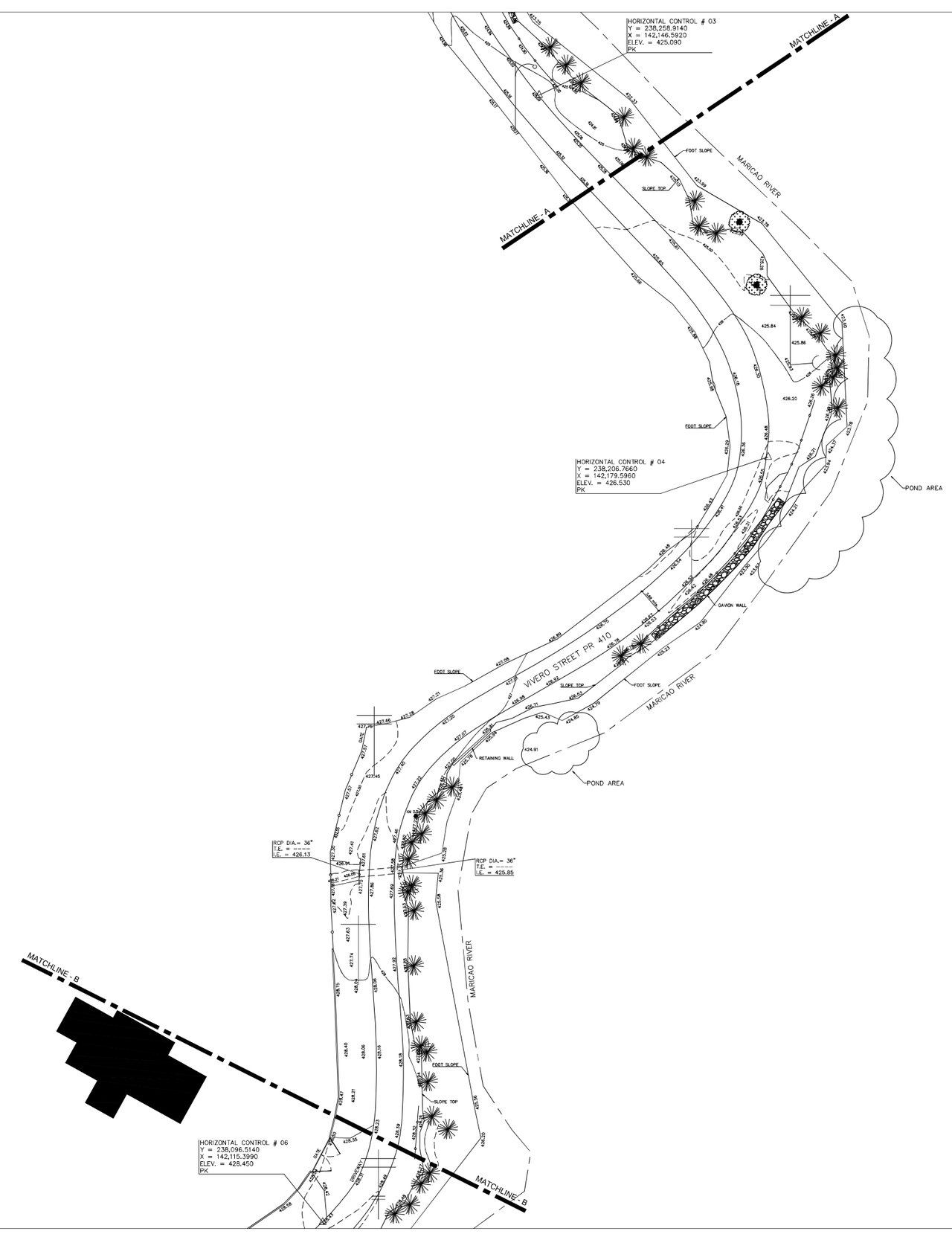
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NORTH

SCALE = 1 : 300

## LEGEND

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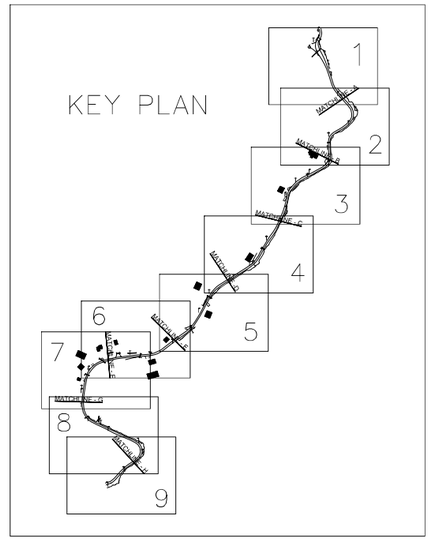






LOCATION MAP

SCALE = 1 : 20,000




NOTES :

1- DISTANCES IN METERS.

2- ELEVATIONS IN METERS (MEAN SEA LEVEL).

3- HORIZONTAL CONTROL REFERRED TO LAMBERT COORDINATE NAD 83.

4- SCALE = 1 : 300mt.

5- DATE : JANUARY, 2023

REVISIONS

| SYMBOL | DATE | BY |
|---|---|---|
| | | |

AS BUILT & TOPOGRAPHY PLAN
PROJECT PASEO HATCHERY
State Road No. 410 Km. 0.2
MARICAO PUERTO RICO

STAMP: CERTIFY CORRECT:
JUAN TORRES BERROS
ENGINEER LIC. NO. 8761, RPA

TECHNIGROUP
Riverside Pon. Street 4 No. B-4, Bayamon, P.R. 00961 - Tel. (787) 379-8500

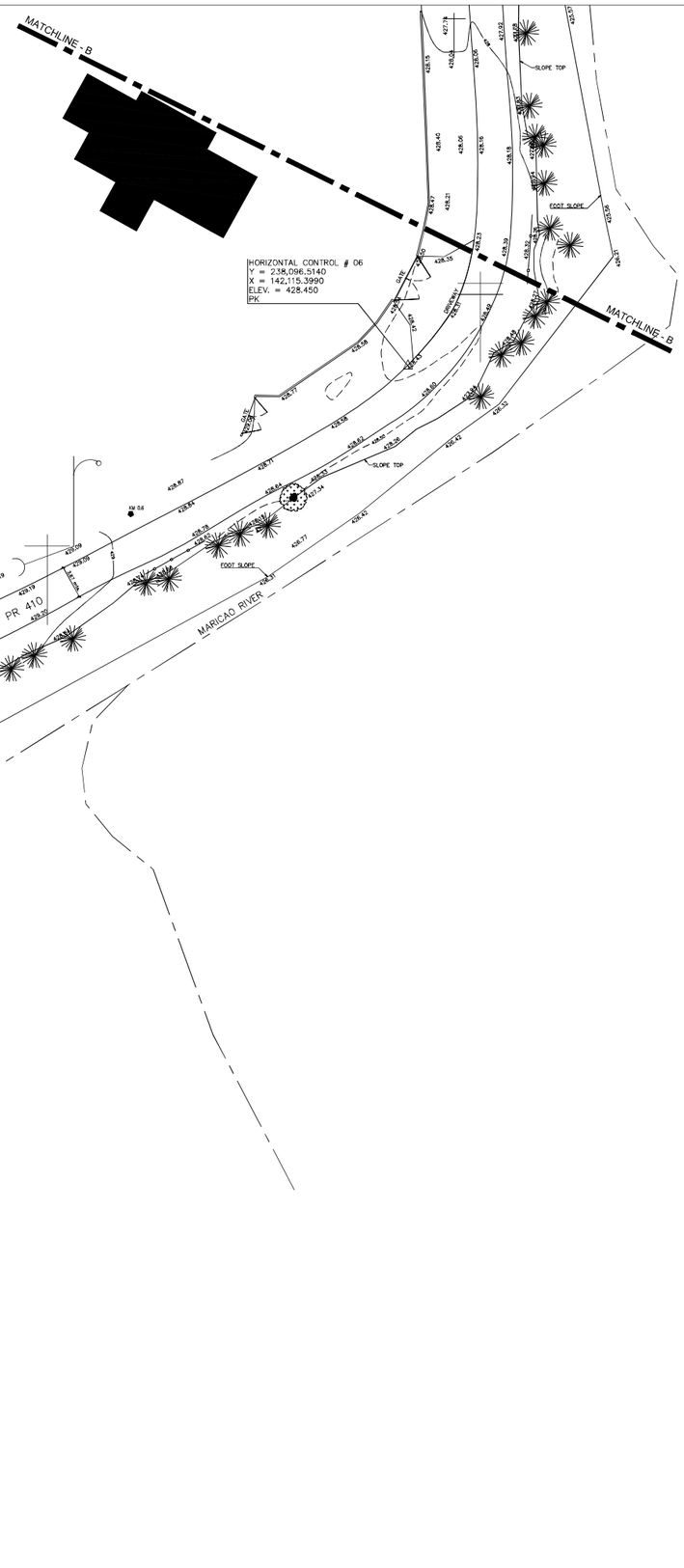
Project:
DATE : 01/2023
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NORTH

SCALE = 1 : 300

## LEGEND

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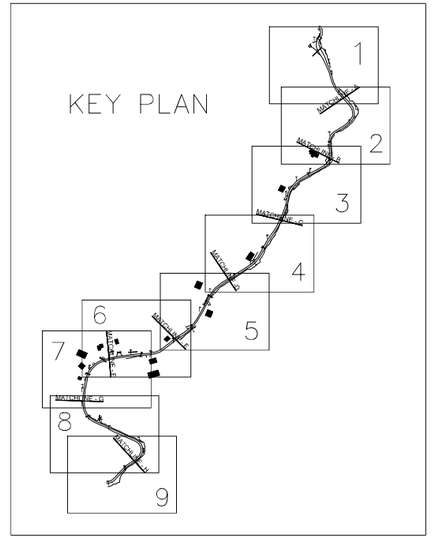






LOCATION MAP

SCALE = 1 : 20,000




NOTES :

1– DISTANCES IN METERS.

2– ELEVATIONS IN METERS (MEAN SEA LEVEL).

3– HORIZONTAL CONTROL REFERRED TO LAMBERT COORDINATE NAD 83.

4– SCALE = 1 : 300mt.

5– DATE : JANUARY, 2023

REVISIONS

| SYMBOL | DATE | BY |
|---|---|---|
| | | |

AS BUILT & TOPOGRAPHY PLAN

PROJECT PASEO HATCHERY

State Road No. 410 Km. 0.2

MARICAO PUERTO RICO

STAMP:

I CERTIFY CORRECT :

JUAN TORRES BERRIOS

ENGINEER LIC. NO. 8765, RPA


TECHNIGROUP

Riverside Park Street # No. B-4, Bayamon, P.R. 00961 – Tel. (787) 379-8500


Project:

DATE : 01/2023

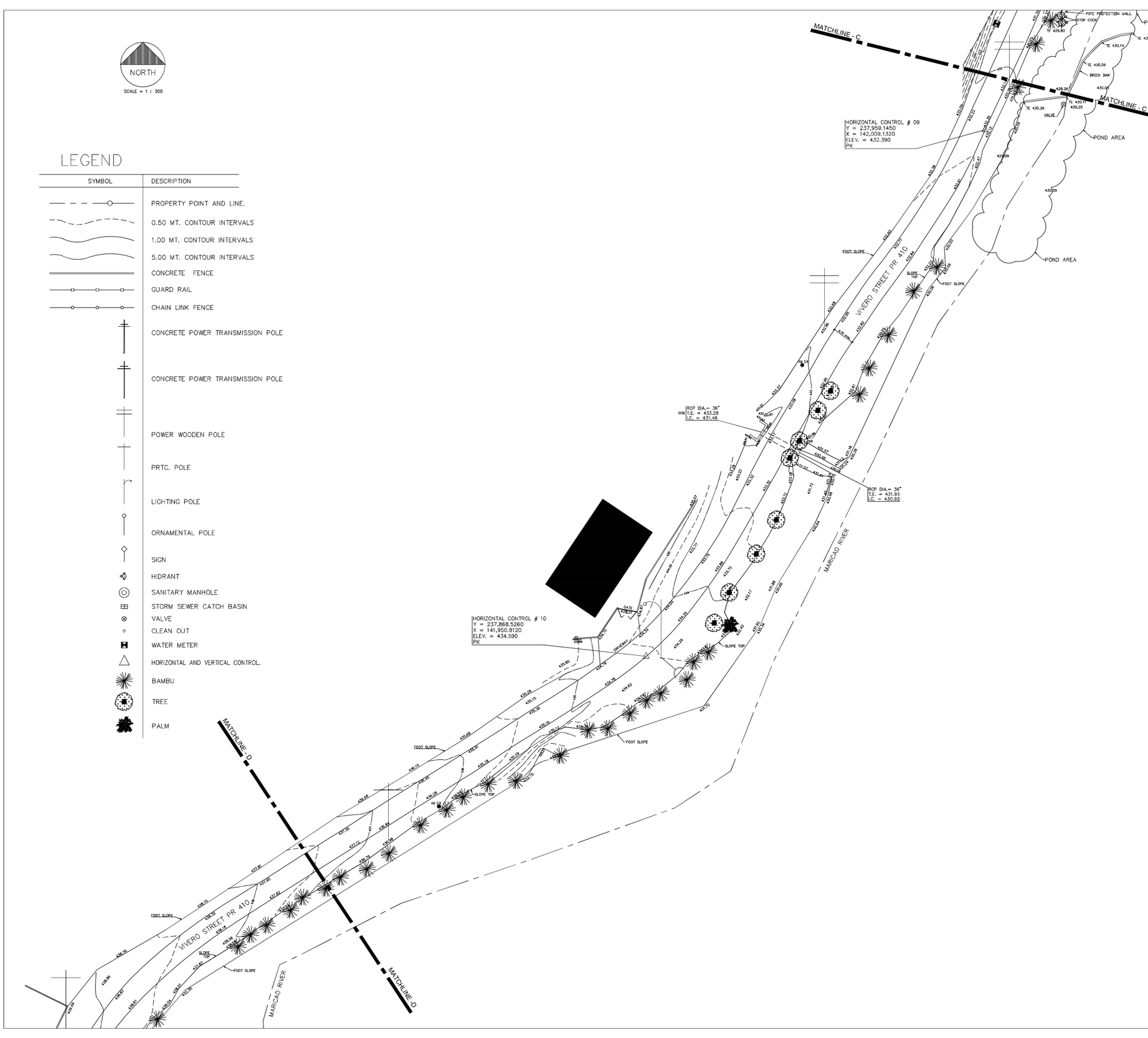
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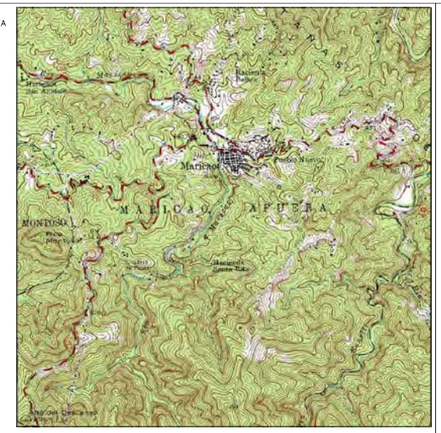
NORTH

SCALE = 1 : 300

## LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

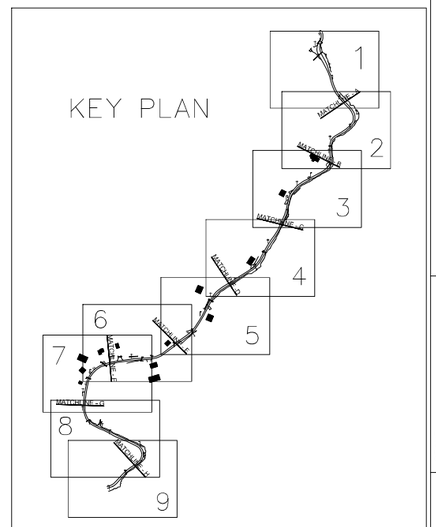



LOCATION MAP

SCALE = 1 : 20,000

KEY PLAN




NOTES :

1- DISTANCES IN METERS.

2- ELEVATIONS IN METERS (MEAN SEA LEVEL).

3- HORIZONTAL CONTROL REFERRED TO LAMBERT COORDINATE NAD 83.

4- SCALE = 1 : 300mt.

5- DATE : JANUARY, 2023

REVISIONS

| SYMBOL | DATE | BY |
|---|---|---|
| | | |

AS BUILT & TOPOGRAPHY PLAN

PROJECT PASEO HATCHERY

State Road No. 410 Km. 0.2

MARICAO PUERTO RICO

STAMP: CERTIFY CORRECT:

JUAN TORRES BERRIOS

ENGINEER LIC. NO. 87651, RPA


TECHNIGROUP

Riverside Park Street 4 No. B-4, Boyamon, P.R. 00961 - Tel. (787) 379-9500


Project

DATE : 01/2023

SCALE : 1: 300

NORTH

SCALE = 1 : 300

## LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |







LOCATION MAP

SCALE = 1 : 20,000

KEY PLAN




NOTES :

1- DISTANCES IN METERS.

2- ELEVATIONS IN METERS (MEAN SEA LEVEL).

3- HORIZONTAL CONTROL REFERRED TO LAMBERT COORDINATE NAD 83.

4- SCALE = 1 : 300mt.

5- DATE : JANUARY, 2023

REVISIONS

| SYMBOL | DATE | BY |
|---|---|---|
| | | |

AS BUILT & TOPOGRAPHY PLAN

PROJECT PASEO HATCHERY

State Road No. 410 Km. 0.2

MARICAO PUERTO RICO

STAMP: CERTIFY CORRECT:

JUAN TORRES BERRIOS
ENGINEER LIC. NO. 8765, RPA


TECHNIGROUP

Riverside Park Street 4 No. B-4, Bayamon, P.R. 00961 - Tel. (787) 379-9500


Project:

DATE : 01/2023

SCALE : 1: 300

# LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

NORTH

SCALE = 1 : 300

NOTES :

1- DISTANCES IN METERS.

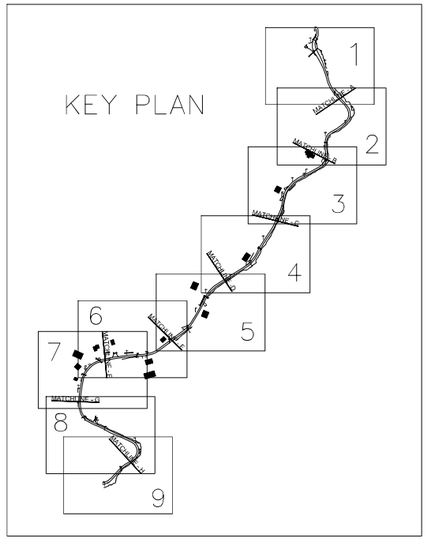
2- ELEVATIONS IN METERS (MEAN SEA LEVEL).

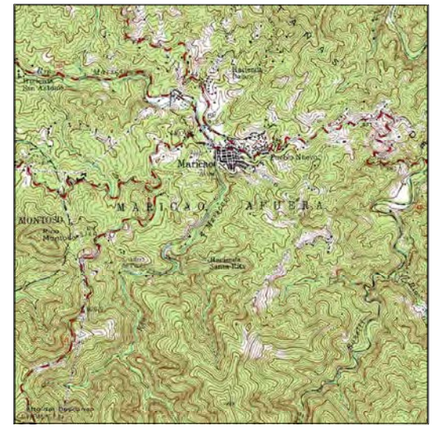
3- HORIZONTAL CONTROL REFERRED TO LAMBERT COORDINATE NAD 83.

4- SCALE = 1 : 300mt.

5- DATE : JANUARY, 2023

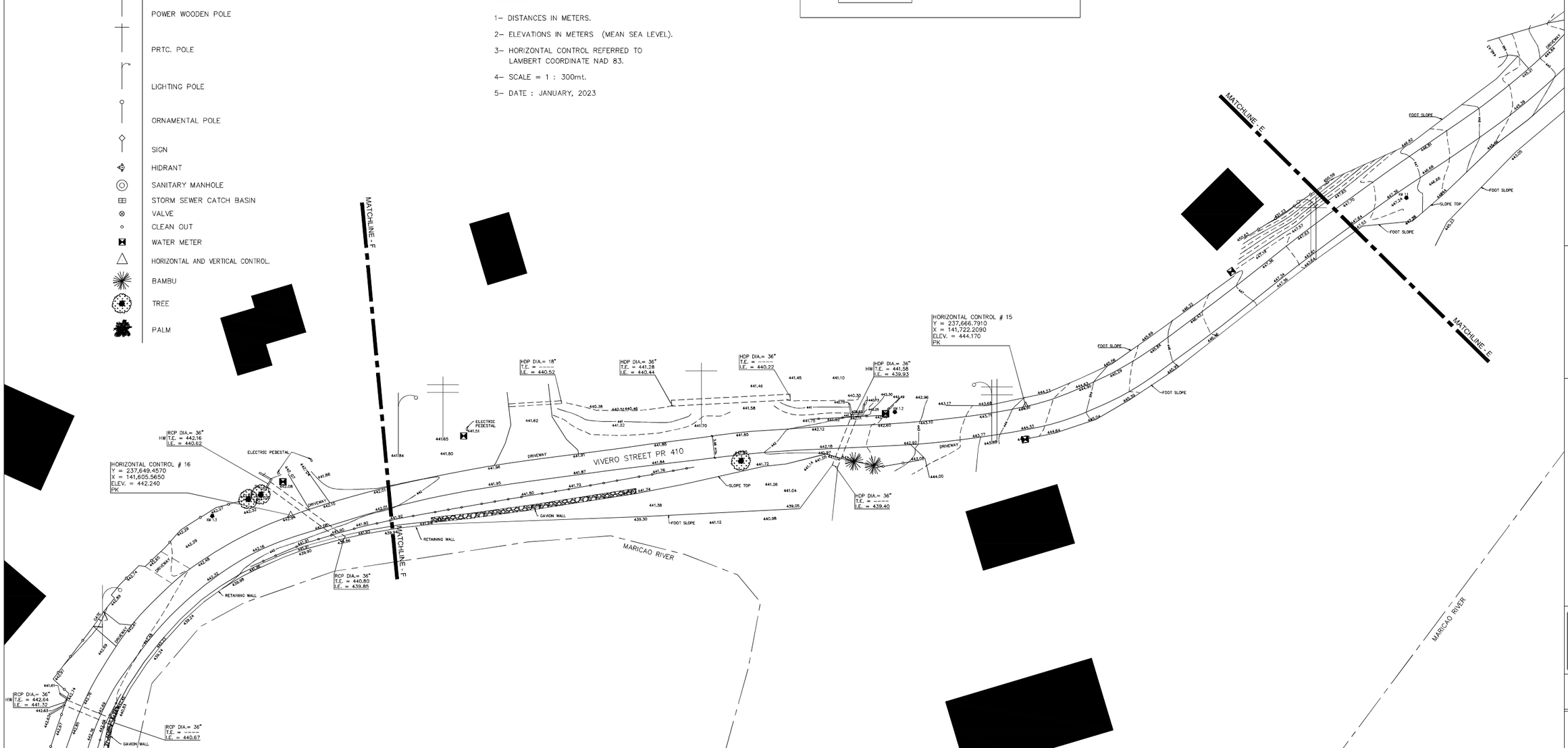
KEY PLAN




LOCATION MAP

SCALE = 1 : 20,000




| REVISIONS | SYMBOL | DATE | BY |
|---|---|---|---|
| | | | |

AS BUILT & TOPOGRAPHY PLAN

PROJECT PASEO HATCHERY

State Road No. 410 Km. 0.2

MARICAO PUERTO RICO

STAMP: CERTIFY CORRECT:

JUAN TORRES BERRIOS

ENGINEER LIC. NO. 8765, PPA

TECHNIGROUP

Riverside Park Street 4 No. B-4, Boyamon, P.R. 00961 - Tel. (787) 379-9500

Project:

DATE : 01/2023

SCALE : 1: 300

6 of 09

NORTH

SCALE = 1 : 300

## LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

NOTES :

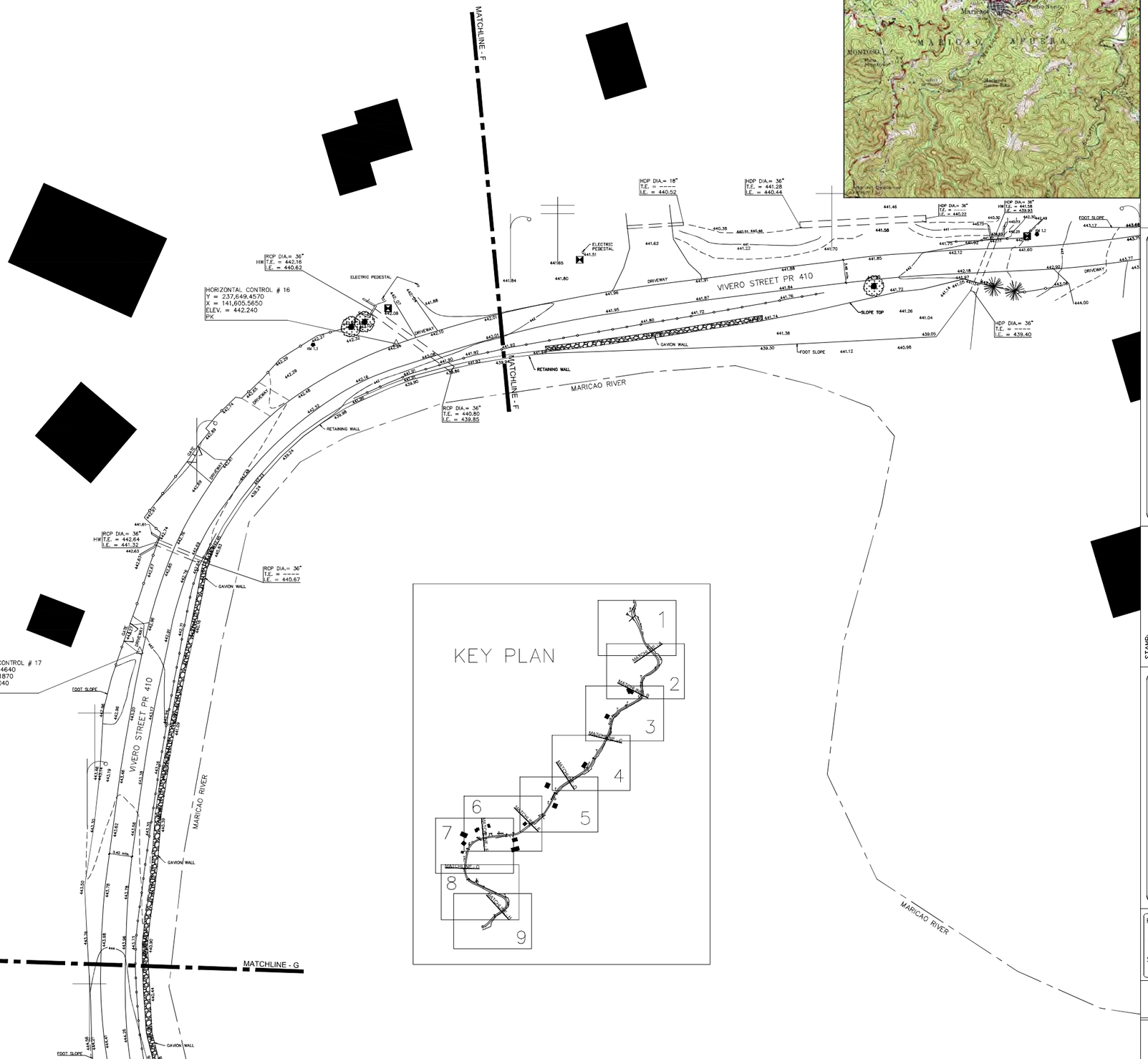
1- DISTANCES IN METERS.

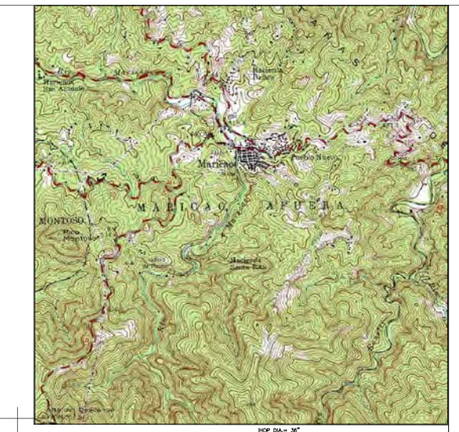
2- ELEVATIONS IN METERS (MEAN SEA LEVEL).

3- HORIZONTAL CONTROL REFERRED TO LAMBERT COORDINATE NAD 83.

4- SCALE = 1 : 300mt.

5- DATE : JANUARY, 2023







REVISIONS

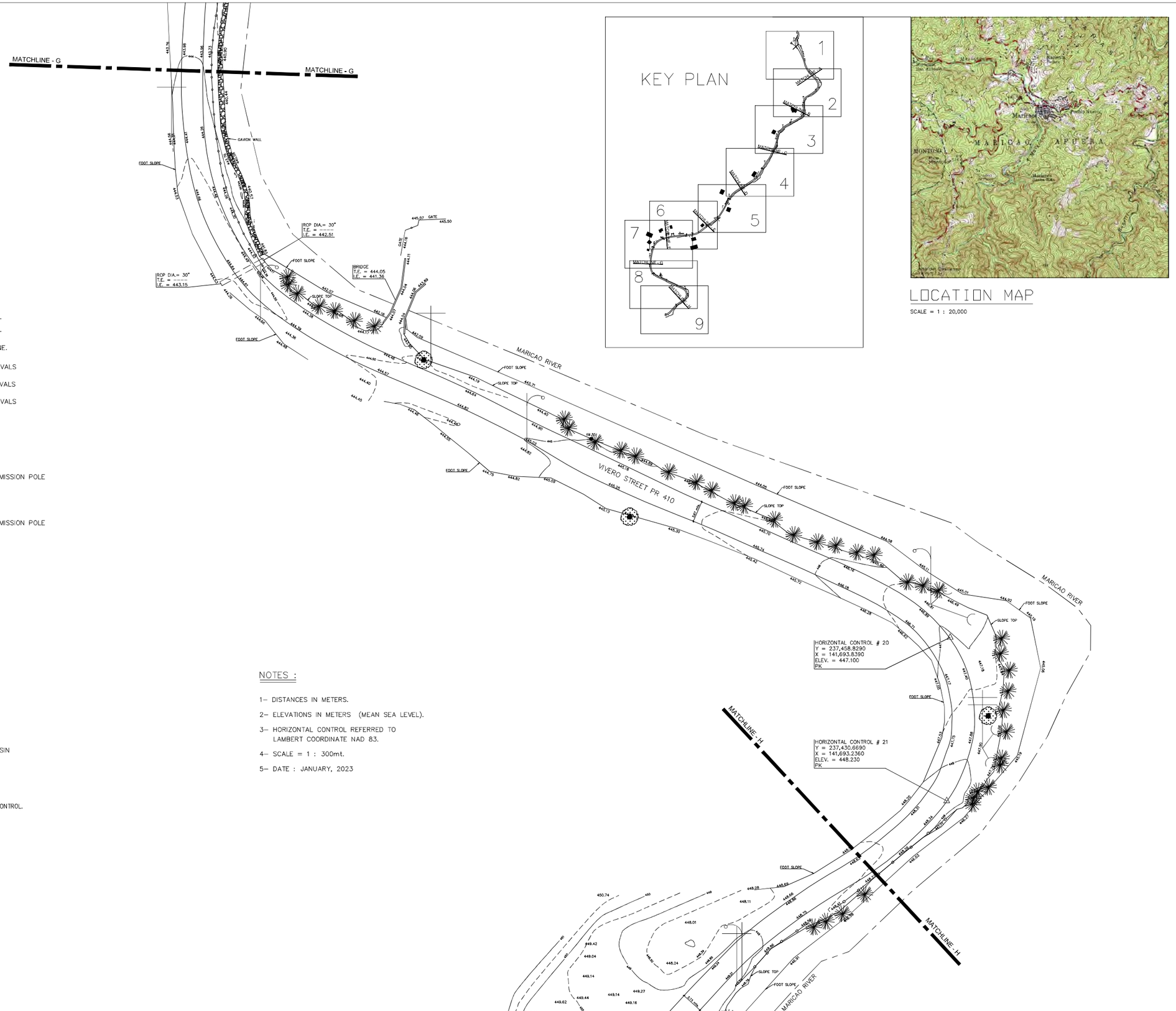
| SYMBOL | DATE | BY |
|---|---|---|
| | | |

# AS BUILT & TOPOGRAPHY PLAN
# PROJECT PASEO HATCHERY
State Road No. 410 Km. 0.2
MARICAO PUERTO RICO

STAMP: CERTIFY CORRECT:
JUAN TORRES BERRIOS
ENGINEER LIC. NO. 8765, RPA


TECHNIGROUP
Riverside Park Street 4 No. B-4, Bayamon, P.R. 00961 - Tel. (787) 379-9500


Project:
DATE : 01/2023
SCALE : 1: 300




NORTH

SCALE = 1 : 300

## LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
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| | SIGN |
| | HIDRANT |
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| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

## NOTES :

1– DISTANCES IN METERS.

2– ELEVATIONS IN METERS (MEAN SEA LEVEL).

3– HORIZONTAL CONTROL REFERRED TO LAMBERT COORDINATE NAD 83.

4– SCALE = 1 : 300mt.

5– DATE : JANUARY, 2023







LOCATION MAP

SCALE = 1 : 20,000

REVISIONS | SYMBOL | DATE | BY

AS BUILT & TOPOGRAPHY PLAN
PROJECT PASEO HATCHERY
State Road No. 410 Km. 0.2
MARICAO PUERTO RICO

STAMP: CERTIFY CORRECT :
JUAN TORRES BERRIOS
ENGINEER LIC. NO. 8761, RPA

TECHNIGROUP
Riverside Pcm. Street 4 No. B–4, Bayamon, P.R. 00961 – Tel. (787) 379–8500

Project:
DATE : 01/2023
SCALE : 1: 300

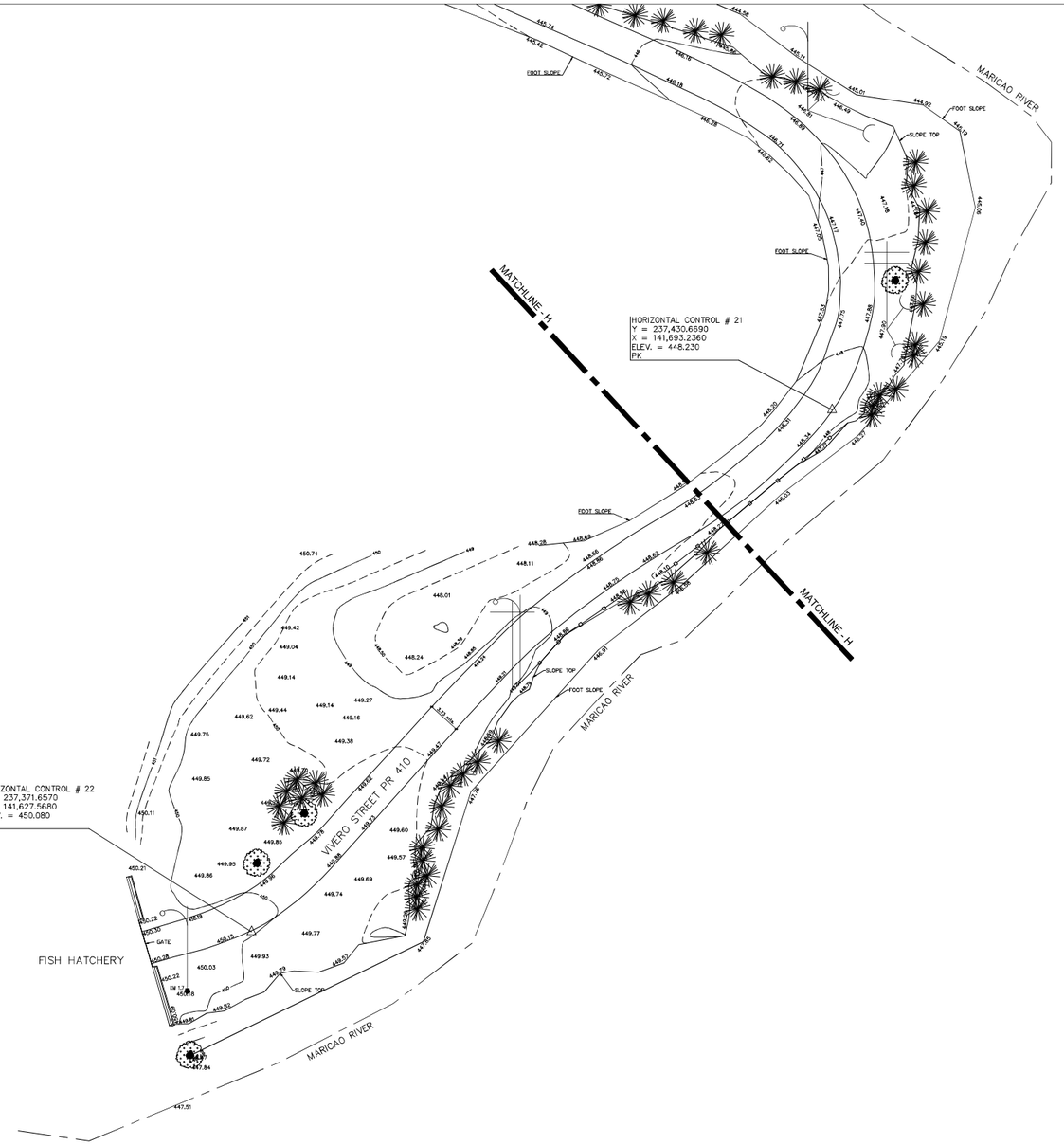
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NORTH

SCALE = 1 : 300

## LEGEND

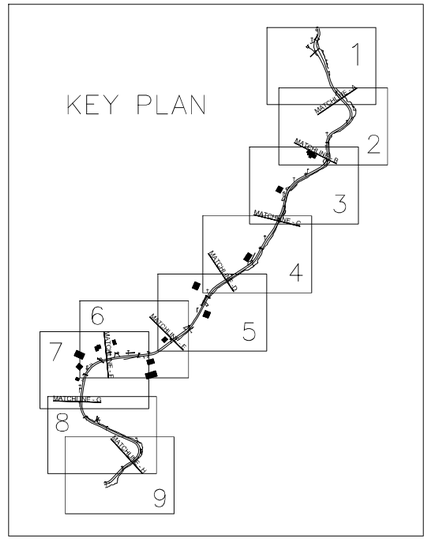
| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |







LOCATION MAP




NOTES :

1– DISTANCES IN METERS.

2– ELEVATIONS IN METERS (MEAN SEA LEVEL).

3– HORIZONTAL CONTROL REFERRED TO LAMBERT COORDINATE NAD 83.

4– SCALE = 1 : 300mt.

5– DATE : JANUARY, 2023

REVISIONS | SYMBOL | DATE | BY

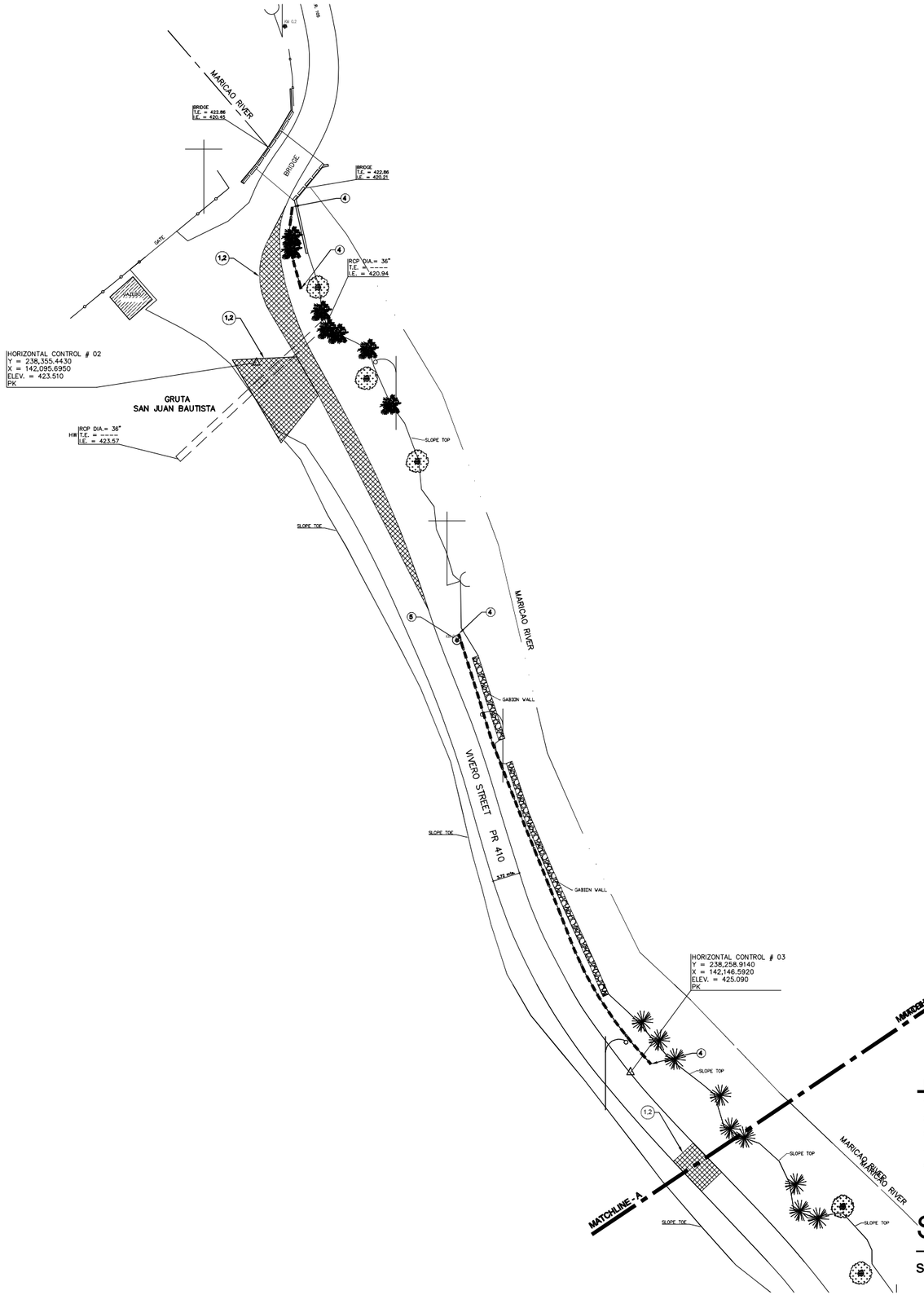
AS BUILT & TOPOGRAPHY PLAN
PROJECT PASEO HATCHERY
State Road No. 410 Km. 0.2
MARICAO PUERTO RICO

STAMP: CERTIFY CORRECT:
JUAN TORRES BERRIOS
ENGINEER LIC. NO. 8765, RPA

TECHNIGROUP
Riverside Park Street 4 No. B-4, Bayamon, P.R. 00961 – Tel. (787) 379-8500

Project:
DATE : 01/2023
SCALE : 1: 300

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LEGEND

1 SCARIFY AND REMOVE ASPHALT PAVEMENT.
2 REMOVE AND HAUL BASE COURSE AS NEEDED.
3 EXCAVATE AND HAUL AS NEEDED.
4 REMOVE GUARDRAIL.
5 REMOVE KILOMETER MARKER

# SITE PLAN-1

scale= 1:300

C&G
JMCP + JLGARCHITECTS
113 DEL PARQUE STREET SUITE 7
SAN JUAN, PR 00911
787.309.3837

BAIGES GEOTECHNICAL ENGINEERS, LLC
641 PASEO DE LA ALHAMBRA, URB TORRIMAR, GUAYNABO, P.R. 00969
JAMES@BAIGESMAIL.COM • (787) 399-0017

90% DESIGN SET
NOT FOR CONSTRUCTION

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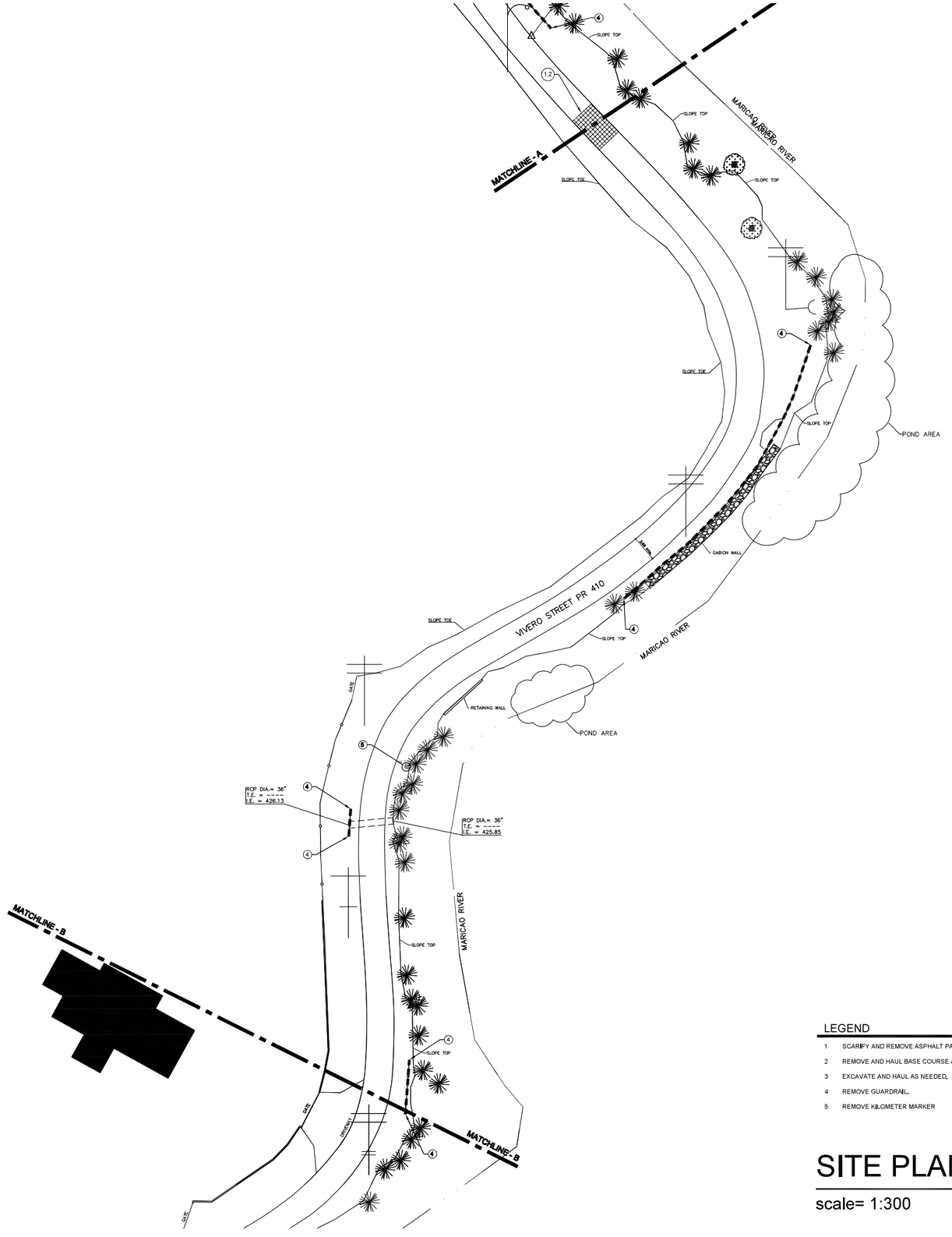
DRAWN BY:
REVIEWED BY:
DATE: 05/23

PROJECT: PR-CRP-000721
**PASEO LA GRUTA-VIVERO DE PECES**
CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

GOBIERNO MUNICIPAL DE MARICAO
PASEO HATCHERY [PR-CRP-000721]

SHEET TITLE: DEMOLITION SITE PLAN
DRAWING NO.: CD-101

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## LEGEND

1. SCARIFY AND REMOVE ASPHALT PAVEMENT.
2. REMOVE AND HAUL BASE COURSE AS NEEDED.
3. EXCAVATE AND HAUL AS NEEDED.
4. REMOVE GUARDRAIL.
5. REMOVE KILOMETER MARKER

# SITE PLAN-2

scale= 1:300

C&G
JMCP + JLGARCHITECTS
115 DEL PARQUE STREET SUITE 7
SAN JUAN, PR 00911
787.309.3837

BAIGES GEOTECHNICAL ENGINEERS, LLC
64 PASEO DE LA ALHAMBRA, URB TORRIMAR, GUAYNABO, P.R. 00966
JAIMEBAIGES@GMAIL.COM • (787) 399-0007

90% DESIGN SET
NOT FOR CONSTRUCTION

PROJECT: PR-CRP-000721

**PASEO LA GRUTA-VIVERO DE PECES**

CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

GOBIERNO MUNICIPAL DE MARICAO

PASEO HATCHERY [PR-CRP-000721]

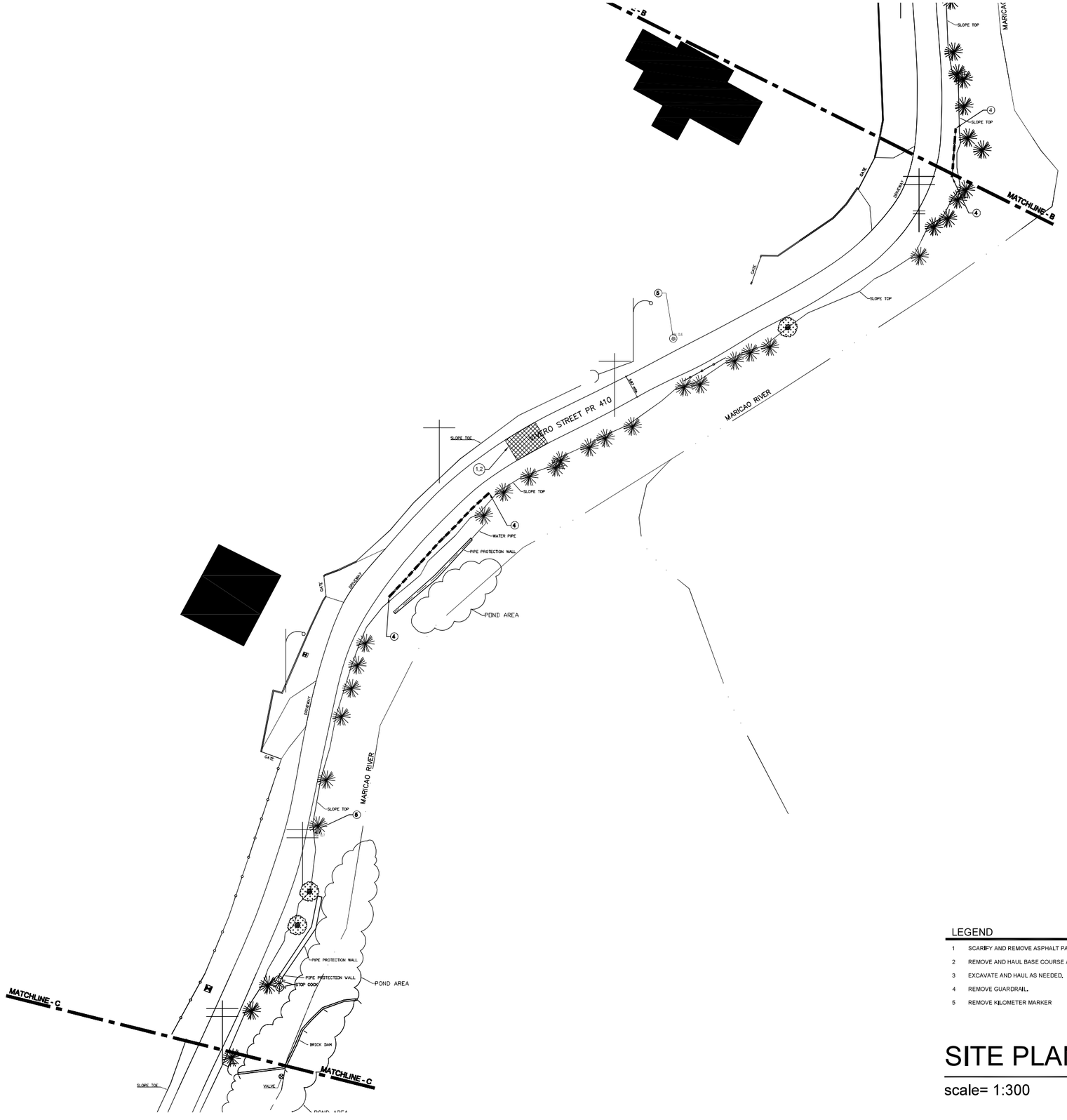
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DRAWN BY:
REVIEWED BY:
DATE: 05/23

SHEET TITLE: DEMOLITION SITE PLAN

DRAWING NO.: CD-102

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LEGEND

1 SCARIFY AND REMOVE ASPHALT PAVEMENT.
2 REMOVE AND HAUL BASE COURSE AS NEEDED.
3 EXCAVATE AND HAUL AS NEEDED.
4 REMOVE GUARDRAIL.
5 REMOVE KILOMETER MARKER

CD-104

# SITE PLAN-3

scale= 1:300

C&G
JMCP + JLGARCHITECTS
115 DEL PARQUE STREET SUITE 7
SAN JUAN, PR 00911
787.309.3837

BAIGES GEOTECHNICAL ENGINEERS, LLC
641 PASEO DE LA ALHAMBRA, URB TORRIMAR - GUAYNABO, P.R. 00966
JAMES@BAIGESMUNIZ.COM • (787) 399-0077

90% DESIGN SET
NOT FOR CONSTRUCTION

PROJECT: PR-CRP-000721
**PASEO LA GRUTA-VIVERO DE PECES**
CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

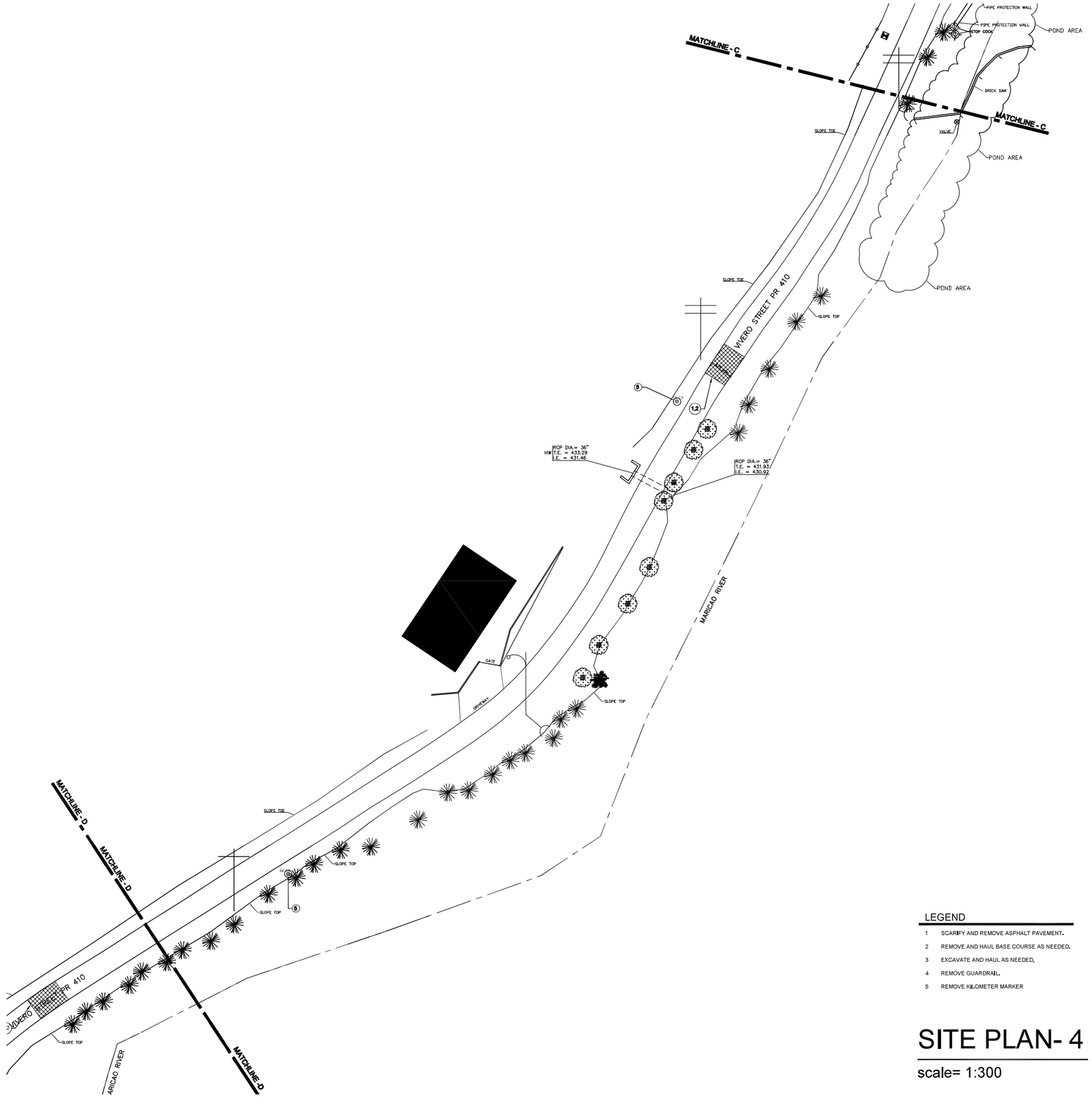
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PASEO HATCHERY [PR-CRP-000721]

| NO. | DATE | DRAWING ISSUE | BY | APP. |
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DATE: 05/23

SHEET TITLE: DEMOLITION SITE PLAN
DRAWING NO.: CD-103

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LEGEND

1 SCARIFY AND REMOVE ASPHALT PAVEMENT.
2 REMOVE AND HAUL BASE COURSE AS NEEDED.
3 EXCAVATE AND HAUL AS NEEDED,
4 REMOVE GUARDRAIL.
5 REMOVE KILOMETER MARKER

# SITE PLAN- 4

scale= 1:300

C&G
JMCP + JLGARCHITECTS
113 DEL PARQUE STREET SUITE 7
SAN JUAN, PR 00911
787.309.3837

BAIGES GEOTECHNICAL ENGINEERS, LLC
64 PASEO DE LA ALHAMBRA, URB TORRIMAR, GUAYNABO, P.R. 00969
JAMES@BAIGESMAIL.COM • (787) 399-0077

90% DESIGN SET
NOT FOR CONSTRUCTION

PROJECT: PR-CRP-000721
**PASEO LA GRUTA-VIVERO DE PECES**
CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

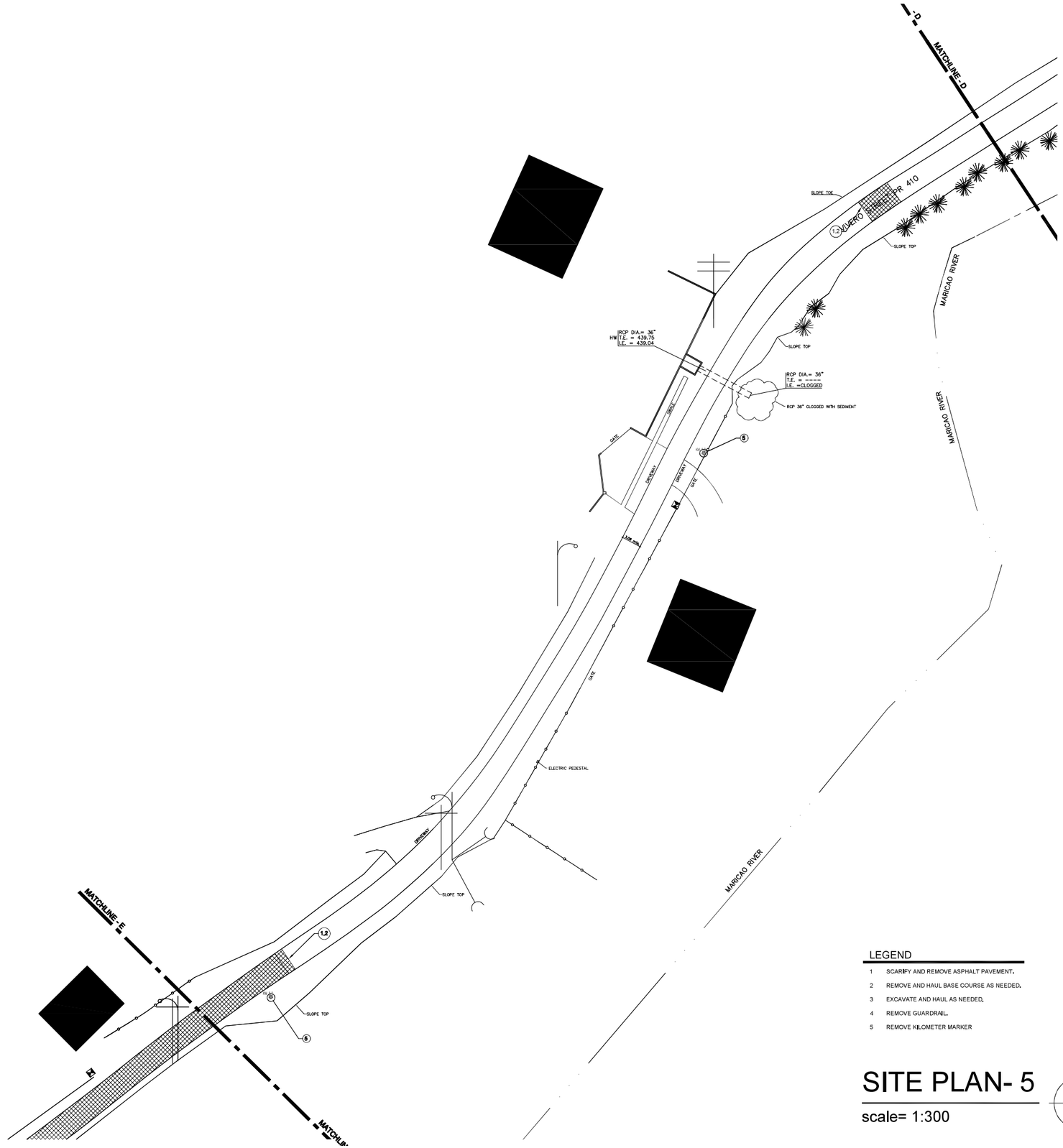
GOBIERNO MUNICIPAL DE MARICAO
PASEO HATCHERY [PR-CRP-000721]

| NO. | DATE | DRAWING ISSUE | BY | APP. |
|---|---|---|---|---|
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REVIEWED BY:
DATE: 05/23

SHEET TITLE: DEMOLITION SITE PLAN
DRAWING NO.: **CD-104**

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LEGEND

1. SCARIFY AND REMOVE ASPHALT PAVEMENT.
2. REMOVE AND HAUL BASE COURSE AS NEEDED.
3. EXCAVATE AND HAUL AS NEEDED.
4. REMOVE GUARDRAIL.
5. REMOVE KILOMETER MARKER

# SITE PLAN- 5

scale= 1:300

C&G
JMCP + JLGARCHITECTS
113 DEL PARQUE STREET SUITE 7
SAN JUAN, PR 00911
787.309.3837

BAIGES GEOTECHNICAL ENGINEERS, LLC
641 PASEO DE LA ALHAMBRA, URB TOPACIO, CAROLINA PO BOX 13779, 00985
JAMES@BAIGESPR.COM • (787) 399-0077

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PROJECT: PR-CRP-000721

**PASEO LA GRUTA-VIVERO DE PECES**

CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

GOBIERNO MUNICIPAL DE MARICAO

PASEO HATCHERY [PR-CRP-000721]

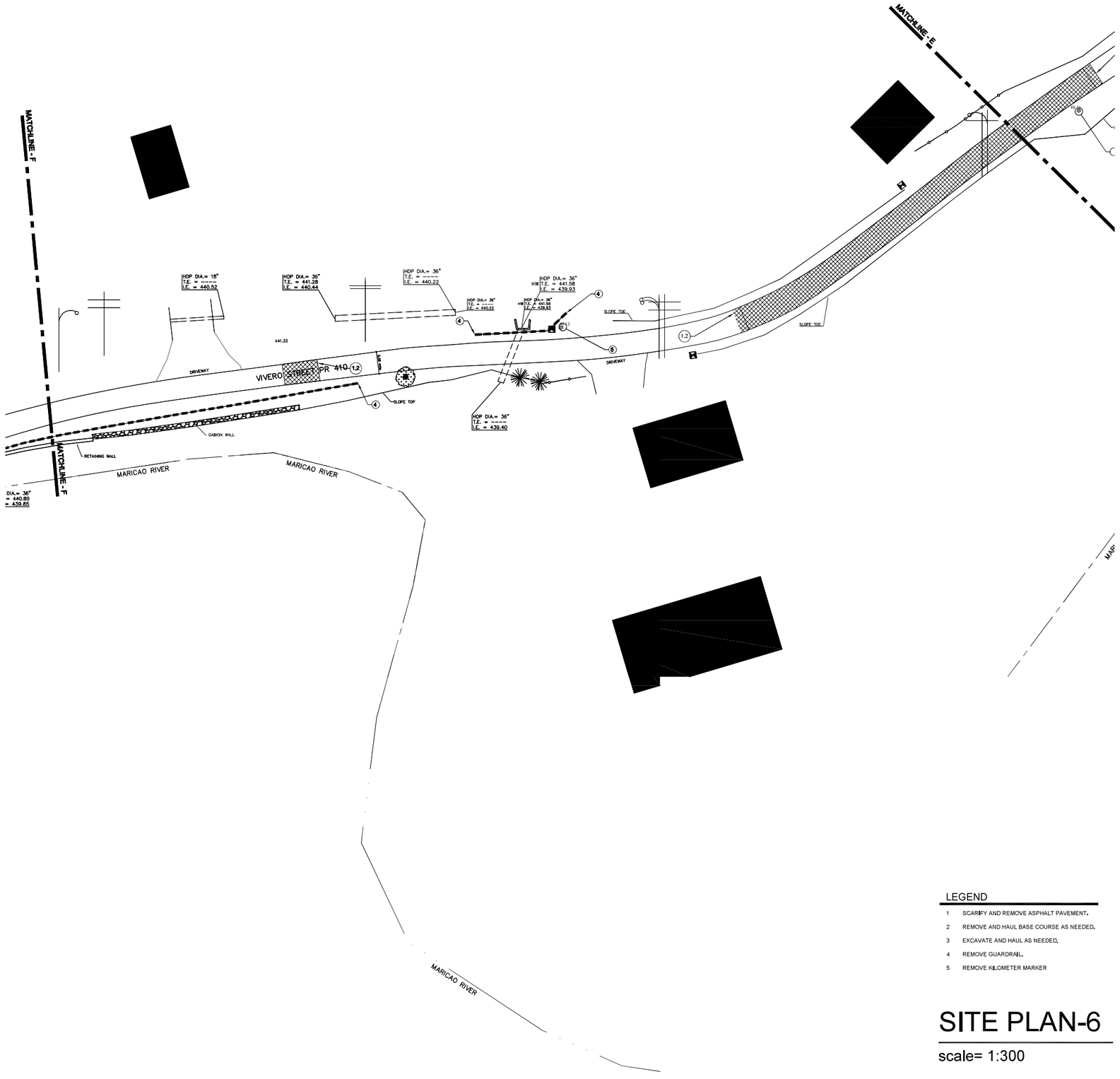
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DRAWN BY:
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SHEET TITLE: DEMOLITION SITE PLAN

DRAWING NO.: CD-105

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LEGEND

1. SCARIFY AND REMOVE ASPHALT PAVEMENT.
2. REMOVE AND HAUL BASE COURSE AS NEEDED.
3. EXCAVATE AND HAUL AS NEEDED.
4. REMOVE GUARDRAIL.
5. REMOVE KILOMETER MARKER

# SITE PLAN-6

scale= 1:300

C&G
JMCP + JLGARCHITECTS
113 DEL PARQUE STREET SUITE 7
SAN JUAN, PR 00911
787.309.3837

BAIGES GEOTECHNICAL ENGINEERS, LLC
64 PASEO DE LA ALHAMBRA, URB TORRIMAR, GUAYNABO, P.R. 00969
JAMES@BAIGESGEO.COM • (787) 399-0007

90% DESIGN SET
NOT FOR CONSTRUCTION

PROJECT: PR-CRP-000721

**PASEO LA GRUTA-VIVERO DE PECES**

CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

GOBIERNO MUNICIPAL DE MARICAO

PASEO HATCHERY [PR-CRP-000721]

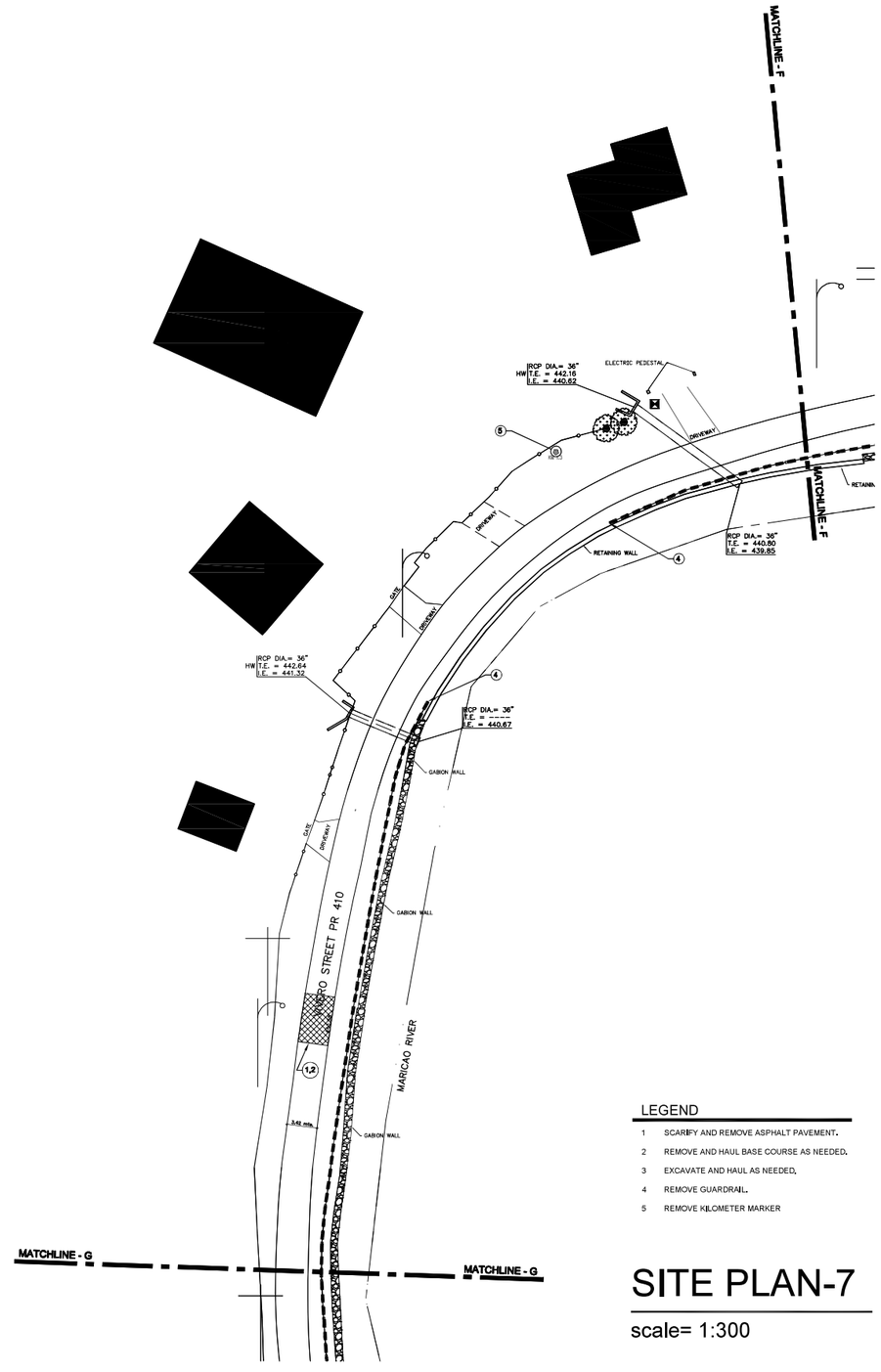
| NO. | DATE | DRAWING ISSUE | BY | APP. |
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DATE: 05/23

SHEET TITLE: DEMOLITION SITE PLAN

DRAWING NO.: CD-106

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LEGEND

1. SCARIFY AND REMOVE ASPHALT PAVEMENT.
2. REMOVE AND HAUL BASE COURSE AS NEEDED.
3. EXCAVATE AND HAUL AS NEEDED.
4. REMOVE GUARDRAIL.
5. REMOVE KILOMETER MARKER

# SITE PLAN-7

scale= 1:300

C&G
JMCP +
JLGARCHITECTS
113 DEL PARQUE STREET SUITE 7
SAN JUAN, PR 00911
787.309.3837

BAIGES GEOTECHNICAL ENGINEERS, LLC
44 PASEO DE LA ALHAMBRA, URB TORRIMAR, GUAYNABO, P.R. 00966
JAMES.BAIGES@GMAIL.COM – (787) 399-0077

90% DESIGN SET
NOT FOR CONSTRUCTION

PROJECT: PR-CRP-000721
**PASEO LA GRUTA-VIVERO DE PECES**
CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

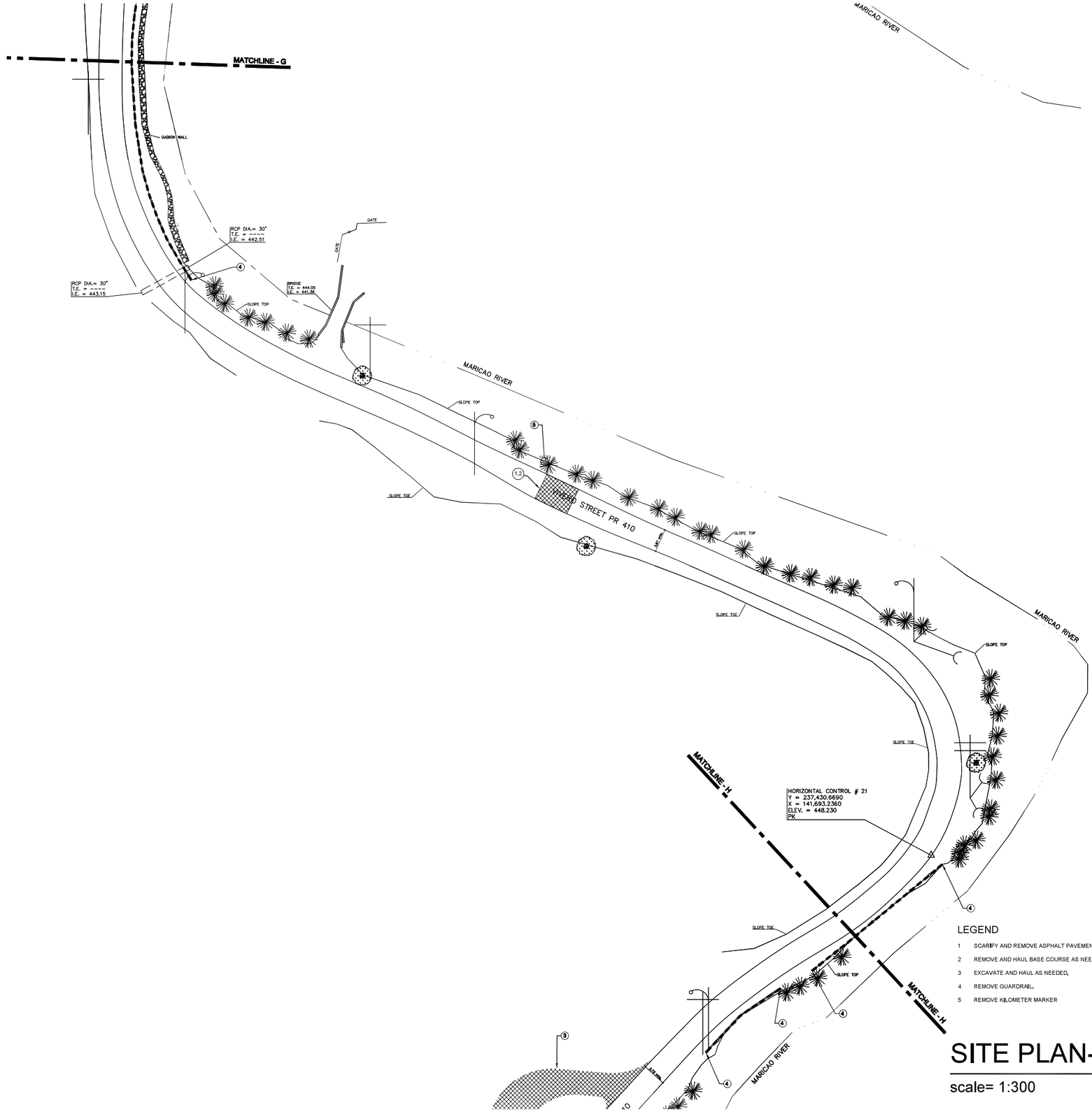
GOBIERNO MUNICIPAL DE MARICAO
PASEO HATCHERY [PR-CRP-000721]

| NO. | DATE | DRAWING ISSUE | BY | APP. |
|---|---|---|---|---|
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SHEET TITLE: DEMOLITION SITE PLAN
DRAWING NO.: CD-107

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LEGEND

1 SCARIFY AND REMOVE ASPHALT PAVEMENT.
2 REMOVE AND HAUL BASE COURSE AS NEEDED.
3 EXCAVATE AND HAUL AS NEEDED.
4 REMOVE GUARDRAIL.
5 REMOVE KILOMETER MARKER

# SITE PLAN-8

scale= 1:300

C&G
JMCP + JLGARCHITECTS
115 DEL PARQUE STREET SUITE 7
SAN JUAN, PR 00911
787.309.3837

BAIGES GEOTECHNICAL ENGINEERS, LLC
641 PASEO DE LA ALHAMBRA, URB TORRIMAR, GUAYNABO, P.R. 00966
JAIMEBAIGES@GMAIL.COM • (787) 399-0007

90% DESIGN SET
NOT FOR CONSTRUCTION

PROJECT: PR-CRP-000721
**PASEO LA GRUTA-VIVERO DE PECES**
CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

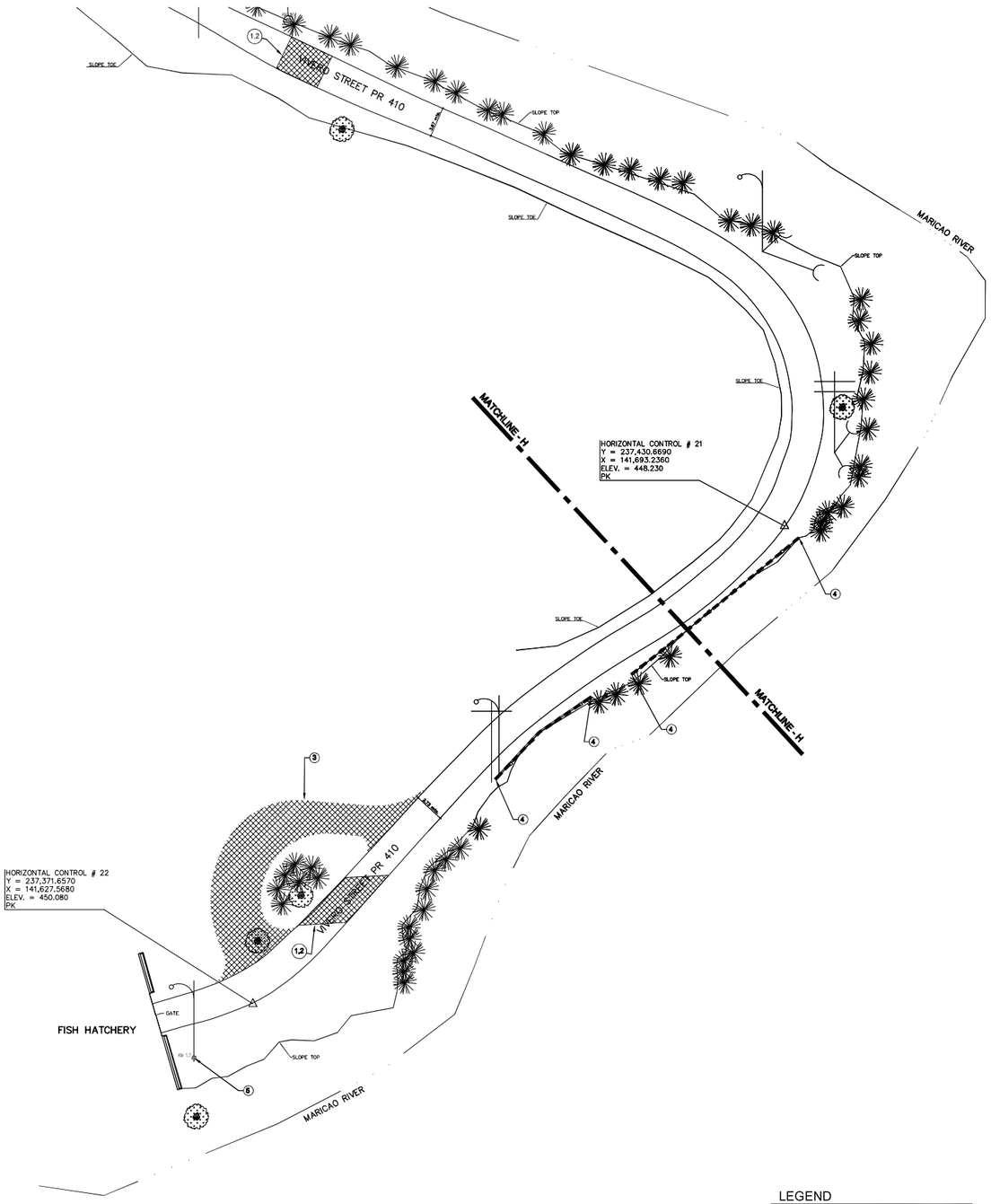
GOBIERNO MUNICIPAL DE MARICAO
PASEO HATCHERY [PR-CRP-000721]

| NO. | DATE | DRAWING ISSUE | BY | APP. |
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DATE: 05/23

SHEET TITLE: DEMOLITION SITE PLAN
DRAWING NO.: CD-108

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HORIZONTAL CONTROL # 22
Y = 237,371.6570
X = 141,627.5680
ELEV. = 450.080
PK

LEGEND

1 SCARIFY AND REMOVE ASPHALT PAVEMENT.
2 REMOVE AND HAUL BASE COURSE AS NEEDED.
3 EXCAVATE AND HAUL AS NEEDED.
4 REMOVE GUARDRAIL.
5 REMOVE KILOMETER MARKER

# SITE PLAN-9

scale= 1:300

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JMCP + JLGARCHITECTS
113 DEL PARQUE STREET SUITE 7
SAN JUAN, PR 00911
787.309.3837

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641 PASEO DE LA ALHAMBRA, URB TORRIMAR, GUAYNABO, P.R. 00966
JAMES@BAIGESGEO.COM • (787) 399-0007

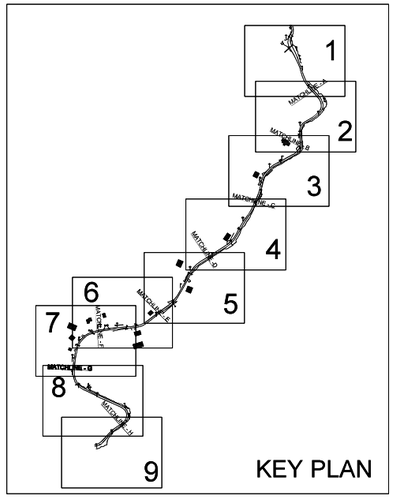
90% DESIGN SET
NOT FOR CONSTRUCTION

PROJECT: PR-CRP-000721
**PASEO LA GRUTA-VIVERO DE PECES**
CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5
GOBIERNO MUNICIPAL DE MARICAO
PASEO HATCHERY [PR-CRP-000721]

| NO. | DATE | DRAWING ISSUE | BY | APP. |
|---|---|---|---|---|
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DATE: 05/23
SHEET TITLE: DEMOLITION SITE PLAN
DRAWING NO.: CD-109

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## EXISTING CONDITIONS LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

0 5 10 30

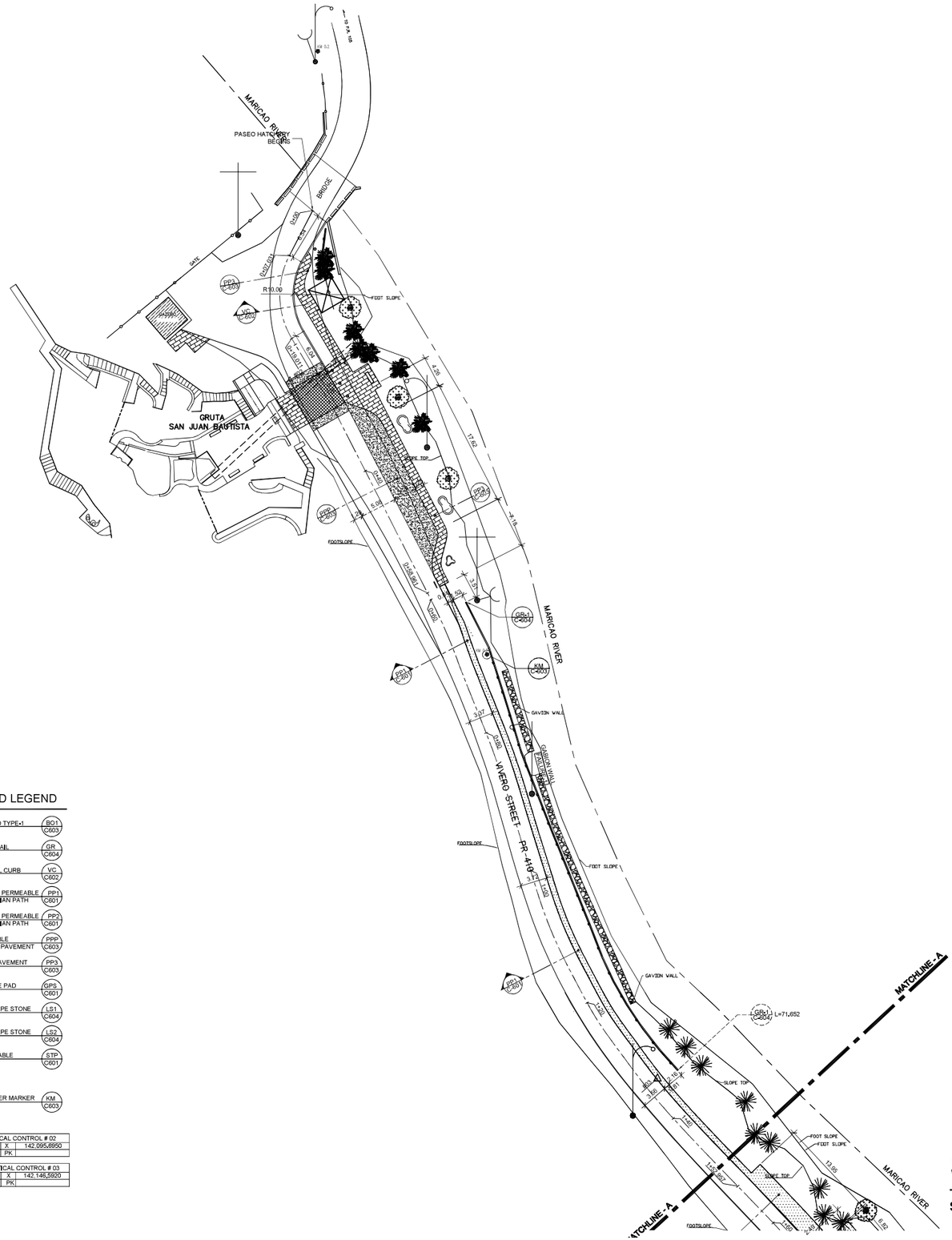
SCALE = 1:300

## PROPOSED LEGEND

| | | |
|---|---|---|
| | BOLLARD TYPE-1 | BO1 C603 |
| | GUARD RAIL | GR C604 |
| | VERTICAL CURB TYPE E | VC C602 |
| | 0,61 (32") PERMEABLE PEDESTRIAN PATH | PP1 C601 |
| | 0,60 (24") PERMEABLE PEDESTRIAN PATH | PP2 C601 |
| | PERMEABLE PARKING PAVEMENT | PPP C603 |
| | PAVER PAVEMENT | PP3 C603 |
| | GARBAGE PAD SCREEN | GPS C601 |
| | LANDSCAPE STONE TYPE 1 | LS1 C604 |
| | LANDSCAPE STONE TYPE 2 | LS2 C604 |
| | SPEED TABLE | STP C601 |
| | KILOMETER MARKER | KM C603 |

| HORIZONTAL VERTICAL CONTROL # 02 | | | |
|---|---|---|---|
| Y | 238,355.4430 | X | 142,095.8950 |
| EL. | 423.510 | PK | |

| HORIZONTAL VERTICAL CONTROL # 03 | | | |
|---|---|---|---|
| Y | 238,258.9140 | X | 142,146.5920 |
| EL. | 425.090 | PK | |




# SITE PLAN-1

scale= 1:300

C&G
JMCP + JLGARCHITECTS
115 DIL PARQUE STREET SUITE 7
SAN JUAN, PR 00911
787.309.3837

BAIGES GEOTECHNICAL ENGINEERS, LLC
44 PASEO DE LA ALHAMBRA, URB TORRIMAR, GUAYNABO, P.R. 00966
JAMES.BAIGES@GMAIL.COM – (787) 399-0017

**90% DESIGN SET**
**NOT FOR CONSTRUCTION**

PROJECT: **PR-CRP-000721**

**PASEO LA GRUTA-VIVERO DE PECES**

CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

GOBIERNO MUNICIPAL DE MARICAO

PASEO HATCHERY [PR-CRP-000721]

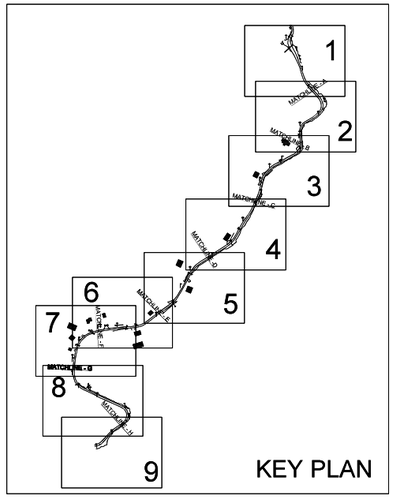
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DRAWN BY:
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DATE: 05/23

SHEET TITLE: LAYOUT SITE PLAN

DRAWING NO.: C-101

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## EXISTING CONDITIONS LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

0 5 10 30

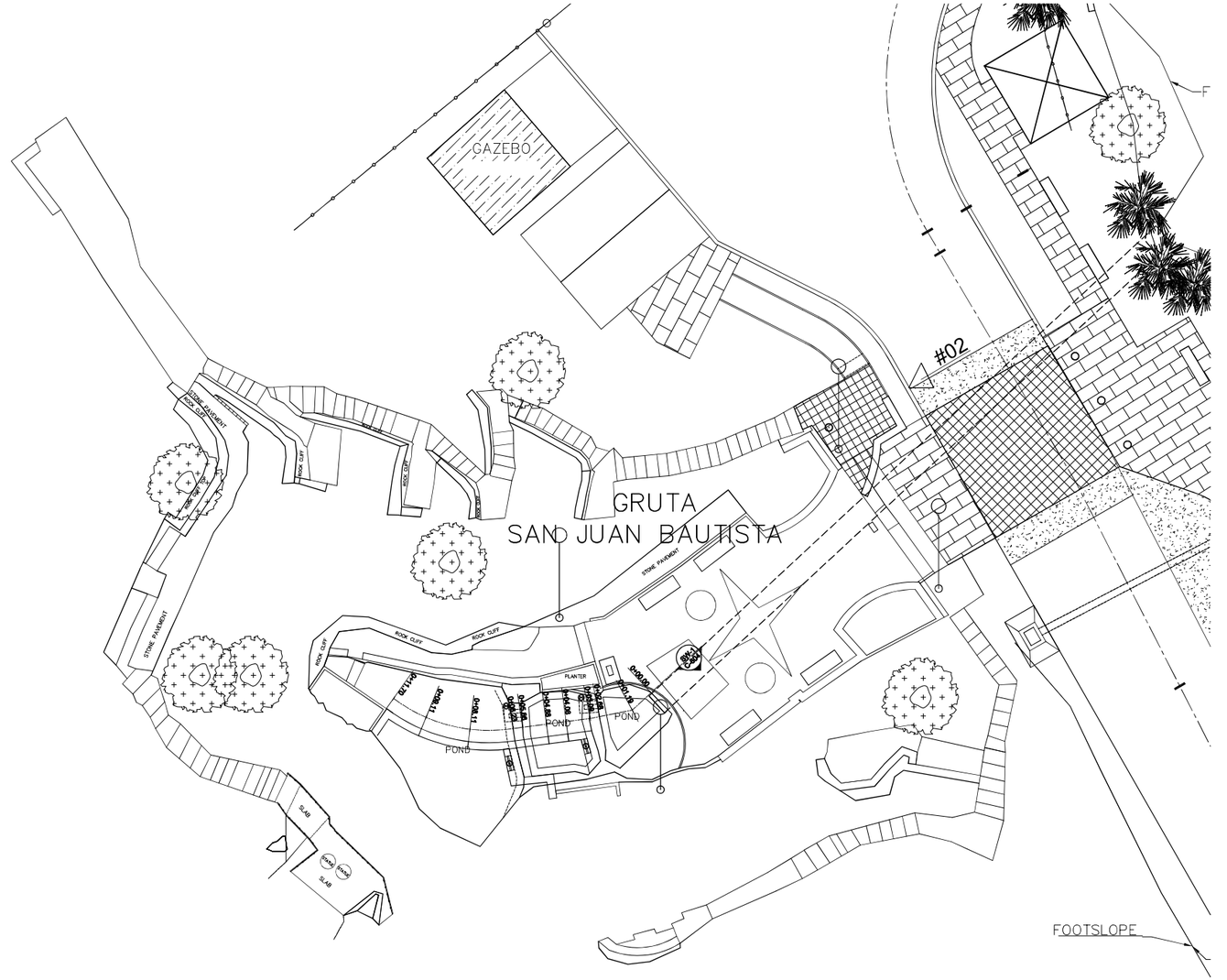
SCALE = 1:300

## PROPOSED LEGEND

| | | |
|---|---|---|
| | BOLLARD TYPE-1 | BO1 C603 |
| | GUARD RAIL | GR C604 |
| | VERTICAL CURB TYPE E | VC C602 |
| | 0,61 (32") PERMEABLE PEDESTRIAN PATH | PP1 C601 |
| | 0,60 (24") PERMEABLE PEDESTRIAN PATH | PP2 C601 |
| | PERMEABLE PARKING PAVEMENT | PPP C603 |
| | PAVER PAVEMENT | PP3 C603 |
| | GARBAGE PAD SCREEN | GPS C601 |
| | LANDSCAPE STONE TYPE 1 | LS1 C604 |
| | LANDSCAPE STONE TYPE 2 | LS2 C604 |
| | SPEED TABLE | STP C601 |
| | KILOMETER MARKER | KM C603 |

| HORIZONTAL VERTICAL CONTROL # 02 | | | |
|---|---|---|---|
| Y | 238,355.4430 | X | 142,095.8950 |
| EL. | 423.510 | PK | |

| HORIZONTAL VERTICAL CONTROL # 03 | | | |
|---|---|---|---|
| Y | 238,258.9140 | X | 142,146.5920 |
| EL. | 425.090 | PK | |




# DETAIL PLAN

scale= 1:100

C&G
JMCP +
JLGARCHITECTS
115 DEL PARQUE STREET SUITE 7
SAN JUAN, PR 00911
787.309.3837

BAIGES GEOTECHNICAL ENGINEERS, LLC
44 PASEO DE LA ALHAMBRA, URB TORRIMAR, GUAYNABO, P.R. 00966
JAMES.BAIGES@GMAIL.COM – (787) 399-0017

90% DESIGN SET
NOT FOR CONSTRUCTION

PROJECT: PR-CRP-000721

**PASEO LA GRUTA-VIVERO DE PECES**

CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

GOBIERNO MUNICIPAL DE MARICAO

PASEO HATCHERY [PR-CRP-000721]

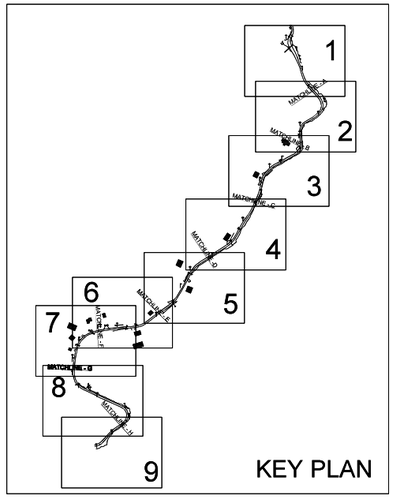
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DATE: 05/23

SHEET TITLE: DETAIL PLAN1

DRAWING NO.: C-101.2

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## EXISTING CONDITIONS LEGEND

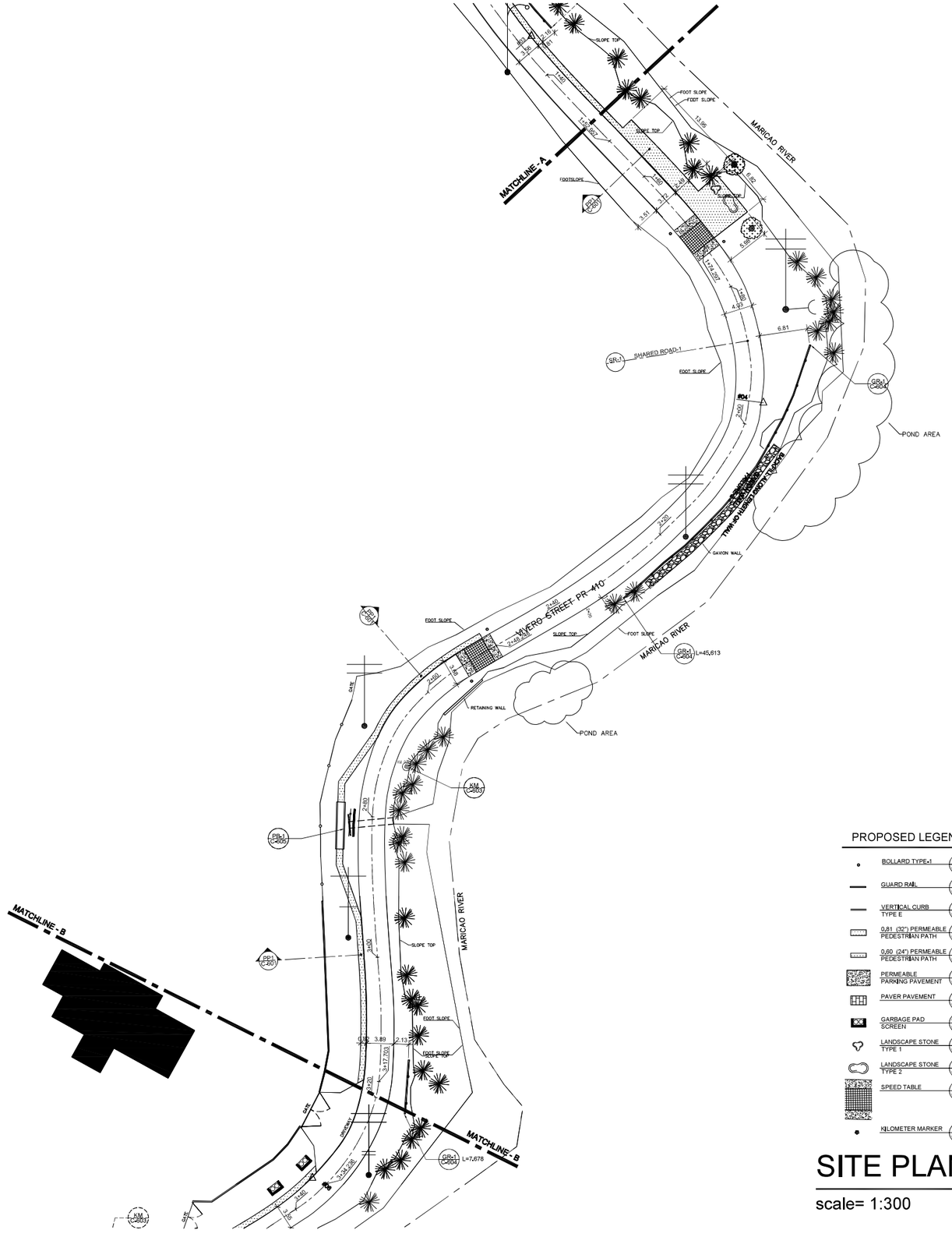
| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

0 5 10 30

SCALE = 1:300

| HORIZONTAL VERTICAL CONTROL # 04 | | | |
|---|---|---|---|
| Y | 238,206.7660 | X | 142,175.5960 |
| EL. | 426.530 | PK | |

| HORIZONTAL VERTICAL CONTROL # 06 | | | |
|---|---|---|---|
| Y | 238,096.5140 | Y | 142115.3990 |
| EL. | 428.450 | PK | |




## PROPOSED LEGEND

| | | |
|---|---|---|
| BOLLARD TYPE-1 | BO1 | C603 |
| GUARD RAIL | GR | C604 |
| VERTICAL CURB TYPE E | VC | C602 |
| 0.81 (32") PERMEABLE PEDESTRIAN PATH | PP1 | C601 |
| 0.60 (24") PERMEABLE PEDESTRIAN PATH | PP2 | C601 |
| PERMEABLE PARKING PAVEMENT | PPP | C603 |
| PAVER PAVEMENT | PP3 | C603 |
| GARBAGE PAD SCREEN | GPD | C601 |
| LANDSCAPE STONE TYPE 1 | LS1 | C604 |
| LANDSCAPE STONE TYPE 2 | LS2 | C604 |
| SPEED TABLE | STP | C601 |
| KILOMETER MARKER | KM | C603 |

# SITE PLAN-2

scale= 1:300

C&G
JMCP + JLGARCHITECTS
115 DIL PARQUE STREET SUITE 7
SAN JUAN, PR 00911
787.309.3837

BAIGES GEOTECHNICAL ENGINEERS, LLC
44 PASEO DE LA ALHAMBRA, URB TORRIMAR, GUAYNABO, P.R. 00966
JAMES.BAIGES@GMAIL.COM – (787) 399-0017

**90% DESIGN SET**
**NOT FOR CONSTRUCTION**

PROJECT: **PR-CRP-000721**

# PASEO LA GRUTA-VIVERO DE PECES

CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

GOBIERNO MUNICIPAL DE MARICAO

PASEO HATCHERY [PR-CRP-000721]

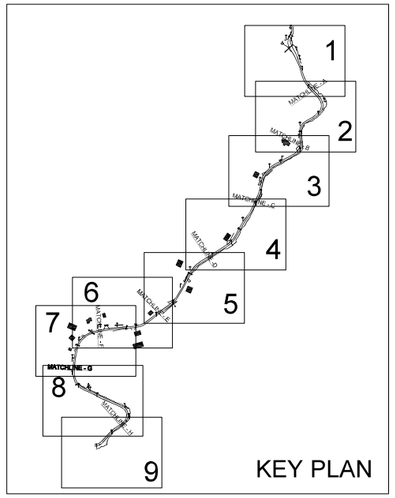
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DATE: 05/23

SHEET TITLE: LAYOUT SITE PLAN

DRAWING NO.: **C-102**

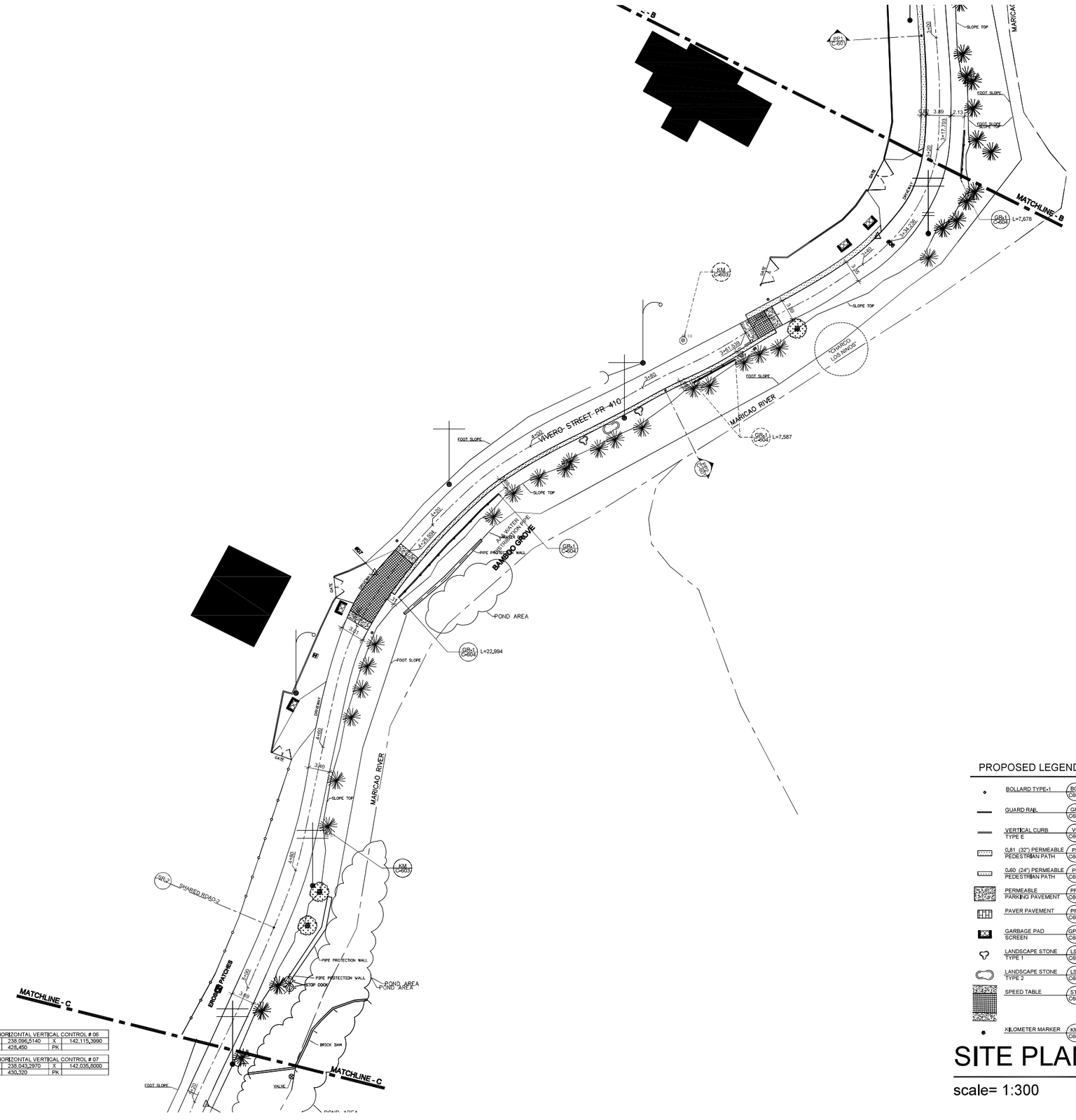
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## EXISTING CONDITIONS LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

0 5 10 30
SCALE = 1:300




| HORIZONTAL VERTICAL CONTROL # 06 | | | |
|---|---|---|---|
| Y | 238,096,5140 | X | 142,115,3990 |
| EL. | 428,450 | PK | |

| HORIZONTAL VERTICAL CONTROL # 07 | | | |
|---|---|---|---|
| Y | 238,043,2970 | X | 142,035,8000 |
| EL. | 430,320 | PK | |

## PROPOSED LEGEND

| | | |
|---|---|---|
| | BOLLARD TYPE-1 | BO1 C603 |
| | GUARD RAIL | GR C604 |
| | VERTICAL CURB TYPE E | VC C602 |
| | 0,81 (32") PERMEABLE PEDESTRIAN PATH | PP1 C601 |
| | 0,60 (24") PERMEABLE PEDESTRIAN PATH | PP2 C601 |
| | PERMEABLE PARKING PAVEMENT | PPP C605 |
| | PAVER PAVEMENT | PP3 C605 |
| | GARBAGE PAD SCREEN | GPS C601 |
| | LANDSCAPE STONE TYPE 1 | LS1 C604 |
| | LANDSCAPE STONE TYPE 2 | LS2 C604 |
| | SPEED TABLE | STP C601 |
| | KILOMETER MARKER | KM C603 |

# SITE PLAN-3

scale= 1:300

C&G
JMCP + JLGARCHITECTS
115 DIE PARQUE STREET SUITE 7
SAN JUAN, PR 00911
787.309.3837

BAIGES GEOTECHNICAL ENGINEERS, LLC
64 PASEO DE LA ALHAMBRA, URB TOPACIO - CAGUAS PUERTO RICO 725
JAMES@BAIGESGEO.COM - (787) 286-0077

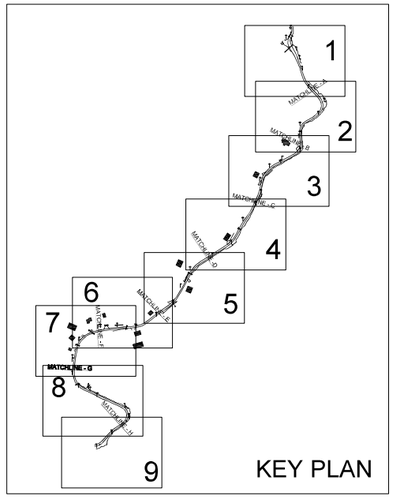
90% DESIGN SET
NOT FOR CONSTRUCTION

PROJECT: PR-CRP-000721
**PASEO LA GRUTA-VIVERO DE PECES**
CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5
GOBIERNO MUNICIPAL DE MARICAO
PASEO HATCHERY [PR-CRP-000721]

| NO. | DATE | DRAWING ISSUE | BY | APP. |
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| | | | | |

DRAWN BY:
REVIEWED BY:
DATE: 05/23
SHEET TITLE: LAYOUT SITE PLAN
DRAWING NO.: C-103

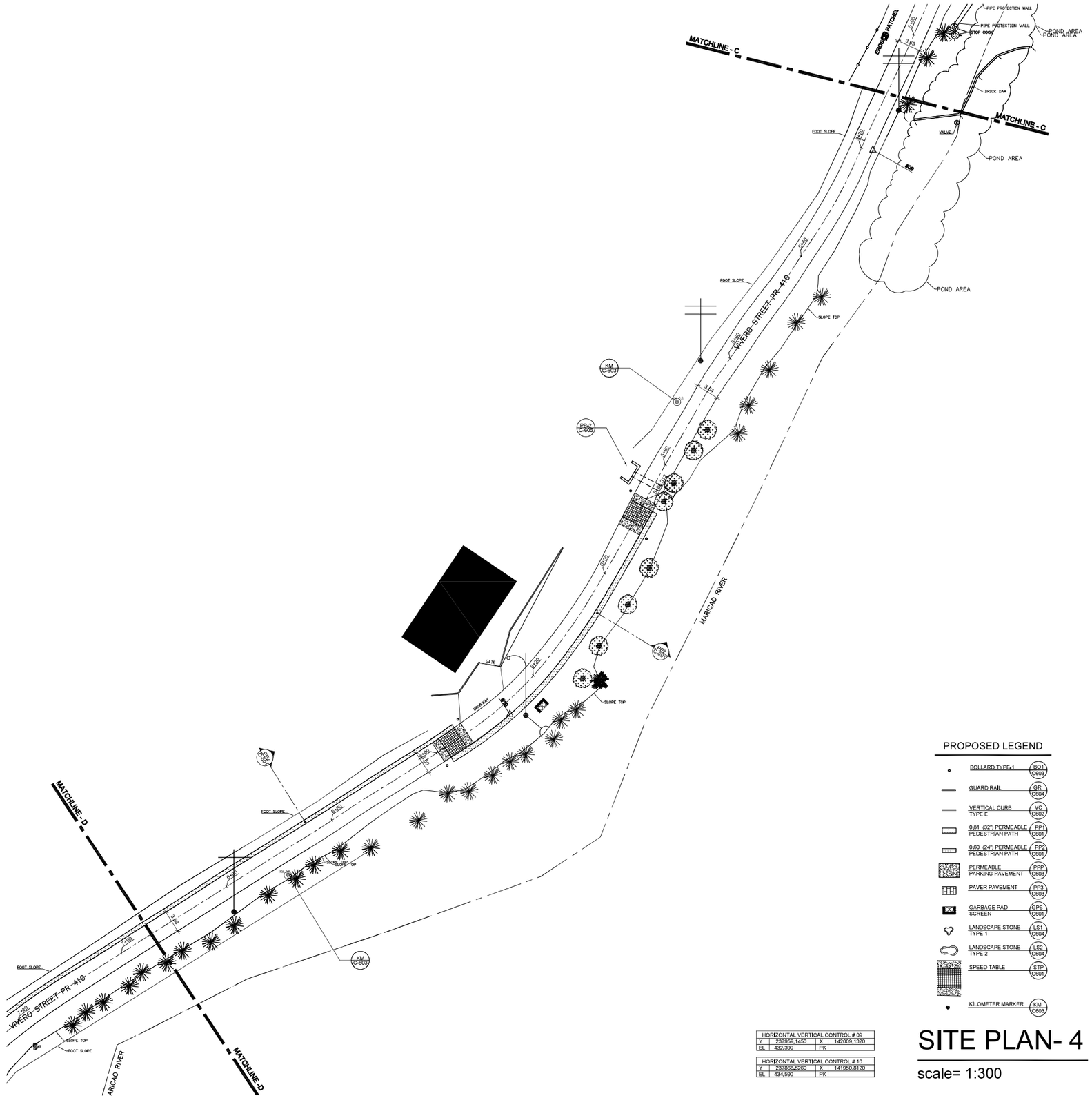
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## EXISTING CONDITIONS LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

0 5 10 30
SCALE = 1:300




| HORIZONTAL VERTICAL CONTROL # 09 | | | |
|---|---|---|---|
| Y | 237959,1450 | X | 142009,1320 |
| EL | 432,390 | PK | |

| HORIZONTAL VERTICAL CONTROL # 10 | | | |
|---|---|---|---|
| Y | 237868,5260 | X | 141950,8120 |
| EL | 434,590 | PK | |

## PROPOSED LEGEND

| | | |
|---|---|---|
| BOLLARD TYPE-1 | BO1 | C603 |
| GUARD RAIL | GR | C604 |
| VERTICAL CURB TYPE E | VC | C602 |
| 0,81 (32") PERMEABLE PEDESTRIAN PATH | PP1 | C601 |
| 0,60 (24") PERMEABLE PEDESTRIAN PATH | PP2 | C601 |
| PERMEABLE PARKING PAVEMENT | PPP | C603 |
| PAVER PAVEMENT | PP3 | C603 |
| GARBAGE PAD SCREEN | GPS | C601 |
| LANDSCAPE STONE TYPE 1 | LS1 | C604 |
| LANDSCAPE STONE TYPE 2 | LS2 | C604 |
| SPEED TABLE | STP | C601 |
| KILOMETER MARKER | KM | C603 |

# SITE PLAN- 4

scale= 1:300

C&G
JMCP + JLGARCHITECTS
113 DIL PARQUE STREET SUITE 7
SAN JUAN, PR 00911
787.309.3837

BAIGES GEOTECHNICAL ENGINEERS, LLC
641 PASEO DE LA ALHAMBRA, URB TORRIMAR, GUAYNABO, P.R. 00969
JAMES@BAIGESGMAIL.COM • (787) 399-0017

90% DESIGN SET
NOT FOR CONSTRUCTION

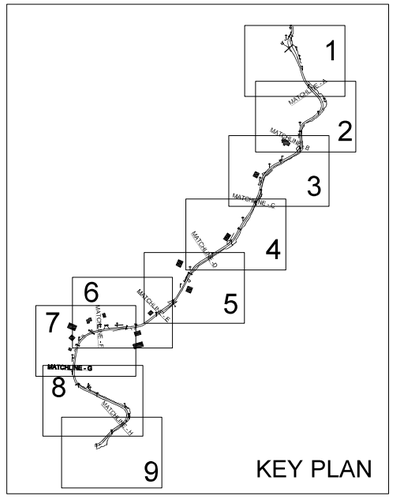
PROJECT: PR-CRP-000721
# PASEO LA GRUTA-VIVERO DE PECES
CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

GOBIERNO MUNICIPAL DE MARICAO
PASEO HATCHERY [PR-CRP-000721]

| NO. | DATE | DRAWING ISSUE | BY | APP. |
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SHEET TITLE: LAYOUT SITE PLAN
DRAWING NO.: C-104

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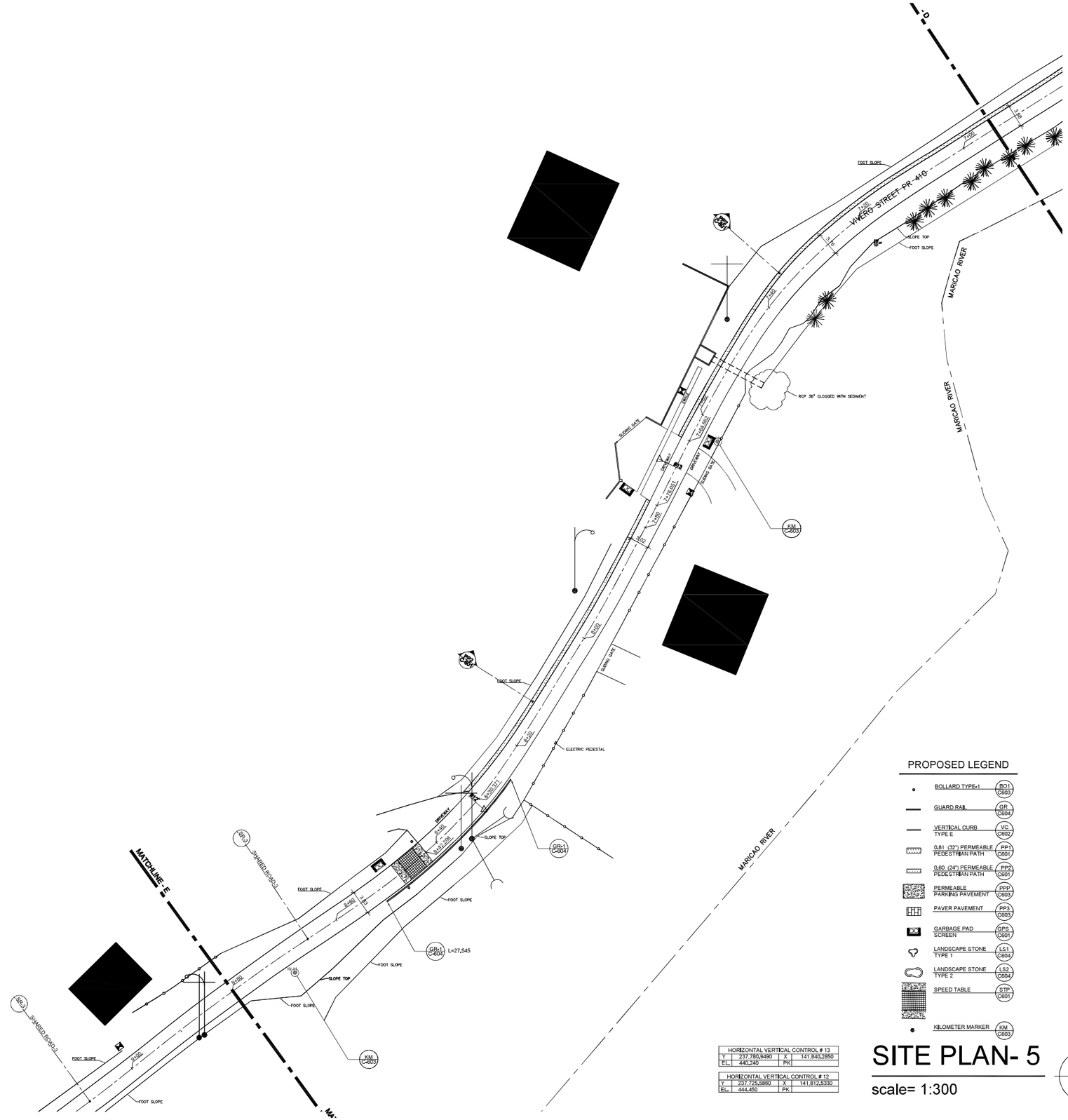



## EXISTING CONDITIONS LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

0 5 10 30

SCALE = 1:300




## PROPOSED LEGEND

| | | |
|---|---|---|
| BOLLARD TYPE-1 | BO1 | C603 |
| GUARD RAIL | GR | C604 |
| VERTICAL CURB TYPE E | VC | C602 |
| 0,81 (32") PERMEABLE PEDESTRIAN PATH | PP1 | C601 |
| 0,60 (24") PERMEABLE PEDESTRIAN PATH | PP2 | C601 |
| PERMEABLE PARKING PAVEMENT | PPP | C603 |
| PAVER PAVEMENT | PP3 | C603 |
| GARBAGE PAD SCREEN | GPS | C601 |
| LANDSCAPE STONE TYPE 1 | LS1 | C604 |
| LANDSCAPE STONE TYPE 2 | LS2 | C604 |
| SPEED TABLE | STP | C601 |
| KILOMETER MARKER | KM | C603 |

# SITE PLAN- 5

scale= 1:300

C&G
JMCP + JLGARCHITECTS
115 DEL PARQUE STREET SUITE 7
SAN JUAN, PR 00911
787.309.3837

BAIGES GEOTECHNICAL ENGINEERS, LLC
64 PASEO DE LA ALHAMBRA, URB TORRIMAR, GUAYNABO, P.R. 00969
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PROJECT: PR-CRP-000721

# PASEO LA GRUTA-VIVERO DE PECES

CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

GOBIERNO MUNICIPAL DE MARICAO

PASEO HATCHERY [PR-CRP-000721]

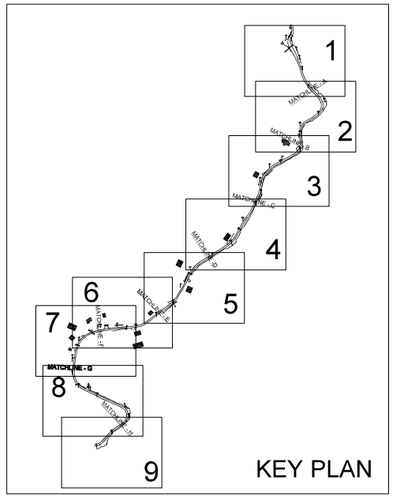
| NO. | DATE | DRAWING ISSUE | BY | APP. |
|---|---|---|---|---|
| | | | | |

DRAWN BY:
REVIEWED BY:
DATE: 05/23

SHEET TITLE: LAYOUT SITE PLAN

DRAWING NO.: C-105

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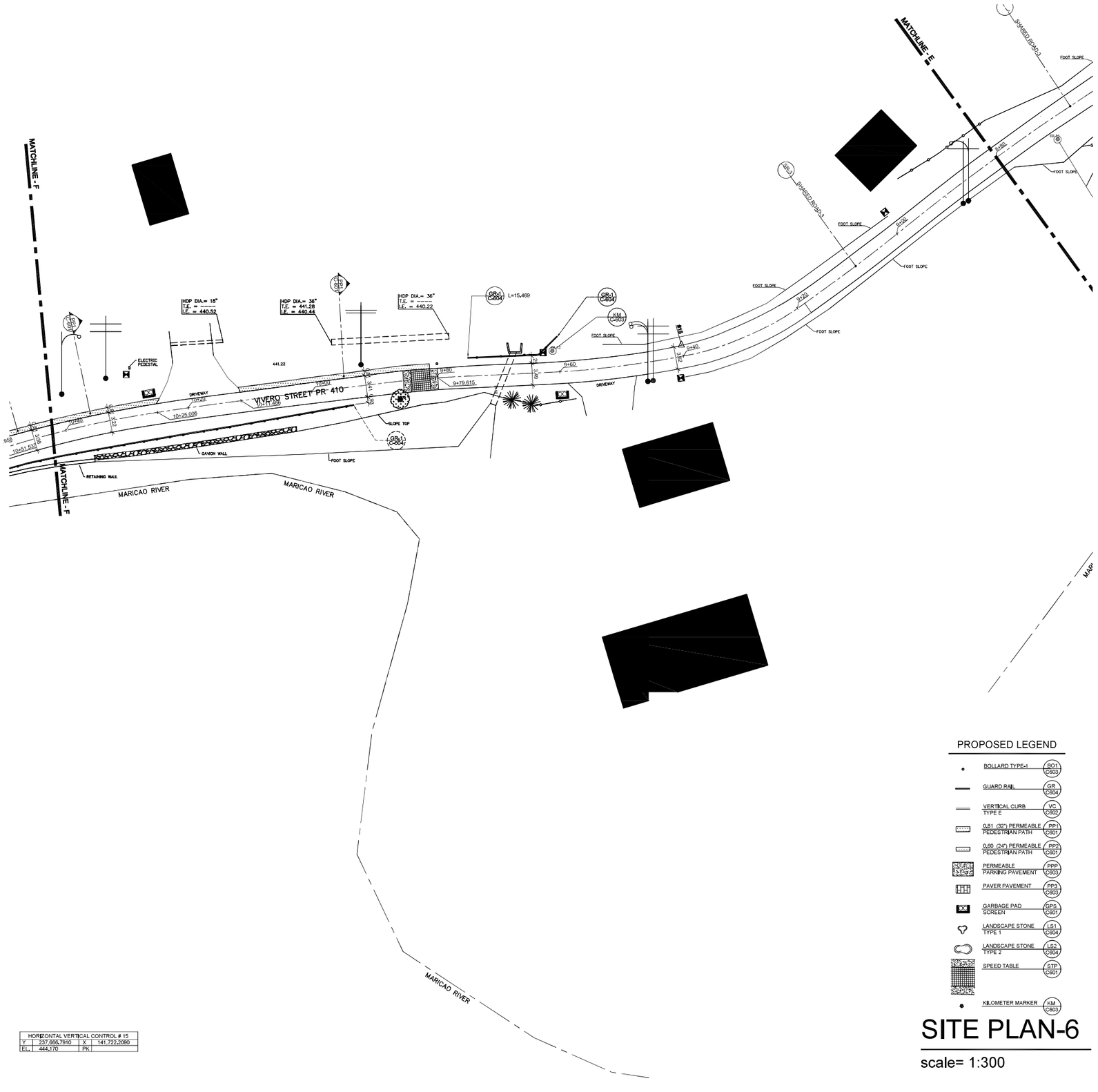



## EXISTING CONDITIONS LEGEND

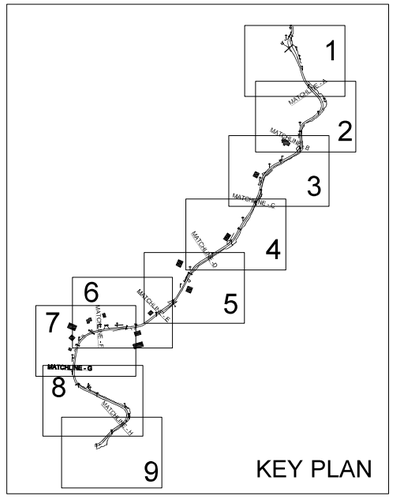
| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

0 5 10 30
SCALE = 1:300

| HORIZONTAL VERTICAL CONTROL # 15 | | | |
|---|---|---|---|
| Y | 237,666.7910 | X | 141,722.2080 |
| EL. | 444.170 | PK | |



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## EXISTING CONDITIONS LEGEND

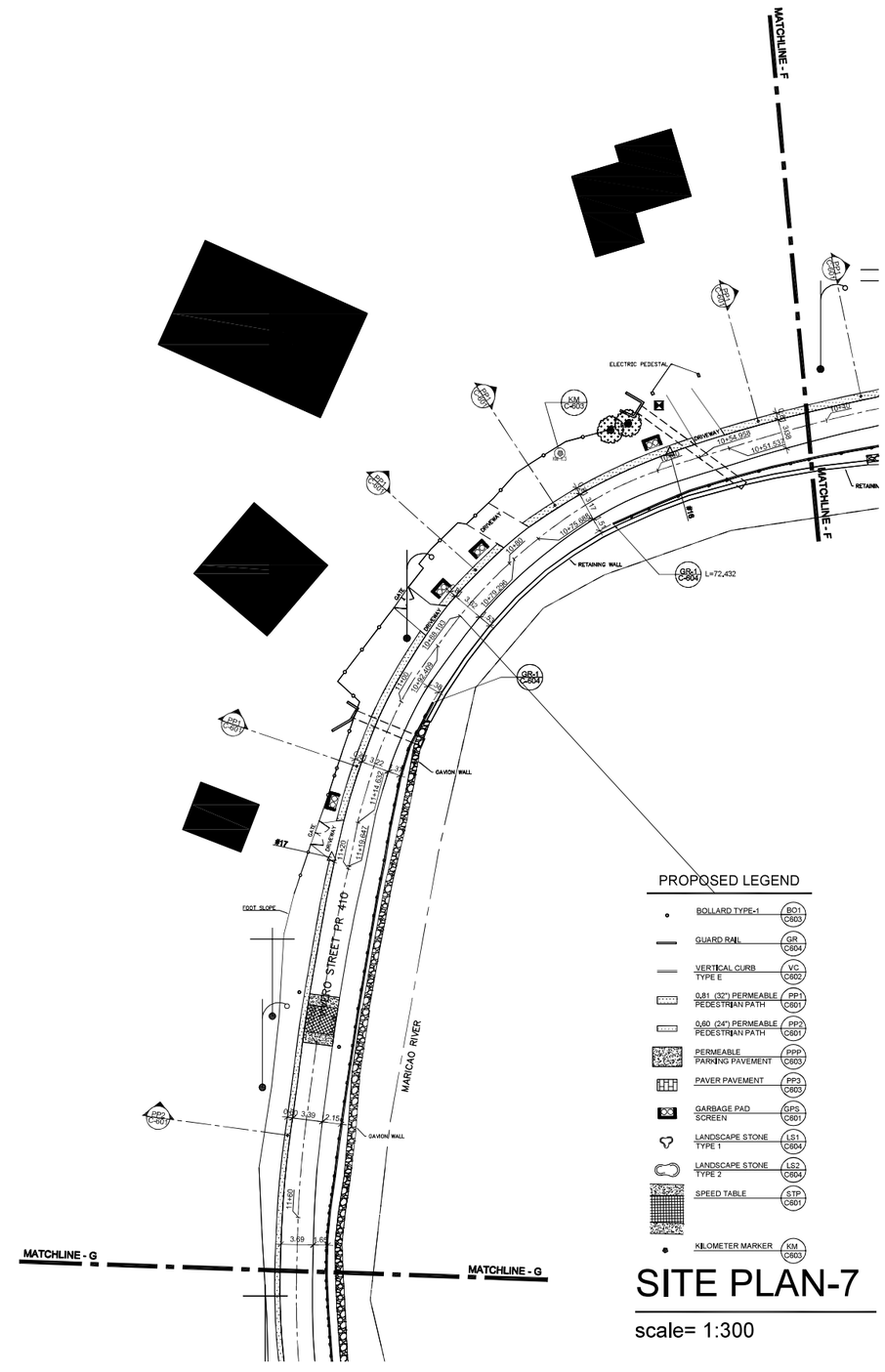
| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
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| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

0 5 10 30

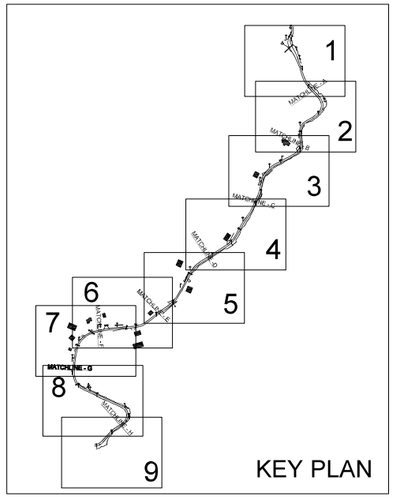
SCALE = 1:300

| HORIZONTAL VERTICAL CONTROL # 16 | | | |
|---|---|---|---|
| Y | 237,649.4570 | X | 141,605.5650 |
| EL. | 442.240 | PK | |

| HORIZONTAL VERTICAL CONTROL # 17 | | | |
|---|---|---|---|
| Y | 237,603.4640 | X | 141,587.1870 |
| EL. | 443.040 | PK | |



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## EXISTING CONDITIONS LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

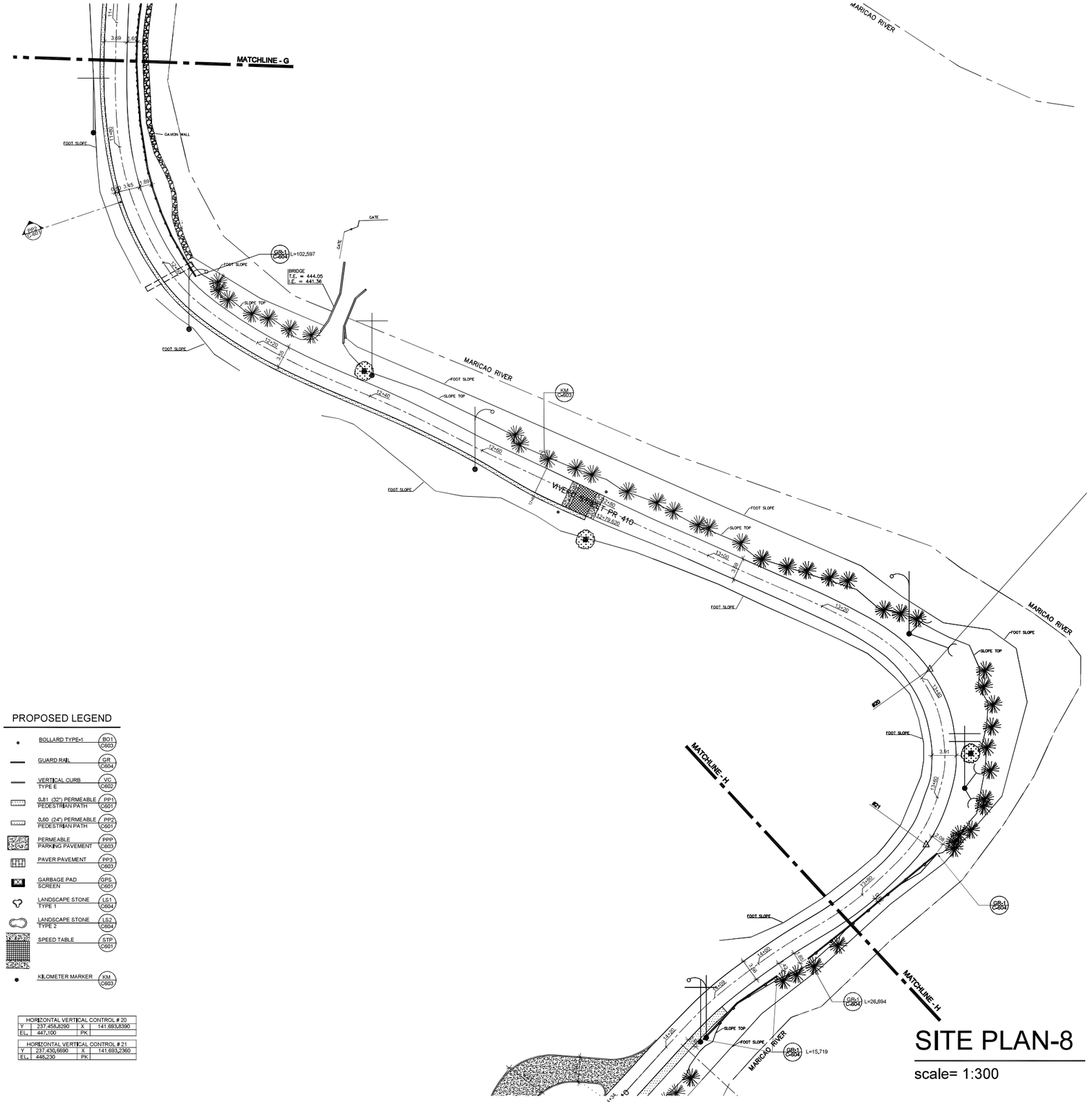
0 5 10 30
SCALE = 1:300

## PROPOSED LEGEND

| | | |
|---|---|---|
| | BOLLARD TYPE-1 | BO1 C603 |
| | GUARD RAIL | GR C604 |
| | VERTICAL CURB TYPE E | VC C602 |
| | 0.81 (32") PERMEABLE PEDESTRIAN PATH | PP1 C601 |
| | 0.60 (24") PERMEABLE PEDESTRIAN PATH | PP2 C601 |
| | PERMEABLE PARKING PAVEMENT | PPP C603 |
| | PAVER PAVEMENT | PP3 C603 |
| | GARBAGE PAD SCREEN | GPS C601 |
| | LANDSCAPE STONE TYPE 1 | LS1 C604 |
| | LANDSCAPE STONE TYPE 2 | LS2 C604 |
| | SPEED TABLE | STP C601 |
| | KILOMETER MARKER | KM C603 |

| HORIZONTAL VERTICAL CONTROL # 20 | | | |
|---|---|---|---|
| Y | 237,458,8250 | X | 141.683,8390 |
| EL. | 447,100 | PK | |

| HORIZONTAL VERTICAL CONTROL # 21 | | | |
|---|---|---|---|
| Y | 237,430,6690 | X | 141.693,2360 |
| EL. | 448,230 | PK | |




# SITE PLAN-8

scale= 1:300

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113 DEL PARQUE STREET SUITE 7
SAN JUAN, PR 00911
787.309.1837

BAIGES GEOTECHNICAL ENGINEERS, LLC
641 PASEO DE LA ALHAMBRA, URB TORRIMAR, GUAYNABO, P.R. 00966
JAMES@BAIGESMAIL.COM • (787) 399-0017

90% DESIGN SET
NOT FOR CONSTRUCTION

PROJECT: PR-CRP-000721
# PASEO LA GRUTA-VIVERO DE PECES
CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

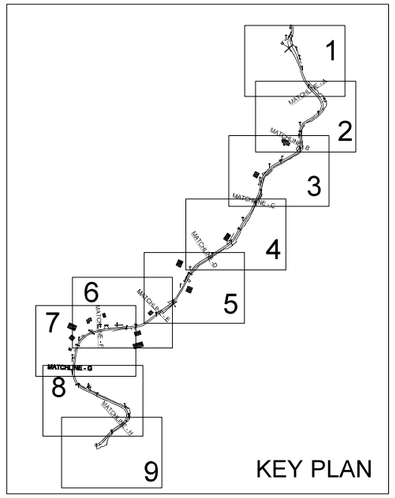
GOBIERNO MUNICIPAL DE MARICAO
PASEO HATCHERY [PR-CRP-000721]

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SHEET TITLE: LAYOUT SITE PLAN
DRAWING NO.: C-108

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## EXISTING CONDITIONS LEGEND

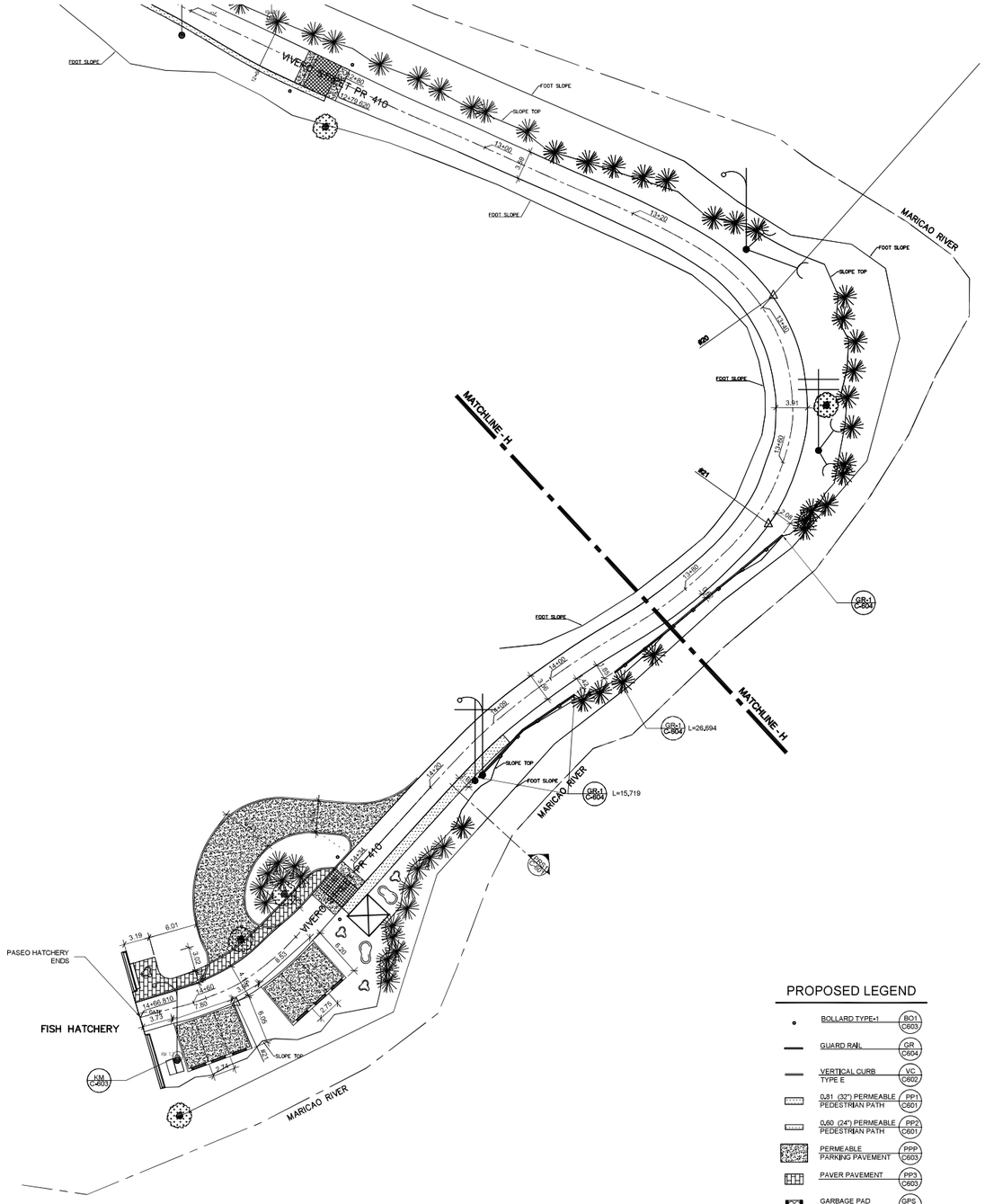
| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

0 5 10 30
SCALE = 1:300

| HORIZONTAL VERTICAL CONTROL # 20 | | | |
|---|---|---|---|
| Y | 237,458.8290 | X | 141,693.8390 |
| EL. | 447.100 | PK | |

| HORIZONTAL VERTICAL CONTROL # 21 | | | |
|---|---|---|---|
| Y | 237,430.6690 | X | 141,693.2380 |
| EL. | 448.230 | PK | |

| HORIZONTAL VERTICAL CONTROL # 22 | | | |
|---|---|---|---|
| Y | 237,371.6570 | X | 141,627.5680 |
| EL. | 450.080 | PK | |




## PROPOSED LEGEND

| | | |
|---|---|---|
| | BOLLARD TYPE-1 | BO1 C603 |
| | GUARD RAIL | GR C604 |
| | VERTICAL CURB TYPE E | VC C602 |
| | 0,81 (32") PERMEABLE PEDESTRIAN PATH | PP1 C601 |
| | 0,60 (24") PERMEABLE PEDESTRIAN PATH | PP2 C601 |
| | PERMEABLE PARKING PAVEMENT | PPP C603 |
| | PAVER PAVEMENT | PP3 C603 |
| | GARBAGE PAD SCREEN | GPS C601 |
| | LANDSCAPE STONE TYPE 1 | LS1 C604 |
| | LANDSCAPE STONE TYPE 2 | LS2 C604 |
| | SPEED TABLE | STP C601 |
| | KILOMETER MARKER | KM C603 |

# SITE PLAN-9

scale= 1:300

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113 DIL PARQUE STREET SUITE 7
SAN JUAN, PR 00911
787.309.3837

BAIGES GEOTECHNICAL ENGINEERS, LLC
64 PASEO DE LA ALHAMBRA, URB TORRIMAR, GUAYNABO, P.R. 00969
JAMES@BAIGESMUL.COM • (787) 399-0017

90% DESIGN SET
NOT FOR CONSTRUCTION

PROJECT: **PR-CRP-000721**

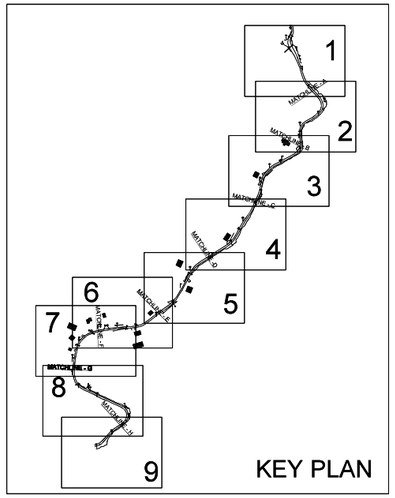
**PASEO LA GRUTA-VIVERO DE PECES**
CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

GOBIERNO MUNICIPAL DE MARICAO
PASEO HATCHERY [PR-CRP-000721]

| NO. | DATE | DRAWING ISSUE | BY | APP. |
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SHEET TITLE: LAYOUT SITE PLAN
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KEY PLAN

## EXISTING CONDITIONS LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

0 5 10 30

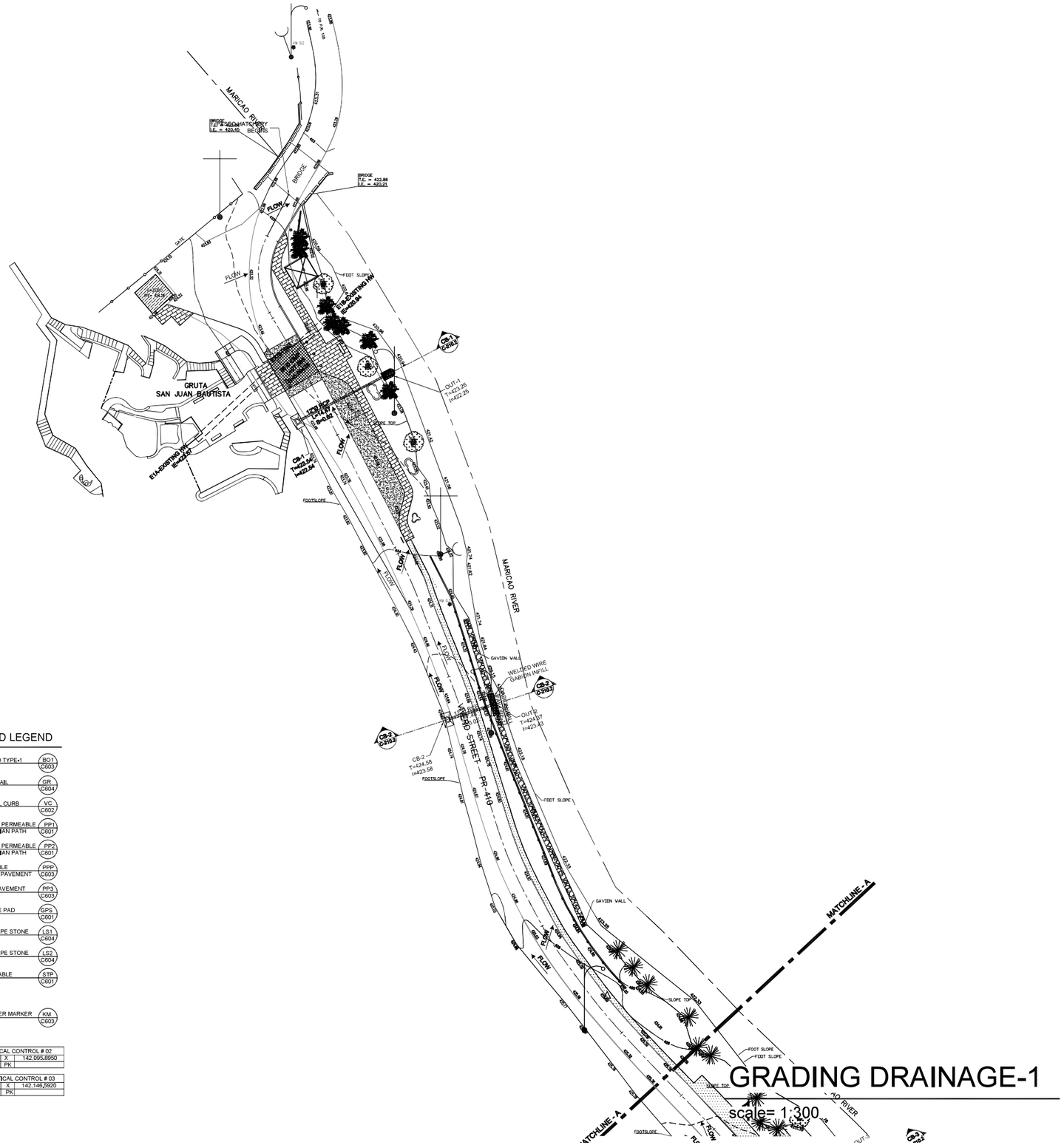
SCALE = 1:300

## PROPOSED LEGEND

| | | |
|---|---|---|
| | BOLLARD TYPE-1 | BO1 C603 |
| | GUARD RAIL | GR C604 |
| | VERTICAL CURB TYPE E | VC C602 |
| | 0.81 (32") PERMEABLE PEDESTRIAN PATH | PP1 C601 |
| | 0.60 (24") PERMEABLE PEDESTRIAN PATH | PP2 C601 |
| | PERMEABLE PARKING PAVEMENT | PPP C603 |
| | PAVER PAVEMENT | PP3 C603 |
| | GARBAGE PAD SCREEN | GPS C601 |
| | LANDSCAPE STONE TYPE 1 | LS1 C604 |
| | LANDSCAPE STONE TYPE 2 | LS2 C604 |
| | SPEED TABLE | STP C601 |
| | KILOMETER MARKER | KM C603 |

| HORIZONTAL VERTICAL CONTROL # 02 | | | |
|---|---|---|---|
| Y | 238,355.4430 | X | 142,095.6950 |
| EL. | 423.510 | PK | |

| HORIZONTAL VERTICAL CONTROL # 03 | | | |
|---|---|---|---|
| Y | 238,258.9140 | X | 142,146.5920 |
| EL. | 425.090 | PK | |




# GRADING DRAINAGE-1

scale= 1:300

C&G
JMCP + JLGARCHITECTS
113 DIL PARQUE STREET SUITE 7
SAN JUAN, PR 00911
787.309.3837

BAIGES GEOTECHNICAL ENGINEERS, LLC
44 PASEO DE LA ALHAMBRA, URB TORRIMAR, GUAYNABO, P.R. 00966
JAMES.BAIGES@GMAIL.COM – (787) 399-0017

90% DESIGN SET
NOT FOR CONSTRUCTION

PROJECT: PR-CRP-000721

**PASEO LA GRUTA-VIVERO DE PECES**

CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

GOBIERNO MUNICIPAL DE MARICAO

PASEO HATCHERY [PR-CRP-000721]

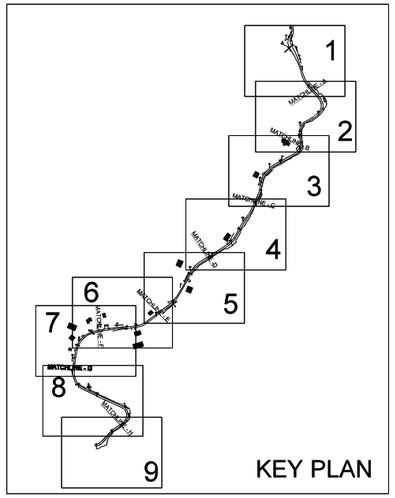
| NO. | DATE | DRAWING ISSUE | BY | APP. |
|---|---|---|---|---|
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DRAWN BY:
REVIEWED BY:
DATE: 05/23

SHEET TITLE: GRADING DRAINAGE PLAN

DRAWING NO.: C-201

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KEY PLAN

## EXISTING CONDITIONS LEGEND

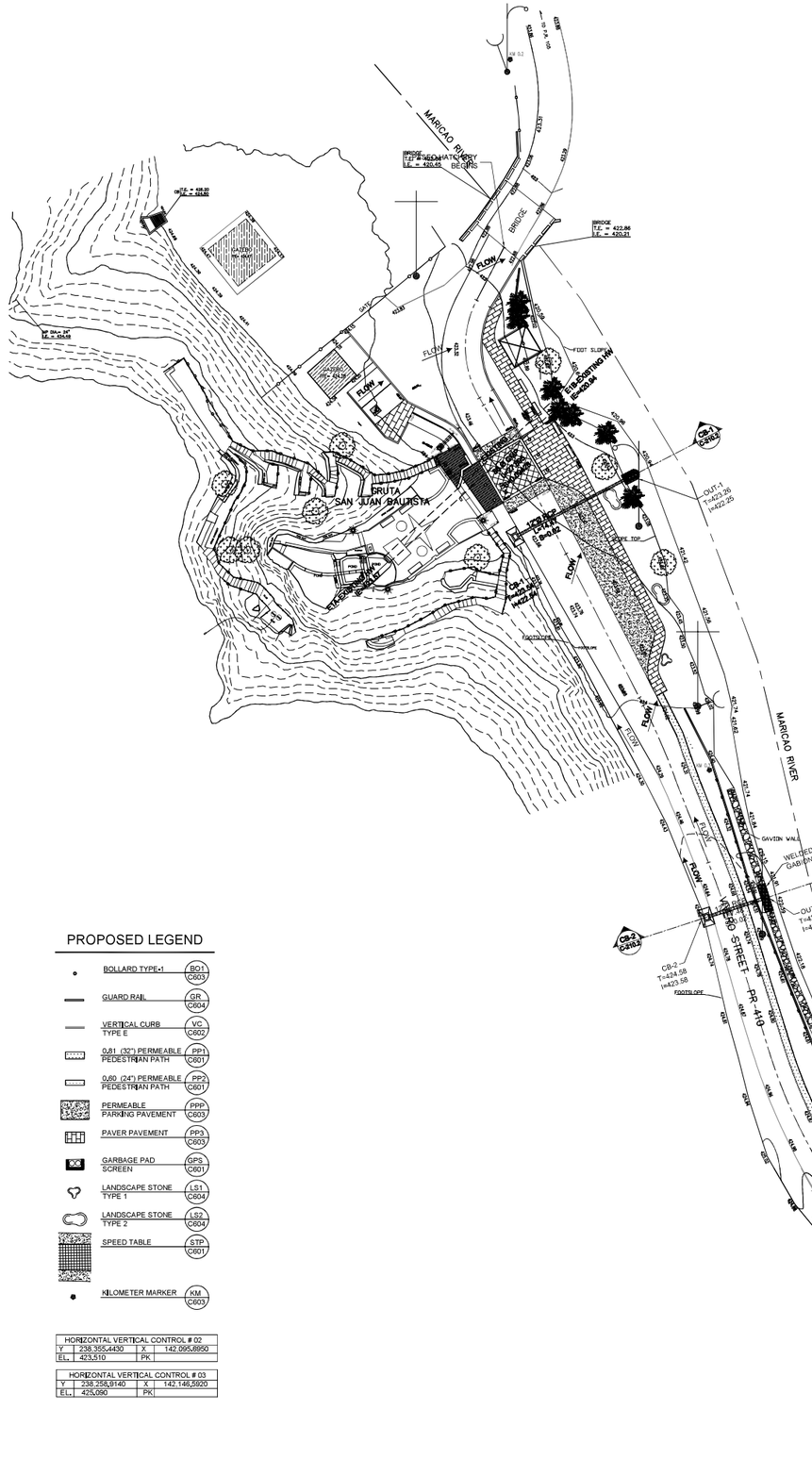
| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| PRTC. | PRTC. POLE |
| | LIGHTING POLE |
| GUY | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

## PROPOSED LEGEND

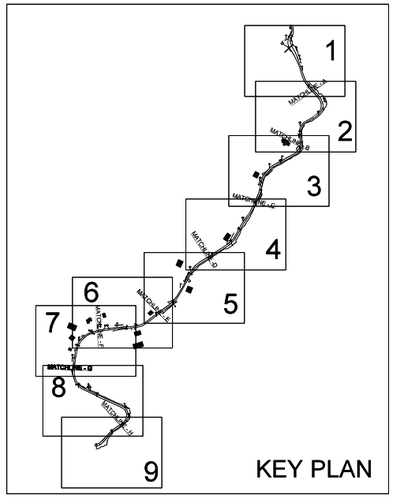
| | | |
|---|---|---|
| | BOLLARD TYPE-1 | BO1 C603 |
| | GUARD RAIL | GR C604 |
| | VERTICAL CURB TYPE E | VC C602 |
| | 0,81 (32") PERMEABLE PEDESTRIAN PATH | PP1 C601 |
| | 0,60 (24") PERMEABLE PEDESTRIAN PATH | PP2 C601 |
| | PERMEABLE PARKING PAVEMENT | PPP C603 |
| | PAVER PAVEMENT | PP3 C603 |
| | GARBAGE PAD SCREEN | GPS C601 |
| | LANDSCAPE STONE TYPE 1 | LS1 C604 |
| | LANDSCAPE STONE TYPE 2 | LS2 C604 |
| | SPEED TABLE | STP C601 |
| | KILOMETER MARKER | KM C603 |

| HORIZONTAL VERTICAL CONTROL # 02 | | | |
|---|---|---|---|
| Y | 238,355.4430 | X | 142,095.8850 |
| EL. | 423,510 | PK | |

| HORIZONTAL VERTICAL CONTROL # 03 | | | |
|---|---|---|---|
| Y | 238,258.9140 | X | 142,146.5920 |
| EL. | 425,090 | PK | |



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## EXISTING CONDITIONS LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |




## PROPOSED LEGEND

| | | |
|---|---|---|
| • | BOLLARD TYPE-1 | BO1 C603 |
| | GUARD RAIL | GR C604 |
| | VERTICAL CURB TYPE E | VC C602 |
| | 0,81 (32") PERMEABLE PEDESTRIAN PATH | PP1 C601 |
| | 0,60 (24") PERMEABLE PEDESTRIAN PATH | PP2 C601 |
| | PERMEABLE PARKING PAVEMENT | PPP C603 |
| | PAVER PAVEMENT | PP3 C603 |
| | GARBAGE PAD SCREEN | GPS C601 |
| | LANDSCAPE STONE TYPE 1 | LS1 C604 |
| | LANDSCAPE STONE TYPE 2 | LS2 C604 |
| | SPEED TABLE | STP C601 |
| • | KILOMETER MARKER | KM C603 |

| HORIZONTAL VERTICAL CONTROL # 02 | | | |
|---|---|---|---|
| Y | 238,355.4430 | X | 142,095.8960 |
| EL. | 423.510 | PK | |

| HORIZONTAL VERTICAL CONTROL # 03 | | | |
|---|---|---|---|
| Y | 238,258.9140 | X | 142,146.5920 |
| EL. | 425.050 | PK | |

**GRADING LEGEND**

423.44× PROPOSED SPOT ELEVATION

423.66 EXISTING SPOT ELEVATION

426.85 EXISTING SPOT ELEVATION

# GRADING DRAINAGE-1.2

scale= 1:300

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113 DIL PARQUE STREET SUITE 7
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BAIGES GEOTECHNICAL ENGINEERS, LLC
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JAMES.BAIGES@GMAIL.COM – (787) 399-0077

**100% DESIGN SET**
**NOT FOR CONSTRUCTION**

PROJECT: PR-CRP-000721

**PASEO LA GRUTA-VIVERO DE PECES**

CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

GOBIERNO MUNICIPAL DE MARICAO

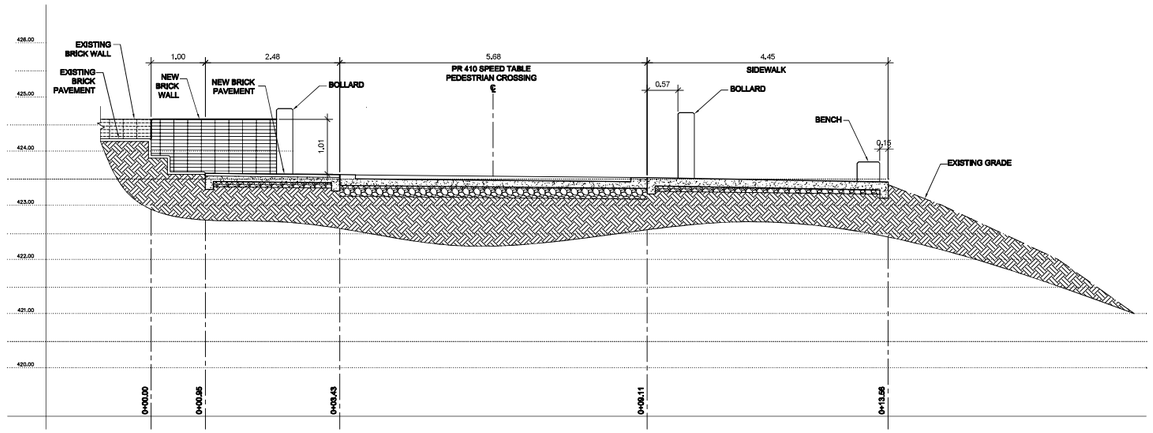
PASEO HATCHERY [PR-CRP-000721]

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|---|---|---|---|---|
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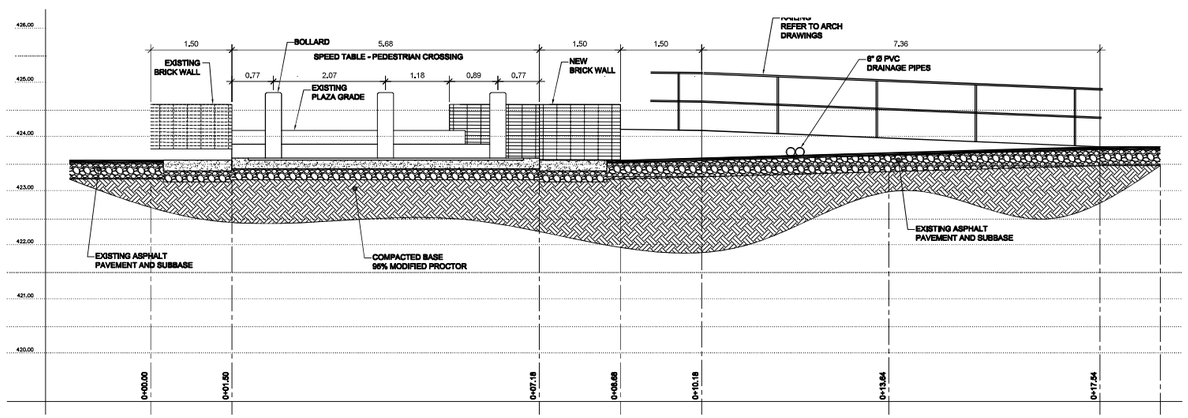
DRAWING NO.: C-201.2




CROSS SECTION R1

SCALE = 1:50

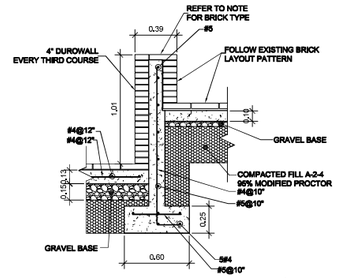
R1 C211.1




ELEVATION R2

SCALE = 1:50

R2 C211.1

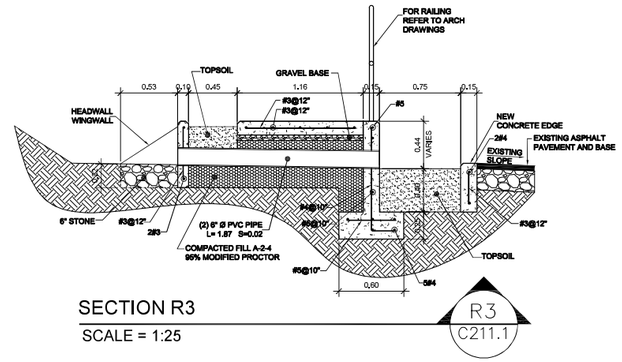



SECTION R5

SCALE = 1:25

NOTE:
FOR CONCRETE REINFORCEMENT REFER TO R3

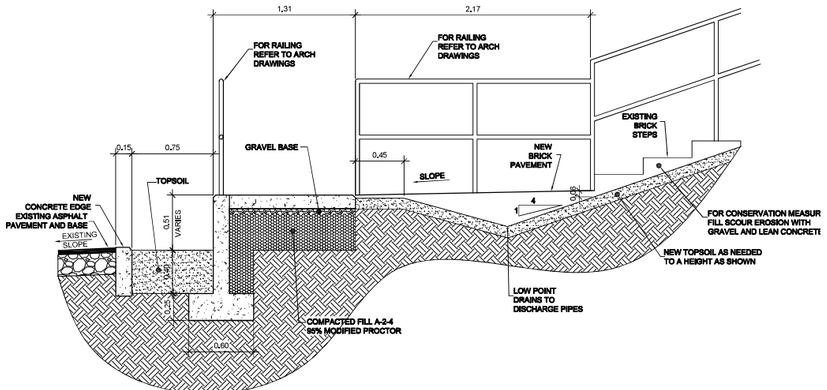
R5 C211.1




SECTION R3

SCALE = 1:25

R3 C211.1




SECTION R4

SCALE = 1:25

NOTE:
FOR CONCRETE REINFORCEMENT REFER TO R3

R4 C211.1

# SECTIONS AND ELEVATIONS-1.3

scale= 1:300

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JAMES@BAIGESGEO.COM • (787) 399-0077

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NOT FOR CONSTRUCTION

GOBIERNO MUNICIPAL DE MARICAO
PASEO HATCHERY [PR-CRP-000721]

PROJECT: PR-CRP-000721

**PASEO LA GRUTA-VIVERO DE PECES**

CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

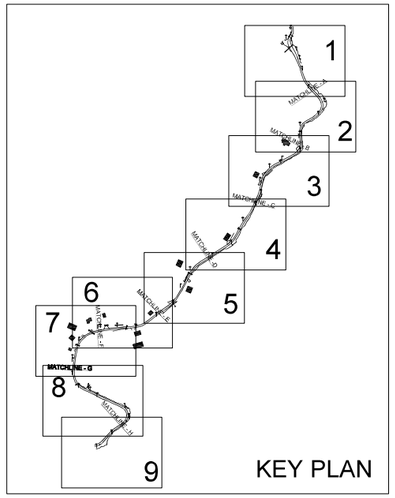
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SHEET TITLE: SECTIONS AND ELEVATIONS

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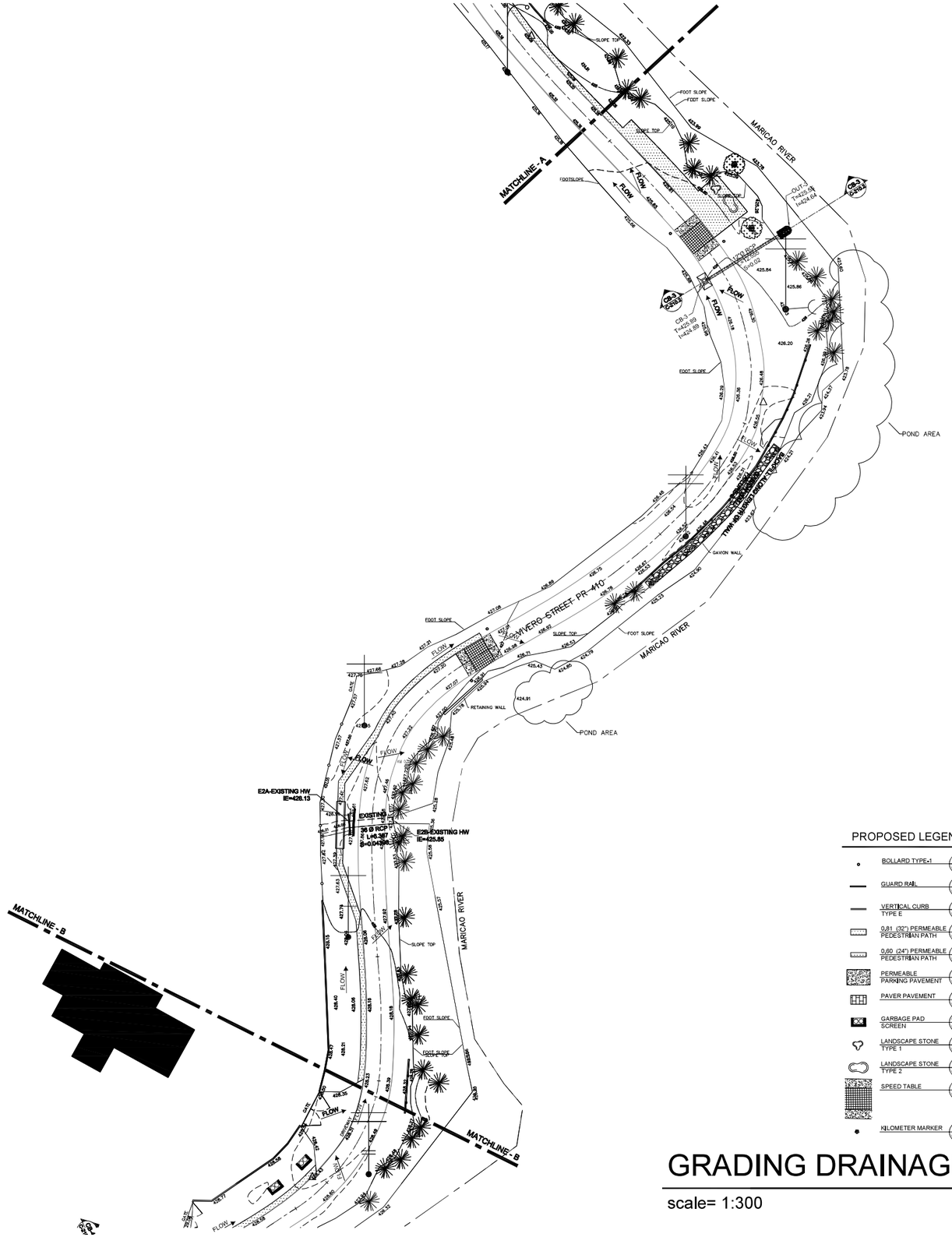



## EXISTING CONDITIONS LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

0 5 10 30

SCALE = 1:300




| HORIZONTAL VERTICAL CONTROL # 04 | | | |
|---|---|---|---|
| Y | 238,206.7660 | X | 142,179.5560 |
| EL. | 426.530 | PK | |

| HORIZONTAL VERTICAL CONTROL # 06 | | | |
|---|---|---|---|
| Y | 238,096.5140 | Y | 142115.3990 |
| EL. | 428.450 | PK | |

## PROPOSED LEGEND

| | | |
|---|---|---|
| BOLLARD TYPE-1 | BO1 | C605 |
| GUARD RAIL | GR | C604 |
| VERTICAL CURB TYPE E | VC | C602 |
| 0.81 (32") PERMEABLE PEDESTRIAN PATH | PP1 | C601 |
| 0.60 (24") PERMEABLE PEDESTRIAN PATH | PP2 | C601 |
| PERMEABLE PARKING PAVEMENT | PPP | C603 |
| PAVER PAVEMENT | PP3 | C603 |
| GARBAGE PAD SCREEN | GPS | C601 |
| LANDSCAPE STONE TYPE 1 | LS1 | C604 |
| LANDSCAPE STONE TYPE 2 | LS2 | C604 |
| SPEED TABLE | STP | C601 |
| KILOMETER MARKER | KM | C603 |

# GRADING DRAINAGE-2

scale= 1:300

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JAMES@BAIGESPR.COM • (787) 399-0077

90% DESIGN SET
NOT FOR CONSTRUCTION

PROJECT: PR-CRP-000721

**PASEO LA GRUTA-VIVERO DE PECES**

CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

GOBIERNO MUNICIPAL DE MARICAO

PASEO HATCHERY [PR-CRP-000721]

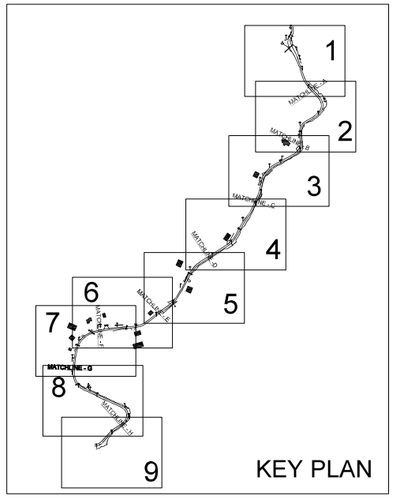
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SHEET TITLE: GRADING DRAINAGE PLAN

DRAWING NO.: C-202

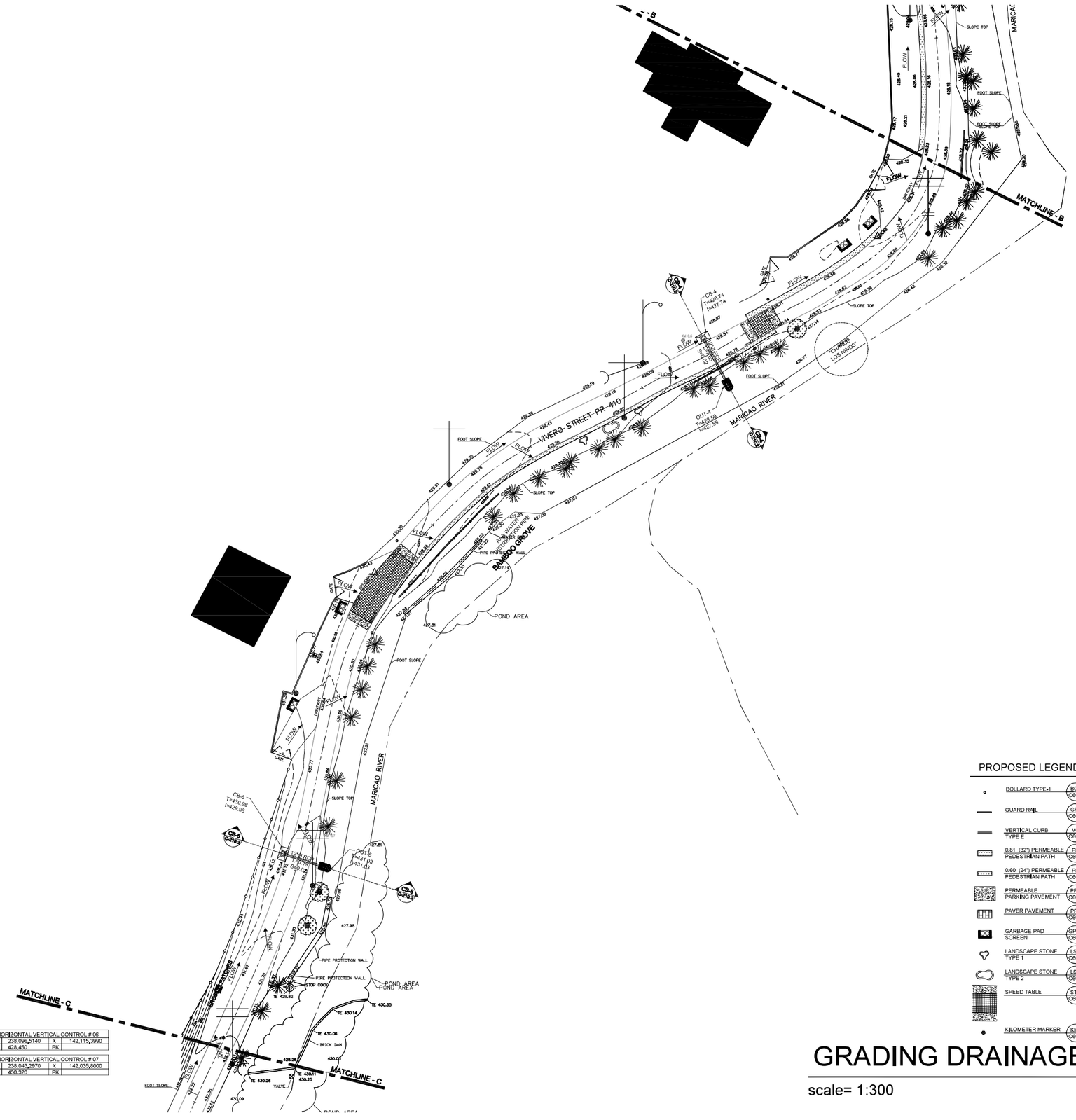
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## EXISTING CONDITIONS LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

0 5 10 30
SCALE = 1:300




| HORIZONTAL VERTICAL CONTROL # 06 | | | |
|---|---|---|---|
| Y | 238,096.5140 | X | 142,115.3990 |
| EL. | 428.450 | PK | |

| HORIZONTAL VERTICAL CONTROL # 07 | | | |
|---|---|---|---|
| Y | 238,043.2970 | X | 142,035.8000 |
| EL. | 430.320 | PK | |

## PROPOSED LEGEND

| | | |
|---|---|---|
| | BOLLARD TYPE-1 | BO1 C603 |
| | GUARD RAIL | GR C604 |
| | VERTICAL CURB TYPE E | VC C602 |
| | 0,81 (32") PERMEABLE PEDESTRIAN PATH | PP1 C601 |
| | 0,60 (24") PERMEABLE PEDESTRIAN PATH | PP2 C601 |
| | PERMEABLE PARKING PAVEMENT | PPP C605 |
| | PAVER PAVEMENT | PP3 C603 |
| | GARBAGE PAD SCREEN | GPS C601 |
| | LANDSCAPE STONE TYPE 1 | LS1 C604 |
| | LANDSCAPE STONE TYPE 2 | LS2 C604 |
| | SPEED TABLE | STP C601 |
| | KILOMETER MARKER | KM C603 |

# GRADING DRAINAGE-3

scale= 1:300

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JMCP + JLGARCHITECTS
115 DIE PARQUE STREET SUITE 7
SAN JUAN, PR 00911
787.309.3837

BAIGES GEOTECHNICAL ENGINEERS, LLC
64 PASEO DE LA ALHAMBRA, URB TOPACIO - CAGUAS PUERTO RICO
JAMES@BAIGESGEO.COM - (787) 399-0077

90% DESIGN SET
NOT FOR CONSTRUCTION

PROJECT: PR-CRP-000721
**PASEO LA GRUTA-VIVERO DE PECES**
CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

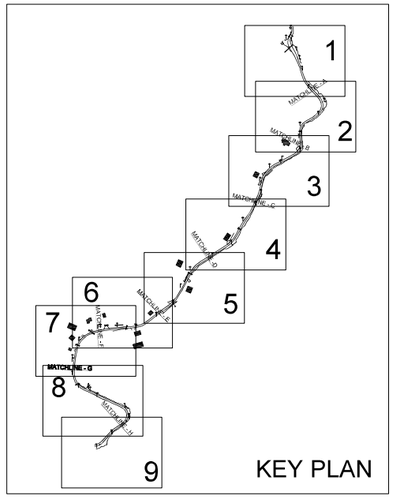
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PASEO HATCHERY [PR-CRP-000721]

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SHEET TITLE: GRADING DRAINAGE PLAN
DRAWING NO.: C-203

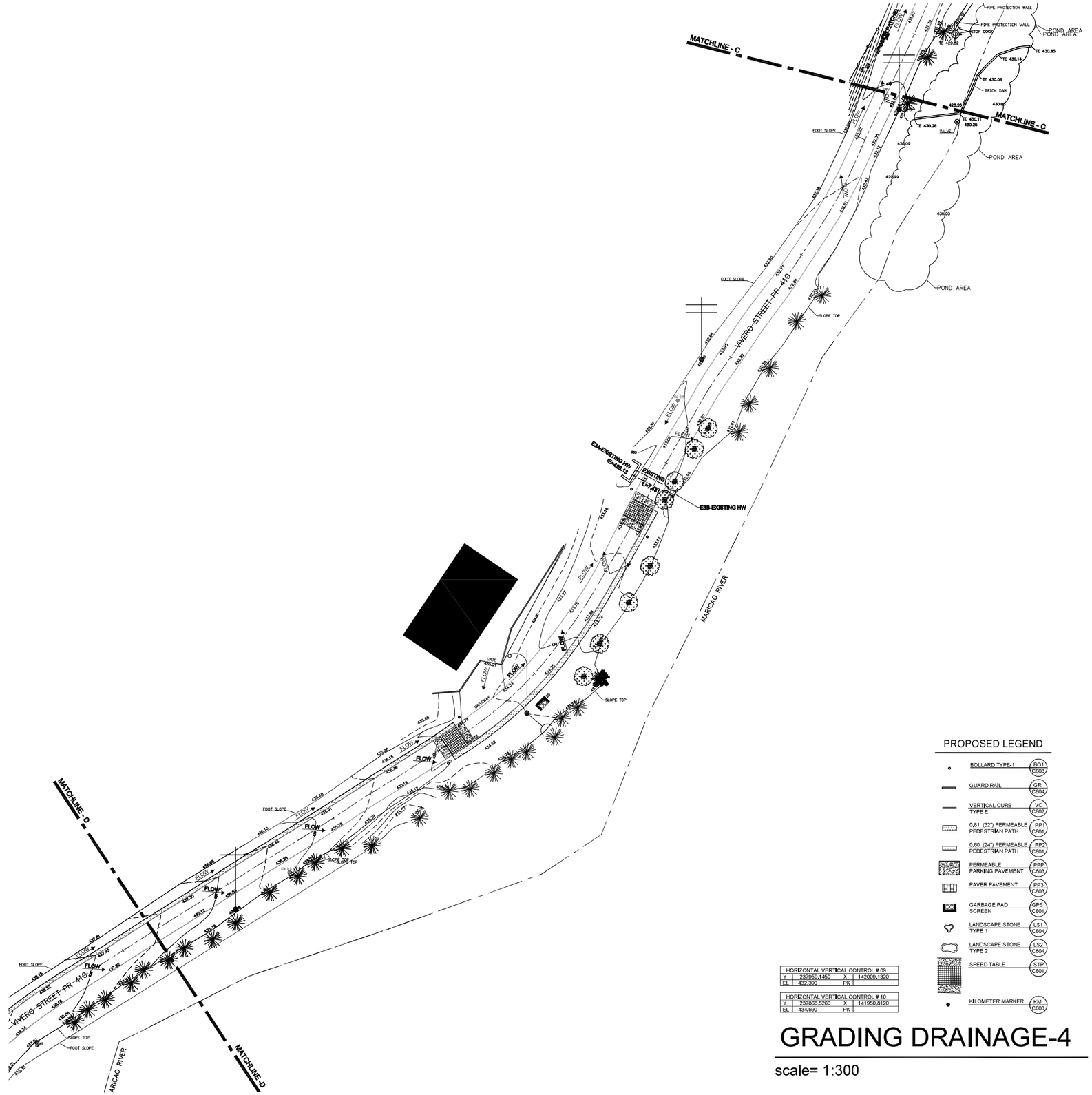
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## EXISTING CONDITIONS LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

0 5 10 30
SCALE = 1:300




| HORIZONTAL VERTICAL CONTROL # 09 | | | |
|---|---|---|---|
| Y | 237950,1450 | X | 142009,1320 |
| EL | 432,390 | PK | |

| HORIZONTAL VERTICAL CONTROL # 10 | | | |
|---|---|---|---|
| Y | 237868,5260 | X | 141950,8120 |
| EL | 434,590 | PK | |

## PROPOSED LEGEND

| | | |
|---|---|---|
| | BOLLARD TYPE-1 | BO1 C603 |
| | GUARD RAIL | GR C604 |
| | VERTICAL CURB TYPE E | VC C602 |
| | 0,81 (32") PERMEABLE PEDESTRIAN PATH | PP1 C601 |
| | 0,60 (24") PERMEABLE PEDESTRIAN PATH | PP2 C601 |
| | PERMEABLE PARKING PAVEMENT | PPP C603 |
| | PAVER PAVEMENT | PP3 C603 |
| | GARBAGE PAD SCREEN | GPS C601 |
| | LANDSCAPE STONE TYPE 1 | LS1 C604 |
| | LANDSCAPE STONE TYPE 2 | LS2 C604 |
| | SPEED TABLE | STP C601 |
| | KILOMETER MARKER | KM C603 |

# GRADING DRAINAGE-4

scale= 1:300

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787.309.1837

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JAMES@BAIGESGEO.COM • (787) 399-0077

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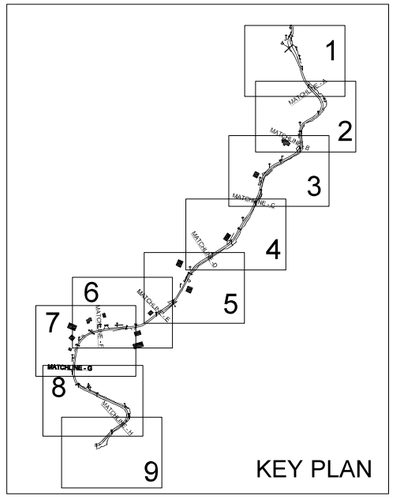
PROJECT: PR-CRP-000721
**PASEO LA GRUTA-VIVERO DE PECES**
CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

GOBIERNO MUNICIPAL DE MARICAO
PASEO HATCHERY [PR-CRP-000721]

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SHEET TITLE: GRADING DRAINAGE PLAN
DRAWING NO.: C-204

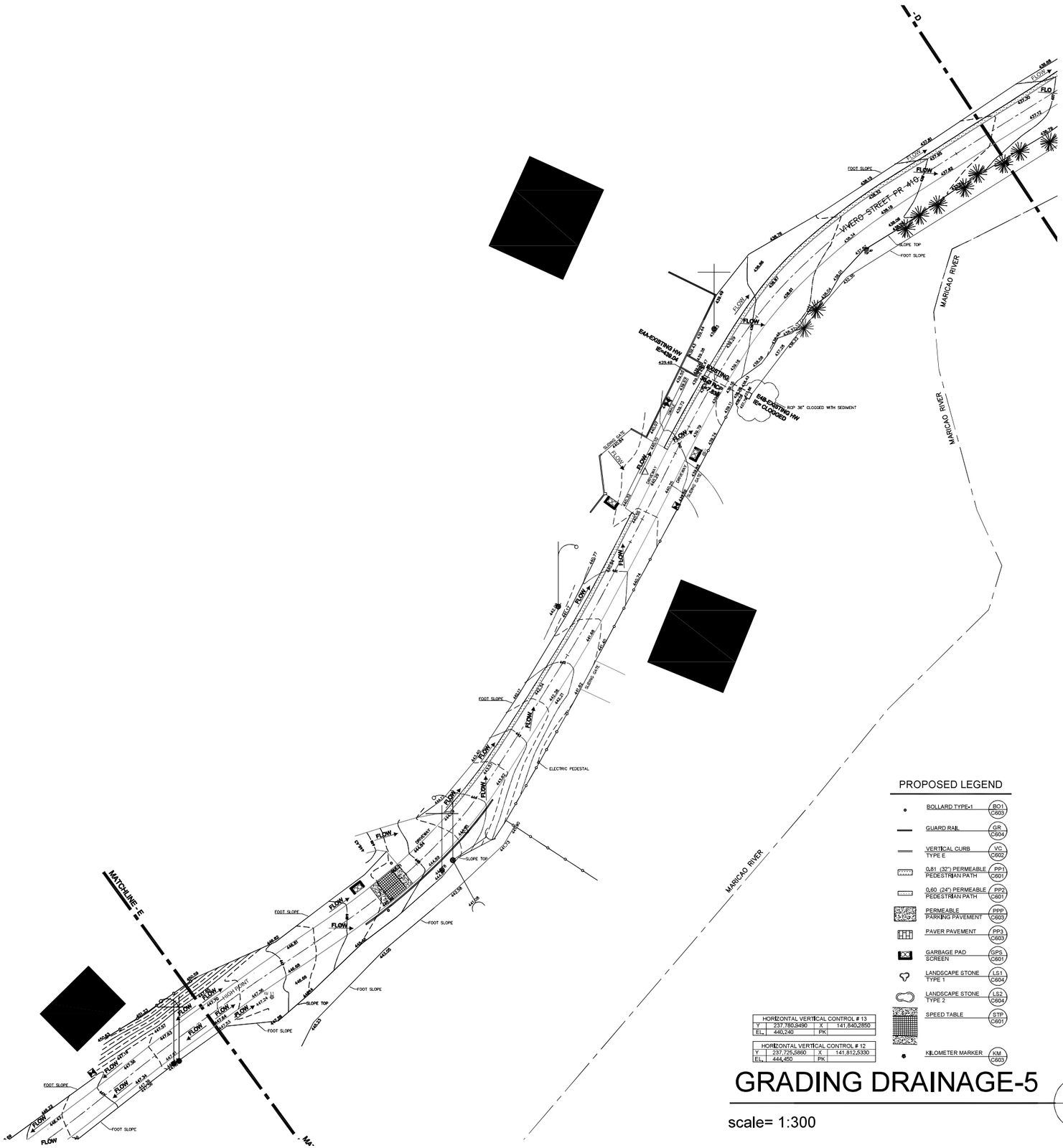
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## EXISTING CONDITIONS LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

0 5 10 30
SCALE = 1:300




| HORIZONTAL VERTICAL CONTROL # 13 | | | |
|---|---|---|---|
| Y | 237,760.9490 | X | 141,540.2850 |
| EL. | 440.240 | PK | |

| HORIZONTAL VERTICAL CONTROL # 12 | | | |
|---|---|---|---|
| Y | 237,725.5860 | X | 141,812.5330 |
| EL. | 444.450 | PK | |

## PROPOSED LEGEND

| | | |
|---|---|---|
| BOLLARD TYPE-1 | BO1 | C603 |
| GUARD RAIL | GR | C604 |
| VERTICAL CURB TYPE E | VC | C602 |
| 0.81 (32") PERMEABLE PEDESTRIAN PATH | PP1 | C601 |
| 0.60 (24") PERMEABLE PEDESTRIAN PATH | PP2 | C601 |
| PERMEABLE PARKING PAVEMENT | PPP | C603 |
| PAVER PAVEMENT | PP3 | C603 |
| GARBAGE PAD SCREEN | GPS | C601 |
| LANDSCAPE STONE TYPE 1 | LS1 | C604 |
| LANDSCAPE STONE TYPE 2 | LS2 | C604 |
| SPEED TABLE | STP | C601 |
| KILOMETER MARKER | KM | C603 |

# GRADING DRAINAGE-5

scale= 1:300

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115 DIE PARQUE STREET SUITE 7
SAN JUAN, PR 00911
787.309.1837

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641 PASEO DE LA ALHAMBRA, URB TORRIMAR, GUAYNABO, P.R. 00969
JAMES@BAIGESGROUP.COM • (787) 399-0007

90% DESIGN SET
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PROJECT: PR-CRP-000721
**PASEO LA GRUTA-VIVERO DE PECES**
CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

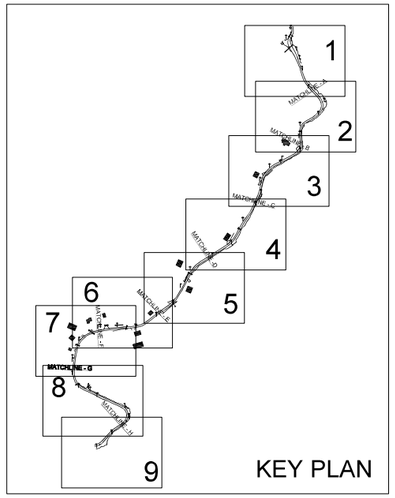
GOBIERNO MUNICIPAL DE MARICAO
PASEO HATCHERY [PR-CRP-000721]

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SHEET TITLE: GRADING DRAINAGE PLAN
DRAWING NO.: C-205

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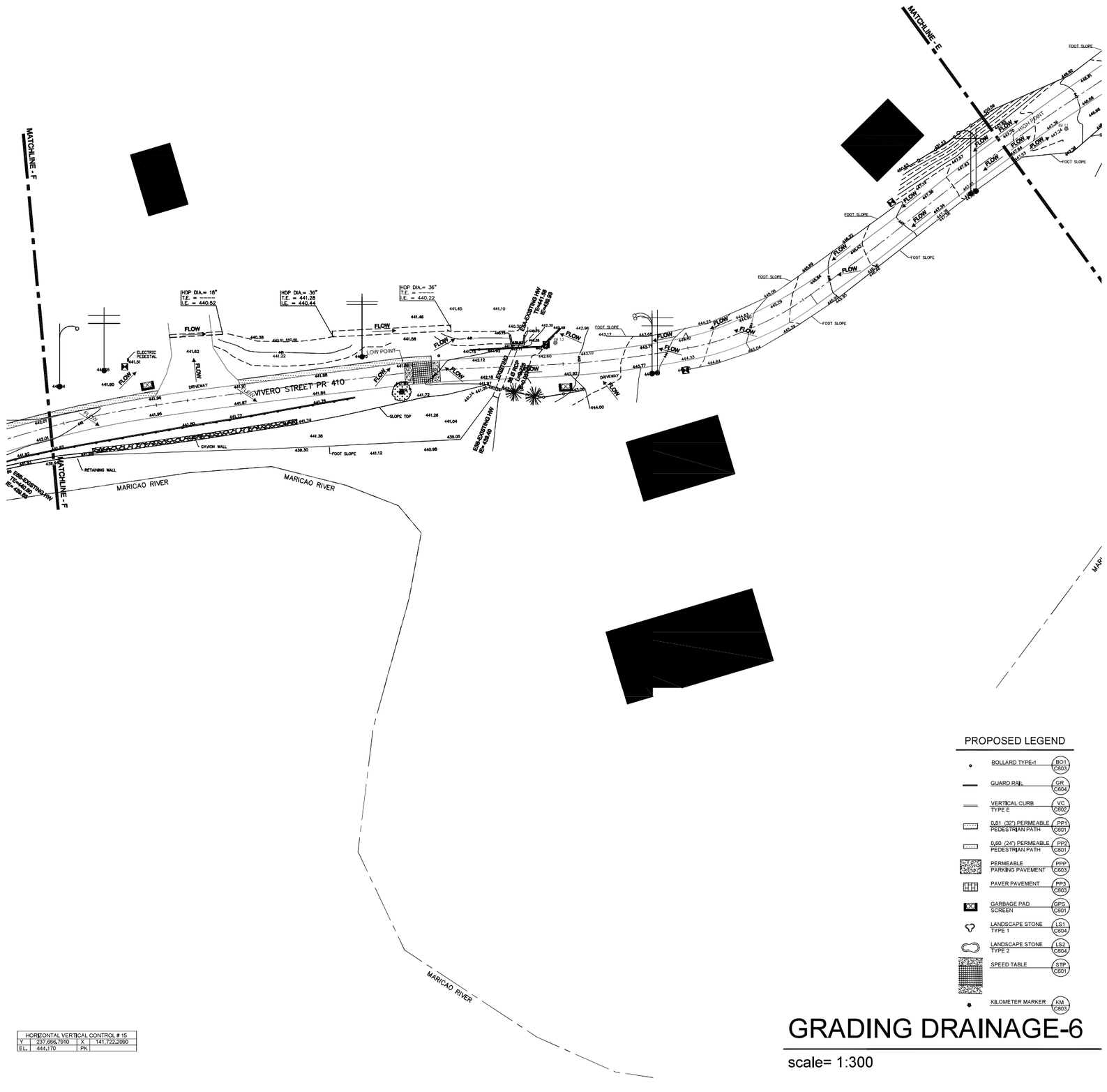



## EXISTING CONDITIONS LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

0 5 10 30
SCALE = 1:300

| HORIZONTAL VERTICAL CONTROL # 15 | | | |
|---|---|---|---|
| Y | 237,666.7910 | X | 141,722.2080 |
| EL. | 444.170 | PK | |




## PROPOSED LEGEND

| | | |
|---|---|---|
| BOLLARD TYPE-1 | BO1 | C603 |
| GUARD RAIL | GR | C604 |
| VERTICAL CURB TYPE E | VC | C602 |
| 0.81 (32") PERMEABLE PEDESTRIAN PATH | PP1 | C601 |
| 0.60 (24") PERMEABLE PEDESTRIAN PATH | PP2 | C601 |
| PERMEABLE PARKING PAVEMENT | PPP | C603 |
| PAVER PAVEMENT | PP3 | C603 |
| GARBAGE PAD SCREEN | GPS | C601 |
| LANDSCAPE STONE TYPE 1 | LS1 | C604 |
| LANDSCAPE STONE TYPE 2 | LS2 | C604 |
| SPEED TABLE | STP | C601 |
| KILOMETER MARKER | KM | C603 |

# GRADING DRAINAGE-6

scale= 1:300

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113 DEL PARQUE STREET SUITE 7
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787.309.3837

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641 PASEO DE LA ALHAMBRA, URB TORRIMAR, GUAYNABO, P.R. 00969
JAMES@BAIGESGMAIL.COM • (787) 399-0007

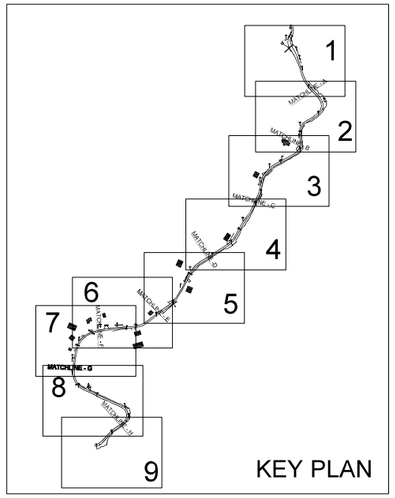
90% DESIGN SET
NOT FOR CONSTRUCTION

PROJECT: PR-CRP-000721
PASEO LA GRUTA-VIVERO DE PECES
CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5
GOBIERNO MUNICIPAL DE MARICAO
PASEO HATCHERY [PR-CRP-000721]

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## EXISTING CONDITIONS LEGEND

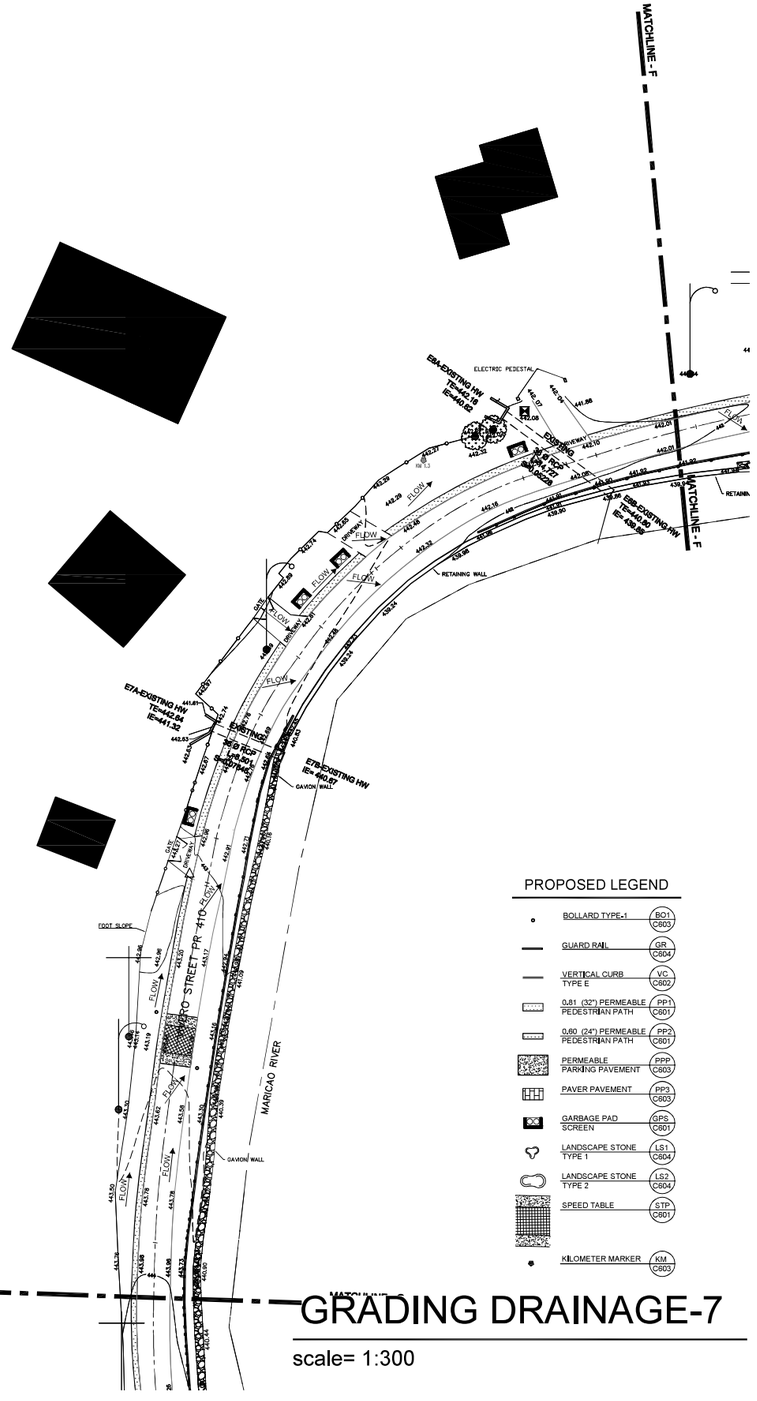
| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

0 5 10 30

SCALE = 1:300

| HORIZONTAL VERTICAL CONTROL # 16 | | | |
|---|---|---|---|
| Y | 237,649.4570 | X | 141,605.5650 |
| EL. | 442.240 | PK | |

| HORIZONTAL VERTICAL CONTROL # 17 | | | |
|---|---|---|---|
| Y | 237,603.4640 | X | 141,587.1870 |
| EL. | 443.040 | PK | |




## PROPOSED LEGEND

| | | |
|---|---|---|
| BOLLARD TYPE-1 | BO1 | C603 |
| GUARD RAIL | GR | C604 |
| VERTICAL CURB TYPE E | VC | C602 |
| 0.81 (32") PERMEABLE PEDESTRIAN PATH | PP1 | C601 |
| 0.60 (24") PERMEABLE PEDESTRIAN PATH | PP2 | C601 |
| PERMEABLE PARKING PAVEMENT | PPP | C603 |
| PAVER PAVEMENT | PP3 | C603 |
| GARBAGE PAD SCREEN | GPS | C601 |
| LANDSCAPE STONE TYPE 1 | LS1 | C604 |
| LANDSCAPE STONE TYPE 2 | LS2 | C604 |
| SPEED TABLE | STP | C601 |
| KILOMETER MARKER | KM | C603 |

# GRADING DRAINAGE-7

scale= 1:300

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JAMES@BAIGESMAIL.COM • (787) 399-0077

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PROJECT: PR-CRP-000721

**PASEO LA GRUTA-VIVERO DE PECES**

CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

GOBIERNO MUNICIPAL DE MARICAO

PASEO HATCHERY [PR-CRP-000721]

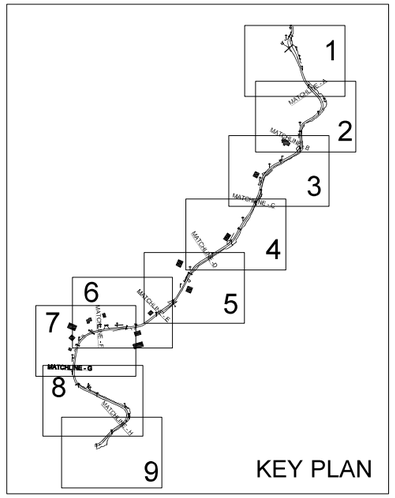
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DRAWING NO.: C-207

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## EXISTING CONDITIONS LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

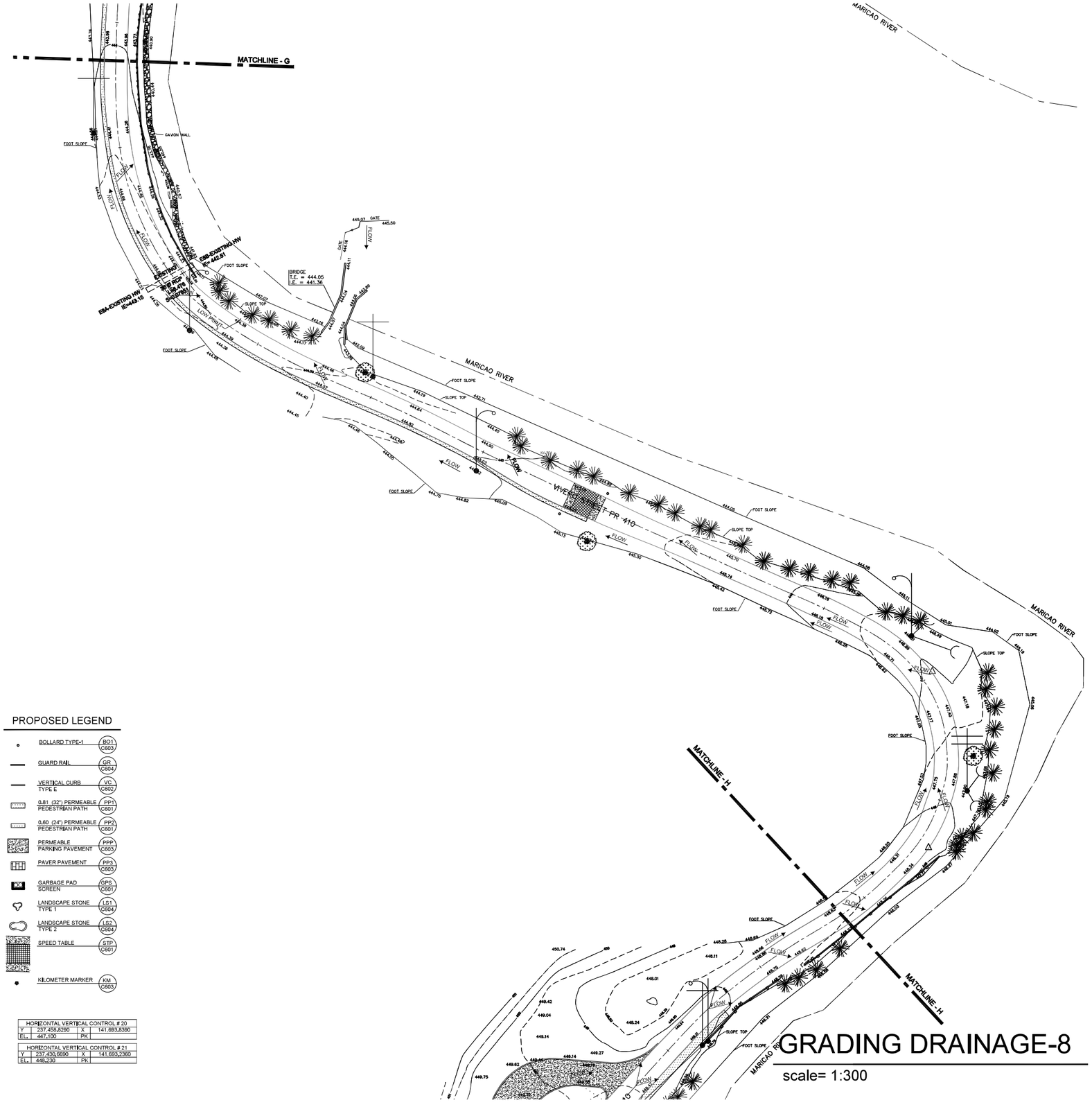
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SCALE = 1:300

## PROPOSED LEGEND

| | | |
|---|---|---|
| BOLLARD TYPE-1 | BO1 | C603 |
| GUARD RAIL | GR | C604 |
| VERTICAL CURB TYPE E | VC | C602 |
| 0.81 (32") PERMEABLE PEDESTRIAN PATH | PP1 | C601 |
| 0.60 (24") PERMEABLE PEDESTRIAN PATH | PP2 | C601 |
| PERMEABLE PARKING PAVEMENT | PPP | C603 |
| PAVER PAVEMENT | PP3 | C603 |
| GARBAGE PAD SCREEN | GPS | C601 |
| LANDSCAPE STONE TYPE 1 | LS1 | C604 |
| LANDSCAPE STONE TYPE 2 | LS2 | C604 |
| SPEED TABLE | STP | C601 |
| KILOMETER MARKER | KM | C603 |

| HORIZONTAL VERTICAL CONTROL # 20 | | | |
|---|---|---|---|
| Y | 237,456,8290 | X | 141.693,8390 |
| EL. | 447,100 | PK | |

| HORIZONTAL VERTICAL CONTROL # 21 | | | |
|---|---|---|---|
| Y | 237,430,6690 | X | 141.693,2360 |
| EL. | 448,200 | PK | |




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PROJECT: PR-CRP-000721
# PASEO LA GRUTA-VIVERO DE PECES
CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

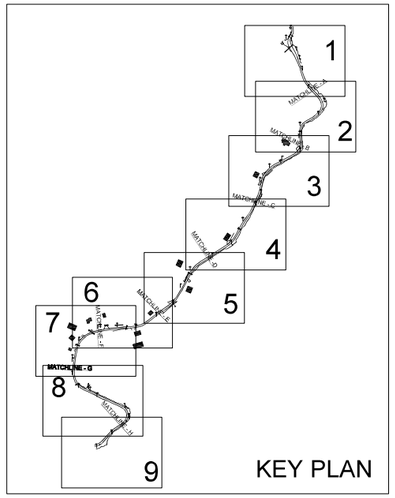
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PASEO HATCHERY [PR-CRP-000721]

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## EXISTING CONDITIONS LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

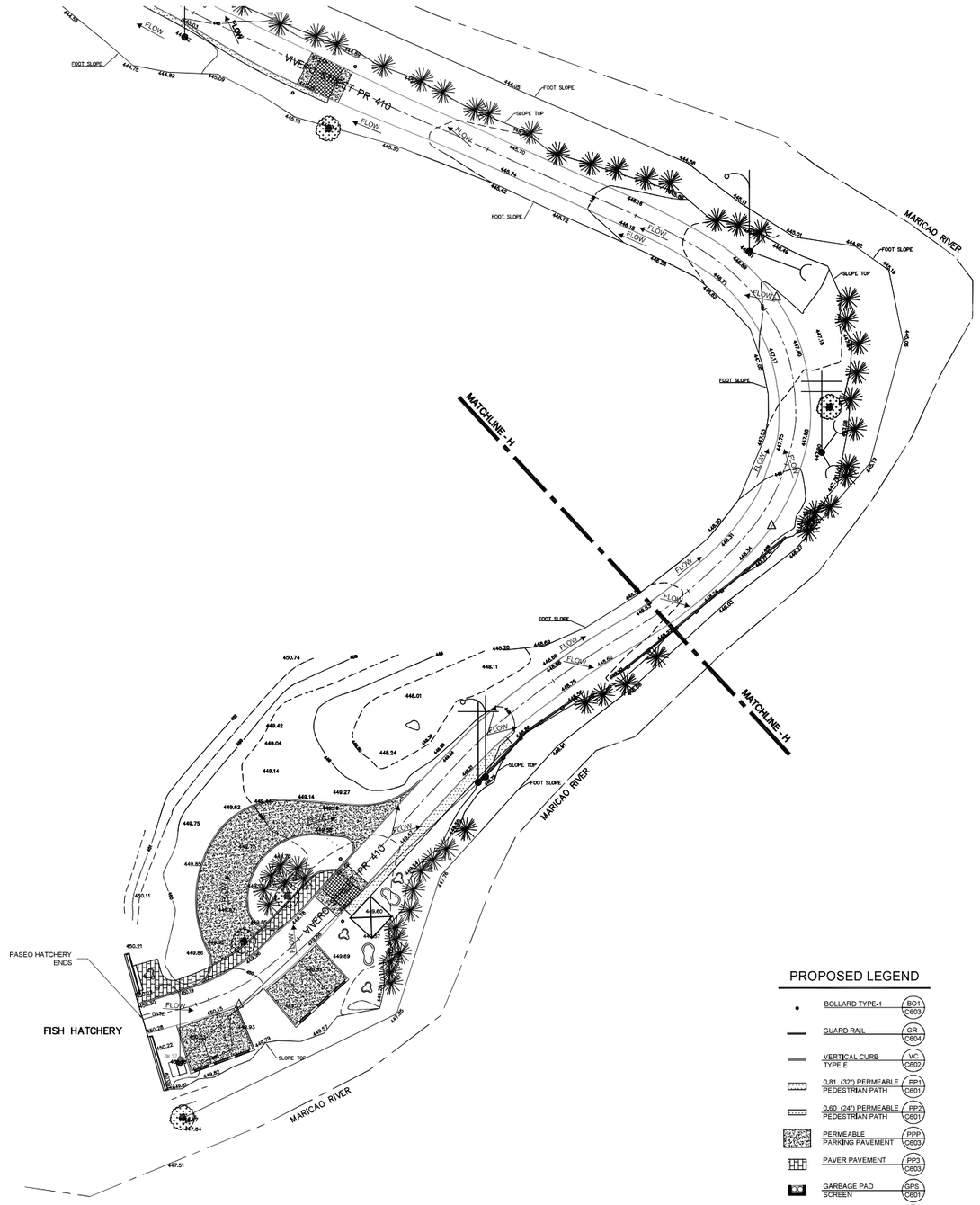
0 5 10 30

SCALE = 1:300

| HORIZONTAL VERTICAL CONTROL # 20 | | | |
|---|---|---|---|
| Y | 237,458.8290 | X | 141,693.8390 |
| EL. | 447.100 | PK | |

| HORIZONTAL VERTICAL CONTROL # 21 | | | |
|---|---|---|---|
| Y | 237,430.6690 | X | 141,693.2360 |
| EL. | 448.230 | PK | |

| HORIZONTAL VERTICAL CONTROL # 22 | | | |
|---|---|---|---|
| Y | 237,371.6570 | X | 141,627.5680 |
| EL. | 450.080 | PK | |




## PROPOSED LEGEND

| | | |
|---|---|---|
| | BOLLARD TYPE-1 | BO1 C603 |
| | GUARD RAIL | GR C604 |
| | VERTICAL CURB TYPE E | VC C602 |
| | 0,81 (32") PERMEABLE PEDESTRIAN PATH | PP1 C601 |
| | 0,60 (24") PERMEABLE PEDESTRIAN PATH | PP2 C601 |
| | PERMEABLE PARKING PAVEMENT | PPP C603 |
| | PAVER PAVEMENT | PP3 C603 |
| | GARBAGE PAD SCREEN | GPS C601 |
| | LANDSCAPE STONE TYPE 1 | LS1 C604 |
| | LANDSCAPE STONE TYPE 2 | LS2 C604 |
| | SPEED TABLE | STP C601 |
| | KILOMETER MARKER | KM C603 |

# GRADING DRAINAGE-9

scale= 1:300

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115 DIE PARQUE STREET SUITE 7
SAN JUAN, PR 00911
787.309.3837

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641 PASEO DE LA ALHAMBRA, URB TORRIMAR, GUAYNABO, P.R. 00969
JAMES@BAIGESMUNIZ.COM • (787) 399-0037

90% DESIGN SET
NOT FOR CONSTRUCTION

PROJECT: PR-CRP-000721

**PASEO LA GRUTA-VIVERO DE PECES**

CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

GOBIERNO MUNICIPAL DE MARICAO

PASEO HATCHERY [PR-CRP-000721]

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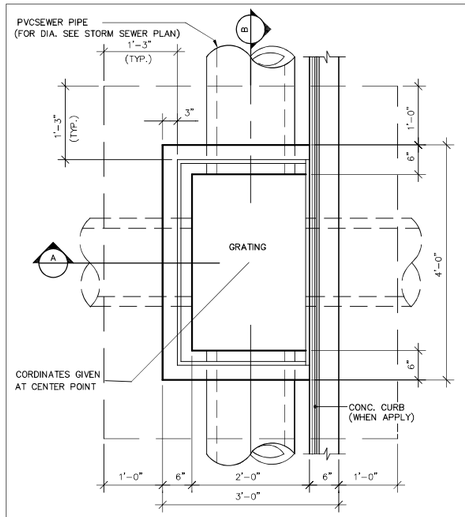
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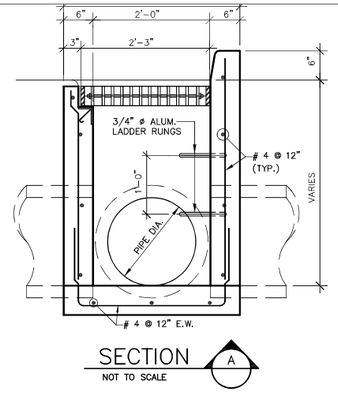
SHEET TITLE: GRADING DRAINAGE PLAN

DRAWING NO.: C-209

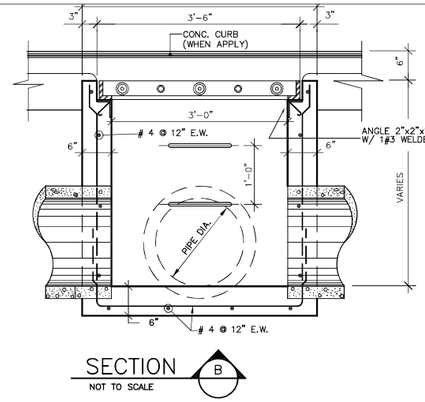
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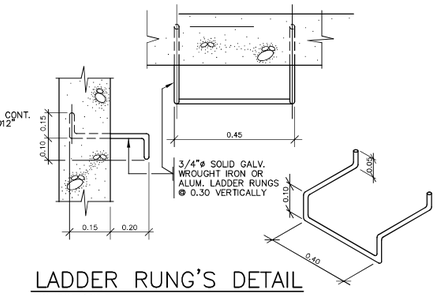

## STANDARD CONCRETE INLET PLAN
NOT TO SCALE



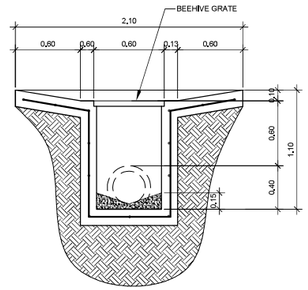

## SECTION A
NOT TO SCALE




## SECTION B
NOT TO SCALE



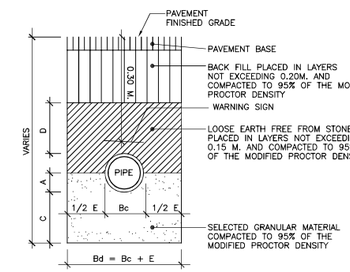

## LADDER RUNG'S DETAIL
NOT TO SCALE




## SECTION A
NOT TO SCALE

### NOTES

1- COORDINATES ARE INDICATED AT CENTER OF CATCH BASINS OR MANHOLES
2- TOP ELEVATIONS OF MANHOLES OR CATCH BASINS MUST BE ADJUSTED TO FINISH GRADE ELEVATION
3- ALL PIPES TO BE PVC SDR-35

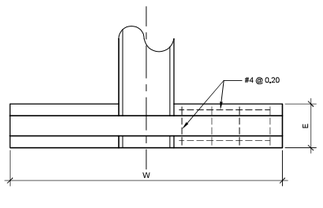



## STORM SEWER PIPE TRENCH DETAIL
NOT TO SCALE

### TRENCH DATA TABLE

| DIAM. | Bc | E | Bd | A | C | D |
|---|---|---|---|---|---|---|
| 12" | 0.41 | 0.40 | 0.81 | 0.11 | 0.10 | 0.30 |
| 18" | 0.56 | 0.50 | 1.08 | 0.18 | 0.12 | 0.30 |
| 24" | 0.77 | 0.60 | 1.37 | 0.20 | 0.16 | 0.39 |
| 30" | 0.94 | 0.60 | 1.34 | 0.24 | 0.19 | 0.47 |
| 36" | 1.11 | 0.75 | 1.86 | 0.28 | 0.23 | 0.56 |
| 42" | 1.30 | 0.75 | 2.05 | 0.33 | 0.27 | 0.65 |
| 48" | 1.48 | 0.90 | 2.38 | 0.37 | 0.31 | 0.74 |
| 36"x60" | 1.80 | 0.90 | 2.70 | 0.62 | 0.35 | 0.90 |

ALL DIMENSIONS IN METERS EXCEPT DIA.

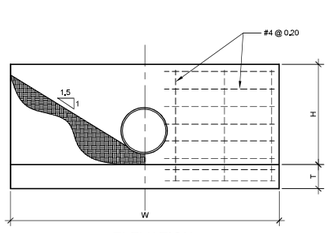



## PLAN

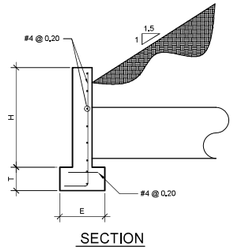
### HEADWALL TYPE "A" DIMENSIONS

| PIPE | W | H | E | T |
|---|---|---|---|---|
| D=18" | 3.24 | 1.07 | 0.46 | 0.23 |
| D=24" | 3.98 | 1.22 | 0.56 | 0.23 |
| D=30" | 4.83 | 1.37 | 0.61 | 0.23 |
| D=36" | 5.66 | 1.52 | 0.71 | 0.30 |

ALL DIMENSIONS IN METERS EXCEPT PIPE DIAMETER

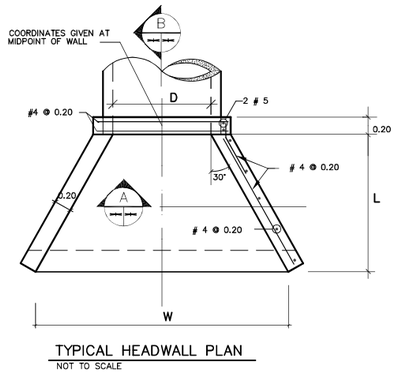



## ELEVATION

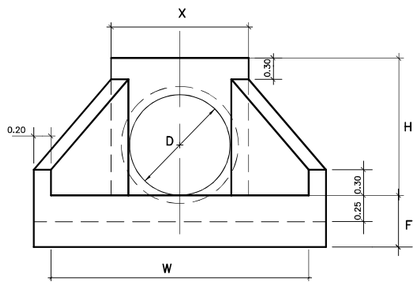



## SECTION

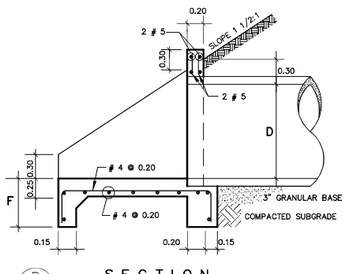
## HEADWALL TYPE A DETAILS
NOT TO SCALE



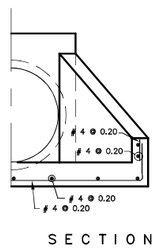

## TYPICAL HEADWALL PLAN
NOT TO SCALE




## E L E V A T I O N – A
NOT TO SCALE

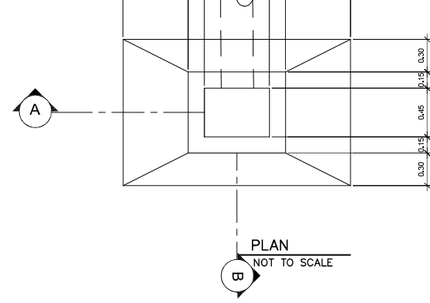



B
## S E C T I O N
NOT TO SCALE

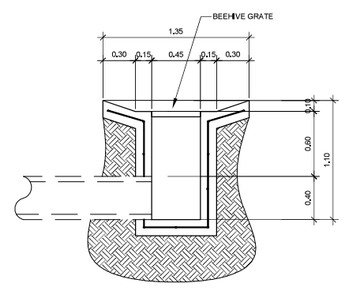



A
## S E C T I O N
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## DEPRESSED CATCH BASIN DETAILS – DI
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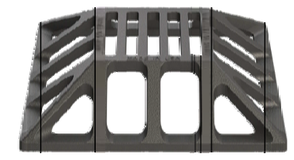



## PLAN
NOT TO SCALE




## SECTION B
NOT TO SCALE

- Frame bottom flange to rest on concrete structure
- Designed for H-20 traffic loading
- Most available with solid covers
- Options for one piece solid covers: bolted, watertight



**BEEHIVE**

## BEEHIVE GRATE
NOT TO SCALE

### HEADWALL DIMENSIONS

| PIPE | W | X | H | L | F |
|---|---|---|---|---|---|
| D=12" | 0.85 | 0.76 | 0.80 | 0.48 | 0.30 |
| D=18" | 1.00 | 0.93 | 0.91 | 0.48 | 0.30 |
| D=24" | 1.42 | 1.08 | 1.07 | 0.71 | 0.43 |
| D=30" | 1.84 | 1.23 | 1.22 | 0.94 | 0.51 |
| D=36" | 2.22 | 1.47 | 1.37 | 1.17 | 0.58 |

ALL DIMENSIONS IN METERS EXCEPT PIPE DIAMETER

### NOTES:

1 - Fc=3,000 psi
2 - Fy= 60,000 psi
3 - PORTLAND CONCRETE SHALL BE CLASS A.
4 - REINFORCING STEEL SHALL BE GRADE 60, AASHTO M-31 OR M31-M.

# H E A D W A L L  D E T A I L S

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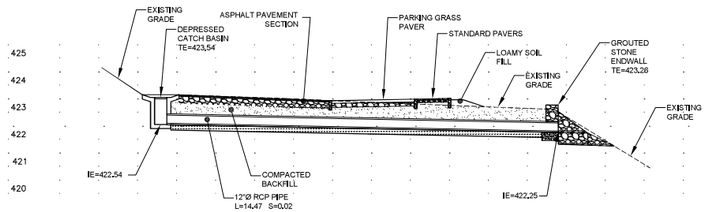
PROJECT: PR-CRP-000721
**PASEO LA GRUTA-VIVERO DE PECES**
CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5
GOBIERNO MUNICIPAL DE MARICAO
PASEO HATCHERY [PR-CRP-000721]

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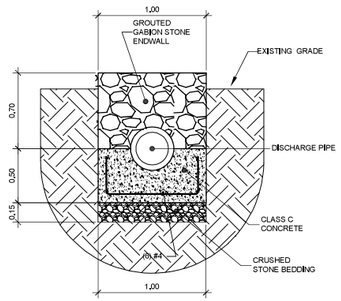
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SHEET TITLE: DRAINAGE DETAILS
DRAWING NO.: C-210.1

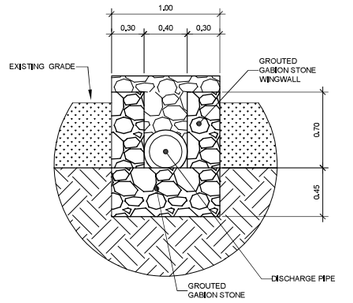
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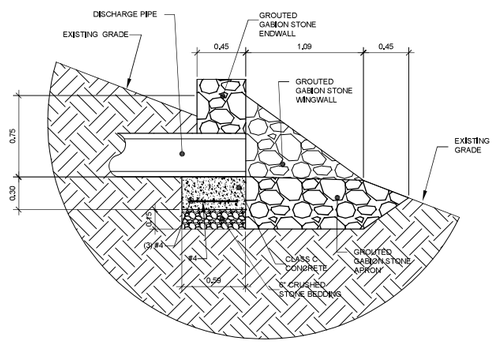

CATCH BASIN CB-1 PROFILE SECTION
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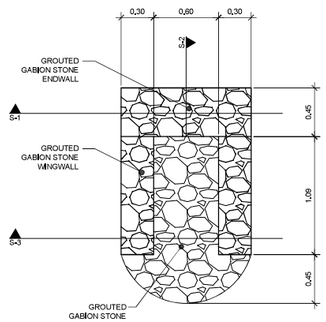

SECTION
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S-1




SECTION
SCALE = 1:25
S-3




SECTION
SCALE = 1:25
S-2

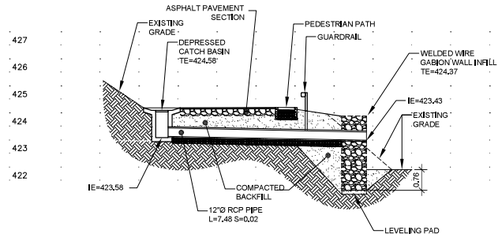



PLAN
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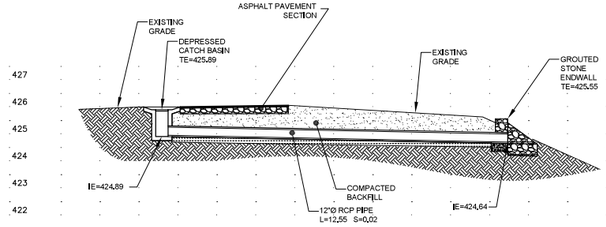
# GABION STONE GROUTED ENDWALL DETAILS

NOTES:

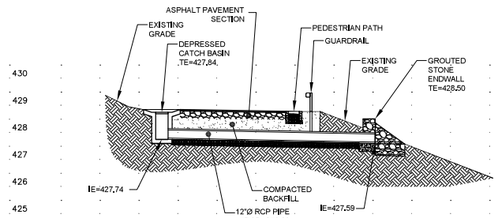
1. ALL EDGES OF EXPOSED CONCRETE SURFACE SHALL BE CHAMFERED 1 INCH.
2. ENDWALL SHALL BE CONSTRUCTED PERPENDICULAR TO TO CENTERLINE OF PIPE.



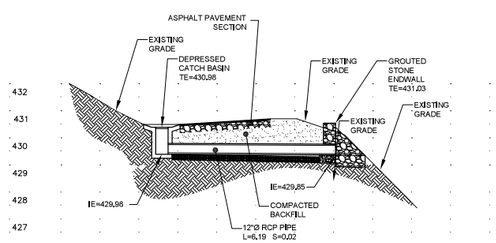

CATCH BASIN CB-2 PROFILE SECTION
SCALE = 1:100




CATCH BASIN CB-3 PROFILE SECTION
SCALE = 1:100




CATCH BASIN CB-4 PROFILE SECTION
SCALE = 1:100




CATCH BASIN CB-5 PROFILE SECTION
SCALE = 1:100

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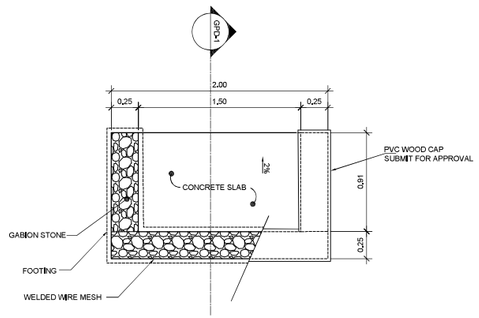
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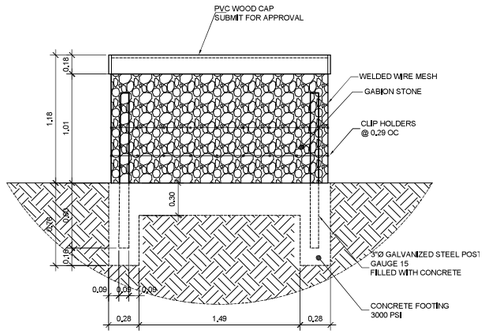
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DRAWING NO.: C-210.2

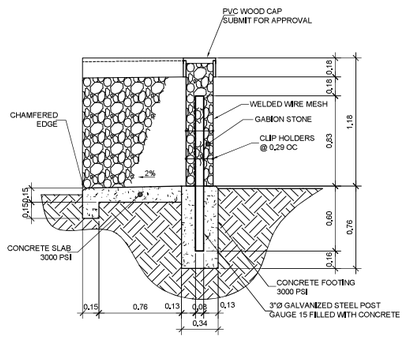
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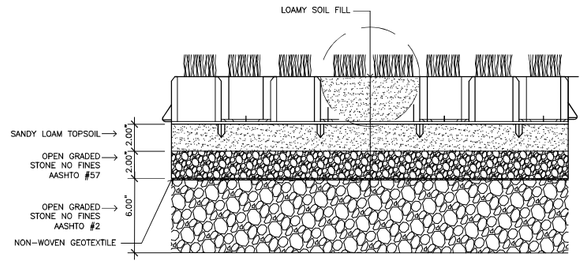

GARBAGE PAD SCREEN GPD
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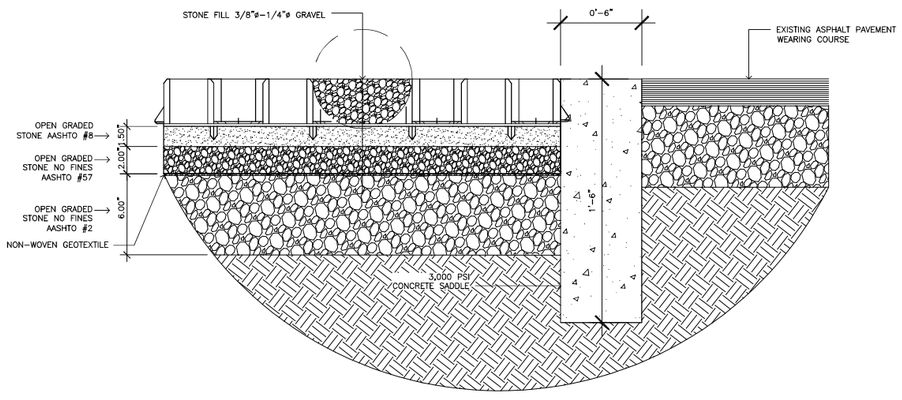

SECTION GPD-2
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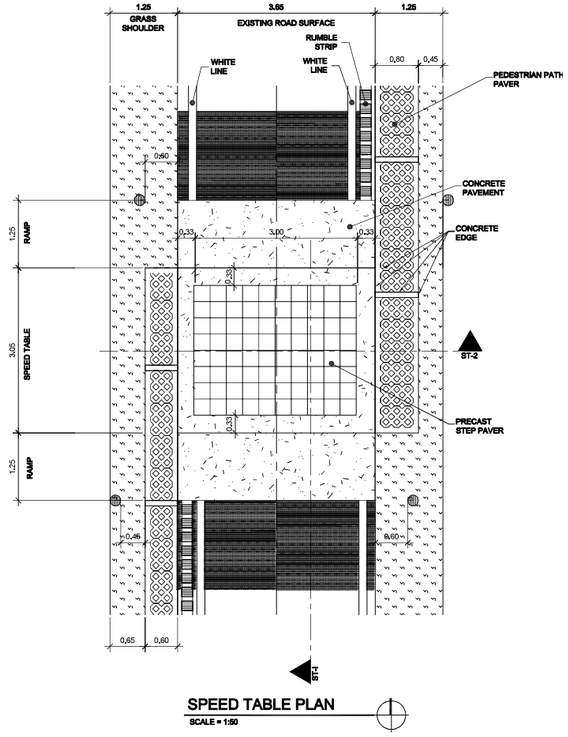

SECTION GPD-1
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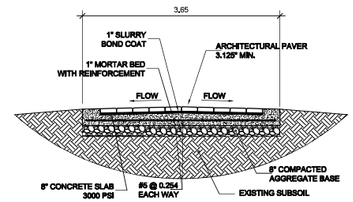

PEDESTRIAN PATH PAVER SECTION AT PARKING OR PEDESTRIAN TRAFFIC
SCALE: NTS



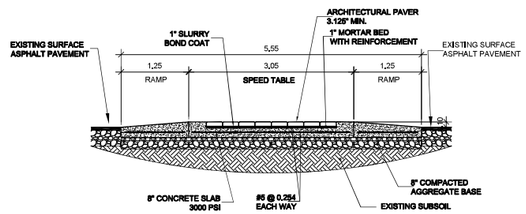

PEDESTRIAN PATH PAVER SECTION AT VEHICULAR TRAFFIC
SCALE: NTS




SPEED TABLE PLAN
SCALE = 1:50




SECTION ST-2
SCALE = 1:50




SECTION ST-1
SCALE = 1:50

# TYPICAL DETAILS

SCALE = AS SHOWN

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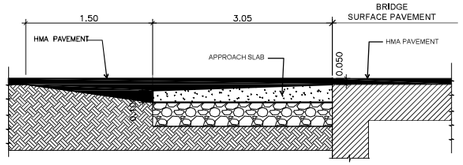
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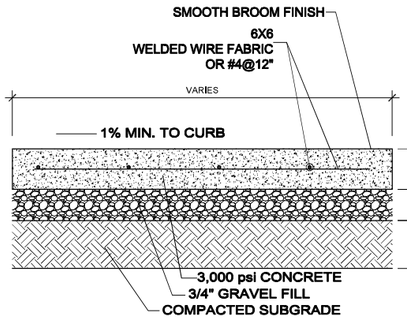
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SHEET TITLE: TYPICAL DETAILS
DRAWING NO.: C-601

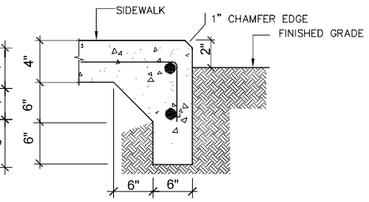
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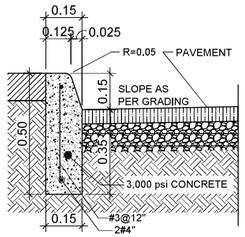

## FLEXIBLE & RIGID PAVEMENTS TRANSITION
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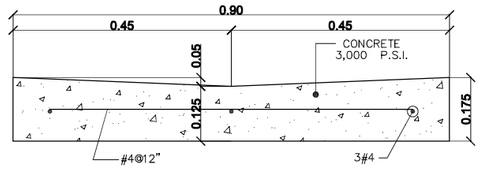

## SIDEWALK DETAIL _
SCALE : N.T.S.



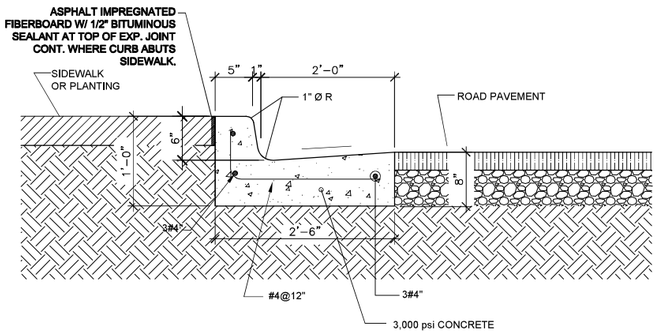

## DETAIL @ SIDEWALK EDGE
SCALE: N.T.S.



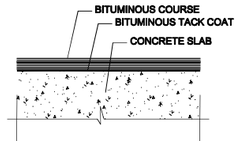

## VERTICAL CURB TYPE " E "
SCALE : N.T.S.




## CONCRETE SWALE DETAIL
SCALE: N.T.S.




## STANDARD CURB & GUTTER TYPE - F
NOT TO SCALE




## ASPHALT OVERLAY DETAIL
SCALE : NOT TO SCALE

### SIDEWALK PAVEMENT NOTES

1 CONCRETE FOR SIDEWALK SHALL HAVE A 28 DAY COMPRESSIVE STRENGTH OF 3000 PSI AND A MAXIMUM W/C RATIO OF 0.72.

2 PROVIDE TOOLED CONTROL JOINTS @5'–0" ON CENTER. A MINIMUM DEPTH OF 1" AND ⅛" WIDTH.

3 PROVIDE ½" EXPANSION JOINTS @ 30'–0" ON CENTER WITH A PRE MOLDED JOINT FILLER AND JOINT SEALANT.

4 WHERE SIDEWALK ABUTS PROPOSED OR EXISTING FIXED OBJECTS PROVIDE A ½" EXPANSION JOINT WITH PRE MOLDED JOINT FILLER AND SEALANT.

5 WELDED WIRE MESH TO BE INTERRUPTED AT ALL EXPANSION OR CONSTRUCTION JOINTS LOCATIONS. WELDED WIRE MESH SHALL BE STARTED OR INTERRUPTED AT 2" FROM JOINT OR EDGE LOCATION.

### PCC PAVEMENT NOTES:

1 ALL CONCRETE PAVING SUBJECT TO VEHICULAR TRAFFIC SHALL BE 4,000 PSI AT 28 DAYS WITH FIBERMESH,BROOM FINISH, MATERIALS AND WORKMANSHIP TO MEET OR EXCEED PRHTA SPECIFICATIONS FOR PORTLAND CEMENT CONCRETE PAVING.

2 SUBGRADE FOR CONCRETE PAVING SHALL BE COMPACTED TO 95% STANDARD PROCTOR. COMPACTION AROUND STRUCTURES, MANHOLES AND STORM INLETS SHALL BE VERIFIED. PRIOR TO PLACING CONCRETE PAVING, THE SUBGRADE SHALL BE SMOOTH AND LEVEL, ANY WHEEL RUTS OR OTHER DISTURBANCES SHALL BE LEVELED. MOISTEN SUBGRADE PRIOR TO PLACING PAVEMENT,

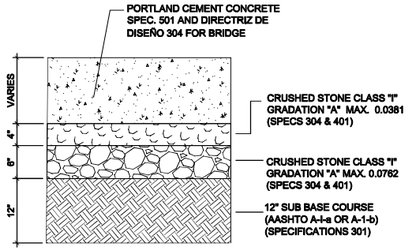
3 FINAL SUBGRADE ELEVATION SHALL BE PROOF ROLLED USING A FULLY LOADED TANDEM AXLE TRUCK. ANY LOOSE OR SOFT AREAS SHALL BE STABILIZED BY DRYING AND RECOMPACTION OR UNDER CUT AND REPLACED WITH ENGINEERED FILL.

4 ENGINEERED FILL SHALL CONSIST OF A–1–a GRANULAR FILL MATERIAL UNLESS OTHERWISE NOTED. MATERIAL SHALL BE PLACED IN MAXIMUM LOOSE FITS OF 6 INCHES IN THICKNESS AND COMPACTED TO 95% OF ITS MAXIMUM DRY DENSITY AS DETERMINED FROM THE MODIFIED PROCTOR TEST OR FOR COMPLETELY GRANULAR SOILS WITH LESS THAN 5% FINES, 75% RELATIVE DENSITY AS DETERMINED BY THE INSPECTING GEOTECHNICAL ENGINEER.

5 SEAL CONCRETE WITH WHITE PIGMENTED LIQUID MEMBRANE CURING COMPOUND MEETING ASTM C309–0RASTM C1315 (TYPE II) PRIOR TO SAW CUTTING CONTROL JOINTS.

6 PROVIDE CONTROL JOINTS FOR CONCRETE PAVING,SPACING SHALL BE BASED ON PAVEMENT SECTION THICKNESS, OR WIDTH OF PAVEMENT, WHICHEVER IS LESS: 4"THICK 8' MAX,5" THICK–12' MAX, 6" THICK OR GREATER – 15' MAX. AT CURVES, JOINT SPACING SHALL BE MEASURED ALONG THE OUTSIDE OF THE CURVE.

7 CONTRACTOR SHALL SUBMIT A JOINT PATTERN TO THE ENGINEER AND ARCHITECT FOR APPROVAL PRIOR TO PAVING. SAW CUT CONTROL JOINTS $\frac{1}{3}$ EPTH OF SLAB THICKNESS AS SOON AS CONCRETE HAS HARDENED ENOUGH TO SUPPORT THE SAW AND PREVENT RAVELING, NO LONGER THAN 12 HOURS FROM BEGINNING OF CONCRETE PLACEMENT. SEAL ALL JOINTS PER DETAILS,JOINT MATERIAL TO BE SONNEBORN SL–1 OR APPROVED EQUIVALENT.




## PCC PAVEMENT SECTION
SCALE: NOT TO SCALE
NOTE: REFER TO STRUCTURAL DRAWINGS

NOTES:
A REFER TO SF-101 FOR SECTION DEPTH AND REINFORCEMENT.
B CONCRETE STEEL REINFORCEMENT SHALL BE ANTICORROSION EPOXY COATED WITH A MINIMUM OF 3 IN COVER.

### PCC PAVEMENT NOTES CONTINUED:

8 CONTROL JOINTS SHALL BE SAWED AS SOON AS THE CONCRETE HAS HARDENED SUFFICIENTLY TO PERMIT SAWING WITHOUT RAVELING (USUALLY 4 TO 8 HOURS). ALL JOINTS SHALL BE SAWED BEFORE UNCONTROLLED SHRINKAGE TAKES PLACE. THE SAWING OPERATIONS SHALL BE CARRIED ON, BOTH DURING THE DAY AND NIGHT, AND REGARDLESS OF WEATHER CONDITIONS, UNTIL SAWING IS COMPLETED WITHIN THE PRESCRIBED TIME LAPSE. THE SAWING OF ANY JOINT SHALL BE OMITTED IF A CRACK OCCURS AT OR NEAR THE JOINT LOCATION PRIOR TO THE TIME OF SAWING. SAWING SHALL BE DISCONTINUED WHEN A CRACK DEVELOPS AHEAD OF THE SAW.

9 REFER TO PCC PAVEMENT JOINT LAYOUT PLANS FOR SPECIFIED JOINT PATTERN.

10 GRADATION FOR COARSE AGGREGATE FOR PORTLAND CEMENT CONCRETE FOR PAVEMENT SHALL USE AGGREGATE SIZE AND GRADATION ACCORDING TO 1.5 INCH TO NO. 4 GRADATION LISTED IN TABLE 703–2 OF THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION OF THE PUERTO RICO DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS.

11 CONTRACTOR IS RESPONSIBLE FOR RESTORATION OF ANY EXISTING PAVEMENT,SIDEWALKS, CURBING, UTILITIES AND DRAINAGE SYSTEM DAMAGED DURING CONSTRUCTION. ALL DAMAGED AREAS ARE TO BE RESTORED TO ORIGINAL CONDITION OR BETTER.

12 THE BITUMINOUS TACK COAT SHALL MEET THE REQUIREMENTS OF SPECIFICATION 407–"BITUMINOUS TACK COAT".

13 AL BITUMINOUS COURSES SHALL MEET THE REQUIREMENTS OF SPECIFICATION 959–"HOT PLANT MIX BITUMINOUS PAVEMENT" OR SPECIFICATION 959 – "HOT PLANT MIX BITUMINOUS PAVEMENT (SUPERPAVE)".

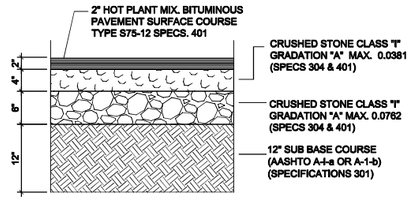
14 JOINT SEALANT SHALL MEET THE REQUIREMENTS OF AASHTO M 301 AND ASTM D 3405.

15 THE MILLING IN PORTLAND CEMENT CONCRETE PAVEMENTS AND APPROACH SLABS SHALL MEET THE REQUIREMENTS OF SPECIAL PROVISIONS OF SPECIFICATION 943–"MILLING OF PORTLAND CEMENT CONCRETE PAVEMENT".

16 THE COLD MILLING IN BITUMINOUS PAVEMENT SHALL MEET THE REQUIREMENTS OF SPECIFICATION 403 – "COLD MILLING OF BITUMINOUS PAVEMENT".

17 THE TRANSITION DETAIL SHALL BE PEPRFORMED AT THE BEGINNING OF THE APPROACH SLAB".

18 THE BITUMINOUS SURFACE COURSE SHALL BE PLACED IMMEDIATELY, AFTER MILLING AND OR CLEANING OPERATIONS ARE COMPLETED.




## ASPHALT PAVEMENT SECTION
SCALE : NOT TO SCALE

### ASPHALT PAVEMENT NOTES:

1 EXCAVATE ALL EXISTING FILL AND UNSUITABLE SOILS TO EXPOSE SUITABLE NATURAL VERY STIFF TO HARD CLAY SOILS, PROOFROLL EXPOSED NATURAL SOILS, STABILIZE AS NECESSARY AND THE PLACE ENGINEERED FILL TO SUBGRADE ELEVATION. IN CUT AREAS EXCAVATE TO THE DEPTH OF THE FINAL SUBGRADE ELEVATION TO ALLOW FOR SUBGRADE PREPARATION AND EVALUATION, AND PLACEMENT OF THE PAVEMENT SYSTEM.

2 COMPACT THE TOP 12 INCHES OF THE EXPOSED SUBGARDE AS WELL MAS INDIVIDUAL FILL LAYERS TO A MINIMUM 95 PERCENT OF THE MAXIMUM MODIFIED PROCTOR (ASTM 1557) DENSITY.

3 THOROUGHLY PROOFROLL THE FINAL SUBGRADE USING THE EQUIVALENT OF A FULLY LOADED TANDEM AXLE TRUCK UNDER THE OBSERVATION OF A GEOTECHNICAL/PAVEMWENT ENGINEER. SOFT OR LOOSE YIELDING AREAS THAT CANNOT BE MECHANICALLY STABILIZED SHOULD BE REMOVED AND REPLACED WITH ENGINEERED FILL OR STABILIZED AS DICTATED BY FIELD CONDITIONS.

4 THE AGGREGATE BASE AND SUBBASE SHOULD BE COMPACTED TO A MINIMUM 95 PERCENT OF THE MAXIMUM MODIFIED PROCTOR (ASTM 1557) DENSITY.

5 A BOND COAT OF SS-1H EMULSION SHOULD BE REQUIRED BETWEEN THE LEVELING COURSE AND THE SURFACE COURSE WHEN EITHER 48 HOURS HAVE ELAPSED BETWEEN PLACEMENT OF THE BITUMINOUS COURSES OR THE SURFACE OF THE PAVEMENT HAS BEEN CONTAMINATED WITH DIRT, DUST OR FOREIGN MATERIAL. THE BOND COAT SHOULD BE APPLIED IN A UNIFORM MANNER OVER THE SURFACE AT A RATE OF 0.1 GALLONS/ S.Y. IN THE EVENT A BOND COAT IS NOT REQUIRED, THE LEVELING COURSE MAY REQUIRE LOCALIZED BROOM CLEANING.

6 PENETRATION GRADE PG 64-22 ASPHALT CEMENT SHALL BE USED IN THE PRODUCTION OF ALL BITUMINOUS MIXTURES. RECLAIMED ASPHALT PAVEMENT (RAP) SHOULD BE LIMITED TO 5% IN THE WEARING COURSE AND 10% IN THE LEVELING COURSE.

7 MIX DESIGN SHALL BE BASED ON 75 BLOWS OF THE MARSHALL HAMMER.

### CONCRETE CURB TYP. NOTES

1-CONCRETE CURB SECTIONS SHALL BE OF UNIFORM LENGTHS OF 20 FEET OR LESS BUT NO SECTION TO BE LESS THAN SIX FEET.

2-PLACE 1/2 " THICK PREFORMED EXPANSION JOINT FILLER TO FULL DEPTH, FLUSH WITH TOP AND FACE OF CURB, BETWEEN CURB SECTIONS.

3-PLACE PRIME COAT ON CURB SURFACES THAT ABUTTS BITUMINOUS PAVEMENT.

4-BETWEEN CONCRETE CURB AND CONCRETE PAVEMENT OR OTHER ABUTTING STRUCTURES, PLACE 1/2 " PREFORMED EXPANSION JOINT FILLER AND SEALER.

5-CURB & GUTTER SURFACE SHALL HAVE A SMOOTH AND EVEN FINISH.

6-PORTLAND CEMENT CONCRETE SHALL BE CLASS "A".

7-CURBING SHALL BE CONSTRUCTED IN SECTIONS HAVING A UNIFORM LENGTH OF 3 METERS WITHOUT NEED OF ANY JOINT FILLER. SECTIONS SHALL BE SEPARATED BY OPEN JOINTS 0.003 WIDE. WHERE THE CURBING IS CONSTRUCTED ADJACENT TO CONCRETE PAVEMENT, THE OPEN JOINTS IN THE CURBING SHALL MATCH THE CONTRACTION JOINTS IN THE PAVEMENT.

8-FORMS SHALL BE OF METAL AND SHALL EXTEND FOR THE FULL DEPTH OF THE CONCRETE. WOODEN FORMS MAY BE USED, WHEN AUTHORIZED BY THE ENGINEER, ON SHORT RADIUS CURVES SUCH AS AT STREET INTERSECTIONS AND AT SUCH OTHER LOCATIONS FOR WHICH CURVED METAL FORMS MAY NOT BE AVAILABLE. ALL FORMS SHALL BE FREE FORM WARP AND OF SUFFICIENT STRENGTH TO RESIST THE PRESSURE OF THE CONCRETE WITHOUT DISPLACEMENT. BRACING AND STACKING OF FORMS SHALL BE SUCH THAT THE FORMS REMAIN IN BOTH HORIZONTAL AND VERTICAL ALIGNMENT UNTIL THEIR REMOVAL. ALL FORMS SHALL BE CLEANED AND COATED WITH AN APPROVED FORM RELEASE AGENT OR FORM OIL BEFORE CONCRETE IS PLACED. DIVIDER PLATES SHALL BE OF METAL. FORMS SHALL CONFORM TO THE SPECIFIED RADIUS WHEN PLACED ON CURVES.

C&G
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113 DEL PARQUE STREET SUITE 7
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787.309.1837

BAIGES GEOTECHNICAL ENGINEERS, LLC
64 PASEO DE LA ALHAMBRA, URB TORRIMAR, GUAYNABO, P.R. 00966
JAMES@BAIGESMAIL.COM • (787) 399-0077

90% DESIGN SET
NOT FOR CONSTRUCTION

PROJECT: PR-CRP-000721
PASEO LA GRUTA-VIVERO DE PECES
CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5
GOBIERNO MUNICIPAL DE MARICAO
PASEO HATCHERY [PR-CRP-000721]

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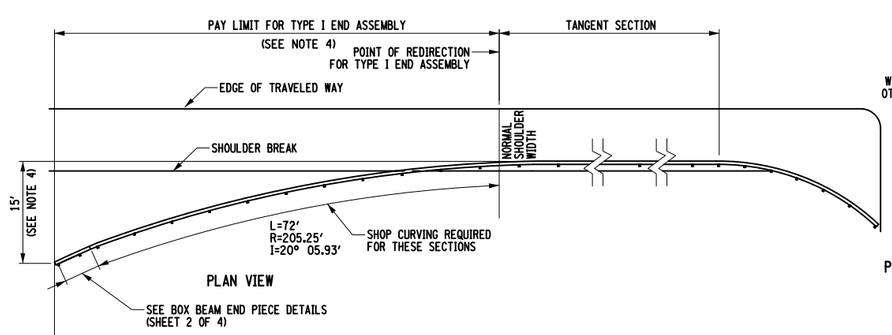
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REVIEWED BY:
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SHEET TITLE
PAVEMENT
**DETAILS**

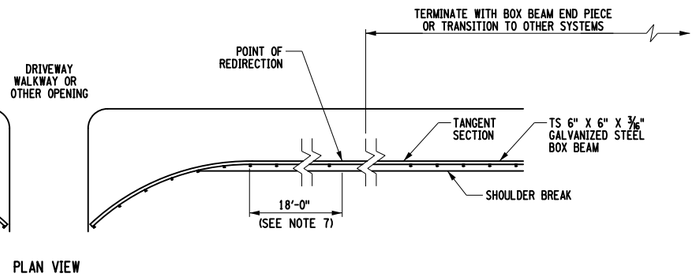
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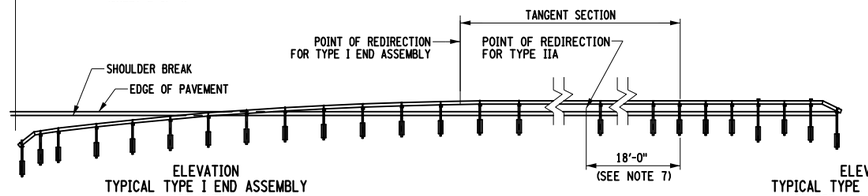
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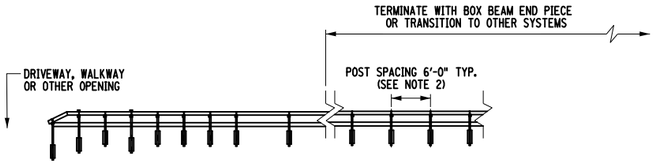

PLAN VIEW




PLAN VIEW

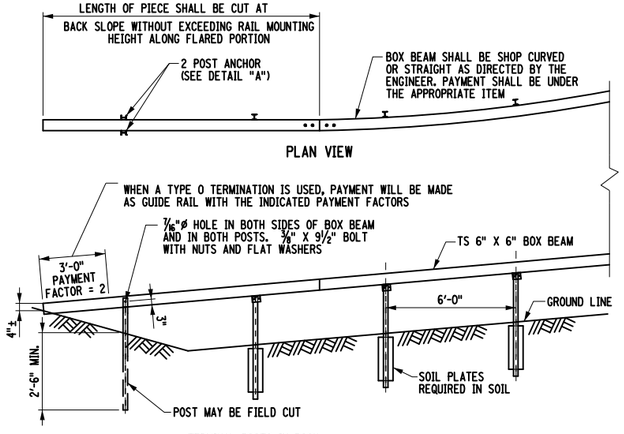



ELEVATION
TYPICAL TYPE I END ASSEMBLY
(SEE NOTE 4)

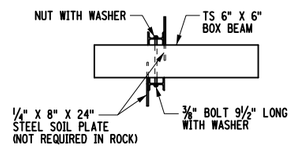



ELEVATION
TYPICAL TYPE IIA END ASSEMBLY
(SEE DETAILS ON SHEET 3 OF 4)

ELEVATION
TYPICAL LAYOUT




TYPE O END TERMINAL




DETAIL "A" - PLAN VIEW

GENERAL NOTES:

1. POST SPACING SHALL BE 6'-0" EXCEPT WHERE REDUCED POST SPACING IS INDICATED ON THE CONTRACT PLANS. FOR RUNS UNDER 130 FEET IN LENGTH, BACKUP POSTS ARE ARE REQUIRED TO REDUCE POST SPACING TO 3'-0" AND SHALL BE FASTENED TORAIL, EXCEPT AT SPLICE LOCATIONS.
2. SEE BRIDGE PLANS FOR GUIDE RAIL DETAILS, POST SPACING AND PAY ITEMS FOR TRANSITIONS AND CONNECTIONS TO BRIDGE RAIL.
3. THE LINE OF BOX BEAM GUIDE RAIL, WHEN COMPLETED, SHALL PRESENT A SMOOTH AND PLEASING GRADE LINE IN BOTH HORIZONTAL AND VERTICAL PLANES. BOX BEAM WITH RADIUS OF 720'-0" OR LESS SHALL BE SHOP WORKED TO THE REQUIRED CURVATURE. PAYMENT FOR SUCH CURVED LENGTHS SHALL BE MADE UNDER THE APPROPRIATE ITEM.
4. THE END MAY BE EXTENDED BY ONE 18'-0" STRAIGHT SECTION, PLACED BETWEEN THE CURVED SECTION AND THE END PIECE, TO MOVE THE END CLOSER TO THE EDGE OF THE CLEAR ZONE. PAYMENT SHALL BE MADE UNDER THE APPROPRIATE ITEM.
5. BACKUP MAY REMAIN IN PLACE.
6. THE RAIL MOUNTING HEIGHT OF ALL GUIDE RAIL OR MEDIAN BARRIER PLACED BEHIND CURB (REGARDLESS OF THE CURB HEIGHT OR SPEED) SHALL BE MEASURED FROM THE PAVEMENT SURFACE WHEN THE OFFSET IS 12" OR LESS AND TO THE GROUND SURFACE UNDER THE FACE OF THE RAIL WHEN THE OFFSET IS GREATER.
7. FOR DESIGN SPEEDS UNDER 50 MPH THE POINT OF REDIRECTION WILL BE AT THE POINT OF TANGENCY.

NEW YORK STATE OF OPPORTUNITY. **Department of Transportation**

U.S. CUSTOMARY STANDARD SHEET

BOX BEAM GUIDE RAIL
(SHEET 1 OF 5)

| APPROVED JUNE 21, 2011 | ISSUED UNDER EB 11-013 |
|---|---|
| /S/ RICHARD W. LEE, P.E. | 606-04 |
| DEPUTY CHIEF ENGINEER (DESIGN) | |

ERRATA 1 EFF. 01/01/2020
ISSUED WITH EB 19-041

# GUARD RAIL DETAILS
SCALE: NOT TO SCALE

C&G
JMCP + JLGARCHITECTS
115 DEL PARQUE STREET SUITE 7
SAN JUAN, PR 00911
787.309.1837

MARICAO
CAPITAL DE LA MONTAÑA

PROGRESS SET
NOT FOR CONSTRUCTION

PROJECT: PR-CRP-000721
PASEO LA GRUTA - VIVERO DE PECES
CARRETERA ESTATAL PR 410, KM. 3.0 - KM. 4.5, MARICAO, PR
GOBIERNO MUNICIPAL DE MARICAO
SCALE: AS SHOWN

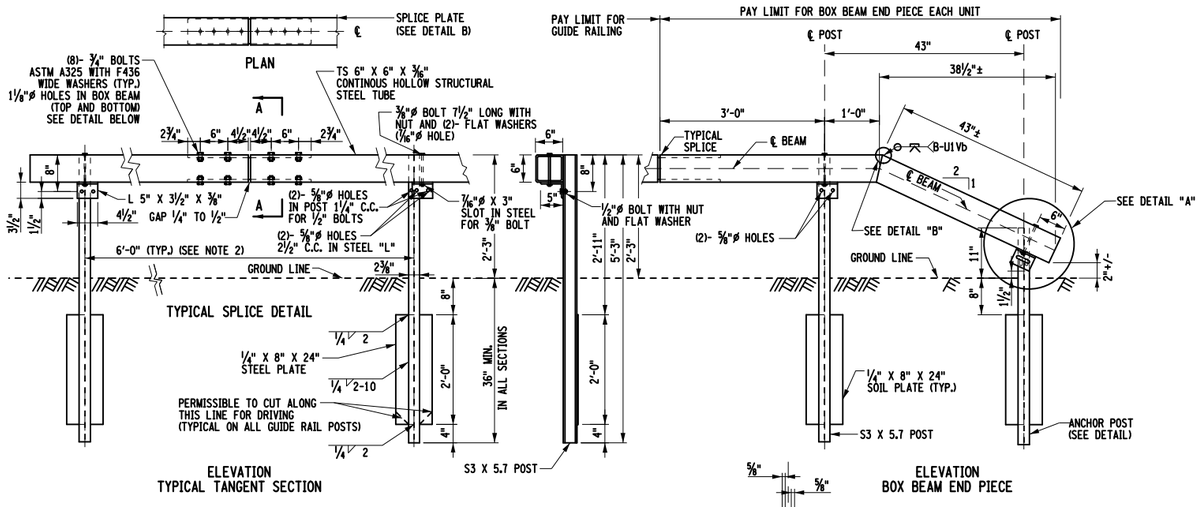
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| 2 | 06.01.23 | 60% PROGRESS SET | . | . |
| 3 | 08.09.23 | 90% PROGRESS SET | . | . |

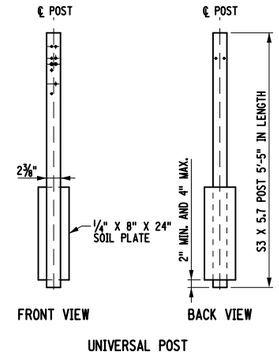
DRAWN BY: .
REVIEWED BY: .
DATE: 08.09.23

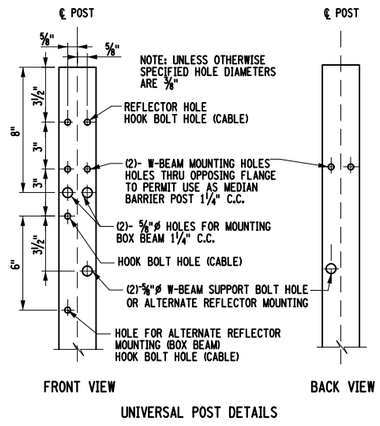
SHEET TITLE: REFERENCE GUARD RAIL DETAILS
DRAWING NO.: C-603.1

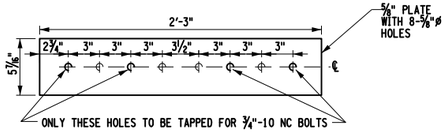
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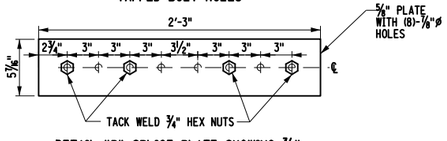
GENERAL NOTES ON SHEET 1 OF 4

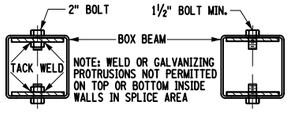


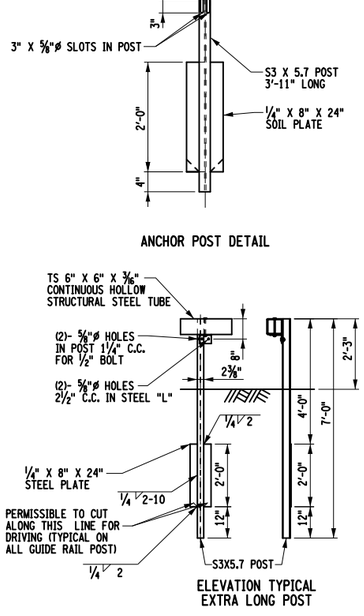



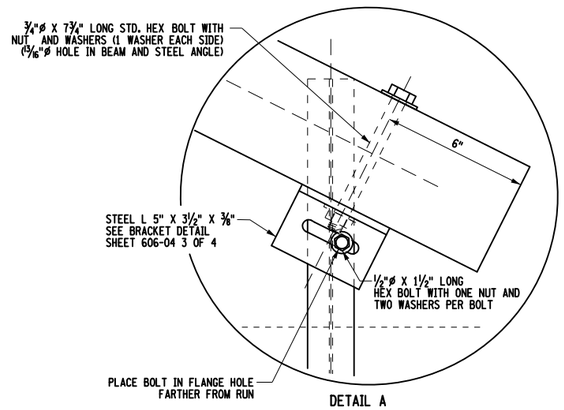



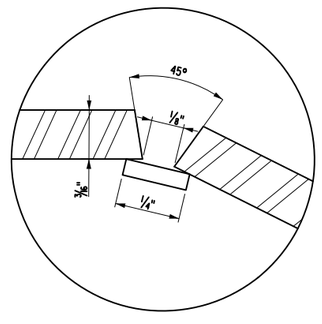




NEW YORK STATE OF OPPORTUNITY. **Department of Transportation**

U.S. CUSTOMARY STANDARD SHEET

BOX BEAM GUIDE RAIL
(SHEET 2 of 5)

| | |
|---|---|
| APPROVED JULY 28, 2014 | ISSUED UNDER EB 11-013 |
| /S/ RICHARD W. LEE, P.E. | 606-04 |
| DEPUTY CHIEF ENGINEER DESIGN | |

ERRATA 2 EFF. 05/01/2018 ISSUED WITH EB 18-003

ERRATA 1 EFF. 09/04/2014 ISSUED WITH EB 14-025

# GUARD RAIL DETAILS

SCALE: NOT TO SCALE

C&G
JMCP + JLGARCHITECTS
115 DEL PARQUE STREET SUITE 7
SAN JUAN, PR 00911
787.309.1837

MARICAO
CAPITAL DE LA MONTAÑA

PROGRESS SET
NOT FOR CONSTRUCTION

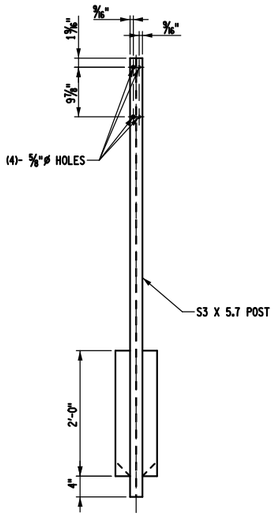
PROJECT: PR-CRP-000721
PASEO LA GRUTA - VIVERO DE PECES
CARRETERA ESTATAL PR 410, KM. 3.0 - KM. 4.5, MARICAO, PR
GOBIERNO MUNICIPAL DE MARICAO
SCALE: AS SHOWN

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| . | 06.01.23 | 60% PROGRESS SET | . | . |
| . | 08.09.23 | 90% PROGRESS SET | . | . |

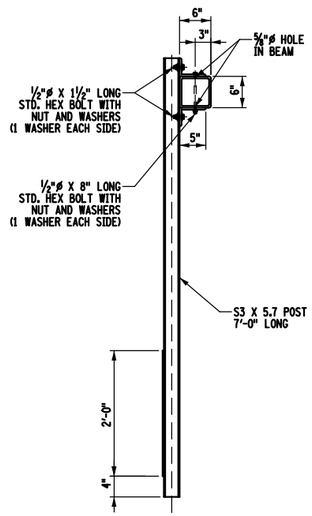
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REVIEWED BY: .
DATE: 08.09.23

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DRAWING NO.: C-603.2

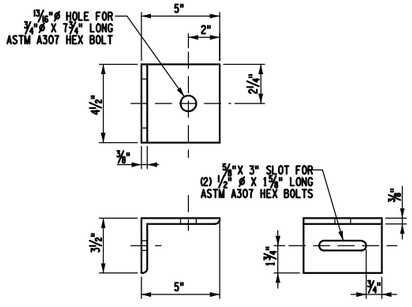
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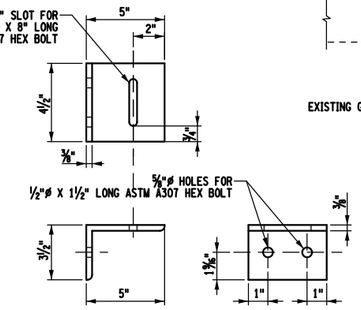

FRONT ELEVATION
POST 2 AND 4



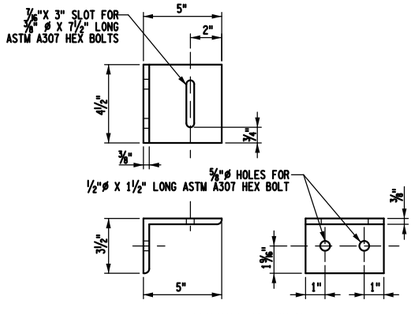

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POST 2 AND 4



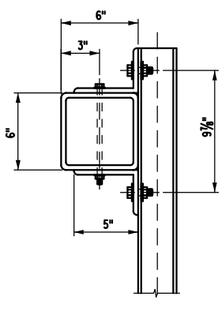

BRACKET DETAILS
POST 1




BRACKET DETAILS
POSTS 2 AND 4

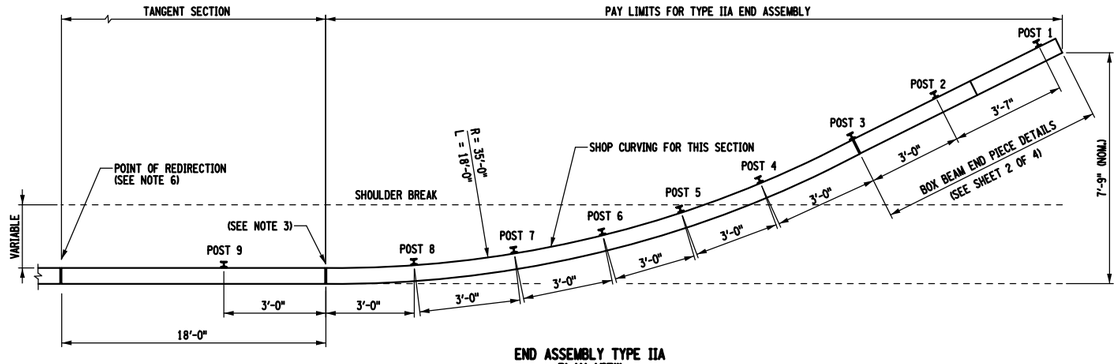



BRACKET DETAILS
POSTS 3, 5, 6, 7, 8 AND 9

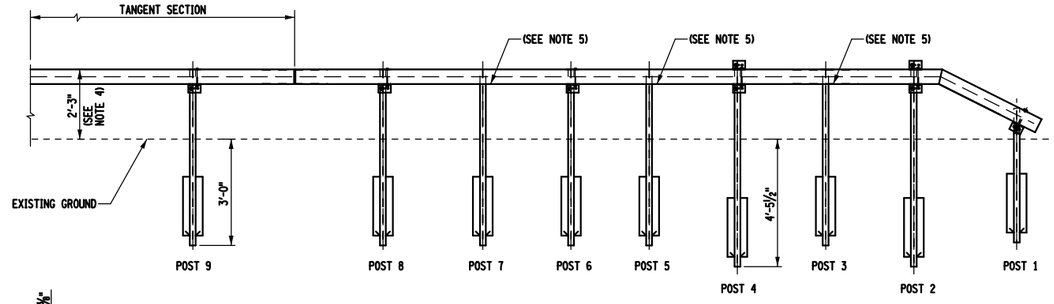



POSTS 2 AND 4 CONNECTION DETAIL
"DETAIL A"
(SEE NOTES 1 AND 2)

GENERAL NOTES ON SHEET 1 OF 4




END ASSEMBLY TYPE IIA
PLAN VIEW




END ASSEMBLY TYPE IIA
ELEVATION

TYPE IIA NOTES:

1. POSTS 2, AND 4 SHALL BE EXTRA LONG POSTS. POSTS 3, 5, 6, 7, 8, AND 9 SHALL BE STANDARD LENGTH.
2. POSTS 2 AND 4 SHALL BE FASTENED TO THE RAIL USING DETAIL "A".
3. FOR SIDE SLOPES 1:5 OR FLATTER, THE 18' OF CURVED BOX BEAM MAY BE PROVIDED IN A CURVED PORTION OF A 24' OR 36' PIECE. OTHERWISE, AN 18' SECTION IS TO BE SPLICED AT THE POINT OF TANGENCY.
4. THE DRAWING INDICATES THE TERMINAL INSTALLED ON LEVEL GROUND. WHEN INSTALLED OVER A SLOPE OR DITCH, THE TERMINAL END SHOULD BE PUSHED DOWN WITH THE EQUIVALENT OF APPROXIMATELY 100 LBS EFFORT TO DEPRESS THE TERMINAL DOWN.
5. POSTS 3, 5, AND 7 SHALL NOT BE CONNECTED TO BOX BEAM GUIDE RAIL.
6. FOR DESIGN SPEEDS UNDER 50 MPH THE POINT OF REDIRECTION WILL BE AT THE POINT OF TANGENCY.

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION

U.S. CUSTOMARY STANDARD SHEET

BOX BEAM GUIDE RAIL
(SHEET 3 OF 5)

| APPROVED JUNE 21, 2011 | ISSUED UNDER EB 11-013 |
|---|---|
| /S/ RICHARD W. LEE, P.E.<br>DEPUTY CHIEF ENGINEER DESIGN (ACTING) | 606-04 |

EFFECTIVE DATE: 01/12/2012

# GUARD RAIL DETAILS

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USER = rfoote

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JMCP + JLGARCHITECTS
115 DEL PARQUE STREET SUITE 7
SAN JUAN, PR 00911
787.309.1837

MARICAO
CAPITAL DE LA MONTAÑA

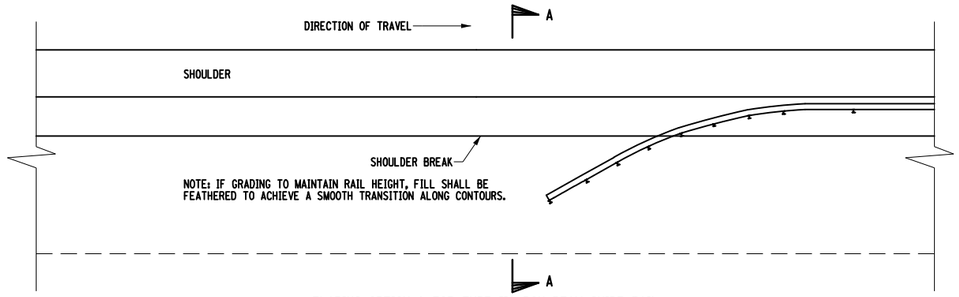
PROGRESS SET
NOT FOR CONSTRUCTION

PROJECT: PR-CRP-000721
PASEO LA GRUTA - VIVERO DE PECES
CARRETERA ESTATAL PR 410, KM. 3.0 - KM. 4.5, MARICAO, PR
GOBIERNO MUNICIPAL DE MARICAO
SCALE: AS SHOWN

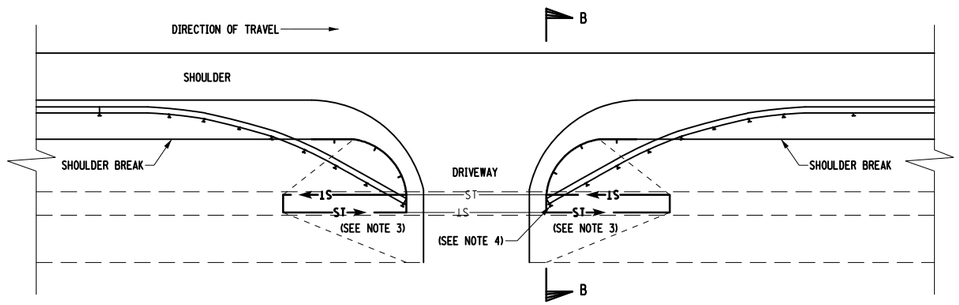
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| . | 08.09.23 | 90% PROGRESS SET | . | . |
| . | . | . | . | . |
| . | . | . | . | . |
| . | . | . | . | . |
| . | . | . | . | . |

DRAWN BY: .
REVIEWED BY: .
DATE: 08.09.23
SHEET TITLE: REFERENCE GUARD RAIL DETAILS
DRAWING NO.: C-603.3

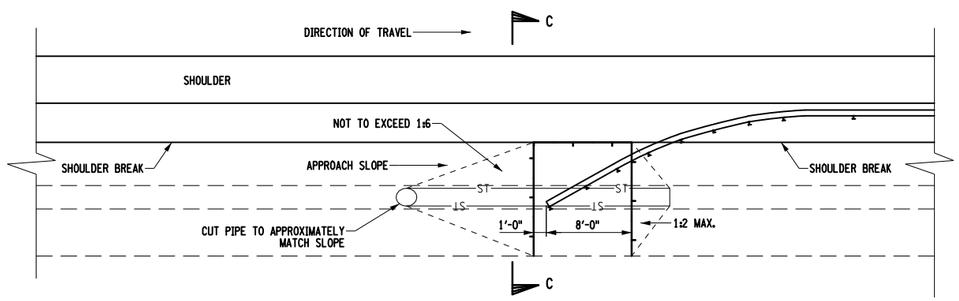
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FLARING OPTION 1 FOR TYPE IIA BOX BEAM GUIDE RAIL
(SEE NOTE 4 SHEET 1 OF 4)

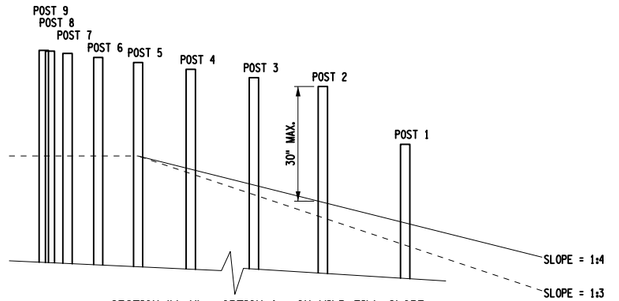



FLARING OPTION 2 FOR TYPE IIA BOX BEAM GUIDE RAIL
(SEE NOTE 4 SHEET 1 OF 4)




| TYPICAL PIPE LENGTHS | |
|---|---|
| DITCH DEPTH | PIPE LENGTH |
| 2'-0" | 25'-0" |
| 2'-6" | 29'-0" |
| 3'-0" | 33'-0" |
| 4'-0" | 40'-0" |

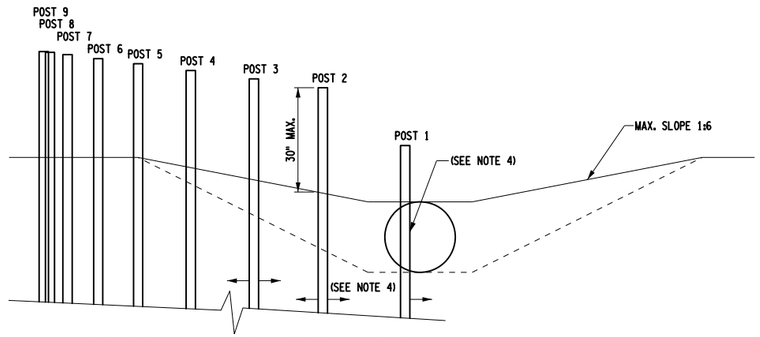
FLARING OPTION 3 FOR TYPE IIA BOX BEAM GUIDE RAIL
(SEE NOTE 4 SHEET 1 OF 4)




SECTION "A-A" - OPTION 1 : ON MILD FILL SLOPE

1. DEPRESS TERMINAL END BY 12" AND FASTEN TO POSTS BEFORE TIGHTENING BOLTS ON SPLICE BETWEEN POSTS 8 AND 9. IF THE SLOPE FROM SHOULDER BREAK BEGINS 2'-0" OR MORE BEHIND GUIDE RAIL RUN AND IS 1:4 OR FLATTER, NO ADDITIONAL GRADING IS REQUIRED.

2. TERMINAL WAY BE PLACED ON STEEPER SLOPES IF GRADING IS PROVIDED TO LIMIT RAIL HEIGHT TO 30" OR LESS.



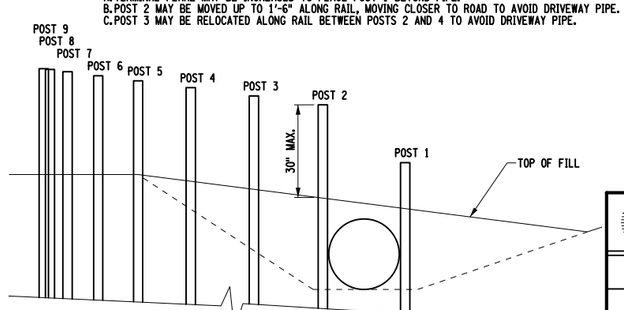

SECTION "B-B" - OPTION 2 : DRIVEWAY EMBANKMENT

1. EXTEND CULVERT A MINIMUM OF 4'-0" PAST GUIDE RAIL FOR GRADING.

2. DEPRESS TERMINAL BY 12" BEFORE TIGHTENING BOLTS ON SPLICE BETWEEN POSTS 8 AND 9. IF THE SLOPE FROM SHOULDER BREAK IS 1:4 OR FLATTER, NO ADDITIONAL GRADING IS REQUIRED.

3. POST 1 SHALL BE POSITIONED AT OR BELOW SHOULDER BREAK OF DRIVEWAY.

4. DO NOT DRIVE POST THROUGH PIPE. TO AVOID POST HITTING DRIVEWAY PIPE:
   A. TERMINAL FLARE MAY BE INCREASED TO PLACE POST 1 BEYOND PIPE.
   B. POST 2 MAY BE MOVED UP TO 1'-6" ALONG RAIL, MOVING CLOSER TO ROAD TO AVOID DRIVEWAY PIPE.
   C. POST 3 MAY BE RELOCATED ALONG RAIL BETWEEN POSTS 2 AND 4 TO AVOID DRIVEWAY PIPE.




SECTION "C-C" - OPTION 3 : LOCALIZED DITCH FILLING

1. WHEN TERMINAL MUST FLARE ACROSS A DEEP DITCH AND NO LATERAL EMBANKMENT IS NEAR, A PIPE SHALL BE SET IN THE DITCH AND AN EMBANKMENT CONSTRUCTED AT THE TERMINAL.
   A. THE APPROACH SLOPE SHALL HAVE A MAXIMUM STEEPNESS OF 1:6.
   B. THE FILL SHALL BE SUFFICIENT TO LIMIT GUIDE RAIL HEIGHT TO NO MORE THAN 30".
   C. IF A BACK SLOPE IS ACCESSIBLE AT THE CORRECT HEIGHT, THE BOX BEAM END PIECE SHOULD BE ELIMINATED AND A TYPE 0 ENDING USED.

GENERAL NOTES ON SHEET 1 OF 4

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION

U.S. CUSTOMARY STANDARD SHEET

BOX BEAM GUIDE RAIL
(SHEET 4 OF 5)

| APPROVED JULY 2, 2010 | ISSUED UNDER EB 10-022 |
|---|---|
| /S/ RICHARD W. LEE, P.E. | 606-04 |
| FOR THE DEPUTY CHIEF ENGINEER (DESIGN) | |

EFFECTIVE DATE: 01/06/2011

# GUARD RAIL DETAILS

SCALE: NOT TO SCALE

FILE NAME = 606-04d01212.dgn
DATE/TIME = 17-SEP-2019 09:33
USER = rfcosta

C&G
JMCP +
JLGARCHITECTS
115 DEL PARQUE STREET SUIT 7
SAN JUAN, PR 00911
787.309.1837

MARICAO
CAPITAL DE LA MONTAÑA

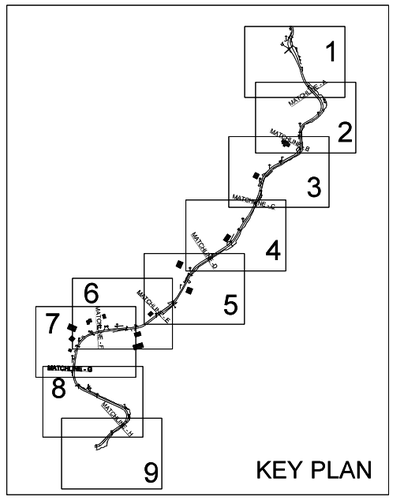
PROGRESS SET
NOT FOR CONSTRUCTION

PROJECT: PR-CRP-000721
PASEO LA GRUTA - VIVERO DE PECES
CARRETERA ESTATAL PR 410, KM. 3.0 - KM. 4.5, MARICAO, PR
GOBIERNO MUNICIPAL DE MARICAO
SCALE: AS SHOWN

| NO. | DATE | DRAWING ISSUE | BY | APP. |
|---|---|---|---|---|
| 1 | 03.31.23 | 30% PROGRESS SET | . | . |
| . | 06.01.23 | 60% PROGRESS SET | . | . |
| . | 08.09.23 | 90% PROGRESS SET | . | . |

DRAWN BY: .
REVIEWED BY: .
DATE: 08.09.23
SHEET TITLE: REFERENCE GUARD RAIL DETAILS
DRAWING NO.: C-603.4

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## EXISTING CONDITIONS LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

0 5 10 30

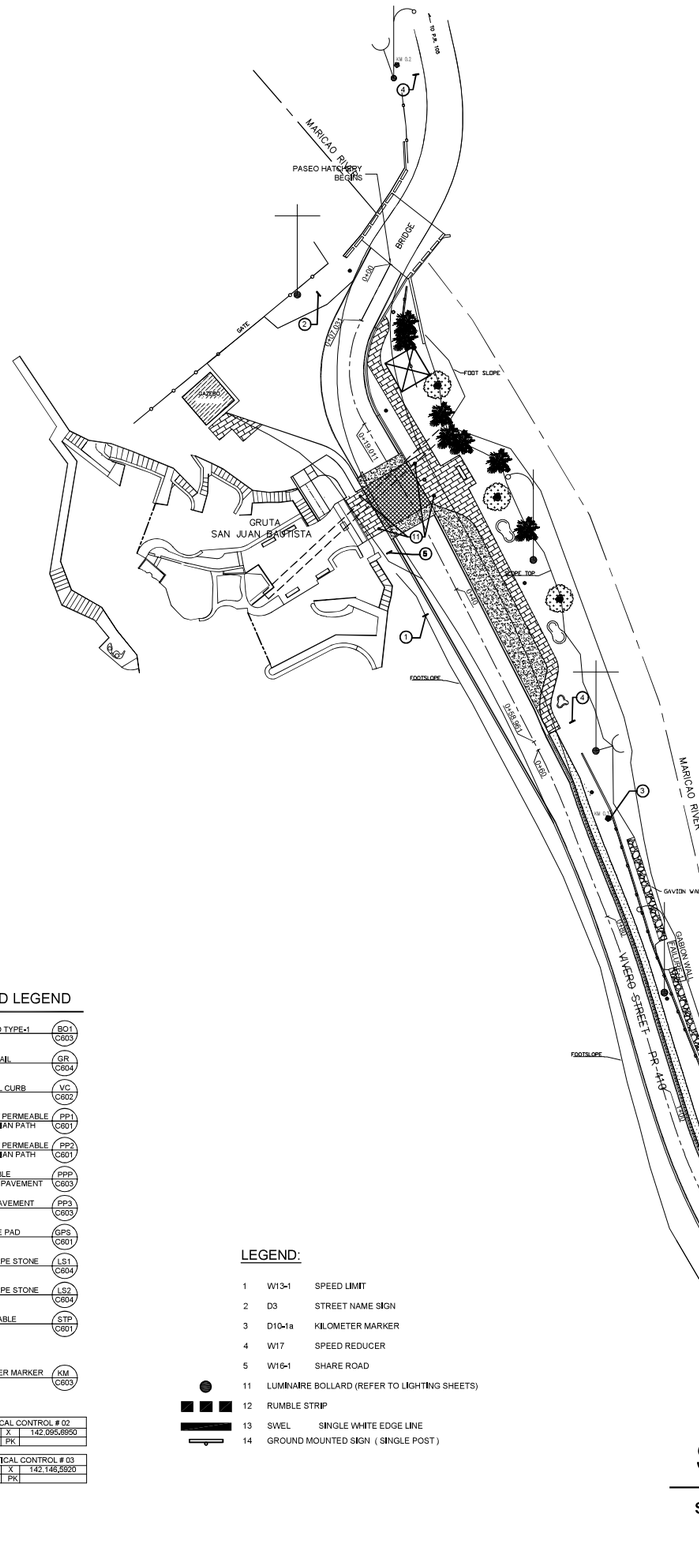
SCALE = 1:300

## PROPOSED LEGEND

| | | |
|---|---|---|
| | BOLLARD TYPE-1 | BO1 C603 |
| | GUARD RAIL | GR C604 |
| | VERTICAL CURB TYPE E | VC C602 |
| | 0,81 (32") PERMEABLE PEDESTRIAN PATH | PP1 C601 |
| | 0,60 (24") PERMEABLE PEDESTRIAN PATH | PP2 C601 |
| | PERMEABLE PARKING PAVEMENT | PPP C603 |
| | PAVER PAVEMENT | PP3 C603 |
| | GARBAGE PAD SCREEN | GPS C601 |
| | LANDSCAPE STONE TYPE 1 | LS1 C604 |
| | LANDSCAPE STONE TYPE 2 | LS2 C604 |
| | SPEED TABLE | STP C601 |
| | KILOMETER MARKER | KM C603 |

| HORIZONTAL VERTICAL CONTROL # 02 | | | |
|---|---|---|---|
| Y | 238,355.4430 | X | 142,095.6950 |
| EL. | 423.510 | PK | |

| HORIZONTAL VERTICAL CONTROL # 03 | | | |
|---|---|---|---|
| Y | 238,358.9140 | X | 142,146.5920 |
| EL. | 425.090 | PK | |




## LEGEND:

| | | |
|---|---|---|
| 1 | W13-1 | SPEED LIMIT |
| 2 | D3 | STREET NAME SIGN |
| 3 | D10-1a | KILOMETER MARKER |
| 4 | W17 | SPEED REDUCER |
| 5 | W16-1 | SHARE ROAD |
| 11 | LUMINAIRE BOLLARD (REFER TO LIGHTING SHEETS) | |
| 12 | RUMBLE STRIP | |
| 13 | SWEL | SINGLE WHITE EDGE LINE |
| 14 | GROUND MOUNTED SIGN ( SINGLE POST ) | |

# SIGNAGE PAVEMENT MARKING PLAN-1

scale= 1:300

C&G
JMCP + JLGARCHITECTS
113 DIL PARQUE STREET SUITE 7
SAN JUAN, PR 00911
787.309.3837

BAIGES GEOTECHNICAL ENGINEERS, LLC
44 PASEO DE LA ALHAMBRA, URB TORRIMAR, GUAYNABO, P.R. 00966
JAMES.BAIGES@GMAIL.COM – (787) 399-0017

90% DESIGN SET
NOT FOR CONSTRUCTION

PROJECT: **PR-CRP-000721**

**PASEO LA GRUTA-VIVERO DE PECES**

CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

GOBIERNO MUNICIPAL DE MARICAO

PASEO HATCHERY [PR-CRP-000721]

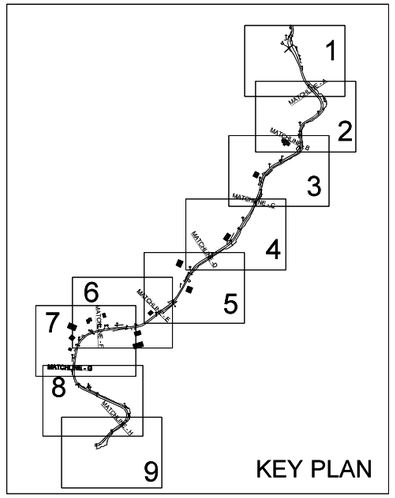
| NO. | DATE | DRAWING ISSUE | BY | APP. |
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DRAWN BY:
REVIEWED BY:
DATE: 05/23

SHEET TITLE: SIGNAGE PAVEMENT MARKING

DRAWING NO.: C-701

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## EXISTING CONDITIONS LEGEND

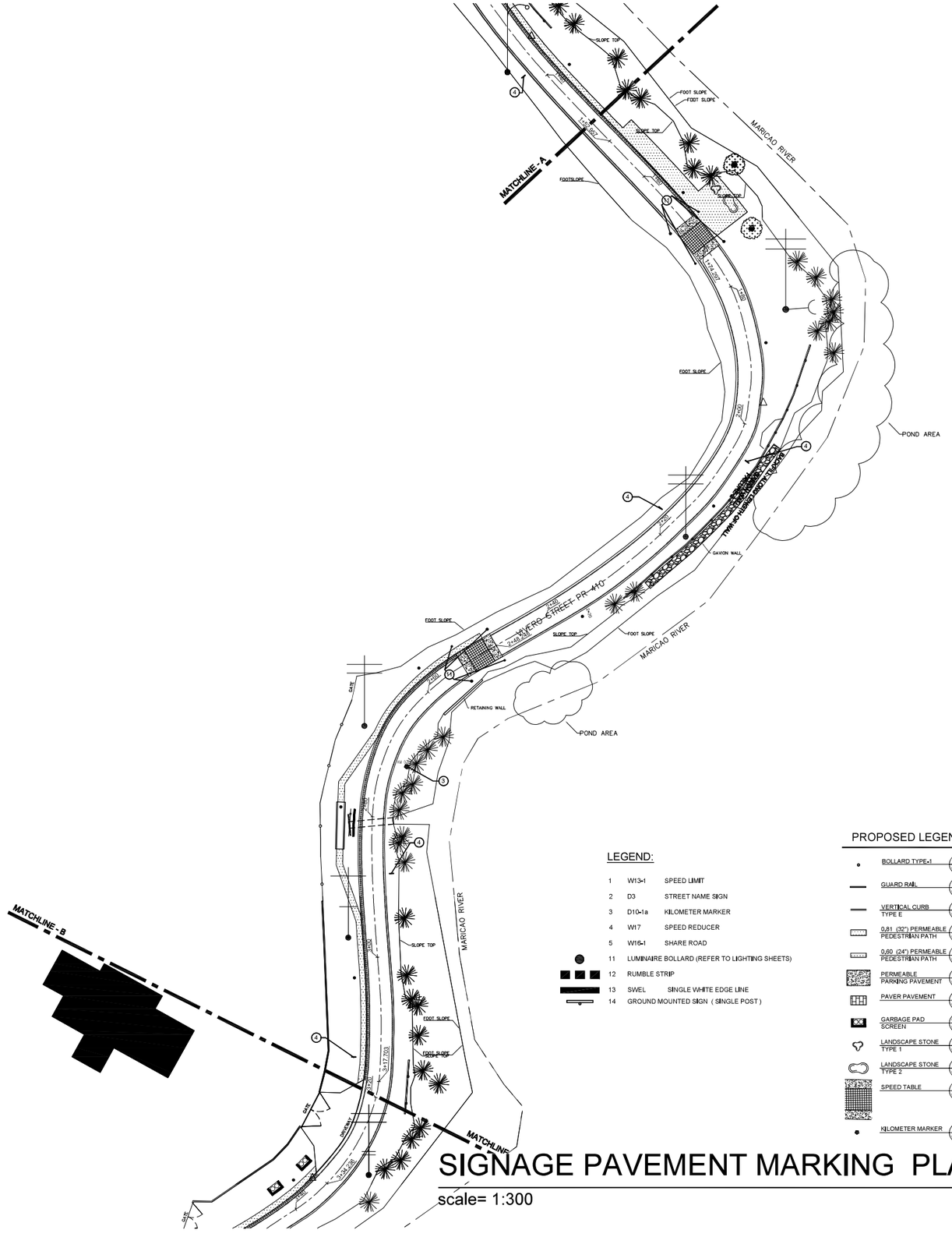
| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

0 5 10 30

SCALE = 1:300

| HORIZONTAL VERTICAL CONTROL # 04 | | | |
|---|---|---|---|
| Y | 238,206.7660 | X | 142,179.5960 |
| EL. | 426.520 | PK | |

| HORIZONTAL VERTICAL CONTROL # 06 | | | |
|---|---|---|---|
| Y | 238,096.5140 | Y | 142115.3990 |
| EL. | 428.450 | PK | |




## LEGEND:

| | | |
|---|---|---|
| 1 | W13-1 | SPEED LIMIT |
| 2 | D3 | STREET NAME SIGN |
| 3 | D10-1a | KILOMETER MARKER |
| 4 | W17 | SPEED REDUCER |
| 5 | W16-1 | SHARE ROAD |
| 11 | | LUMINAIRE BOLLARD (REFER TO LIGHTING SHEETS) |
| 12 | | RUMBLE STRIP |
| 13 | SWEL | SINGLE WHITE EDGE LINE |
| 14 | | GROUND MOUNTED SIGN ( SINGLE POST ) |

## PROPOSED LEGEND

| | | |
|---|---|---|
| | BOLLARD TYPE-1 | BO1 C603 |
| | GUARD RAIL | GR C604 |
| | VERTICAL CURB TYPE E | VC C602 |
| | 0.81 (32") PERMEABLE PEDESTRIAN PATH | PP1 C601 |
| | 0.60 (24") PERMEABLE PEDESTRIAN PATH | PP2 C601 |
| | PERMEABLE PARKING PAVEMENT | PPP C603 |
| | PAVER PAVEMENT | PP3 C603 |
| | GARBAGE PAD SCREEN | GPS C601 |
| | LANDSCAPE STONE TYPE 1 | LS1 C604 |
| | LANDSCAPE STONE TYPE 2 | LS2 C604 |
| | SPEED TABLE | STP C601 |
| | KILOMETER MARKER | KM C603 |

# SIGNAGE PAVEMENT MARKING PLAN-2

scale= 1:300

C&G
JMCP + JLGARCHITECTS
115 DIL PARQUE STREET SUITE 7
SAN JUAN, PR 00911
787.309.3837

BAIGES GEOTECHNICAL ENGINEERS, LLC
44 PASEO DE LA ALHAMBRA, URB TORRIMAR, GUAYNABO, P.R. 00966
JAMES.BAIGES@GMAIL.COM – (787) 399-0017

90% DESIGN SET
NOT FOR CONSTRUCTION

PROJECT: PR-CRP-000721

# PASEO LA GRUTA-VIVERO DE PECES

CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

GOBIERNO MUNICIPAL DE MARICAO

PASEO HATCHERY [PR-CRP-000721]

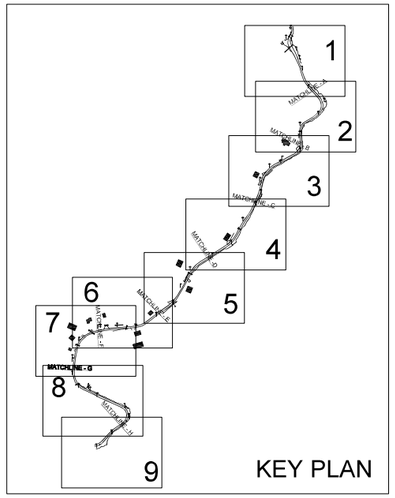
| NO. | DATE | DRAWING ISSUE | BY | APP. |
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DRAWN BY:
REVIEWED BY:
DATE: 05/23

SHEET TITLE: SIGNAGE PAVEMENT MARKING

DRAWING NO.: C-702

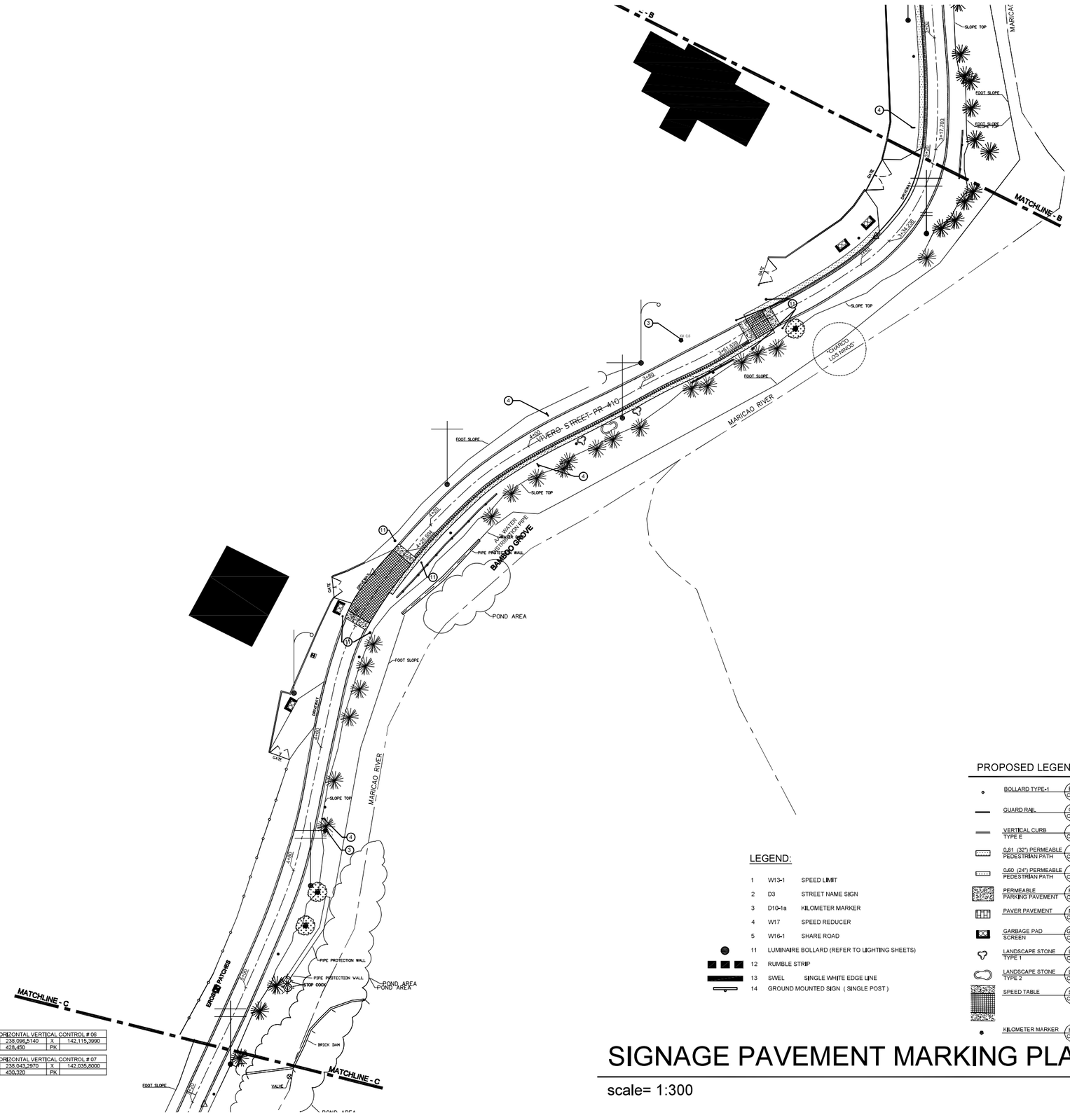
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## EXISTING CONDITIONS LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

0 5 10 30
SCALE = 1:300




| HORIZONTAL VERTICAL CONTROL # 06 | | | |
|---|---|---|---|
| Y | 238,096.5140 | X | 142,115.3990 |
| EL. | 428.450 | PK | |

| HORIZONTAL VERTICAL CONTROL # 07 | | | |
|---|---|---|---|
| Y | 238,043.2970 | X | 142,035.8000 |
| EL. | 430.320 | PK | |

## LEGEND:

| | | | |
|---|---|---|---|
| 1 | W13-1 | SPEED LIMIT |
| 2 | D3 | STREET NAME SIGN |
| 3 | D10-1a | KILOMETER MARKER |
| 4 | W17 | SPEED REDUCER |
| 5 | W16-1 | SHARE ROAD |
| 11 | | LUMINAIRE BOLLARD (REFER TO LIGHTING SHEETS) |
| 12 | | RUMBLE STRIP |
| 13 | SWEL | SINGLE WHITE EDGE LINE |
| 14 | | GROUND MOUNTED SIGN ( SINGLE POST ) |

## PROPOSED LEGEND

| | | |
|---|---|---|
| | BOLLARD TYPE-1 | BO1 C603 |
| | GUARD RAIL | GR C604 |
| | VERTICAL CURB TYPE E | VC C602 |
| | 0,81 (32") PERMEABLE PEDESTRIAN PATH | PP1 C601 |
| | 0,60 (24") PERMEABLE PEDESTRIAN PATH | PP2 C601 |
| | PERMEABLE PARKING PAVEMENT | PPP C605 |
| | PAVER PAVEMENT | PP3 C603 |
| | GARBAGE PAD SCREEN | GPS C601 |
| | LANDSCAPE STONE TYPE 1 | LS1 C604 |
| | LANDSCAPE STONE TYPE 2 | LS2 C604 |
| | SPEED TABLE | STP C601 |
| | KILOMETER MARKER | KM C603 |

# SIGNAGE PAVEMENT MARKING PLAN-3

scale= 1:300

C&G
JMCP + JLGARCHITECTS
115 DIL PARQUE STREET SUITE 7
SAN JUAN, PR 00911
787.309.3837

BAIGES GEOTECHNICAL ENGINEERS, LLC
64 PASEO DE LA ALHAMBRA, URB TORRIMAR - GUAYNABO, P.R. 00966
JAMES@BAIGESGEO.COM - (787) 399-0077

90% DESIGN SET
NOT FOR CONSTRUCTION

PROJECT: PR-CRP-000721
**PASEO LA GRUTA-VIVERO DE PECES**
CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

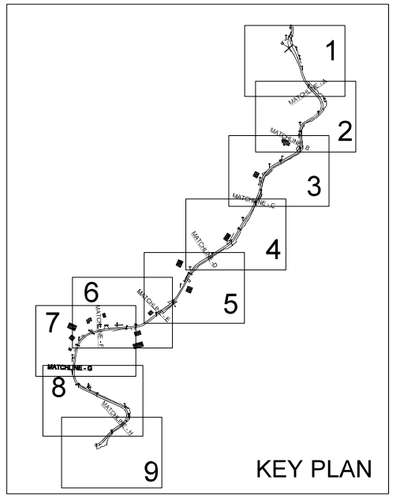
GOBIERNO MUNICIPAL DE MARICAO
PASEO HATCHERY [PR-CRP-000721]

| NO. | DATE | DRAWING ISSUE | BY | APP. |
|---|---|---|---|---|
| | | | | |

DRAWN BY:
REVIEWED BY:
DATE: 05/23

SHEET TITLE: SIGANGE PAVEMENT MARKING
DRAWING NO.: C-703

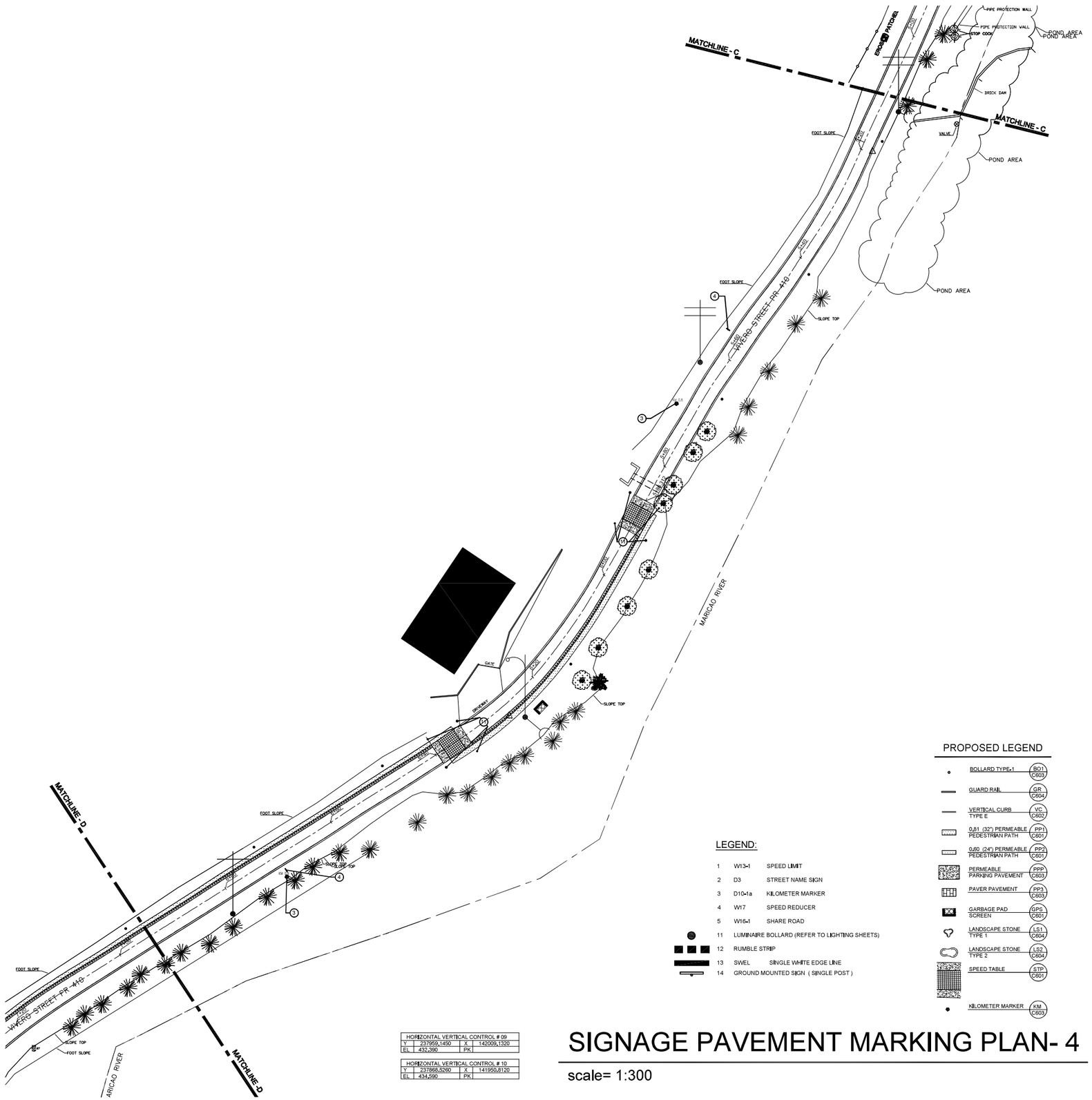
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## EXISTING CONDITIONS LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

0 5 10 30
SCALE = 1:300




| HORIZONTAL VERTICAL CONTROL # 09 | | | |
|---|---|---|---|
| Y | 237959,1450 | X | 142009,1320 |
| EL | 432.390 | PK | |

| HORIZONTAL VERTICAL CONTROL # 10 | | | |
|---|---|---|---|
| Y | 237868,5260 | X | 141950,8120 |
| EL | 434.590 | PK | |

LEGEND:

| | | |
|---|---|---|
| 1 | W13-1 | SPEED LIMIT |
| 2 | D3 | STREET NAME SIGN |
| 3 | D10-1a | KILOMETER MARKER |
| 4 | W17 | SPEED REDUCER |
| 5 | W16-1 | SHARE ROAD |
| 11 | | LUMINAIRE BOLLARD (REFER TO LIGHTING SHEETS) |
| 12 | | RUMBLE STRIP |
| 13 | SWEL | SINGLE WHITE EDGE LINE |
| 14 | | GROUND MOUNTED SIGN ( SINGLE POST ) |

PROPOSED LEGEND

| | | |
|---|---|---|
| | BOLLARD TYPE-1 | BO1 C603 |
| | GUARD RAIL | GR C604 |
| | VERTICAL CURB TYPE E | VC C602 |
| | 0,81 (32") PERMEABLE PEDESTRIAN PATH | PP1 C601 |
| | 0,60 (24") PERMEABLE PEDESTRIAN PATH | PP2 C601 |
| | PERMEABLE PARKING PAVEMENT | PPP C603 |
| | PAVER PAVEMENT | PP3 C603 |
| | GARBAGE PAD SCREEN | GPS C601 |
| | LANDSCAPE STONE TYPE 1 | LS1 C604 |
| | LANDSCAPE STONE TYPE 2 | LS2 C604 |
| | SPEED TABLE | STP C601 |
| | KILOMETER MARKER | KM C603 |

# SIGNAGE PAVEMENT MARKING PLAN- 4

scale= 1:300

C&G
JMCP + JLGARCHITECTS
115 DIE PARQUE STREET SUITE 7
SAN JUAN, PR 00911
787.309.3837

BAIGES GEOTECHNICAL ENGINEERS, LLC
64 PASEO DE LA ALHAMBRA, URB TORRIMAR, GUAYNABO, P.R. 00969
JAMES@BAIGESMAIL.COM • (787) 399-0017

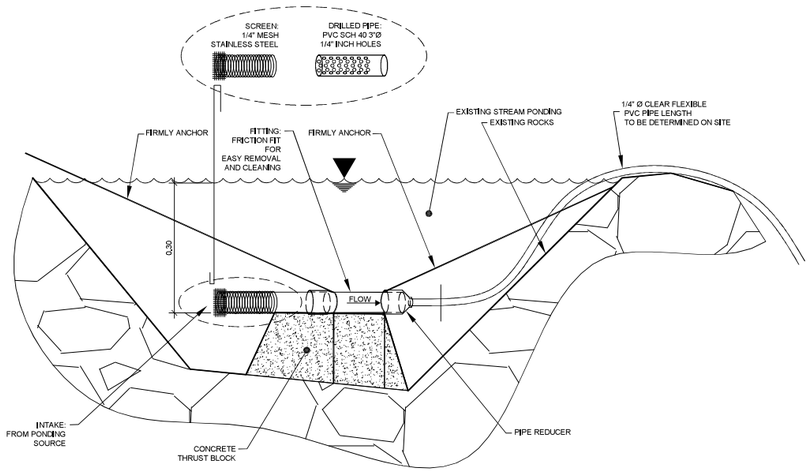
90% DESIGN SET
NOT FOR CONSTRUCTION

PROJECT: PR-CRP-000721
PASEO LA GRUTA-VIVERO DE PECES
CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5
GOBIERNO MUNICIPAL DE MARICAO
PASEO HATCHERY [PR-CRP-000721]

| NO. | DATE | DRAWING ISSUE | BY | APP. |
|---|---|---|---|---|
| | | | | |

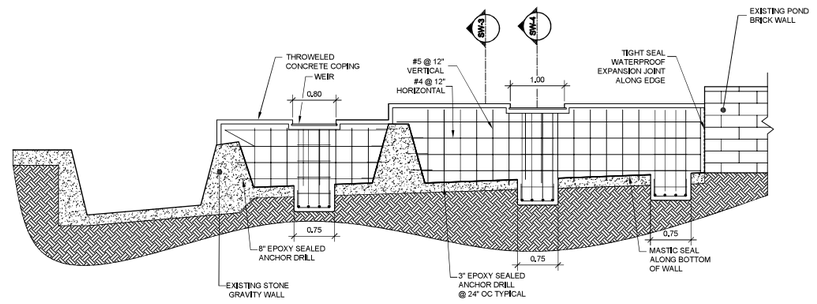
DRAWN BY:
REVIEWED BY:
DATE: 05/23
SHEET TITLE: LAYOUT SITE PLAN
DRAWING NO.: C-104

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## WATER INTAKE DETAIL

SCALE: NTS

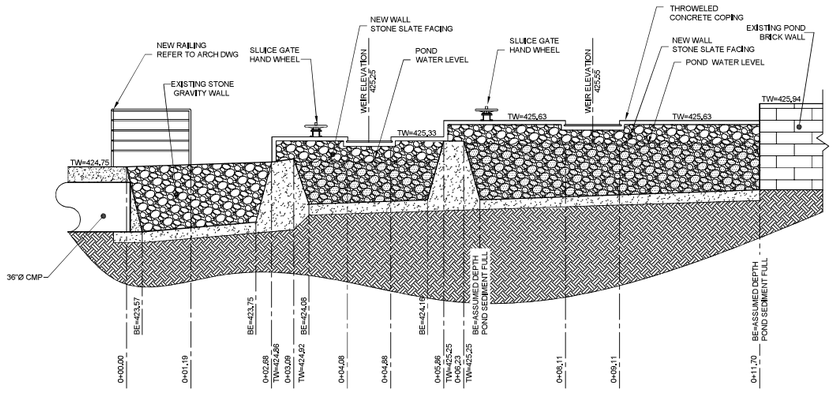



## WALL STRUCTURAL ELEVATION

SCALE = 1:50

NOTE: PROVIDE 3" COVER FOR ALL REBARS.

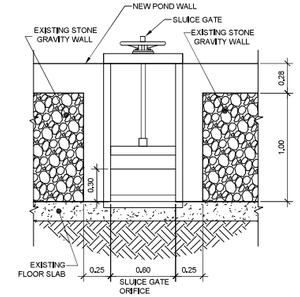
SW-2




## EXISTING PONDS SEGMENTAL WALL ELEVATION

SCALE = 1:50

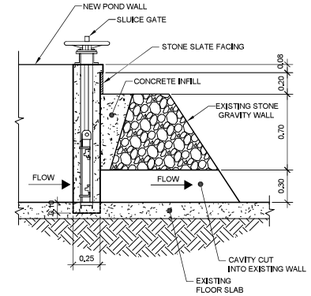
SW-1




## SECTION

SCALE = 1:25

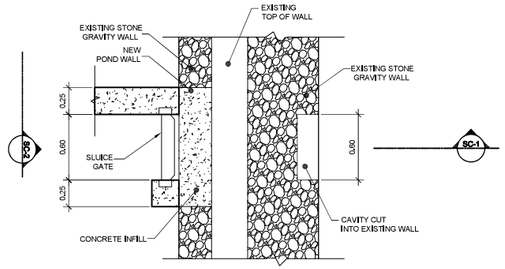
SC-2




## SECTION

SCALE = 1:25

SC-1




## PLAN VIEW

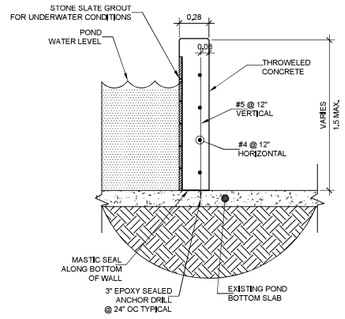
SCALE = 1:25

SLUICE GATE NOTES:

1 USE CAST IRON SLUICE GATES
2 COMPLY WITH AWWA (C561)
3 STAINLESS STEEL ASTM-240/TYPE 304L OR 316L
4 GUIDES AND SEALS: THE GUIDES SHALL BE MADE OF UHMWPE (ULTRA HIGH MOLECULAR WEIGHT POLYETHYLENE).
5 SIDE AND TOP SEAL SHALL BE MADE OF RESILIENT EPDM (ETHYLENE PROPYLENE DIENE MONOMER)
6 GATE LIFTS SHALL BE HANDWHEEL
7 IN THE "GATE SCHEDULE," LIFTS SHALL OPERATE THE GATE WITH A MAXIMUM PULL OF 40 LB ON THE HANDWHEEL
8 SUBMIT SHOP DRAWINGS FOR APPROVAL.

## SLUICE GATES DETAILS

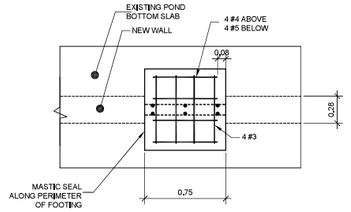
SCALE = 1:25




## SECTION

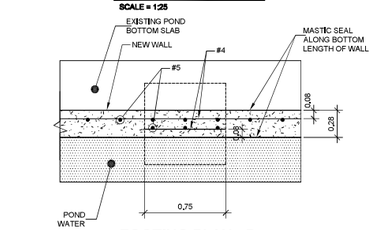
SCALE = 1:25

SW-3



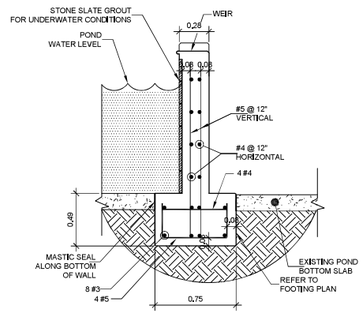

## FOOTING PLAN - A

SCALE = 1:25




## FOOTING PLAN - B

SCALE = 1:25




## SECTION

SCALE = 1:25

SW-4

# POND DETAILS

SCALE = AS SHOWN

C&G
JMCP + JLGARCHITECTS
115 DIL PARQUE STREET SUITE 7
SAN JUAN, PR 00911
787.309.3837

BAIGES GEOTECHNICAL ENGINEERS, LLC
44 PASEO DE LA ALHAMBRA, URB TORRIMAR, GUAYNABO, P.R. 00966
JAMES.BAIGES@GMAIL.COM - (787) 399-0077

90% DESIGN SET
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PROJECT: PR-CRP-000721
PASEO LA GRUTA-VIVERO DE PECES
CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

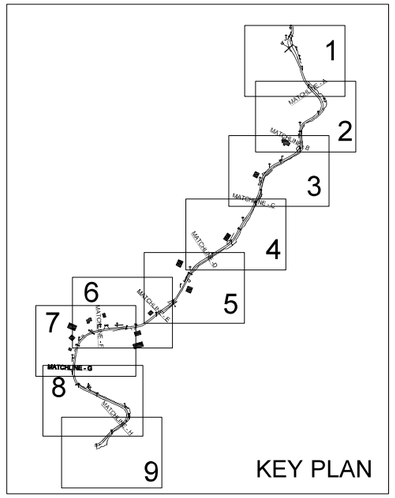
GOBIERNO MUNICIPAL DE MARICAO
PASEO HATCHERY [PR-CRP-000721]

| NO. | DATE | DRAWING ISSUE | BY | APP. |
|---|---|---|---|---|
| 1 | | | | |

DRAWN BY:
REVIEWED BY:
DATE: 05/23

SHEET TITLE: POND DETAILS
DRAWING NO.: C-604

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LEGEND:

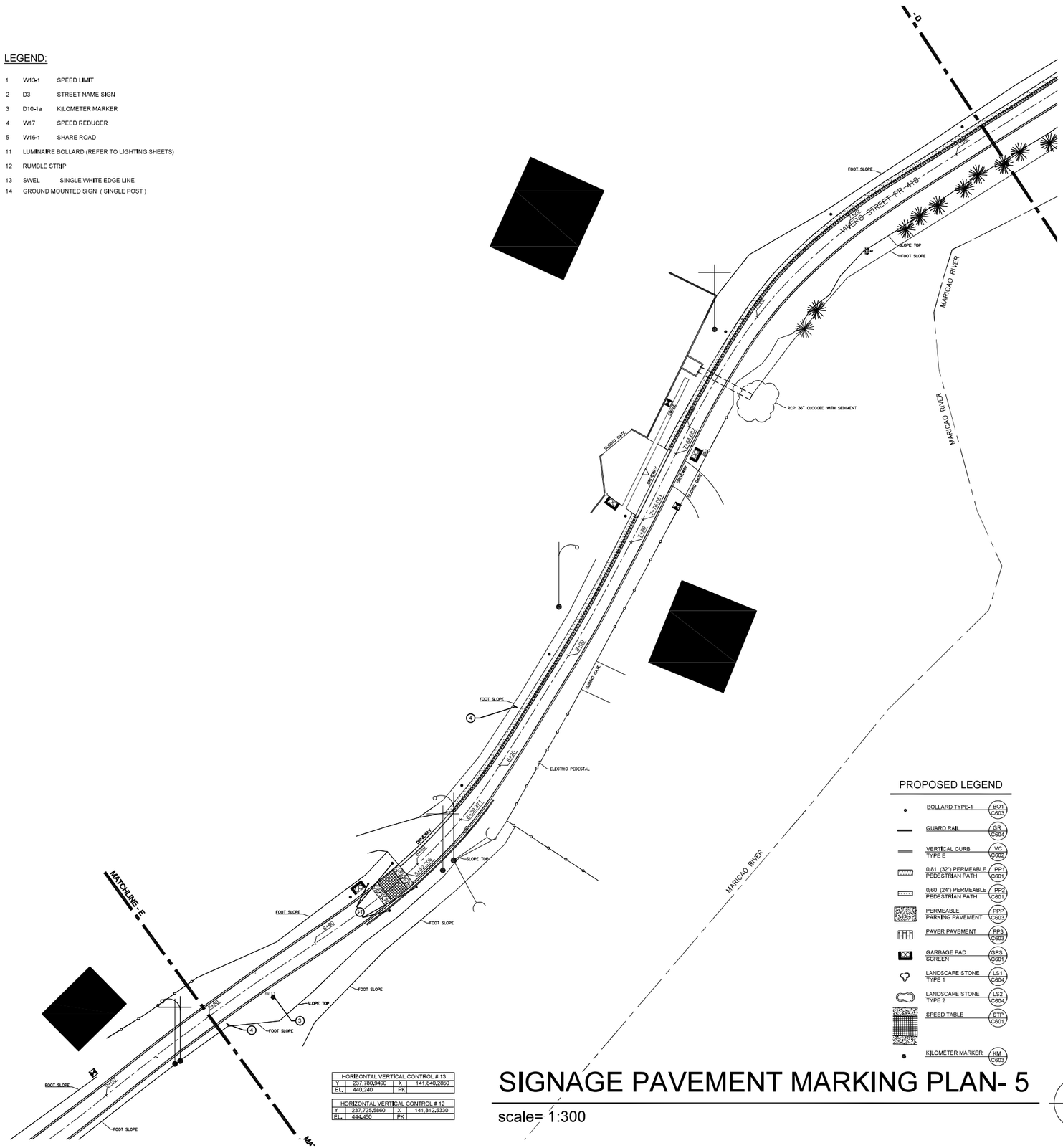
| | | | |
|---|---|---|---|
| 1 | W13-1 | SPEED LIMIT |
| 2 | D3 | STREET NAME SIGN |
| 3 | D10-1a | KILOMETER MARKER |
| 4 | W17 | SPEED REDUCER |
| 5 | W16-1 | SHARE ROAD |
| 11 | | LUMINAIRE BOLLARD (REFER TO LIGHTING SHEETS) |
| 12 | | RUMBLE STRIP |
| 13 | SWEL | SINGLE WHITE EDGE LINE |
| 14 | | GROUND MOUNTED SIGN ( SINGLE POST ) |

## EXISTING CONDITIONS LEGEND

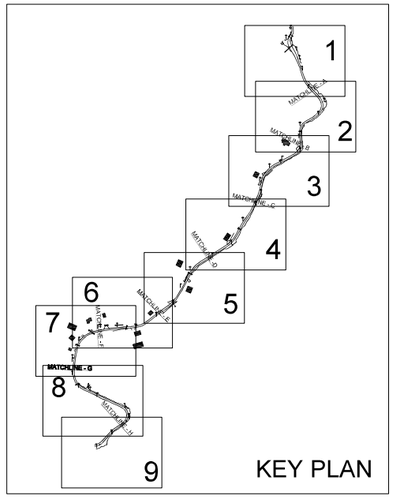
| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

0 5 10 30

SCALE = 1:300


MATCHLINE-E
MATCHLINE-F
MARICAO RIVER
MARICAO RIVER
WIDTH STREET PR-410
FOOT SLOPE
SLOPE TOP
FOOT SLOPE
RCP 36" CLOGGED WITH SEDIMENT
DRIVEWAY
DRIVEWAY
RISING GATE
RISING GATE
ELECTRIC PEDESTAL
SLOPE TOP
FOOT SLOPE
FOOT SLOPE
FOOT SLOPE
FOOT SLOPE
FOOT SLOPE
FOOT SLOPE
SLOPE TOP
FOOT SLOPE
FOOT SLOPE
V-100
V-100
V-100

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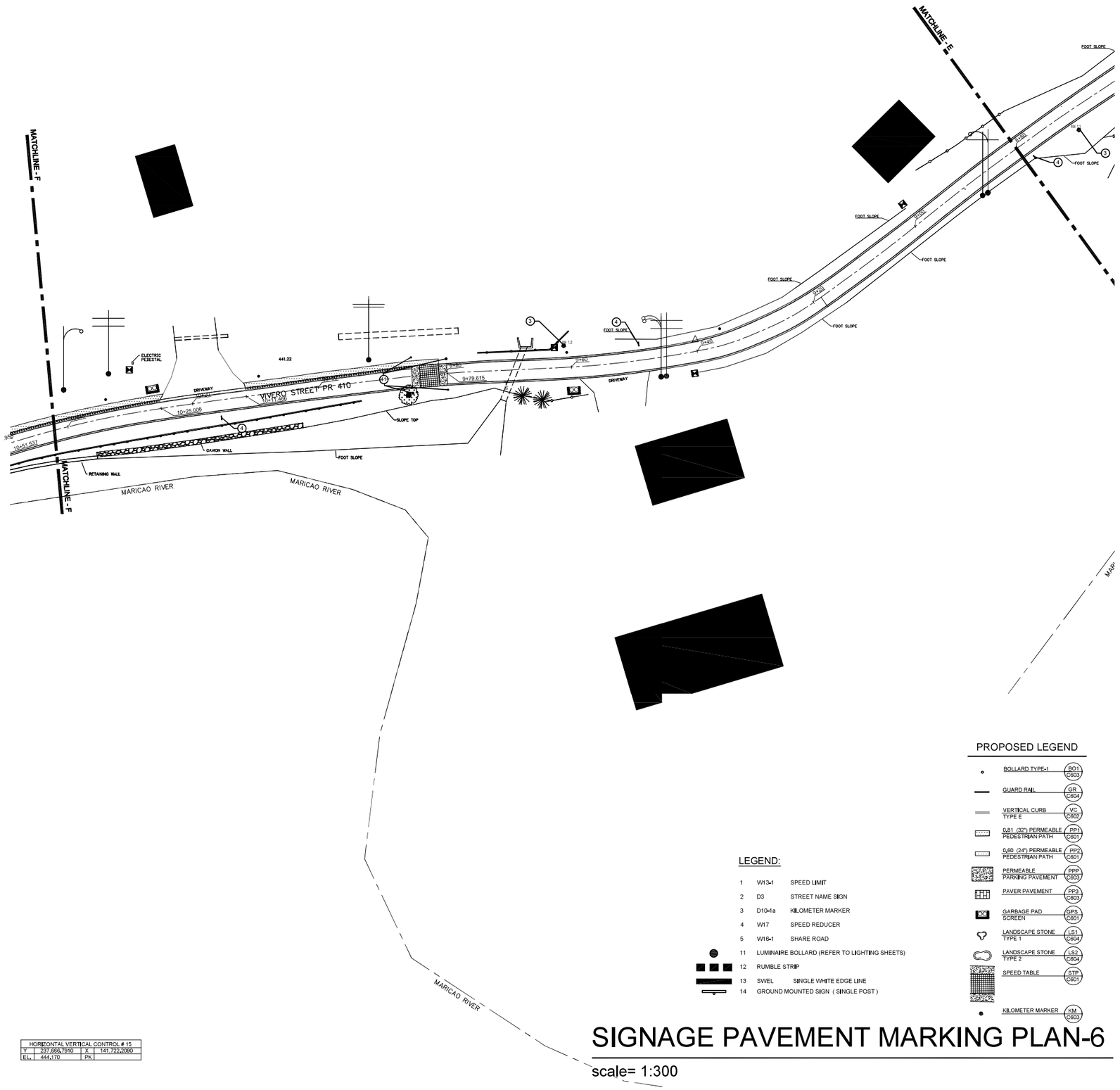



## EXISTING CONDITIONS LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

0 5 10 30
SCALE = 1:300

| HORIZONTAL VERTICAL CONTROL # 15 | | | |
|---|---|---|---|
| Y | 237,666.7910 | X | 141,722.2080 |
| EL. | 444.170 | PK | |




## LEGEND:

| | | | |
|---|---|---|---|
| 1 | W13-1 | SPEED LIMIT |
| 2 | D3 | STREET NAME SIGN |
| 3 | D10-1a | KILOMETER MARKER |
| 4 | W17 | SPEED REDUCER |
| 5 | W16-1 | SHARE ROAD |
| 11 | | LUMINAIRE BOLLARD (REFER TO LIGHTING SHEETS) |
| 12 | | RUMBLE STRIP |
| 13 | SWEL | SINGLE WHITE EDGE LINE |
| 14 | | GROUND MOUNTED SIGN ( SINGLE POST ) |

## PROPOSED LEGEND

| | | |
|---|---|---|
| BOLLARD TYPE-1 | BO1 | C603 |
| GUARD RAIL | GR | C604 |
| VERTICAL CURB TYPE E | VC | C602 |
| 0,81 (32") PERMEABLE PEDESTRIAN PATH | PP1 | C601 |
| 0,60 (24") PERMEABLE PEDESTRIAN PATH | PP2 | C601 |
| PERMEABLE PARKING PAVEMENT | PPP | C603 |
| PAVER PAVEMENT | PP3 | C603 |
| GARBAGE PAD SCREEN | GPS | C601 |
| LANDSCAPE STONE TYPE 1 | LS1 | C604 |
| LANDSCAPE STONE TYPE 2 | LS2 | C604 |
| SPEED TABLE | STP | C601 |
| KILOMETER MARKER | KM | C603 |

# SIGNAGE PAVEMENT MARKING PLAN-6

scale= 1:300

C&G
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113 DEL PARQUE STREET SUITE 7
SAN JUAN, PR 00911
787.309.3837

BAIGES GEOTECHNICAL ENGINEERS, LLC
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JAMES@BAIGESMUL.COM • (787) 399-0077

90% DESIGN SET
NOT FOR CONSTRUCTION

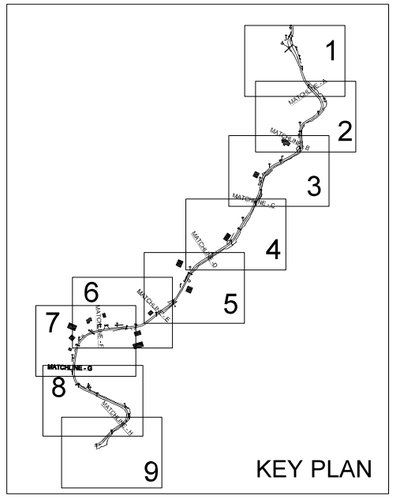
PROJECT: PR-CRP-000721
**PASEO LA GRUTA-VIVERO DE PECES**
CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

GOBIERNO MUNICIPAL DE MARICAO
PASEO HATCHERY [PR-CRP-000721]

| NO. | DATE | DRAWING ISSUE | BY | APP. |
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DRAWN BY:
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DATE: 05/23
SHEET TITLE: SIGNAGE PAVEMENT MARKING
DRAWING NO.: C-706

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## EXISTING CONDITIONS LEGEND

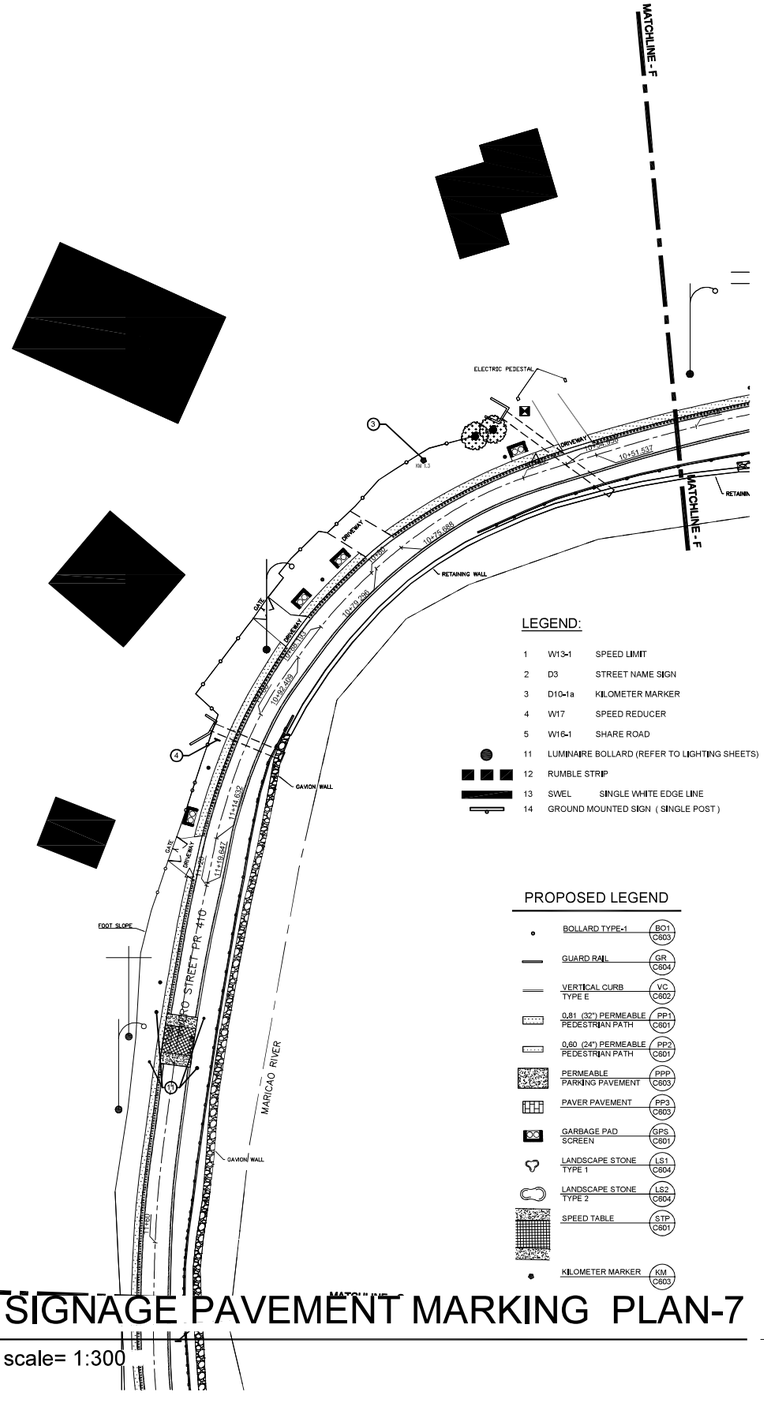
| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

0 5 10 30

SCALE = 1:300

| HORIZONTAL VERTICAL CONTROL # 16 | | | |
|---|---|---|---|
| Y | 237,649.4570 | X | 141,605.5650 |
| EL. | 442.240 | PK | |

| HORIZONTAL VERTICAL CONTROL # 17 | | | |
|---|---|---|---|
| Y | 237,603.4640 | X | 141,587.1870 |
| EL. | 443.040 | PK | |




# SIGNAGE PAVEMENT MARKING PLAN-7

scale= 1:300

C&G
JMCP + JLGARCHITECTS
113 DEL PARQUE STREET SUITE 7
SAN JUAN, PR 00911
787.309.3837

BAIGES GEOTECHNICAL ENGINEERS, LLC
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JAMES@BAIGESPR.COM • (787) 399-0077

90% DESIGN SET
NOT FOR CONSTRUCTION

PROJECT: PR-CRP-000721

**PASEO LA GRUTA-VIVERO DE PECES**

CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

GOBIERNO MUNICIPAL DE MARICAO

PASEO HATCHERY [PR-CRP-000721]

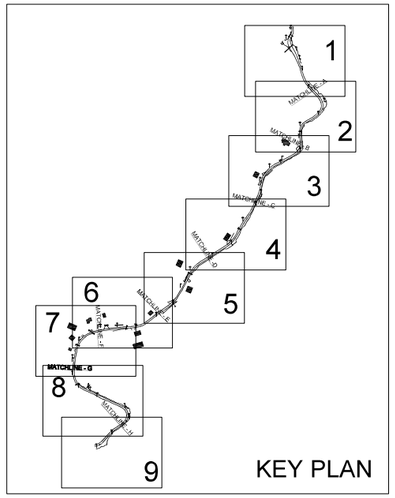
| NO. | DATE | DRAWING ISSUE | BY | APP. |
|---|---|---|---|---|
| | | | | |

DRAWN BY:
REVIEWED BY:
DATE: 05/23

SHEET TITLE: SIGNAGE PAVEMENT MARKING

DRAWING NO.: C-707

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## EXISTING CONDITIONS LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

0 5 10 30

SCALE = 1:300

## PROPOSED LEGEND

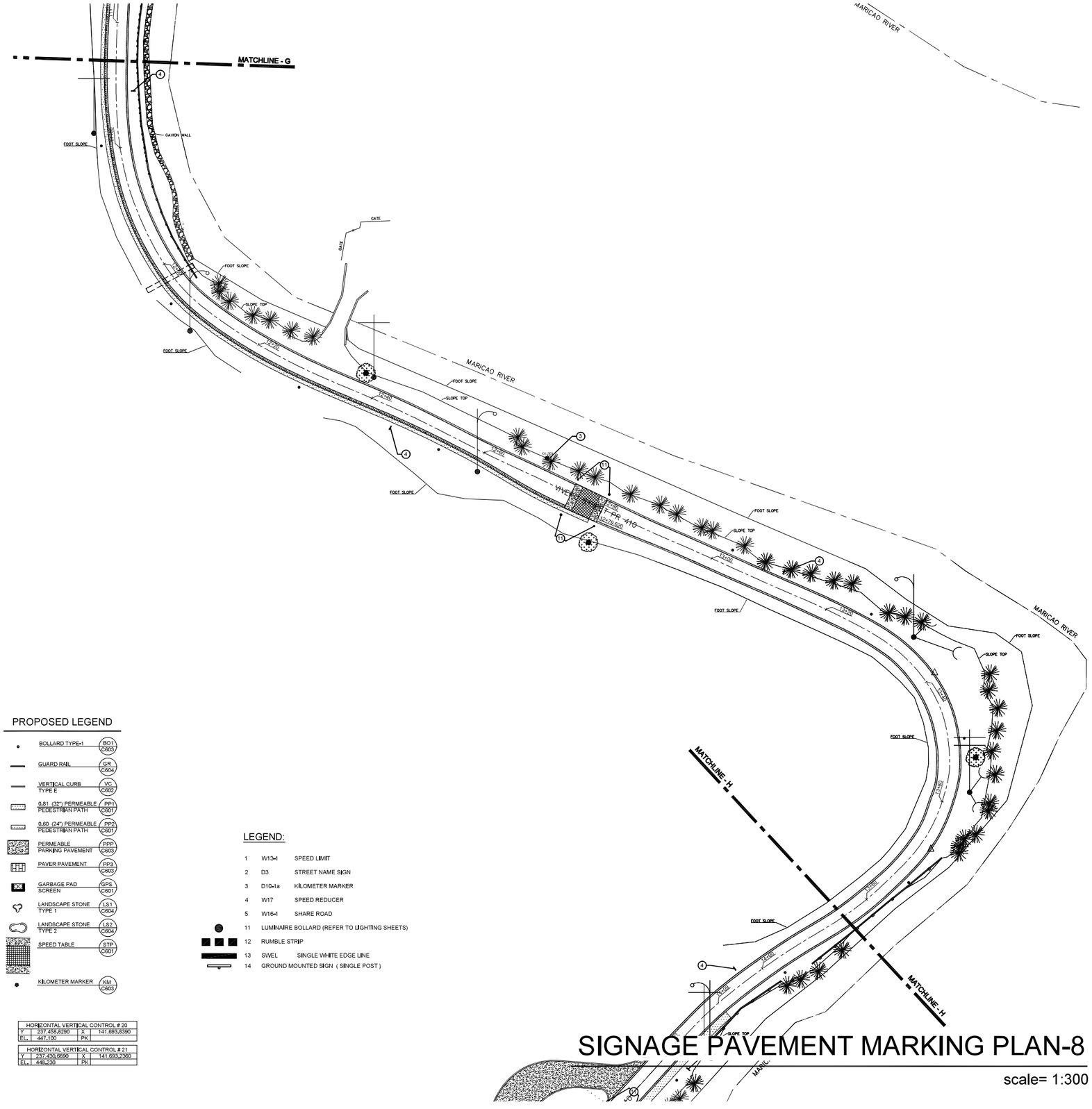
| | | |
|---|---|---|
| | BOLLARD TYPE-1 | BO1 C603 |
| | GUARD RAIL | GR C604 |
| | VERTICAL CURB TYPE E | VC C602 |
| | 0,81 (32") PERMEABLE PEDESTRIAN PATH | PP1 C601 |
| | 0,60 (24") PERMEABLE PEDESTRIAN PATH | PP2 C601 |
| | PERMEABLE PARKING PAVEMENT | PPP C603 |
| | PAVER PAVEMENT | PP3 C603 |
| | GARBAGE PAD SCREEN | GPS C601 |
| | LANDSCAPE STONE TYPE 1 | LS1 C604 |
| | LANDSCAPE STONE TYPE 2 | LS2 C604 |
| | SPEED TABLE | STP C601 |
| | KILOMETER MARKER | KM C603 |

| HORIZONTAL VERTICAL CONTROL # 20 | | | |
|---|---|---|---|
| Y | 237,458,8250 | X | 141.683,8390 |
| EL. | 447,100 | PK | |

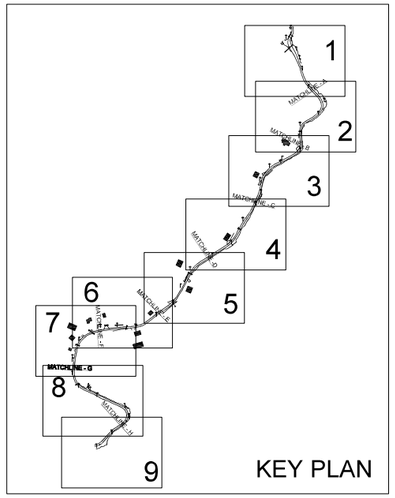
| HORIZONTAL VERTICAL CONTROL # 21 | | | |
|---|---|---|---|
| Y | 237,430,6690 | X | 141.693,2360 |
| EL. | 448,230 | PK | |

## LEGEND:

| | | |
|---|---|---|
| 1 | W13-1 | SPEED LIMIT |
| 2 | D3 | STREET NAME SIGN |
| 3 | D10-1a | KILOMETER MARKER |
| 4 | W17 | SPEED REDUCER |
| 5 | W16-1 | SHARE ROAD |
| 11 | | LUMINAIRE BOLLARD (REFER TO LIGHTING SHEETS) |
| 12 | | RUMBLE STRIP |
| 13 | SWEL | SINGLE WHITE EDGE LINE |
| 14 | | GROUND MOUNTED SIGN ( SINGLE POST ) |



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## EXISTING CONDITIONS LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

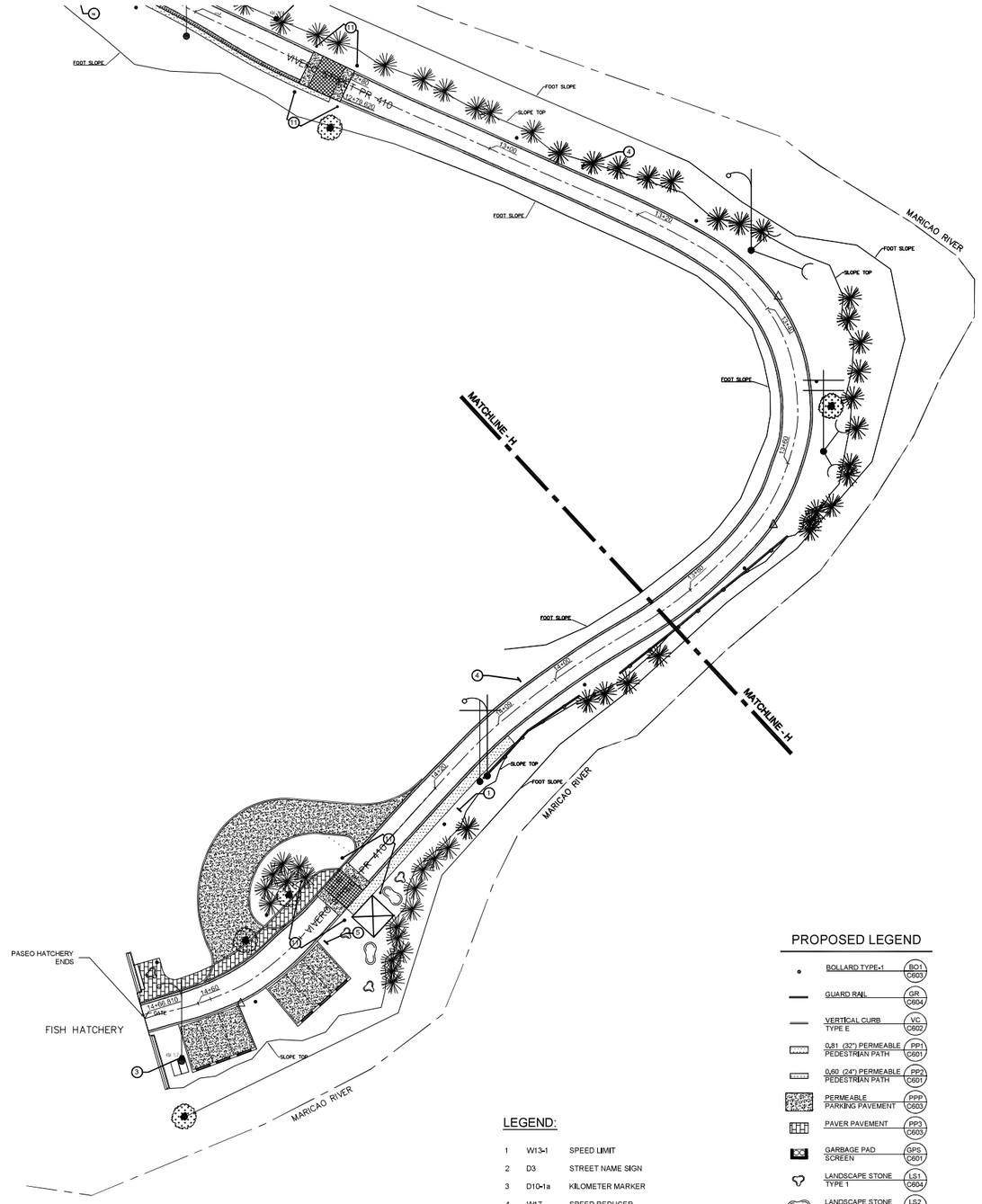
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SCALE = 1:300

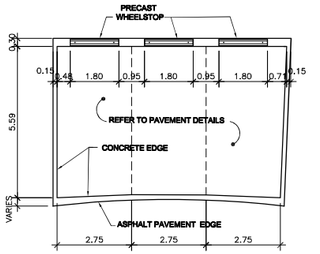
| HORIZONTAL VERTICAL CONTROL # 20 | | | |
|---|---|---|---|
| Y | 237,458,8290 | X | 141,693,8390 |
| EL. | 447,100 | PK | |

| HORIZONTAL VERTICAL CONTROL # 21 | | | |
|---|---|---|---|
| Y | 237,430,6690 | X | 141,693,2380 |
| EL. | 448,230 | PK | |

| HORIZONTAL VERTICAL CONTROL # 22 | | | |
|---|---|---|---|
| Y | 237,371,6570 | X | 141,627,5680 |
| EL. | 450,080 | PK | |

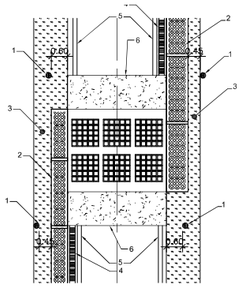


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TYPICAL PARKING STALL

SCALE: 1:100

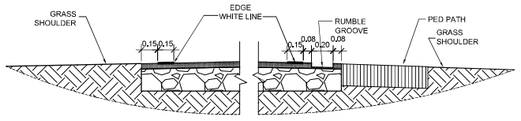



RUMBLE STRIP SITE PLAN

SCALE: 1:100

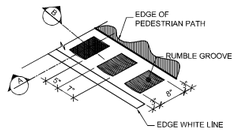
LEGEND:

| CODE | DESCRIPTION |
|---|---|
| 1 | BOLLARD LUMINAIRE |
| 2 | PED PATH |
| 3 | GRASS SHOULDER |
| 4 | RUMBLE STRIP |
| 5 | EDGE WHITE LINE |
| 6 | SPEED TABLE |



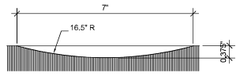

RUMBLE GROOVE SECTION A

SCALE: NTS




RUMBLE GROOVE DETAIL PLAN

SCALE: NTS

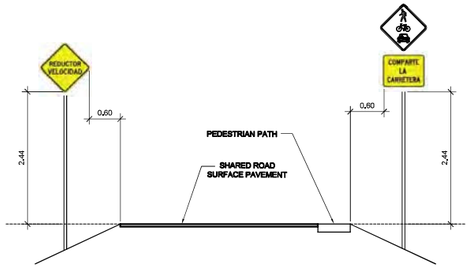



RUMBLE GROOVE SECTION B

SCALE: NTS

RUMBLE STRIP NOTES: :

1. RUMBLE STRIPS SHALL BE MILLED-IN AS SHOWN ON THE PLANS.
2. ALL MATERIAL MILLED TO FORM THE RUMBLE STRIP SHALL BE THOROUGHLY REMOVED, COLLECTED AND DISPOSED OF IN A LOCATION APPROVED BY THE ENGINEER AND SWEPT CLEAN OF DUST.
3. OVERSPRAY OF LIQUID ASPHALT COATING EMULSION SHALL NOT EXTEND MORE THAN 2 INCHES BEYOND THE WIDTH OF THE GROOVE AND/OR SHALL NOT COME IN CONTACT WITH PAVEMENT MARKINGS.




SIGNAGE HORIZONTAL VERTICAL ALIGNMENT

SCALE: 1:50

NOTE: REFERENCE KILOMETER MARKER SIGN HORIZONTAL AND VERTICAL ALIGNMENT IS SAME AS EXISTING.

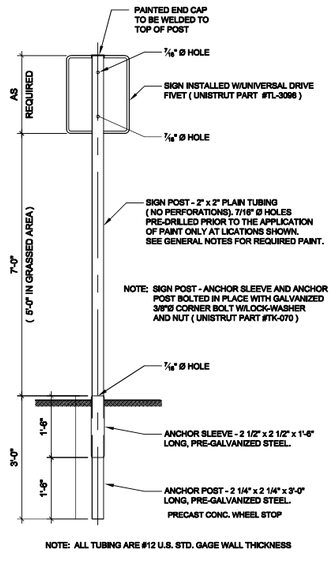
## ROAD SIGNAGE DATA TABLE

| CODE NUMBER | LEGEND SYMBOL | LETTER SIZE | SIZE OF SIGN | MUTCD NUMBER | COLORS | | TYPE OF MOUNTING |
|---|---|---|---|---|---|---|---|
| | | | | | BACKGROUND | CHARACTERS | |
| 1 | 10 MPH | SEE "MANUAL DE ROTULACION PARA LAS VIAS PUBLICAS DE PUERTO RICO" (MRVPPR) | 18"X18" | W13-1 | YELLOW REFELECTIVE | BLACK NON REFLECTIVE | GROUND MOUNTED |
| 2 | CALLE LOÍZA | SEE (MRVPPR) MANUAL | 9"XVARIES" | D3 | GREEN REFELECTIVE | WHITE REFLECTIVE | G. M. |
| 3 | N-1 | SEE (MRVPPR) MANUAL | 6"X18" | D10-1a | GREEN REFELECTIVE | WHITE REFLECTIVE | G. M. |
| 4 | REDUCTOR VELOCIDAD | SEE (MRVPPR) MANUAL | 30"X30" | W17 | YELLOW REFELECTIVE | BLACK NON REFLECTIVE | G. M. |
| 5 | | SEE (MRVPPR) MANUAL | 24"X24" | W11-15 (PR) | YELLOW REFELECTIVE | BLACK NON REFLECTIVE | G. M. |
| | COMPARTE LA CARRETERA | SEE (MRVPPR) MANUAL | 24"X30" | W16-1 | YELLOW REFELECTIVE | BLACK NON REFLECTIVE | G. M. |

NOTE: FOR CODE #5 COMPOSITE WARNING SIGN REFER TO MUTCD CHAPTER 9 AND SECTION 2C-60 SHARED THE ROAD

## PAVEMENT MARKINGS GENERAL NOTES :

1. PAVEMENT MARKING AND GEOMETRY SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND P.R.H.T.A.
2. ALL PAVEMENT MARKINGS SHALL BE YELLOW OR WHITE IN COLOR AND SHALL BE MADE OF THERMOPLASTIC MATERIAL. MARKINGS VISIBLE ONLY TO TRAFFIC PROCEEDING IN THE WRONG SHALL BE RED.
3. WORD AND SYMBOL MARKINGS SHALL BE WHITE IN COLOR AND SHALL BE PLACED AS PER PRHTA SHOWN ON PLANS.
4. ALL THERMOPLASTIC PAVEMENT MARKINGS INCLUDING WORDS AND SYMBOLS, SHALL HAVE AN AVERAGE THICKNESS ABOVE THE PAVEMENT LEVEL OF 120 THOUSANDS OF AN INCH. THE MINIMUM THICKNESS ABOVE THE PAVEMENT LEVEL SHALL BE 110 THOUSANDS OF AN INCH, AND THE MAXIMUM THICKNESS ABOVE THE PAVEMENT LEVEL SHALL NOT EXCEED 130 THOUSANDS OF AN INCH.
5. PAVEMENT EDGE LINES SHALL BE 0.10 M WIDE (OR MATCHING EXISTING WHEN APPLICABLE). PAINT SHALL BE REFLECTORIZED WHITE TRAFFIC PAINT, WITH FINISHED APPLICATION NO LESS THAN 3MM THICKNESS.




NOTE: ALL TUBING ARE #12 U.S. STD. GAGE WALL THICKNESS

SIGN POST DETAIL

SCALE: NTS

## SIGNAGE GENERAL NOTES :

1. FOR SIGN DETAILS, REFER TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), PUBLISHED BY U.S. DEPARTMENT OF TRANSPORTATION, FEDERAL HIGHWAY ADMINISTRATION. LATEST EDITION.
2. THE BACK OF ALL FINISHED PANELS SHALL BE STENCILED WITH THE DATE OF FABRICATION, FABRICATOR'S INITALS AND THE BOTTOM EDGE IN 3 INCH. LETTERS.
3. ALL GROUND MOUNTED STOP, YIELD, WRONG WAY, DO NOT ENTER AND SPEED LIMIT SIGN FACES SHALL BE FABRICATED ENTIRELY WITH TYPE "B" HIGH INTENSITY REFLECTIVE SHEETING.
4. ALL SIGN SHALL BE PLACED IN ACCORDANCE WITH P.R.H.T.A. AND SIGNING SPECIFICATIONS.
5. COORDINATE SIGN LOCATIONS WITH LANDSCAPING AS REQUIRED.
6. MINIMUM ADVANCE PLACEMENT DISTANCE IS 100 FT (30.48 M).

## SIGN POST INSTALLATION :

SIGN POSTS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND THE FOLLOWING:

1. DRIVE ANCHOR POST AND ANCHOR SLEEVE INTO THE GROUND TOGETHER, LEAVING A MAX. OF ONE HOLE EXPOSED FOR BOLT CONNECTION. FOR HAND INSTALLATION, DRIVE CAP OF PROPER SIZE SHALL BE USED TO PREVENT DAMAGE TO TUBING. SIDEWALK SHALL BE POURED AROUND ANCHOR SLEEVE OR EXISTING SIDEWALK SHALL BE CORE DRILLED AND SEALED AROUND THE SLEEVE.
2. INSERT SIGN POST INTO ANCHOR ASSEMBLY APPROXIMATELY 6" TO 8" AND BOLT IN PLACE.
3. INSTALLED SIGN AND POST SHALL BE PLUMB AND FREE OF VERTICAL AND LATERAL MOVEMENT.
4. NO PORTION OF A SIGN OR ITS SUPPORT SHALL BE PLACED LESS THAN 2 FEET LATERALLY FROM THE NEAR EDGE OF THE PATH, OR LESS THAN 8 FEET VERTICALLY OVER THE ENTIRE WIDTH OF THE SHARED-USE PATH.

# SIGNAGE AND PAVEMENT MARKINGS

SCALE = NOT TO SCALE

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JAMES.BAIGES@GMAIL.COM - (787) 399-0077

90% DESIGN SET
NOT FOR CONSTRUCTION

GOBIERNO MUNICIPAL DE MARICAO
PASEO HATCHERY [PR-CRP-000721]

PROJECT: PR-CRP-000721
PASEO LA GRUTA-VIVERO DE PECES
CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

| NO. | DATE | DRAWING ISSUE | BY | APP. |
|---|---|---|---|---|
| | | | | |

DRAWN BY:
REVIEWED BY:
DATE: 05/23

SHEET TITLE: SIGNAGE PAVEMENT MARKINGS
DRAWING NO.: C-710

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NOTE: SIGN SHALL READ 10 M.P.H.

**W13-1**

| SEÑAL | DIMENSIONES (PULGADAS) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | A | B | C | D | E | F | G | H | J |
| MINIMO | 18 | 0.375 | 0.625 | 2.5 | 8E | 2 | 3E | 4.723 | 1.5 |
| NORMAL | 24 | 0.375 | 0.625 | 3.625 | 10E | 2.75 | 4E | 6.284 | 1.5 |
| SEMI-EXPRESO | 30 | 0.5 | 0.75 | 4.5 | 12E | 4 | 5E | 7.416 | 1.875 |

**COLORES :**

LEYENDA - NEGRO (NO REFLECTIVO)
FONDO - AMARILLO (REFLECTIVO)








**W17-1**

**COLORES :**

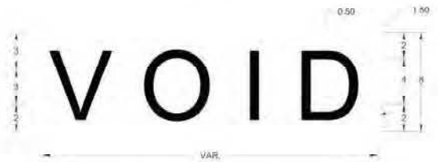
LEYENDA - NEGRO (NO REFLECTIVO)
FONDO - AMARILLO (REFLECTIVO)








**D3**




**D3**



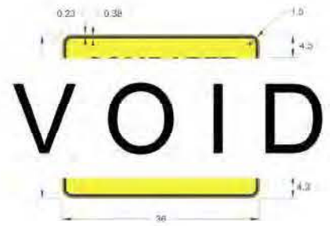

**D3**

**COLORES :**

LEYENDA / BORDE - BLANCO (REFLECTIVO)
FONDO - VERDE (REFLECTIVO)











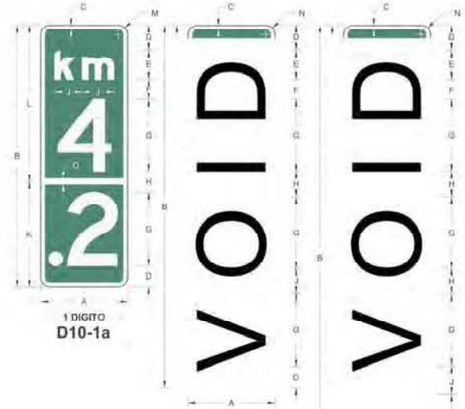
**W16-1**

**COLORES :**

LEYENDA - NEGRO (NO REFLECTIVO)
FONDO - AMARILLO (REFLECTIVO)








| 1 < V < 35 MPH | | | | 25 < V < 50 MPH | | | | V > 55 MPH | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| DIMENSIONES (PULGADAS) | 1 DIGITO | 2 DIGITOS | 3 DIGITOS | DIMENSIONES (PULGADAS) | 1 DIGITO | 2 DIGITOS | 3 DIGITOS | DIMENSIONES (PULGADAS) | 1 DIGITO | 2 DIGITOS | 3 DIGITOS |
| A | 8.00 | 16.00 | 24.00 | A | 10.00 | 20.00 | 30.00 | A | 12.00 | 24.00 | 36.00 |
| B | 10.40 | 20.80 | 31.20 | B | 13.00 | 26.00 | 39.00 | B | 15.60 | 31.20 | 46.80 |
| C | 0.50 | 0.50 | 0.50 | C | 0.50 | 0.50 | 0.50 | C | 0.50 | 0.50 | 0.50 |
| D | 1.75 | 1.75 | 1.75 | D | 2.50 | 2.50 | 2.50 | D | 3.25 | 3.25 | 3.25 |
| E | 40 | 40 | 40 | E | 50 | 50 | 50 | E | 60 | 60 | 60 |
| F | 3.00 | 3.00 | 3.00 | F | 3.00 | 3.00 | 3.00 | F | 3.00 | 3.00 | 3.00 |
| G | 40 | 40 | 40 | G | 50 | 50 | 50 | G | 60 | 60 | 60 |
| H | 6.00 | 6.00 | 6.00 | H | 8.00 | 8.00 | 8.00 | H | 10.00 | 10.00 | 10.00 |
| J | 0.50 | 0.50 | 0.50 | J | 0.50 | 0.50 | 0.50 | J | 0.50 | 0.50 | 0.50 |
| K | 2.00 | 2.00 | 2.00 | K | 2.50 | 2.50 | 2.50 | K | 3.00 | 3.00 | 3.00 |
| L | 7.20 | 14.40 | 21.60 | L | 9.00 | 18.00 | 27.00 | L | 10.80 | 21.60 | 32.40 |
| M | 10.00 | 10.00 | 10.00 | M | 12.50 | 12.50 | 12.50 | M | 15.00 | 15.00 | 15.00 |
| N | 7.00 | 14.00 | 21.00 | N | 8.75 | 17.50 | 26.25 | N | 10.50 | 21.00 | 31.50 |
| P | 1.00 | 1.00 | 1.00 | P | 1.25 | 1.25 | 1.25 | P | 1.50 | 1.50 | 1.50 |

**COLORES :**

LEYENDA / BORDE - BLANCO (REFLECTIVO)
FONDO - VERDE (REFLECTIVO)






| SEÑAL | DIMENSIONES (PULGADAS) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | A | B | C | D | E | F | G | H | J | K |
| MINIMO | 18 | 0.375 | 0.625 | 6.25 | 1 | 0.125 | 8.875 | 2.524 | 2.25 | 1.5 |
| NORMAL | 24 | 0.375 | 0.625 | 8.5 | 1.375 | 0.125 | 11.875 | 3.366 | 3 | 1.5 |
| SEMI-EXPRESO | 30 | 0.5 | 0.75 | 10.75 | 1.75 | 0.25 | 14.75 | 4.207 | 3.75 | 1.875 |
| ESPECIAL | 36 | 0.625 | 0.875 | 12.75 | 2.125 | 0.375 | 17.625 | 5.049 | 4.50 | 2.25 |
| ESPECIAL | 48 | 0.75 | 1.25 | 17 | 2.75 | 0.375 | 23.625 | 6.732 | 6 | 3 |

# SIGNAGE PAVEMENT MARKINGS

SCALE = NOT TO SCALE

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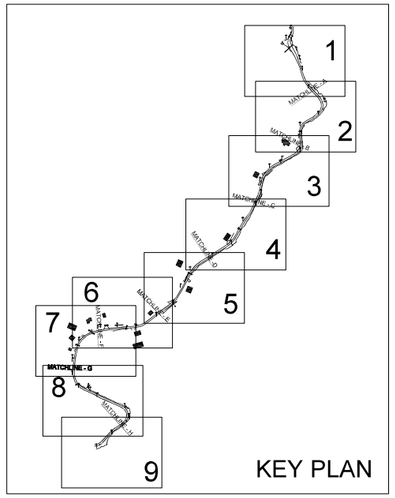
90% DESIGN SET
NOT FOR CONSTRUCTION

PROJECT: PR-CRP-000721
PASEO LA GRUTA-VIVERO DE PECES
CARRETERA ESTATAL PR 410 KM 3.0 - KM 4.5
GOBIERNO MUNICIPAL DE MARICAO
PASEO HATCHERY [PR-CRP-000721]

| NO. | DATE | DRAWING ISSUE | BY | APP. |
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SHEET TITLE: SIGNAGE PAVEMENT MARKINGS
DRAWING NO.: C-711

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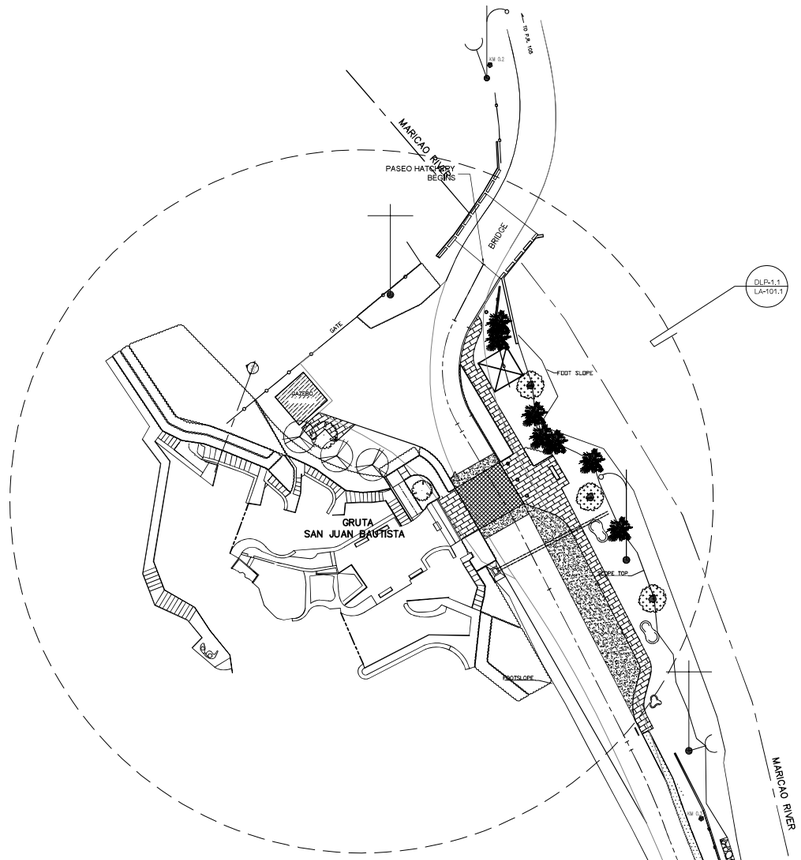

KEY PLAN

## EXISTING CONDITIONS LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

0 5 10 30

SCALE = 1:300







## PROPOSED LEGEND

| | | |
|---|---|---|
| | BOLLARD TYPE-1 | BO1 C603 |
| | GUARD RAIL | GR C604 |
| | VERTICAL CURB TYPE E | VC C602 |
| | 0.81 (32") PERMEABLE PEDESTRIAN PATH | PP1 C601 |
| | 0.60 (24") PERMEABLE PEDESTRIAN PATH | PP2 C601 |
| | PERMEABLE PARKING PAVEMENT | PPP C603 |
| | PAVER PAVEMENT | PP3 C603 |
| | GARBAGE PAD SCREEN | GPS C601 |
| | LANDSCAPE STONE TYPE 1 | LS1 C604 |
| | LANDSCAPE STONE TYPE 2 | LS2 C604 |
| | SPEED TABLE | STP C601 |
| | KILOMETER MARKER | KM C603 |

| HORIZONTAL VERTICAL CONTROL # 02 | | | |
|---|---|---|---|
| Y | 238,355.4430 | X | 142,095.6950 |
| EL. | 423.510 | PK | |

| HORIZONTAL VERTICAL CONTROL # 03 | | | |
|---|---|---|---|
| Y | 238,258.9140 | X | 142,146.5920 |
| EL. | 425.090 | PK | |

## LA-101 PLANTING MATERIALS SCHEDULE - PASEO HATCHERY

| TREES | | | BOTANICAL NAME | COMMON NAME | REMARKS |
|---|---|---|---|---|---|
| KEY | QTY | UNIT | | | |

| PALMS | | | BOTANICAL NAME | COMMON NAME | REMARKS |
|---|---|---|---|---|---|
| KEY | QTY | UNIT | | | |
| P-1 | | | Cyathea Arborea | Helecho de Palma | |
| P-2 | 4 | sq.ent. | Rhapis Excelsa | Rhapis | 3 gal. @ 0.914 m. o.c. |

| SHRUBS | | | BOTANICAL NAME | COMMON NAME | REMARKS |
|---|---|---|---|---|---|
| KEY | QTY | UNIT | | | |
| SH12 | 4 | sq.ent. | Heliconia Andrazoneda Bihai | Heliconia Alta | 3 gal. @ 0.60 m. o.c. |

| GROUND COVERS | | | BOTANICAL NAME | COMMON NAME | REMARKS |
|---|---|---|---|---|---|
| KEY | QTY | UNIT | | | |
| GC16 | 18 | sq.ent. | Impatiens Wallerlana | Miramelinda | 6" pot @ 0.45 m. o.c. |
| GC17 | | | Iris Amarillis | Iris | |
| GC18 | | | Liriope Muscari | Liriope Verde | |
| GC19 | 15 | sq.ent. | Nephrolepsis Biserrata | Helecho Cola de Pescado | 6" pot @ 0.45 m. o.c. |

| EROSION CONTROL | | | | | |
|---|---|---|---|---|---|
| KEY | QTY | UNIT | | | |
| E-1 | 15 | sq.ent. | Erosion control coir fiber mat. Refer to La-110.1. | | |

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JAMES@BAIGESGROUP.COM • (787) 399-0077

90% DESIGN SET
NOT FOR CONSTRUCTION

PROJECT: PR-CRP-000721

# PASEO LA GRUTA-VIVERO DE PECES

CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

GOBIERNO MUNICIPAL DE MARICAO

PASEO HATCHERY [PR-CRP-000721]

| NO. | DATE | DRAWING ISSUE | BY | APP. |
|---|---|---|---|---|
| | | | | |

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DATE: 05/23 11/01/23

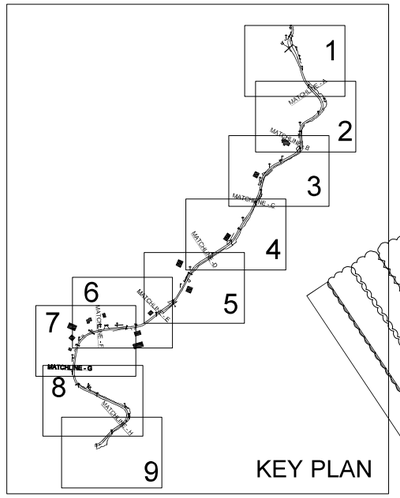
SHEET TITLE: LANDSCAPE PLAN

DRAWING NO.: LA-101

# LANDSCAPE-1

scale= 1:300

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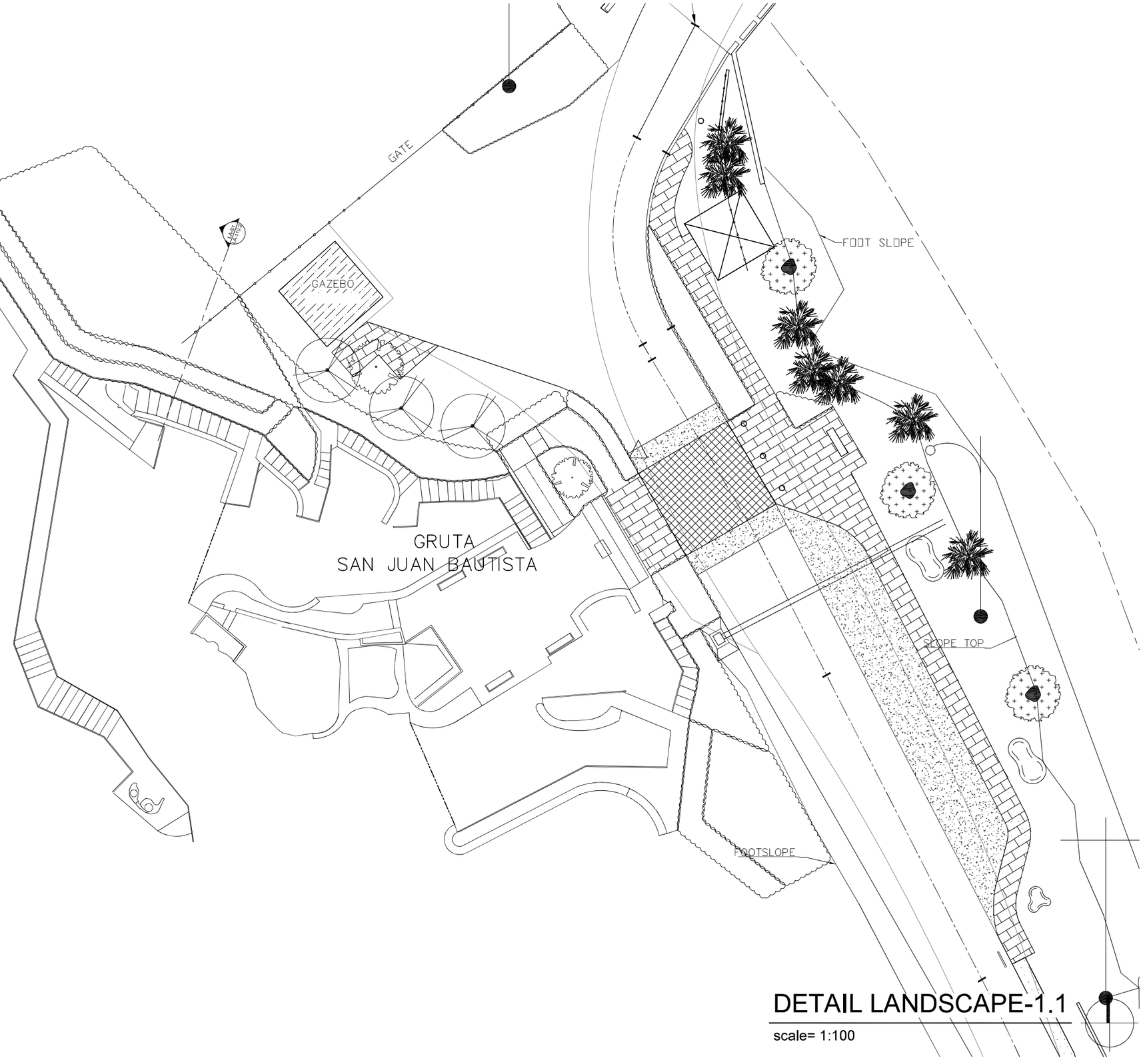

KEY PLAN

## EXISTING CONDITIONS LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

0 5 10 30

SCALE = 1:300




# DETAIL LANDSCAPE-1.1

scale= 1:100

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JMCP +
JLGARCHITECTS
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787.309.3837

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641 PASEO DE LA ALHAMBRA, URB. TORRIMAR - GUAYNABO, P.R. 00966
JAMES@BAIGESPR.COM - (787) 399-0007

90% DESIGN SET
NOT FOR CONSTRUCTION

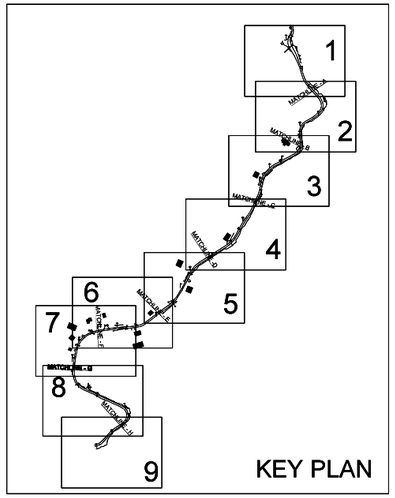
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**PASEO LA GRUTA-VIVERO DE PECES**
CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

GOBIERNO MUNICIPAL DE MARICAO
PASEO HATCHERY [PR-CRP-000721]

| NO. | DATE | DRAWING ISSUE | BY | APP. |
|---|---|---|---|---|

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DATE: 05/23
SHEET TITLE: DETAIL LANDSCAPE PLAN
DRAWING NO.: LA-101.1

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## EXISTING CONDITIONS LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

0 5 10 30

SCALE = 1:300

**LA-102 PLANTING MATERIALS SCHEDULE - PASEO HATCHERY**

| TREES | | | BOTANICAL NAME | COMMON NAME | REMARKS |
|---|---|---|---|---|---|
| KEY | QTY | UNIT | | | |

| PALMS | | | BOTANICAL NAME | COMMON NAME | REMARKS |
|---|---|---|---|---|---|
| KEY | QTY | UNIT | | | |
| P-1 | | | Cyathea Arborea | Helecho de Palma | |
| P-2 | | | Rhapis Excelsa | Rhapis | |

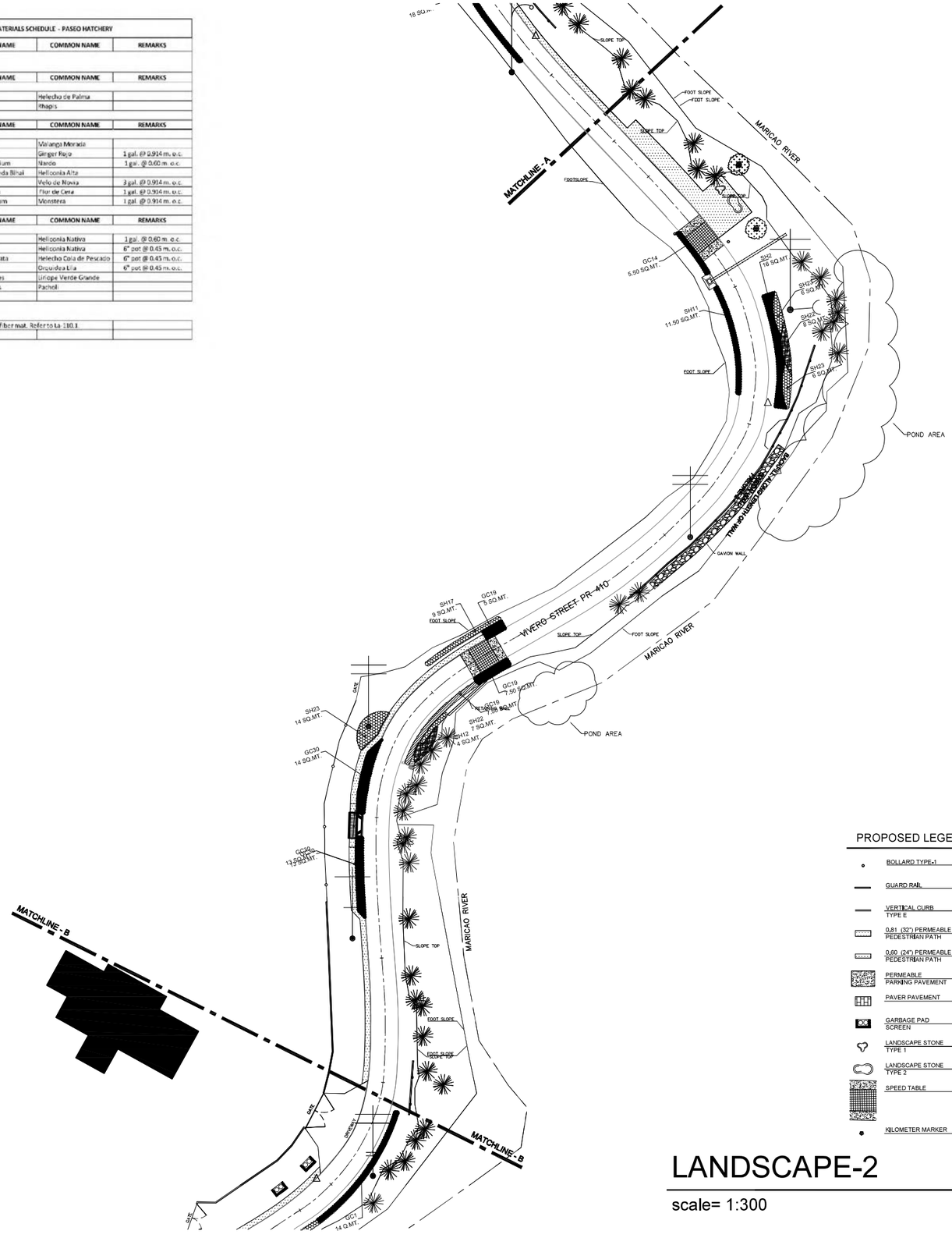
| SHRUBS | | | BOTANICAL NAME | COMMON NAME | REMARKS |
|---|---|---|---|---|---|
| KEY | QTY | UNIT | | | |
| SH1 | | | Alocasia Indica | Malanga Morada | |
| SH2 | 16 | sq.mt. | Alpinia Purpurata | Ginger Rojo | 1 gal. @ 0.914 m. o.c. |
| SH11 | 5.5 | sq.mt. | Hedychium Coronarium | Nardo | 1 gal. @ 0.60 m. o.c. |
| SH12 | 4 | sq.mt. | Heliconia Andrzoomeda Blhai | Heliconia Alta | |
| SH17 | 9 | sq.mt. | Plumeria Spp | Velo de Novia | 3 gal. @ 0.914 m. o.c. |
| SH22 | 13 | sq.mt. | Phaomeria Speciosa | Flor de Cera | 1 gal. @ 0.914 m. o.c. |
| SH23 | 26 | sq.mt. | Philodendron Selloum | Monstera | 1 gal. @ 0.914 m. o.c. |

| GROUND COVERS | | | BOTANICAL NAME | COMMON NAME | REMARKS |
|---|---|---|---|---|---|
| KEY | QTY | UNIT | | | |
| GC14 | 5.5 | sq.mt. | Heliconia Caribae | Heliconia Nativa | 1 gal. @ 0.60 m. o.c. |
| GC15 | 7.5 | sq.mt. | Heliconia Bihai | Heliconia Nativa | 6" pot @ 0.45 m. o.c. |
| GC19 | 5 | sq.mt. | Nephrolepsis Biserrata | Helecho Cola de Pescado | 6" pot @ 0.45 m. o.c. |
| GC30 | 27 | sq.mt. | Spathoglottis | Orquidea Lila | 6" pot @ 0.45 m. o.c. |
| GC31 | | | Tripsacum Dactyliades | Uroipe Verde Grande | |
| GC32 | | | Vetiveria Zizanoides | Pachoi | |

| EROSION CONTROL | | | | | |
|---|---|---|---|---|---|
| KEY | QTY | UNIT | | | |
| E 1 | | sq.mt. | Erosion control coir Fiber mat. Refer to La -110.1 | | |

| HORIZONTAL VERTICAL CONTROL # 04 | | | |
|---|---|---|---|
| Y | 238,206.7660 | X | 142,179.5560 |
| EL. | 426.530 | PK | |

| HORIZONTAL VERTICAL CONTROL # 06 | | | |
|---|---|---|---|
| Y | 238,096.5140 | Y | 142115.3690 |
| EL. | 428.450 | PK | |




## PROPOSED LEGEND

| | | |
|---|---|---|
| | BOLLARD TYPE-1 | BO1 C603 |
| | GUARD RAIL | GR C604 |
| | VERTICAL CURB TYPE E | VC C602 |
| | 0.81 (32") PERMEABLE PEDESTRIAN PATH | PP1 C601 |
| | 0.60 (24") PERMEABLE PEDESTRIAN PATH | PP2 C601 |
| | PERMEABLE PARKING PAVEMENT | PPP C603 |
| | PAVER PAVEMENT | PP3 C603 |
| | GARBAGE PAD SCREEN | GPS C601 |
| | LANDSCAPE STONE TYPE 1 | LS1 C604 |
| | LANDSCAPE STONE TYPE 2 | LS2 C604 |
| | SPEED TABLE | STP C601 |
| | KILOMETER MARKER | KM C603 |

# LANDSCAPE-2

scale= 1:300

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**90% DESIGN SET**
**NOT FOR CONSTRUCTION**

PROJECT: **PR-CRP-000721**

**PASEO LA GRUTA-VIVERO DE PECES**

CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

GOBIERNO MUNICIPAL DE MARICAO

PASEO HATCHERY [PR-CRP-000721]

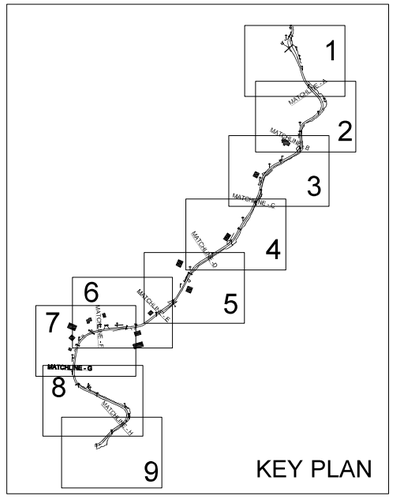
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SHEET TITLE: LANDSCAPE PLAN

DRAWING NO.: **LA-102**

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## EXISTING CONDITIONS LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

0 5 10 30
SCALE = 1:300

**LA-103 PLANTING MATERIALS SCHEDULE - PASEO HATCHERY**

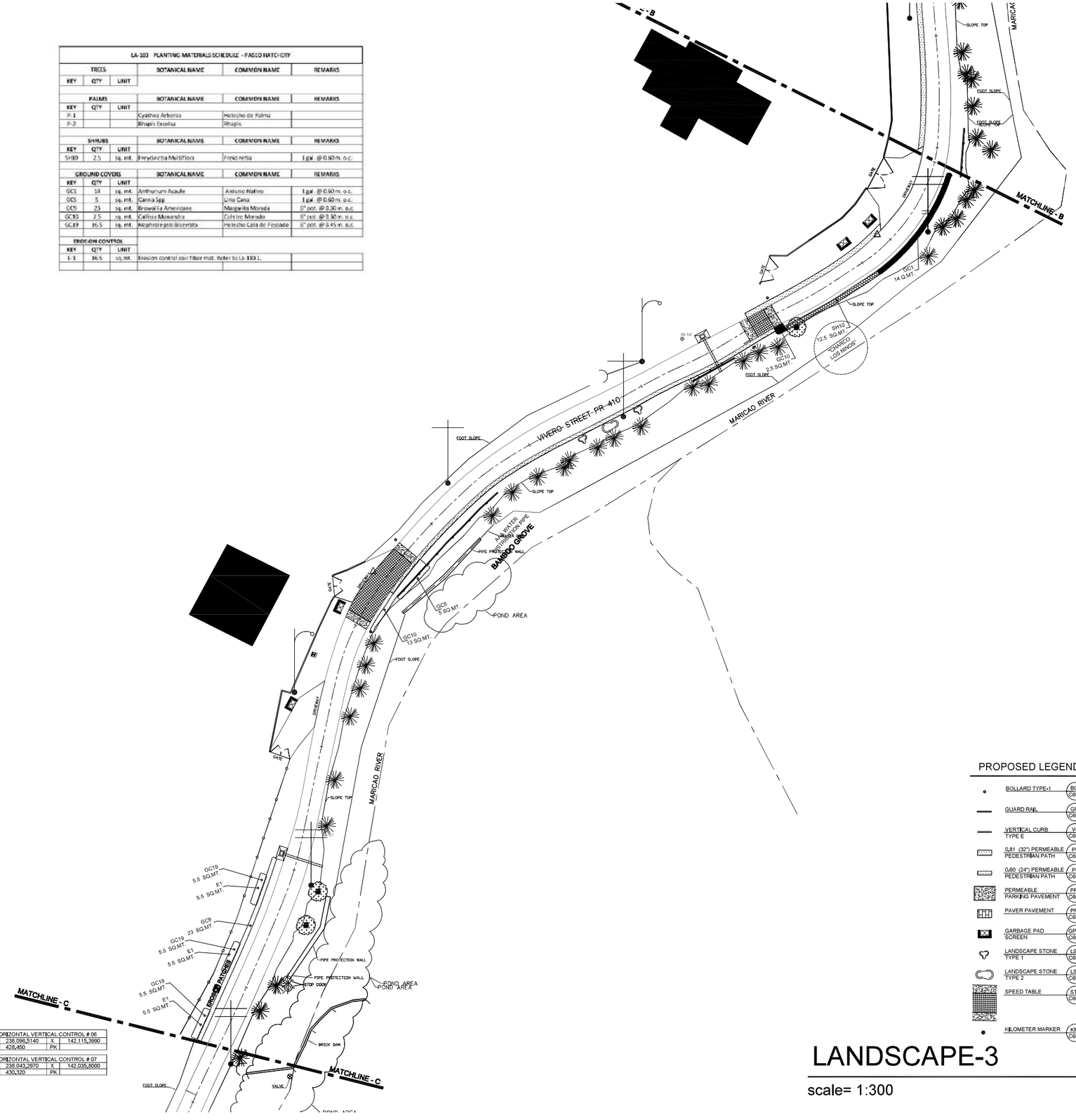
| TREES | | | BOTANICAL NAME | COMMON NAME | REMARKS |
|---|---|---|---|---|---|
| KEY | QTY | UNIT | | | |

| PALMS | | | BOTANICAL NAME | COMMON NAME | REMARKS |
|---|---|---|---|---|---|
| KEY | QTY | UNIT | | | |
| P-1 | | | Cyathea Arborea | Helecho de Palma | |
| P-2 | | | Rhapis Excelsa | Rhapis | |

| SHRUBS | | | BOTANICAL NAME | COMMON NAME | REMARKS |
|---|---|---|---|---|---|
| KEY | QTY | UNIT | | | |
| SH10 | 2.5 | sq. mt. | Freydietia Multiflora | Freicinetia | 1 gal. @ 0.60 m. o.c. |

| GROUND COVERS | | | BOTANICAL NAME | COMMON NAME | REMARKS |
|---|---|---|---|---|---|
| KEY | QTY | UNIT | | | |
| GC1 | 14 | sq. mt. | Anthurium Acaule | Anturio Nativo | 1 gal. @ 0.60 m. o.c. |
| GC5 | 5 | sq. mt. | Canna Spp | Lirio Cana | 1 gal. @ 0.60 m. o.c. |
| GC9 | 23 | sq. mt. | Browallia Americana | Margarita Morada | 6" pot. @ 0.30 m. o.c. |
| GC10 | 2.5 | sq. mt. | Collinsi Monandra | Cohrite Morada | 6" pot. @ 0.30 m. o.c. |
| GC19 | 16.5 | sq. mt. | Nephrolepsis Biserrata | Helecho Cola de Pescado | 6" pot. @ 0.45 m. o.c. |

| EROSION CONTROL | | | |
|---|---|---|---|
| KEY | QTY | UNIT | |
| E-1 | 16.5 | sq.mt. | Erosion control coir fiber mat. Refer to LA-110.1. |




| HORIZONTAL VERTICAL CONTROL # 06 | | | |
|---|---|---|---|
| Y | 238,096.5140 | X | 142,115.3990 |
| EL. | 428.450 | PK | |

| HORIZONTAL VERTICAL CONTROL # 07 | | | |
|---|---|---|---|
| Y | 238,043.2970 | X | 142,035.8000 |
| EL. | 430.320 | PK | |

## PROPOSED LEGEND

| | | |
|---|---|---|
| | BOLLARD TYPE-1 | BO1 C603 |
| | GUARD RAIL | GR C604 |
| | VERTICAL CURB TYPE E | VC C602 |
| | 0.81 (32") PERMEABLE PEDESTRIAN PATH | PP1 C601 |
| | 0.60 (24") PERMEABLE PEDESTRIAN PATH | PP2 C601 |
| | PERMEABLE PARKING PAVEMENT | PPP C605 |
| | PAVER PAVEMENT | PP3 C603 |
| | GARBAGE PAD SCREEN | GPS C601 |
| | LANDSCAPE STONE TYPE 1 | LS1 C604 |
| | LANDSCAPE STONE TYPE 2 | LS2 C604 |
| | SPEED TABLE | STP C601 |
| | KILOMETER MARKER | KM C603 |

# LANDSCAPE-3

scale= 1:300

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90% DESIGN SET
NOT FOR CONSTRUCTION

PROJECT: PR-CRP-000721

**PASEO LA GRUTA-VIVERO DE PECES**

CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

GOBIERNO MUNICIPAL DE MARICAO

PASEO HATCHERY [PR-CRP-000721]

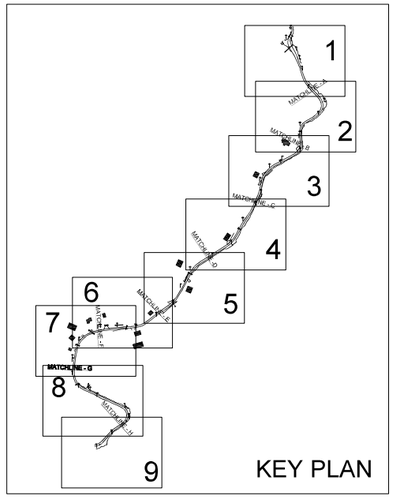
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SHEET TITLE: LANDSCAPE PLAN

DRAWING NO.: LA-103

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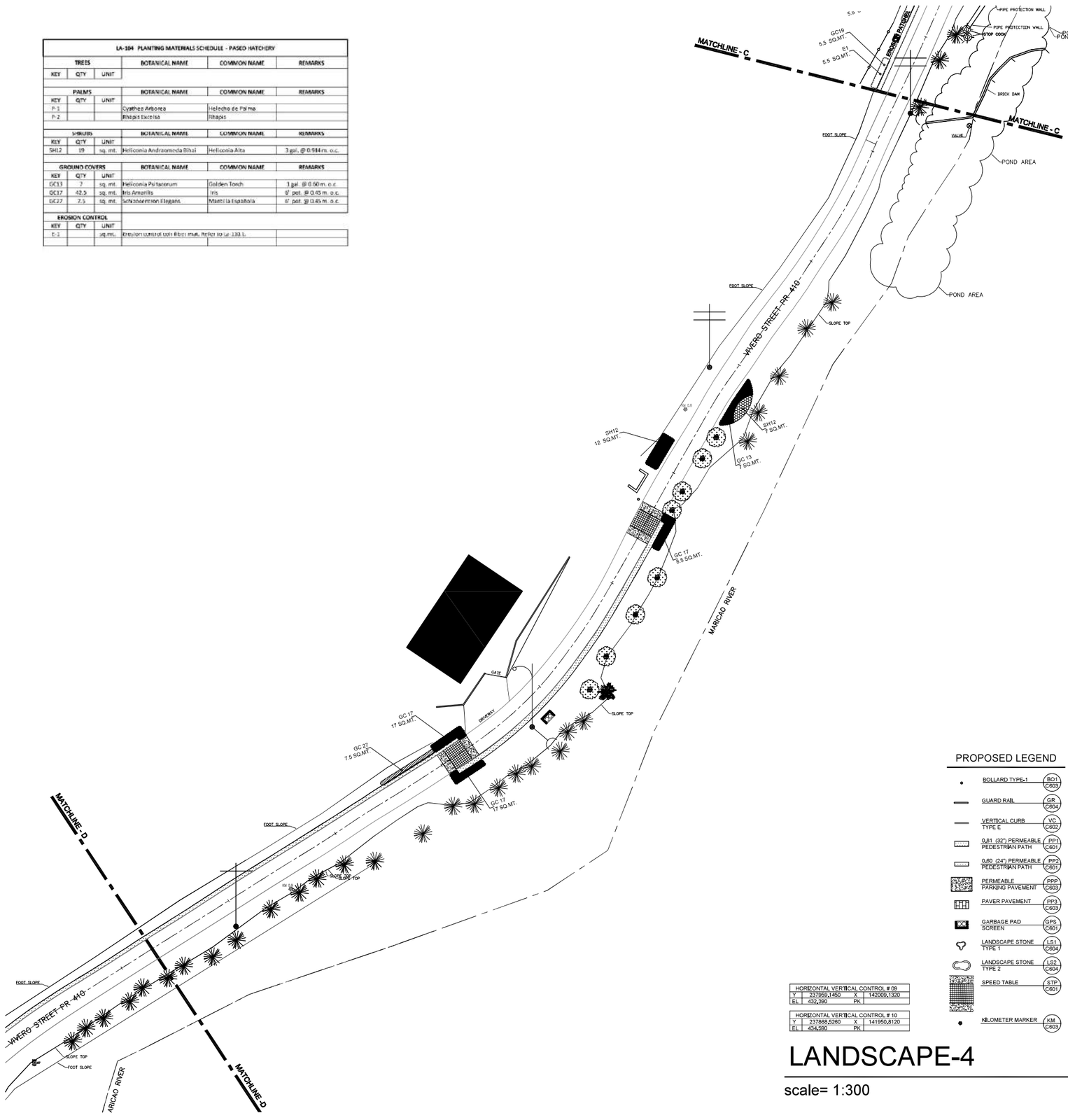



| LA-104 PLANTING MATERIALS SCHEDULE - PASEO HATCHERY | | | | | |
|---|---|---|---|---|---|
| **TREES** | | | **BOTANICAL NAME** | **COMMON NAME** | **REMARKS** |
| KEY | QTY | UNIT | | | |
| **PALMS** | | | **BOTANICAL NAME** | **COMMON NAME** | **REMARKS** |
| KEY | QTY | UNIT | | | |
| P-1 | | | Cyathea Arborea | Helecho de Palma | |
| P-2 | | | Rhapis Excelsa | Rhapis | |
| **SHRUBS** | | | **BOTANICAL NAME** | **COMMON NAME** | **REMARKS** |
| KEY | QTY | UNIT | | | |
| SH12 | 19 | sq. mt. | Heliconia Andrazomeda Bihai | Heliconia Alta | 3 gal. @ 0.914 m. o.c. |
| **GROUND COVERS** | | | **BOTANICAL NAME** | **COMMON NAME** | **REMARKS** |
| KEY | QTY | UNIT | | | |
| GC13 | 7 | sq. mt. | Heliconia Psitacorum | Golden Torch | 1 gal. @ 0.60 m. o.c. |
| GC17 | 42.5 | sq. mt. | Iris Amarilis | Iris | 6" pot. @ 0.45 m. o.c. |
| GC27 | 7.5 | sq. mt. | Sansevieria Elegans | Mantilla Española | 6" pot. @ 0.45 m. o.c. |
| **EROSION CONTROL** | | | | | |
| KEY | QTY | UNIT | | | |
| E-1 | | sq.mt. | Erosion control con fiber mat, Refer to LA-130 L | | |

## EXISTING CONDITIONS LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

0 5 10 30
SCALE = 1:300




| HORIZONTAL VERTICAL CONTROL # 09 | | | |
|---|---|---|---|
| Y | 237850,1450 | X | 142009,1320 |
| EL | 432,390 | PK | |

| HORIZONTAL VERTICAL CONTROL # 10 | | | |
|---|---|---|---|
| Y | 237868,5260 | X | 141950,8120 |
| EL | 434,590 | PK | |

## PROPOSED LEGEND

| | | |
|---|---|---|
| | BOLLARD TYPE-1 | BO1 C603 |
| | GUARD RAIL | GR C604 |
| | VERTICAL CURB TYPE E | VC C602 |
| | 0,81 (32") PERMEABLE PEDESTRIAN PATH | PP1 C601 |
| | 0,60 (24") PERMEABLE PEDESTRIAN PATH | PP2 C601 |
| | PERMEABLE PARKING PAVEMENT | PPP C603 |
| | PAVER PAVEMENT | PP3 C603 |
| | GARBAGE PAD SCREEN | GPS C601 |
| | LANDSCAPE STONE TYPE 1 | LS1 C604 |
| | LANDSCAPE STONE TYPE 2 | LS2 C604 |
| | SPEED TABLE | STP C601 |
| | KILOMETER MARKER | KM C603 |

# LANDSCAPE-4

scale= 1:300

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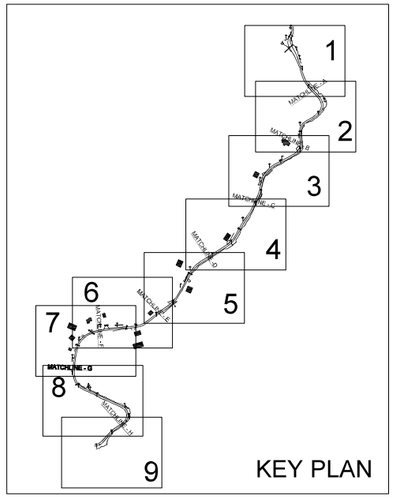
PROJECT: PR-CRP-000721
**PASEO LA GRUTA-VIVERO DE PECES**
CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

GOBIERNO MUNICIPAL DE MARICAO
PASEO HATCHERY [PR-CRP-000721]

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DRAWING NO.: LA-104

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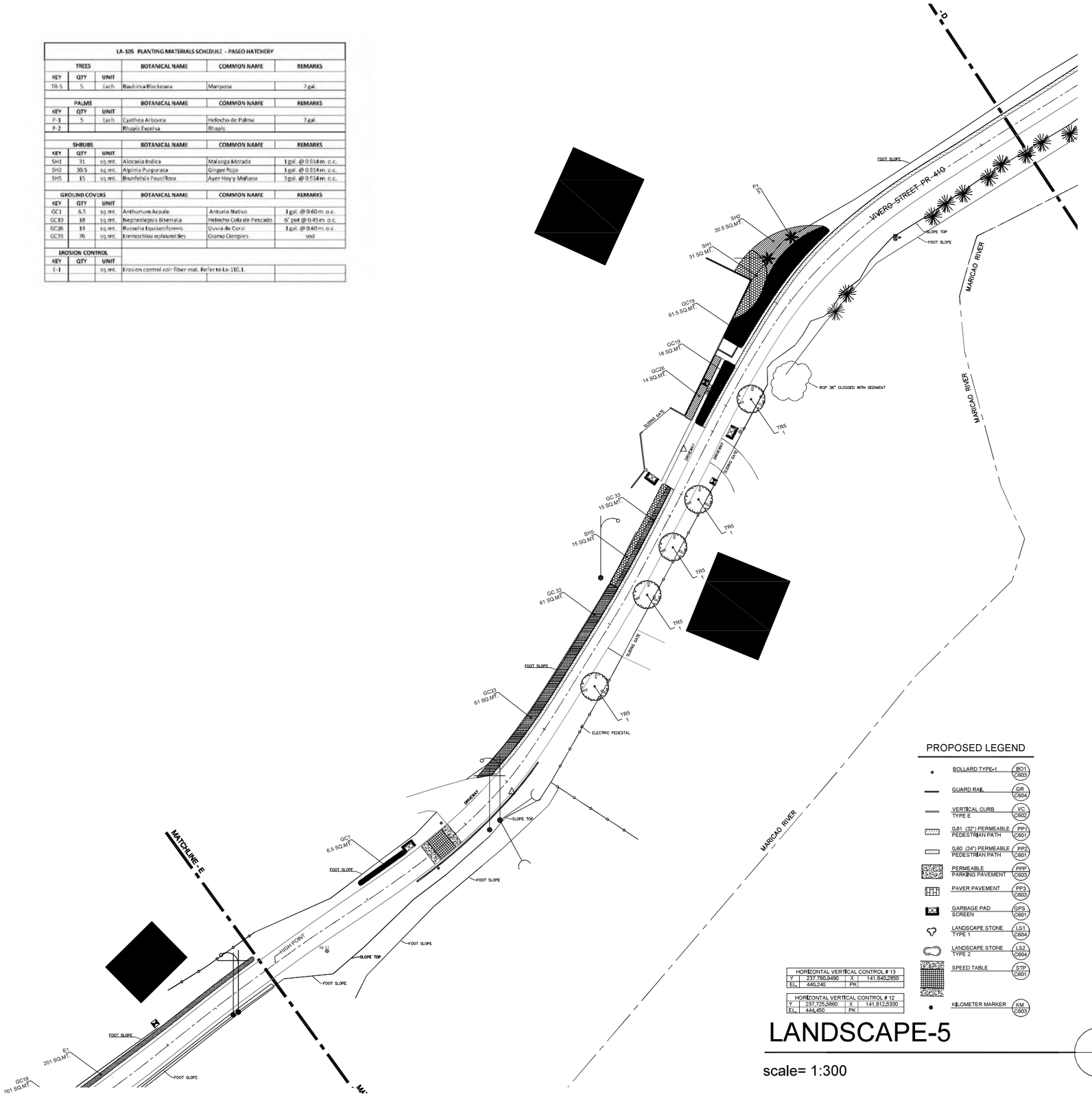



| LA-105 PLANTING MATERIALS SCHEDULE - PASEO HATCHERY | | | | | |
|---|---|---|---|---|---|
| **TREES** | | | **BOTANICAL NAME** | **COMMON NAME** | **REMARKS** |
| KEY | QTY | UNIT | | | |
| TR-5 | 5 | Each | Bauhinia Blackeana | Mariposa | 7 gal. |
| **PALMS** | | | **BOTANICAL NAME** | **COMMON NAME** | **REMARKS** |
| KEY | QTY | UNIT | | | |
| P-1 | 5 | Each | Cyathea Arborea | Helecho de Palma | 7 gal. |
| P-2 | | | Rhapis Excelsa | Rhapis | |
| **SHRUBS** | | | **BOTANICAL NAME** | **COMMON NAME** | **REMARKS** |
| KEY | QTY | UNIT | | | |
| SH1 | 31 | sq.mt. | Alocasia Indica | Malanga Morada | 1 gal. @ 0.914 m. o.c. |
| SH2 | 30.5 | sq.mt. | Alpinia Purpurata | Ginger Rojo | 1 gal. @ 0.914 m. o.c. |
| SH5 | 15 | sq.mt. | Brunfelsia Pauciflora | Ayer Hoy y Mañana | 3 gal. @ 0.514 m. o.c. |
| **GROUND COVERS** | | | **BOTANICAL NAME** | **COMMON NAME** | **REMARKS** |
| KEY | QTY | UNIT | | | |
| GC1 | 6.5 | sq.mt. | Anthurium Acaule | Anturio Nativo | 1 gal. @ 0.60 m. o.c. |
| GC19 | 18 | sq.mt. | Nephrolepsis Biserrata | Helecho Cola de Pescado | 6" pot @ 0.45 m. o.c. |
| GC26 | 14 | sq.mt. | Russelia Equisetiformis | Uuvia de Coral | 1 gal. @ 0.60 m. o.c. |
| GC35 | 76 | sq.mt. | Eremochloa ophiuroides | Grama Cienpies | sod |
| **EROSION CONTROL** | | | | | |
| KEY | QTY | UNIT | | | |
| E-1 | | sq.mt. | Erosion control coir fiber mat. Refer to La-110.1. | | |

## EXISTING CONDITIONS LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

0 5 10 30
SCALE = 1:300




## PROPOSED LEGEND

| | | |
|---|---|---|
| BOLLARD TYPE-1 | BO1 | C603 |
| GUARD RAIL | GR | C604 |
| VERTICAL CURB TYPE E | VC | C602 |
| 0.81 (32") PERMEABLE PEDESTRIAN PATH | PP1 | C601 |
| 0.60 (24") PERMEABLE PEDESTRIAN PATH | PP2 | C601 |
| PERMEABLE PARKING PAVEMENT | PPP | C603 |
| PAVER PAVEMENT | PP3 | C603 |
| GARBAGE PAD SCREEN | GPS | C601 |
| LANDSCAPE STONE TYPE 1 | LS1 | C604 |
| LANDSCAPE STONE TYPE 2 | LS2 | C604 |
| SPEED TABLE | STP | C601 |
| KILOMETER MARKER | KM | C603 |

| HORIZONTAL VERTICAL CONTROL # 13 | | | |
|---|---|---|---|
| Y | 237,780.2490 | X | 141,840.2850 |
| EL. | 440.240 | PK | |

| HORIZONTAL VERTICAL CONTROL # 12 | | | |
|---|---|---|---|
| Y | 237,725.5860 | X | 141,812.5330 |
| EL. | 444.450 | PK | |

# LANDSCAPE-5

scale= 1:300

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90% DESIGN SET
NOT FOR CONSTRUCTION

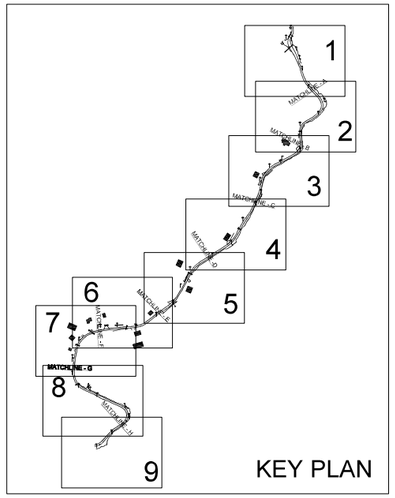
PROJECT: PR-CRP-000721
**PASEO LA GRUTA-VIVERO DE PECES**
CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

GOBIERNO MUNICIPAL DE MARICAO
PASEO HATCHERY [PR-CRP-000721]

| NO. | DATE | DRAWING ISSUE | BY | APP. |
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DRAWING NO.: LA-105

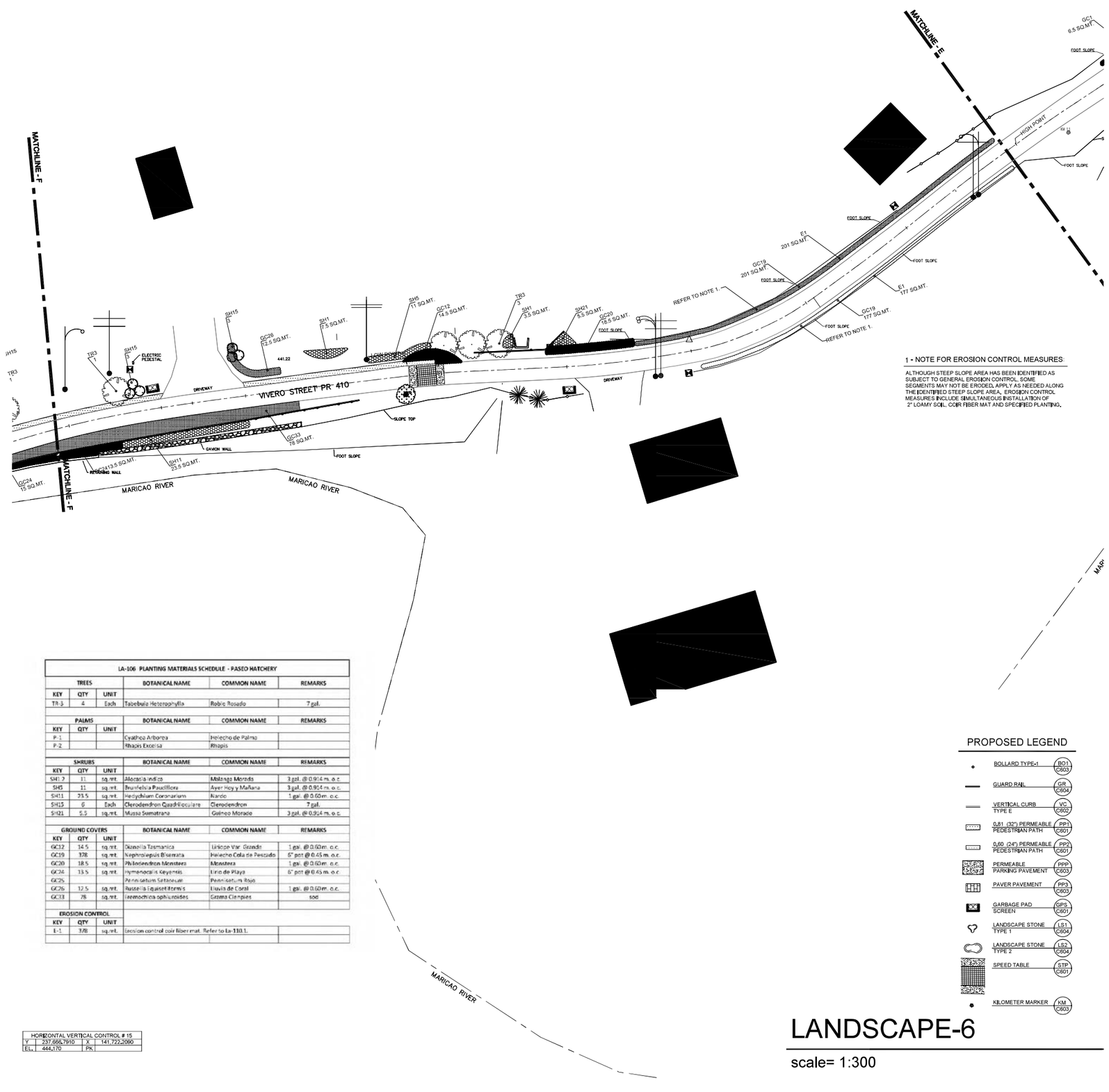
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## EXISTING CONDITIONS LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

0 5 10 30
SCALE = 1:300




### 1 - NOTE FOR EROSION CONTROL MEASURES:

ALTHOUGH STEEP SLOPE AREA HAS BEEN IDENTIFIED AS SUBJECT TO GENERAL EROSION CONTROL, SOME SEGMENTS MAY NOT BE ERODED, APPLY AS NEEDED ALONG THE IDENTIFIED STEEP SLOPE AREA, EROSION CONTROL MEASURES INCLUDE SIMULTANEOUS INSTALLATION OF 2" LOAMY SOIL, COIR FIBER MAT AND SPECIFIED PLANTING.

**LA-106 PLANTING MATERIALS SCHEDULE - PASEO HATCHERY**

| TREES | | | BOTANICAL NAME | COMMON NAME | REMARKS |
|---|---|---|---|---|---|
| KEY | QTY | UNIT | | | |
| TR-3 | 4 | Each | Tabebuia Heterophylla | Roble Rosado | 7 gal. |

| PALMS | | | BOTANICAL NAME | COMMON NAME | REMARKS |
|---|---|---|---|---|---|
| KEY | QTY | UNIT | | | |
| P-1 | | | Cyathea Arborea | Helecho de Palma | |
| P-2 | | | Rhaps Excelsa | Rhapis | |

| SHRUBS | | | BOTANICAL NAME | COMMON NAME | REMARKS |
|---|---|---|---|---|---|
| KEY | QTY | UNIT | | | |
| SH1 2 | 11 | sq.mt. | Alocasia Indica | Malanga Morada | 3 gal. @ 0.914 m. o.c. |
| SH5 | 11 | sq.mt. | Brunfelsia Pauciflora | Ayer Hoy y Mañana | 3 gal. @ 0.914 m. o.c. |
| SH11 | 23.5 | sq.mt. | Hedychium Coronarium | Nardo | 1 gal. @ 0.60m. o.c. |
| SH15 | 6 | Each | Clerodendron Quadrifloculare | Clerodendron | 7 gal. |
| SH21 | 5.5 | sq.mt. | Musa Sumatrana | Guineo Morado | 3 gal. @ 0.914 m. o.c. |

| GROUND COVERS | | | BOTANICAL NAME | COMMON NAME | REMARKS |
|---|---|---|---|---|---|
| KEY | QTY | UNIT | | | |
| GC12 | 14.5 | sq.mt. | Dianella Tasmanica | Liriope Var. Grande | 1 gal. @ 0.60m. o.c. |
| GC19 | 378 | sq.mt. | Nephrolepsis Biserrata | Helecho Cola de Pescado | 6" pot @ 0.45 m. o.c. |
| GC20 | 18.5 | sq.mt. | Philodendron Monstera | Monstera | 1 gal. @ 0.60m. o.c. |
| GC24 | 13.5 | sq.mt. | Hymenocallis Keyensis | Lirio de Playa | 6" pot @ 0.45 m. o.c. |
| GC25 | | | Pennisetum Setaceum | Pennisetum Rojo | |
| GC26 | 12.5 | sq.mt. | Ruisellia Equisetiformis | Lluvia de Coral | 1 gal. @ 0.60m. o.c. |
| GC33 | 78 | sq.mt. | Leemochloa ophiuroides | Grama Clenpies | sod |

| EROSION CONTROL | | | | | |
|---|---|---|---|---|---|
| KEY | QTY | UNIT | | | |
| E-1 | 378 | sq.mt. | Erosion control coir fiber mat. Refer to La-110.1. | | |

| HORIZONTAL VERTICAL CONTROL # 15 | | | |
|---|---|---|---|
| Y | 237,666.7910 | X | 141,722.2080 |
| EL. | 444.170 | PK | |

## PROPOSED LEGEND

| | | |
|---|---|---|
| BOLLARD TYPE-1 | BO1 | C603 |
| GUARD RAIL | GR | C604 |
| VERTICAL CURB TYPE E | VC | C602 |
| 0.81 (32") PERMEABLE PEDESTRIAN PATH | PP1 | C601 |
| 0.60 (24") PERMEABLE PEDESTRIAN PATH | PP2 | C601 |
| PERMEABLE PARKING PAVEMENT | PPP | C603 |
| PAVER PAVEMENT | PP3 | C603 |
| GARBAGE PAD SCREEN | GPS | C601 |
| LANDSCAPE STONE TYPE 1 | LS1 | C604 |
| LANDSCAPE STONE TYPE 2 | LS2 | C604 |
| SPEED TABLE | STP | C601 |
| KILOMETER MARKER | KM | C603 |

# LANDSCAPE-6

scale= 1:300

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113 DEL PARQUE STREET SUITE 7
SAN JUAN, PR 00911
787.309.1837

BAIGES GEOTECHNICAL ENGINEERS, LLC
64 PASEO DE LA ALHAMBRA, URB TORRIMAR, GUAYNABO, P.R. 00969
JAMES@BAIGESMAIL.COM • (787) 399-0077

90% DESIGN SET
NOT FOR CONSTRUCTION

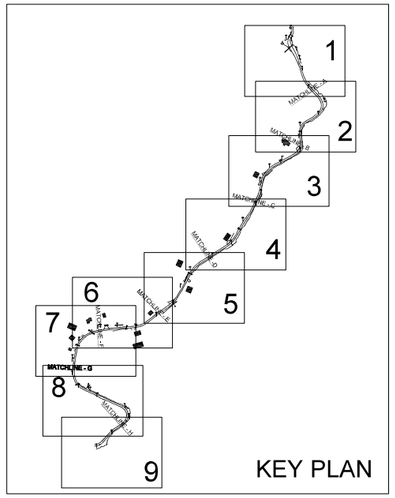
PROJECT: PR-CRP-000721
**PASEO LA GRUTA-VIVERO DE PECES**
CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

GOBIERNO MUNICIPAL DE MARICAO
PASEO HATCHERY [PR-CRP-000721]

| NO. | DATE | DRAWING ISSUE | BY | APP. |
|---|---|---|---|---|

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REVIEWED BY:
DATE: 05/23 11/01/23
SHEET TITLE: LANDSCAPE PLAN
DRAWING NO.: LA-106

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| LA-107 PLANTING MATERIALS SCHEDULE - PASEO HATCHERY | | | | | |
|---|---|---|---|---|---|
| TREES | | | BOTANICAL NAME | COMMON NAME | REMARKS |
| KEY | QTY | UNIT | | | |
| TR-3 | 4 | Each | Tabebuia Heterophylla | Roble Rosado | 7 gal. |
| PALMS | | | BOTANICAL NAME | COMMON NAME | REMARKS |
| KEY | QTY | UNIT | | | |
| P-1 | | | Cyathea Arborea | Helecho de Palma | |
| P-2 | | | Rhapis Excelsa | Rhapis | |
| SHRUBS | | | BOTANICAL NAME | COMMON NAME | REMARKS |
| KEY | QTY | UNIT | | | |
| SH1 | | | Alocasia Indica | Malange Morada | |
| SHZ.5 | 8.5 | sq.mt. | Alpinia Purpurata | Ginger Rojo | 1 gal. @ 0.60 m. o.c. |
| SH9 | 3 | Each | Dillenia Suffruticosa | Ojo de Pajaro | 7 gal. |
| SH15 | 9 | Each | Clerodendron Quadrilloculare | Clerodendron | 7 gal. |
| GROUND COVERS | | | BOTANICAL NAME | COMMON NAME | REMARKS |
| KEY | QTY | UNIT | | | |
| GC24 | 15 | sq.mt. | Hymenocallis Keyensis. | Lirio de Playa | 6" pot @ 0.45 m. o.c. |
| GC33 | 78 | sq.mt. | Fremochloa ophiuroides | Grama Ciempies | sod |
| EROSION CONTROL | | | | | |
| KEY | QTY | UNIT | | | |
| E-1 | | sq.mt. | Erosion control coir fiber mat. Refer to La-110.1. | | |

## EXISTING CONDITIONS LEGEND

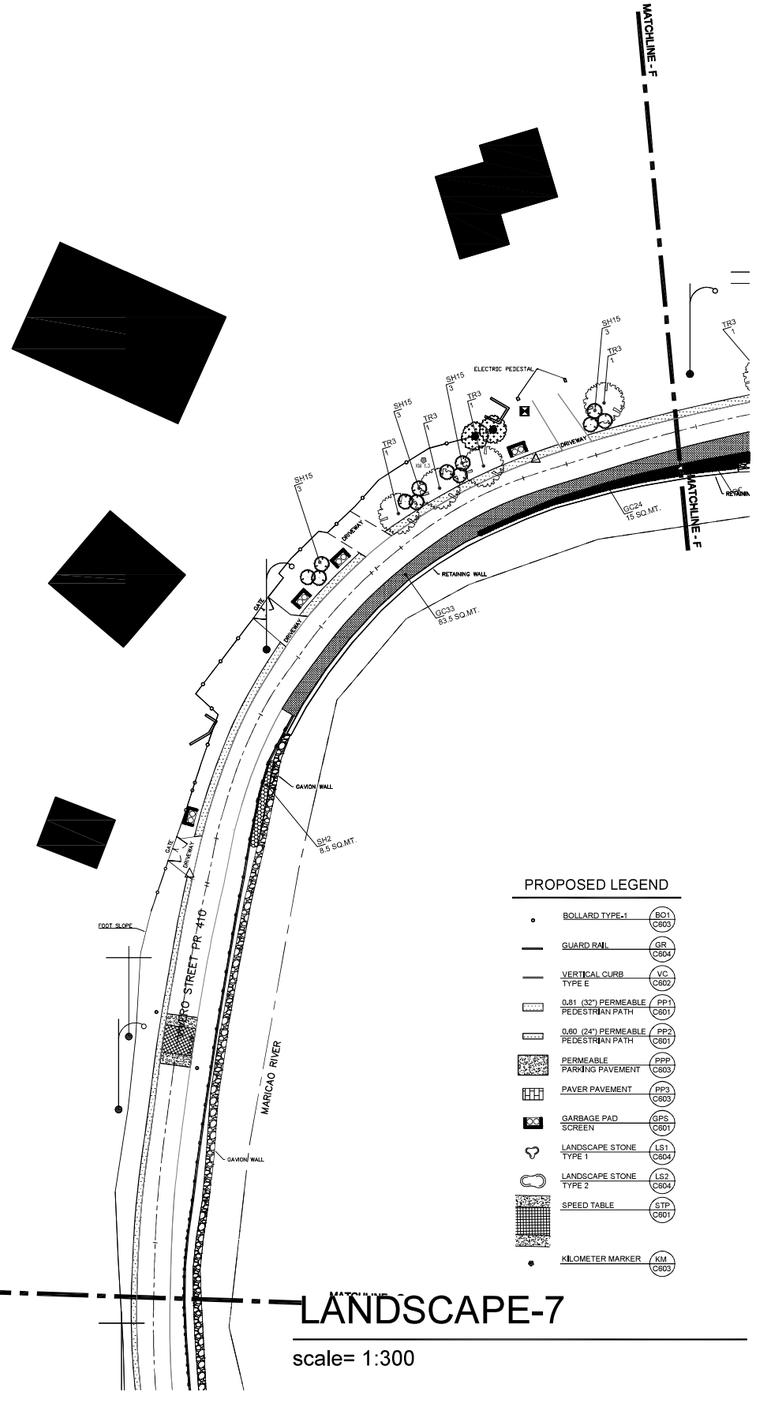
| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

0 5 10 30

SCALE = 1:300

| HORIZONTAL VERTICAL CONTROL # 16 | | | |
|---|---|---|---|
| Y | 237,649.4570 | X | 141,605.5650 |
| EL. | 442.240 | PK | |

| HORIZONTAL VERTICAL CONTROL # 17 | | | |
|---|---|---|---|
| Y | 237,603.4640 | X | 141,587.1870 |
| EL. | 443.040 | PK | |




## PROPOSED LEGEND

| | | |
|---|---|---|
| BOLLARD TYPE-1 | BO1 | C603 |
| GUARD RAIL | GR | C604 |
| VERTICAL CURB TYPE E | VC | C602 |
| 0.81 (32") PERMEABLE PEDESTRIAN PATH | PP1 | C601 |
| 0.60 (24") PERMEABLE PEDESTRIAN PATH | PP2 | C601 |
| PERMEABLE PARKING PAVEMENT | PPP | C603 |
| PAVER PAVEMENT | PP3 | C603 |
| GARBAGE PAD SCREEN | GPS | C601 |
| LANDSCAPE STONE TYPE 1 | LS1 | C604 |
| LANDSCAPE STONE TYPE 2 | LS2 | C604 |
| SPEED TABLE | STP | C601 |
| KILOMETER MARKER | KM | C603 |

MATCHLINE - G

# LANDSCAPE-7

scale= 1:300

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90% DESIGN SET
NOT FOR CONSTRUCTION

PROJECT: PR-CRP-000721

**PASEO LA GRUTA-VIVERO DE PECES**

CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

GOBIERNO MUNICIPAL DE MARICAO

PASEO HATCHERY [PR-CRP-000721]

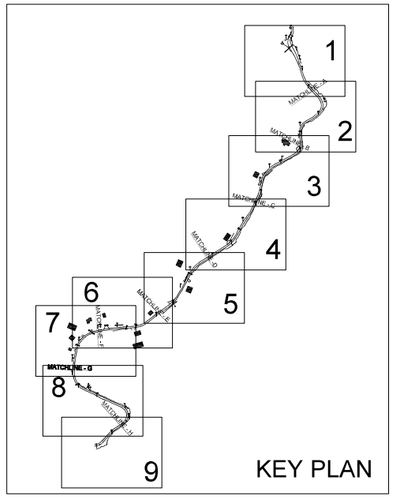
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SHEET TITLE: LANDSCAPE PLAN

DRAWING NO.: LA-107

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## EXISTING CONDITIONS LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

0 5 10 30
SCALE = 1:300

## PROPOSED LEGEND

| | | |
|---|---|---|
| | BOLLARD TYPE-1 | BO1 C603 |
| | GUARD RAIL | GR C604 |
| | VERTICAL CURB TYPE E | VC C602 |
| | 0.81 (32") PERMEABLE PEDESTRIAN PATH | PP1 C601 |
| | 0.60 (24") PERMEABLE PEDESTRIAN PATH | PP2 C601 |
| | PERMEABLE PARKING PAVEMENT | PPP C603 |
| | PAVER PAVEMENT | PP3 C603 |
| | GARBAGE PAD SCREEN | GP6 C601 |
| | LANDSCAPE STONE TYPE 1 | LS1 C604 |
| | LANDSCAPE STONE TYPE 2 | LS2 C604 |
| | SPEED TABLE | STP C601 |
| | KILOMETER MARKER | KM C603 |

| HORIZONTAL VERTICAL CONTROL # 20 | | | |
|---|---|---|---|
| Y | 237,458,8250 | X | 141.683,8390 |
| EL. | 447,100 | PK | |

| HORIZONTAL VERTICAL CONTROL # 21 | | | |
|---|---|---|---|
| Y | 237,430,6690 | X | 141.693,2360 |
| EL. | 448,230 | PK | |

**LA-108 PLANTING MATERIALS SCHEDULE - PASEO HATCHERY**

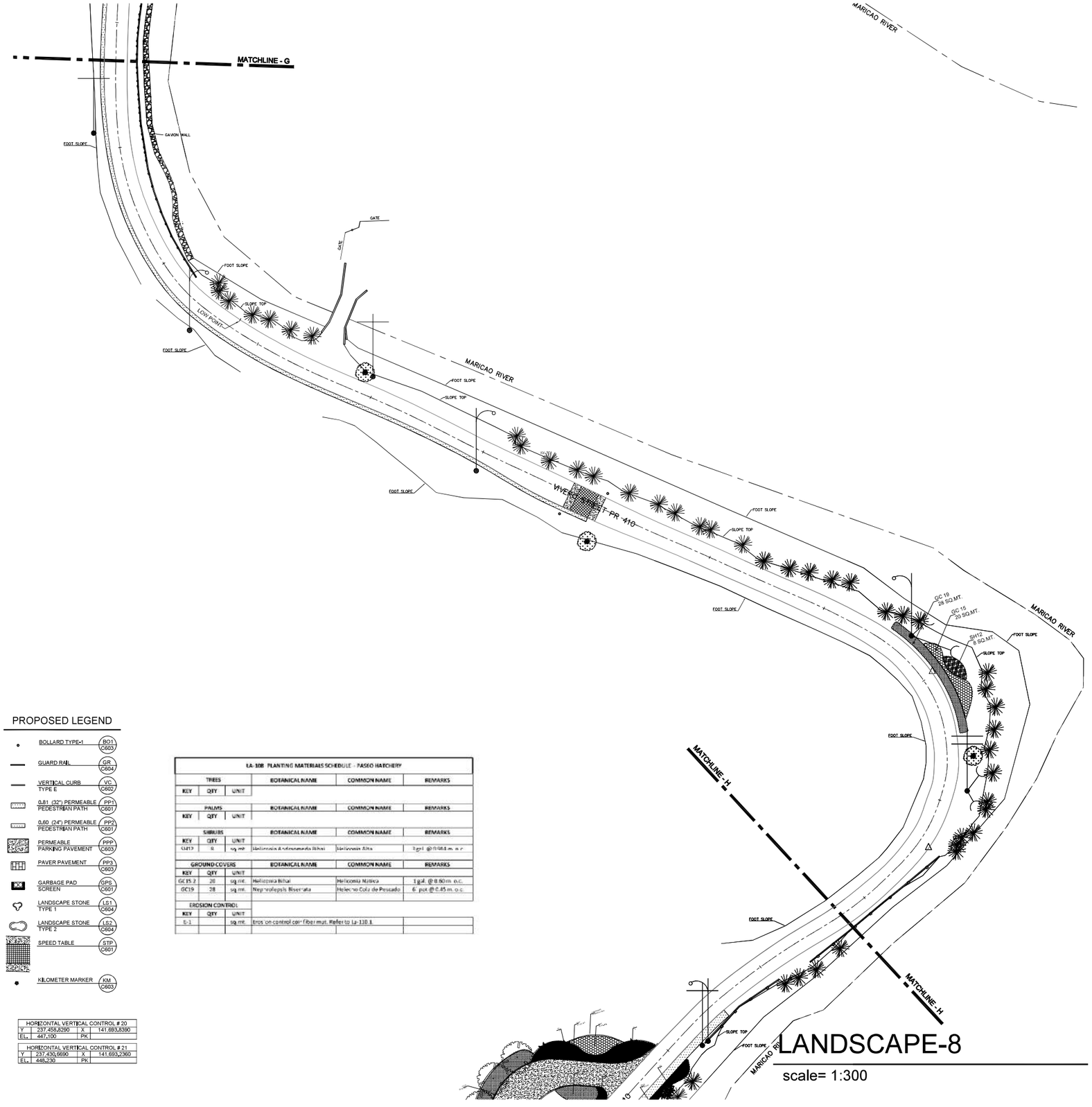
| TREES | | | BOTANICAL NAME | COMMON NAME | REMARKS |
|---|---|---|---|---|---|
| KEY | QTY | UNIT | | | |
| | | | | | |

| PALMS | | | BOTANICAL NAME | COMMON NAME | REMARKS |
|---|---|---|---|---|---|
| KEY | QTY | UNIT | | | |
| | | | | | |

| SHRUBS | | | BOTANICAL NAME | COMMON NAME | REMARKS |
|---|---|---|---|---|---|
| KEY | QTY | UNIT | | | |
| SH12 | 8 | sq.mt. | Heliconia Andromeda Bihai | Heliconia Alta | 3 pot @ 0.80 m. o.c. |

| GROUND COVERS | | | BOTANICAL NAME | COMMON NAME | REMARKS |
|---|---|---|---|---|---|
| KEY | QTY | UNIT | | | |
| GC15.2 | 20 | sq.mt. | Heliconia Bihai | Heliconia Nutica | 1 gal. @ 0.80m. o.c. |
| GC19 | 28 | sq.mt. | Nephrolepsis Biserrata | Helecho Cola de Pescado | 6 pot @ 0.45 m. o.c. |
| | | | | | |

| EROSION CONTROL | | | | | |
|---|---|---|---|---|---|
| KEY | QTY | UNIT | | | |
| E-1 | | sq.mt. | Erosion control coir fiber mat. Refer to La-110.1. | | |
| | | | | | |




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JAMES@BAIGESMAIL.COM • (787) 399-0097

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NOT FOR CONSTRUCTION

PROJECT: PR-CRP-000721
# PASEO LA GRUTA-VIVERO DE PECES
CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

GOBIERNO MUNICIPAL DE MARICAO
PASEO HATCHERY [PR-CRP-000721]

| NO. | DATE | DRAWING ISSUE | BY | APP. |
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SHEET TITLE: LANDSCAPE PLAN
DRAWING NO.: LA-108

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## EXISTING CONDITIONS LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

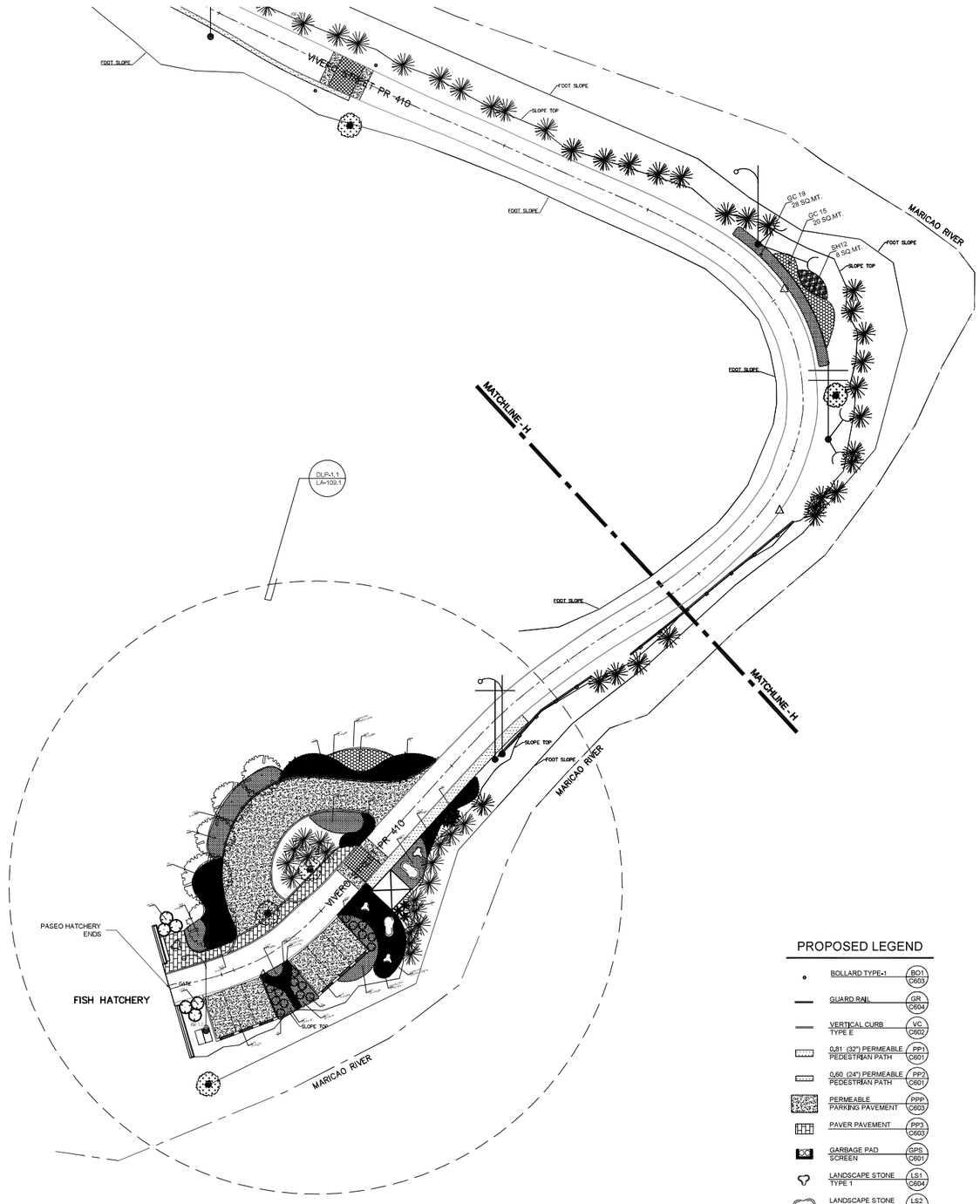
0 5 10 30

SCALE = 1:300

| HORIZONTAL VERTICAL CONTROL # 20 | | | |
|---|---|---|---|
| Y | 237,458,8290 | X | 141,693,8390 |
| EL. | 447,100 | PK | |

| HORIZONTAL VERTICAL CONTROL # 21 | | | |
|---|---|---|---|
| Y | 237,430,6690 | X | 141,693,2360 |
| EL. | 448,230 | PK | |

| HORIZONTAL VERTICAL CONTROL # 22 | | | |
|---|---|---|---|
| Y | 237,371,6570 | X | 141,627,5680 |
| EL. | 450,080 | PK | |




## PROPOSED LEGEND

| | | |
|---|---|---|
| | BOLLARD TYPE-1 | BO1 C603 |
| | GUARD RAIL | GR C604 |
| | VERTICAL CURB TYPE E | VC C602 |
| | 0,81 (32") PERMEABLE PEDESTRIAN PATH | PP1 C601 |
| | 0,60 (24") PERMEABLE PEDESTRIAN PATH | PP2 C601 |
| | PERMEABLE PARKING PAVEMENT | PPP C603 |
| | PAVER PAVEMENT | PP3 C603 |
| | GARBAGE PAD SCREEN | GPS C601 |
| | LANDSCAPE STONE TYPE 1 | LS1 C604 |
| | LANDSCAPE STONE TYPE 2 | LS2 C604 |
| | SPEED TABLE | STP C601 |
| | KILOMETER MARKER | KM C603 |

# LANDSCAPE-9

scale= 1:300

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JAMES@BAIGESMUNIZ.COM • (787) 399-0077

90% DESIGN SET
NOT FOR CONSTRUCTION

PROJECT: PR-CRP-000721

**PASEO LA GRUTA-VIVERO DE PECES**

CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

GOBIERNO MUNICIPAL DE MARICAO

PASEO HATCHERY [PR-CRP-000721]

| NO. | DATE | DRAWING ISSUE | BY | APP. |
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SHEET TITLE: LANDSCAPE PLAN

DRAWING NO.: LA-109

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**LA-109.1 PLANTING MATERIALS SCHEDULE - PASEO HATCHERY**

| TREES | | | BOTANICAL NAME | COMMON NAME | REMARKS |
|---|---|---|---|---|---|
| KEY | QTY | UNIT | | | |
| TR-7 | 2 | Each | Lagerstroemia Speciosa | Reina de las Flores | 7 gal. |
| TR-8 | 3 | Each | Magnolia Portorricensis | Jagüilla | 7 gal. |

| PALMS | | | BOTANICAL NAME | COMMON NAME | REMARKS |
|---|---|---|---|---|---|
| KEY | QTY | UNIT | | | |
| P-1 | 6 | Each | Cyotsea Arborea | Helecho de Palma | 7 gal. |
| P-2 | 18 | Each | Rhapis Excelsa | Rhapis | 3 gal. |

| SHRUBS | | | BOTANICAL NAME | COMMON NAME | REMARKS |
|---|---|---|---|---|---|
| KEY | QTY | UNIT | | | |
| SH4 | 9 | sq.mt. | Alpinia Speciosa | Shell Flower | 3 gal. @ 0.60 m. o.c. |
| SH11 | 41 | sq.mt. | Hedychium Coronarium | Naido | 1 gal. @ 0.60 m. o.c. |
| SH19 | 6 | Each | Graptophyllum Pictum | Graptophyllum | 3 gal. |
| SH21 | 18 | sq.mt. | Mussa Sumatrana | Guineo Morado | 3 gal. @ 0.914 m. o.c. |
| SH24 | 6 | Each | Coffea Arabica | Cafeto | 7 gals. |

| GROUND COVERS | | | BOTANICAL NAME | COMMON NAME | REMARKS |
|---|---|---|---|---|---|
| KEY | QTY | UNIT | | | |
| GC1 | 15.5 | sq.mt. | Anthurium Acaule | Anturio Nativo | 1 gal. @ 0.60 m. o.c. |
| GC3 | 8.5 | sq.mt. | Bromelia spp. | | 1 gal. @ 0.60 m. o.c. |
| GC9 | 20.5 | sq.mt. | Browallia Americana | Margarita Morada | 6" pot @ 0.45 m. o.c. |
| GC11 | 13 | sq.mt. | Commelina Diffusa | Cohitre | 1" pot @ 0.30 m. |
| GC16 | 36 | sq.mt. | Impatiens Walleriana | Miramelinda | 6" pot @ 0.45 m. o.c. |
| GC17 | 2 | sq.mt. | Iris Amarilis | Iris | 6" pot @ 0.45 m. o.c. |
| GC27 | 35 | sq.mt. | Schizocentron Elegans | Mantilla Española | 6" pot @ 0.45 m. o.c. |
| GC33 | 99 | sq.mt. | Eremochloa ophiuroides | Grama Centipies | sod |

| EROSION CONTROL | | | | | |
|---|---|---|---|---|---|
| KEY | QTY | UNIT | | | |
| E-1 | | sq.mt. | Erosion control coir fiber mat. Refer to LA-110.1. | | |

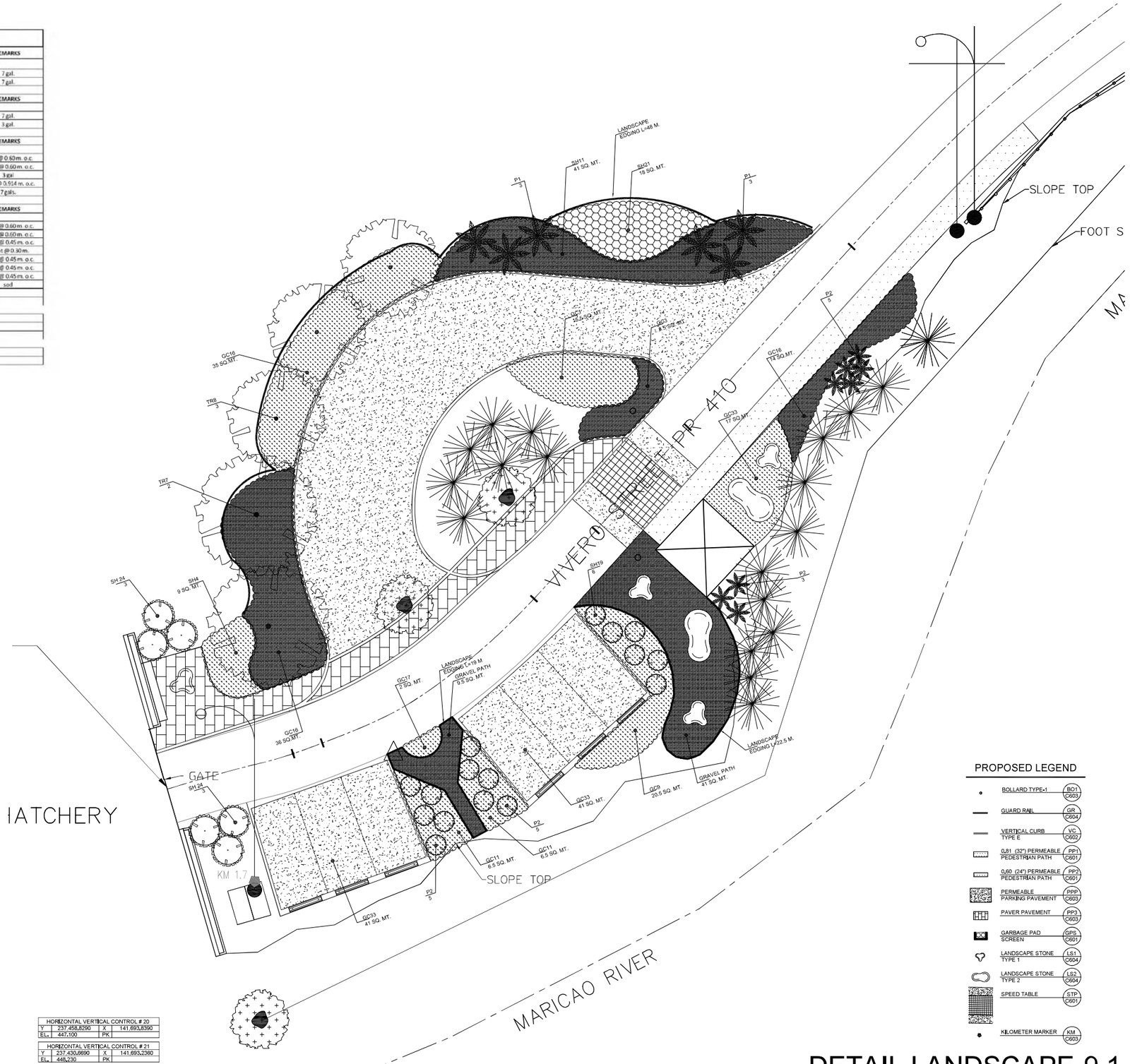
| OTHER | | | | | |
|---|---|---|---|---|---|
| KEY | QTY | UNIT | | | |
| | 90 | mc. | Landscape edging. | | |
| | 503 | sq.mt. | Gravel path (3/8" gravel). | | |

## EXISTING CONDITIONS LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

0 5 10 30

SCALE = 1:300




| HORIZONTAL VERTICAL CONTROL # 20 | | | |
|---|---|---|---|
| Y | 237,458.8290 | X | 141,693.8390 |
| EL. | 447.100 | PK | |

| HORIZONTAL VERTICAL CONTROL # 21 | | | |
|---|---|---|---|
| Y | 237,430.6690 | X | 141,693.2360 |
| EL. | 448.230 | PK | |

| HORIZONTAL VERTICAL CONTROL # 22 | | | |
|---|---|---|---|
| Y | 237,371.8570 | X | 141,627.5680 |
| EL. | 450.080 | PK | |

## PROPOSED LEGEND

| | | |
|---|---|---|
| | BOLLARD TYPE-1 | BO1 C603 |
| | GUARD RAIL | GR C604 |
| | VERTICAL CURB TYPE E | VC C602 |
| | 0,81 (32") PERMEABLE PEDESTRIAN PATH | PP1 C601 |
| | 0,60 (24") PERMEABLE PEDESTRIAN PATH | PP2 C601 |
| | PERMEABLE PARKING PAVEMENT | PPP C603 |
| | PAVER PAVEMENT | PP3 C603 |
| | GARBAGE PAD SCREEN | GPS C601 |
| | LANDSCAPE STONE TYPE 1 | LS1 C604 |
| | LANDSCAPE STONE TYPE 2 | LS2 C604 |
| | SPEED TABLE | STP C601 |
| | KILOMETER MARKER | KM C603 |

# DETAIL LANDSCAPE-9.1

scale= 1:100

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787.309.1837

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90% DESIGN SET
NOT FOR CONSTRUCTION

PROJECT: PR-CRP-000721

**PASEO LA GRUTA-VIVERO DE PECES**

CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

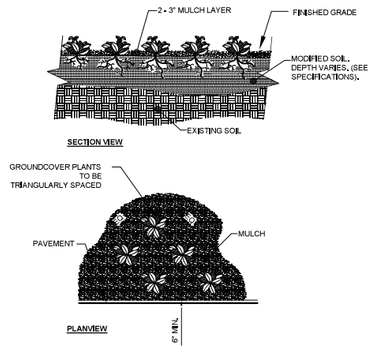
GOBIERNO MUNICIPAL DE MARICAO

PASEO HATCHERY [PR-CRP-000721]

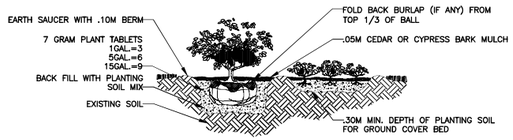
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REVIEWED BY:
DATE: 05/23 11/01/23
SHEET TITLE: LANDSCAPE PLAN
DRAWING NO.: LA-109.1

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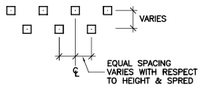



## GROUNDCOVER PLANTING DETAIL



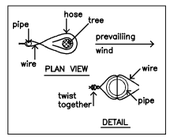

## SHRUB & GROUND COVER PLANTING

NOT TO SCALE



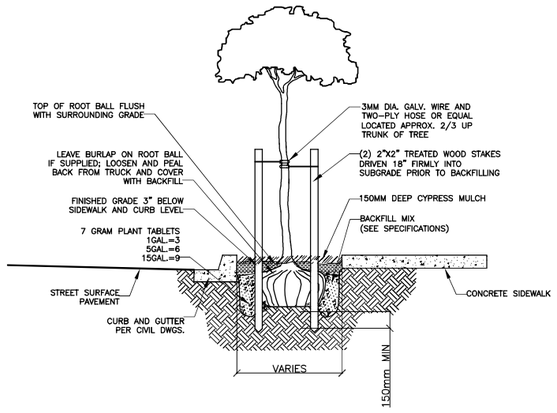

## TYPICAL SHRUB LAYOUT

NOT TO SCALE



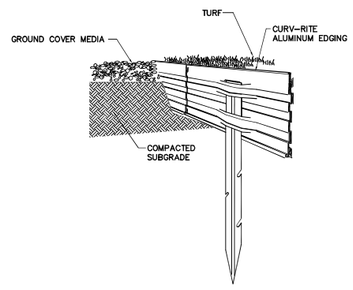

## STAKING DETAIL

NOT TO SCALE




## TREE IN PLANTING STRIP

NOT TO SCALE




## LANDSCAPE BORDER EDGING

NOT TO SCALE

**SPECIFICATION FOR LANDSCAPE BED EDGING**

1. LANDSCAPE BED EDGING SHALL BE EQUAL OR SIMILAR TO CURV-RITE DESIGN 2 (CRD2) AS MANUFACTURED BY CURV-RITE INC. WAYLAND, MICHIGAN 1 – 800 366 – 2878.
2. THICKNESS, DEPTH, LENGTH AND FINISH SHALL BE:1/8" X 5.5"
3. EIGHT (8) OR SIXTEEN (16) FOOT SECTIONS SHALL BE USED WITH ONE STAKE PER (38) INCHES OF EDGING EDGING SHALL BE ALUMINUM ALLOY 6063 – T6 WITH STAKES BEING 6061 – T6
4. STAKE SHALL SECURELY ENGAGE EDGING AND SHALL BE ENTIRELY BELOW TOP SURFACE OF EDGING. EDGING SHALL HAVE A MINIMUM OF (2) INCHES OF INTERLOCKING OVERLAP BETWEEN SECTIONS.
5. INSTALL AS PER MANUFACTURER'S SPECIFICATIONS WITH TOP OF EDGING 1/4" TO 1/2" ABOVE COMPACTED FINISH GRADE. FINISH GRADE TO BE COMPACTED ON EITHER SIDE OF EDGING TO MAINTAIN STABILITY.

## LANDSCAPE WORK NOTES:

1. COSTS LANDSCAPING WORK CONSTRUCTION COSTS SHALL BE CLEARLY ITEMIZED, INCLUDING UNIT PRICES.
2. WATER THE CONTRACTOR IS RESPONSIBLE FOR WATER TRANSPORTATION IN THE EVENT NO WATER IS AVAILABLE ON SITE.
3. MAINTENANCE MAINTENANCE PERIOD BEGINS AFTER FINAL ACCEPTANCE AND EXTENDS FOR (12) MONTHS THEREAFTER, REFER TO WRITTEN SPECIFICATIONS.
4. PALMS SPECIFIED HEIGHT OF PALM TREES DO NOT INCLUDE PALM FRONDS OR LEAVES. SPECIFIED HEIGHT IS FOR A CLEARLY DEFINED TRUNK.
5. FERTILIZER FOR TREES AND PALMS. APPLY COMMERCIAL FERTILIZER PLANT FOOD TABLETS: "Agriform". TABLETS SHALL BE TIGHTLY COMPRESSED, LONG LASTING, TWO (2) YEARS. SLOW RELEASE FERTILIZER DELIVERED TO THE SITE ORIGINAL CONTAINERS BEARING THE MANUFACTURER'S GUARANTEED ANALYSIS OF 20-10-15. TABLETS SHALL WEIGHT FIVE (5). TEN (10) OR TWENTY-ONE (21) GRAMS WITH A POTENTIAL ACIDITY OF NO MORE THAN 5% BY WEIGHT.
6. PLANTING SOIL MIXTURE SHALL BE FREE OF EXTRANEOUS MATTER AND WEEDS AND SHALL CONSIST OF THREE (3) PARTS TOPSOIL AND ONE (1) PART ORGANIC MATTER.
7. LANDSCAPE CONTRACTOR SHALL COORDINATE WITH OWNER LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO START OF WORKS.
8. TOPSOIL INSTALL 4 INCHES MINIMUM DEPTH AT PLANTING AND LAWN AREAS. 12 INCHES MINIMUM BELOW TREES.
9. ROOT BARRIERS INSTALL ROOT BARRIERS ONLY IN PLANTING STRIPS WHERE INDICATED

## NOTES

1. SUPPLY PLANTING SOIL MIX AS MAY BE REQUIRED.
2. ALL QUANTITIES IN THE PLANTING MATERIALS SCHEDULE CONSTITUTE AN APPROXIMATE ESTIMATE WHICH SHALL BE CONFIRMED BY CONTRACTOR AT ALL TIMES.

**PLANTING MATERIALS SCHEDULE - PASEO MATCHERY**

| TREES KEY | QTY | UNIT | BOTANICAL NAME | COMMON NAME | REMARKS |
|---|---|---|---|---|---|
| TR-1 | | | Byrsonima Coriacea | Maricao | |
| TR 2 | | | Ueddia Ferrea | Arbol de Hierro | |
| TR-3 | | | Tabebuia Heterophylla | Roble Rosado | |
| TR 4 | | | Cordia Alliodora | Capá Prieto | |
| TR-5 | | | Bauhinia Blackeana | Mariposa | |
| TR 6 | | | Syzygium Malaccense | Pomarosa | |
| TR-7 | | | Lagerstroemia Speciosa | Reina de Las Flores | |

| PALMS KEY | QTY | UNIT | BOTANICAL NAME | COMMON NAME | REMARKS |
|---|---|---|---|---|---|
| P-1 | | | Cyathea Arborea | Helecho de Palma | |
| P-2 | | | Rhapis Excelsa | Rhapis | |

| SHRUBS KEY | QTY | UNIT | BOTANICAL NAME | COMMON NAME | REMARKS |
|---|---|---|---|---|---|
| SH1 | | | Alocasia Indica | Malanga Morada | |
| SH2 | | | Alpinia Purpurata | Ginger Rojo | |
| SH3 | | | Alpinia Sanderae | Ginger Rosado | |
| SH4 | | | Alpinia Speciosa | Shell Flower | |
| SH5 | | | Brunfelsia Pauciflora | Ayer Hoy y Mañana | |
| SH6 | | | Calliandra Inaequilatera | Mata | |
| SH7 | | | Clusea Rosa | Cupey | |
| SH8 | | | Cordyliine Terminalis | Cordiline | |
| SH9 | | | Dillenia Suffruticosa | Ojo de Pájaro | |
| SH10 | | | Freycinetia Multiflora | Freicinetia | |
| SH11 | | | Hedychium Coronarium | Nardo | |
| SH12 | | | Heliconia Andracarmina Bihai | Heliconia Alta | |
| SH13 | | | Hydrangea Macrophylla | Hortensia | |
| SH14 | | | Jatropha Integerrima | Coralito | |
| SH15 | | | Clerodendrum Quadriloculare | Clerodendron | |
| SH16 | | | Lagerstroemia Indica | | |
| SH17 | | | Plumeria Spp | Virlo de Novia | |
| SH18 | | | Ligustrum Lucidum | Ligustrum | |
| SH19 | | | Magnolia Portoricensis | Eguelito | |
| SH20 | | | Murraya Exotica | Café de la India | |
| SH21 | | | Muyva Sumatrana | Guinea Morado | |
| SH22 | | | Plumeria Speciosa | Flor de Cera | |
| SH23 | | | Philodendron Selloum | Monstera | |

| GROUND COVERS KEY | QTY | UNIT | BOTANICAL NAME | COMMON NAME | REMARKS |
|---|---|---|---|---|---|
| GC1 | | | Anthurium Acaule | Anturio Nativo | |
| GC2 | | | Anthurium Andracanum | Flamingo Flower | |
| GC3 | | | Bromelia spp | | |
| GC4 | | | Canna Coccinea | Maraca | |
| GC5 | | | Canna Spp | Lirio Cana | |
| GC6 | | | Canna Indica | Maraca Nativa | |
| GC7 | | | Clusea Rosea | Cupey Frano | |
| GC8 | | | Commelina Difusa - Cohitre | | |
| GC9 | | | Rhoeodilis Americana | Margarita Morada | |
| SC10 | | | Callisia Monandra | Cohitre Morado | |
| SC11 | | | Commelina Difusa | Cohitre | |
| SC12 | | | Diamella Tawmanica | Liriope Var. Grande | |
| SC13 | | | Heliconia Psitacorum | Golden Torch | |
| SC14 | | | Heliconia Caribae | Heliconia Nativa | |
| SC15 | | | Heliconia Bihai | Heliconia Nativa | |
| SC16 | | | Iris Amarilis | Iris | |
| SC17 | | | Liriope Muscari | Liriope Verde | |
| SC18 | | | Nephrolepsis Biserrata | Helecho Cola de Pescado | |
| SC19 | | | Philodendron Monstera | | |
| SC20 | | | Ophiopogun Japonicus | Grama de Mono | |
| SC21 | | | Plumbago Auriculata | Isabel Segunda Azul | |
| SC22 | | | Plumbago Caponsis | Isabel Segunda Blanca | |
| SC23 | | | Hymenocallis Keyensis | Lirio de Playa | |
| SC24 | | | Pennisetum Setaceum | Pennisetum Rojo | |
| GC2 | | | Russellia Equisetiformis | Lluvia de Coral | |
| SC25 | | | Schizocentron Elegans | Mantilla Española | |
| SC26 | | | Setcreasea Purpurea | Cohitre Lila | |
| SC27 | | | Spathiphyllum Musaica Lea | | |
| SC28 | | | Spathoglottis | Orquídea Lila | |
| SC29 | | | Tripsacum Dactyloides | Liriope Verde Grande | |
| SC30 | | | Vetiveria Zizanioides | Pachelí | |

## PLANT SCHEDULE & PLANTING DETAILS

SCALE = AS SHOWN

C&G
JMCP + JLGARCHITECTS
113 DEL PARQUE STREET SUITE 7
SAN JUAN, PR 00911
787.309.1837

BAIGES GEOTECHNICAL ENGINEERS, LLC
64 PASEO DE LA ALHAMBRA, URB TORRIMAR, GUAYNABO, P.R. 00969
JAMES@BAIGESPR.COM • (787) 399-0077

**90% DESIGN SET**
**NOT FOR CONSTRUCTION**

PROJECT: PR-CRP-000721

# PASEO LA GRUTA-VIVERO DE PECES

CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

GOBIERNO MUNICIPAL DE MARICAO

PASEO HATCHERY [PR-CRP-000721]

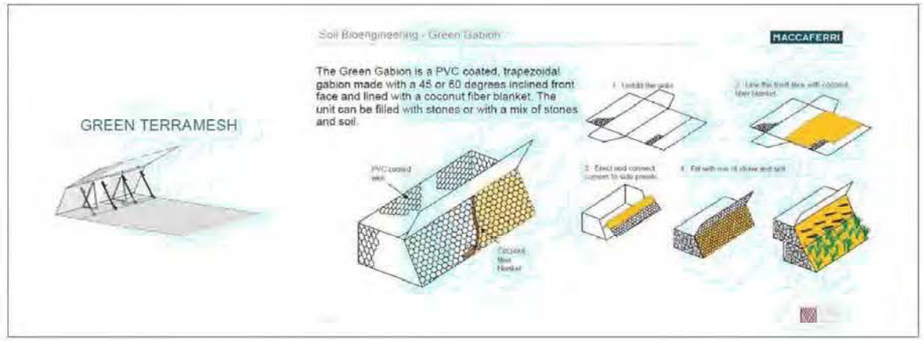
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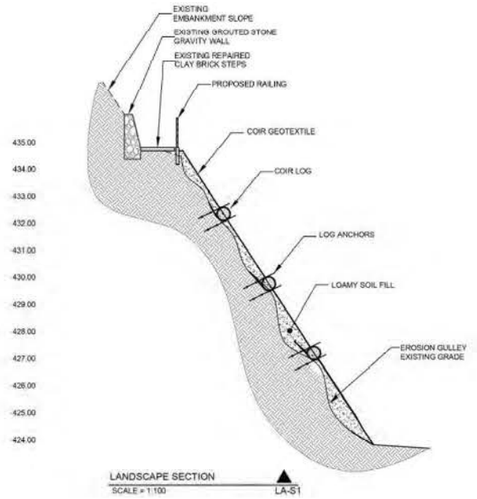
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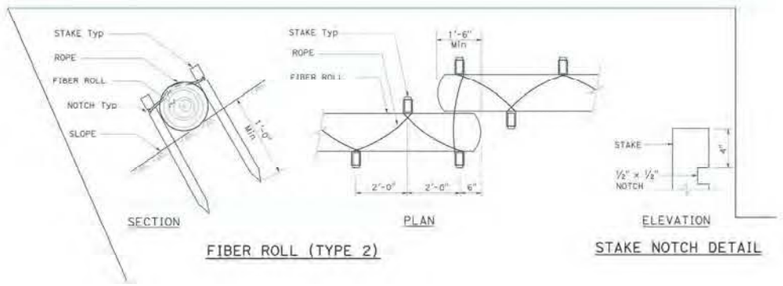
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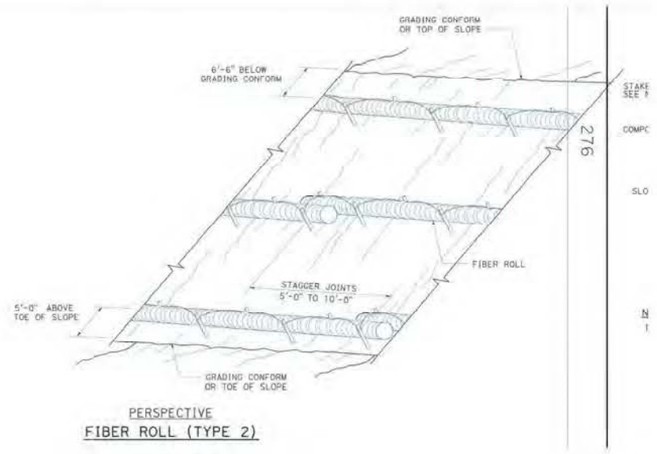
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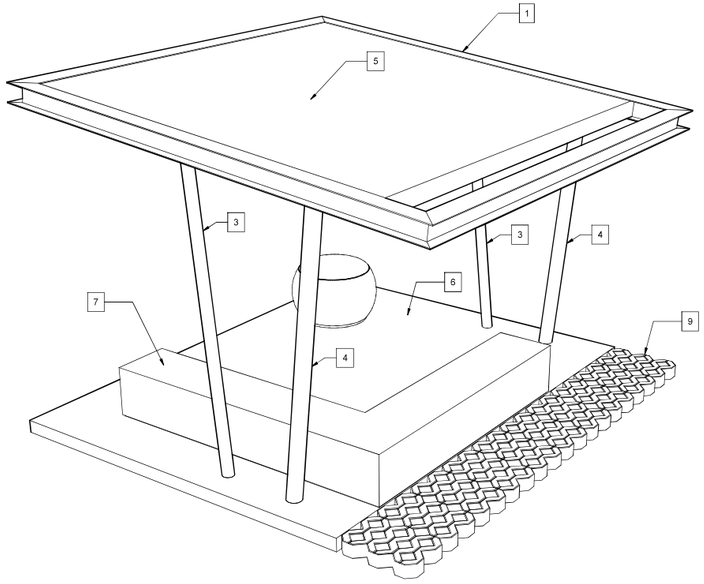
90% DESIGN SET
NOT FOR CONSTRUCTION

PROJECT: PR-CRP-000721
PASEO LA GRUTA-VIVERO DE PECES
CARRETERA ESTATAL PR.4'0 KM.3.0 - KM. 4.5
GOBIERNO MUNICIPAL DE MARICAO
PASEO HATCHERY [PR-CRP-000721]

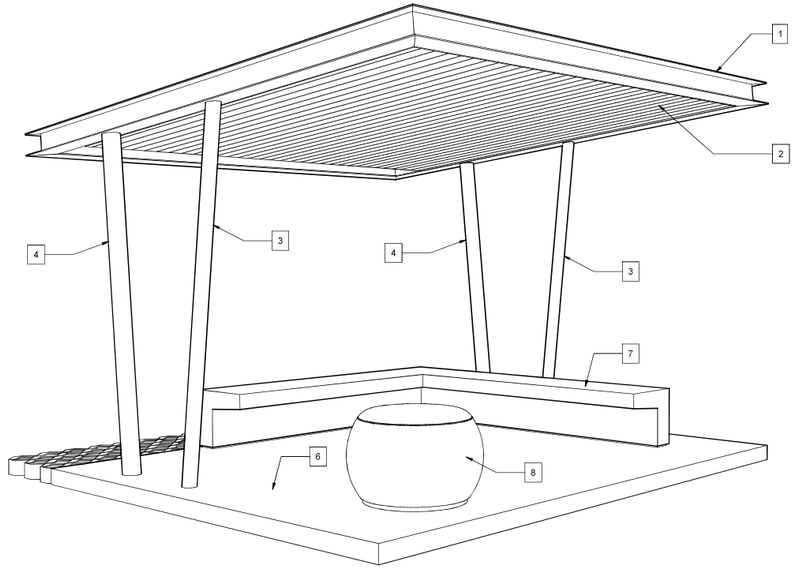
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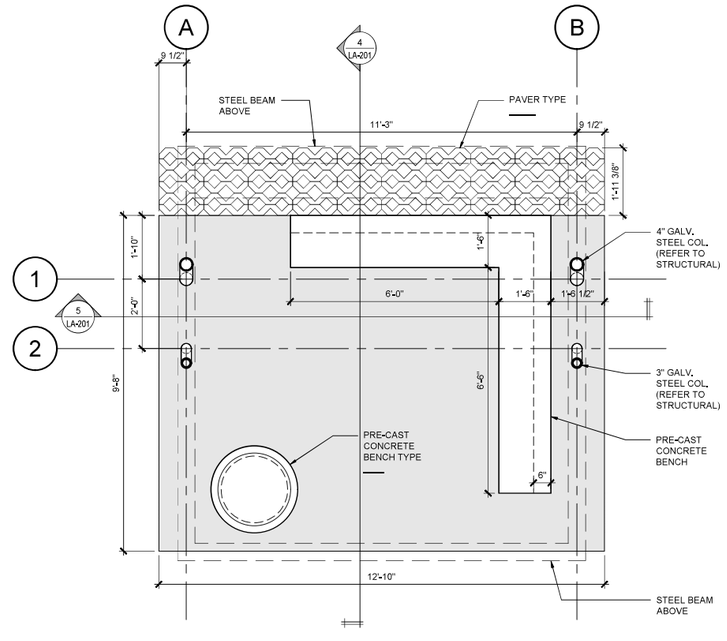

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SCALE: N.T.S.



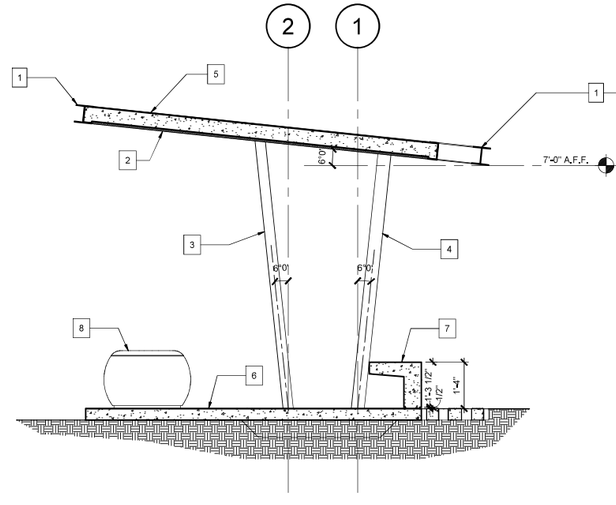

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KEY NOTES:

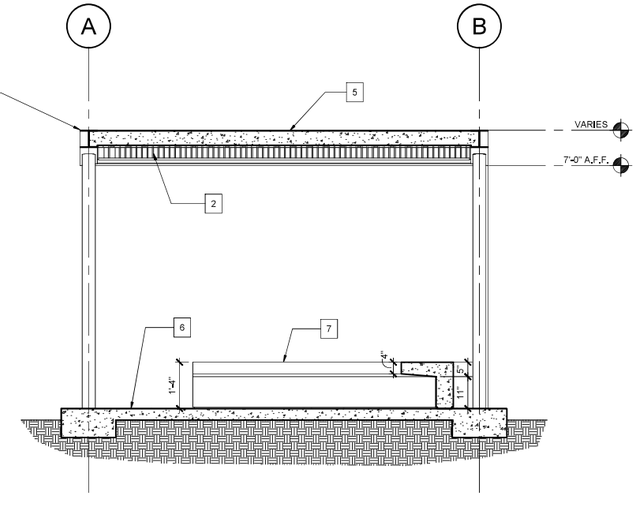
1. GALV. STEEL BEAM. REFER TO STRUCTURAL FOR SIZE AND SPECS. PRIME AND PAINT. PRE-TREAT W/ GALV. METAL PRIMER PRIOR TO PAINT COAT PER MANUFACTURER'S INSTRUCTION.
2. NATURAL FIBER WOOD COMPOUND EQUAL TO RESYSTA 6" LUSSO PROFILE MECHANICALLY ATTACHED TO CONCRETE CEILING PER MANUFACTURER'S INSTRUCTIONS. PRIME & STAIN W/ APPROVED WATER BASED PRIMER (RBP) AND STAIN (RCL) SYSTEM / COLOR C14, SIAM.
3. 3" DIAMETER GALV. STEEL COLUMN. REFER TO STRUCTURAL FOR SIZE AND SPECS. PRIME AND PAINT. PRE-TREAT W/ GALV. METAL PRIMER PRIOR TO PAINT COAT PER MANUFACTURER'S INSTRUCTION.
4. 4" DIAMETER GALV. STEEL COLUMN. REFER TO STRUCTURAL FOR SIZE AND SPECS. PRIME AND PAINT. PRE-TREAT W/ GALV. METAL PRIMER PRIOR TO PAINT COAT PER MANUFACTURER'S INSTRUCTION.
5. REINFORCED CONCRETE ROOF SLAB. REFER TO STRUCTURAL FOR DETAILS.
6. REINFORCED CONCRETE FLOOR SLAB. REFER TO STRUCTURAL FOR DETAILS.
7. CONCRETE BENCH W/ TRAVERTINE FINISH.
8. PRECAST CONCRETE BENCH EQUAL TO 713 PRECAST BE-31 POD SEAT, TRAVERTINE FINISH.
9. PRECAST CONCRETE GRASS PAVER EQUAL TO _____




3 TYP. GAZEBO FLOOR PLAN
SCALE: 1/2" = 1'-0"




4 TYP. GAZEBO FLOOR PLAN
SCALE: 1/2" = 1'-0"




5 TYP. GAZEBO FLOOR PLAN
SCALE: 1/2" = 1'-0"

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MARICAO
CAPITAL DE LA MONTAÑA

PROGRESS SET
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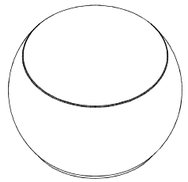
PROJECT:
PASEO LA GRUTA - VIVERO DE PECES
CARRETERA ESTATAL PR 410, KM. 3.0 - KM. 4.5, MARICAO, PR

LANDSCAPE AMENITIES
SCALE: AS SHOWN

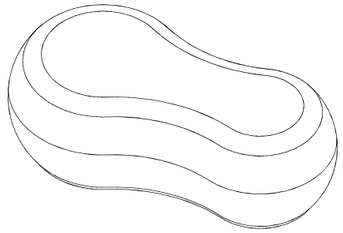
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DATE: 08.09.23
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DRAWING NO.: LA-201

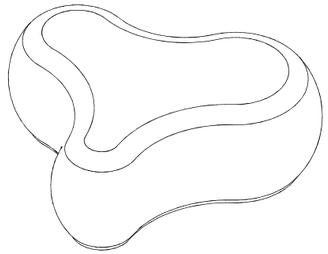
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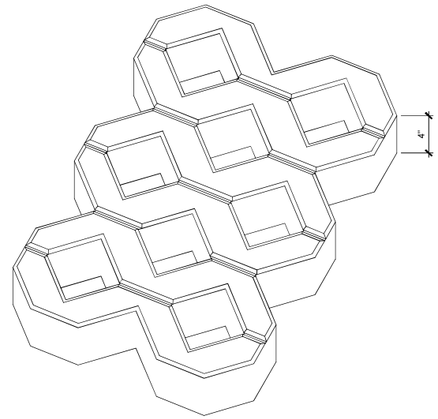
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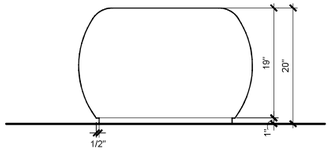
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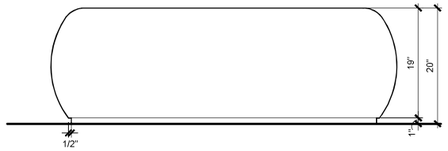
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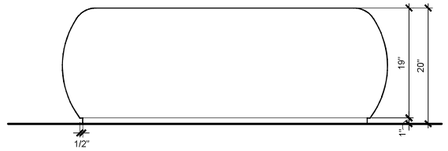

AXONOMETRIC VIEW



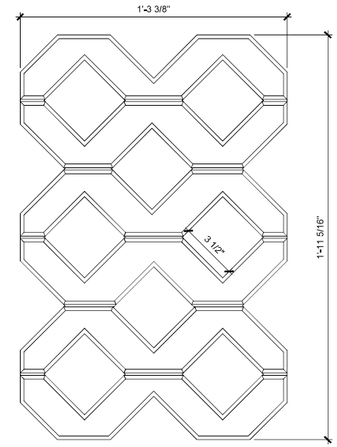

ELEVATION VIEW



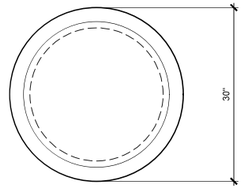

ELEVATION VIEW




ELEVATION VIEW



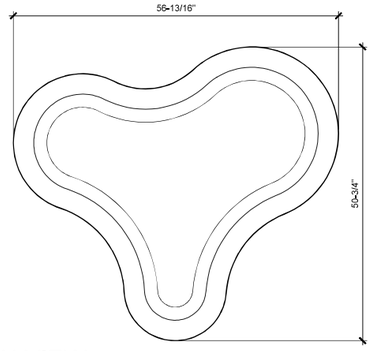

PLAN VIEW




PLAN VIEW




PLAN VIEW




PLAN VIEW

## 1 BENCH TYPE BE-31

SCALE: 1" = 1'-0"

NOTES:

1. PRE-CAST FIBER REINFORCED CONCRETE BENCH EQUAL OR SIMILAR TO 713 PRECAST BENCH MODEL BE-31
2. FINISH - TRAVERTINE FINISH, CONTRACTOR TO SUBMIT AVAILABLE FINISHES AND COLORS FOR SELECTION.

## 2 BENCH TYPE BE-43

SCALE: 1" = 1'-0"

NOTES:

1. PRE-CAST FIBER REINFORCED CONCRETE BENCH EQUAL OR SIMILAR TO 713 PRECAST BENCH MODEL BE-43
2. FINISH - TRAVERTINE FINISH, CONTRACTOR TO SUBMIT AVAILABLE FINISHES AND COLORS FOR SELECTION.

## 3 BENCH TYPE BE-44

SCALE: 1" = 1'-0"

NOTES:

1. PRE-CAST FIBER REINFORCED CONCRETE BENCH EQUAL OR SIMILAR TO 713 PRECAST BENCH MODEL BE-44
2. FINISH - TRAVERTINE FINISH, CONTRACTOR TO SUBMIT AVAILABLE FINISHES AND COLORS FOR SELECTION.

## 4 GRASS PAVER TYPE xx

SCALE: 1" = 3'-0"

NOTES:

1. PRE-CAST FIBER REINFORCED CONCRETE PAVER EQUAL OR SIMILAR TO 713 PRECAST PAVER MODEL xx
2. FINISH - EXPOSED CONCRETE

C&G
JMCP + JLGARCHITECTS
113 DEL PARQUE STREET SUIT 7
SAN JUAN, PR 00911
787.309.1837

MARICAO
CAPITAL DE LA MONTAÑA

PROGRESS SET
NOT FOR CONSTRUCTION

PROJECT:
PASEO LA GRUTA - VIVERO DE PECES
CARRETERA ESTATAL PR 410, KM. 3.0 - KM. 4.5, MARICAO, PR

LANDSCAPE AMENITIES
SCALE: AS SHOWN

| NO. | DATE | DRAWING ISSUE | BY | APP. |
|---|---|---|---|---|
| 1 | 03.31.23 | 30% PROGRESS SET | . | . |
| 2 | 06.01.23 | 60% PROGRESS SET | . | . |
| 3 | 08.08.23 | 90% PROGRESS SET | . | . |
| 4 | | . | . | . |
| 5 | | . | . | . |
| 6 | | . | . | . |
| 7 | | . | . | . |

DRAWN BY: .
REVIEWED BY: .
DATE: 08.09.23

SHEET TITLE: PERMANENT LANDSCAPE AMENITIES
DRAWING NO.: LA-202

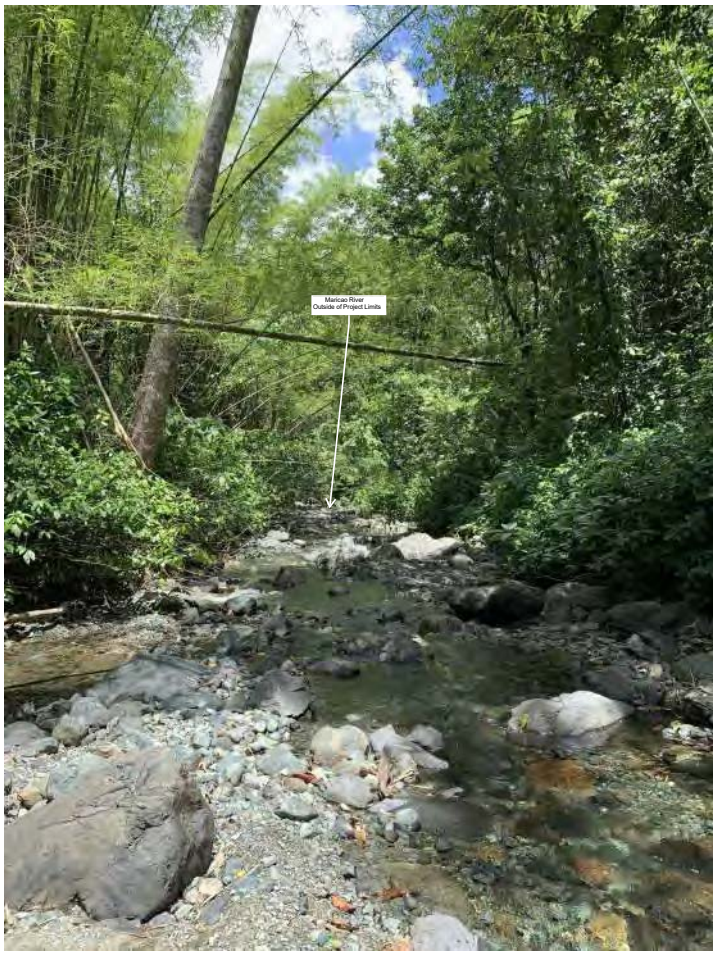
Content:

10. Project Limits


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Content:

11. Exisitng Conditions Photos







Maricao River Photos



# Paseo Hatchery Photos
# PR 410 Existing Conditions













Content:

12. Project Route Video
on a detached file

Appendix E

Historic Preservation - Section 106NHPA Effect Determination

GOVERNMENT OF PUERTO RICO
STATE HISTORIC PRESERVATION OFFICE
Executive Director | Carlos A. Rubio Cancela | carubio@prshpo.pr.gov

Thursday, March 14, 2024

## Lauren B Poche

269 Avenida Ponce de Leon, San Juan, PR, 00917

SHPO-CF-03-01-24-03 PR-CRP-000721 (Maricao), Paseo Hatchery

March 11, 2024

Lauren Bair PocheHORNE 10000 Perkins Rowe, Suite 610, Bldg GBaton Rouge, LA 70810

SHPO CF-03-01-24-03 SECTION 106 NHPA EFFECT DETERMINATION SUBMITTAL: PR-CRP-000721: PASEO HATCHERY, MARICAO, PUERTO RICO

Dear Ms. Poche,

Our Office has received and reviewed the above referenced project in accordance with 54 U.S.C. 306108 (commonly known as Section 106 of the National Historic Preservation Act) and 36 CFR Part 800: Protection of Historic Properties. The Maricao Fish Hatchery is a property listed in the National Register of Historic Places (NRHP), and its associated access roads are potentially eligible to the NRHP as well. However, we agree with your finding of no adverse effect with conditions. Specifically, that the historic culverts are preserved and that an archaeological monitor be present during excavation works. We request both an archaeological monitoring plan and a conservation plan for our review and concurrence prior to project implementation.Please note that should you discover other historic properties at any point during project implementation, you should notify the SHPO immediately. If you have any questions regarding our comments, please do not hesitate to contact our Office.

Sincerely,

Carlos A. Rubio-CancelaState Historic Preservation Officer

CARC/GMO/MB

Sincerely,



Carlos A. Rubio Cancela

State Historic Preservation Officer

CARC/GMO/ MB

October 20, 2022

Arch. Carlos A. Rubio Cancela
Executive Director
State Historic Preservation Officer
Cuartel de Ballajá Bldg.
San Juan, Puerto Rico

Re: Authorization to Submit Documents

Dear Arch. Rubio Cancela:

The U.S. Department of Housing (HUD) approved the allocations of Community Development Block Grant (CDBG-DR) funds on February 9, 2018. It also approved the allocation of Community Development Block Grant Mitigation (CDBG-MIT) funds on January 27, 2020. The purpose of these allocations is to address unsatisfied needs as a result of Hurricanes Irma and Maria in September 2017; and to carry out strategic and high-impact activities to mitigate disaster risks and reduce future losses.

To comply with the environmental requirements established by HUD, the Department of Housing of Puerto Rico (PRDOH) contracted Horne Federal LLC to provide environmental registry review services, among others, that will support the objectives of the agenda for both CDBG-DR and CDBG -MIT Programs.

In line to expedite the processes, Horne Federal LLC, is authorized to submit to the State Historic Preservation Officer, documentation of projects related to both the CDBG-DR and CDBG-MIT on behalf of PRDOH.

Cordially,

Juan C. Pérez Bofill, P.E. M.Eng
Director of Disaster Recovery
CDBG DR-MIT

March 1, 2024

Carlos A. Rubio Cancela
State Historic Preservation Officer
Puerto Rico State Historic Preservation Office
Cuartel de Ballajá (Tercer Piso)
San Juan, PR 00902-3935

## Puerto Rico Disaster Recovery, CDBG-DR City Revitalization (City-Rev) Program

**Section 106 Effect Determination Submittal for PR-CRP-000721: Paseo Hatchery Project, Maricao, Puerto Rico – *No Adverse Effect, Conditioned***

Dear Architect Rubio Cancela,

On February 9, 2018, an allocation of Community Development Block Grant - Disaster Recovery (CDBG-DR) funds was approved by the United States Department of Housing and Urban Development (HUD) under the Federal Register Volume 83, No. 28, 83 FR 5844, to assist the Commonwealth of Puerto Rico in meeting unmet needs in the wake of Hurricanes Irma and Maria. On August 14, 2018, an additional $8.22 billion recovery allocation was allocated to Puerto Rico under the Federal Register Volume 83, No. 157, 83 FR 40314. With these funding allocations, the Puerto Rico Department of Housing (PRDOH) aims to lead a comprehensive and transparent recovery for the benefit of Puerto Rico residents. To faithfully comply with HUD's environmental requirements, the Puerto Rico Department of Housing contracted Horne Federal, LLC (HORNE) to provide environmental records review services that will support the Department's objectives Puerto Rico Housing (PRDOH) for CDBG-DR.

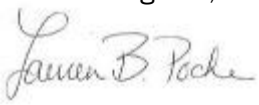
On behalf of PRDOH and the subrecipient, the Municipality of Maricao, we are submitting documentation for the proposed Paseo Hatchery Project, part of the City Revitalization Program. The objective of the project consists in the development of a “shared road” concept with a pedestrian and bicycle recreation path “paseo” parallel to Rio Maricao along PR Road 410, also known as “Calle del Vivero”. The actual route is a dead-end street that originates in the north close by the western boundary of the National Register of Historic Places eligible Maricao Traditional Urban center. The road runs along the Maricao River’s edge and runs south where it terminates at a historic fish hatchery located within the Maricao Forest Reserve.

Project activities include the construction of speed tables to control vehicular speeds, new signate and pavement marking, LED luminaries, new guardrails, landscaping, erosion control measures, ADA ramps and the renovation of the Gruta de San Juan Bautista Plaza at the project's northern end and another plaza at the end of the project area. Historic properties located within or adjacent to the direct Area of Potential Effect consist of the Vivero de Peces de Maricao (adjacent, early 20th century fish hatchery), six stone culverts (within), a brick dam (adjacent), and the circa 1920 historic PR-410. The full scope of the project is described in detail within the submitted documentation, which includes mapping, photographs, and 90% design plans.

Based on the provided documentation, the Program requests a concurrence with a determination that no adverse effect to historic properties is appropriate for this undertaking, conditioned to archaeological monitoring by an SOI-qualified archaeologist conducted during excavation works. Additionally, the historic culverts should be documented, and conservation work be carried out, including but not limited to cleaning and removal of soil, debris and vegetation, and that they be consolidated if necessary. An archaeological monitoring plan and conservation plan should be prepared and submitted to the PRSHPO for review and approval for appropriateness.

Please contact me with any questions or concerns by email at lauren.poche@horne.com or phone at 225-405-7676.

Kindest regards,



**Lauren Bair Poche. M.A.**
Architectural Historian, EHP Senior Manager
Attachments

| PUERTO RICO 2017 DISASTER RECOVERY, CDBG-DR PROGRAM<br>CITY REVITALIZATION PROGRAM (CITY-REV)<br>Section 106 NHPA Effect Determination | |
|---|---|
| **Subrecipient: Municipality of Maricao** | |
| **Project Name: Paseo Hatchery** | **Project ID: PR-CRP-000721** |

| Project Location: PR Road 410, Maricao, Puerto Rico 00606 | |
|---|---|
| **Project Coordinates:** 18.179253 -66.980708 to 18.170269 -66.985604 | |
| TPID (Número de Catastro): n/a | |
| Type of Undertaking:<br>☒ Substantial Repair<br>☐ New Construction | |
| Construction Date (AH est.): ca. 1920-1942 | Property Size (acres): 3.90 |

| SOI-Qualified Architect/Architectural Historian: n/a |
|---|
| Date Reviewed: n/a |
| SOI-Qualified Archaeologist: Jaqueline López Meléndez |
| Date Reviewed: December 7, 2023, January 21, 2024-REVISED |

In compliance with Section 106 of the National Historic Preservation Act (NHPA), the Program is responsible for identifying historic properties listed in the NRHP and any properties not listed that would be considered eligible for listing that are located within the geographic area of potential effects (APE) of the proposed project and assessing the potential effects of its undertakings on these historic properties.

Project Description (Undertaking)

The proposed project is located by PR Road 410 from Km 0.3 to km 1.7, Maricao, Puerto Rico. The objective of the project consists in the development of a "shared road" concept with a pedestrian and bicycle recreation path "paseo" parallel to Rio Maricao along PR Road 410, also known as "Calle del Vivero". The actual route is a dead-end street along the river Maricao edge which leads to a Fish Hatchery located within the Maricao Forest Reserve. Only about 10 residences are located along the proposed "paseo". The road location generates little vehicular traffic, and its narrow travel path and winding road curves manage to control speed limits. Therefore, the contextual location and roadway alignment characterize the Paseo Hatchery route as a low volume low speed local rural road. The "paseo" pavement along the existing grass shoulders will preferably be permeable, with variable widths between 0.762 (2'-6") and 1.25 (4'-1") meters along a length of approximately 1.4 km. The proposed design program includes a sequence of "speed tables" intended to control vehicular speeds at 15 mph, new signage and pavement marking, led luminaires, replacement of guardrails, visual enhancement landscape planting and erosion control measures when applicable. The "Paseo Hatchery" project also includes a rest and information area located at the start of the "paseo" where the Gruta de San Juan Bautista is located and another at the end of the "paseo" at the entrance gate to the fish hatchery. A speed table facilitates a pedestrian crossing to the adjacent Gruta de San Juan Bautista Plaza which will be renovated. Renovations include an ADA ramp to provide access to the ground floor plaza, the extensive staircase steps will be restored, missing red clay bricks will be replaced, existing railings will also be replaced, the two retention tanks will be restored, light poles luminaires will be

replaced with efficient led bulb fixtures, two new waste receptacles will be installed, landscape accent planting and embankment erosion control measures will also be installed. Paseo Hatchery proposed actions are located within the boundaries of the existing PR-410 ROW. The average ROW cross section 6.15 meters wide and consists of a surface asphalt pavement width of 3.65 meters and two grass shoulders of 1.25 meters each. The PR 410 road Right of Way (ROW) along the project length of 1.5 km. is an area of 3.65 acres. The project also includes the "Gruta de San Juan Bautista" which consists of 0.25 acres. The Project Limits total area is 3.90 acres.

Below-surface ground disturbance activities:

1. Installation of permeable pedestrian path modules along existing PR 410 shoulders (Area of excavation-628 sq. mt.; Depth of excavation-0.34 m; Volume of excavation-213.52 cm).
2. Installation of speed tables (Area of excavation-432.94 sq. mt.; Depth of excavation-0.55 m; Volume of excavation-38.12 cm).
3. Installation of signage within ROW (Qty. = 43).
4. Installation of guard rail (L = 353 mt)
5. Installation of lighting post (8 ft height; Qty. = 59)
6. Installation of bollards (Qty. = 48)
7. Installation of storm water management (Area of excavation-96.68 sq. mt.; Depth of excavation-1.00 sq. mt.; Volume of excavation-96.68 cm)
8. Pedestrian bridge footing (Area of excavation-1.80 sq. m; Depth of excavation-1.00 m; Volume of excavation 1.80 cm)
9. Installation of gazebo (2) (Area of excavation-288 sq. mt.; Depth of footing excavation-0.60 m; Depth of slab excavation-0.30 m; Volume of excavation -91.26 cm).
10. Installation of sidewalk (Area of excavation-103 sq. mt.; Depth of excavation-0.30 m; Volume of excavation -30.9 cm).
11. Installation of parking modular pavement (Area of excavation-127.5 sq. mt.; Depth of excavation-0.34 m; Volume of excavation -43.35 cm).

Area of Potential Effects

As defined in 36 CFR §800.16(d), the area of potential effects (APE) is the geographic area or areas within which an undertaking may directly or indirectly cause changes in the character or use of historic properties if any such properties exist. Based on this definition and the nature and scope of the Project, the Program has determined that the direct APE for this project is the entire segment of the PR-410 road from kilometer 0.3 to kilometer 1.7 plus the area of the Gruta de San Juan Bautista to the north and the entrance to the fish hatchery to the south, and the viewshed of the proposed project (Figures 1-3).

Identification of Historic Properties – Archaeology

Existing information on previously identified historic properties has been reviewed to determine if any such properties are located within the APE of this undertaking. The review of this existing information, by a Program contracted Historic Preservation Specialist meeting the Secretary of the Interior's Professional Qualification Standards (36 CFR Part 61), shows that within a 0.25-mile radius of the project area we have thirteen (13) cultural resources, two of which are included in the NRHP (see Table 1). All sites located within the 0.25-mile radius are historic. The sites included in the NRHP located within the 0.25-mile radius are the Maricao Fish Hatchery and the San Juan Bautista de Maricao Church (SHPO: MI0200001). At the southern end adjacent to the project Paseo Hatchery, we have the Maricao Fish Nursery and the San Juan Bautista Church is 0.13 miles northeast. Eight of the thirteen sites reported appear as eligible for the NRHP in the survey for Maricao (NPS Grant money). These are: Maricao Town Square located 0.11 miles northeast; Raul Ybarra school located 0.24 miles northeast; Commercial Building located 0.15 miles northeast; El Buen Pastor Presbyterian Church located 0. 11 miles northeast; City Hall located 0.10 miles northeast; Sisters of Fatima Convent located 0.14 miles northeast; Mariana Bracetti school located 0.23 miles northeast; and Rafael Janer school located 0.13 miles northeast. The information shown in the table for eligible sites is what we have available in the survey (NPS grant money). Within the 0.25-miles radius we also have the Maricao Town Square (ICP: MR-47), located 0.09 miles northeast; the Hacienda Rolón (ICP: MR-76) located 0.16 miles northwest; the Hacienda Santa Rita (ICP: MR-18), located 0.17 miles southeast; and the brick kiln (SHPO: MI0100005), located 0.03 miles southeast (see Table 1). The Traditional Urban Center of Maricao is 0.05 miles northeast of the project area.

Table 1. Table of archaeological sites, historic properties and historic districts located within the project area or within a 0.25-miles radius

| | Name | SHPO id # | IPRC id # | Distance/Direction | Description | NRHP (listed, eligible, non-eligible, no data) |
|---|---|---|---|---|---|---|
| 1 | Plaza del Pueblo de Maricao | - | MR-47 | 0.11 mi NE | Colonial Spanish period | Eligible |
| 2 | Iglesia San Juan Bautista de Maricao | MI0200001 | MR-5 | 0.13 mi NE | Church built in 1898. Designed by Eng. Jerónimo Jiménez. It replaced a wooden church. Its design combines the neoclassical style and consists of a | Listed, September 18, 1984 |

| | Name | SHPO id # | IPRC id # | Distance/Direction | Description | NRHP (listed, eligible, non-eligible, no data) |
|---|---|---|---|---|---|---|
| | | | | | rectangular volume with a tower on the facade. The original gabled roof was replaced in 1960 by a concrete one. | |
| 3 | Escuela Raúl Ybarra | - | - | 0.24 mi NE | ca. 1970, has modern language | Eligible |
| 4 | Edificio Comercial | - | - | 0.15 mi NE | Commercial structure built in 1890. It has classic language and today is used as a medical office. | Eligible |
| 5 | Iglesia Presbiteriana El Buen Pastor | - | - | 0.11 mi NE | Structure with elements of neo-Romanesque language. Ca. 1946 | Eligible |
| 6 | Alcaldía | - | - | 0.10 mi NE | Ca. 1944 Originally with modern language, designed by Henry Klumb although it was altered with contemporary addiction. | Eligible |
| 7 | Convento de las Hermanas Fátima | - | - | 0.14 mi NE | It has a similar volumetry to other convents on the island, with large balconies, ca. 1950. | Eligible |
| 8 | Escuela Mariana Bracetti | - | - | 0.23 mi NE | School ca. 1946 | Eligible |
| 9 | Escuela Rafael Janer | - | - | 0.13 mi NE | School built in 1942. It appears to have been modified and is now used as an integrated service center. | Eligible |
| 10 | Hacienda Rolón | - | MR-76 | 0.16 mi NW | Spanish period Hacienda Cafetalera | No data |
| 11 | Hacienda Santa Rita | - | MR-18 | 0.17 mi SE | Hacienda identified in the 1960 topographic quadrangle. | No data |
| 12 | Horno de ladrillo | MI0100005 | - | 0.03 mi SE | Structure in ruins of a kiln built in stone, brick and mortar, to manufacture bricks. Ca. 1843. Located behind a ruined wooden structure used as a dwelling. | No data |

| | Name | SHPO id # | IPRC id # | Distance/Direction | Description | NRHP (listed, eligible, non-eligible, no data) |
|---|---|---|---|---|---|---|
| | | | | | It measures 10 ft. x 10 ft., the top of the kiln is 2 ft. above the ground | |
| 13 | Vivero de Peces de Maricao | - | - | Adjacent | 20th Century Fish Hatchery built by CCC | Listed February 21, 2017 |
| - | Culvert 1 | - | - | Within | Stone culvert PR-410 Km. 0.5 | No data |
| - | Culvert 2 | - | - | Within | Stone c culvert PR-410 Km. 0.8 | No data |
| - | Culvert 3 | - | - | Within | Stone culvert PR-410 Km 1.0 | No data |
| - | Culvert 4 | - | - | Within | Stone culvert PR-410 Km. 1.2 | No data |
| - | Culvert 6 | - | - | Within | Stone culvert PR-410 | No data |
| - | Brick Dam | - | - | Adjacent | Brick dam | No data |
| - | PR-410 | - | - | Km 0.3 to 1.7 | Historic road (PR-410) built ca. 1920 by CCC | No data |
| - | Maricao Traditional Urban Center | - | - | 0.05 mi NE | 19th Century city plaza | No data |

The municipality of Maricao extends northward from the highest elevations of the Cordillera Central mountains range in western Puerto Rico. The project area is located in a flat area between mountains at an elevation of 1,500 feet above sea level. Adjacent to the project is the Rosario River and there are several unnamed streams that cross the road. The west coast is 11.49 miles northwest. In 98% of the soils in the project area we have HmE2 (29.5%), CoF2 (23.9%) and HmF2 (44.6%) soils. The soil Humatas clay, 20 to 40 percent slopes eroded (HmE2 is on side slopes and narrow ridgetops of the volcanic uplands. This soil is somewhat difficult to work. Slope, runoff, past erosion and the hazard of further erosion are limitations. The soil Consumo clay, 40 to 60 percent slopes eroded (CoF2) is on strongly dissected side slopes and ridgetops throughout the volcanic uplands. This soil is not suited to cultivated crops. Slope, runoff, shallowness to saprolite, past erosion, and hazard of further erosion are severe limitations. The soil Humatas clay, 40 to 60 percent slopes (HmF2) is deep, very steep, and well drained. It is on the side slopes and ridgetops of humid volcanic uplands. The permeability and available water capacity of this Humatas soil are moderate. Runoff is very rapid, and

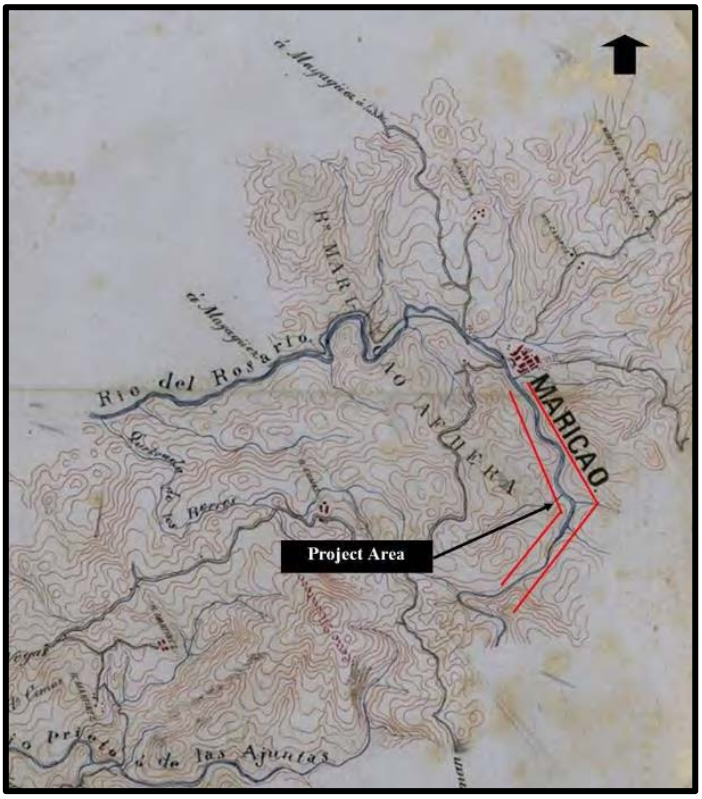
fertility is medium. Slope and an erosion hazard make this soil poorly suited for cultivated crops.

The area of the municipality of Maricao was populated very early in history by Indians, especially in the mid-sixteenth century when they received their freedom. There are three known Pre-Columbian sites, three historic sites included in the National Register of Historic Places, and more than twenty coffee plantations.

Maricao was founded as a municipality in 1874 after being separated from San Germán. The Traditional urban center of Maricao is 0.02 miles northeast of the project area. During the 19th century, Maricao's economy was entirely agricultural. It was based mainly on the harvest of small fruits, citrus fruits and coffee as the main product.

The first image we have of the Maricao area is a map of the Itinerary from San Germán to Maricao by Montoso made by the Army Geographic Center in 1888. This plan shows no construction of any kind in the project area, neither structures nor roads. The area is totally uninhabited.

Figure- Itinerario de San Germán a Maricao, 1888
Archivo Nacional Digital de Puerto Rico. Source: https://archivonacional.com/PL/1/1/1293



No changes in the project area are visible on the 1936 and 1951 aerial photos reviewed. The amount of vegetation in the area makes it very difficult to check the path to the fish hatchery and surface changes. Structures could be obscured by vegetation. What we can notice is that the alignment of the PR-410 road remains the same to this day. In the 1936 photo there is a small rectangle that we understand is possibly a housing structure. In the 1951 photo it is no longer visible. While in the aerial photo of the location of the project, some structures can be seen along the PR-410 road. During the surface tour we were able to confirm that these are housing structures.

Figure Photo aerial-1936

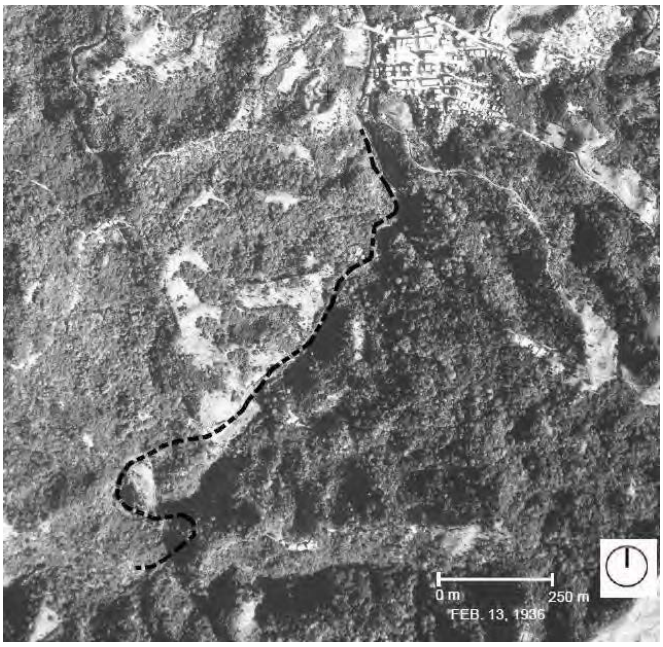
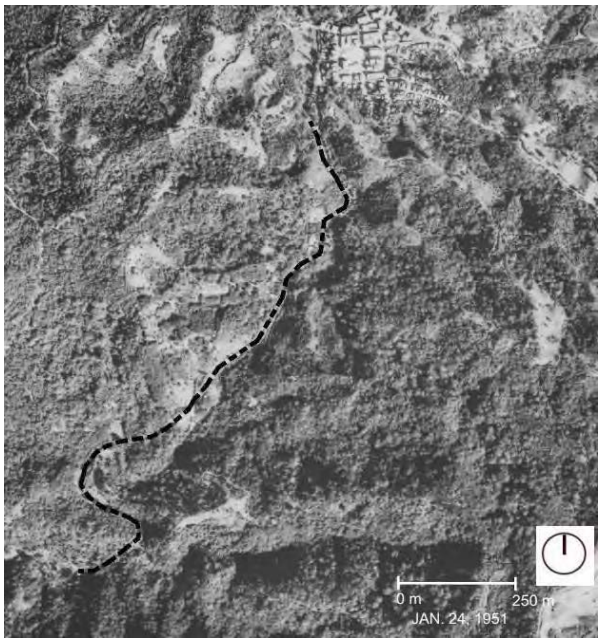


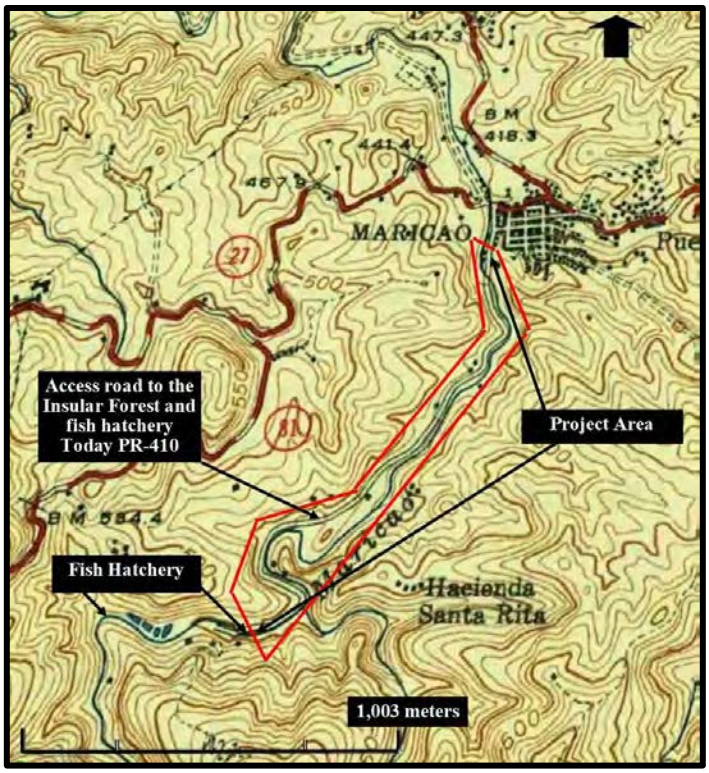

Figure Photo aerial-1951




The 1946 topographic map shows the route of the road to the fish hatchery with the same alignment as the current alignment of the PR-410 road. But it is marked as a road and is not identified with a name or road number. The fish hatchery is built by this year and the road is the access to the fish hatchery. In fact, the road only goes as far as the Fish Hatchery. Along the road there are a few black spots that could be housing structures. They are few and far between. To the southeast of the project there is an area identified as Hacienda Santa Rita.

Observing the 1960 topographic map photo-revised in 1985 and the most recent aerial photo, it is evident that the area has remained the same during all these years. The changes have been minimal and consist of the construction of few and scattered small housing structures.

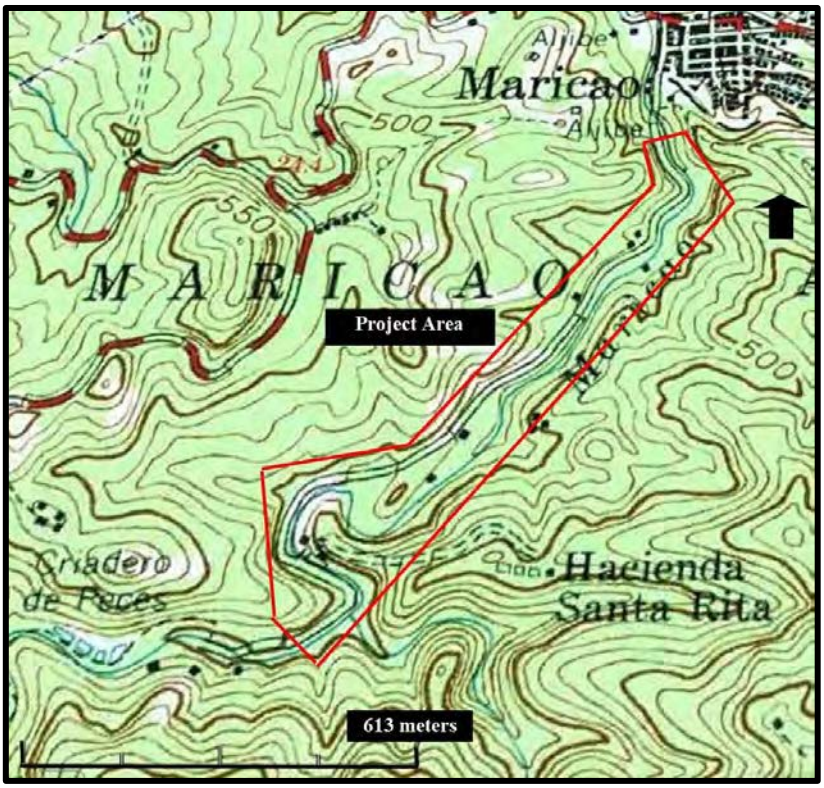
Figure. Project (Parcel)Location - USGS Topographic Map 1946




The linear walk begins at the San Juan Bautista gruta built in the 1980s by the Catholic Church. The gruta is a monument located on PR-410, Km. 0.2. It pays homage to the moment when Jesus asks his cousin John on the banks of the Jordan River to baptize him. The fountain is designed in such a way that it seems that the water that falls on Jesus' face comes from the container that St. John the Baptist holds in his hand. At the bottom there is a brick floor and benches for resting and observing nature. There are also stairs on both sides of the sculpture to climb up for a closer look. These stairs are made of bricks. The project continues along the PR-410 road, which is paved, until it reaches the entrance to the fish hatchery located within the Maricao Island Forest. This project will only reach the entrance to the fish hatchery. The PR-410 road ends at the entrance to the fish hatchery.

The second proclamation for the creation of island forests in Puerto Rico after the establishment of the 1917 Forestry Law became effective through Bulletin 159 of December 22, 1919. Governor Arthur Yager designated the Maricao Forest as the first upland forest. At that time, the Maricao forest had an area of approximately 5,040 cuerdas (Domínguez 2000: 428). More or less organized reforestation began in the Maricao forest unit in 1920 (Domínguez 2000: 439).

Figure- Project (Parcel)Location - USGS Topographic Map 1960 Photorevised 1985




On May 28, 1935, through President Roosevelt's Executive Order number 7057, the Puerto Rico Reconstruction Administration (PRRA) was created (Domínguez 2000:485). Among ARPR's functions was the acquisition of land for timber production and watershed protection. This agency also had a forestry division. Puerto Rico had three forestry services: Insular, Federal and the Forestry Division of the ARPR. These agencies, together with the CCCs, joined efforts in favor of a forestry program for the country (Domínguez 2000:486).

The CCC was a program created in the United States by President Franklin Delano Roosevelt in 1933, to give people work after the depression years (Pabón: 1999:25). In Puerto Rico it was also implemented in different areas such as: Guánica Forest, El Yunque Forest, Maricao Forest, the tunnels in the Parguera mangrove, Toro Negro Forest, kilometers of highways and landscaping details in the Río Piedras campus of the University of Puerto Rico. The workers carried out a large part of the reforestation work as it kept more than 2,000 men working throughout the island planting trees, building roads and opening trails (Domínguez 2000: 487-488).

The participants spent the night in self-built camps with infirmaries, dining rooms, kitchens, offices for administration, ranchones, cisterns, ovens and corrals for animals (Pabón 1999:73).

The fish hatchery was built by the Civilian Conservation Corps (CCC) between 1937 and 1942. When it was created, its objective was to study some freshwater fish and introduce new species to the island, such as the rainbow trout (Salmo gairdneri) and the chokecherry trout (Salmo trutta). The fish were planted in the rivers of the mountainous area in order to encourage recreational fishing on the island. Both species were cold-water species, so they were unable to adapt to the quality waters of Puerto Rico. Although they grew in our waters, they were unable to reproduce, so they began to experiment with warm water fish such as the chopas and the barbudos. In the early 1970's the administration of the hatchery passed to the Department of Natural Resources. At this time the Maricao Fish Hatchery is the only state government facility dedicated to the maintenance and diversity of freshwater fish populations in all of Puerto Rico.

During our surface survey conducted on December 8, 2023, we noted that the area has not changed since the construction of the Maricao Island Forest facilities. On the PR-410 road, we only observed less than fifteen housing structures, two of them in total abandonment. On the road we observed six culverts, but number 5 has a metal pipe inside. According to neighbors during the rains of Hurricane Maria in September 2017 the area was flooded and the water current passing through was so strong that it tore out a good part of the road and the culvert, so this area of the road was rebuilt. The five stone-built culverts are partially or totally covered by earth and vegetation. Currently the PR-410 road is paved, but we understand that this road was a road built by the CCC in the 1930s. It is very likely that like the culverts the road was built using stones (see Table 2).

**Table 2. Table of cultural resources within the project area**

| Name | Location | Coordinates | Description |
|---|---|---|---|
| Culvert 1 | PR-410 Km 0.5 | 18.177225<br>-66.980396 | Stone culvert |
| Culvert 2 | PR-410 Km 0.8 | 18.1750664<br>-66.9817737 | Stone culvert |
| Culvert 3 | PR-410 Km. 1.0 | 18.1740126<br>-66.9829385 | Stone culvert |
| Culvert 4 | PR-410 Km 1.2 | 18.1728360<br>-66.9844700 | Stone culvert |
| Culvert 6 | PR-410 | 18.171536<br>-66.985540 | Stone culvert |
| PR-410 | PR-410 | 18.179253 -66.980708 to<br>18.170269<br>-66.985604 | Historic road (PR-410) built ca. 1920 |

PR-410 is the access road first to the Maricao Island Forest built in 1920 and then to the Fish Hatchery located within the Island Forest and built between 1937 and 1942 by the Civilian Conservation Corps. Surely this road was originally built in stones as well as the culverts, which is why we consider it historic.

Adjacent to the PR-410 road, inside the Rosario River very close to kilometer 0.7 there is a brick dam.

The Fish Hatchery has been closed since 2017, so we were unable to enter the facilities.

Three (3) archaeological surveys have been conducted within 0.25 miles of the project area, all of them with negative results (see Table 3).

**Table 3. Table of cultural resources surveys conducted within the project area or within a 0.25-miles radius.**

| Author | Phase/Title | Year | SHPO / IPRC code | Results | Distance/ Direction |
|---|---|---|---|---|---|
| Jaqueline Lopez Meléndez | IA-IB/ Construcción de Escuela Superior Urbana | 1994 | ICP/CAT-MR-94-01-02 | Negative | 0.25 mi W |
| Juan González | IA-IB/ Cerro Alto Apartments Project | 1991 | SHPO: 11-01-91-01 | Negative | 0.23 mi NW |
| Ethel Schlafer | IA-IB/ Proyecto Parque Acuático de Maricao | 1995 | SHPO: 03-13-95-02 | Negative | Adjacent |

Reference

Domínguez Cristóbal, Carlos M.
2000 *Panorama Histórico Forestal de Puerto Rico.* Editorial de la Universidad de Puerto Rico. San Juan, PR.

López Meléndez, Jaqueline
2002 Evaluación Arqueológica Fases IA-IB. Proyecto *Mejoras al sistema de acueductos, Villalba, Puerto Rico.* Informe sometido al Ing. José Ocasio por requerimiento de la Autoridad de Acueductos y Alcantarillados de Puerto Rico.

Pabón Arleen
1999 *Taking the Fiesta to the Forest: The Civilian Conservation Corps and Puerto Rico. Interpretative analysis of Guanica's Camp Borinquen and Fort Caprón.* Final Version.

National Register of Historic Places Registration Form- Vivero de Peces de Maricao, December 30, 2016.

Determination

The archaeological potential of the proposed project is high. Within the 0.25-miles area of the PR-CRP-000721 project we have twenty (20) cultural resources, five (5) located within the project area and two (2) adjacent to the project. The cultural resources within the project area are four (4) stone culvert and the PR-410 road built in the first half of the 20th century as an access road to the Maricao Insular Forest and in 1937 as access to the Maricao Fish Hatchery located within the Insular Forest. Adjacent to the project and included in the NRHP is the Maricao Fish Hatchery located within the Maricao Insular Forest and also built in stone by the CCCs. Adjacent and within the river near kilometer 0.7 we have a brick dam.

In 2002 we had the opportunity to document several culverts and a stone road built by the CCCs in the Villalba area for a project of the Aqueduct and Sewer Authority. The road, known as Camino El Bolo, also had several stone culverts (Figure 7). This road reached the observation tower located in the Toro Negro Forest in Villalba (López 2002). It is very possible that under the asphalt layer of the PR-410 road there are remains of the old stone road built between 1920 and 1937.

Based on the results of our historic property identification effort and viewshed assessment, the Program has determined that project actions will not affect the historic properties that comprise the Area of Potential Effect, provided that archaeological monitoring is conducted and the culvert are preserved and documented.

We recommend that archaeological monitoring be conducted during excavation work. We further recommend that the culverts be documented and that conservation work be carried out, including but not limited to cleaning and removal of soil, debris and vegetation, and that they be consolidated if necessary.

Recommendation

The Puerto Rico Department of Housing requests that the Puerto Rico SHPO concur that the following determination is appropriate for the undertaking (Choose One):

☐ No Historic Properties Affected

☒ No Adverse Effect

**Condition:** Archaeological monitoring by an SOI-qualified archaeologist should be conducted during excavation work. Additionally, the historic culverts should be documented and conservation work be carried out, including but not limited to cleaning and removal of soil, debris and vegetation, and that they be consolidated if necessary. An archaeological monitoring plan and conservation plan should be prepared and submitted to the PRSHPO for review and approval for appropriateness.

☐ Adverse Effect

Proposed Resolution (if appliable).

This Section is to be Completed by SHPO Staff Only

| The Puerto Rico State Historic Preservation Office has reviewed the above information and:<br><br>☐ Concurs with the information provided.<br>☐ Does not concur with the information provided. | |
|---|---|
| Comments: | |
| Carlos Rubio-Cancela<br>State Historic Preservation Officer | Date: |

Figure 1. Project (Parcel) Location – Area of Potential Effect Map (Aerial)



Figure 2. Project (Parcel) Location - Aerial Map

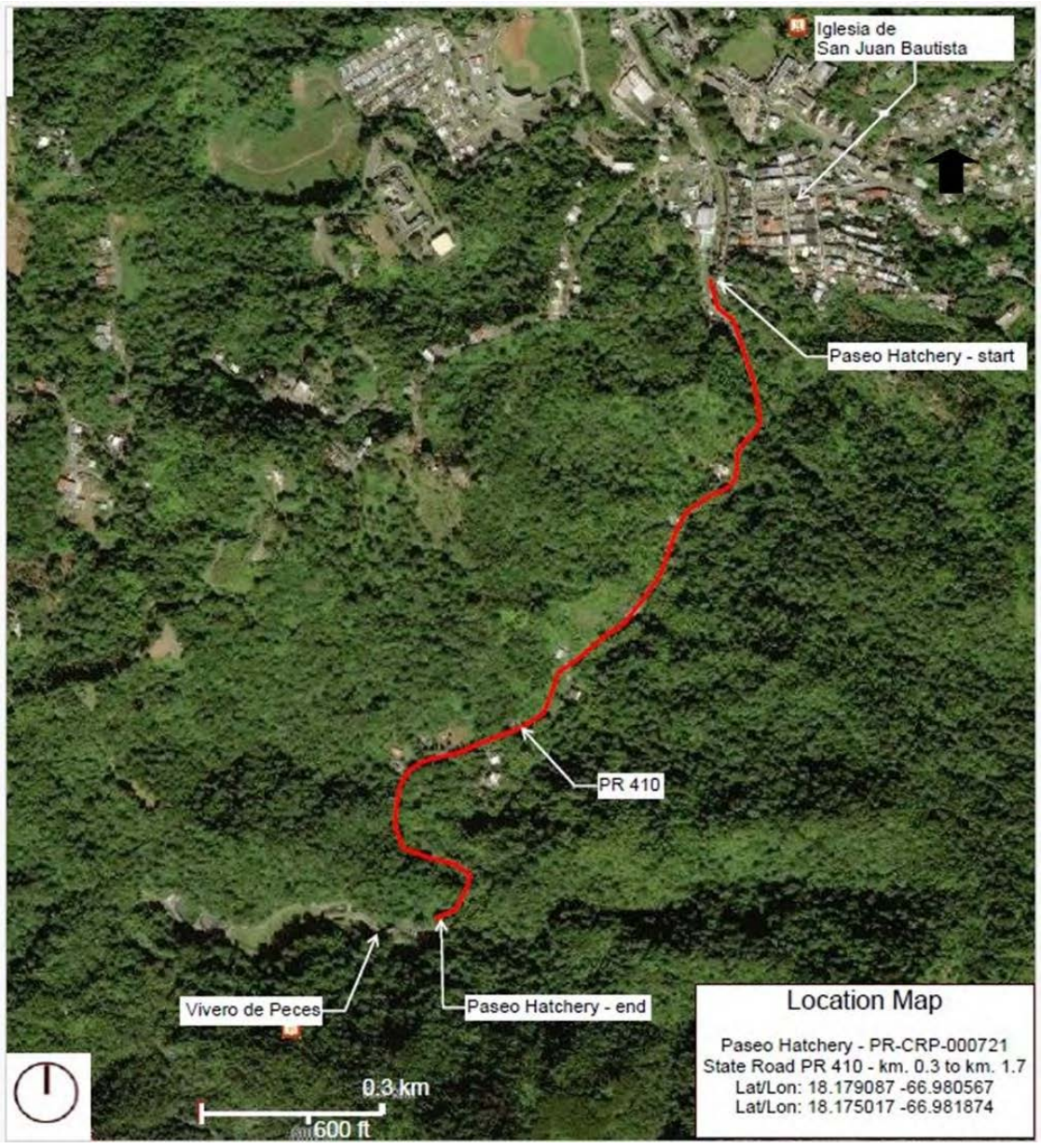


Figure 3. Project (Parcel) Location - USGS Topographic Map

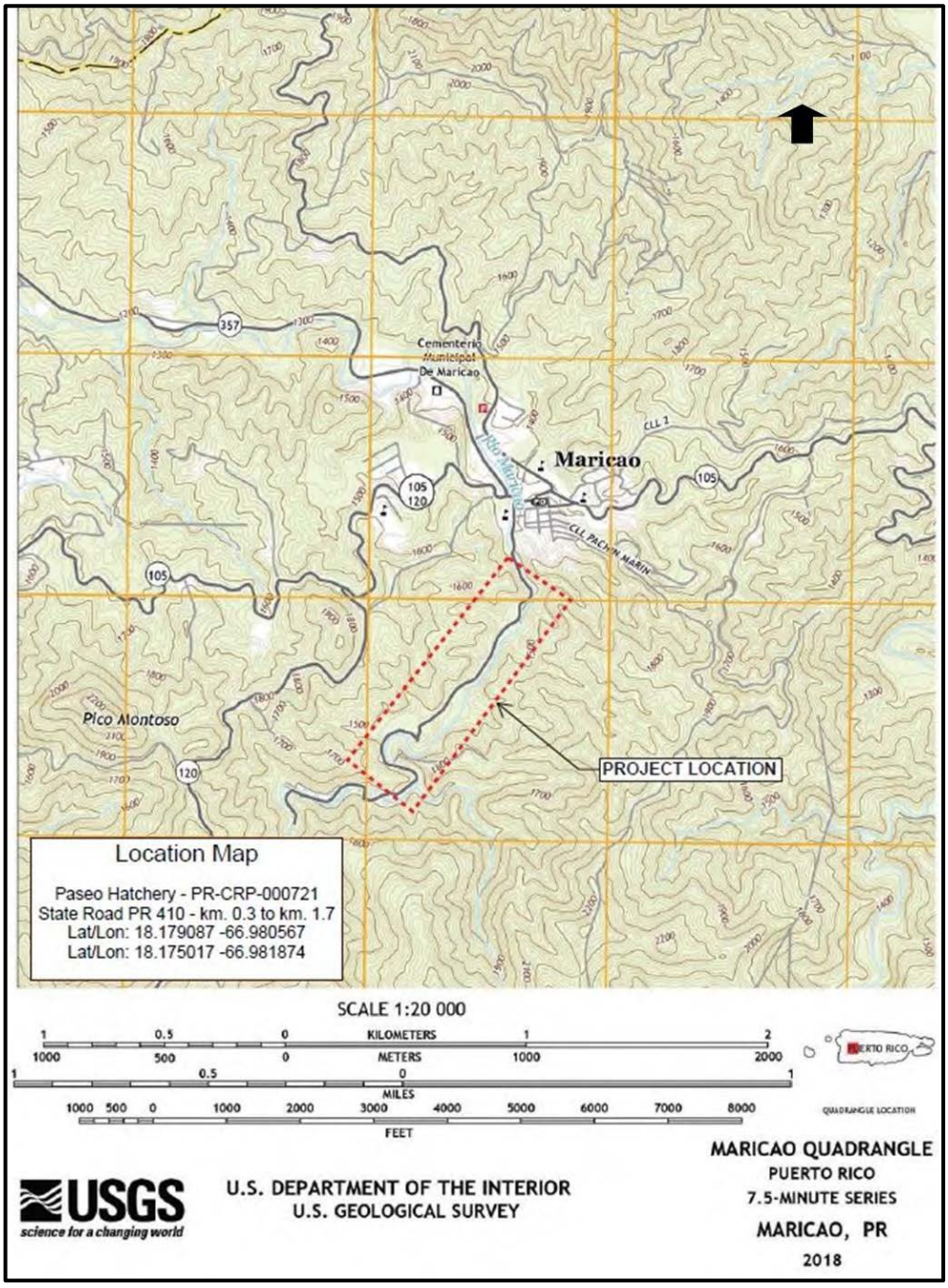


Figure 4. Project (Parcel) Location – Soils Map

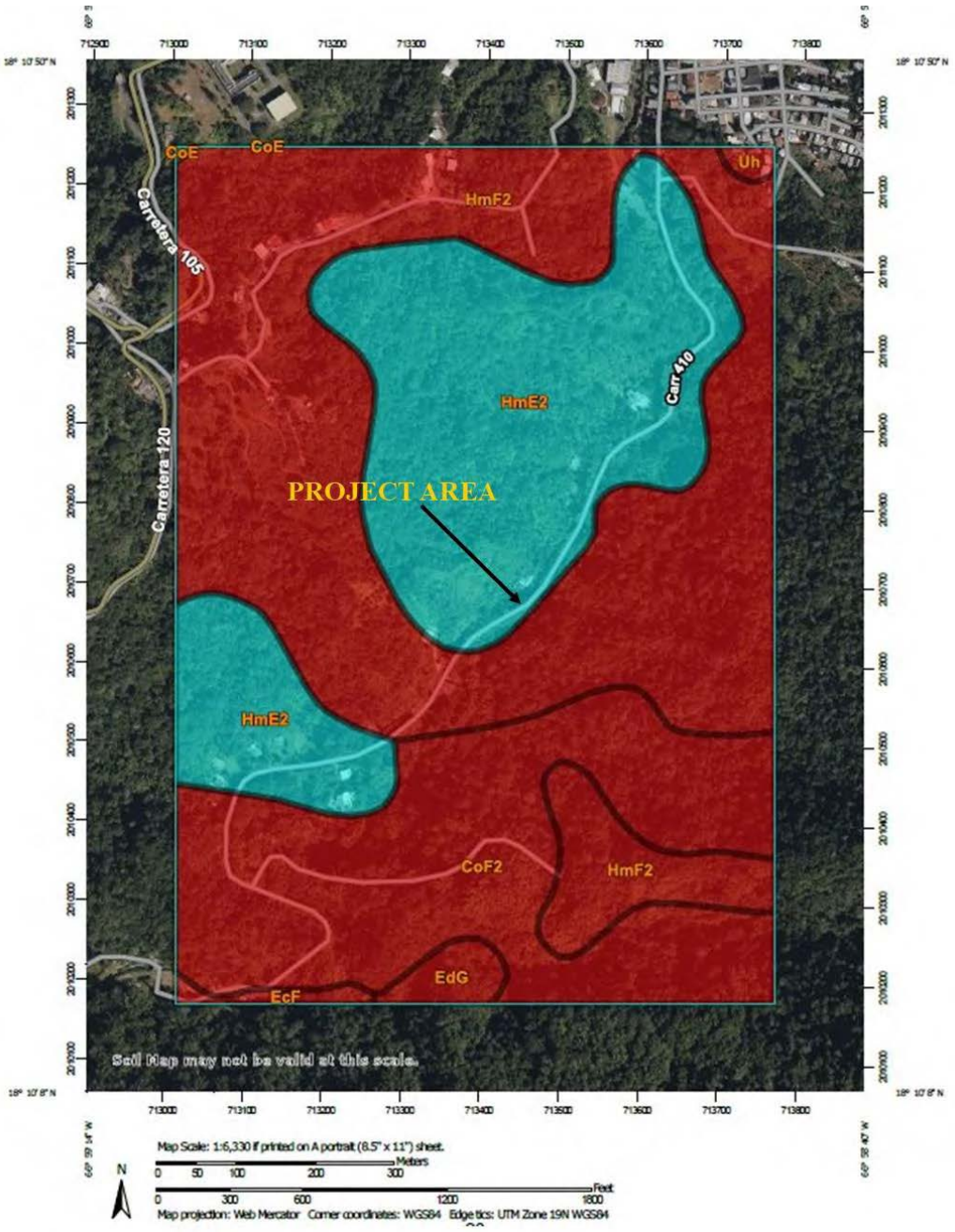
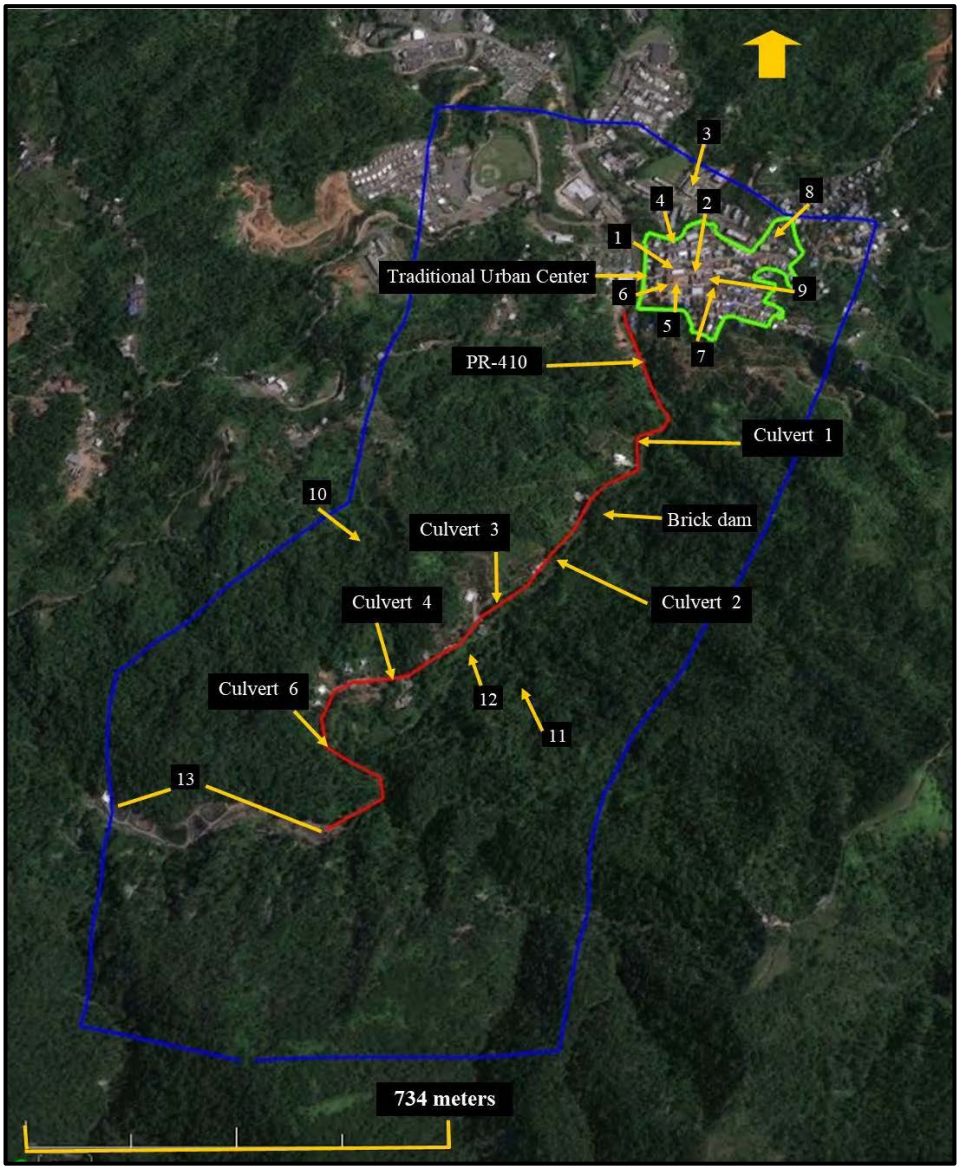
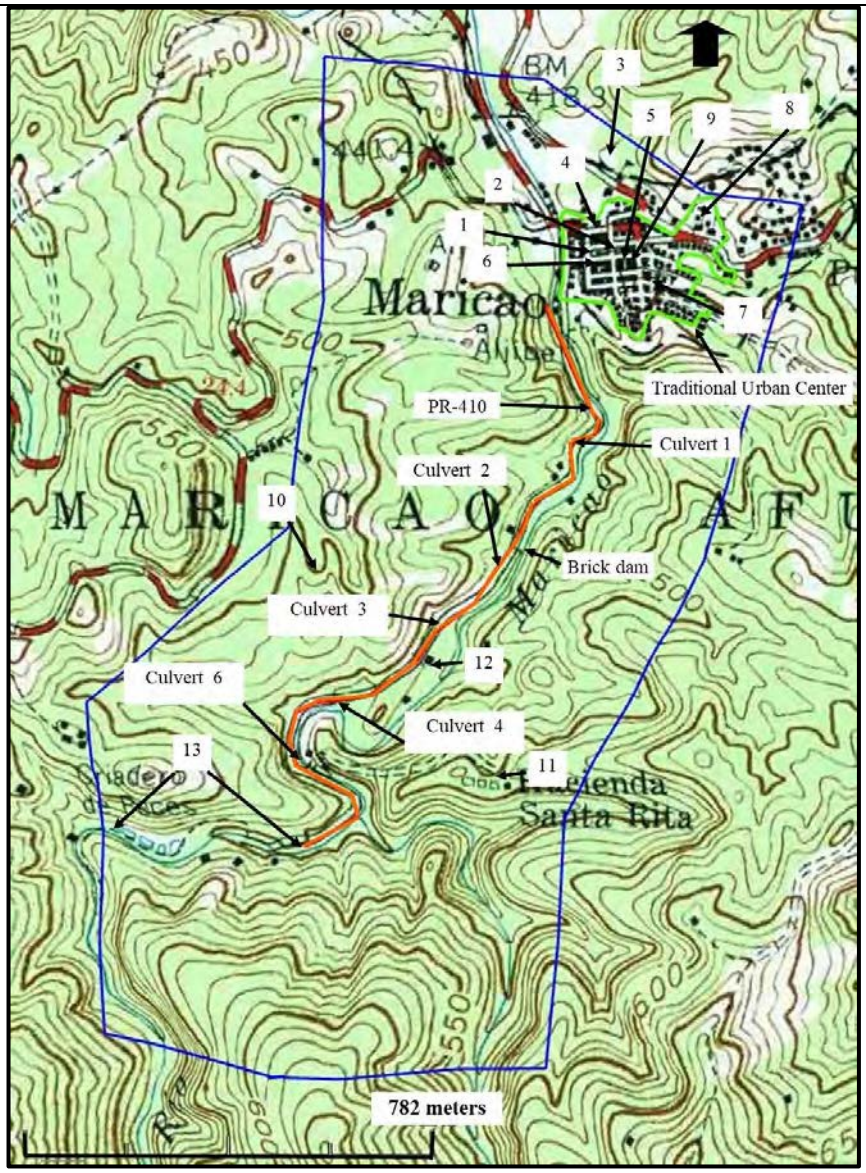


Figure 5. Project (Parcel) Location with Previous Investigations - Aerial Map




1. Maricao city plaza; 2. Iglesia San Juan Bautista de Maricao; 3. Escuela Raúl Ybarra; 4. Edificio Comercial; 5. Iglesia Presbiteriana El Buen Pastor; 6. Alcaldía; 7. Convento de las Hermanas de Fátima; 8. Escuela Mariana Bracetti; 9. Escuela Rafael Janer; 10. Hacienda Rolón; 11. Hacienda Santa Rita; 12. Horno de ladrillo; 13. Vivero de Peces de Maricao

Figure 6. Project (Parcel) Location with Previously Recorded Cultural Resources
USGS Topographic Map



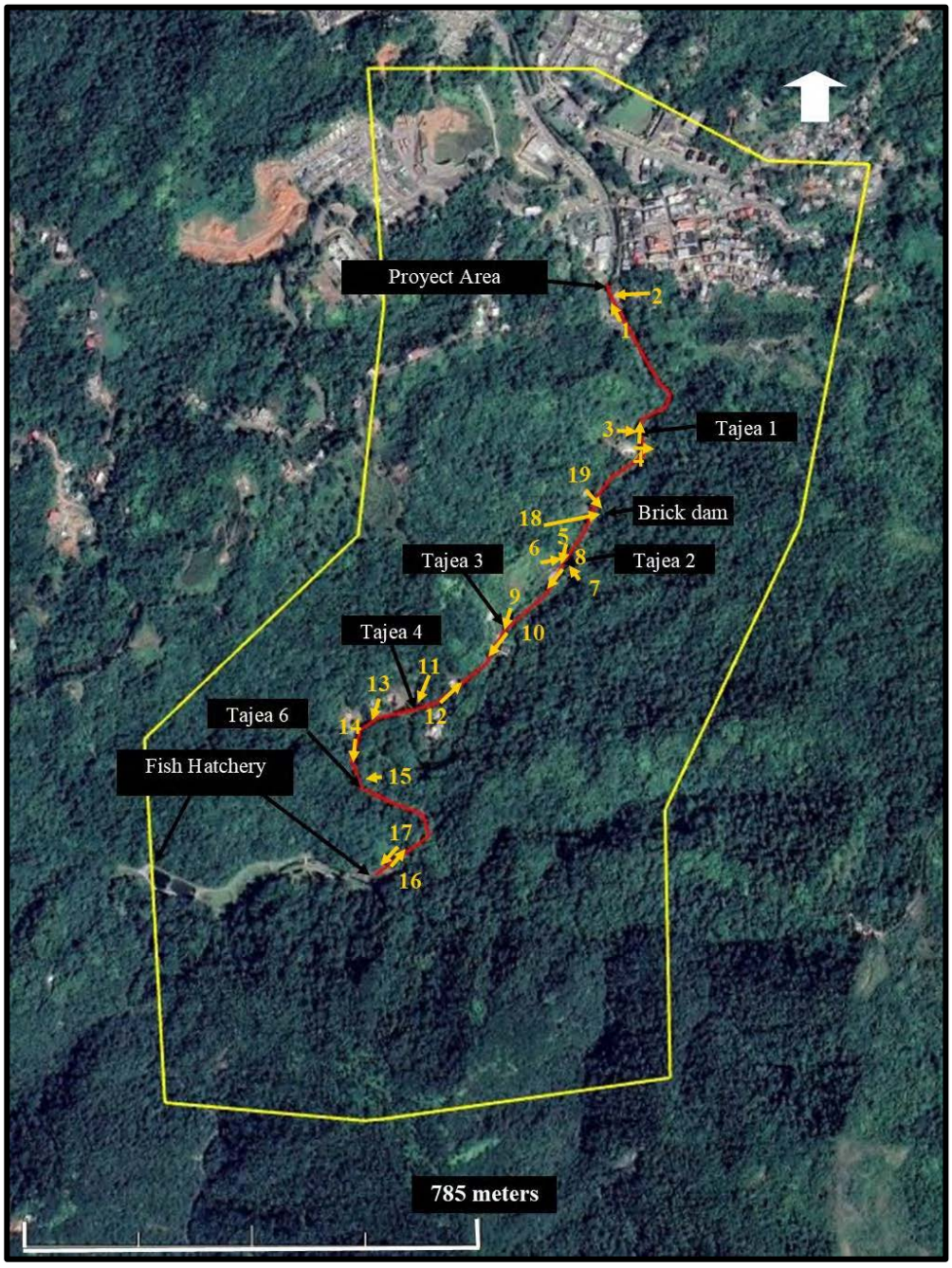

1.Maricao city plaza; 2. Iglesia San Juan Bautista de Maricao; 3. Escuela Raúl Ybarra; 4. Edificio Comercial; 5. Iglesia Presbiteriana El Buen Pastor; 6. Alcaldía; 7. Convento de las Hermanas de Fátima; 8. Escuela Mariana Bracetti; 9. Escuela Rafael Janer; 10. Hacienda Rolón; 11. Hacienda Santa Rita; 12. Horno de ladrillo; 13. Vivero de Peces de Maricao

Figure 7. Camino El Bolo and culvert in Toro Negro in Villalba built by CCC (López 2002).





Figure 8. Photograph Key





| | |
|---|---|
| Photo #: 1<br>Date: December 8, 2023 | Description (include direction): General view of the project area, looking northwest. |



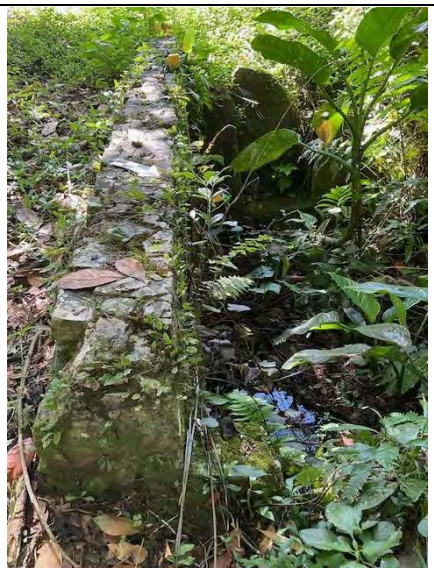
| | |
|---|---|
| Photo #: 2<br>Date: December 8, 2023 | Description (include direction): General view of the Gruta d San Juan Bautista, looking west. |



| Photo #: 3 | Description (include direction): Culvert 1, looking east. |
|---|---|
| Date: December 8, 2023 | |



| Photo #: 4 | Description (include direction): PR-410 km. 0.5, looking north. |
|---|---|
| Date: December 8, 2023 | |



| Photo #: 5 | Description (include direction): Culvert 2, looking southwest. |
|---|---|
| Date: December 8, 2023 | |



| Photo #: 6 | Description (include direction): Culvert 2, looking northeast. |
|---|---|
| Date: December 8, 2023 | |



| | |
|---|---|
| Photo #: 7<br>Date: December 8, 2023 | Description (include direction): Culvert 2, looking northwest. |



| | |
|---|---|
| Photo #: 8<br>Date: December 8, 2023 | Description (include direction): General view of PR-410, Km 0.8, looking southwest. |



| | |
|---|---|
| Photo #: 9 | Description (include direction): Culvert 3, looking southwest. |
| Date: December 8, 2023 | |



| | |
|---|---|
| Photo #: 10 | Description (include direction): General view of PR-410, Km 1.0, looking southwest. |
| Date: December 8, 2023 | |



| Photo #: 11 | Description (include direction): Culvert 4, looking southwest. |
|---|---|
| Date: December 8, 2023 | |



| Photo #: 12 | Description (include direction): General view of PR-410, Km 1.0, looking northeast. |
|---|---|
| Date: December 8, 2023 | |



| Photo #: 13 | Description (include direction): Culvert 5 located PR-410 Km. 1.3, looking southwest. |
|---|---|
| Date: December 8, 2023 | |



| Photo #: 14 | Description (include direction): General view of PR-410, Km 1.3, looking south. |
|---|---|
| Date: December 8, 2023 | |



| Photo #: 15<br>Date: December 8, 2023 | Description (include direction): Area where pit 6 is located (totally covered), looking west. |
|---|---|



| Photo #: 16<br>Date: December 8, 2023 | Description (include direction): General view of PR-410, Km 1.7, looking northeast. |
|---|---|



| | |
|---|---|
| Photo #: 17<br>Date: December 8, 2023 | Description (include direction): Entrance to the fish hatchery, looking southwest. |



| | |
|---|---|
| Photo #: 18<br>Date: December 8, 2023 | Description (include direction): General view of the brick dam within the Rosario River, looking northeast. |



| | |
|---|---|
| Photo #: 19<br><br>Date: December 8, 2023 | Description (include direction): General view of the brick dam within the Rosario River, looking southeast. |

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# PASEO HATCHERY

## PROJECT PR-CRP-000721

STATE ROAD PR 410, KM. 3.0 - KM. 4.5, MARICAO, PR

90% PROGRESS SET - AUG/09/2023

## PROJECT DIRECTORY


| | |
|---|---|
| CLIENT | **MUNICIPALITY OF MARICAO, PR**<br>HON. ALCALDE WILFREDO RUIZ FELICIANO |
| A/E TEAM | **C&G | JMCP + JLGARCHITECTS**<br>ING. JOSE M. CASTRO PAVIA, PE, CAAPPR<br>ARQ. JOSE GODINEZ ROMAN, AIA, CAAPPR<br>115 CALLE DEL PARQUE<br>SUITE 7<br>SAN JUAN, PR 00911<br>T 787.309.1837<br>E JGODINEZ@JLG-ARCHITECTS.COM<br>E JMCP.SITEDESIGN@GMAIL.COM |
| ELECTRICAL ENGINEER | **ENRIQUE M. FIGUEROA PE, CEM, LEED AP**<br>(787) 448-3876 CEL. |
| LAND SURVEYOR | **TECHNIGROUP**<br>ING. JUAN ALBERTO TORRES BERRIOS<br>RIVERSIDE PARK, CALLE 4 B-4<br>BAYAMON, PR 00961<br>T 787.379.9500 |
| GEOTECHNICAL ENGINEER | **BEG | BAIGES GEOTECHNICAL ENGINEERS LLC**<br>ING. JAMES BAIGES<br>T 787.398.0097<br>E JAMES.BAIGES@GMAIL.COM |
| GEOTECHNICAL ENGINEER | **REFORESTA, INC.**<br>ALEJANDRO CUBIÑA<br>PO. BOX 8972, SAN JUAN, PR 00910-0972<br>T 787.748-5435<br>E REFORESTA@COQUI.NET |


## INDEX OF DRAWINGS

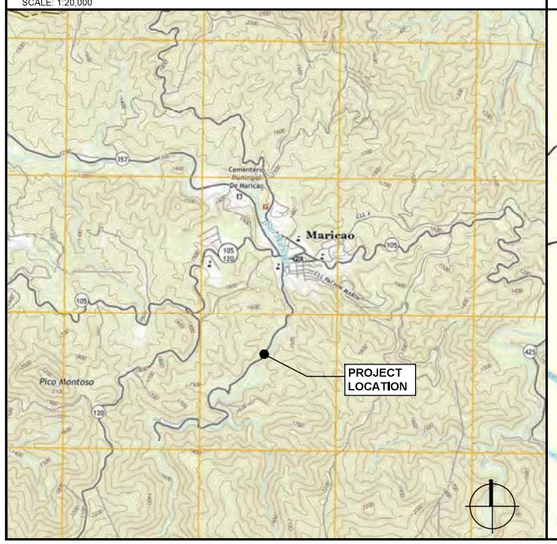
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| | |
|---|---|
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| G-001 | GENERAL NOTES |
| G-100 | MASTER PLAN |
| 1 OF 09 | AS BUILT & TOPOGRAPHIC PLAN |
| 2 OF 09 | AS BUILT & TOPOGRAPHIC PLAN |
| 3 OF 09 | AS BUILT & TOPOGRAPHIC PLAN |
| 4 OF 09 | AS BUILT & TOPOGRAPHIC PLAN |
| 5 OF 09 | AS BUILT & TOPOGRAPHIC PLAN |
| 6 OF 09 | AS BUILT & TOPOGRAPHIC PLAN |
| 7 OF 09 | AS BUILT & TOPOGRAPHIC PLAN |
| 8 OF 09 | AS BUILT & TOPOGRAPHIC PLAN |
| 9 OF 09 | AS BUILT & TOPOGRAPHIC PLAN |
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| LA-110.2 | PLANTING DETAILS |
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| LA-202 | PERMANENT LANDSCAPE AMENITIES |


## TOPOGRAPHIC MAP

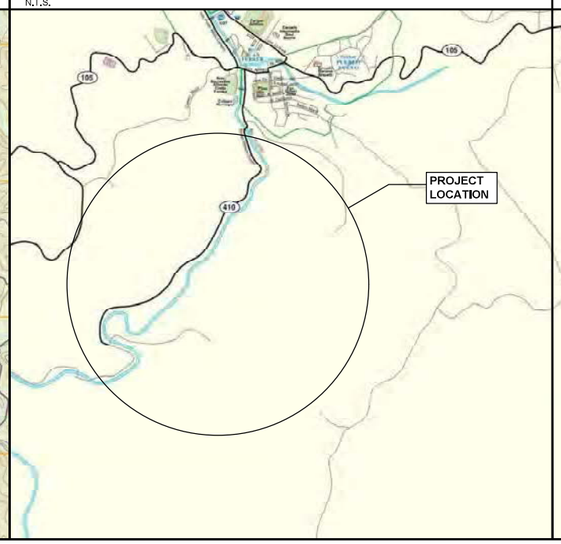
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REVISED 2018

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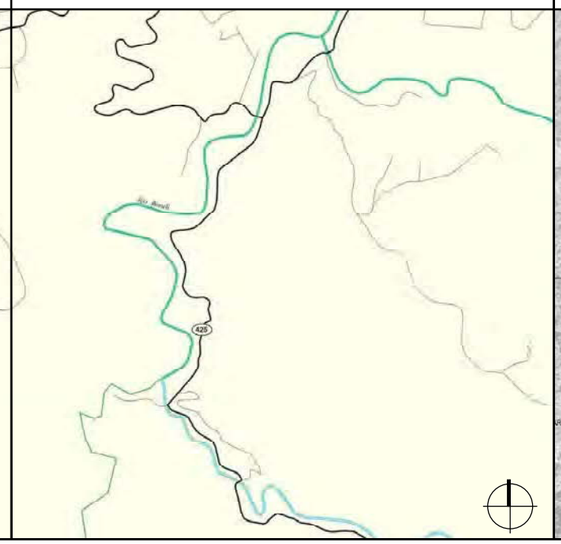



## ROAD MAP

N.T.S.



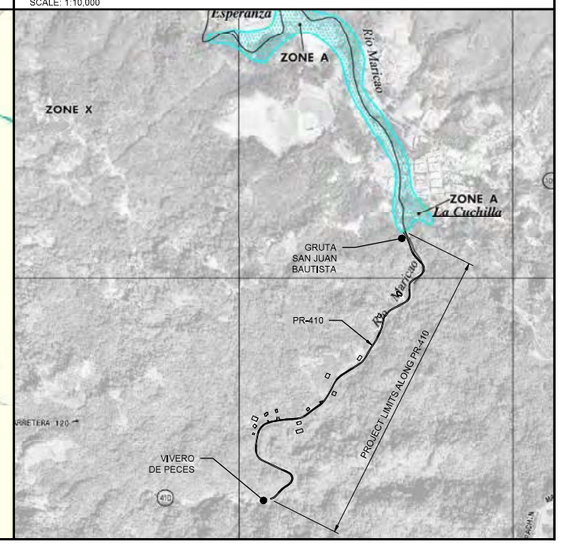

MARICAO, PR



## FLOOD MAP

PANEL 72000C1040H
REV. 04/19/2005

SCALE: 1:10,000




C&G
JMCP + JLGARCHITECTS
115 DEL PARQUE STREET SUIT 7
SAN JUAN, PR 00911
787.309.1837

MARICAO
CAPITAL DE LA MONTAÑA

PROGRESS SET
NOT FOR CONSTRUCTION

PROJECT: PR-CRP-000721
PASEO LA GRUTA - VIVERO DE PECES
CARRETERA ESTATAL PR 410, KM. 3.0 - KM. 4.5, MARICAO, PR

TITLE SHEET
SCALE: AS SHOWN

| NO. | DATE | DRAWING ISSUE | BY | APP. |
|---|---|---|---|---|
| 1 | 03.31.23 | 30% PROGRESS SET | . | . |
| 2 | 06.01.23 | 60% PROGRESS SET | . | . |
| 3 | 08.09.23 | 90% PROGRESS SET | . | . |

DRAWN BY: .
REVIEWED BY: .
DATE: 08.09.23
SHEET TITLE: TITLE SHEET
DRAWING NO.: G-000

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## GENERAL NOTES

1. CONTRACTOR SHALL ASSURE ALL REQUIRED PERMITS PRIOR TO BEGINNING ANY EARTH MOVEMENTS OR EXCAVATIONS IN THE PROJECT. BEFORE ANY EXCAVATION CONTRACTOR SHALL NOTIFY "CENTRO DE COORDINACION DE EXCAVACIONES Y DEMOLICIONES" HTTP://DDED.DTOP.GOV.PR/EXC/, TELEPHONES: 787-722-2929, X 12277, 12274, 12400, 12513.

2. THE CONTRACTOR SHALL PROVIDE ADEQUATE COFFERDAM OR PROTECTION SYSTEM FOR THE EXCAVATIONS, FOR THE STORM SEWER PIPES AND STRUCTURES CONSTRUCTION, AS TO AVOID ANY ACCIDENT OR SLIDING OF EARTH IN THE PROJECT. EXCAVATION OF TRENCHES MUST BE SUFFICIENTLY WIDE TO ENABLE INSTALLATION AND ALLOW INSPECTION. ALL CONSTRUCTION AND OSHA SAFETY REGULATIONS MUST BE FOLLOWED AT ALL TIMES. CONTRACTOR SHALL COMPLY TO THE FULLEST EXTENT THE LATEST STANDARDS OF OSHA DIRECTIVES OR ANY OTHER AGENCY HAVING JURISDICTION FOR EXCAVATION AND TRENCHING PROCEDURES. THE CONTRACTOR SHALL PROVIDE ALL SUPPORT SYSTEMS, SLOPING, BENCHING, AND OTHER MEANS OF PROTECTION. THIS IS TO INCLUDE, BUT NOT LIMITED TO ACCESS AND EGRESS FROM ALL EXCAVATION AND TRENCHING. CONTRACTOR IS RESPONSIBLE TO COMPLY WITH PERFORMANCE CRITERIA FOR OSHA.

3. SHORING SHALL BE USED IN OPEN TRENCHES WITHIN 1.5 METERS (ANY DIRECTION) OF LIGHT OR POWER POLES, 7.0 METERS OF TOWERS, AND WITHIN 45° BEARING SPLAY OF ANY STRUCTURE UNLESS OTHERWISE NOTED. THE CONTRACTOR SHALL DESIGN THE SHORING TO ACCOUNT FOR ADDITIONAL SURCHARGE LOADS OF THE POLE, TOWER, OR STRUCTURE FOUNDATIONS ACTING ON THE SHORING. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR DESIGNING ALL SHORING AND FOR PROTECTING ALL ELECTRICAL AND TELECOMMUNICATIONS POLES AND TOWERS.

4. THE CONTRACTOR SHALL ABIDE BY ALL APPLICABLE DNER, NSF, EQB, AWWA, USACE AND OGPE STANDARDS FOR INSTALLING STORM SEWER PIPELINES.

5. UPON COMPLETION OF CONSTRUCTION, FINISHED GRADES WILL BE BROUGHT BACK TO PRE-CONSTRUCTION CONDITIONS UNLESS APPROVED BY THE PROPERTY OWNER OR NOTED ON THE PLANS. FENCES, GATES, ROADWAYS, DRIVES, GROUND SURFACES, ETC., SHALL BE LEFT IN A CONDITION EQUAL TO OR BETTER THAN THAT FOUND BEFORE CONSTRUCTION. COORDINATE WITH THE PROPERTY OWNERS.

6. ALL IMPACTED FENCES AND OR STRUCTURES SHALL BE REINSTALLED IN ORIGINAL LOCATION AND OF SAME TYPE UNLESS OTHERWISE SHOWN ON PLANS DIRECTED OR BY THE ENGINEER.

7. IF CONTRACTOR ENCOUNTERS WET OR SEEPING SOIL CONDITIONS IN TRENCH OR CONDITIONS INDICATING THE POSSIBLE LOCATION OF SINKHOLE. CONTRACTOR SHALL NOTIFY ENGINEER AND NOT PROCEED WITH PIPE INSTALLATION IN THIS AREA UNTIL DIRECTION ON HOW TO PROCEED IS RECEIVED FROM THE ENGINEER. IF GROUNDWATER IS ENCOUNTERED, CONTRACTOR SHALL TAKE MEASURES TO PREVENT AND TO NOT PROMOTE THE MIGRATION OF THE GROUNDWATER IN THE TRENCH EXCAVATION AND PIPE EMBEDMENT ZONE. CONTRACTOR IS RESPONSIBLE FOR DEWATERING COSTS IF DEEMED NECESSARY.

8. DISCOVERY OF UNSUITABLE SOILS OR ROCK MUST BE IMMEDIATELY REPORTED TO THE OWNER, OWNER REPRESENTATIVE, AND ENGINEER. ALL EARTHWORK OPERATION IN THIS AREA MUST NOT PROCEED UNTIL PROJECT GEOTECHNICAL ENGINEER REVIEWS THE AREA AND THE OWNER RELEASES THE CONTRACTOR TO PROCEED.

9 CONTRACTOR SHALL PROVIDE ALL MAINTENANCE AND PROTECTION OF TRAFFIC DURING THE EXECUTION OF THE CONTRACTOR'S WORK. THE CONTRACTOR SHALL PROVIDE ALL THE SAFETY MEASUREMENTS TO AVOID HAZARDOUS CONDITIONS DURING THE CONSTRUCTION PERIOD. SAFETY TRAFFIC AND CONSTRUCTION PLAN SHOULD BE SUBMITTED TO THE PROJECT MANAGER APPROVAL BEFORE ANY HAZARDOUS OR RISKY WORK IS STARTED.

10. NEW CONSTRUCTION SHALL MEET HORIZONTAL AND VERTICAL ALIGNMENTS OF EXISTING FACILITIES.

11. CONTRACTOR SHALL NOTIFY THE OCCURRENCE OF ANY CHANGES ON THE PIPING HORIZONTAL OR VERTICAL ALIGNMENT TO THE DESIGNER PRIOR TO MAKING THEM.

12. THE CONTRACTOR WILL ASSUME ALL RESPONSIBILITY FOR ANY PROPERTY OR PERSONAL DAMAGE OR LOSS, THAT MAY OCCUR, PRIVATE OR PUBLIC RELATED TO THE CONSTRUCTION OF THE PROJECT OR DURING THE CONSTRUCTION PROCESS, THE OWNER WILL BE RELIEVED BY THE CONTRACTOR FROM ANY LOSS OR DAMAGE CAUSED .

13. CONTRACTOR SHALL BE CAREFUL DURING THE CONSTRUCTION OPERATIONS IN ORDER TO PRESERVE ALL EXISTING TREES, PLANTS, BUSHES OR CROPS WITHIN THE PROJECT SITE HAVING NO INTERFERENCE.

14. CONTRACTOR SHALL PREPARE AN INVENTORY OF ALL TREES THAT REQUIRE CUTTING, PRUNING AND/OR REMOVAL AND CONSEQUENTLY PREPARE AND EXECUTE A TREE MITIGATION PLAN ACCORDING TO OGPE'S REGULATIONS.

15. THE CONTRACTOR SHALL PROTECT AND PRESERVE ALL EXISTING PROPERTY, PAVED AREAS, TREES, GRASS AND VEGETATION FROM CONSTRUCTION PERSONNEL TRAFFIC AND SHOULD KEEP THESE AREAS FREE FROM TRASH OR WEEDS.

16. CONTRACTOR SHALL SUBMIT TO THE RESIDENT ENGINEER INSPECTOR A DETAILED PLAN OF CONSTRUCTION, THAT WILL INCLUDE DEFINED STAGING AREAS AND TEMPORARY STORAGE AREAS TO BE USED TO PILE EXCAVATED MATERIALS OR SELECTED BACKFILL DUE TO SPACE LIMITATION IN THE AREA OF WORK.

17. THE CONTRACTOR SHALL ACQUIRE AT HIS OWN EXPENSE ALL TEMPORARY RIGHT OF WAY NECESSARY TO PERFORM HIS WORK, INCLUDING STAGING AREAS AND TEMPORARY FACILITIES.

18. CONTRACTOR SHALL COORDINATE WITH LUMA THE MINIMUM CLEARANCE REQUIRED FOR OVERHEAD POWER LINES. ANY WORK WITHIN THIS MINIMUM CLEARANCE DISTANCE IS STRICTLY PROHIBITED. IN THE EVENT THAT WORK NEAR THE POWER LINES, WITHIN THE CLEARANCE DISTANCE. IS REQUIRED, CONTRACTOR MUST COORDINATE WITH LUMA ENERGY THE DE-ENERGIZING OF THE POWER LINES ("VIA LIBRE") WHILE THE CONSTRUCTION ACTIVITIES ARE PERFORMED, AND ITS ASSOCIATED COST.

19. DETAILS OF CONSTRUCTION NOT SPECIFICALLY SHOWN SHALL BE CONSTRUCTED IN ACCORDANCE WITH DETAILS SHOWN FOR SIMILAR CONDITIONS AND MATERIALS, AND IN ACCORDANCE WITH ACCEPTED PUERTO RICO STANDARDS.

20. THE OWNER SHALL RETAIN A QUALIFIED PROFESSIONAL TO OBSERVE THE CONSTRUCTION IN ORDER TO VERIFY THAT THE PROJECT IS BEING CONSTRUCTED IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS.

21. ALL DISTANCES AND ELEVATIONS ARE IN METERS UNLESS OTHERWISE NOTED.

22. COORDINATES AND ELEVATIONS ARE REFERRED TO THE STATE PLANE COORDINATES SYSTEM FOR PUERTO RICO AND THE US VIRGIN ISLANDS, NAD 83.

23. THE CONTRACTOR IS RESPONSIBLE TO OBTAIN THE FOLLOWING PERMITS PRIOR TO COMMENCE WITH THE CONSTRUCTION.
    A. EROSION AND SEDIMENTATION CONTROL (CES)
    B. ATMOSPHERIC EMISSION (PFE)
    C. NON HAZARDOUS SOLID WASTE (DS-3)
    D. DISPOSAL OF HAZARDOUS WASTE
    E. DISCHARGE OF STORM WATER RUNOFF DURING CONSTRUCTION (NPDES)
    F. IN CASE OF REMOVAL AND DISPOSAL OF MATERIALS CONTAINING ASBESTOS AND LEAD PAINT, THE CONTRACTOR SHALL SUBMIT A PLAN FOR REMOVAL, MANAGEMENT AND DISPOSAL OF SUCH MATERIALS.
    G. OGPE INCIDENTAL PERMIT (PUI-IN SPANISH)

24. ALL EROSION AND SEDIMENTATION CONTROL DEVICES SHALL BE INSTALLED PRIOR TO COMMENCE WITH ANY EARTHWORK OR EXCAVATION AND MAINTAINED THROUGHOUT THE DURATION OF THE CONSTRUCTION.

25. THE SIZE AND LOCATION OF EXISTING UTILITIES SHOWN ON THE CONTRACT PLANS, BOTH ABOVE AND BELOW GROUND IS BASED ON AN EXAMINATION OF EXISTING PLANS AND THE RESULT OF FIELD INSPECTION. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING IN THE FIELD THE LOCATION AND SIZE OF ALL UTILITIES INCLUDING ELECTRIC, SANITARY, TELEPHONE, STORM SEWER AND WATER. NO EXTRA COMPENSATION WILL BE MADE TO THE CONTRACTOR FOR DISCREPANCIES BETWEEN THE SIZE AND LOCATION OF THE UTILITIES SHOWN ON THE PLANS AND THE UTILITIES AS DETERMINED BY HIS FIELD VERIFICATION. HOWEVER, ANY MAJOR CONFLICT THAT CANNOT BE RESOLVED IN THE FIELD SHALL BE NOTIFIED TO THE ENGINEER FOR ITS RESOLUTION. DAMAGES CAUSED TO EXISTING UTILITIES WITHIN THE PROJECT AREA SHALL BE REPAIRED BY CONTRACTOR AT NO COST TO THE OWNER.

26. THE CONTRACTOR SHALL VERIFY ALL HORIZONTAL AND VERTICAL CONTROLS.

27. ALL DEMOLITION TO BE PERFORMED BY THE CONTRACTOR ACCORDING TO SPEC. 202 REMOVAL OF STRUCTURES AND OBSTRUCTIONS UNLESS OTHERWISE NOTED.

28. IN CASE OF DOUBT IN THE INTERPRETATION OF ANY ASPECTS OF THESE DRAWINGS AND/OR SPECIFICATIONS THE ENGINEER SHALL BE CONSULTED.

29. CONTRACTOR SHALL COORDINATE WITH PRHTA (OFICINA DE CONTROL DE ACCESOS) THE CONSTRUCTION WORKS TO BE PERFORMED DURING SPECIAL EVENTS IN THE AREA. CONTRACTOR SHALL SUBMIT TO PRTHA (CONTROL ACCESOS) THE CONSTRUCTION SCHEDULE FOR REVISION AND TO COORDINATE THESE SPECIAL EVENTS.

30. THE MOT PLAN INCLUDED ON THIS SET WAS DESIGNED CONSIDERING PROPOSED ROAD IMPROVEMENTS TO PR 410. ANY CHANGES IN THE MOT PLANS SHALL BE SUBMITTED TO THE DESIGNER AND PRHTA FOR REVISION AND FINAL APPROVAL.

31. THE CONTRACTOR SHALL OBTAIN ALL THE PERMITS AND ENDORSEMENTS REQUIRED AND PAY ALL THE FEES REQUESTED BY LOCAL OR FEDERAL AGENCY, PRIOR THE CONSTRUCTION WORKS BEGINS AND/OR DURING THE CONSTRUCTION WORKS, AT NO ADDITIONAL COST TO THE OWNER.

32. THE CONSTRUCTOR IS RESPONSIBLE TO PAY THE COSTS ASSOCIATED TO THE LABORATORY TESTS REQUIRED FOR ALL THE MATERIALS AS PER SPECIFICATIONS AND DURING CONSTRUCTION THE COSTS INCLUDE SAMPLES,TRANSPORTATION, TECHNICAL SUPPORT, TESTS, LABORATORY EXPENSES, AND OTHERS.

33. THE CONTRACTOR SHALL NOTIFY THE SOIL ENGINEER AT LEAST THREE DAYS PRIOR TO COMPLETION OF EXCAVATIONS. NO FOUNDATION FILL OR CONCRETE SHALL BE DEPOSITED UNTIL THE SOIL BEARING CAPACITY IS VALIDATED BY THE GEOTECHNICAL ENGINEER.

34. IT IS THE CONTRACTOR'S RESPONSIBILITY TO RESTORE TO THE ORIGINAL CONDITION, DAMAGES MADE TO SIDEWALKS, CURBS, PAVEMENT OR PRIVATE PROPERTY OUTSIDE THE CONSTRUCTION LIMIT OR NOT INCLUDED IN THE SCOPE.

35. THE CONTRACTOR SHALL MAINTAIN ALL UTILITIES IN SERVICE AT ALL TIMES DURING THE CONSTRUCTION.

36. ALL METAL BARRIERS TO BE INSTALLED IN THIS PROJECT SHALL BE DONE AS MASH STANDARD DRAWINGS DATED JUNE 2018.

37. ALL DRAINAGE STRUCTURES. (PIPES, MANHOLES, INLETS, HEADWALLS) INDICATED TO REMAIN SHALL BE CLEANED AND REPAIRED AS PER SPEC. 632.

38. PAVEMENT MARKING SHALL BE AS PER SPEC. 618. PROPOSED PAVEMENT MARKING SHALL MATCH WITH EXISTING PAVEMENT MARKING OF THE ROADWAY.

39. ALL AREAS DISTURBED BY THE CONSTRUCTION SHALL BE GRADED AND FINISHED AS INDICATED ON PLANS OR AS DIRECTED BY THE ENGINEER.

40. FINAL ELEVATION FOR SETTING MANHOLE CASTINGS SHOULD BE BASED ON ACTUAL FINISHED GRADE OF SURFACE AT MANHOLE.

41. NEW CONSTRUCTION SHALL MEET HORIZONTAL AND VERTICAL ALIGNMENTS OF EXISTING ROADWAYS.

42. EQUIPMENT, MATERIALS AND OTHER DEVICES USED FOR CONSTRUCTION SHALL BE REMOVED FROM THE TRAFFIC LANES AFTER WORK HOURS, EVERY DAY AND SHALL BE STAGED A MINIMUM OF TEN METERS FROM THE TRAVELED WAY.

43. THE CONTRACTOR SHALL BE RESPONSIBLE TO KEEP ACCESS PAVED AT ALL TIME ADJACENT TO ALL PROPERTIES DURING THE PROJECT CONSTRUCTION. MAINTAIN PROTECT THROUGH LOCAL TRAFFIC WITHIN THE LIMITS OF THE PROJECT INCLUDING TRAFFIC ON ACCEPTANCE OF PROJECT. THIS TASK WILL REQUIRE COORDINATION WITH BUSINESSES AND PRIVATE OWNERS.

## PAVING, GRADING AND DRAINAGE NOTES

1. ALL SPOT ELEVATIONS WITHIN VEHICULAR CIRCULATION AREAS ARE AT THE EDGE OF PAVEMENT AND / OR THE TOP OF CURB, WHERE SOD IS APPLIED, FINISHED GRADE SHALL BE NOMINAL HEIGHT OF GRASS AFTER SOD IS FIRMLY PLACED.

2. CONCRETE PAVEMENT CONSTRUCTION AND JOINTING SHALL BE IN ACCORDANCE WITH ACI-330R. CONCRETE PAVING SHALL INCLUDE THE USE OF FULL DEPTH EXPANSION JOINTS CONTAINING PREMOLDED JOINT FILLER AT ALL MANHOLES, STORM SEWER STRUCTURES, BUILDINGS, SIDEWALKS, POWER POLES, OR OTHER PERMANENT STRUCTURES. COORDINATE FINISH AND PATTERNS WITH ARCHITECTURAL DRAWINGS. OTHERWISE, PROVIDE LIGHT BROOM FINISH.

3. ALL CONCRETE PAVING SUBJECT TO VEHICULAR TRAFFIC SHALL BE 4,000 PSI AT 28 DAYS, BROOM FINISH, MATERIALS AND WORKMANSHIP TO MEET OR EXCEED PRHTA SPECIFICATIONS FOR PORTLAND CEMENT CONCRETE PAVING.

4. PROVIDE ISOLATION JOINTS WITH THICKENED EDGE PAVEMENT AT CONNECTIONS TO EXISTING ASPHALT OR CONCRETE PAVING.

5. SUBGRADE FOR CONCRETE PAVING SHALL BE COMPACTED TO 95% STANDARD PROCTOR. COMPACTION AROUND STRUCTURES, MANHOLES AND STORM INLETS SHALL BE VERIFIED. PRIOR TO PLACING CONCRETE PAVING, THE SUBGRADE SHALL BE SMOOTH AND LEVEL, ANY WHEEL RUTS OR OTHER DISTURBANCES SHALL BE LEVELED, MOISTEN SUBGRADE PRIOR TO PLACING PAVEMENT.

6. SOD AND LANDSCAPING SHALL NOT IMPEDE THE FLOW OF RUN OFF FROM PAVED SURFACES. SOIL, GRASS AND PLANTING BEDS SHALL PROVIDE POSITIVE DRAINAGE AWAY FROM SIDEWALKS.

7. BEFORE REQUESTING FINAL INSPECTION BY THE ENGINEER AND BEFORE PLACING SOD, THE CONTRACTOR SHALL PROVIDE THE ENGINEER WITH A COMPLETE AS-BUILT SURVEY FROM A REGISTERED SURVEYOR, AS FOLLOWS:

   a. LOCATION AND FINISH FLOOR ELEVATION OF CONSTRUCTED STRUCTUES WITH TIES TO PROPERTY LINE,
   b. LOCATION AND ELEVATION OF PAVEMENT AT ELEVATION POINTS SHOWN ON PLANS, AND WHERE EXISTING PAVEMENT IS REPLACED OR OVERLAYED, AT SUFFICIENT POINT TO DETERMINE GRADE AND DRAINAGE PATTERNS.
   c. LOCATION AND ELEVATION OF WALKS, AND OTHER CONSTRUCTED IMPROVEMENTS SUCH AS DUMPSTER ENCLOSURES, MECHANICAL PADS, FENCING, ETC.
   d. PERIMETER, SLOPE BREAK AND BOTTOM ELEVATIONS OF ALL SWALES AND RETENTION AREAS.
   e. LOCATION, RIM/FLOW AND INVERT ELEVATIONS, TYPE AND SIZE OF ALL DRAINAGE STRUCTURES AND PIPES, INCLUDING WEIRS, ORIFICES AND OTHER APPURTENANCES.

8. ALL FILL MATERIAL SHALL MEET RECOMMENDATIONS SPECIFIED IN THE SOIL'S REPORT.

## SOURCES OF DATA

1. THE SURVEY PLAN WAS PREPARED BY JUAN TORRES, LIC. # 8765 .
2. THE GEOTECHNICAL REPORT PREPARED ON THE GEOTECHNICAL EXPLORATION PERFORMED AT THE PROPOSED PROJECT'S SITE BY * FORMS PART OF THE CONSTRUCTION DOCUMENTS. THE CONTRACTOR SHALL NOTIFY THE ENGINEER BEFORE CONTINUING WORK IF DISCREPANCIES ARE FOUND BETWEEN THE REPORT AND THE CONSTRUCTION DESIGN PLANS.

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JAMES@BAIGESPR.COM • (787) 399-0077

90% DESIGN SET
NOT FOR CONSTRUCTION

PROJECT: PR-CRP-000721

# PASEO LA GRUTA-VIVERO DE PECES

CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

GOBIERNO MUNICIPAL DE MARICAO

PASEO HATCHERY [PR-CRP-000721]

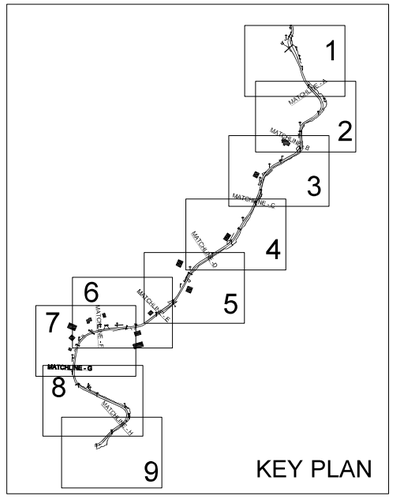
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DRAWN BY:
REVIEWED BY:
DATE: 05/23

SHEET TITLE: GENERAL NOTES

DRAWING NO.: G-001

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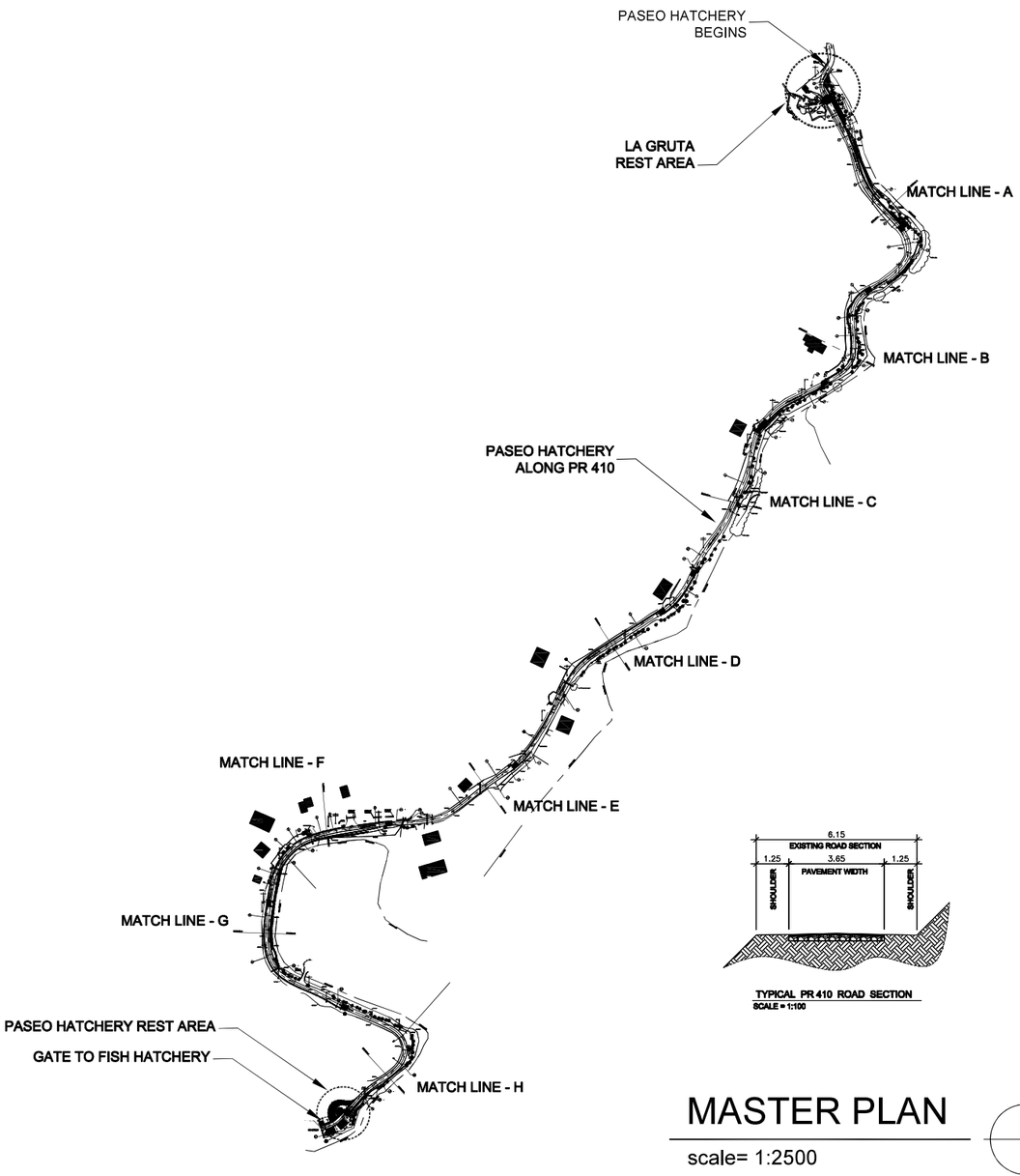

KEY PLAN

## EXISTING CONDITIONS LEGEND

| SYMBOL | DESCRIPTION |
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| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

0 5 10 30

SCALE = 1:300







TYPICAL PR 410 ROAD SECTION
SCALE = 1:100

# MASTER PLAN

scale= 1:2500

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JAMES@BAIGESGROUP.COM • (787) 399-0077

90% DESIGN SET
NOT FOR CONSTRUCTION

PROJECT: PR-CRP-000721

**PASEO LA GRUTA-VIVERO DE PECES**
CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.3

**GOBIERNO MUNICIPAL DE MARICAO**
PASEO HATCHERY [PR-CRP-000721]

| NO. | DATE | DRAWING ISSUE | BY | APP. |
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REVIEWED BY:
DATE: 05/23

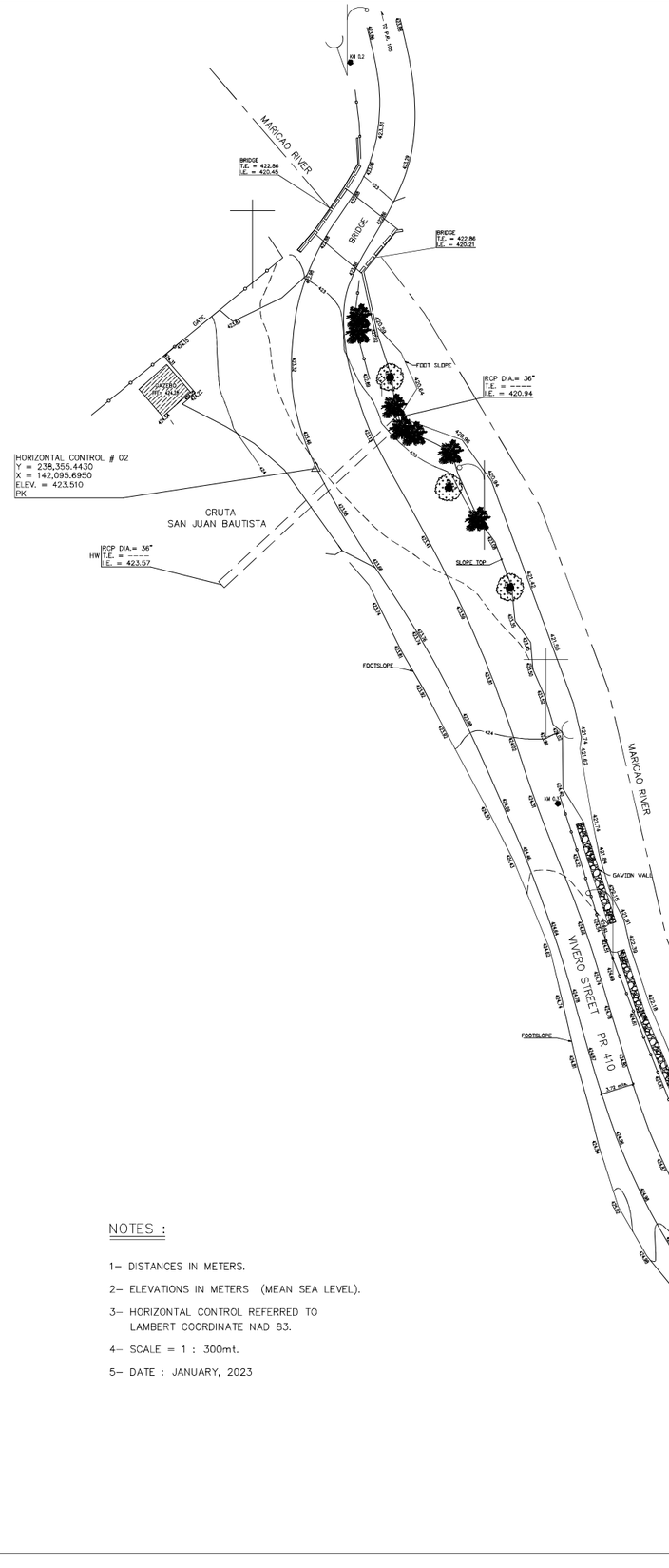
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DRAWING NO.: G-100

NORTH

SCALE = 1 : 300

## LEGEND

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| | TREE |
| | PALM |




NOTES :

1– DISTANCES IN METERS.

2– ELEVATIONS IN METERS (MEAN SEA LEVEL).

3– HORIZONTAL CONTROL REFERRED TO LAMBERT COORDINATE NAD 83.

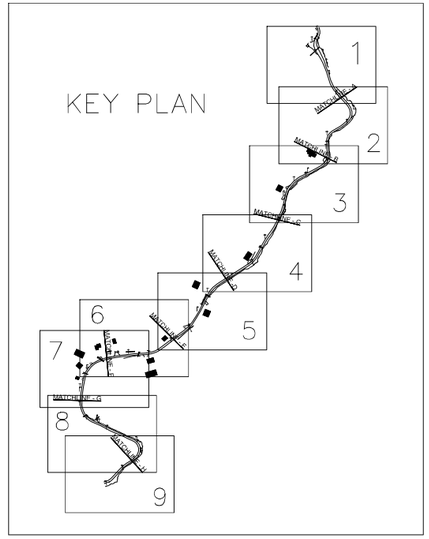
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5– DATE : JANUARY, 2023




LOCATION MAP

SCALE = 1 : 20,000




REVISIONS

| SYMBOL | DATE | BY |
|---|---|---|
| | | |

# AS BUILT & TOPOGRAPHY PLAN
# PROJECT PASEO HATCHERY
State Road No. 410 Km. 0.2
MARICAO PUERTO RICO

STAMP:
I CERTIFY CORRECT :
JUAN TORRES BERRIOS
ENGINEER LIC. NO. 8745, RPA

TECHNIGROUP
Riverside Park Street # No. B-4, Bayamon, P.R. 00961 – Tel. (787) 379-9500

Project:
DATE : 01/2023
SCALE : 1: 300

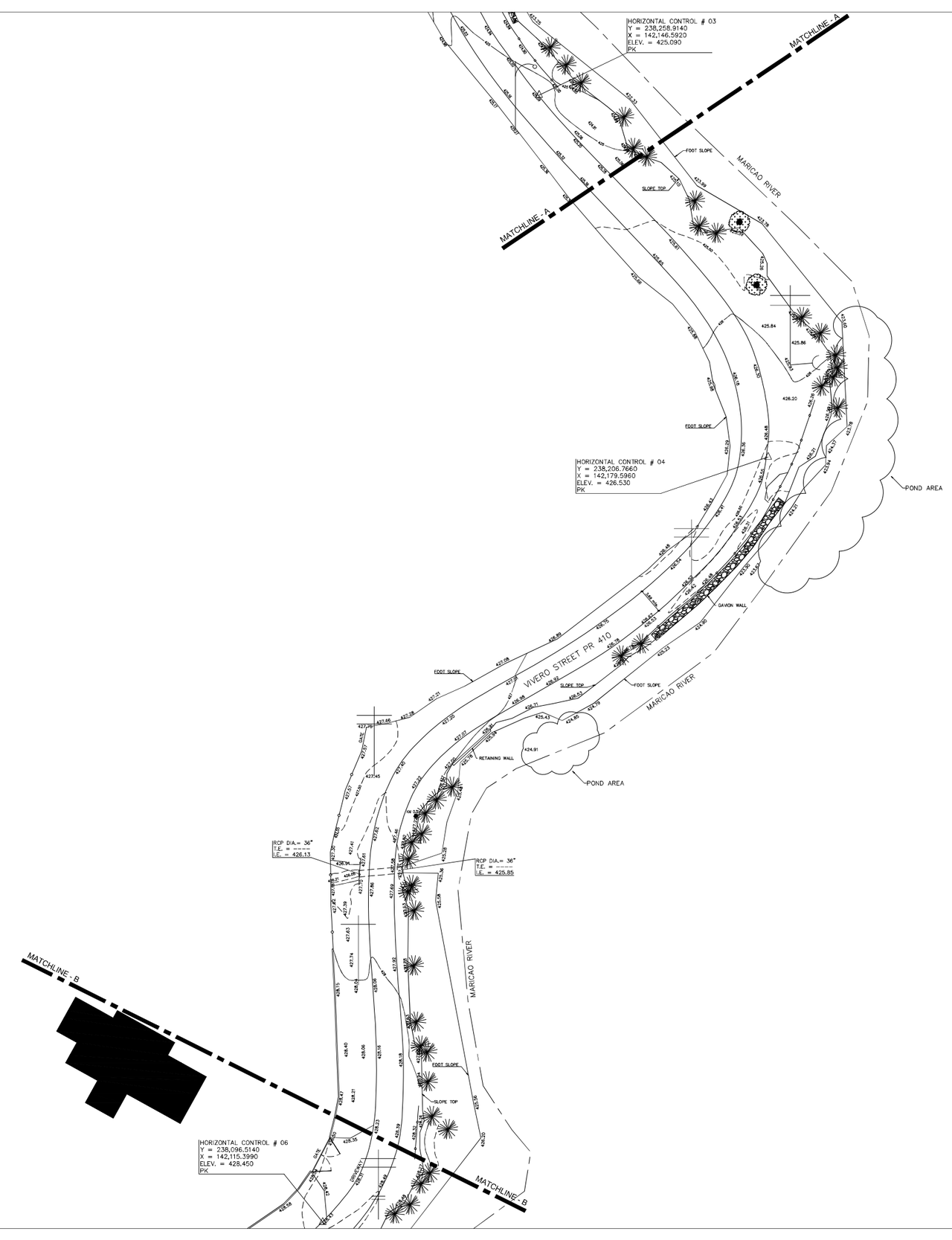
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NORTH

SCALE = 1 : 300

## LEGEND

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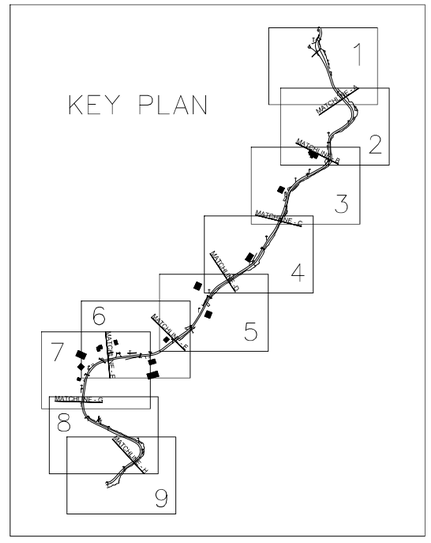






LOCATION MAP

SCALE = 1 : 20,000




NOTES :

1- DISTANCES IN METERS.

2- ELEVATIONS IN METERS (MEAN SEA LEVEL).

3- HORIZONTAL CONTROL REFERRED TO LAMBERT COORDINATE NAD 83.

4- SCALE = 1 : 300mt.

5- DATE : JANUARY, 2023

REVISIONS

| SYMBOL | DATE | BY |
|---|---|---|
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AS BUILT & TOPOGRAPHY PLAN
PROJECT PASEO HATCHERY
State Road No. 410 Km. 0.2
MARICAO PUERTO RICO

STAMP: CERTIFY CORRECT:
JUAN TORRES BERROS
ENGINEER LIC. NO. 8761, RPA

TECHNIGROUP
Riverside Pon. Street 4 No. B-4, Bayamon, P.R. 00961 - Tel. (787) 379-8500

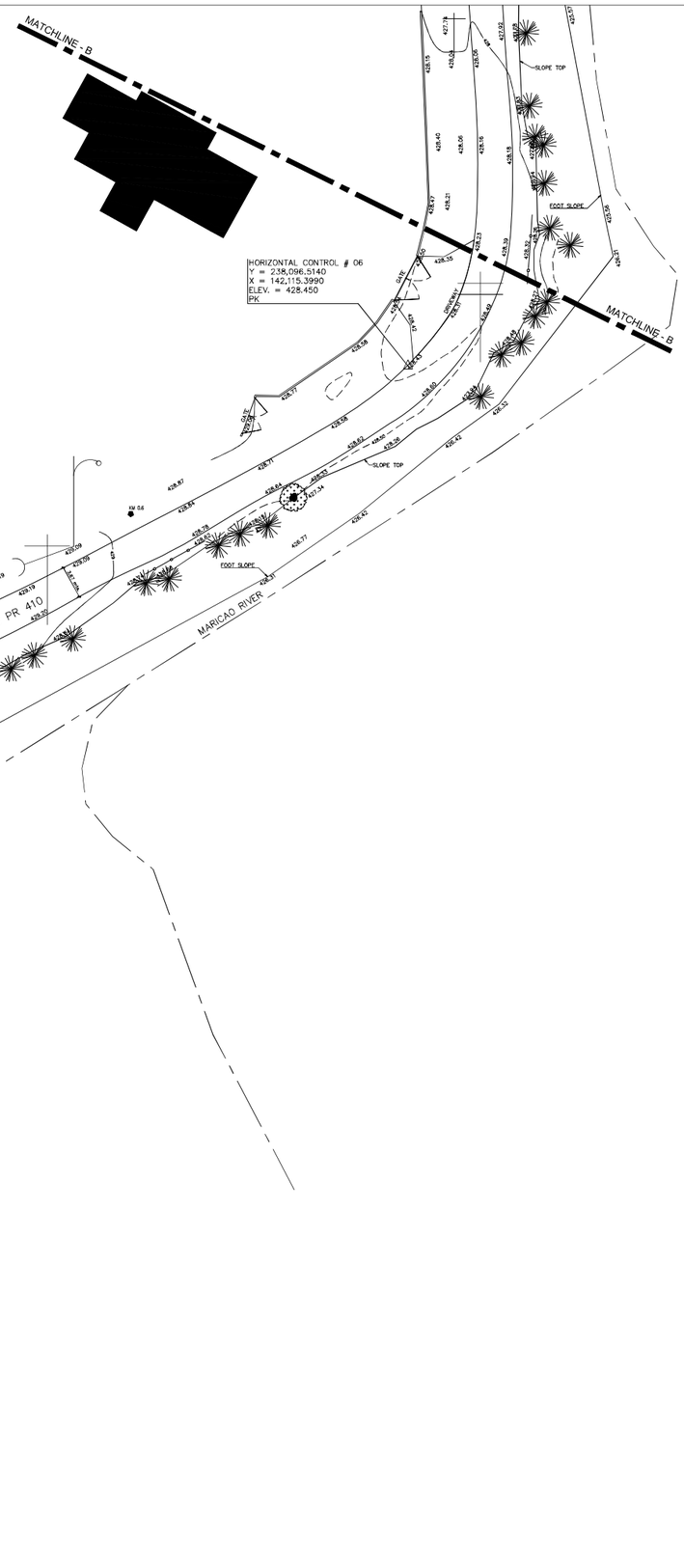
Project:
DATE : 01/2023
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NORTH

SCALE = 1 : 300

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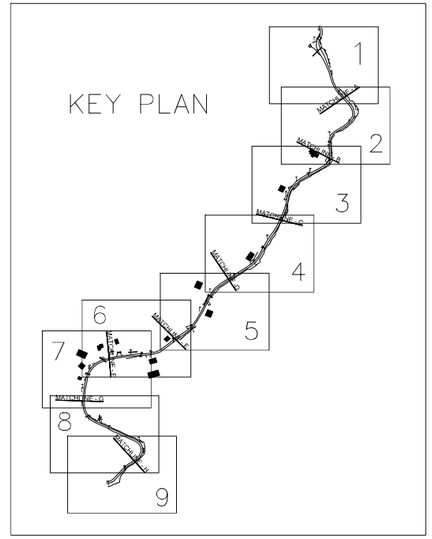






LOCATION MAP

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|---|---|---|
| | | |

AS BUILT & TOPOGRAPHY PLAN

PROJECT PASEO HATCHERY

State Road No. 410 Km. 0.2

MARICAO PUERTO RICO

STAMP:

I CERTIFY CORRECT :

JUAN TORRES BERRIOS

ENGINEER LIC. NO. 8765, RPA


TECHNIGROUP

Riverside Park Street # No. B-4, Bayamon, P.R. 00961 – Tel. (787) 379-8500


Project:

DATE : 01/2023

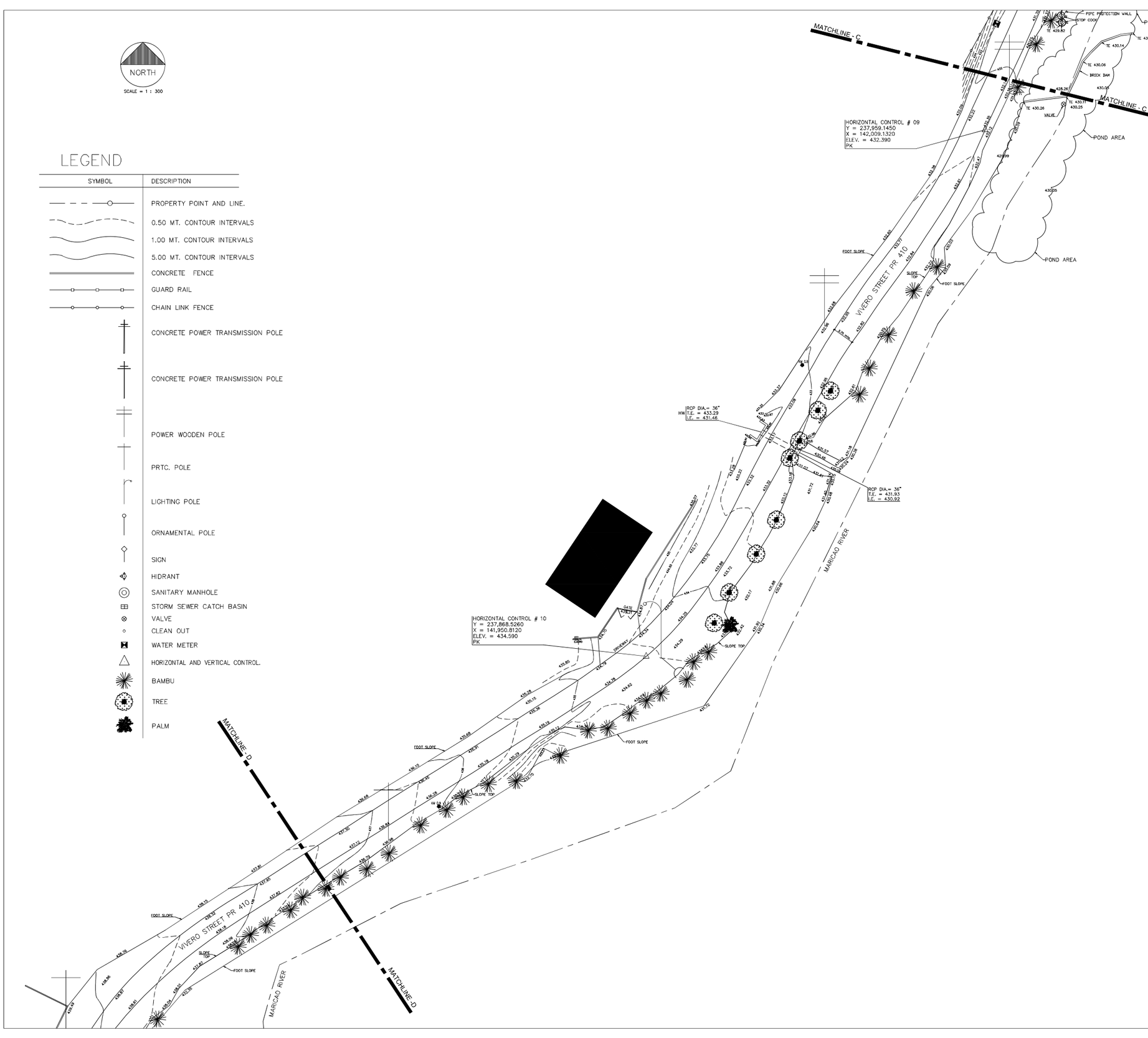
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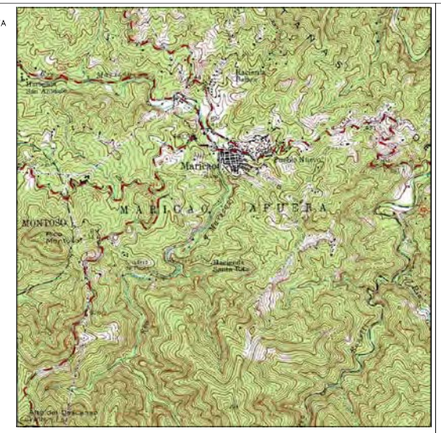
NORTH

SCALE = 1 : 300

## LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
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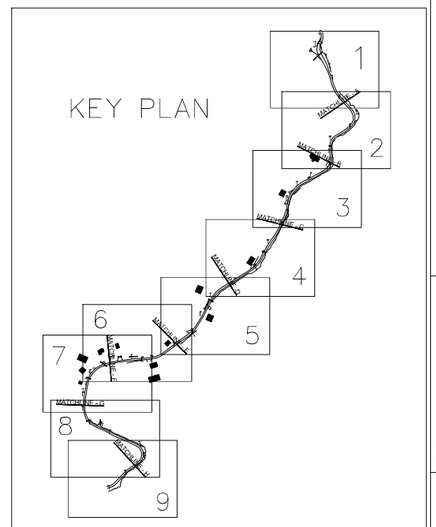



LOCATION MAP

SCALE = 1 : 20,000

KEY PLAN




NOTES :

1- DISTANCES IN METERS.

2- ELEVATIONS IN METERS (MEAN SEA LEVEL).

3- HORIZONTAL CONTROL REFERRED TO LAMBERT COORDINATE NAD 83.

4- SCALE = 1 : 300mt.

5- DATE : JANUARY, 2023

REVISIONS

| SYMBOL | DATE | BY |
|---|---|---|
| | | |

AS BUILT & TOPOGRAPHY PLAN

PROJECT PASEO HATCHERY

State Road No. 410 Km. 0.2

MARICAO PUERTO RICO

STAMP: CERTIFY CORRECT:

JUAN TORRES BERRIOS

ENGINEER LIC. NO. 87651, RPA


TECHNIGROUP

Riverside Park Street 4 No. B-4, Boyamon, P.R. 00961 - Tel. (787) 379-9500


Project

DATE : 01/2023

SCALE : 1: 300

NORTH

SCALE = 1 : 300

## LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |







LOCATION MAP

SCALE = 1 : 20,000

KEY PLAN




NOTES :

1- DISTANCES IN METERS.

2- ELEVATIONS IN METERS (MEAN SEA LEVEL).

3- HORIZONTAL CONTROL REFERRED TO LAMBERT COORDINATE NAD 83.

4- SCALE = 1 : 300mt.

5- DATE : JANUARY, 2023

REVISIONS

| SYMBOL | DATE | BY |
|---|---|---|
| | | |

AS BUILT & TOPOGRAPHY PLAN

PROJECT PASEO HATCHERY

State Road No. 410 Km. 0.2

MARICAO PUERTO RICO

STAMP: CERTIFY CORRECT:

JUAN TORRES BERRIOS
ENGINEER LIC. NO. 8765, RPA


TECHNIGROUP

Riverside Park Street 4 No. B-4, Bayamon, P.R. 00961 - Tel. (787) 379-9500


Project:

DATE : 01/2023

SCALE : 1: 300

# LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
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| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

NORTH

SCALE = 1 : 300

NOTES :

1- DISTANCES IN METERS.

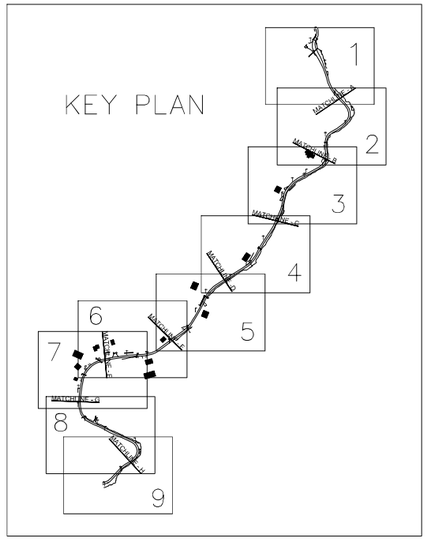
2- ELEVATIONS IN METERS (MEAN SEA LEVEL).

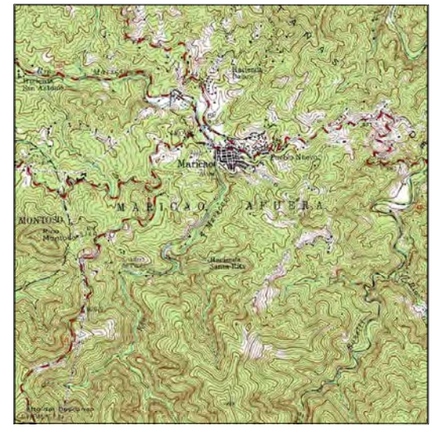
3- HORIZONTAL CONTROL REFERRED TO LAMBERT COORDINATE NAD 83.

4- SCALE = 1 : 300mt.

5- DATE : JANUARY, 2023

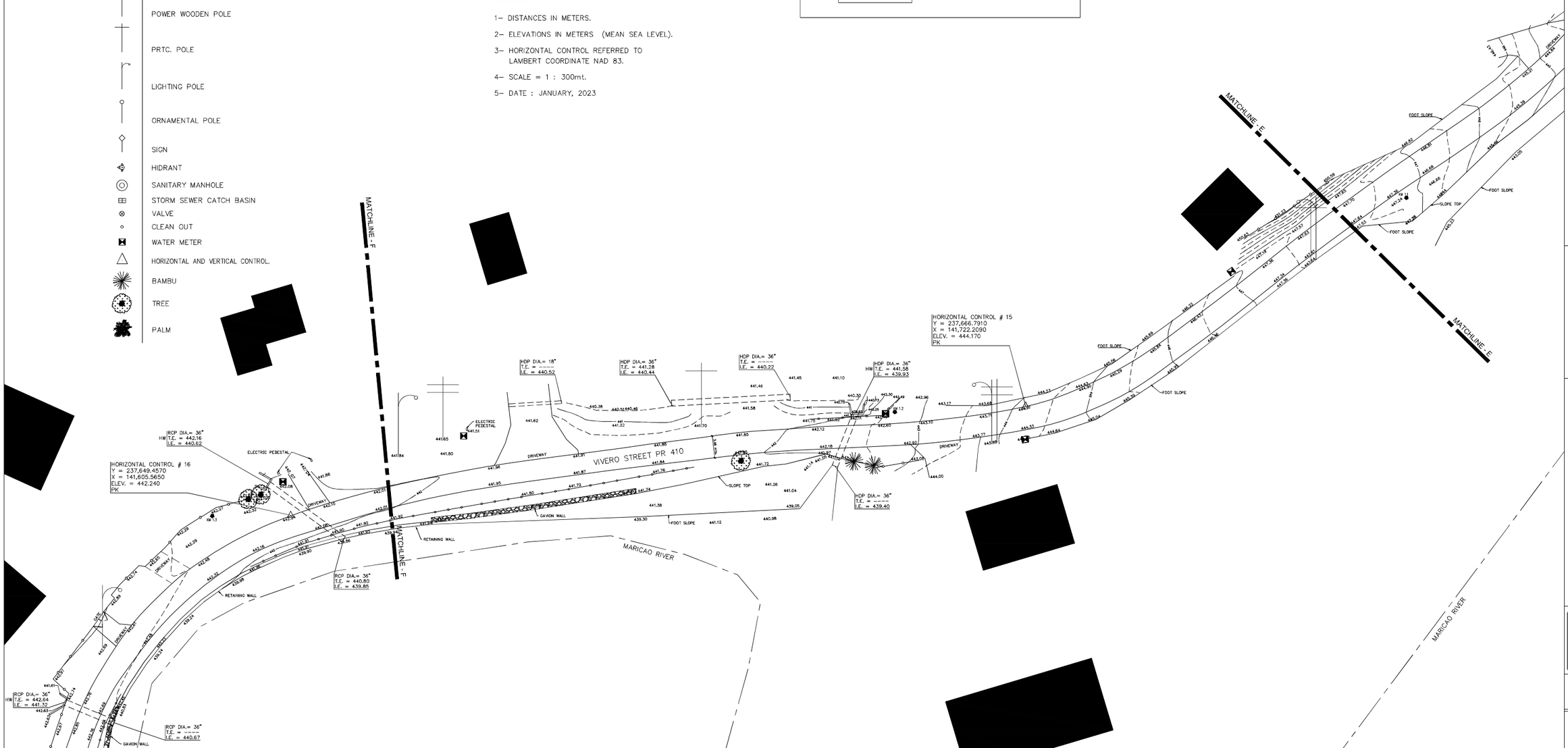
KEY PLAN




LOCATION MAP

SCALE = 1 : 20,000




| REVISIONS | SYMBOL | DATE | BY |
|---|---|---|---|
| | | | |

AS BUILT & TOPOGRAPHY PLAN

PROJECT PASEO HATCHERY

State Road No. 410 Km. 0.2

MARICAO PUERTO RICO

STAMP: CERTIFY CORRECT:

JUAN TORRES BERRIOS

ENGINEER LIC. NO. 8765, PPA

TECHNIGROUP

Riverside Park Street 4 No. B-4, Boyamon, P.R. 00961 - Tel. (787) 379-9500

Project:

DATE : 01/2023

SCALE : 1: 300

6 of 09

NORTH

SCALE = 1 : 300

## LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

NOTES :

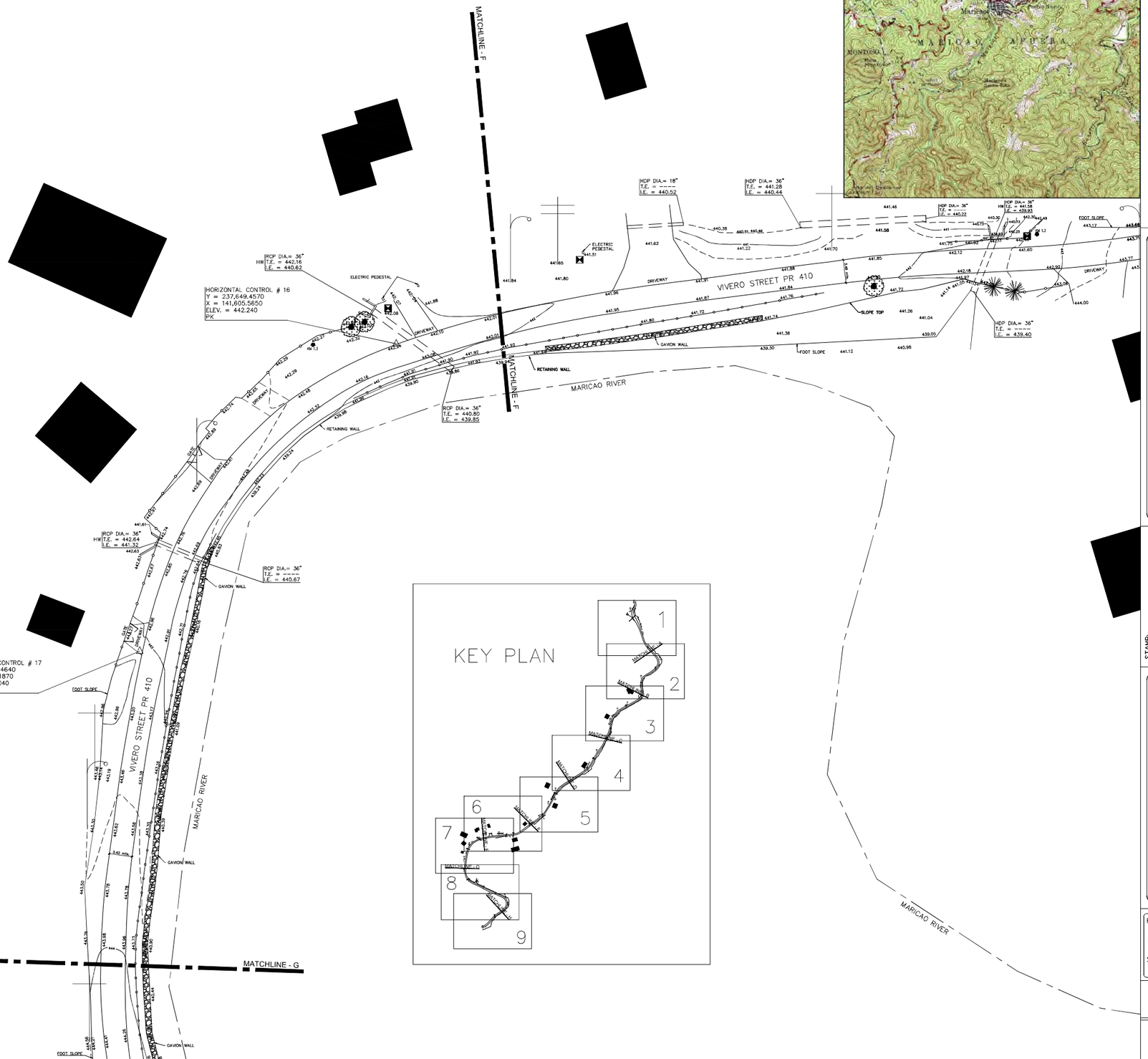
1- DISTANCES IN METERS.

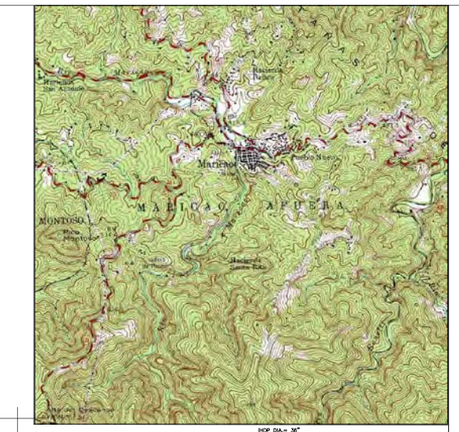
2- ELEVATIONS IN METERS (MEAN SEA LEVEL).

3- HORIZONTAL CONTROL REFERRED TO LAMBERT COORDINATE NAD 83.

4- SCALE = 1 : 300mt.

5- DATE : JANUARY, 2023







REVISIONS

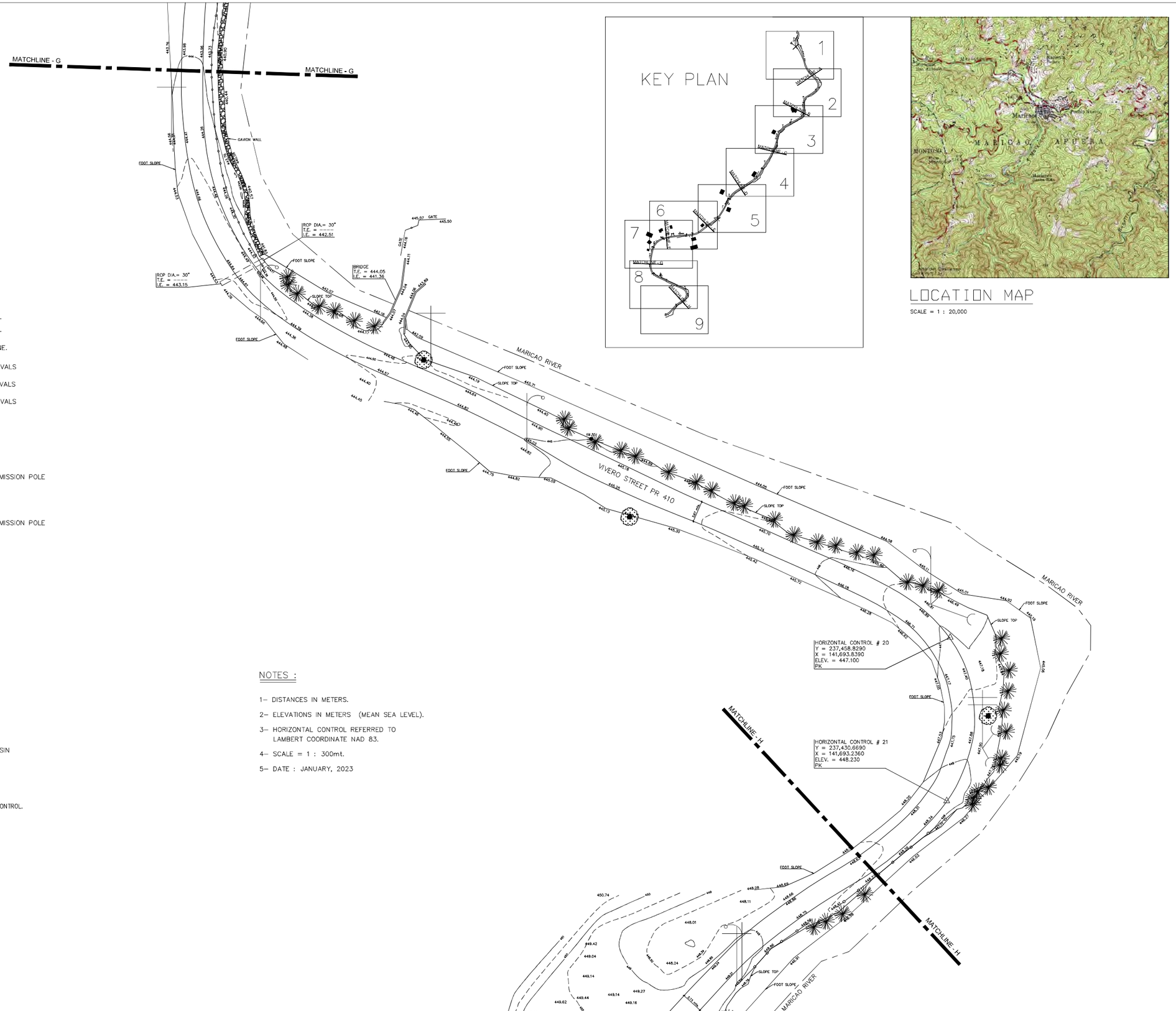
| SYMBOL | DATE | BY |
|---|---|---|
| | | |

# AS BUILT & TOPOGRAPHY PLAN
# PROJECT PASEO HATCHERY
State Road No. 410 Km. 0.2
MARICAO PUERTO RICO

STAMP: CERTIFY CORRECT:
JUAN TORRES BERRIOS
ENGINEER LIC. NO. 8765, RPA


TECHNIGROUP
Riverside Park Street 4 No. B-4, Bayamon, P.R. 00961 - Tel. (787) 379-9500


Project:
DATE : 01/2023
SCALE : 1: 300




NORTH

SCALE = 1 : 300

## LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
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| | STORM SEWER CATCH BASIN |
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| | CLEAN OUT |
| | WATER METER |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

## NOTES :

1– DISTANCES IN METERS.

2– ELEVATIONS IN METERS (MEAN SEA LEVEL).

3– HORIZONTAL CONTROL REFERRED TO LAMBERT COORDINATE NAD 83.

4– SCALE = 1 : 300mt.

5– DATE : JANUARY, 2023







LOCATION MAP

SCALE = 1 : 20,000

REVISIONS | SYMBOL | DATE | BY

AS BUILT & TOPOGRAPHY PLAN
PROJECT PASEO HATCHERY
State Road No. 410 Km. 0.2
MARICAO PUERTO RICO

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ENGINEER LIC. NO. 8761, RPA

TECHNIGROUP
Riverside Pcm. Street 4 No. B–4, Bayamon, P.R. 00961 – Tel. (787) 379–8500

Project:
DATE : 01/2023
SCALE : 1: 300

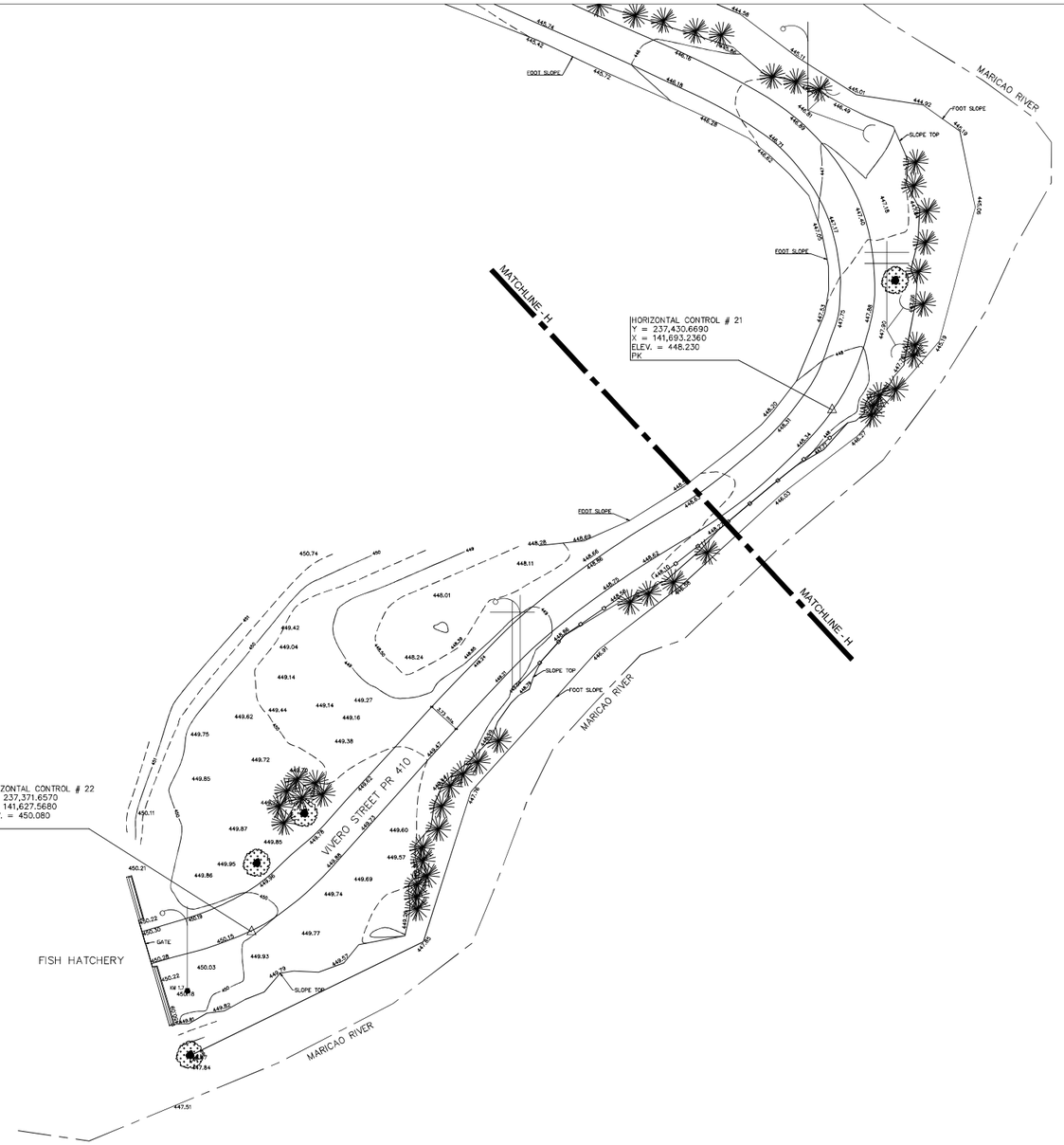
8 of 09

NORTH

SCALE = 1 : 300

## LEGEND

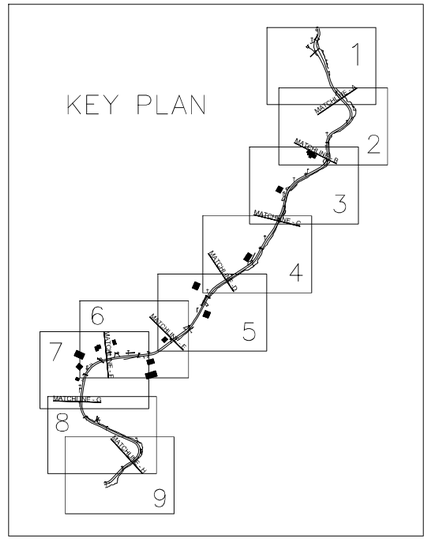
| SYMBOL | DESCRIPTION |
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| | PROPERTY POINT AND LINE. |
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| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
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| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |







LOCATION MAP




NOTES :

1– DISTANCES IN METERS.

2– ELEVATIONS IN METERS (MEAN SEA LEVEL).

3– HORIZONTAL CONTROL REFERRED TO LAMBERT COORDINATE NAD 83.

4– SCALE = 1 : 300mt.

5– DATE : JANUARY, 2023

REVISIONS | SYMBOL | DATE | BY

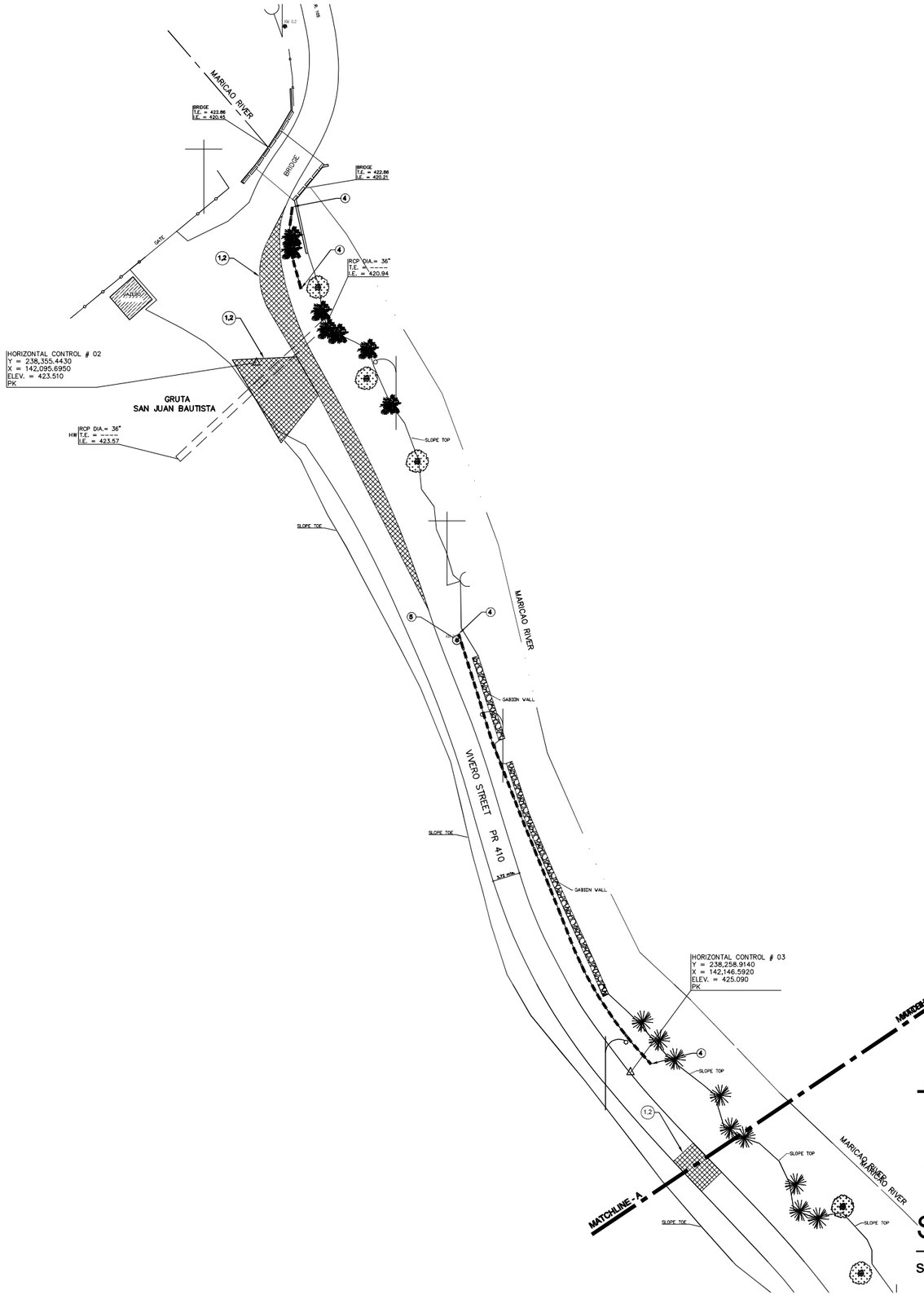
AS BUILT & TOPOGRAPHY PLAN
PROJECT PASEO HATCHERY
State Road No. 410 Km. 0.2
MARICAO PUERTO RICO

STAMP: CERTIFY CORRECT:
JUAN TORRES BERRIOS
ENGINEER LIC. NO. 8765, RPA

TECHNIGROUP
Riverside Park Street 4 No. B-4, Bayamon, P.R. 00961 – Tel. (787) 379-8500

Project:
DATE : 01/2023
SCALE : 1: 300

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LEGEND

1 SCARIFY AND REMOVE ASPHALT PAVEMENT.
2 REMOVE AND HAUL BASE COURSE AS NEEDED.
3 EXCAVATE AND HAUL AS NEEDED.
4 REMOVE GUARDRAIL.
5 REMOVE KILOMETER MARKER

# SITE PLAN-1

scale= 1:300

C&G
JMCP + JLGARCHITECTS
113 DEL PARQUE STREET SUITE 7
SAN JUAN, PR 00911
787.309.3837

BAIGES GEOTECHNICAL ENGINEERS, LLC
641 PASEO DE LA ALHAMBRA, URB TORRIMAR, GUAYNABO, P.R. 00969
JAMES@BAIGESMAIL.COM • (787) 399-0017

90% DESIGN SET
NOT FOR CONSTRUCTION

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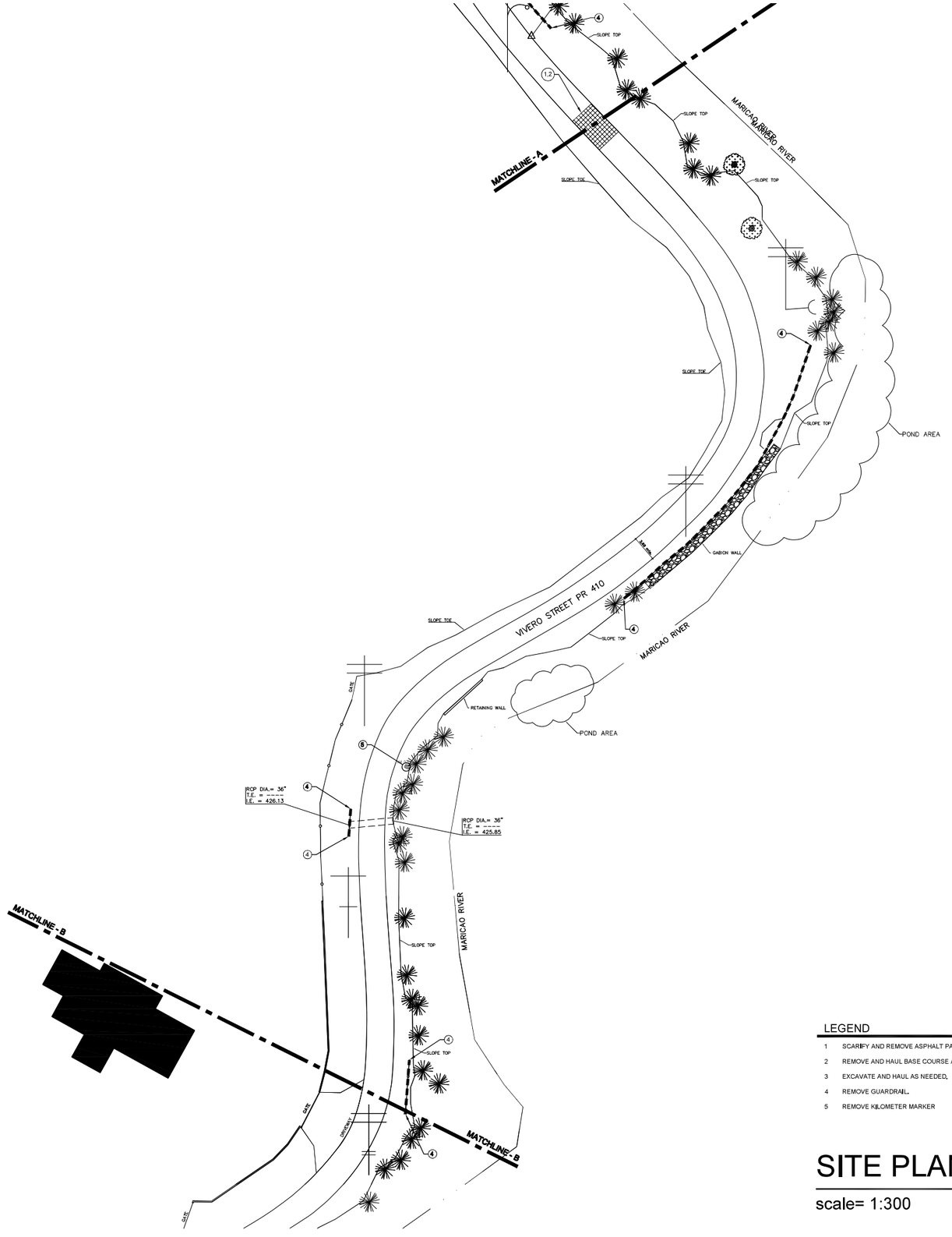
DRAWN BY:
REVIEWED BY:
DATE: 05/23

PROJECT: PR-CRP-000721
**PASEO LA GRUTA-VIVERO DE PECES**
CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

GOBIERNO MUNICIPAL DE MARICAO
PASEO HATCHERY [PR-CRP-000721]

SHEET TITLE: DEMOLITION SITE PLAN
DRAWING NO.: CD-101

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## LEGEND

1. SCARIFY AND REMOVE ASPHALT PAVEMENT.
2. REMOVE AND HAUL BASE COURSE AS NEEDED.
3. EXCAVATE AND HAUL AS NEEDED.
4. REMOVE GUARDRAIL.
5. REMOVE KILOMETER MARKER

# SITE PLAN-2

scale= 1:300

C&G
JMCP + JLGARCHITECTS
115 DEL PARQUE STREET SUITE 7
SAN JUAN, PR 00911
787.309.3837

BAIGES GEOTECHNICAL ENGINEERS, LLC
64 PASEO DE LA ALHAMBRA, URB TORRIMAR, GUAYNABO, P.R. 00966
JAIMEBAIGES@GMAIL.COM • (787) 399-0007

90% DESIGN SET
NOT FOR CONSTRUCTION

PROJECT: PR-CRP-000721

**PASEO LA GRUTA-VIVERO DE PECES**

CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

GOBIERNO MUNICIPAL DE MARICAO

PASEO HATCHERY [PR-CRP-000721]

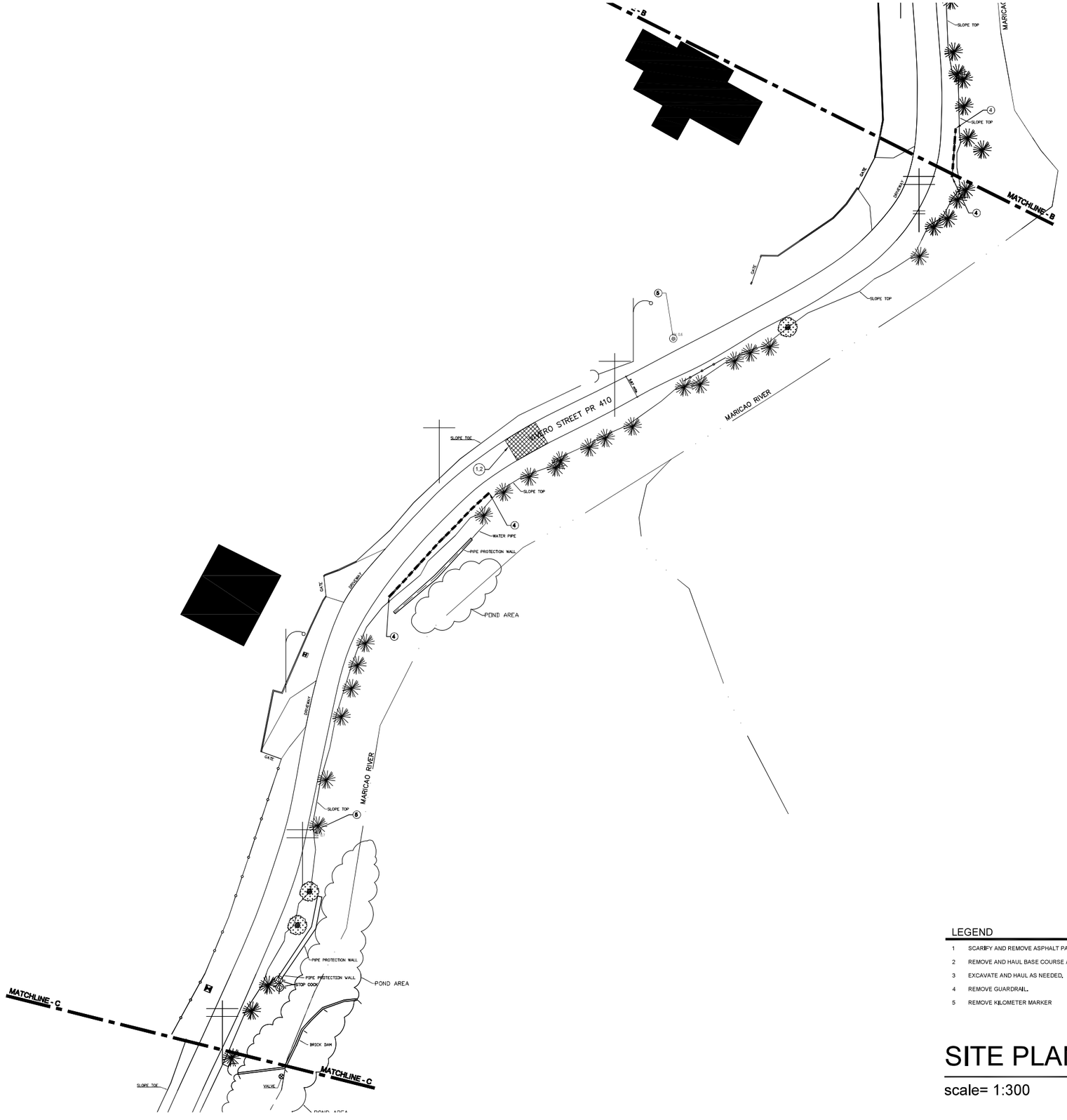
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SHEET TITLE: DEMOLITION SITE PLAN

DRAWING NO.: CD-102

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LEGEND

1 SCARIFY AND REMOVE ASPHALT PAVEMENT.
2 REMOVE AND HAUL BASE COURSE AS NEEDED.
3 EXCAVATE AND HAUL AS NEEDED.
4 REMOVE GUARDRAIL.
5 REMOVE KILOMETER MARKER

CD-104

# SITE PLAN-3

scale= 1:300

C&G
JMCP + JLGARCHITECTS
115 DEL PARQUE STREET SUITE 7
SAN JUAN, PR 00911
787.309.3837

BAIGES GEOTECHNICAL ENGINEERS, LLC
641 PASEO DE LA ALHAMBRA, URB TORRIMAR - GUAYNABO, P.R. 00966
JAMES@BAIGESMUNIZ.COM • (787) 399-0077

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PROJECT: PR-CRP-000721
**PASEO LA GRUTA-VIVERO DE PECES**
CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

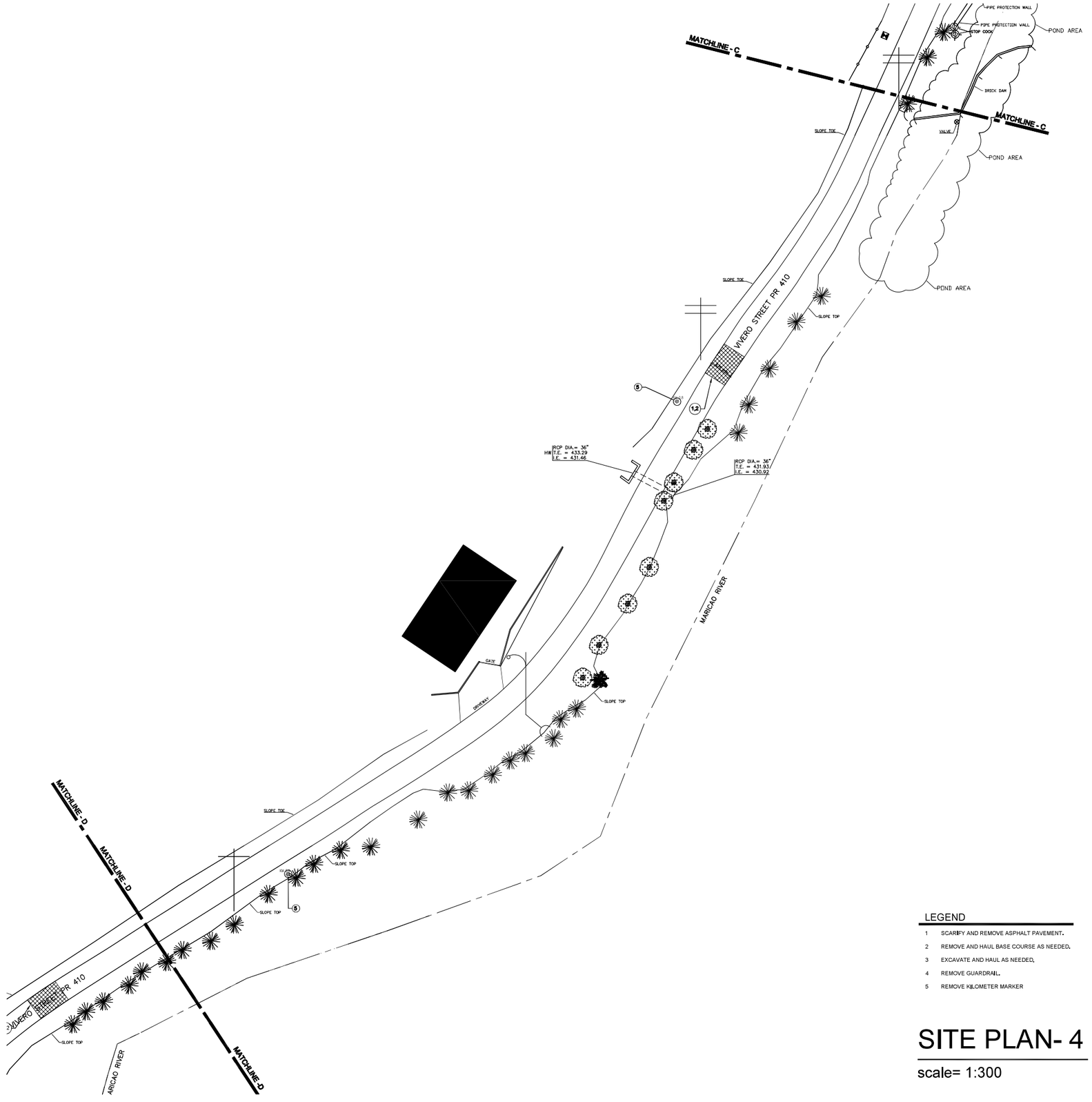
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PASEO HATCHERY [PR-CRP-000721]

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SHEET TITLE: DEMOLITION SITE PLAN
DRAWING NO.: CD-103

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LEGEND

1 SCARIFY AND REMOVE ASPHALT PAVEMENT.
2 REMOVE AND HAUL BASE COURSE AS NEEDED.
3 EXCAVATE AND HAUL AS NEEDED,
4 REMOVE GUARDRAIL.
5 REMOVE KILOMETER MARKER

# SITE PLAN- 4

scale= 1:300

C&G
JMCP + JLGARCHITECTS
113 DEL PARQUE STREET SUITE 7
SAN JUAN, PR 00911
787.309.3837

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JAMES@BAIGESMAIL.COM • (787) 399-0077

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PROJECT: PR-CRP-000721
**PASEO LA GRUTA-VIVERO DE PECES**
CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

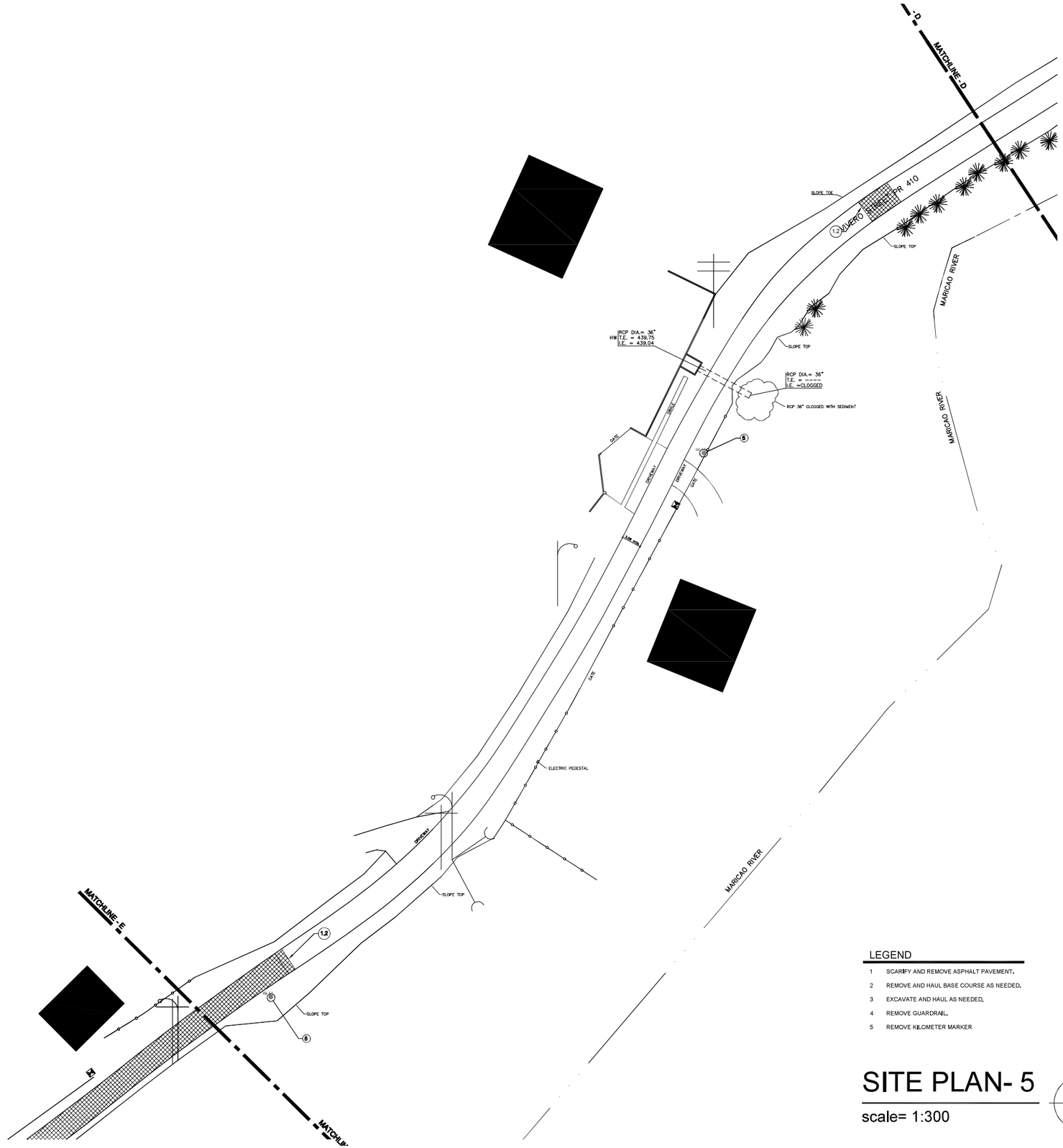
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PASEO HATCHERY [PR-CRP-000721]

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DATE: 05/23

SHEET TITLE: DEMOLITION SITE PLAN
DRAWING NO.: **CD-104**

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LEGEND

1. SCARIFY AND REMOVE ASPHALT PAVEMENT.
2. REMOVE AND HAUL BASE COURSE AS NEEDED.
3. EXCAVATE AND HAUL AS NEEDED.
4. REMOVE GUARDRAIL.
5. REMOVE KILOMETER MARKER

# SITE PLAN- 5

scale= 1:300

C&G
JMCP + JLGARCHITECTS
113 DEL PARQUE STREET SUITE 7
SAN JUAN, PR 00911
787.309.3837

BAIGES GEOTECHNICAL ENGINEERS, LLC
641 PASEO DE LA ALHAMBRA, URB TOPACIO, CAROLINA PO BOX 13779, 00985
JAMES@BAIGESPR.COM • (787) 399-0077

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PROJECT: PR-CRP-000721

**PASEO LA GRUTA-VIVERO DE PECES**

CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

GOBIERNO MUNICIPAL DE MARICAO

PASEO HATCHERY [PR-CRP-000721]

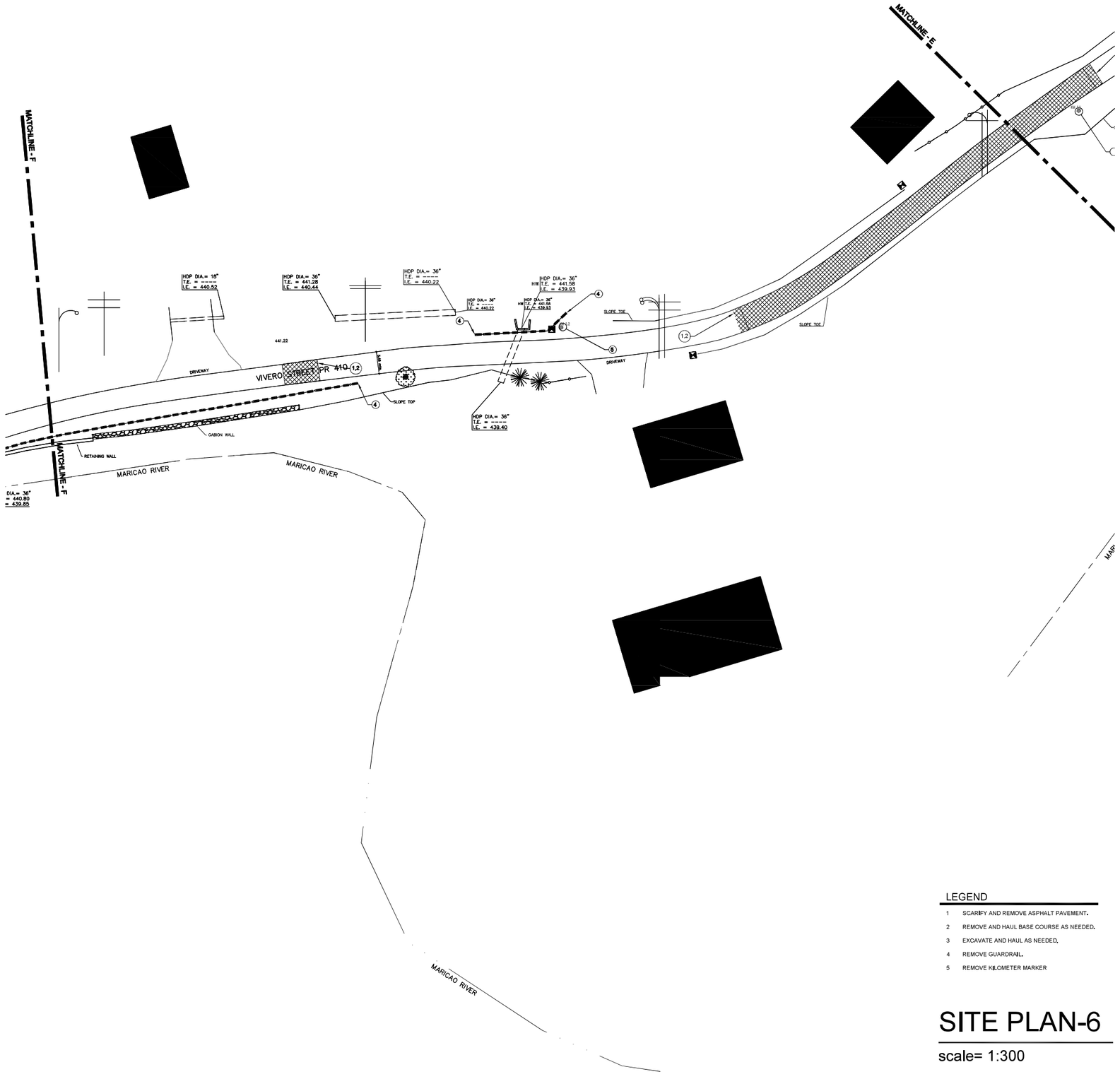
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DATE: 05/23

SHEET TITLE: DEMOLITION SITE PLAN

DRAWING NO.: CD-105

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LEGEND

1. SCARIFY AND REMOVE ASPHALT PAVEMENT.
2. REMOVE AND HAUL BASE COURSE AS NEEDED.
3. EXCAVATE AND HAUL AS NEEDED.
4. REMOVE GUARDRAIL.
5. REMOVE KILOMETER MARKER

# SITE PLAN-6

scale= 1:300

C&G
JMCP + JLGARCHITECTS
113 DEL PARQUE STREET SUITE 7
SAN JUAN, PR 00911
787.309.3837

BAIGES GEOTECHNICAL ENGINEERS, LLC
64 PASEO DE LA ALHAMBRA, URB TORRIMAR, GUAYNABO, P.R. 00969
JAMES@BAIGESGEO.COM • (787) 399-0007

90% DESIGN SET
NOT FOR CONSTRUCTION

PROJECT: PR-CRP-000721

**PASEO LA GRUTA-VIVERO DE PECES**

CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

GOBIERNO MUNICIPAL DE MARICAO

PASEO HATCHERY [PR-CRP-000721]

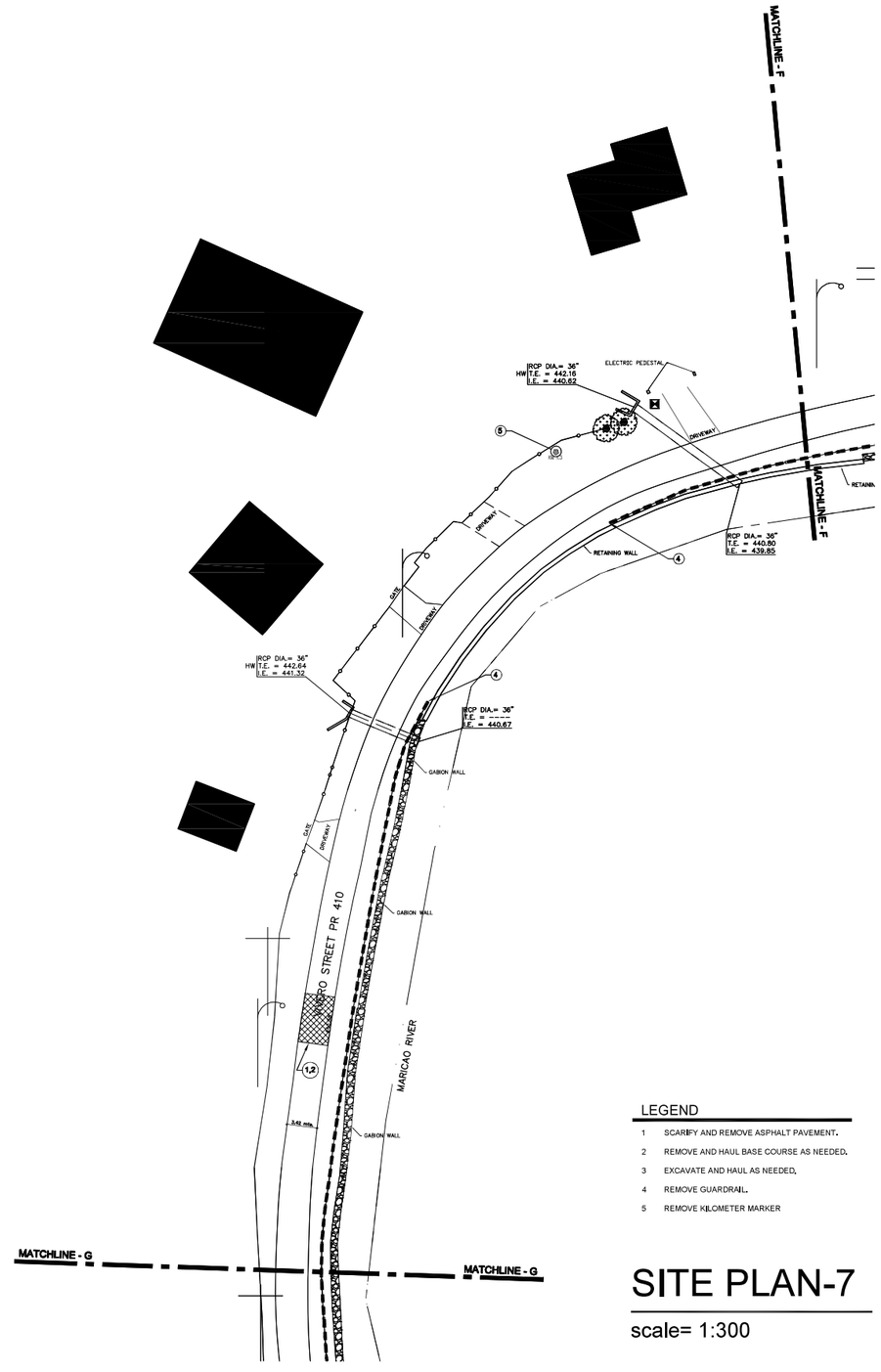
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SHEET TITLE: DEMOLITION SITE PLAN

DRAWING NO.: CD-106

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LEGEND

1. SCARIFY AND REMOVE ASPHALT PAVEMENT.
2. REMOVE AND HAUL BASE COURSE AS NEEDED.
3. EXCAVATE AND HAUL AS NEEDED.
4. REMOVE GUARDRAIL.
5. REMOVE KILOMETER MARKER

# SITE PLAN-7

scale= 1:300

C&G
JMCP +
JLGARCHITECTS
113 DEL PARQUE STREET SUITE 7
SAN JUAN, PR 00911
787.309.3837

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44 PASEO DE LA ALHAMBRA, URB TORRIMAR, GUAYNABO, P.R. 00966
JAMES.BAIGES@GMAIL.COM – (787) 399-0077

90% DESIGN SET
NOT FOR CONSTRUCTION

PROJECT: PR-CRP-000721
**PASEO LA GRUTA-VIVERO DE PECES**
CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

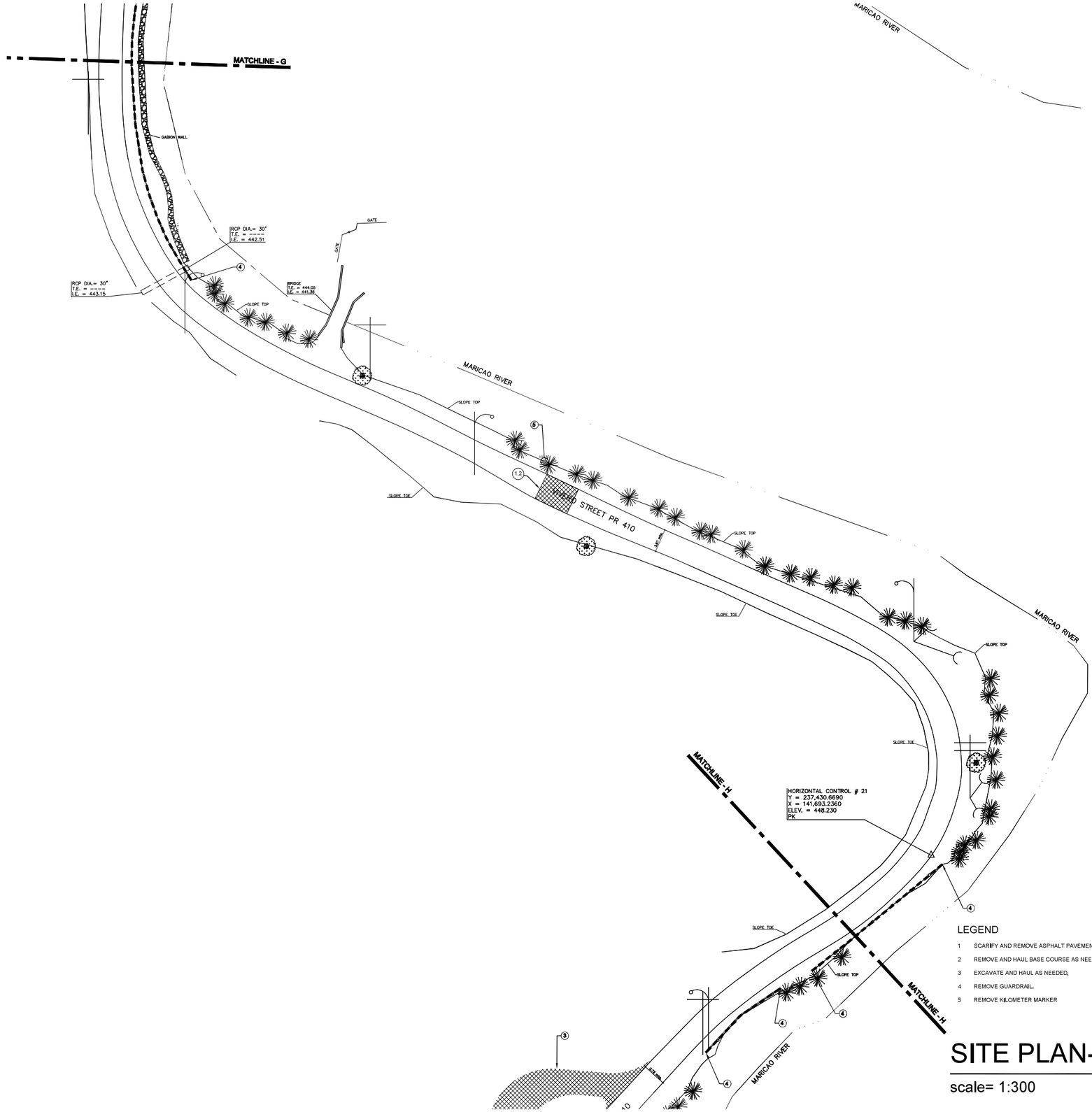
GOBIERNO MUNICIPAL DE MARICAO
PASEO HATCHERY [PR-CRP-000721]

| NO. | DATE | DRAWING ISSUE | BY | APP. |
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DRAWN BY:
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DATE: 05/23

SHEET TITLE: DEMOLITION SITE PLAN
DRAWING NO.: CD-107

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LEGEND

1 SCARIFY AND REMOVE ASPHALT PAVEMENT.
2 REMOVE AND HAUL BASE COURSE AS NEEDED.
3 EXCAVATE AND HAUL AS NEEDED.
4 REMOVE GUARDRAIL.
5 REMOVE KILOMETER MARKER

# SITE PLAN-8

scale= 1:300

C&G
JMCP + JLGARCHITECTS
115 DEL PARQUE STREET SUITE 7
SAN JUAN, PR 00911
787.309.3837

BAIGES GEOTECHNICAL ENGINEERS, LLC
641 PASEO DE LA ALHAMBRA, URB TORRIMAR, GUAYNABO, P.R. 00966
JAIMEBAIGES@GMAIL.COM • (787) 399-0007

90% DESIGN SET
NOT FOR CONSTRUCTION

PROJECT: PR-CRP-000721
**PASEO LA GRUTA-VIVERO DE PECES**
CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

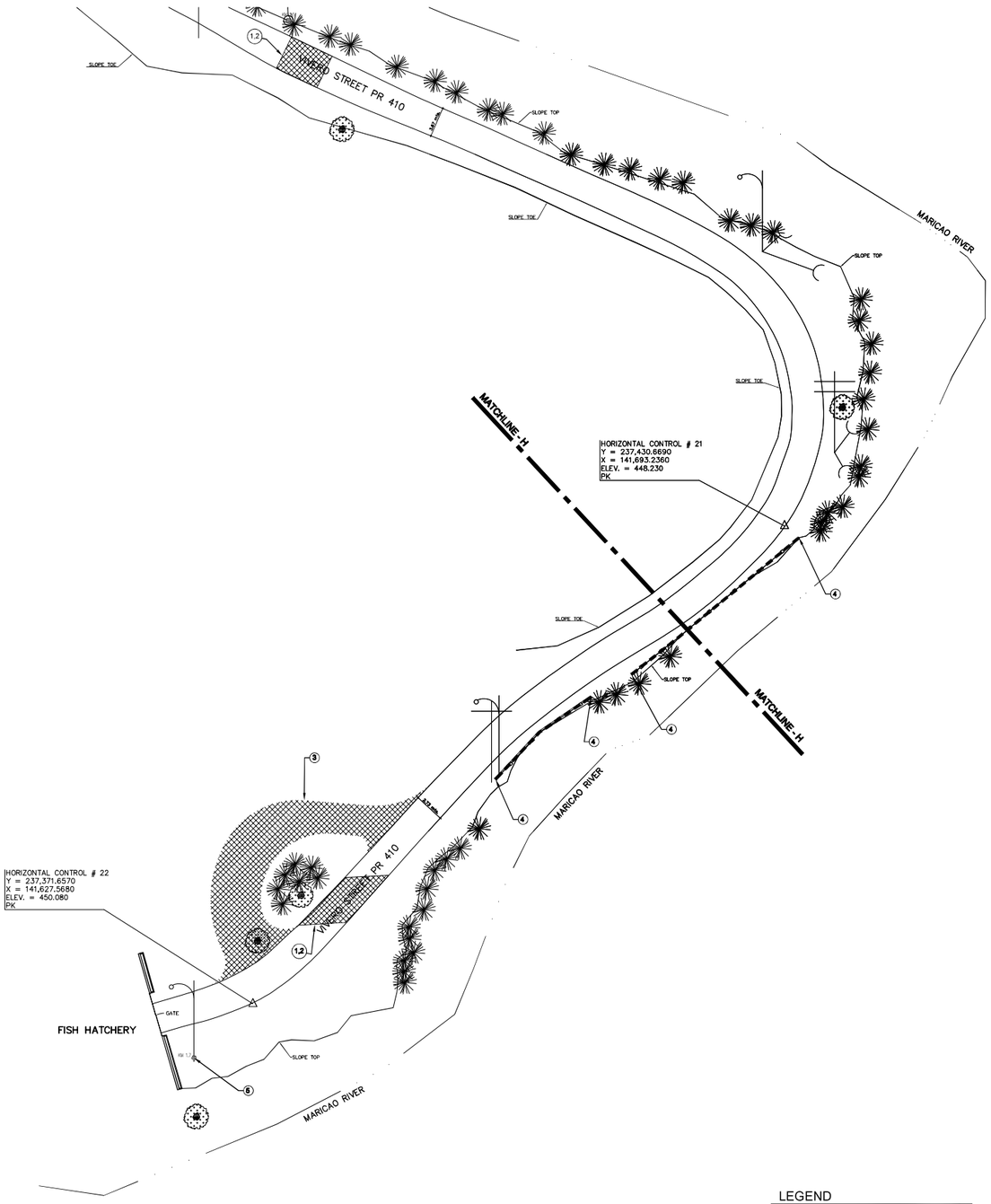
GOBIERNO MUNICIPAL DE MARICAO
PASEO HATCHERY [PR-CRP-000721]

| NO. | DATE | DRAWING ISSUE | BY | APP. |
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DRAWN BY:
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DATE: 05/23

SHEET TITLE: DEMOLITION SITE PLAN
DRAWING NO.: CD-108

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HORIZONTAL CONTROL # 22
Y = 237,371.6570
X = 141,627.5680
ELEV. = 450.080
PK

LEGEND

1 SCARIFY AND REMOVE ASPHALT PAVEMENT.
2 REMOVE AND HAUL BASE COURSE AS NEEDED.
3 EXCAVATE AND HAUL AS NEEDED.
4 REMOVE GUARDRAIL.
5 REMOVE KILOMETER MARKER

# SITE PLAN-9

scale= 1:300

C&G
JMCP + JLGARCHITECTS
113 DEL PARQUE STREET SUITE 7
SAN JUAN, PR 00911
787.309.3837

BAIGES GEOTECHNICAL ENGINEERS, LLC
641 PASEO DE LA ALHAMBRA, URB TORRIMAR, GUAYNABO, P.R. 00966
JAMES@BAIGESGEO.COM • (787) 399-0007

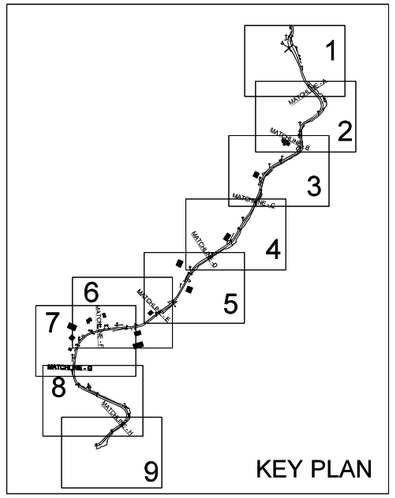
90% DESIGN SET
NOT FOR CONSTRUCTION

PROJECT: PR-CRP-000721
**PASEO LA GRUTA-VIVERO DE PECES**
CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5
GOBIERNO MUNICIPAL DE MARICAO
PASEO HATCHERY [PR-CRP-000721]

| NO. | DATE | DRAWING ISSUE | BY | APP. |
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DRAWN BY:
REVIEWED BY:
DATE: 05/23
SHEET TITLE: DEMOLITION SITE PLAN
DRAWING NO.: CD-109

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## EXISTING CONDITIONS LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

0 5 10 30

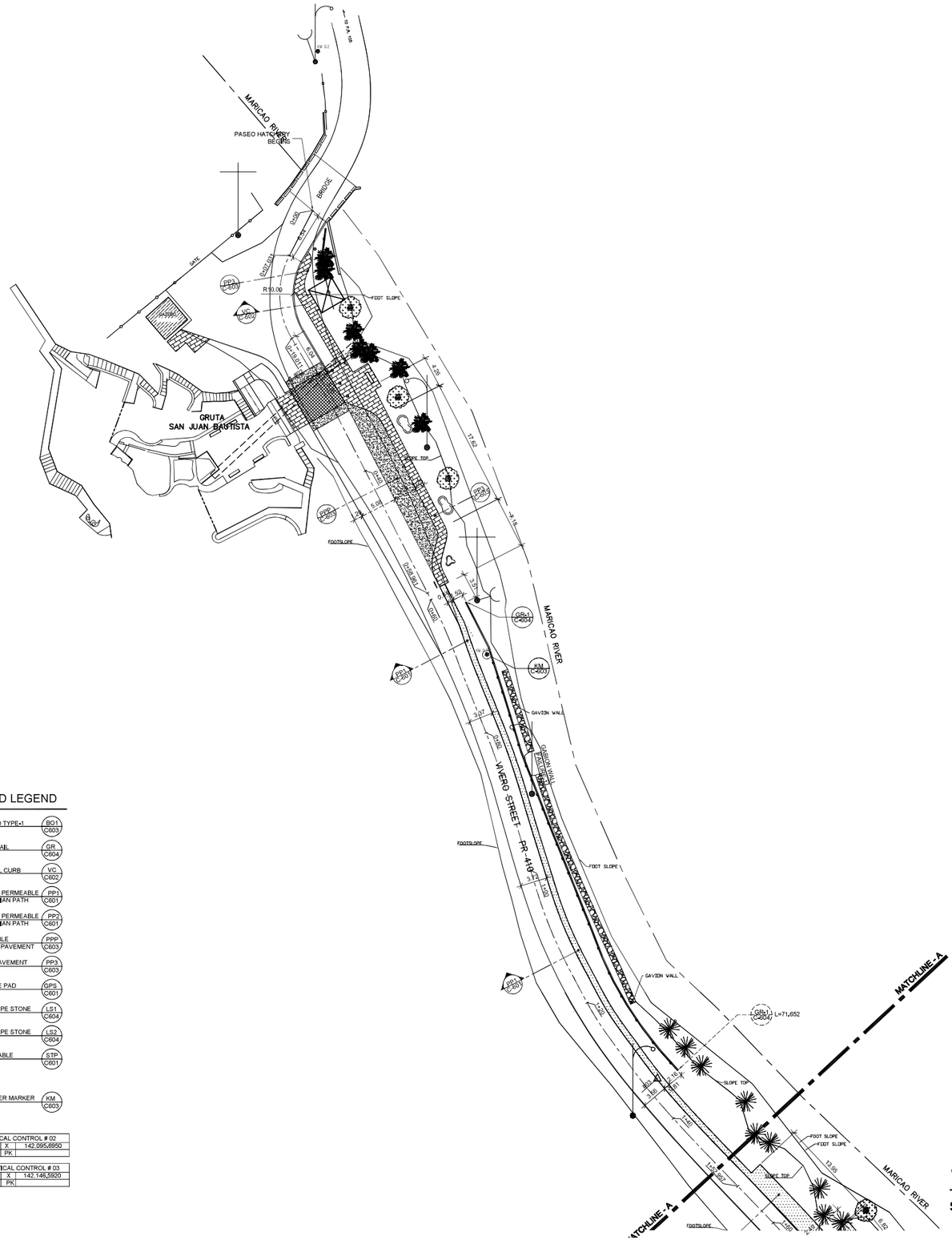
SCALE = 1:300

## PROPOSED LEGEND

| | | |
|---|---|---|
| | BOLLARD TYPE-1 | BO1 C603 |
| | GUARD RAIL | GR C604 |
| | VERTICAL CURB TYPE E | VC C602 |
| | 0,61 (32") PERMEABLE PEDESTRIAN PATH | PP1 C601 |
| | 0,60 (24") PERMEABLE PEDESTRIAN PATH | PP2 C601 |
| | PERMEABLE PARKING PAVEMENT | PPP C603 |
| | PAVER PAVEMENT | PP3 C603 |
| | GARBAGE PAD SCREEN | GPS C601 |
| | LANDSCAPE STONE TYPE 1 | LS1 C604 |
| | LANDSCAPE STONE TYPE 2 | LS2 C604 |
| | SPEED TABLE | STP C601 |
| | KILOMETER MARKER | KM C603 |

| HORIZONTAL VERTICAL CONTROL # 02 | | | |
|---|---|---|---|
| Y | 238,355.4430 | X | 142,095.8950 |
| EL. | 423.510 | PK | |

| HORIZONTAL VERTICAL CONTROL # 03 | | | |
|---|---|---|---|
| Y | 238,258.9140 | X | 142,146.5920 |
| EL. | 425.090 | PK | |




# SITE PLAN-1

scale= 1:300

C&G
JMCP + JLGARCHITECTS
115 DIL PARQUE STREET SUITE 7
SAN JUAN, PR 00911
787.309.3837

BAIGES GEOTECHNICAL ENGINEERS, LLC
44 PASEO DE LA ALHAMBRA, URB TORRIMAR, GUAYNABO, P.R. 00966
JAMES.BAIGES@GMAIL.COM – (787) 399-0017

**90% DESIGN SET**
**NOT FOR CONSTRUCTION**

PROJECT: **PR-CRP-000721**

**PASEO LA GRUTA-VIVERO DE PECES**

CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

GOBIERNO MUNICIPAL DE MARICAO

PASEO HATCHERY [PR-CRP-000721]

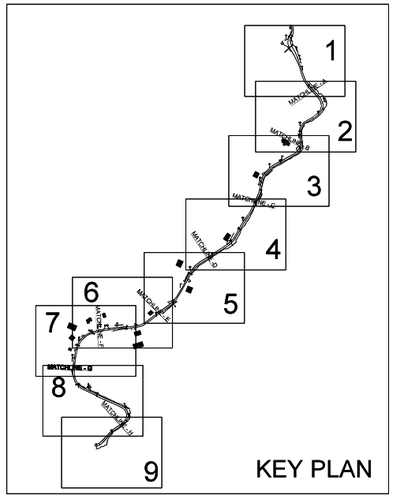
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DRAWN BY:
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SHEET TITLE: LAYOUT SITE PLAN

DRAWING NO.: C-101

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## EXISTING CONDITIONS LEGEND

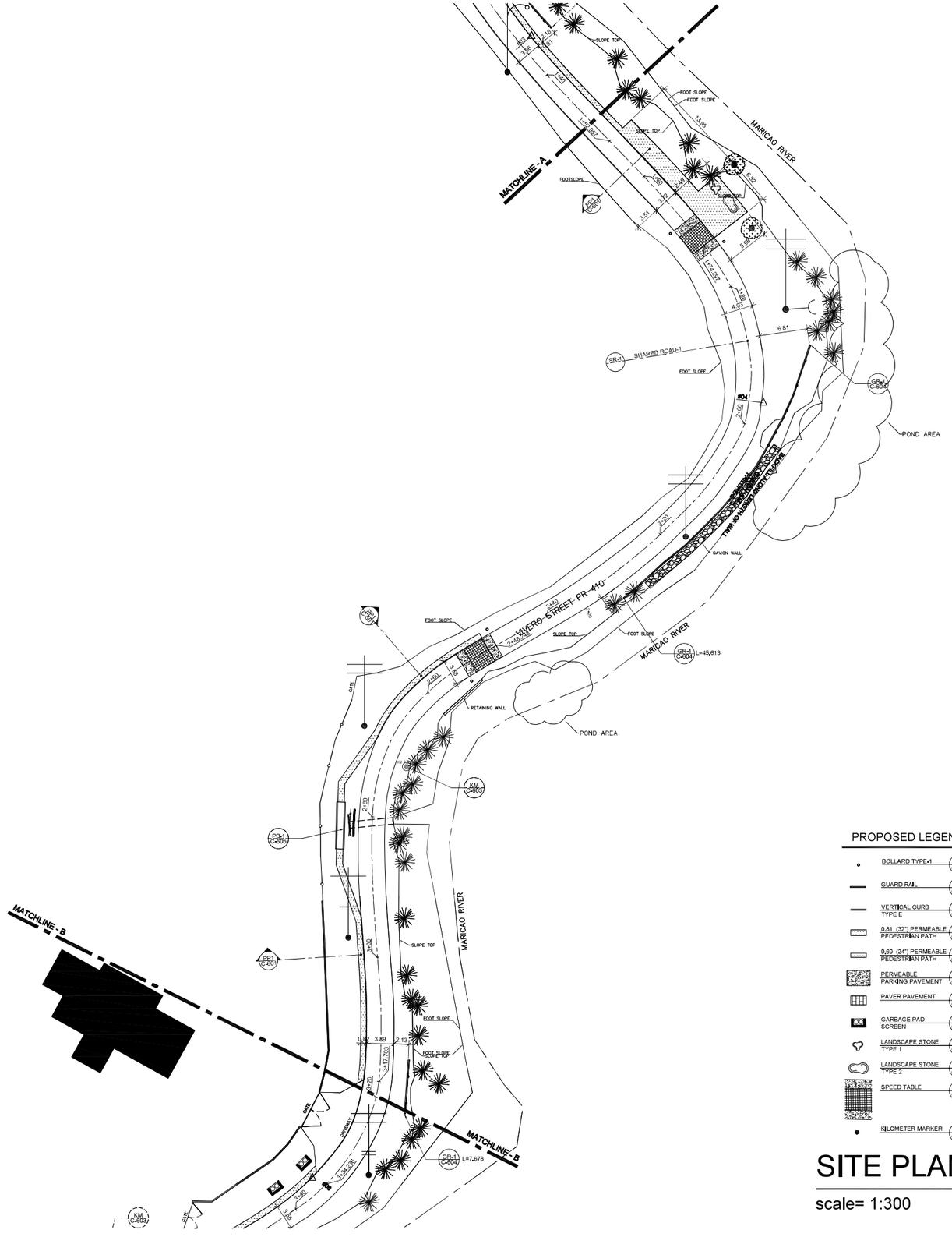
| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

0 5 10 30

SCALE = 1:300

| HORIZONTAL VERTICAL CONTROL # 04 | | | |
|---|---|---|---|
| Y | 238,206.7660 | X | 142,175.5960 |
| EL. | 426.530 | PK | |

| HORIZONTAL VERTICAL CONTROL # 06 | | | |
|---|---|---|---|
| Y | 238,096.5140 | Y | 142115.3990 |
| EL. | 428.450 | PK | |




## PROPOSED LEGEND

| | | |
|---|---|---|
| BOLLARD TYPE-1 | BO1 | C603 |
| GUARD RAIL | GR | C604 |
| VERTICAL CURB TYPE E | VC | C602 |
| 0.81 (32") PERMEABLE PEDESTRIAN PATH | PP1 | C601 |
| 0.60 (24") PERMEABLE PEDESTRIAN PATH | PP2 | C601 |
| PERMEABLE PARKING PAVEMENT | PPP | C603 |
| PAVER PAVEMENT | PP3 | C603 |
| GARBAGE PAD SCREEN | GPD | C601 |
| LANDSCAPE STONE TYPE 1 | LS1 | C604 |
| LANDSCAPE STONE TYPE 2 | LS2 | C604 |
| SPEED TABLE | STP | C601 |
| KILOMETER MARKER | KM | C603 |

# SITE PLAN-2

scale= 1:300

C&G
JMCP + JLGARCHITECTS
115 DIL PARQUE STREET SUITE 7
SAN JUAN, PR 00911
787.309.3837

BAIGES GEOTECHNICAL ENGINEERS, LLC
44 PASEO DE LA ALHAMBRA, URB TORRIMAR, GUAYNABO, P.R. 00966
JAMES.BAIGES@GMAIL.COM – (787) 399-0017

**90% DESIGN SET**
**NOT FOR CONSTRUCTION**

PROJECT: **PR-CRP-000721**

# PASEO LA GRUTA-VIVERO DE PECES

CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

GOBIERNO MUNICIPAL DE MARICAO

PASEO HATCHERY [PR-CRP-000721]

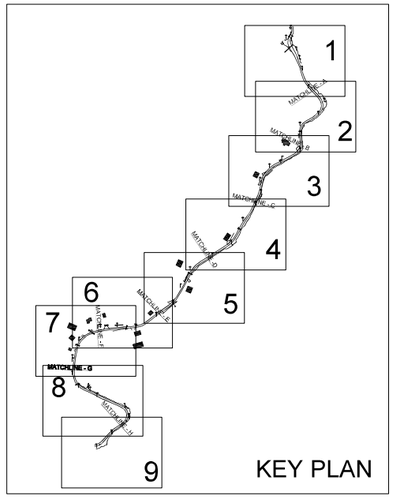
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DATE: 05/23

SHEET TITLE: LAYOUT SITE PLAN

DRAWING NO.: **C-102**

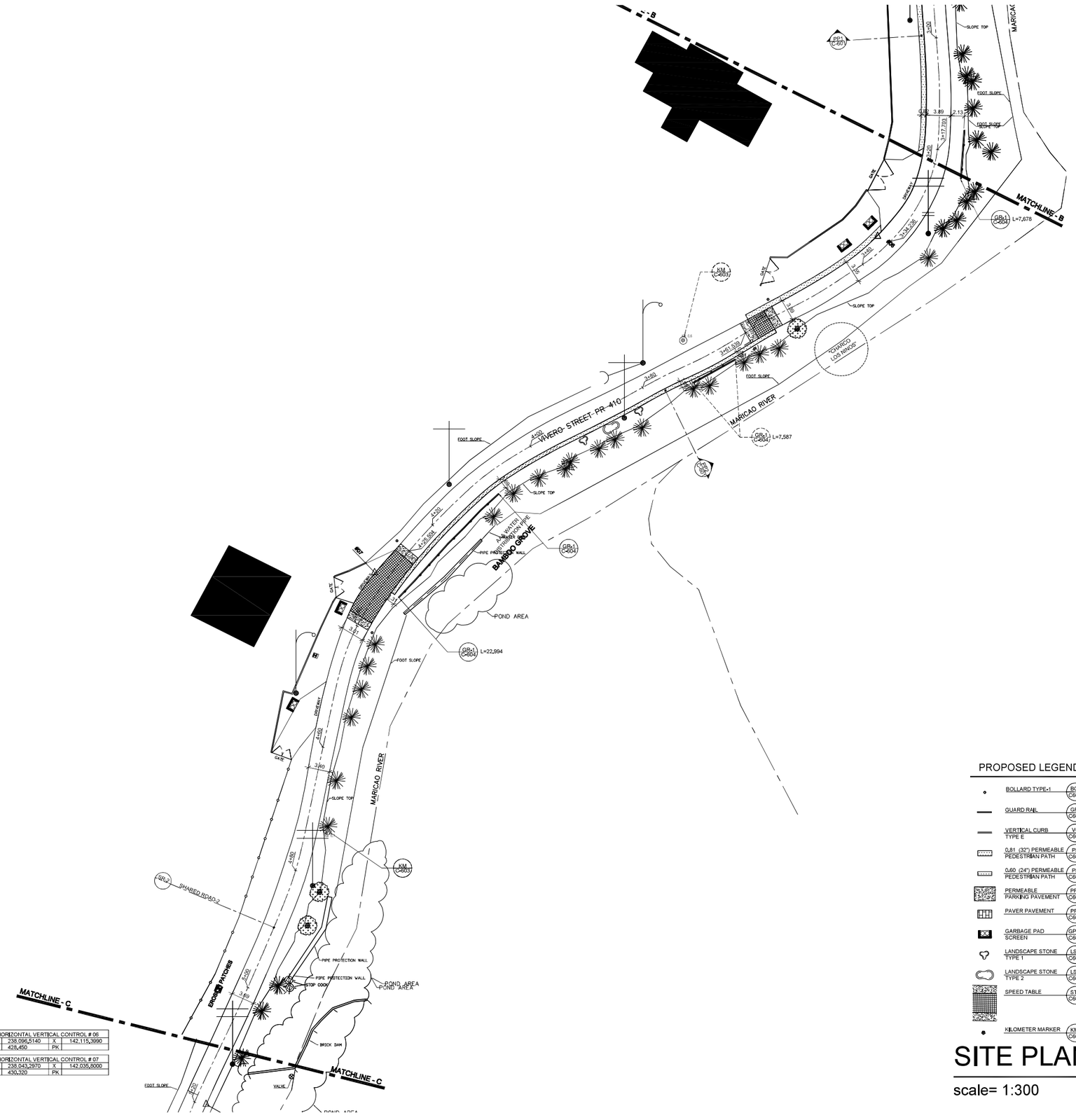
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## EXISTING CONDITIONS LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

0 5 10 30
SCALE = 1:300




| HORIZONTAL VERTICAL CONTROL # 06 | | | |
|---|---|---|---|
| Y | 238,096,5140 | X | 142,115,3990 |
| EL. | 428,450 | PK | |

| HORIZONTAL VERTICAL CONTROL # 07 | | | |
|---|---|---|---|
| Y | 238,043,2970 | X | 142,035,8000 |
| EL. | 430,320 | PK | |

## PROPOSED LEGEND

| | | |
|---|---|---|
| | BOLLARD TYPE-1 | BO1 C603 |
| | GUARD RAIL | GR C604 |
| | VERTICAL CURB TYPE E | VC C602 |
| | 0,81 (32") PERMEABLE PEDESTRIAN PATH | PP1 C601 |
| | 0,60 (24") PERMEABLE PEDESTRIAN PATH | PP2 C601 |
| | PERMEABLE PARKING PAVEMENT | PPP C605 |
| | PAVER PAVEMENT | PP3 C605 |
| | GARBAGE PAD SCREEN | GPS C601 |
| | LANDSCAPE STONE TYPE 1 | LS1 C604 |
| | LANDSCAPE STONE TYPE 2 | LS2 C604 |
| | SPEED TABLE | STP C601 |
| | KILOMETER MARKER | KM C603 |

# SITE PLAN-3

scale= 1:300

C&G
JMCP + JLGARCHITECTS
115 DIE PARQUE STREET SUITE 7
SAN JUAN, PR 00911
787.309.3837

BAIGES GEOTECHNICAL ENGINEERS, LLC
64 PASEO DE LA ALHAMBRA, URB TOPACIO - CAGUAS PUERTO RICO 725
JAMES@BAIGESGEO.COM - (787) 286-0077

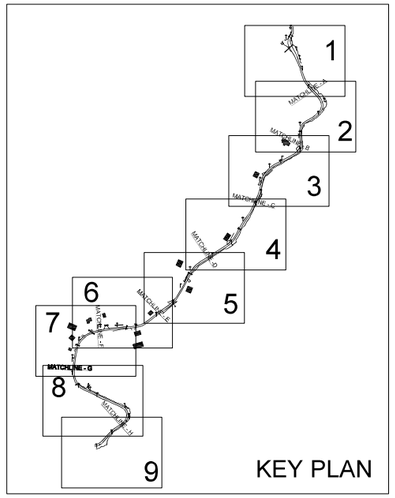
90% DESIGN SET
NOT FOR CONSTRUCTION

PROJECT: PR-CRP-000721
**PASEO LA GRUTA-VIVERO DE PECES**
CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5
GOBIERNO MUNICIPAL DE MARICAO
PASEO HATCHERY [PR-CRP-000721]

| NO. | DATE | DRAWING ISSUE | BY | APP. |
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DATE: 05/23
SHEET TITLE: LAYOUT SITE PLAN
DRAWING NO.: C-103

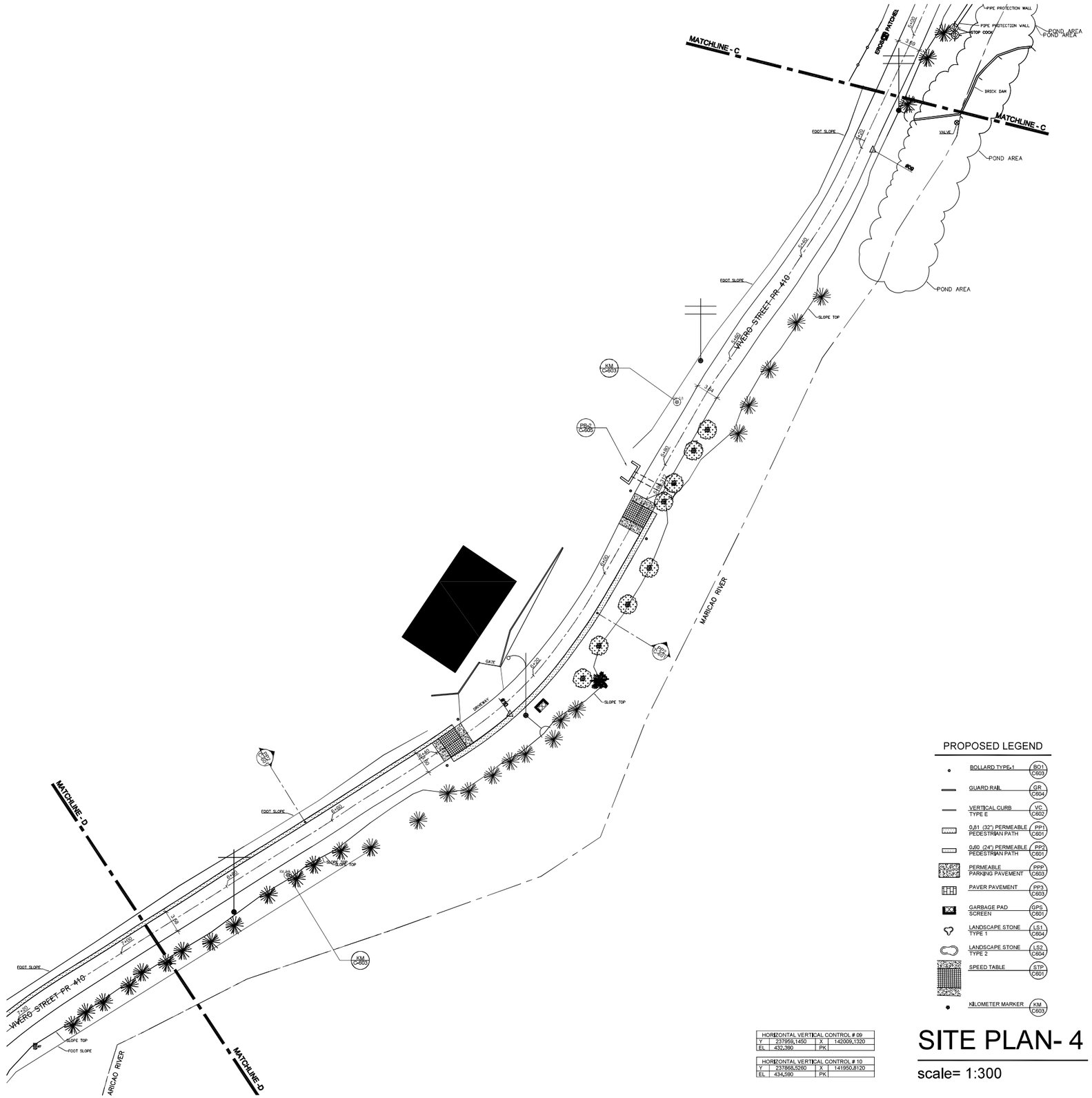
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## EXISTING CONDITIONS LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

0 5 10 30
SCALE = 1:300




| HORIZONTAL VERTICAL CONTROL # 09 | | | |
|---|---|---|---|
| Y | 237959,1450 | X | 142009,1320 |
| EL | 432,390 | PK | |

| HORIZONTAL VERTICAL CONTROL # 10 | | | |
|---|---|---|---|
| Y | 237868,5260 | X | 141950,8120 |
| EL | 434,590 | PK | |

## PROPOSED LEGEND

| | | |
|---|---|---|
| BOLLARD TYPE-1 | BO1 | C603 |
| GUARD RAIL | GR | C604 |
| VERTICAL CURB TYPE E | VC | C602 |
| 0,81 (32") PERMEABLE PEDESTRIAN PATH | PP1 | C601 |
| 0,60 (24") PERMEABLE PEDESTRIAN PATH | PP2 | C601 |
| PERMEABLE PARKING PAVEMENT | PPP | C603 |
| PAVER PAVEMENT | PP3 | C603 |
| GARBAGE PAD SCREEN | GPS | C601 |
| LANDSCAPE STONE TYPE 1 | LS1 | C604 |
| LANDSCAPE STONE TYPE 2 | LS2 | C604 |
| SPEED TABLE | STP | C601 |
| KILOMETER MARKER | KM | C603 |

# SITE PLAN- 4

scale= 1:300

C&G
JMCP + JLGARCHITECTS
113 DIL PARQUE STREET SUITE 7
SAN JUAN, PR 00911
787.309.3837

BAIGES GEOTECHNICAL ENGINEERS, LLC
641 PASEO DE LA ALHAMBRA, URB TORRIMAR, GUAYNABO, P.R. 00969
JAMES@BAIGESGMAIL.COM • (787) 399-0017

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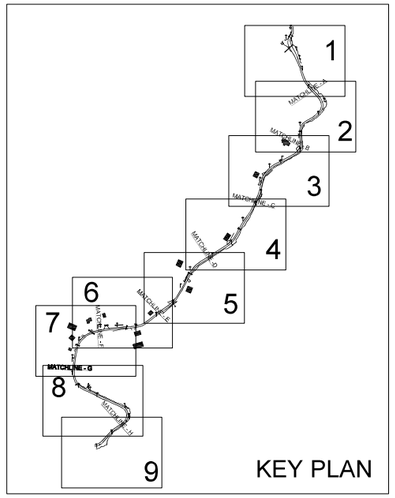
PROJECT: PR-CRP-000721
# PASEO LA GRUTA-VIVERO DE PECES
CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

GOBIERNO MUNICIPAL DE MARICAO
PASEO HATCHERY [PR-CRP-000721]

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SHEET TITLE: LAYOUT SITE PLAN
DRAWING NO.: C-104

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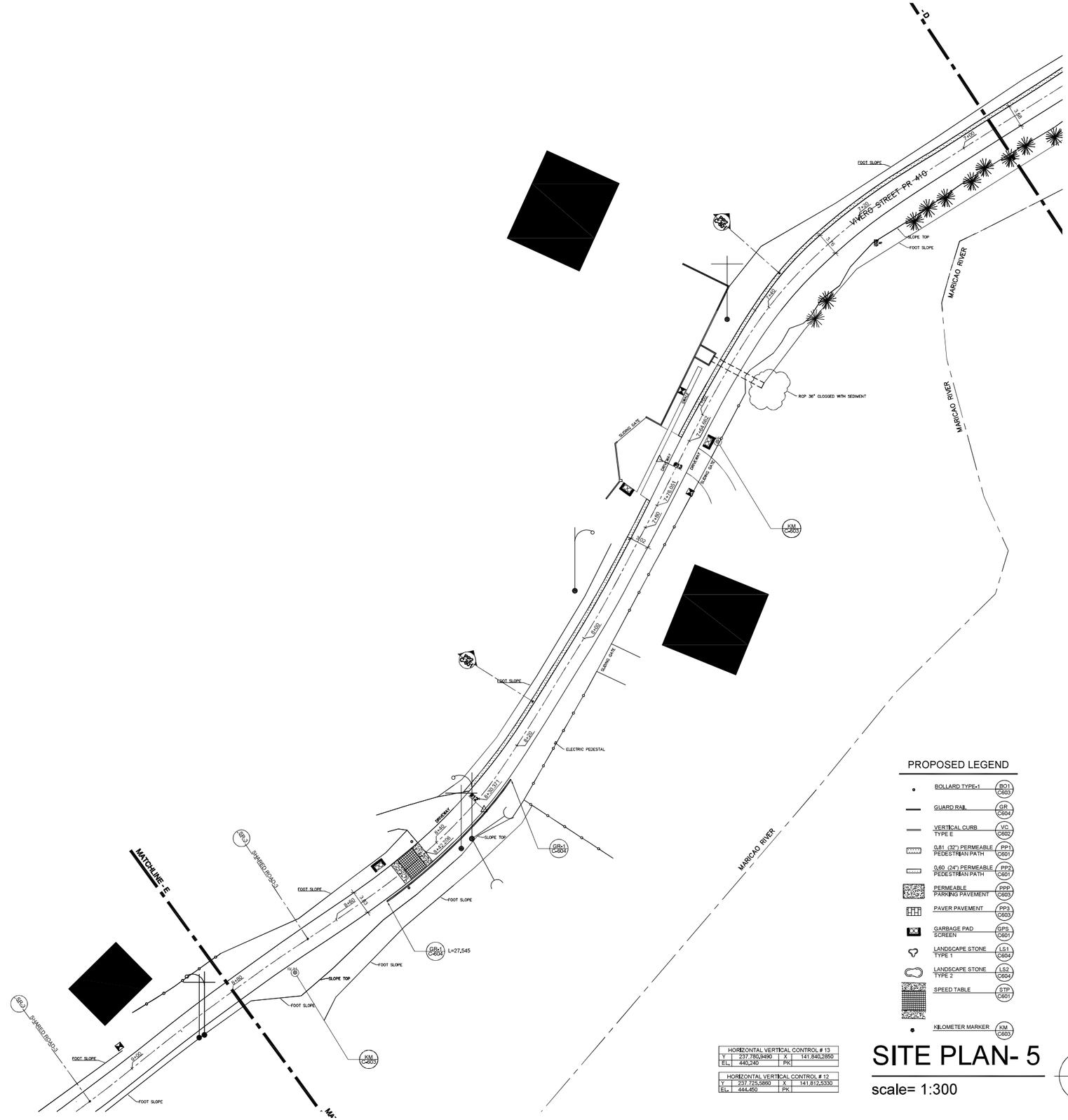



## EXISTING CONDITIONS LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

0 5 10 30

SCALE = 1:300




## PROPOSED LEGEND

| | | |
|---|---|---|
| BOLLARD TYPE-1 | BO1 | C603 |
| GUARD RAIL | GR | C604 |
| VERTICAL CURB TYPE E | VC | C602 |
| 0,81 (32") PERMEABLE PEDESTRIAN PATH | PP1 | C601 |
| 0,60 (24") PERMEABLE PEDESTRIAN PATH | PP2 | C601 |
| PERMEABLE PARKING PAVEMENT | PPP | C603 |
| PAVER PAVEMENT | PP3 | C603 |
| GARBAGE PAD SCREEN | GPS | C601 |
| LANDSCAPE STONE TYPE 1 | LS1 | C604 |
| LANDSCAPE STONE TYPE 2 | LS2 | C604 |
| SPEED TABLE | STP | C601 |
| KILOMETER MARKER | KM | C603 |

# SITE PLAN- 5

scale= 1:300

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JMCP + JLGARCHITECTS
115 DEL PARQUE STREET SUITE 7
SAN JUAN, PR 00911
787.309.3837

BAIGES GEOTECHNICAL ENGINEERS, LLC
64 PASEO DE LA ALHAMBRA, URB TORRIMAR, GUAYNABO, P.R. 00969
JAMES@BAIGESMAIL.COM • (787) 399-0077

90% DESIGN SET
NOT FOR CONSTRUCTION

PROJECT: PR-CRP-000721

# PASEO LA GRUTA-VIVERO DE PECES

CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

GOBIERNO MUNICIPAL DE MARICAO

PASEO HATCHERY [PR-CRP-000721]

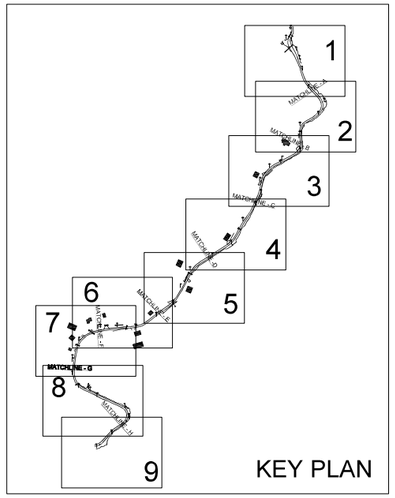
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DATE: 05/23

SHEET TITLE: LAYOUT SITE PLAN

DRAWING NO.: C-105

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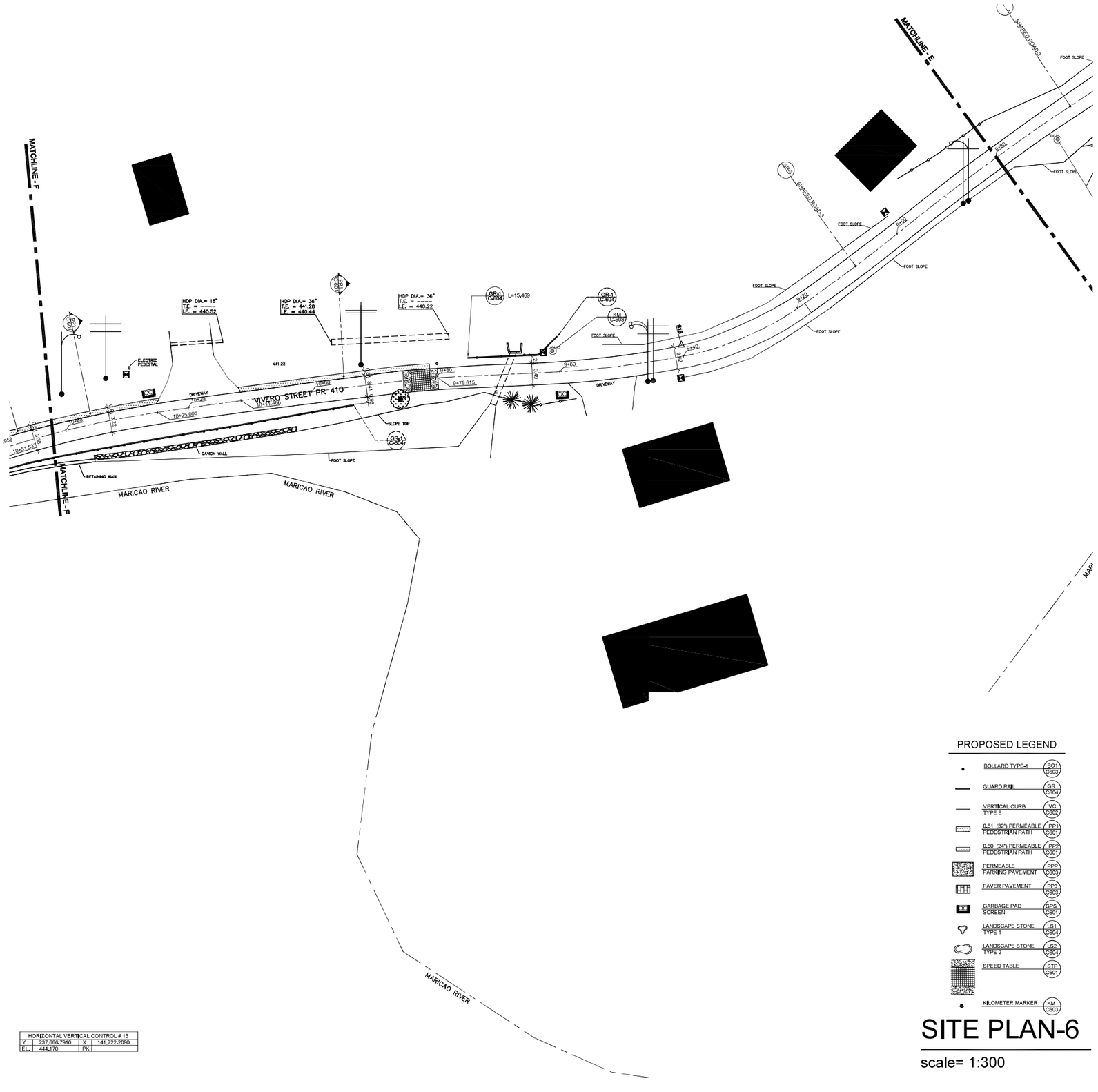



## EXISTING CONDITIONS LEGEND

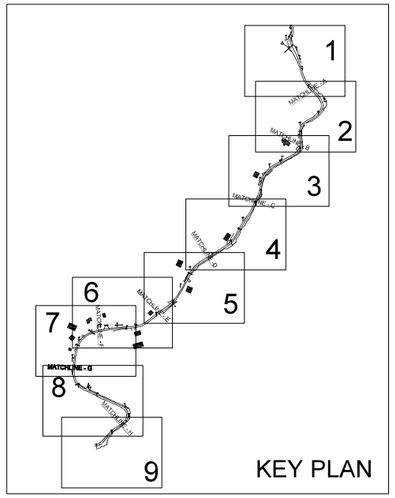
| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

0 5 10 30
SCALE = 1:300

| HORIZONTAL VERTICAL CONTROL # 15 | | | |
|---|---|---|---|
| Y | 237,666.7910 | X | 141,722.2080 |
| EL. | 444.170 | PK | |



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## EXISTING CONDITIONS LEGEND

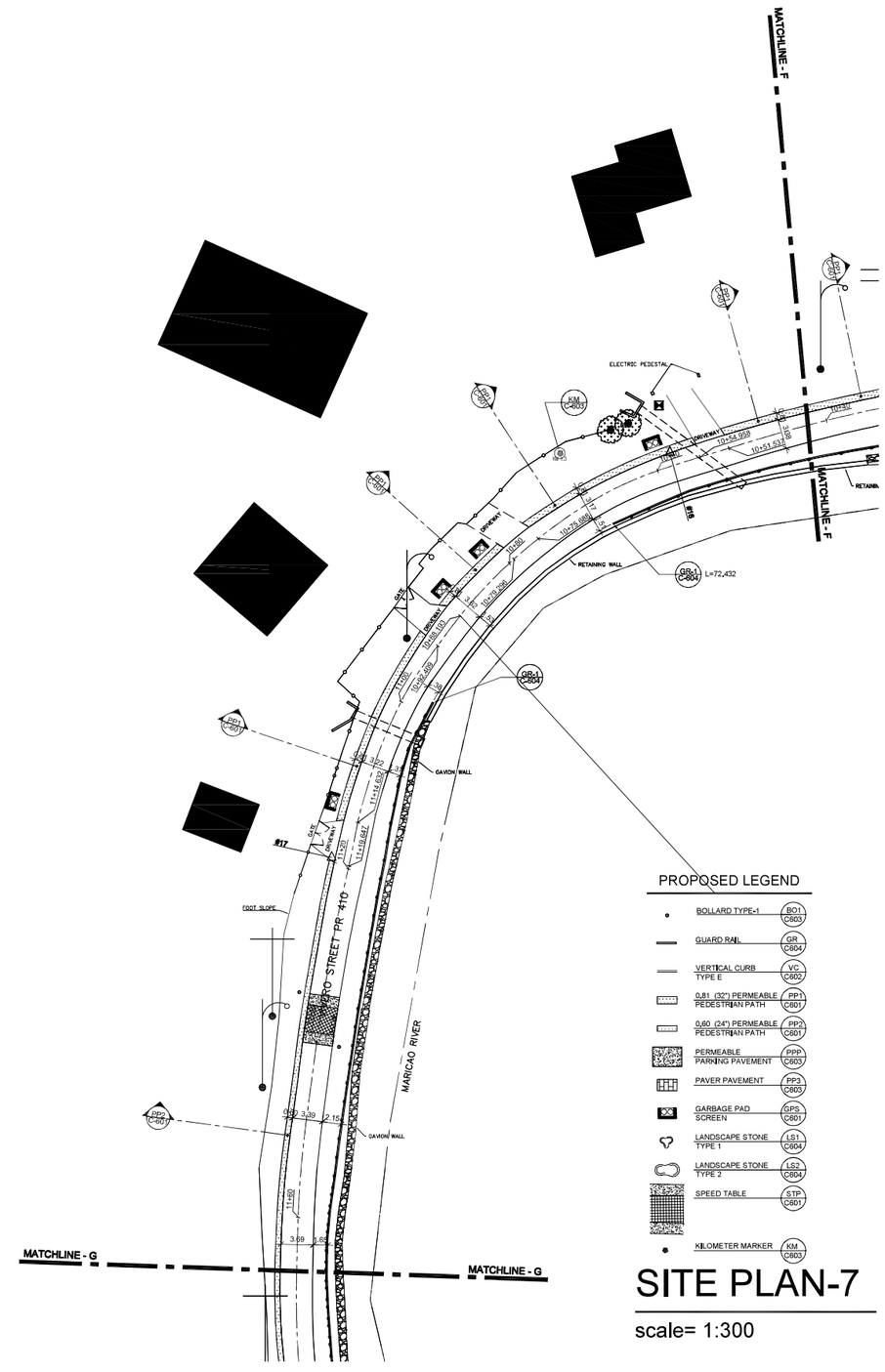
| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

0 5 10 30

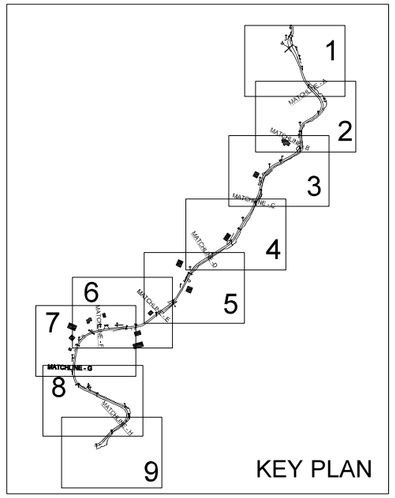
SCALE = 1:300

| HORIZONTAL VERTICAL CONTROL # 16 | | | |
|---|---|---|---|
| Y | 237,649.4570 | X | 141,605.5650 |
| EL. | 442.240 | PK | |

| HORIZONTAL VERTICAL CONTROL # 17 | | | |
|---|---|---|---|
| Y | 237,603.4640 | X | 141,587.1870 |
| EL. | 443.040 | PK | |



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## EXISTING CONDITIONS LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

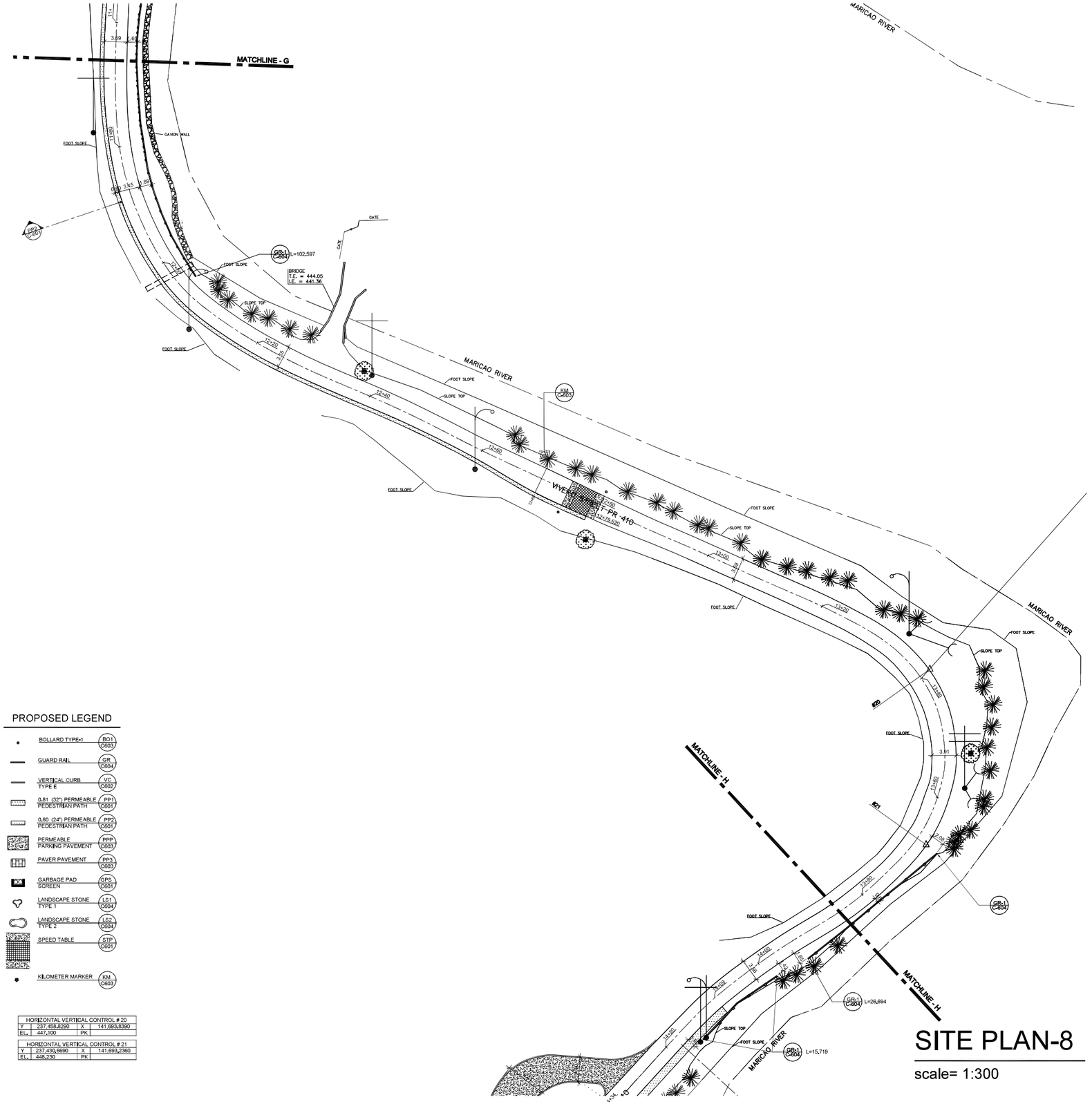
0 5 10 30
SCALE = 1:300

## PROPOSED LEGEND

| | | |
|---|---|---|
| | BOLLARD TYPE-1 | BO1 C603 |
| | GUARD RAIL | GR C604 |
| | VERTICAL CURB TYPE E | VC C602 |
| | 0.81 (32") PERMEABLE PEDESTRIAN PATH | PP1 C601 |
| | 0.60 (24") PERMEABLE PEDESTRIAN PATH | PP2 C601 |
| | PERMEABLE PARKING PAVEMENT | PPP C603 |
| | PAVER PAVEMENT | PP3 C603 |
| | GARBAGE PAD SCREEN | GPS C601 |
| | LANDSCAPE STONE TYPE 1 | LS1 C604 |
| | LANDSCAPE STONE TYPE 2 | LS2 C604 |
| | SPEED TABLE | STP C601 |
| | KILOMETER MARKER | KM C603 |

| HORIZONTAL VERTICAL CONTROL # 20 | | | |
|---|---|---|---|
| Y | 237,458,8250 | X | 141.683,8390 |
| EL. | 447,100 | PK | |

| HORIZONTAL VERTICAL CONTROL # 21 | | | |
|---|---|---|---|
| Y | 237,430,6690 | X | 141.693,2360 |
| EL. | 448,230 | PK | |




# SITE PLAN-8

scale= 1:300

C&G
JMCP + JLGARCHITECTS
113 DEL PARQUE STREET SUITE 7
SAN JUAN, PR 00911
787.309.1837

BAIGES GEOTECHNICAL ENGINEERS, LLC
641 PASEO DE LA ALHAMBRA, URB TORRIMAR, GUAYNABO, P.R. 00966
JAMES@BAIGESMAIL.COM • (787) 399-0017

90% DESIGN SET
NOT FOR CONSTRUCTION

PROJECT: PR-CRP-000721
# PASEO LA GRUTA-VIVERO DE PECES
CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

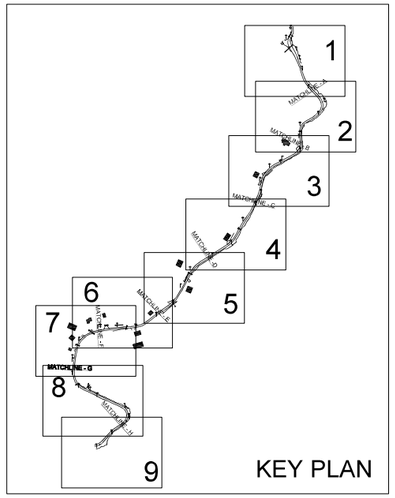
GOBIERNO MUNICIPAL DE MARICAO
PASEO HATCHERY [PR-CRP-000721]

| NO. | DATE | DRAWING ISSUE | BY | APP. |
|---|---|---|---|---|
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DRAWN BY:
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DATE: 05/23

SHEET TITLE: LAYOUT SITE PLAN
DRAWING NO.: C-108

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## EXISTING CONDITIONS LEGEND

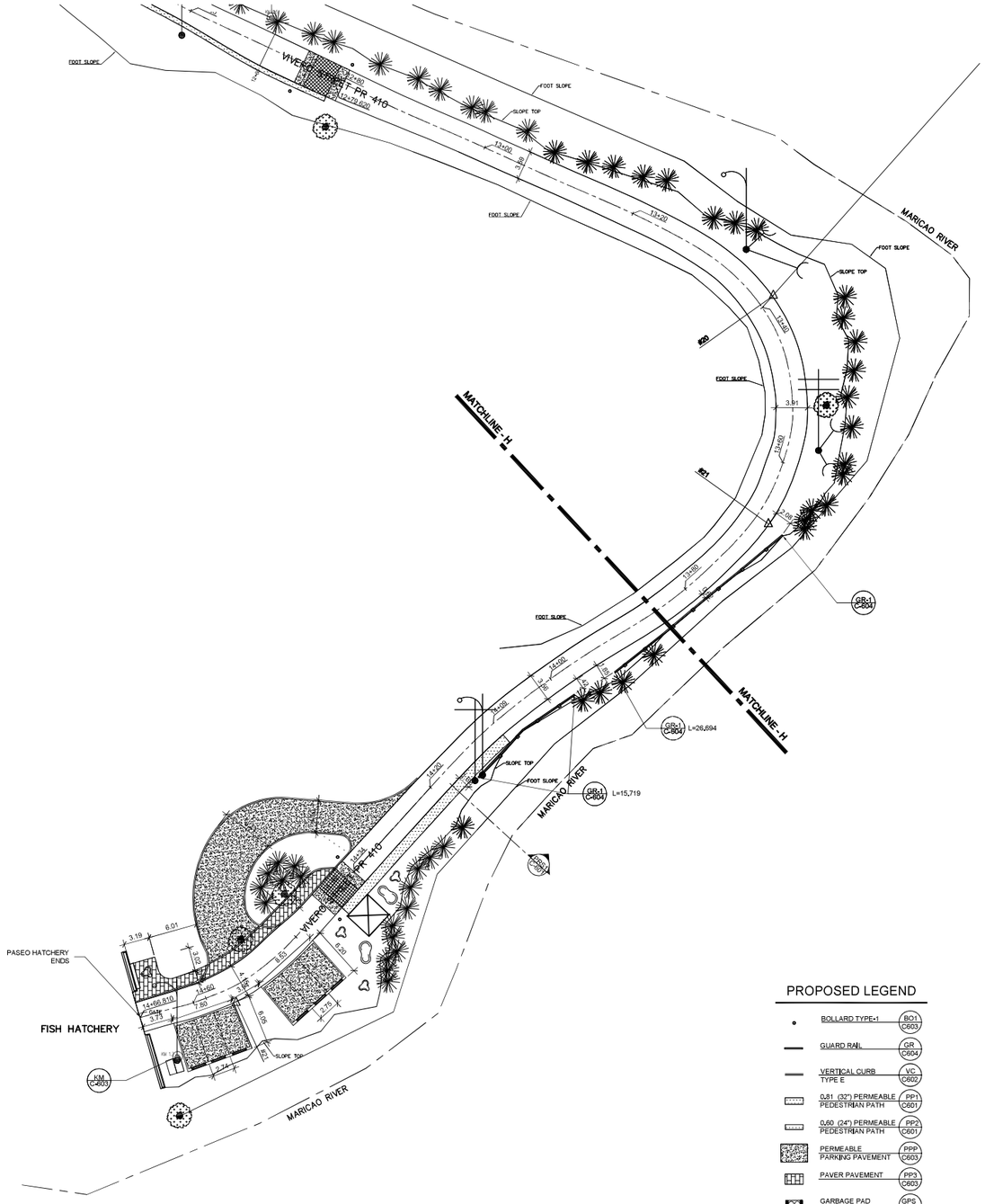
| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

0 5 10 30
SCALE = 1:300

| HORIZONTAL VERTICAL CONTROL # 20 | | | |
|---|---|---|---|
| Y | 237,458.8290 | X | 141,693.8390 |
| EL. | 447.100 | PK | |

| HORIZONTAL VERTICAL CONTROL # 21 | | | |
|---|---|---|---|
| Y | 237,430.6690 | X | 141,693.2380 |
| EL. | 448.230 | PK | |

| HORIZONTAL VERTICAL CONTROL # 22 | | | |
|---|---|---|---|
| Y | 237,371.6570 | X | 141,627.5680 |
| EL. | 450.080 | PK | |




## PROPOSED LEGEND

| | | |
|---|---|---|
| | BOLLARD TYPE-1 | BO1 C603 |
| | GUARD RAIL | GR C604 |
| | VERTICAL CURB TYPE E | VC C602 |
| | 0,81 (32") PERMEABLE PEDESTRIAN PATH | PP1 C601 |
| | 0,60 (24") PERMEABLE PEDESTRIAN PATH | PP2 C601 |
| | PERMEABLE PARKING PAVEMENT | PPP C603 |
| | PAVER PAVEMENT | PP3 C603 |
| | GARBAGE PAD SCREEN | GPS C601 |
| | LANDSCAPE STONE TYPE 1 | LS1 C604 |
| | LANDSCAPE STONE TYPE 2 | LS2 C604 |
| | SPEED TABLE | STP C601 |
| | KILOMETER MARKER | KM C603 |

# SITE PLAN-9

scale= 1:300

C&G
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113 DIL PARQUE STREET SUITE 7
SAN JUAN, PR 00911
787.309.3837

BAIGES GEOTECHNICAL ENGINEERS, LLC
64 PASEO DE LA ALHAMBRA, URB TORRIMAR, GUAYNABO, P.R. 00969
JAMES@BAIGESMUL.COM • (787) 399-0017

90% DESIGN SET
NOT FOR CONSTRUCTION

PROJECT: **PR-CRP-000721**

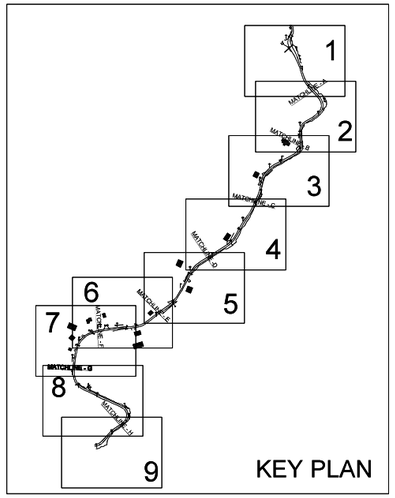
**PASEO LA GRUTA-VIVERO DE PECES**
CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

GOBIERNO MUNICIPAL DE MARICAO
PASEO HATCHERY [PR-CRP-000721]

| NO. | DATE | DRAWING ISSUE | BY | APP. |
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DATE: 05/23
SHEET TITLE: LAYOUT SITE PLAN
DRAWING NO.: C-109

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KEY PLAN

## EXISTING CONDITIONS LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

0 5 10 30

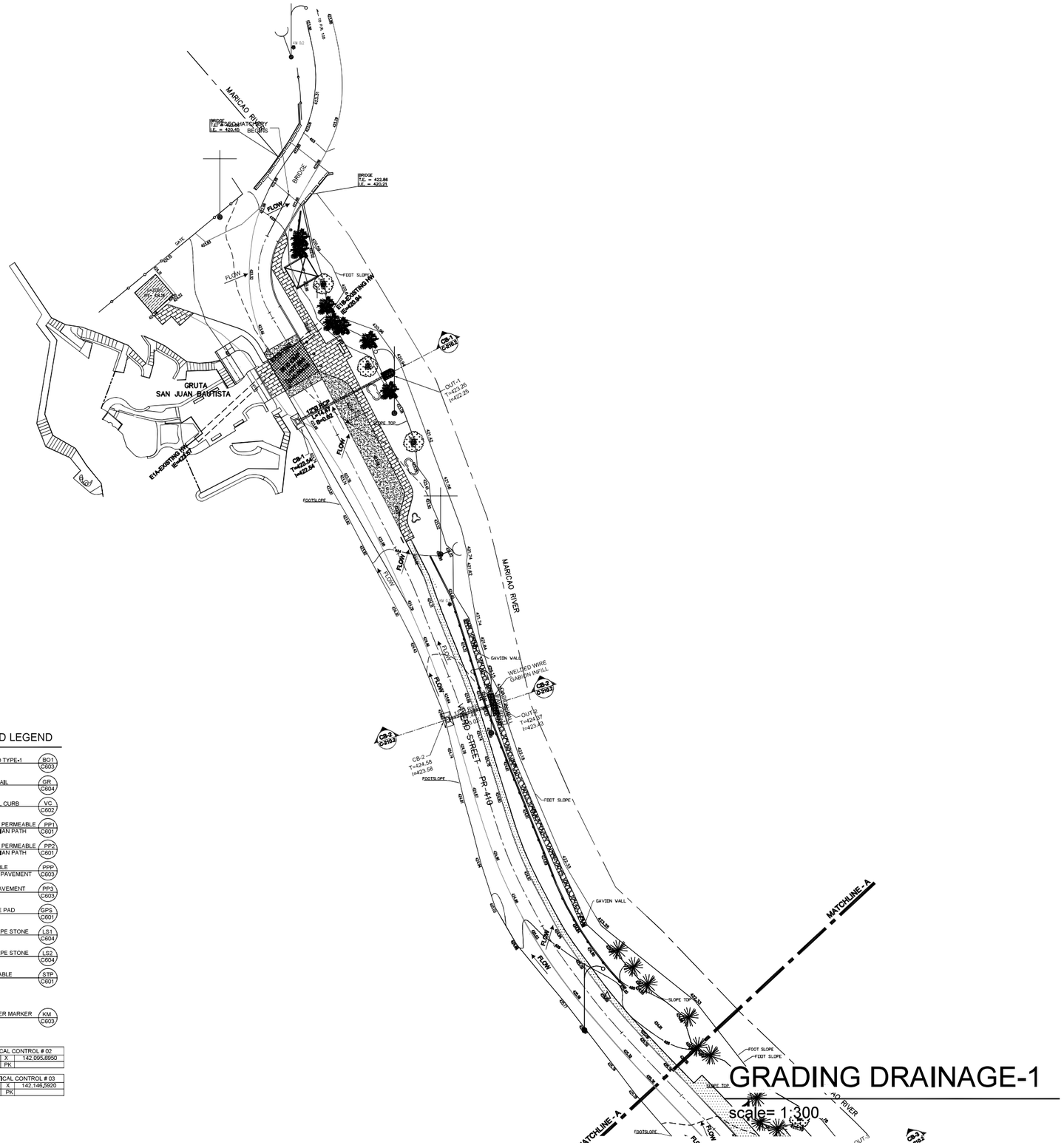
SCALE = 1:300

## PROPOSED LEGEND

| | | |
|---|---|---|
| | BOLLARD TYPE-1 | BO1 C603 |
| | GUARD RAIL | GR C604 |
| | VERTICAL CURB TYPE E | VC C602 |
| | 0.81 (32") PERMEABLE PEDESTRIAN PATH | PP1 C601 |
| | 0.60 (24") PERMEABLE PEDESTRIAN PATH | PP2 C601 |
| | PERMEABLE PARKING PAVEMENT | PPP C603 |
| | PAVER PAVEMENT | PP3 C603 |
| | GARBAGE PAD SCREEN | GPS C601 |
| | LANDSCAPE STONE TYPE 1 | LS1 C604 |
| | LANDSCAPE STONE TYPE 2 | LS2 C604 |
| | SPEED TABLE | STP C601 |
| | KILOMETER MARKER | KM C603 |

| HORIZONTAL VERTICAL CONTROL # 02 | | | |
|---|---|---|---|
| Y | 238,355.4430 | X | 142,095.6950 |
| EL. | 423.510 | PK | |

| HORIZONTAL VERTICAL CONTROL # 03 | | | |
|---|---|---|---|
| Y | 238,258.9140 | X | 142,146.5920 |
| EL. | 425.090 | PK | |




# GRADING DRAINAGE-1

scale= 1:300

C&G
JMCP + JLGARCHITECTS
113 DIL PARQUE STREET SUITE 7
SAN JUAN, PR 00911
787.309.3837

BAIGES GEOTECHNICAL ENGINEERS, LLC
44 PASEO DE LA ALHAMBRA, URB TORRIMAR, GUAYNABO, P.R. 00966
JAMES.BAIGES@GMAIL.COM – (787) 399-0017

90% DESIGN SET
NOT FOR CONSTRUCTION

PROJECT: PR-CRP-000721

**PASEO LA GRUTA-VIVERO DE PECES**

CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

GOBIERNO MUNICIPAL DE MARICAO

PASEO HATCHERY [PR-CRP-000721]

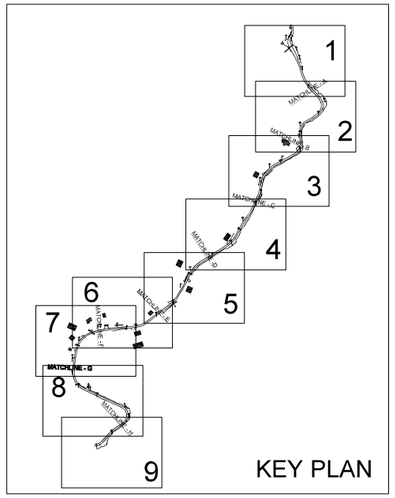
| NO. | DATE | DRAWING ISSUE | BY | APP. |
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DATE: 05/23

SHEET TITLE: GRADING DRAINAGE PLAN

DRAWING NO.: C-201

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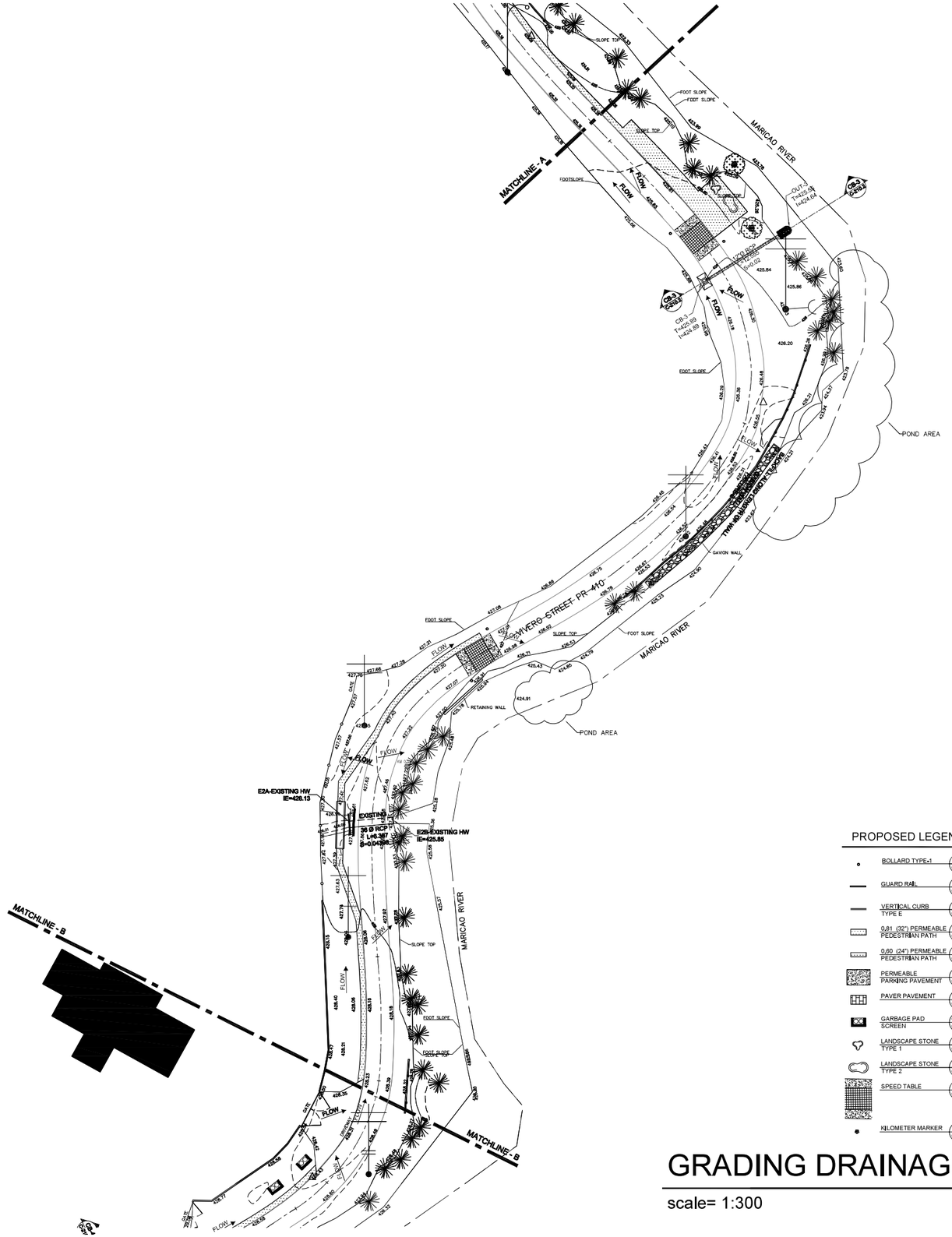



## EXISTING CONDITIONS LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

0 5 10 30

SCALE = 1:300




| HORIZONTAL VERTICAL CONTROL # 04 | | | |
|---|---|---|---|
| Y | 238,206.7660 | X | 142,179.5560 |
| EL. | 426.530 | PK | |

| HORIZONTAL VERTICAL CONTROL # 06 | | | |
|---|---|---|---|
| Y | 238,096.5140 | Y | 142115.3990 |
| EL. | 428.450 | PK | |

## PROPOSED LEGEND

| | | |
|---|---|---|
| BOLLARD TYPE-1 | BO1 | C605 |
| GUARD RAIL | GR | C604 |
| VERTICAL CURB TYPE E | VC | C602 |
| 0.81 (32") PERMEABLE PEDESTRIAN PATH | PP1 | C601 |
| 0.60 (24") PERMEABLE PEDESTRIAN PATH | PP2 | C601 |
| PERMEABLE PARKING PAVEMENT | PPP | C603 |
| PAVER PAVEMENT | PP3 | C603 |
| GARBAGE PAD SCREEN | GPS | C601 |
| LANDSCAPE STONE TYPE 1 | LS1 | C604 |
| LANDSCAPE STONE TYPE 2 | LS2 | C604 |
| SPEED TABLE | STP | C601 |
| KILOMETER MARKER | KM | C603 |

# GRADING DRAINAGE-2

scale= 1:300

C&G
JMCP + JLGARCHITECTS
113 DEL PARQUE STREET SUITE 7
SAN JUAN, PR 00911
787.309.3837

BAIGES GEOTECHNICAL ENGINEERS, LLC
64 PASEO DE LA ALHAMBRA, URB TOWN & MR. CIDRA PARCO, P.R. 00739
JAMES@BAIGESPR.COM • (787) 399-0077

90% DESIGN SET
NOT FOR CONSTRUCTION

PROJECT: PR-CRP-000721

**PASEO LA GRUTA-VIVERO DE PECES**

CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

GOBIERNO MUNICIPAL DE MARICAO

PASEO HATCHERY [PR-CRP-000721]

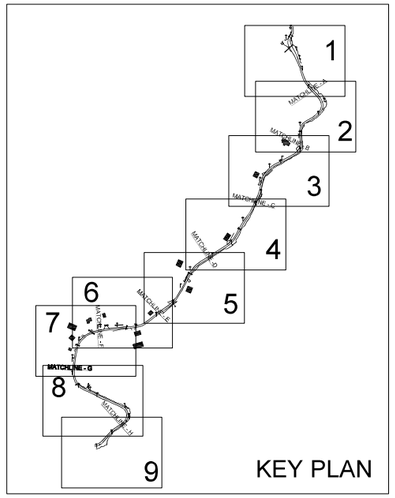
| NO. | DATE | DRAWING ISSUE | BY | APP. |
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SHEET TITLE: GRADING DRAINAGE PLAN

DRAWING NO.: C-202

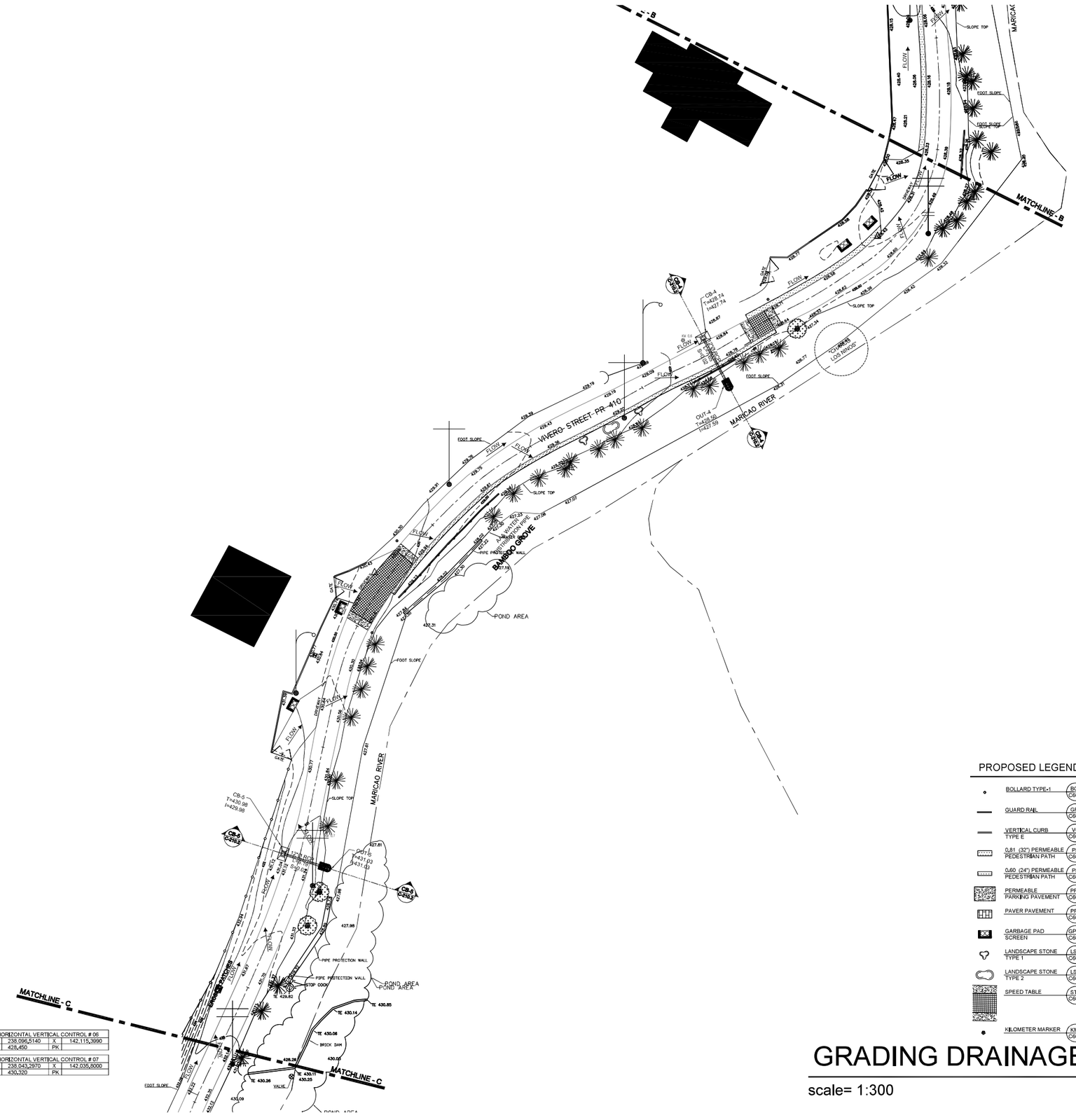
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## EXISTING CONDITIONS LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

0 5 10 30
SCALE = 1:300




| HORIZONTAL VERTICAL CONTROL # 06 | | | |
|---|---|---|---|
| Y | 238,096.5140 | X | 142,115.3990 |
| EL. | 428.450 | PK | |

| HORIZONTAL VERTICAL CONTROL # 07 | | | |
|---|---|---|---|
| Y | 238,043.2970 | X | 142,035.8000 |
| EL. | 430.320 | PK | |

## PROPOSED LEGEND

| | | |
|---|---|---|
| | BOLLARD TYPE-1 | BO1 C603 |
| | GUARD RAIL | GR C604 |
| | VERTICAL CURB TYPE E | VC C602 |
| | 0,81 (32") PERMEABLE PEDESTRIAN PATH | PP1 C601 |
| | 0,60 (24") PERMEABLE PEDESTRIAN PATH | PP2 C601 |
| | PERMEABLE PARKING PAVEMENT | PPP C605 |
| | PAVER PAVEMENT | PP3 C603 |
| | GARBAGE PAD SCREEN | GPS C601 |
| | LANDSCAPE STONE TYPE 1 | LS1 C604 |
| | LANDSCAPE STONE TYPE 2 | LS2 C604 |
| | SPEED TABLE | STP C601 |
| | KILOMETER MARKER | KM C603 |

# GRADING DRAINAGE-3

scale= 1:300

C&G
JMCP + JLGARCHITECTS
115 DIE PARQUE STREET SUITE 7
SAN JUAN, PR 00911
787.309.3837

BAIGES GEOTECHNICAL ENGINEERS, LLC
64 PASEO DE LA ALHAMBRA, URB TOPACIO - CAGUAS PUERTO RICO
JAMES@BAIGESGEO.COM - (787) 399-0077

90% DESIGN SET
NOT FOR CONSTRUCTION

PROJECT: PR-CRP-000721
**PASEO LA GRUTA-VIVERO DE PECES**
CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

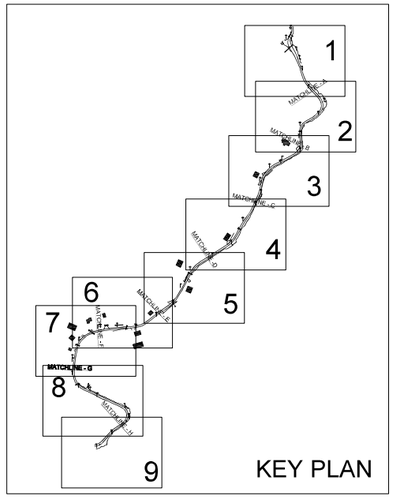
GOBIERNO MUNICIPAL DE MARICAO
PASEO HATCHERY [PR-CRP-000721]

| NO. | DATE | DRAWING ISSUE | BY | APP. |
|---|---|---|---|---|
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SHEET TITLE: GRADING DRAINAGE PLAN
DRAWING NO.: C-203

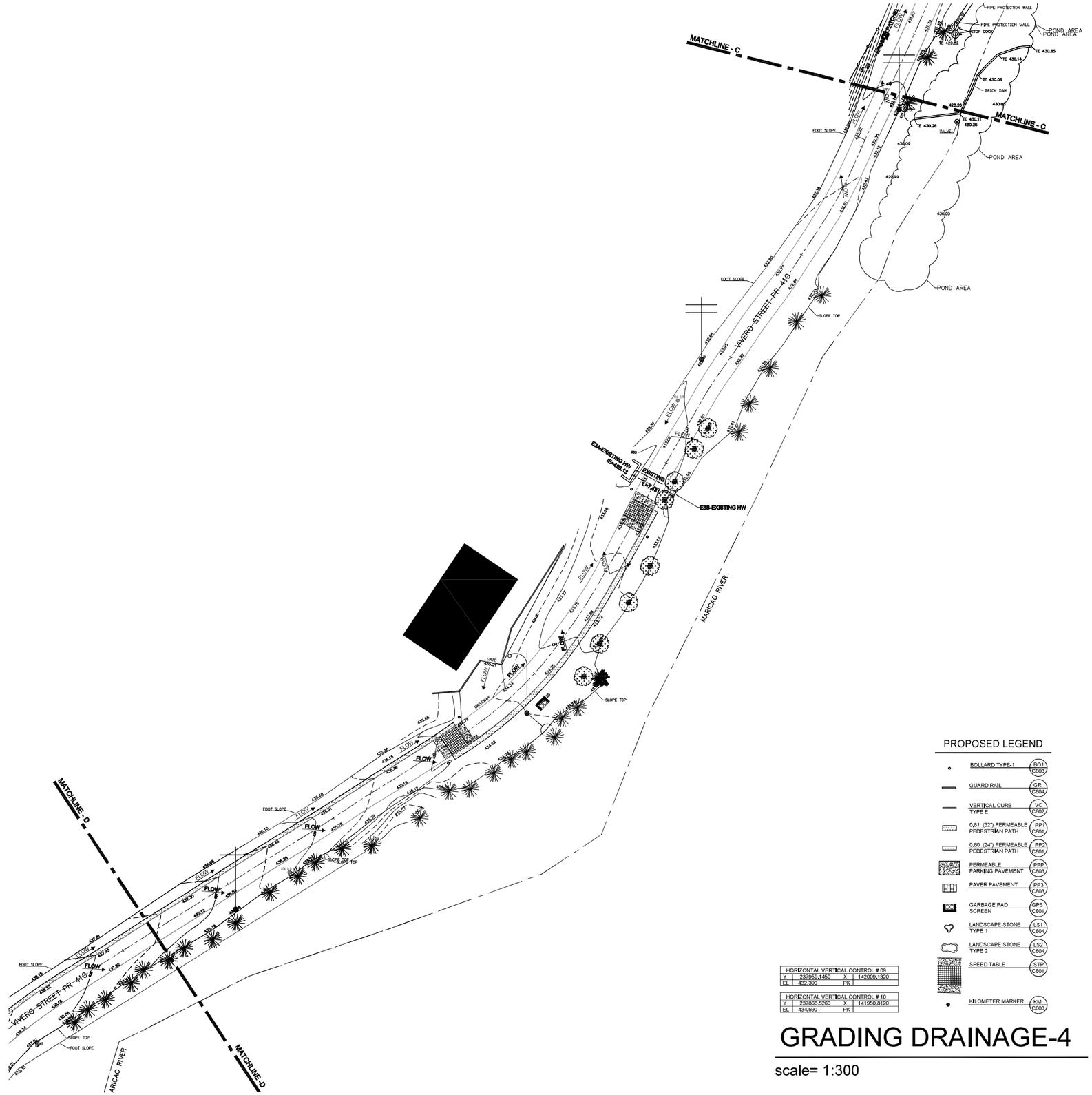
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## EXISTING CONDITIONS LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

0 5 10 30
SCALE = 1:300




| HORIZONTAL VERTICAL CONTROL # 09 | | | |
|---|---|---|---|
| Y | 237950,1450 | X | 142009,1320 |
| EL | 432,390 | PK | |

| HORIZONTAL VERTICAL CONTROL # 10 | | | |
|---|---|---|---|
| Y | 237868,5260 | X | 141950,8120 |
| EL | 434,590 | PK | |

## PROPOSED LEGEND

| | | |
|---|---|---|
| | BOLLARD TYPE-1 | BO1 C603 |
| | GUARD RAIL | GR C604 |
| | VERTICAL CURB TYPE E | VC C602 |
| | 0,81 (32") PERMEABLE PEDESTRIAN PATH | PP1 C601 |
| | 0,60 (24") PERMEABLE PEDESTRIAN PATH | PP2 C601 |
| | PERMEABLE PARKING PAVEMENT | PPP C603 |
| | PAVER PAVEMENT | PP3 C603 |
| | GARBAGE PAD SCREEN | GPS C601 |
| | LANDSCAPE STONE TYPE 1 | LS1 C604 |
| | LANDSCAPE STONE TYPE 2 | LS2 C604 |
| | SPEED TABLE | STP C601 |
| | KILOMETER MARKER | KM C603 |

# GRADING DRAINAGE-4

scale= 1:300

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787.309.1837

BAIGES GEOTECHNICAL ENGINEERS, LLC
64 PASEO DE LA ALHAMBRA, URB TORRIMAR, GUAYNABO, P.R. 00969
JAMES@BAIGESGEO.COM • (787) 399-0077

90% DESIGN SET
NOT FOR CONSTRUCTION

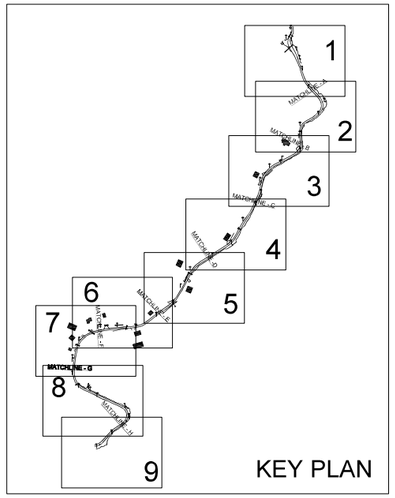
PROJECT: PR-CRP-000721
**PASEO LA GRUTA-VIVERO DE PECES**
CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

GOBIERNO MUNICIPAL DE MARICAO
PASEO HATCHERY [PR-CRP-000721]

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DRAWING NO.: C-204

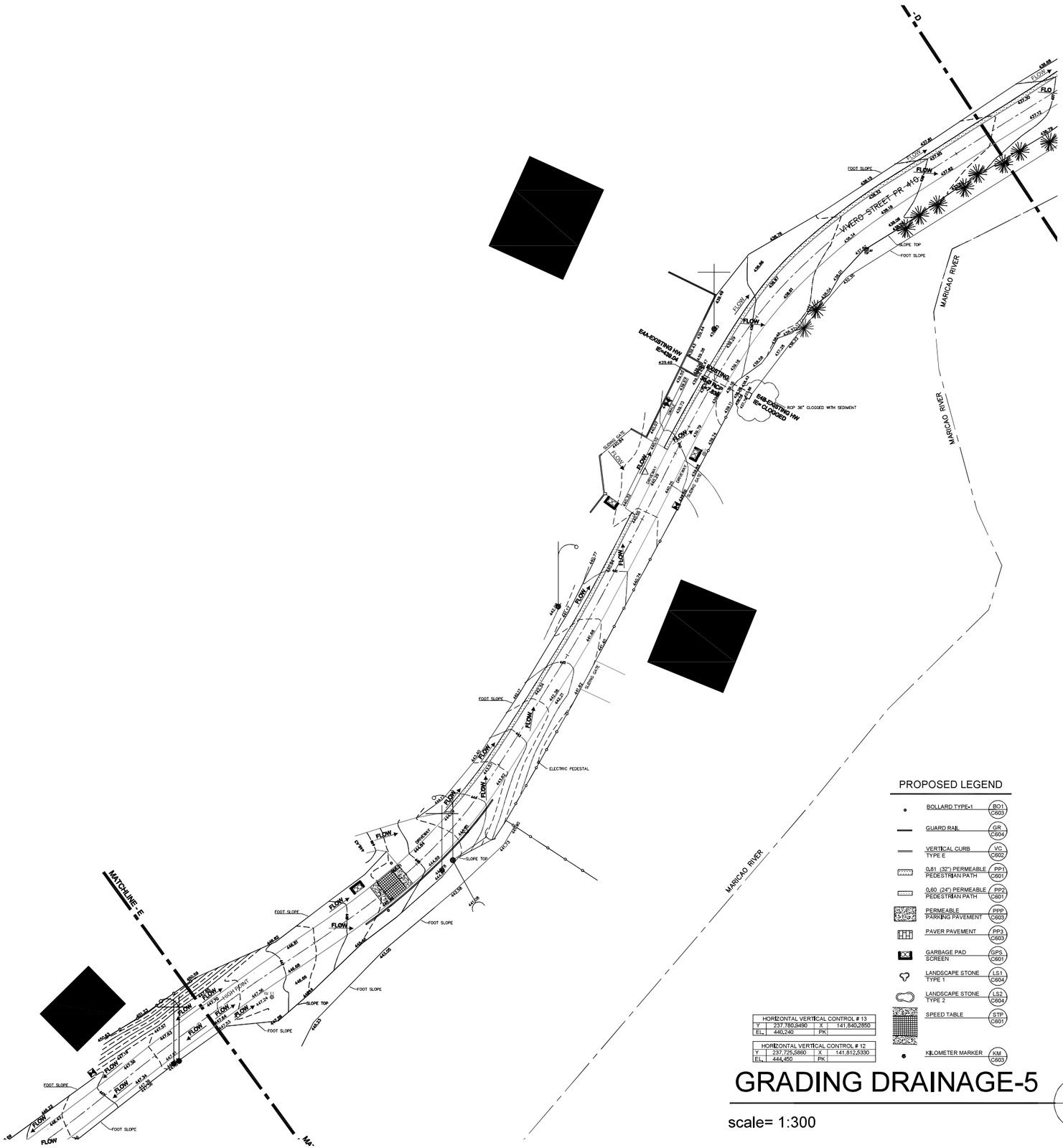
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## EXISTING CONDITIONS LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

0 5 10 30
SCALE = 1:300




| HORIZONTAL VERTICAL CONTROL # 13 | | | |
|---|---|---|---|
| Y | 237,760.9490 | X | 141,540.2850 |
| EL. | 440.240 | PK | |

| HORIZONTAL VERTICAL CONTROL # 12 | | | |
|---|---|---|---|
| Y | 237,725.5860 | X | 141,812.5330 |
| EL. | 444.450 | PK | |

## PROPOSED LEGEND

| | | |
|---|---|---|
| BOLLARD TYPE-1 | BO1 | C603 |
| GUARD RAIL | GR | C604 |
| VERTICAL CURB TYPE E | VC | C602 |
| 0.81 (32") PERMEABLE PEDESTRIAN PATH | PP1 | C601 |
| 0.60 (24") PERMEABLE PEDESTRIAN PATH | PP2 | C601 |
| PERMEABLE PARKING PAVEMENT | PPP | C603 |
| PAVER PAVEMENT | PP3 | C603 |
| GARBAGE PAD SCREEN | GPS | C601 |
| LANDSCAPE STONE TYPE 1 | LS1 | C604 |
| LANDSCAPE STONE TYPE 2 | LS2 | C604 |
| SPEED TABLE | STP | C601 |
| KILOMETER MARKER | KM | C603 |

# GRADING DRAINAGE-5

scale= 1:300

C&G
JMCP + JLGARCHITECTS
115 DIE PARQUE STREET SUITE 7
SAN JUAN, PR 00911
787.309.1837

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641 PASEO DE LA ALHAMBRA, URB TORRIMAR, GUAYNABO, P.R. 00969
JAMES@BAIGESGROUP.COM • (787) 399-0007

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PROJECT: PR-CRP-000721
**PASEO LA GRUTA-VIVERO DE PECES**
CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

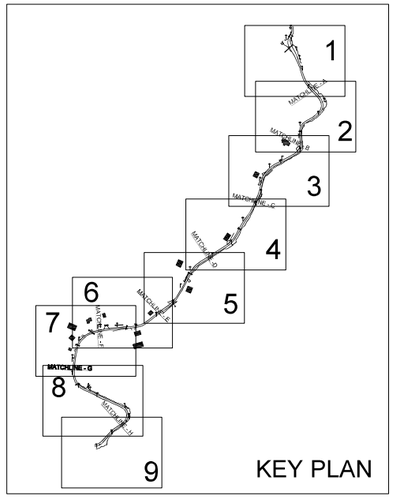
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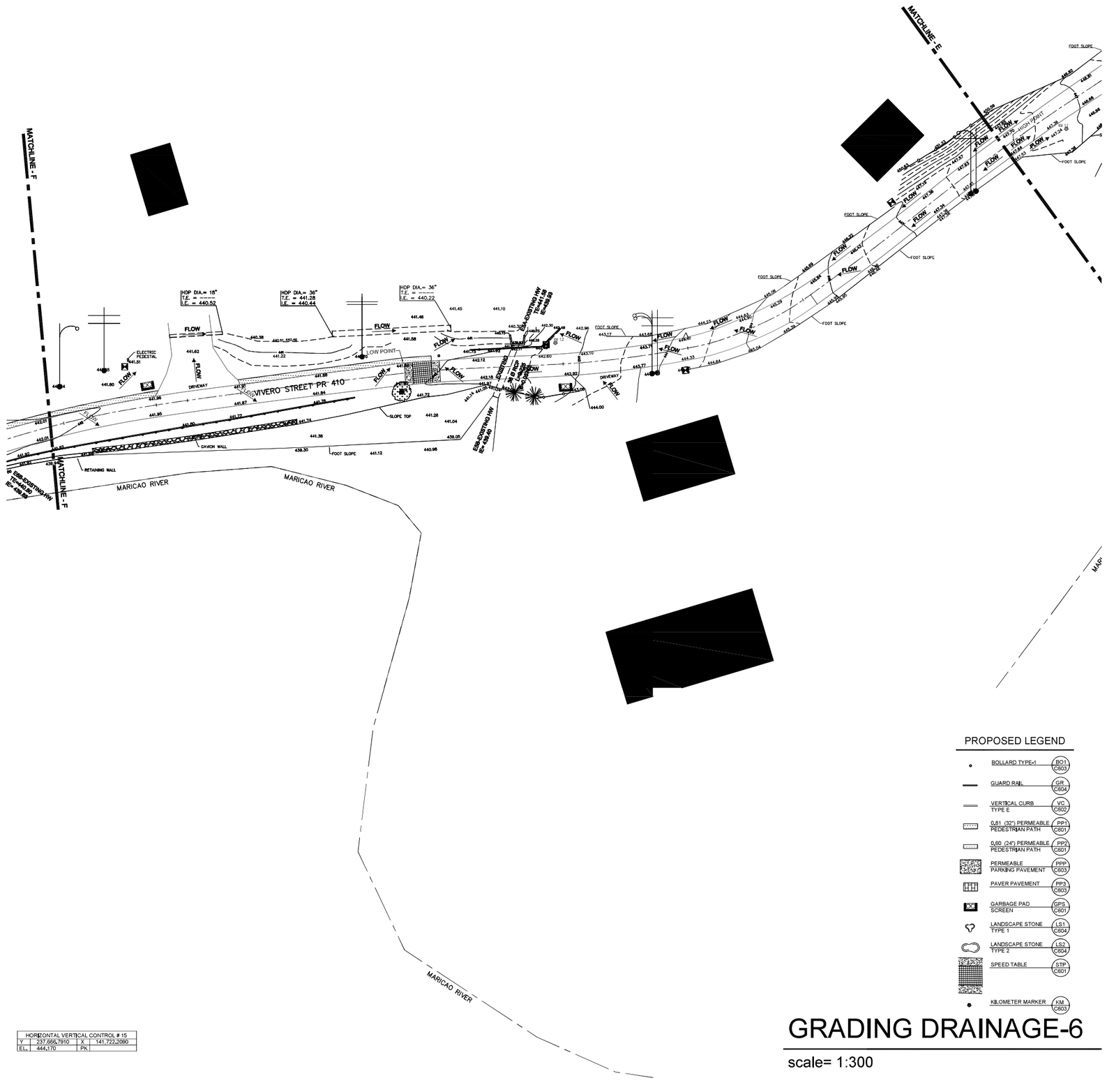



## EXISTING CONDITIONS LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

0 5 10 30
SCALE = 1:300

| HORIZONTAL VERTICAL CONTROL # 15 | | | |
|---|---|---|---|
| Y | 237,666.7910 | X | 141,722.2080 |
| EL. | 444.170 | PK | |




## PROPOSED LEGEND

| | | |
|---|---|---|
| BOLLARD TYPE-1 | BO1 | C603 |
| GUARD RAIL | GR | C604 |
| VERTICAL CURB TYPE E | VC | C602 |
| 0.81 (32") PERMEABLE PEDESTRIAN PATH | PP1 | C601 |
| 0.60 (24") PERMEABLE PEDESTRIAN PATH | PP2 | C601 |
| PERMEABLE PARKING PAVEMENT | PPP | C603 |
| PAVER PAVEMENT | PP3 | C603 |
| GARBAGE PAD SCREEN | GPS | C601 |
| LANDSCAPE STONE TYPE 1 | LS1 | C604 |
| LANDSCAPE STONE TYPE 2 | LS2 | C604 |
| SPEED TABLE | STP | C601 |
| KILOMETER MARKER | KM | C603 |

# GRADING DRAINAGE-6

scale= 1:300

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JAMES@BAIGESGMAIL.COM • (787) 399-0007

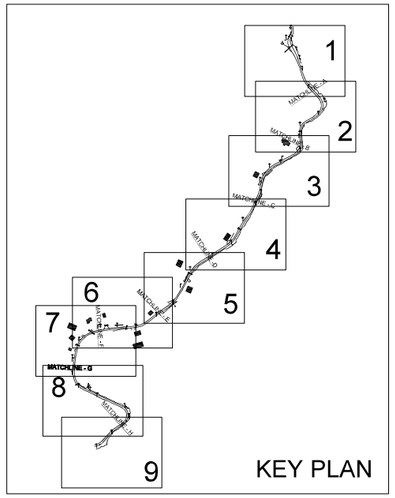
90% DESIGN SET
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PROJECT: PR-CRP-000721
PASEO LA GRUTA-VIVERO DE PECES
CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5
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## EXISTING CONDITIONS LEGEND

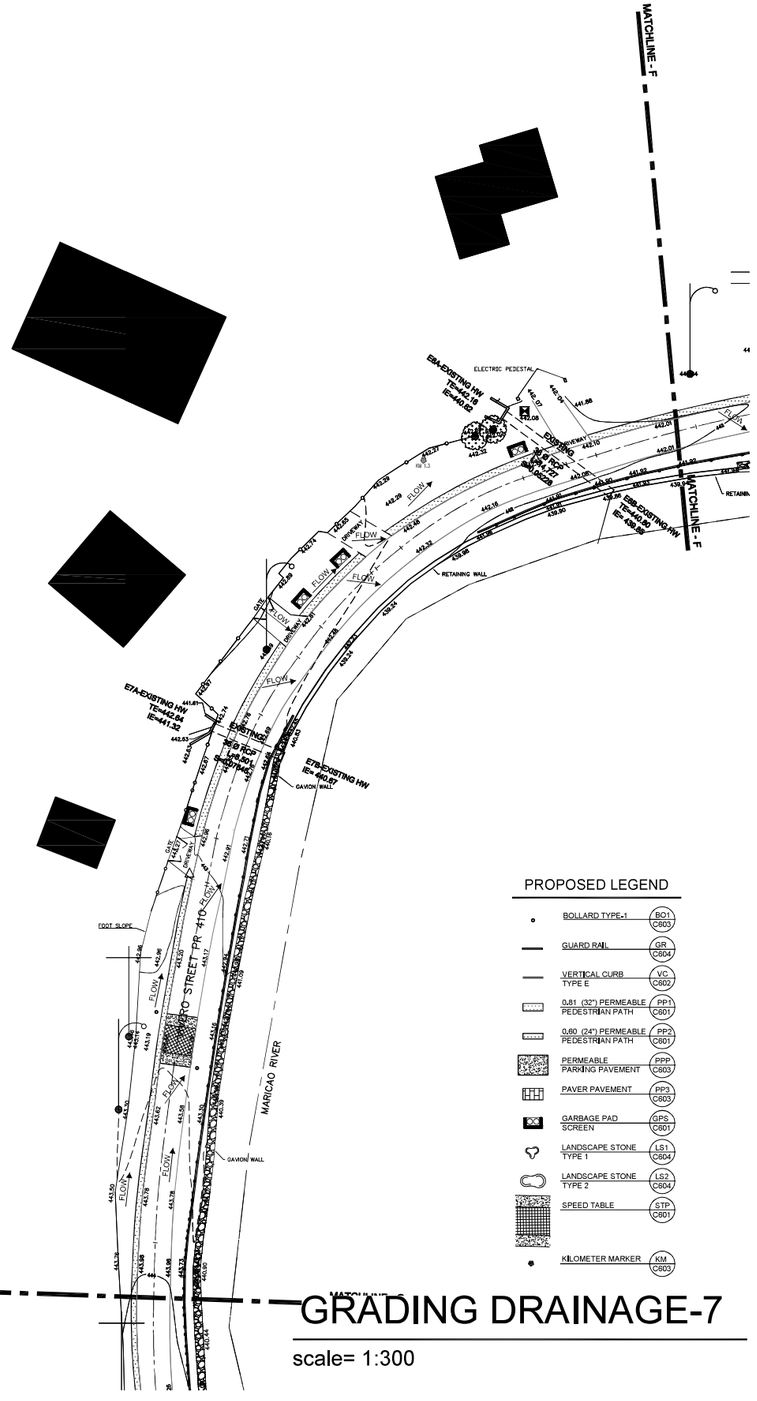
| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

0 5 10 30

SCALE = 1:300

| HORIZONTAL VERTICAL CONTROL # 16 | | | |
|---|---|---|---|
| Y | 237,649.4570 | X | 141,605.5650 |
| EL. | 442.240 | PK | |

| HORIZONTAL VERTICAL CONTROL # 17 | | | |
|---|---|---|---|
| Y | 237,603.4640 | X | 141,587.1870 |
| EL. | 443.040 | PK | |




## PROPOSED LEGEND

| | | |
|---|---|---|
| BOLLARD TYPE-1 | BO1 | C603 |
| GUARD RAIL | GR | C604 |
| VERTICAL CURB TYPE E | VC | C602 |
| 0.81 (32") PERMEABLE PEDESTRIAN PATH | PP1 | C601 |
| 0.60 (24") PERMEABLE PEDESTRIAN PATH | PP2 | C601 |
| PERMEABLE PARKING PAVEMENT | PPP | C603 |
| PAVER PAVEMENT | PP3 | C603 |
| GARBAGE PAD SCREEN | GPS | C601 |
| LANDSCAPE STONE TYPE 1 | LS1 | C604 |
| LANDSCAPE STONE TYPE 2 | LS2 | C604 |
| SPEED TABLE | STP | C601 |
| KILOMETER MARKER | KM | C603 |

# GRADING DRAINAGE-7

scale= 1:300

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787.309.1837

BAIGES GEOTECHNICAL ENGINEERS, LLC
64 PASEO DE LA ALHAMBRA, URB TORRIMAR, GUAYNABO, P.R. 00966
JAMES@BAIGESMAIL.COM • (787) 399-0077

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PROJECT: PR-CRP-000721

**PASEO LA GRUTA-VIVERO DE PECES**

CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

GOBIERNO MUNICIPAL DE MARICAO

PASEO HATCHERY [PR-CRP-000721]

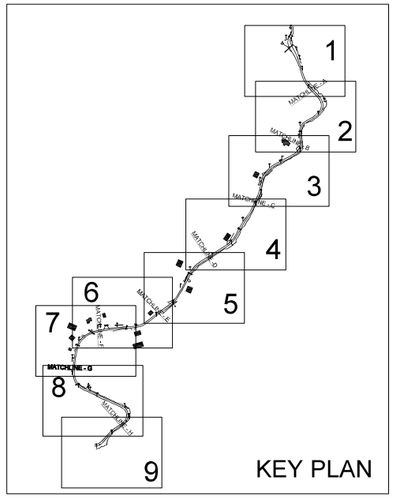
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## EXISTING CONDITIONS LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

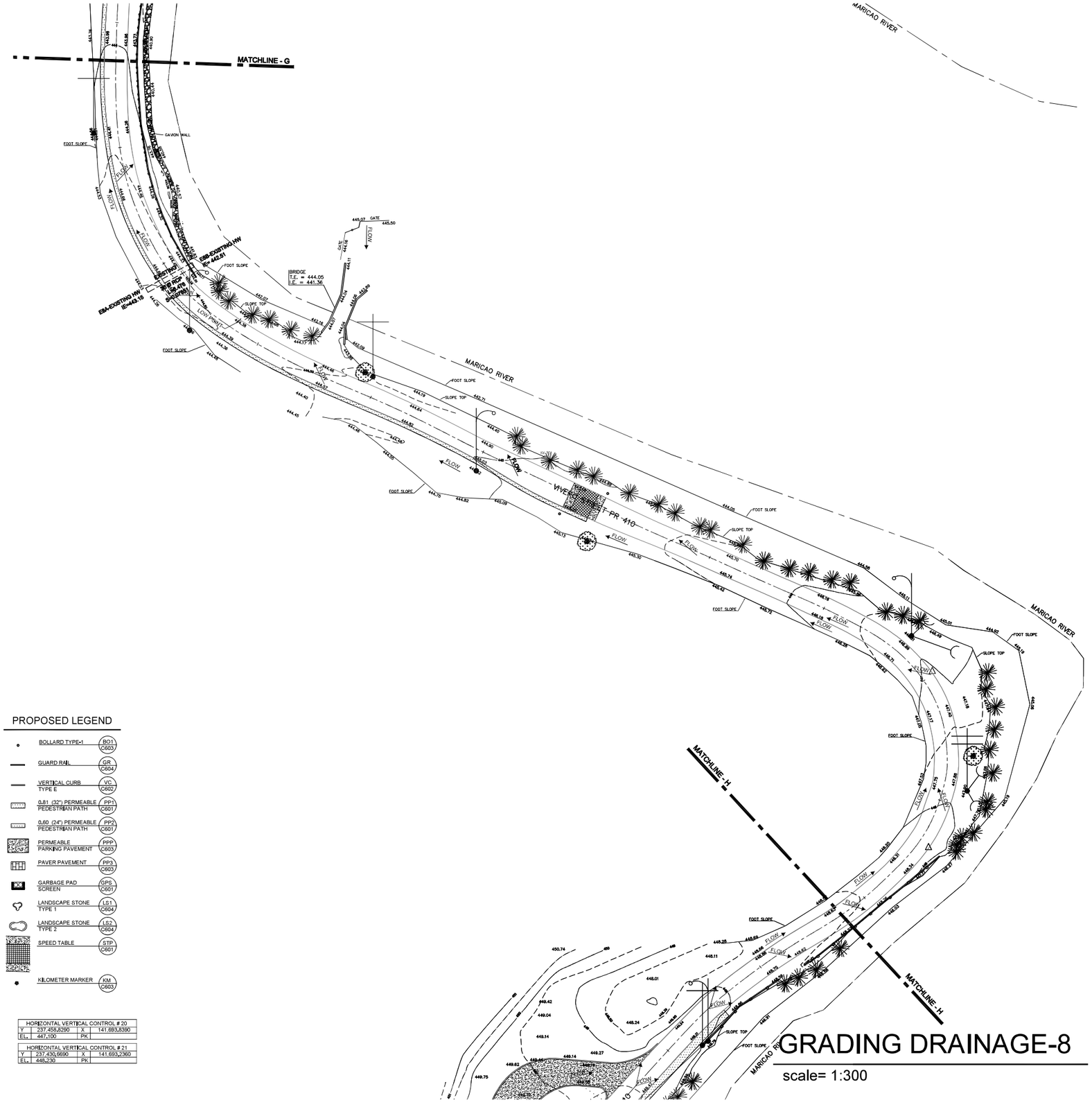
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SCALE = 1:300

## PROPOSED LEGEND

| | | |
|---|---|---|
| BOLLARD TYPE-1 | BO1 | C603 |
| GUARD RAIL | GR | C604 |
| VERTICAL CURB TYPE E | VC | C602 |
| 0.81 (32") PERMEABLE PEDESTRIAN PATH | PP1 | C601 |
| 0.60 (24") PERMEABLE PEDESTRIAN PATH | PP2 | C601 |
| PERMEABLE PARKING PAVEMENT | PPP | C603 |
| PAVER PAVEMENT | PP3 | C603 |
| GARBAGE PAD SCREEN | GPS | C601 |
| LANDSCAPE STONE TYPE 1 | LS1 | C604 |
| LANDSCAPE STONE TYPE 2 | LS2 | C604 |
| SPEED TABLE | STP | C601 |
| KILOMETER MARKER | KM | C603 |

| HORIZONTAL VERTICAL CONTROL # 20 | | | |
|---|---|---|---|
| Y | 237,456,8290 | X | 141.693,8390 |
| EL. | 447,100 | PK | |

| HORIZONTAL VERTICAL CONTROL # 21 | | | |
|---|---|---|---|
| Y | 237,430,6690 | X | 141.693,2360 |
| EL. | 448,200 | PK | |




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641 PASEO DE LA ALHAMBRA, URB TORRIMAR, GUAYNABO, P.R. 00969
JAMES@BAIGESMAIL.COM • (787) 399-0017

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PROJECT: PR-CRP-000721
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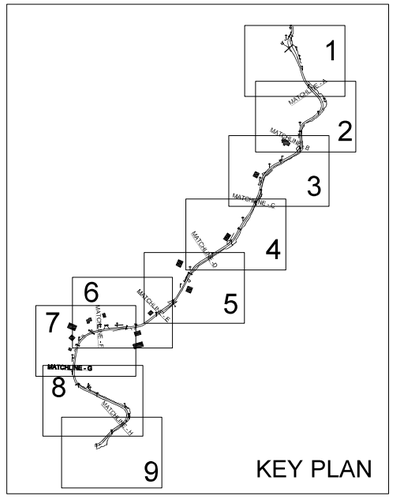
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PASEO HATCHERY [PR-CRP-000721]

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## EXISTING CONDITIONS LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

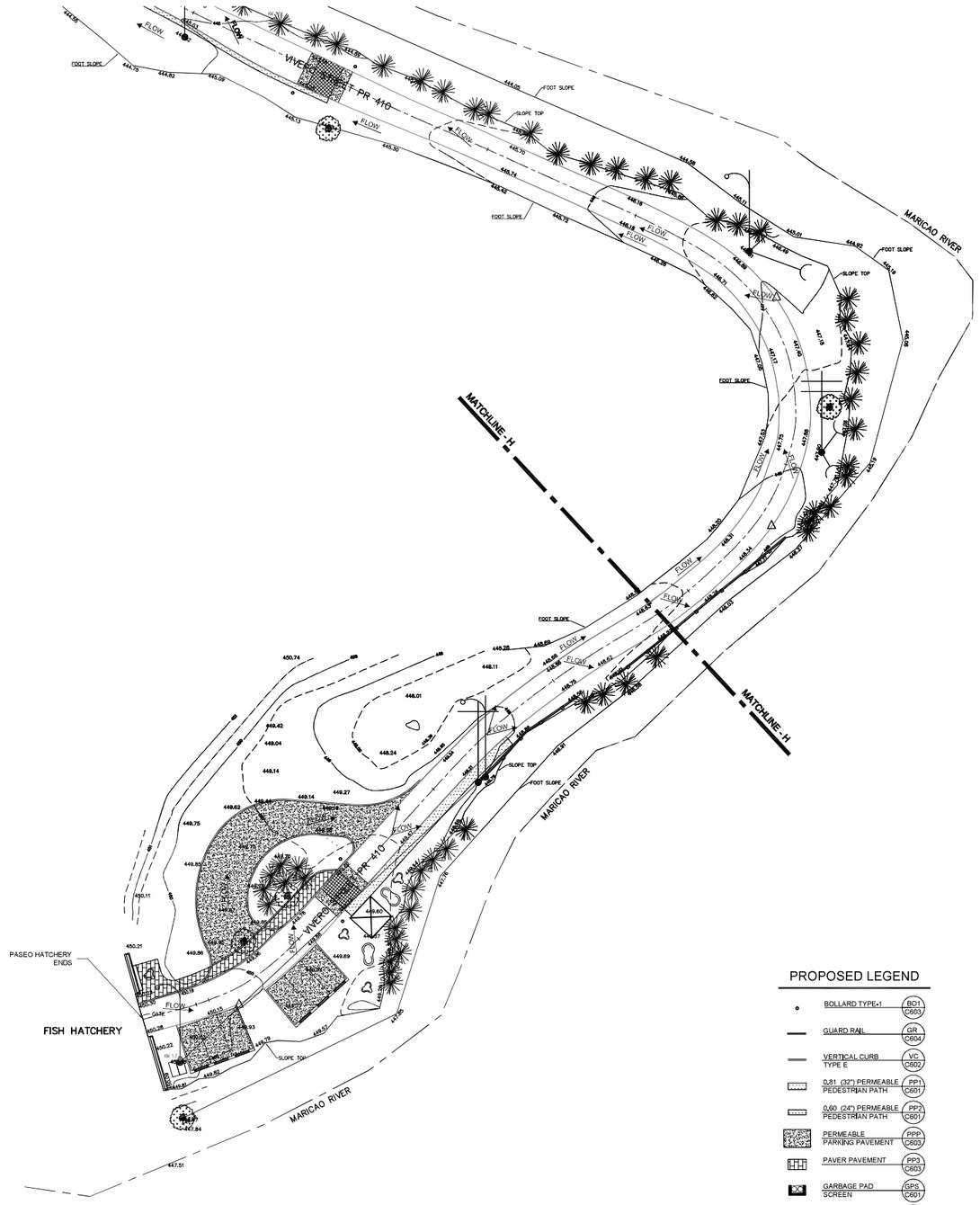
0 5 10 30

SCALE = 1:300

| HORIZONTAL VERTICAL CONTROL # 20 | | | |
|---|---|---|---|
| Y | 237,458.8290 | X | 141,693.8390 |
| EL. | 447.100 | PK | |

| HORIZONTAL VERTICAL CONTROL # 21 | | | |
|---|---|---|---|
| Y | 237,430.6690 | X | 141,693.2360 |
| EL. | 448.230 | PK | |

| HORIZONTAL VERTICAL CONTROL # 22 | | | |
|---|---|---|---|
| Y | 237,371.6570 | X | 141,627.5680 |
| EL. | 450.080 | PK | |




## PROPOSED LEGEND

| | | |
|---|---|---|
| | BOLLARD TYPE-1 | BO1 C603 |
| | GUARD RAIL | GR C604 |
| | VERTICAL CURB TYPE E | VC C602 |
| | 0,81 (32") PERMEABLE PEDESTRIAN PATH | PP1 C601 |
| | 0,60 (24") PERMEABLE PEDESTRIAN PATH | PP2 C601 |
| | PERMEABLE PARKING PAVEMENT | PPP C603 |
| | PAVER PAVEMENT | PP3 C603 |
| | GARBAGE PAD SCREEN | GPS C601 |
| | LANDSCAPE STONE TYPE 1 | LS1 C604 |
| | LANDSCAPE STONE TYPE 2 | LS2 C604 |
| | SPEED TABLE | STP C601 |
| | KILOMETER MARKER | KM C603 |

# GRADING DRAINAGE-9

scale= 1:300

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JMCP +
JLGARCHITECTS
115 DIE PARQUE STREET SUITE 7
SAN JUAN, PR 00911
787.309.3837

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641 PASEO DE LA ALHAMBRA, URB TORRIMAR, GUAYNABO, P.R. 00969
JAMES@BAIGESMUNIZ.COM • (787) 399-0037

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PROJECT: PR-CRP-000721

**PASEO LA GRUTA-VIVERO DE PECES**

CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

GOBIERNO MUNICIPAL DE MARICAO

PASEO HATCHERY [PR-CRP-000721]

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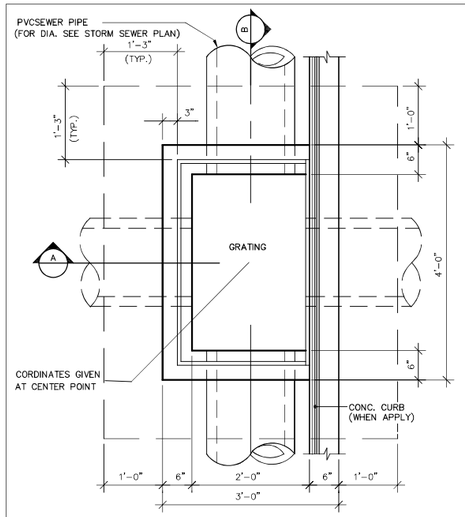
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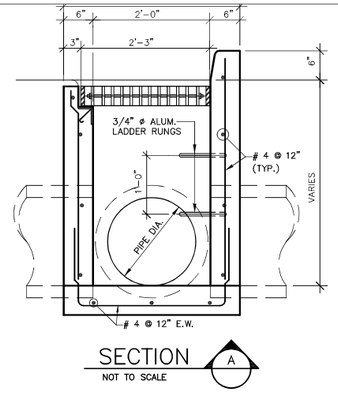
SHEET TITLE: GRADING DRAINAGE PLAN

DRAWING NO.: C-209

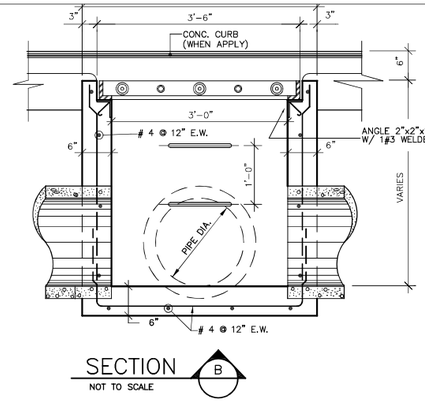
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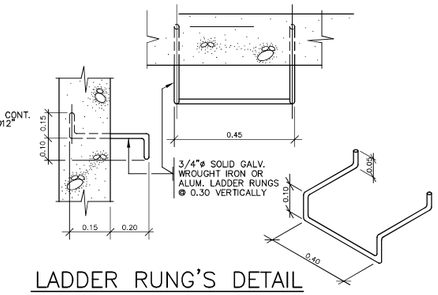

## STANDARD CONCRETE INLET PLAN
NOT TO SCALE



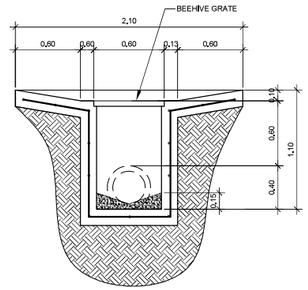

## SECTION A
NOT TO SCALE




## SECTION B
NOT TO SCALE



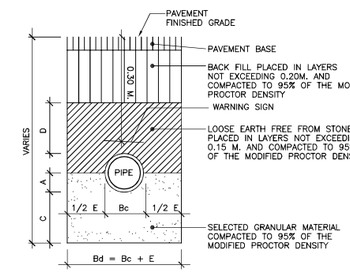

## LADDER RUNG'S DETAIL
NOT TO SCALE




## SECTION A
NOT TO SCALE

### NOTES

1- COORDINATES ARE INDICATED AT CENTER OF CATCH BASINS OR MANHOLES
2- TOP ELEVATIONS OF MANHOLES OR CATCH BASINS MUST BE ADJUSTED TO FINISH GRADE ELEVATION
3- ALL PIPES TO BE PVC SDR-35

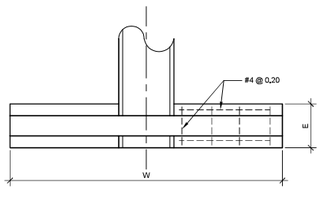



## STORM SEWER PIPE TRENCH DETAIL
NOT TO SCALE

### TRENCH DATA TABLE

| DIAM. | Bc | E | Bd | A | C | D |
|---|---|---|---|---|---|---|
| 12" | 0.41 | 0.40 | 0.81 | 0.11 | 0.10 | 0.30 |
| 18" | 0.56 | 0.50 | 1.08 | 0.18 | 0.12 | 0.30 |
| 24" | 0.77 | 0.60 | 1.37 | 0.20 | 0.16 | 0.39 |
| 30" | 0.94 | 0.60 | 1.34 | 0.24 | 0.19 | 0.47 |
| 36" | 1.11 | 0.75 | 1.86 | 0.28 | 0.23 | 0.56 |
| 42" | 1.30 | 0.75 | 2.05 | 0.33 | 0.27 | 0.65 |
| 48" | 1.48 | 0.90 | 2.38 | 0.37 | 0.31 | 0.74 |
| 36"x60" | 1.80 | 0.90 | 2.70 | 0.62 | 0.35 | 0.90 |

ALL DIMENSIONS IN METERS EXCEPT DIA.

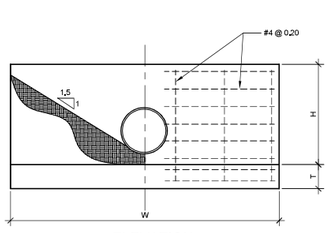



## PLAN

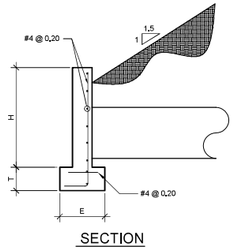
### HEADWALL TYPE "A" DIMENSIONS

| PIPE | W | H | E | T |
|---|---|---|---|---|
| D=18" | 3.24 | 1.07 | 0.46 | 0.23 |
| D=24" | 3.98 | 1.22 | 0.56 | 0.23 |
| D=30" | 4.83 | 1.37 | 0.61 | 0.23 |
| D=36" | 5.66 | 1.52 | 0.71 | 0.30 |

ALL DIMENSIONS IN METERS EXCEPT PIPE DIAMETER

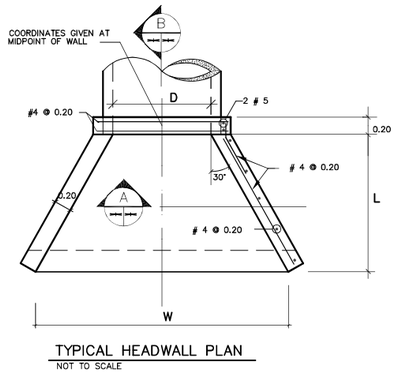



## ELEVATION

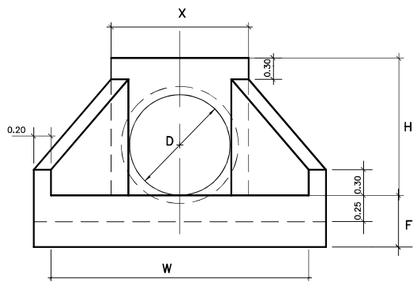



## SECTION

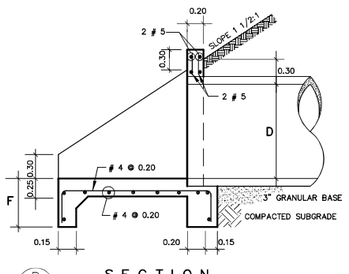
## HEADWALL TYPE A DETAILS
NOT TO SCALE



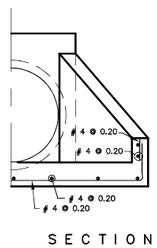

## TYPICAL HEADWALL PLAN
NOT TO SCALE




## E L E V A T I O N – A
NOT TO SCALE

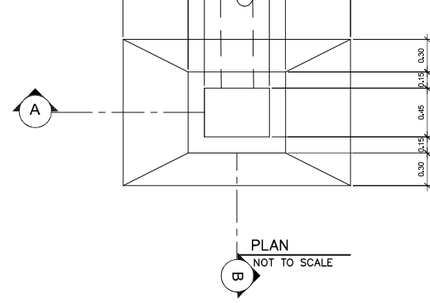



B
## S E C T I O N
NOT TO SCALE

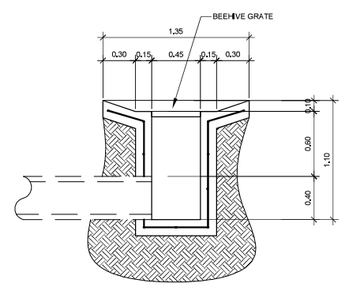



A
## S E C T I O N
NOT TO SCALE

## DEPRESSED CATCH BASIN DETAILS – DI
NOT TO SCALE

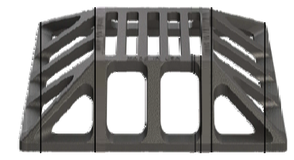



## PLAN
NOT TO SCALE




## SECTION B
NOT TO SCALE

- Frame bottom flange to rest on concrete structure
- Designed for H-20 traffic loading
- Most available with solid covers
- Options for one piece solid covers: bolted, watertight



**BEEHIVE**

## BEEHIVE GRATE
NOT TO SCALE

### HEADWALL DIMENSIONS

| PIPE | W | X | H | L | F |
|---|---|---|---|---|---|
| D=12" | 0.85 | 0.76 | 0.80 | 0.48 | 0.30 |
| D=18" | 1.00 | 0.93 | 0.91 | 0.48 | 0.30 |
| D=24" | 1.42 | 1.08 | 1.07 | 0.71 | 0.43 |
| D=30" | 1.84 | 1.23 | 1.22 | 0.94 | 0.51 |
| D=36" | 2.22 | 1.47 | 1.37 | 1.17 | 0.58 |

ALL DIMENSIONS IN METERS EXCEPT PIPE DIAMETER

### NOTES:

1 - Fc=3,000 psi
2 - Fy= 60,000 psi
3 - PORTLAND CONCRETE SHALL BE CLASS A.
4 - REINFORCING STEEL SHALL BE GRADE 60, AASHTO M-31 OR M31-M.

# H E A D W A L L  D E T A I L S

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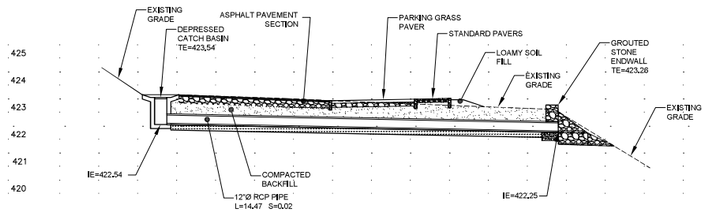
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**PASEO LA GRUTA-VIVERO DE PECES**
CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5
GOBIERNO MUNICIPAL DE MARICAO
PASEO HATCHERY [PR-CRP-000721]

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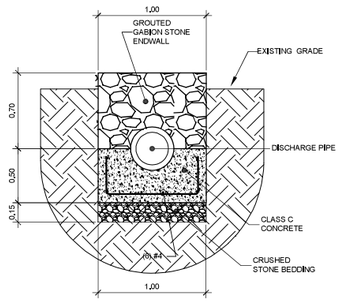
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DATE: 05/23

SHEET TITLE: DRAINAGE DETAILS
DRAWING NO.: C-210.1

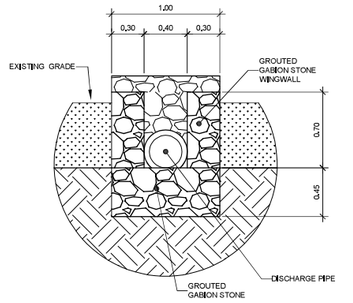
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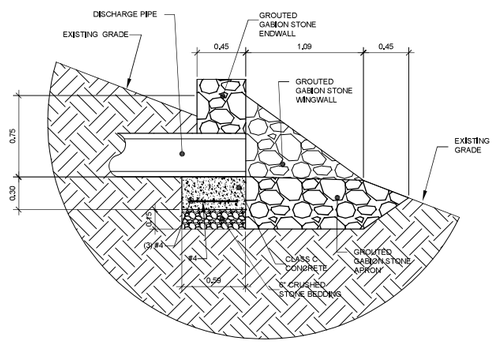

CATCH BASIN CB-1 PROFILE SECTION
SCALE = 1:100



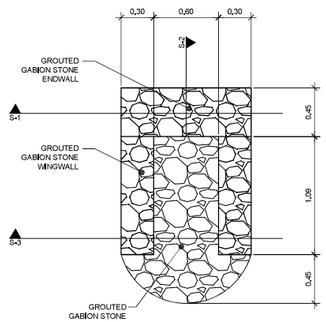

SECTION
SCALE = 1:25
S-1




SECTION
SCALE = 1:25
S-3




SECTION
SCALE = 1:25
S-2

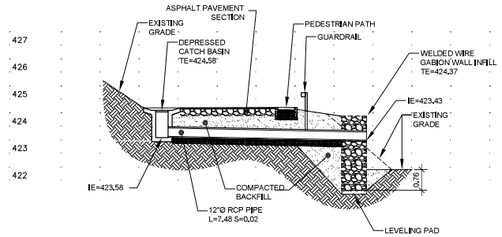



PLAN
SCALE = 1:25

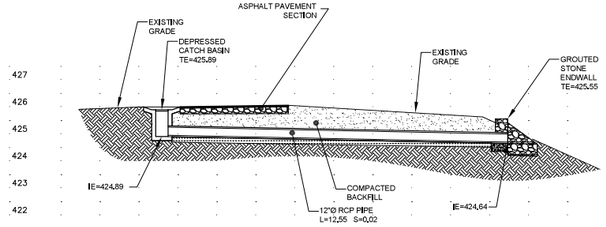
# GABION STONE GROUTED ENDWALL DETAILS

NOTES:

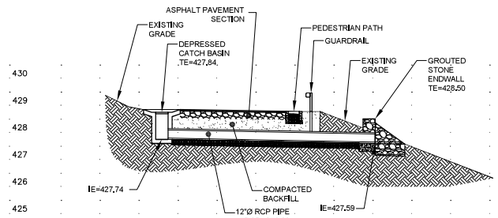
1. ALL EDGES OF EXPOSED CONCRETE SURFACE SHALL BE CHAMFERED 1 INCH.
2. ENDWALL SHALL BE CONSTRUCTED PERPENDICULAR TO TO CENTERLINE OF PIPE.



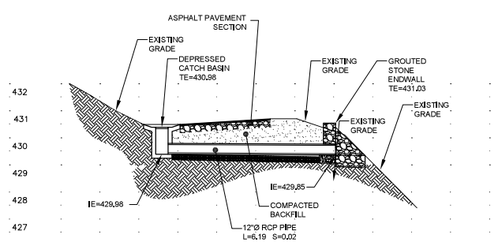

CATCH BASIN CB-2 PROFILE SECTION
SCALE = 1:100




CATCH BASIN CB-3 PROFILE SECTION
SCALE = 1:100




CATCH BASIN CB-4 PROFILE SECTION
SCALE = 1:100




CATCH BASIN CB-5 PROFILE SECTION
SCALE = 1:100

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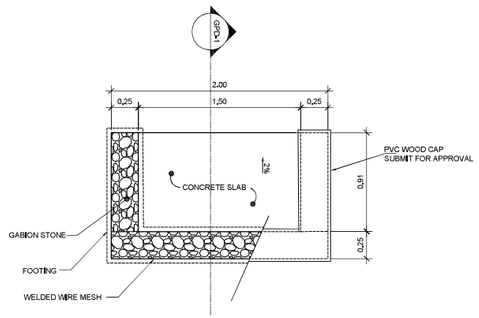
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CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5
GOBIERNO MUNICIPAL DE MARICAO
PASEO HATCHERY [PR-CRP-000721]

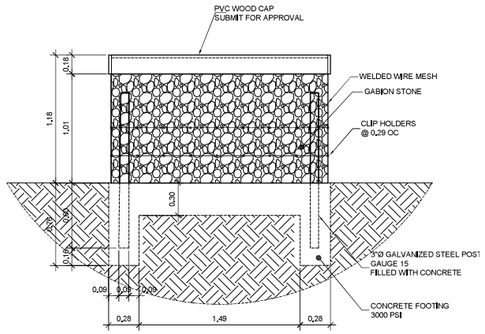
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DATE: 05/23
SHEET TITLE: DRAINAGE DETAILS
DRAWING NO.: C-210.2

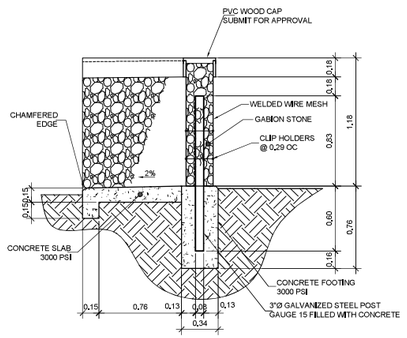
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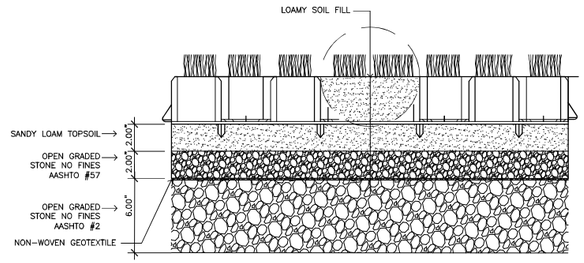

GARBAGE PAD SCREEN GPD
SCALE = 1:25



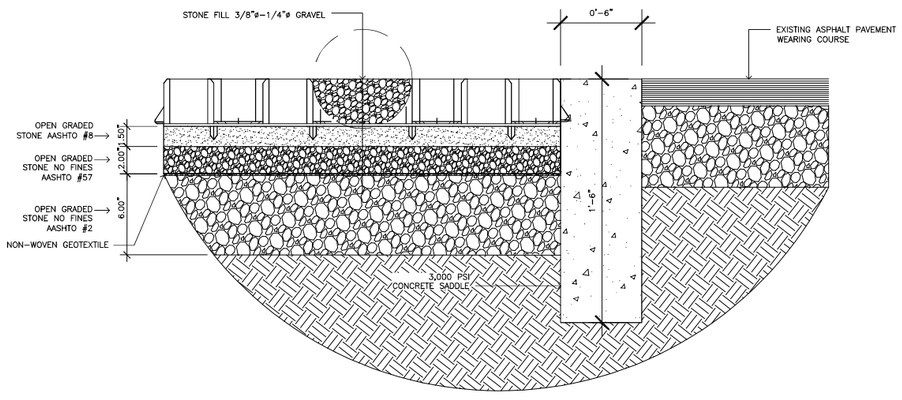

SECTION GPD-2
SCALE = 1:25



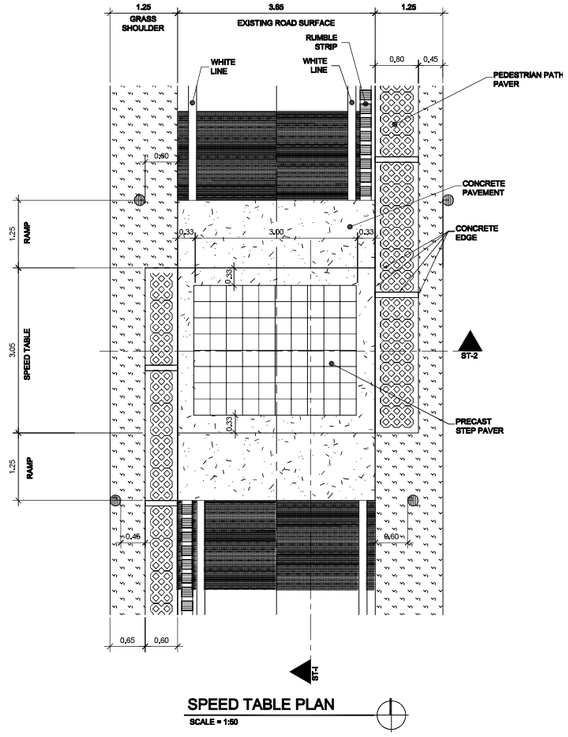

SECTION GPD-1
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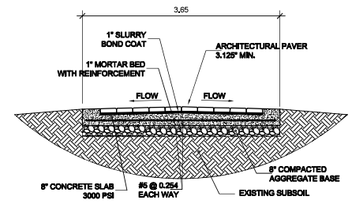

PEDESTRIAN PATH PAVER SECTION AT PARKING OR PEDESTRIAN TRAFFIC
SCALE: NTS



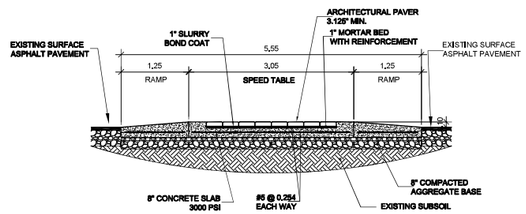

PEDESTRIAN PATH PAVER SECTION AT VEHICULAR TRAFFIC
SCALE: NTS




SPEED TABLE PLAN
SCALE = 1:50




SECTION ST-2
SCALE = 1:50




SECTION ST-1
SCALE = 1:50

# TYPICAL DETAILS

SCALE = AS SHOWN

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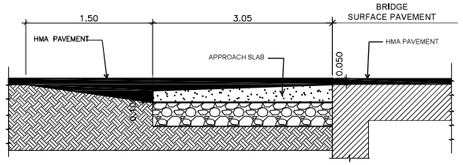
90% DESIGN SET
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PASEO HATCHERY [PR-CRP-000721]

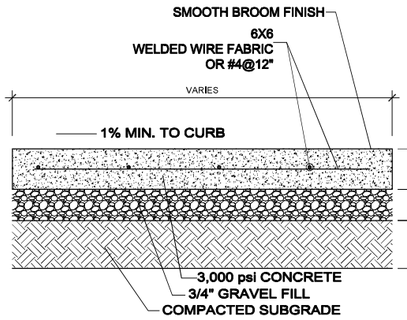
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REVIEWED BY:
DATE: 05/23
SHEET TITLE: TYPICAL DETAILS
DRAWING NO.: C-601

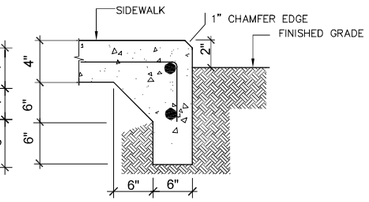
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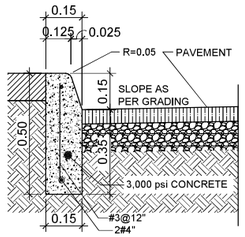

## FLEXIBLE & RIGID PAVEMENTS TRANSITION
NOT TO SCALE



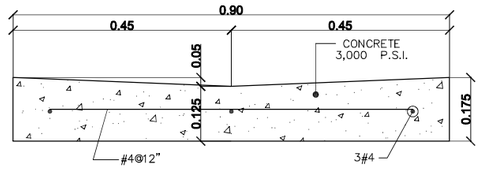

## SIDEWALK DETAIL _
SCALE : N.T.S.



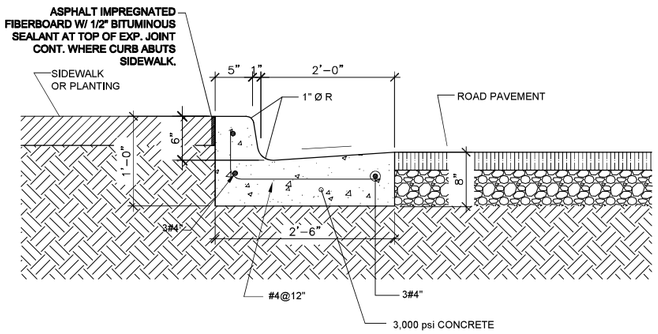

## DETAIL @ SIDEWALK EDGE
SCALE: N.T.S.



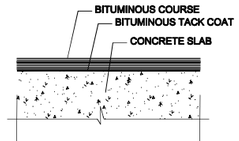

## VERTICAL CURB TYPE " E "
SCALE : N.T.S.




## CONCRETE SWALE DETAIL
SCALE: N.T.S.




## STANDARD CURB & GUTTER TYPE - F
NOT TO SCALE




## ASPHALT OVERLAY DETAIL
SCALE : NOT TO SCALE

### SIDEWALK PAVEMENT NOTES

1 CONCRETE FOR SIDEWALK SHALL HAVE A 28 DAY COMPRESSIVE STRENGTH OF 3000 PSI AND A MAXIMUM W/C RATIO OF 0.72.

2 PROVIDE TOOLED CONTROL JOINTS @5'–0" ON CENTER. A MINIMUM DEPTH OF 1" AND ⅛" WIDTH.

3 PROVIDE ½" EXPANSION JOINTS @ 30'–0" ON CENTER WITH A PRE MOLDED JOINT FILLER AND JOINT SEALANT.

4 WHERE SIDEWALK ABUTS PROPOSED OR EXISTING FIXED OBJECTS PROVIDE A ½" EXPANSION JOINT WITH PRE MOLDED JOINT FILLER AND SEALANT.

5 WELDED WIRE MESH TO BE INTERRUPTED AT ALL EXPANSION OR CONSTRUCTION JOINTS LOCATIONS. WELDED WIRE MESH SHALL BE STARTED OR INTERRUPTED AT 2" FROM JOINT OR EDGE LOCATION.

### PCC PAVEMENT NOTES:

1 ALL CONCRETE PAVING SUBJECT TO VEHICULAR TRAFFIC SHALL BE 4,000 PSI AT 28 DAYS WITH FIBERMESH,BROOM FINISH, MATERIALS AND WORKMANSHIP TO MEET OR EXCEED PRHTA SPECIFICATIONS FOR PORTLAND CEMENT CONCRETE PAVING.

2 SUBGRADE FOR CONCRETE PAVING SHALL BE COMPACTED TO 95% STANDARD PROCTOR. COMPACTION AROUND STRUCTURES, MANHOLES AND STORM INLETS SHALL BE VERIFIED. PRIOR TO PLACING CONCRETE PAVING, THE SUBGRADE SHALL BE SMOOTH AND LEVEL, ANY WHEEL RUTS OR OTHER DISTURBANCES SHALL BE LEVELED. MOISTEN SUBGRADE PRIOR TO PLACING PAVEMENT,

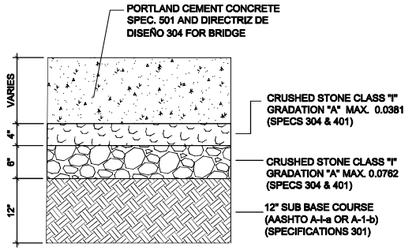
3 FINAL SUBGRADE ELEVATION SHALL BE PROOF ROLLED USING A FULLY LOADED TANDEM AXLE TRUCK. ANY LOOSE OR SOFT AREAS SHALL BE STABILIZED BY DRYING AND RECOMPACTION OR UNDER CUT AND REPLACED WITH ENGINEERED FILL.

4 ENGINEERED FILL SHALL CONSIST OF A–1–a GRANULAR FILL MATERIAL UNLESS OTHERWISE NOTED. MATERIAL SHALL BE PLACED IN MAXIMUM LOOSE FITS OF 6 INCHES IN THICKNESS AND COMPACTED TO 95% OF ITS MAXIMUM DRY DENSITY AS DETERMINED FROM THE MODIFIED PROCTOR TEST OR FOR COMPLETELY GRANULAR SOILS WITH LESS THAN 5% FINES, 75% RELATIVE DENSITY AS DETERMINED BY THE INSPECTING GEOTECHNICAL ENGINEER.

5 SEAL CONCRETE WITH WHITE PIGMENTED LIQUID MEMBRANE CURING COMPOUND MEETING ASTM C309–0RASTM C1315 (TYPE II) PRIOR TO SAW CUTTING CONTROL JOINTS.

6 PROVIDE CONTROL JOINTS FOR CONCRETE PAVING,SPACING SHALL BE BASED ON PAVEMENT SECTION THICKNESS, OR WIDTH OF PAVEMENT, WHICHEVER IS LESS: 4"THICK 8' MAX,5" THICK–12' MAX, 6" THICK OR GREATER – 15' MAX. AT CURVES, JOINT SPACING SHALL BE MEASURED ALONG THE OUTSIDE OF THE CURVE.

7 CONTRACTOR SHALL SUBMIT A JOINT PATTERN TO THE ENGINEER AND ARCHITECT FOR APPROVAL PRIOR TO PAVING. SAW CUT CONTROL JOINTS $\frac{1}{3}$ EPTH OF SLAB THICKNESS AS SOON AS CONCRETE HAS HARDENED ENOUGH TO SUPPORT THE SAW AND PREVENT RAVELING, NO LONGER THAN 12 HOURS FROM BEGINNING OF CONCRETE PLACEMENT. SEAL ALL JOINTS PER DETAILS,JOINT MATERIAL TO BE SONNEBORN SL–1 OR APPROVED EQUIVALENT.




## PCC PAVEMENT SECTION
SCALE: NOT TO SCALE
NOTE: REFER TO STRUCTURAL DRAWINGS

NOTES:
A REFER TO SF-101 FOR SECTION DEPTH AND REINFORCEMENT.
B CONCRETE STEEL REINFORCEMENT SHALL BE ANTICORROSION EPOXY COATED WITH A MINIMUM OF 3 IN COVER.

### PCC PAVEMENT NOTES CONTINUED:

8 CONTROL JOINTS SHALL BE SAWED AS SOON AS THE CONCRETE HAS HARDENED SUFFICIENTLY TO PERMIT SAWING WITHOUT RAVELING (USUALLY 4 TO 8 HOURS). ALL JOINTS SHALL BE SAWED BEFORE UNCONTROLLED SHRINKAGE TAKES PLACE. THE SAWING OPERATIONS SHALL BE CARRIED ON, BOTH DURING THE DAY AND NIGHT, AND REGARDLESS OF WEATHER CONDITIONS, UNTIL SAWING IS COMPLETED WITHIN THE PRESCRIBED TIME LAPSE. THE SAWING OF ANY JOINT SHALL BE OMITTED IF A CRACK OCCURS AT OR NEAR THE JOINT LOCATION PRIOR TO THE TIME OF SAWING. SAWING SHALL BE DISCONTINUED WHEN A CRACK DEVELOPS AHEAD OF THE SAW.

9 REFER TO PCC PAVEMENT JOINT LAYOUT PLANS FOR SPECIFIED JOINT PATTERN.

10 GRADATION FOR COARSE AGGREGATE FOR PORTLAND CEMENT CONCRETE FOR PAVEMENT SHALL USE AGGREGATE SIZE AND GRADATION ACCORDING TO 1.5 INCH TO NO. 4 GRADATION LISTED IN TABLE 703–2 OF THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION OF THE PUERTO RICO DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS.

11 CONTRACTOR IS RESPONSIBLE FOR RESTORATION OF ANY EXISTING PAVEMENT,SIDEWALKS, CURBING, UTILITIES AND DRAINAGE SYSTEM DAMAGED DURING CONSTRUCTION. ALL DAMAGED AREAS ARE TO BE RESTORED TO ORIGINAL CONDITION OR BETTER.

12 THE BITUMINOUS TACK COAT SHALL MEET THE REQUIREMENTS OF SPECIFICATION 407–"BITUMINOUS TACK COAT".

13 AL BITUMINOUS COURSES SHALL MEET THE REQUIREMENTS OF SPECIFICATION 959–"HOT PLANT MIX BITUMINOUS PAVEMENT" OR SPECIFICATION 959 – "HOT PLANT MIX BITUMINOUS PAVEMENT (SUPERPAVE)".

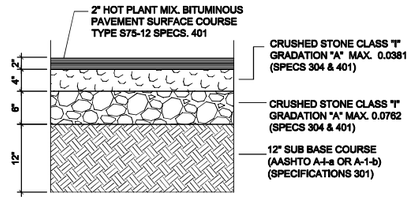
14 JOINT SEALANT SHALL MEET THE REQUIREMENTS OF AASHTO M 301 AND ASTM D 3405.

15 THE MILLING IN PORTLAND CEMENT CONCRETE PAVEMENTS AND APPROACH SLABS SHALL MEET THE REQUIREMENTS OF SPECIAL PROVISIONS OF SPECIFICATION 943–"MILLING OF PORTLAND CEMENT CONCRETE PAVEMENT".

16 THE COLD MILLING IN BITUMINOUS PAVEMENT SHALL MEET THE REQUIREMENTS OF SPECIFICATION 403 – "COLD MILLING OF BITUMINOUS PAVEMENT".

17 THE TRANSITION DETAIL SHALL BE PEPRFORMED AT THE BEGINNING OF THE APPROACH SLAB".

18 THE BITUMINOUS SURFACE COURSE SHALL BE PLACED IMMEDIATELY, AFTER MILLING AND OR CLEANING OPERATIONS ARE COMPLETED.




## ASPHALT PAVEMENT SECTION
SCALE : NOT TO SCALE

### ASPHALT PAVEMENT NOTES:

1 EXCAVATE ALL EXISTING FILL AND UNSUITABLE SOILS TO EXPOSE SUITABLE NATURAL VERY STIFF TO HARD CLAY SOILS, PROOFROLL EXPOSED NATURAL SOILS, STABILIZE AS NECESSARY AND THE PLACE ENGINEERED FILL TO SUBGRADE ELEVATION. IN CUT AREAS EXCAVATE TO THE DEPTH OF THE FINAL SUBGRADE ELEVATION TO ALLOW FOR SUBGRADE PREPARATION AND EVALUATION, AND PLACEMENT OF THE PAVEMENT SYSTEM.

2 COMPACT THE TOP 12 INCHES OF THE EXPOSED SUBGARDE AS WELL MAS INDIVIDUAL FILL LAYERS TO A MINIMUM 95 PERCENT OF THE MAXIMUM MODIFIED PROCTOR (ASTM 1557) DENSITY.

3 THOROUGHLY PROOFROLL THE FINAL SUBGRADE USING THE EQUIVALENT OF A FULLY LOADED TANDEM AXLE TRUCK UNDER THE OBSERVATION OF A GEOTECHNICAL/PAVEMWENT ENGINEER. SOFT OR LOOSE YIELDING AREAS THAT CANNOT BE MECHANICALLY STABILIZED SHOULD BE REMOVED AND REPLACED WITH ENGINEERED FILL OR STABILIZED AS DICTATED BY FIELD CONDITIONS.

4 THE AGGREGATE BASE AND SUBBASE SHOULD BE COMPACTED TO A MINIMUM 95 PERCENT OF THE MAXIMUM MODIFIED PROCTOR (ASTM 1557) DENSITY.

5 A BOND COAT OF SS-1H EMULSION SHOULD BE REQUIRED BETWEEN THE LEVELING COURSE AND THE SURFACE COURSE WHEN EITHER 48 HOURS HAVE ELAPSED BETWEEN PLACEMENT OF THE BITUMINOUS COURSES OR THE SURFACE OF THE PAVEMENT HAS BEEN CONTAMINATED WITH DIRT, DUST OR FOREIGN MATERIAL. THE BOND COAT SHOULD BE APPLIED IN A UNIFORM MANNER OVER THE SURFACE AT A RATE OF 0.1 GALLONS/ S.Y. IN THE EVENT A BOND COAT IS NOT REQUIRED, THE LEVELING COURSE MAY REQUIRE LOCALIZED BROOM CLEANING.

6 PENETRATION GRADE PG 64-22 ASPHALT CEMENT SHALL BE USED IN THE PRODUCTION OF ALL BITUMINOUS MIXTURES. RECLAIMED ASPHALT PAVEMENT (RAP) SHOULD BE LIMITED TO 5% IN THE WEARING COURSE AND 10% IN THE LEVELING COURSE.

7 MIX DESIGN SHALL BE BASED ON 75 BLOWS OF THE MARSHALL HAMMER.

### CONCRETE CURB TYP. NOTES

1-CONCRETE CURB SECTIONS SHALL BE OF UNIFORM LENGTHS OF 20 FEET OR LESS BUT NO SECTION TO BE LESS THAN SIX FEET.

2-PLACE 1/2 " THICK PREFORMED EXPANSION JOINT FILLER TO FULL DEPTH, FLUSH WITH TOP AND FACE OF CURB, BETWEEN CURB SECTIONS.

3-PLACE PRIME COAT ON CURB SURFACES THAT ABUTTS BITUMINOUS PAVEMENT.

4-BETWEEN CONCRETE CURB AND CONCRETE PAVEMENT OR OTHER ABUTTING STRUCTURES, PLACE 1/2 " PREFORMED EXPANSION JOINT FILLER AND SEALER.

5-CURB & GUTTER SURFACE SHALL HAVE A SMOOTH AND EVEN FINISH.

6-PORTLAND CEMENT CONCRETE SHALL BE CLASS "A".

7-CURBING SHALL BE CONSTRUCTED IN SECTIONS HAVING A UNIFORM LENGTH OF 3 METERS WITHOUT NEED OF ANY JOINT FILLER. SECTIONS SHALL BE SEPARATED BY OPEN JOINTS 0.003 WIDE. WHERE THE CURBING IS CONSTRUCTED ADJACENT TO CONCRETE PAVEMENT, THE OPEN JOINTS IN THE CURBING SHALL MATCH THE CONTRACTION JOINTS IN THE PAVEMENT.

8-FORMS SHALL BE OF METAL AND SHALL EXTEND FOR THE FULL DEPTH OF THE CONCRETE. WOODEN FORMS MAY BE USED, WHEN AUTHORIZED BY THE ENGINEER, ON SHORT RADIUS CURVES SUCH AS AT STREET INTERSECTIONS AND AT SUCH OTHER LOCATIONS FOR WHICH CURVED METAL FORMS MAY NOT BE AVAILABLE. ALL FORMS SHALL BE FREE FORM WARP AND OF SUFFICIENT STRENGTH TO RESIST THE PRESSURE OF THE CONCRETE WITHOUT DISPLACEMENT. BRACING AND STACKING OF FORMS SHALL BE SUCH THAT THE FORMS REMAIN IN BOTH HORIZONTAL AND VERTICAL ALIGNMENT UNTIL THEIR REMOVAL. ALL FORMS SHALL BE CLEANED AND COATED WITH AN APPROVED FORM RELEASE AGENT OR FORM OIL BEFORE CONCRETE IS PLACED. DIVIDER PLATES SHALL BE OF METAL. FORMS SHALL CONFORM TO THE SPECIFIED RADIUS WHEN PLACED ON CURVES.

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64 PASEO DE LA ALHAMBRA, URB TORRIMAR, GUAYNABO, P.R. 00966
JAMES@BAIGESMAIL.COM • (787) 399-0077

90% DESIGN SET
NOT FOR CONSTRUCTION

PROJECT: PR-CRP-000721
PASEO LA GRUTA-VIVERO DE PECES
CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5
GOBIERNO MUNICIPAL DE MARICAO
PASEO HATCHERY [PR-CRP-000721]

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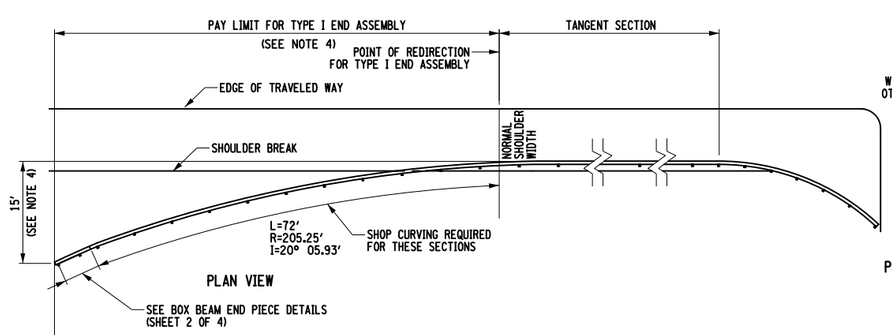
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PAVEMENT
**DETAILS**

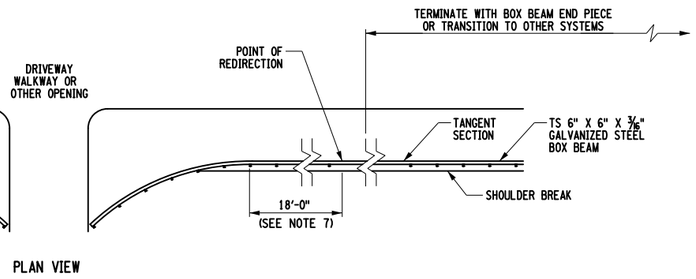
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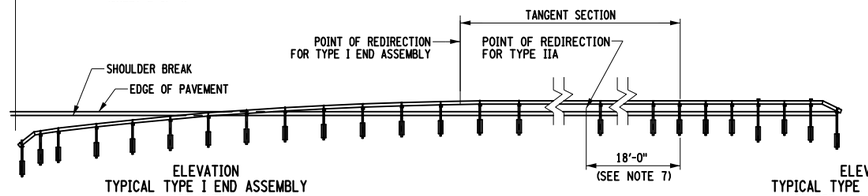
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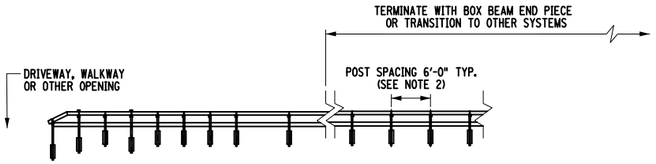

PLAN VIEW




PLAN VIEW

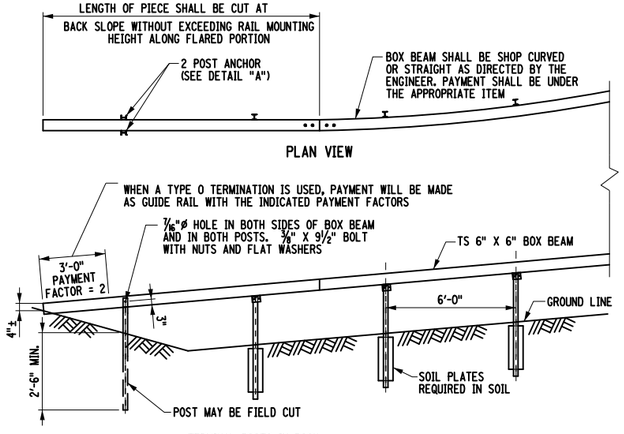



ELEVATION
TYPICAL TYPE I END ASSEMBLY
(SEE NOTE 4)

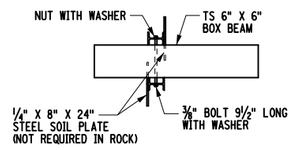



ELEVATION
TYPICAL TYPE IIA END ASSEMBLY
(SEE DETAILS ON SHEET 3 OF 4)

ELEVATION
TYPICAL LAYOUT




TYPE O END TERMINAL




DETAIL "A" - PLAN VIEW

GENERAL NOTES:

1. POST SPACING SHALL BE 6'-0" EXCEPT WHERE REDUCED POST SPACING IS INDICATED ON THE CONTRACT PLANS. FOR RUNS UNDER 130 FEET IN LENGTH, BACKUP POSTS ARE ARE REQUIRED TO REDUCE POST SPACING TO 3'-0" AND SHALL BE FASTENED TORAIL, EXCEPT AT SPLICE LOCATIONS.
2. SEE BRIDGE PLANS FOR GUIDE RAIL DETAILS, POST SPACING AND PAY ITEMS FOR TRANSITIONS AND CONNECTIONS TO BRIDGE RAIL.
3. THE LINE OF BOX BEAM GUIDE RAIL, WHEN COMPLETED, SHALL PRESENT A SMOOTH AND PLEASING GRADE LINE IN BOTH HORIZONTAL AND VERTICAL PLANES. BOX BEAM WITH RADIUS OF 720'-0" OR LESS SHALL BE SHOP WORKED TO THE REQUIRED CURVATURE. PAYMENT FOR SUCH CURVED LENGTHS SHALL BE MADE UNDER THE APPROPRIATE ITEM.
4. THE END MAY BE EXTENDED BY ONE 18'-0" STRAIGHT SECTION, PLACED BETWEEN THE CURVED SECTION AND THE END PIECE, TO MOVE THE END CLOSER TO THE EDGE OF THE CLEAR ZONE. PAYMENT SHALL BE MADE UNDER THE APPROPRIATE ITEM.
5. BACKUP MAY REMAIN IN PLACE.
6. THE RAIL MOUNTING HEIGHT OF ALL GUIDE RAIL OR MEDIAN BARRIER PLACED BEHIND CURB (REGARDLESS OF THE CURB HEIGHT OR SPEED) SHALL BE MEASURED FROM THE PAVEMENT SURFACE WHEN THE OFFSET IS 12" OR LESS AND TO THE GROUND SURFACE UNDER THE FACE OF THE RAIL WHEN THE OFFSET IS GREATER.
7. FOR DESIGN SPEEDS UNDER 50 MPH THE POINT OF REDIRECTION WILL BE AT THE POINT OF TANGENCY.

NEW YORK STATE OF OPPORTUNITY. **Department of Transportation**

U.S. CUSTOMARY STANDARD SHEET

BOX BEAM GUIDE RAIL
(SHEET 1 OF 5)

| APPROVED JUNE 21, 2011 | ISSUED UNDER EB 11-013 |
|---|---|
| /S/ RICHARD W. LEE, P.E. | 606-04 |
| DEPUTY CHIEF ENGINEER (DESIGN) | |

ERRATA 1 EFF. 01/01/2020
ISSUED WITH EB 19-041

# GUARD RAIL DETAILS
SCALE: NOT TO SCALE

C&G
JMCP + JLGARCHITECTS
115 DEL PARQUE STREET SUITE 7
SAN JUAN, PR 00911
787.309.1837

MARICAO
CAPITAL DE LA MONTAÑA

PROGRESS SET
NOT FOR CONSTRUCTION

PROJECT: PR-CRP-000721
PASEO LA GRUTA - VIVERO DE PECES
CARRETERA ESTATAL PR 410, KM. 3.0 - KM. 4.5, MARICAO, PR
GOBIERNO MUNICIPAL DE MARICAO
SCALE: AS SHOWN

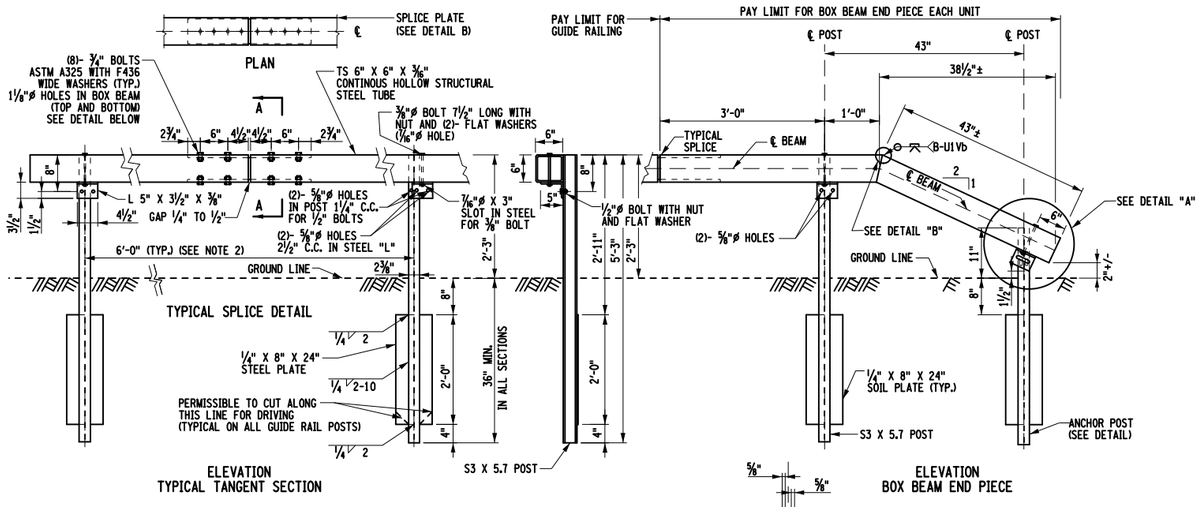
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| 2 | 06.01.23 | 60% PROGRESS SET | . | . |
| 3 | 08.09.23 | 90% PROGRESS SET | . | . |

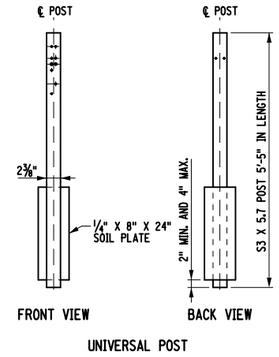
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REVIEWED BY: .
DATE: 08.09.23

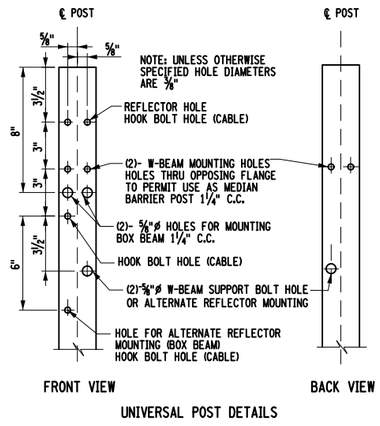
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DRAWING NO.: C-603.1

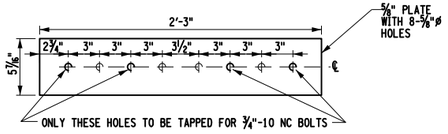
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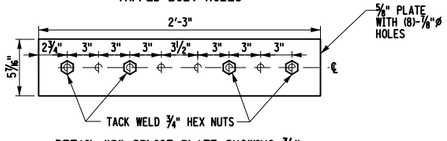
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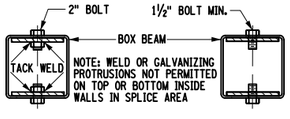


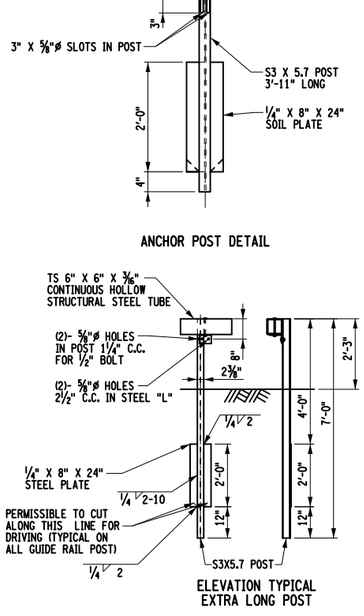



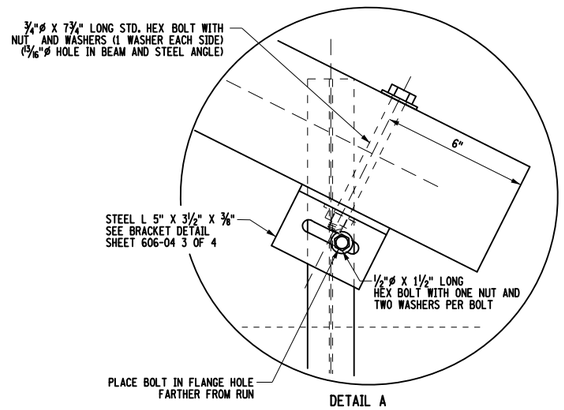



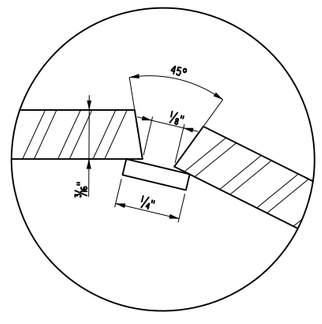




NEW YORK STATE OF OPPORTUNITY. **Department of Transportation**

U.S. CUSTOMARY STANDARD SHEET

BOX BEAM GUIDE RAIL
(SHEET 2 of 5)

| | |
|---|---|
| APPROVED JULY 28, 2014 | ISSUED UNDER EB 11-013 |
| /S/ RICHARD W. LEE, P.E. | 606-04 |
| DEPUTY CHIEF ENGINEER DESIGN | |

ERRATA 2 EFF. 05/01/2018 ISSUED WITH EB 18-003

ERRATA 1 EFF. 09/04/2014 ISSUED WITH EB 14-025

# GUARD RAIL DETAILS

SCALE: NOT TO SCALE

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JMCP + JLGARCHITECTS
115 DEL PARQUE STREET SUITE 7
SAN JUAN, PR 00911
787.309.1837

MARICAO
CAPITAL DE LA MONTAÑA

PROGRESS SET
NOT FOR CONSTRUCTION

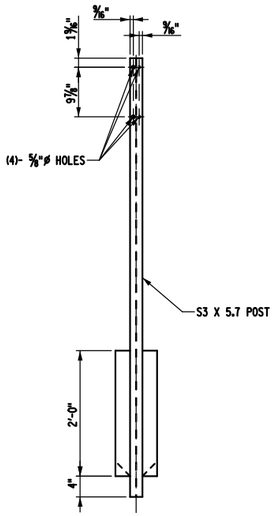
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PASEO LA GRUTA - VIVERO DE PECES
CARRETERA ESTATAL PR 410, KM. 3.0 - KM. 4.5, MARICAO, PR
GOBIERNO MUNICIPAL DE MARICAO
SCALE: AS SHOWN

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| . | 08.09.23 | 90% PROGRESS SET | . | . |

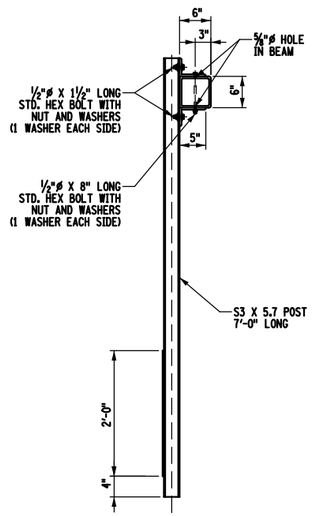
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DATE: 08.09.23

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DRAWING NO.: C-603.2

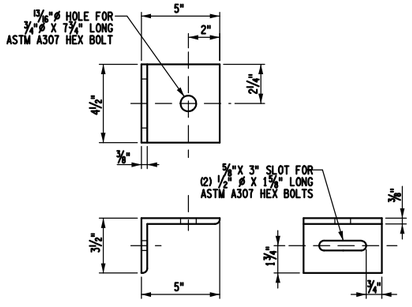
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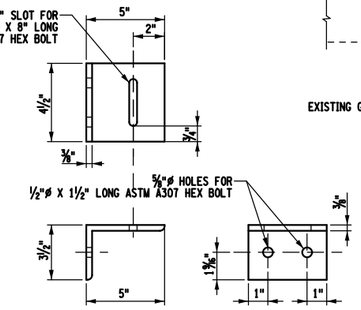

FRONT ELEVATION
POST 2 AND 4



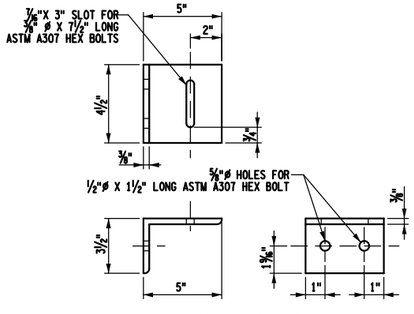

SIDE ELEVATION
POST 2 AND 4



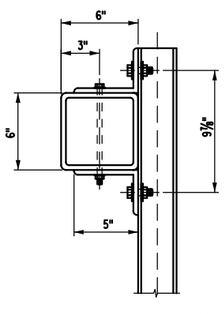

BRACKET DETAILS
POST 1




BRACKET DETAILS
POSTS 2 AND 4

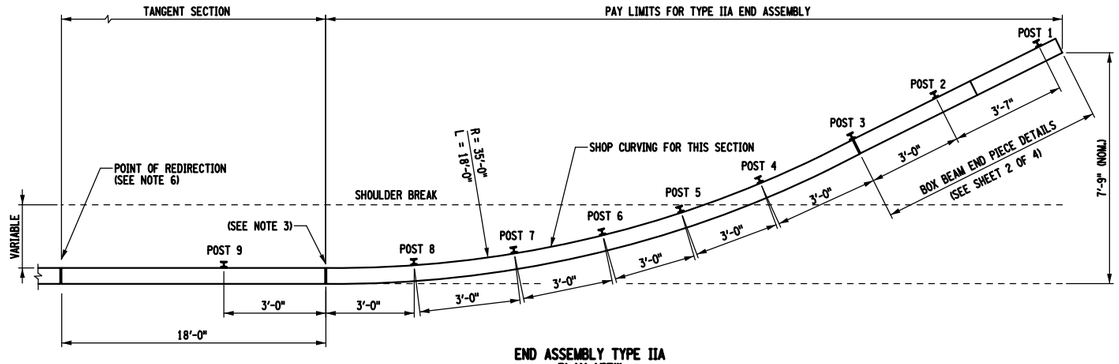



BRACKET DETAILS
POSTS 3, 5, 6, 7, 8 AND 9

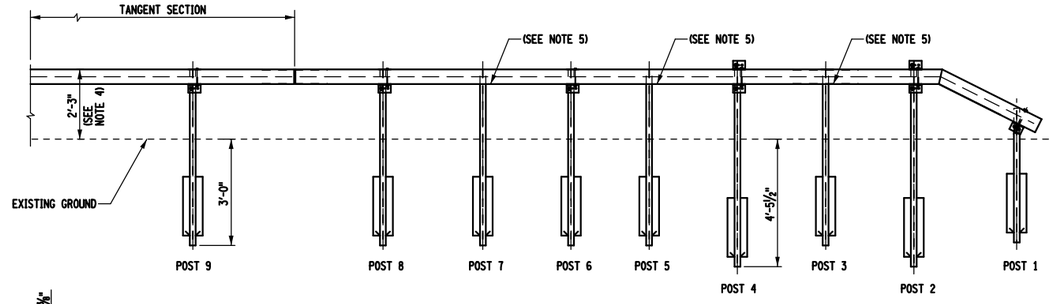



POSTS 2 AND 4 CONNECTION DETAIL
"DETAIL A"
(SEE NOTES 1 AND 2)

GENERAL NOTES ON SHEET 1 OF 4




END ASSEMBLY TYPE IIA
PLAN VIEW




END ASSEMBLY TYPE IIA
ELEVATION

TYPE IIA NOTES:

1. POSTS 2, AND 4 SHALL BE EXTRA LONG POSTS. POSTS 3, 5, 6, 7, 8, AND 9 SHALL BE STANDARD LENGTH.
2. POSTS 2 AND 4 SHALL BE FASTENED TO THE RAIL USING DETAIL "A".
3. FOR SIDE SLOPES 1:5 OR FLATTER, THE 18' OF CURVED BOX BEAM MAY BE PROVIDED IN A CURVED PORTION OF A 24' OR 36' PIECE. OTHERWISE, AN 18' SECTION IS TO BE SPLICED AT THE POINT OF TANGENCY.
4. THE DRAWING INDICATES THE TERMINAL INSTALLED ON LEVEL GROUND. WHEN INSTALLED OVER A SLOPE OR DITCH, THE TERMINAL END SHOULD BE PUSHED DOWN WITH THE EQUIVALENT OF APPROXIMATELY 100 LBS EFFORT TO DEPRESS THE TERMINAL DOWN.
5. POSTS 3, 5, AND 7 SHALL NOT BE CONNECTED TO BOX BEAM GUIDE RAIL.
6. FOR DESIGN SPEEDS UNDER 50 MPH THE POINT OF REDIRECTION WILL BE AT THE POINT OF TANGENCY.

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION

U.S. CUSTOMARY STANDARD SHEET

BOX BEAM GUIDE RAIL
(SHEET 3 OF 5)

| APPROVED JUNE 21, 2011 | ISSUED UNDER EB 11-013 |
|---|---|
| /S/ RICHARD W. LEE, P.E.<br>DEPUTY CHIEF ENGINEER DESIGN (ACTING) | 606-04 |

EFFECTIVE DATE: 01/12/2012

# GUARD RAIL DETAILS

SCALE: NOT TO SCALE

FILE NAME = 606-R403_011212.dgn
DATE/TIME = 17-SEP-2019 09:26
USER = rfoote

C&G
JMCP + JLGARCHITECTS
115 DEL PARQUE STREET SUITE 7
SAN JUAN, PR 00911
787.309.1837

MARICAO
CAPITAL DE LA MONTAÑA

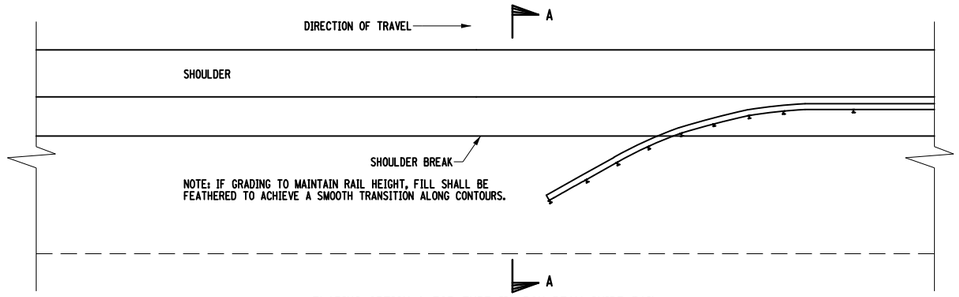
PROGRESS SET
NOT FOR CONSTRUCTION

PROJECT: PR-CRP-000721
PASEO LA GRUTA - VIVERO DE PECES
CARRETERA ESTATAL PR 410, KM. 3.0 - KM. 4.5, MARICAO, PR
GOBIERNO MUNICIPAL DE MARICAO
SCALE: AS SHOWN

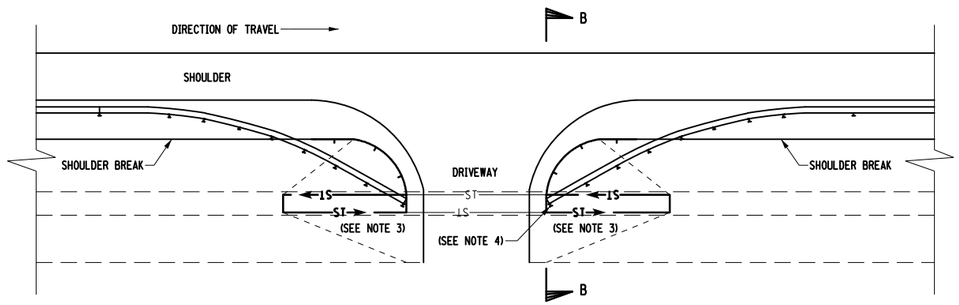
| NO. | DATE | DRAWING ISSUE | BY | APP. |
|---|---|---|---|---|
| 1 | 03.31.23 | 30% PROGRESS SET | . | . |
| . | 06.01.23 | 60% PROGRESS SET | . | . |
| . | 08.09.23 | 90% PROGRESS SET | . | . |
| . | . | . | . | . |
| . | . | . | . | . |
| . | . | . | . | . |
| . | . | . | . | . |

DRAWN BY: .
REVIEWED BY: .
DATE: 08.09.23
SHEET TITLE: REFERENCE GUARD RAIL DETAILS
DRAWING NO.: C-603.3

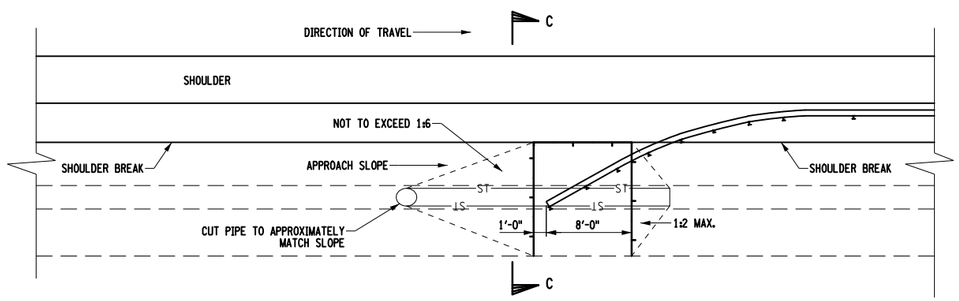
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FLARING OPTION 1 FOR TYPE IIA BOX BEAM GUIDE RAIL
(SEE NOTE 4 SHEET 1 OF 4)

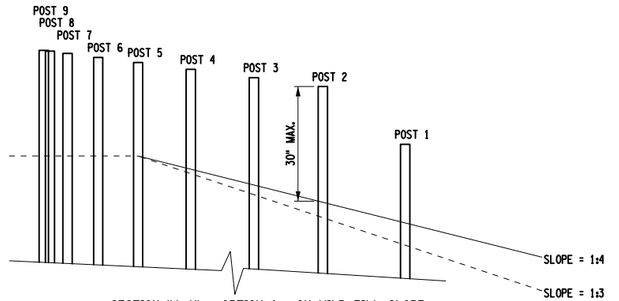



FLARING OPTION 2 FOR TYPE IIA BOX BEAM GUIDE RAIL
(SEE NOTE 4 SHEET 1 OF 4)




| TYPICAL PIPE LENGTHS | |
|---|---|
| DITCH DEPTH | PIPE LENGTH |
| 2'-0" | 25'-0" |
| 2'-6" | 29'-0" |
| 3'-0" | 33'-0" |
| 4'-0" | 40'-0" |

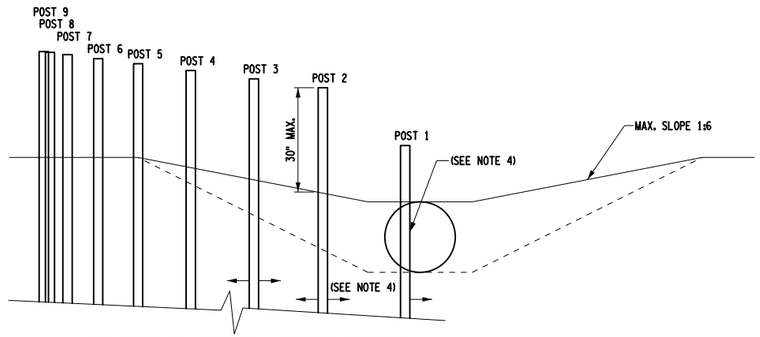
FLARING OPTION 3 FOR TYPE IIA BOX BEAM GUIDE RAIL
(SEE NOTE 4 SHEET 1 OF 4)




SECTION "A-A" - OPTION 1 : ON MILD FILL SLOPE

1. DEPRESS TERMINAL END BY 12" AND FASTEN TO POSTS BEFORE TIGHTENING BOLTS ON SPLICE BETWEEN POSTS 8 AND 9. IF THE SLOPE FROM SHOULDER BREAK BEGINS 2'-0" OR MORE BEHIND GUIDE RAIL RUN AND IS 1:4 OR FLATTER, NO ADDITIONAL GRADING IS REQUIRED.

2. TERMINAL WAY BE PLACED ON STEEPER SLOPES IF GRADING IS PROVIDED TO LIMIT RAIL HEIGHT TO 30" OR LESS.



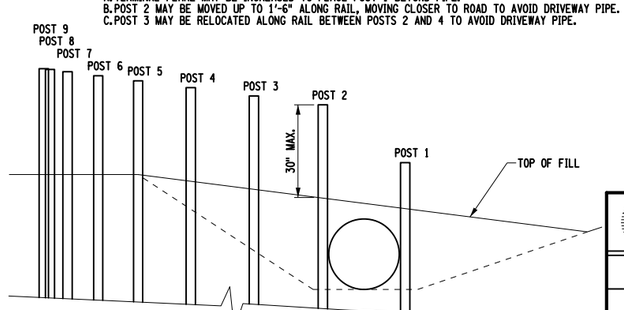

SECTION "B-B" - OPTION 2 : DRIVEWAY EMBANKMENT

1. EXTEND CULVERT A MINIMUM OF 4'-0" PAST GUIDE RAIL FOR GRADING.

2. DEPRESS TERMINAL BY 12" BEFORE TIGHTENING BOLTS ON SPLICE BETWEEN POSTS 8 AND 9. IF THE SLOPE FROM SHOULDER BREAK IS 1:4 OR FLATTER, NO ADDITIONAL GRADING IS REQUIRED.

3. POST 1 SHALL BE POSITIONED AT OR BELOW SHOULDER BREAK OF DRIVEWAY.

4. DO NOT DRIVE POST THROUGH PIPE. TO AVOID POST HITTING DRIVEWAY PIPE:
   A. TERMINAL FLARE MAY BE INCREASED TO PLACE POST 1 BEYOND PIPE.
   B. POST 2 MAY BE MOVED UP TO 1'-6" ALONG RAIL, MOVING CLOSER TO ROAD TO AVOID DRIVEWAY PIPE.
   C. POST 3 MAY BE RELOCATED ALONG RAIL BETWEEN POSTS 2 AND 4 TO AVOID DRIVEWAY PIPE.




SECTION "C-C" - OPTION 3 : LOCALIZED DITCH FILLING

1. WHEN TERMINAL MUST FLARE ACROSS A DEEP DITCH AND NO LATERAL EMBANKMENT IS NEAR, A PIPE SHALL BE SET IN THE DITCH AND AN EMBANKMENT CONSTRUCTED AT THE TERMINAL.
   A. THE APPROACH SLOPE SHALL HAVE A MAXIMUM STEEPNESS OF 1:6.
   B. THE FILL SHALL BE SUFFICIENT TO LIMIT GUIDE RAIL HEIGHT TO NO MORE THAN 30".
   C. IF A BACK SLOPE IS ACCESSIBLE AT THE CORRECT HEIGHT, THE BOX BEAM END PIECE SHOULD BE ELIMINATED AND A TYPE 0 ENDING USED.

GENERAL NOTES ON SHEET 1 OF 4

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION

U.S. CUSTOMARY STANDARD SHEET

BOX BEAM GUIDE RAIL
(SHEET 4 OF 5)

| APPROVED JULY 2, 2010 | ISSUED UNDER EB 10-022 |
|---|---|
| /S/ RICHARD W. LEE, P.E. | 606-04 |
| FOR THE DEPUTY CHIEF ENGINEER (DESIGN) | |

EFFECTIVE DATE: 01/06/2011

# GUARD RAIL DETAILS

SCALE: NOT TO SCALE

FILE NAME = 606-04d01212.dgn
DATE/TIME = 17-SEP-2019 09:33
USER = rfcosta

C&G
JMCP +
JLGARCHITECTS
115 DEL PARQUE STREET SUIT 7
SAN JUAN, PR 00911
787.309.1837

MARICAO
CAPITAL DE LA MONTAÑA

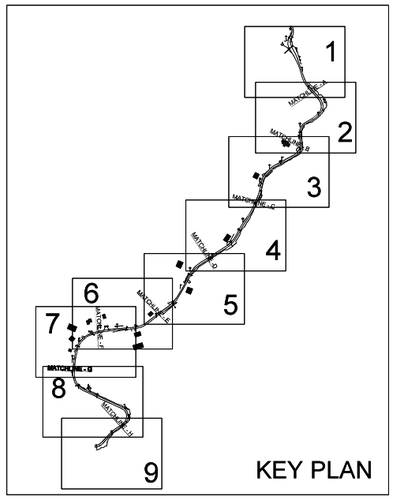
PROGRESS SET
NOT FOR CONSTRUCTION

PROJECT: PR-CRP-000721
PASEO LA GRUTA - VIVERO DE PECES
CARRETERA ESTATAL PR 410, KM. 3.0 - KM. 4.5, MARICAO, PR
GOBIERNO MUNICIPAL DE MARICAO
SCALE: AS SHOWN

| NO. | DATE | DRAWING ISSUE | BY | APP. |
|---|---|---|---|---|
| 1 | 03.31.23 | 30% PROGRESS SET | . | . |
| . | 06.01.23 | 60% PROGRESS SET | . | . |
| . | 08.09.23 | 90% PROGRESS SET | . | . |

DRAWN BY: .
REVIEWED BY: .
DATE: 08.09.23
SHEET TITLE: REFERENCE GUARD RAIL DETAILS
DRAWING NO.: C-603.4

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## EXISTING CONDITIONS LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

0 5 10 30

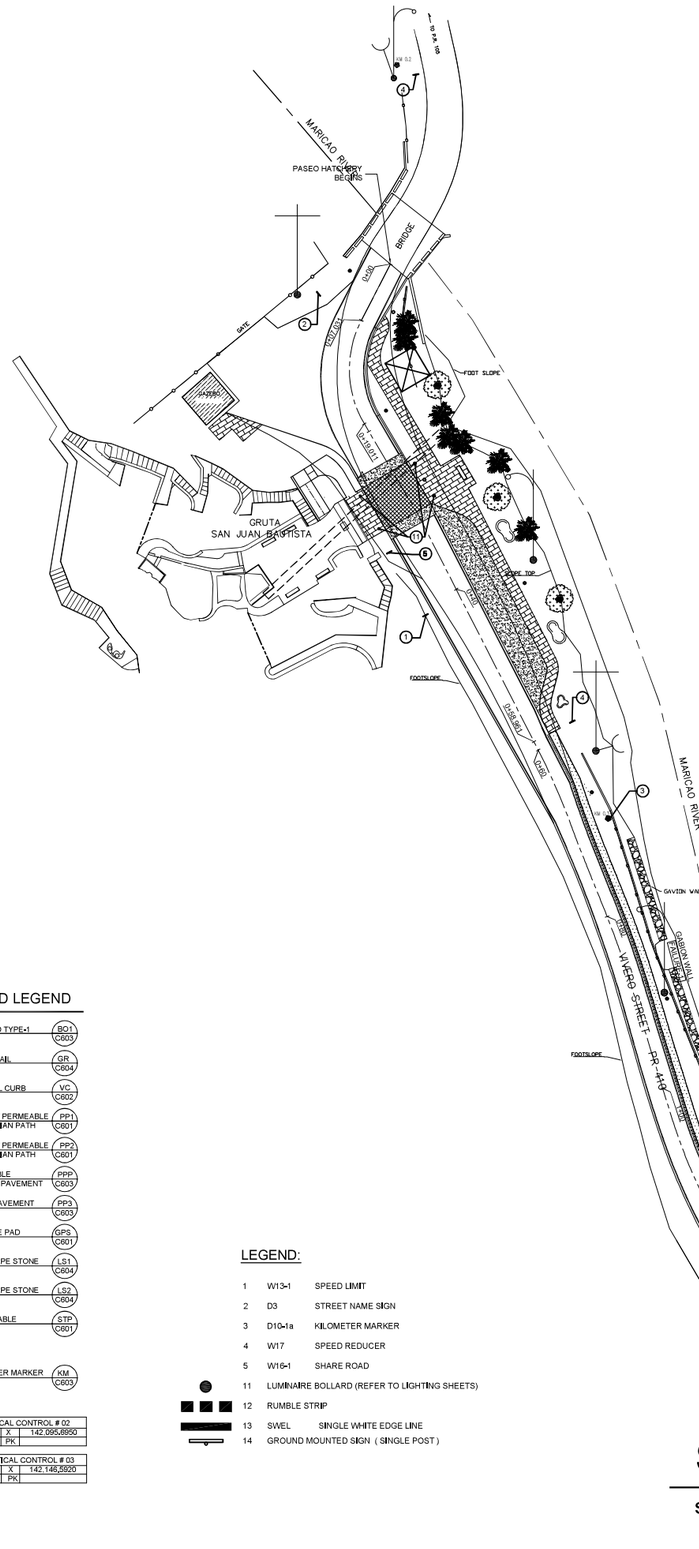
SCALE = 1:300

## PROPOSED LEGEND

| | | |
|---|---|---|
| | BOLLARD TYPE-1 | BO1 C603 |
| | GUARD RAIL | GR C604 |
| | VERTICAL CURB TYPE E | VC C602 |
| | 0,81 (32") PERMEABLE PEDESTRIAN PATH | PP1 C601 |
| | 0,60 (24") PERMEABLE PEDESTRIAN PATH | PP2 C601 |
| | PERMEABLE PARKING PAVEMENT | PPP C603 |
| | PAVER PAVEMENT | PP3 C603 |
| | GARBAGE PAD SCREEN | GPS C601 |
| | LANDSCAPE STONE TYPE 1 | LS1 C604 |
| | LANDSCAPE STONE TYPE 2 | LS2 C604 |
| | SPEED TABLE | STP C601 |
| | KILOMETER MARKER | KM C603 |

| HORIZONTAL VERTICAL CONTROL # 02 | | | |
|---|---|---|---|
| Y | 238,355.4430 | X | 142,095.6950 |
| EL. | 423.510 | PK | |

| HORIZONTAL VERTICAL CONTROL # 03 | | | |
|---|---|---|---|
| Y | 238,358.9140 | X | 142,146.5920 |
| EL. | 425.090 | PK | |




## LEGEND:

| | | |
|---|---|---|
| 1 | W13-1 | SPEED LIMIT |
| 2 | D3 | STREET NAME SIGN |
| 3 | D10-1a | KILOMETER MARKER |
| 4 | W17 | SPEED REDUCER |
| 5 | W16-1 | SHARE ROAD |
| 11 | LUMINAIRE BOLLARD (REFER TO LIGHTING SHEETS) | |
| 12 | RUMBLE STRIP | |
| 13 | SWEL | SINGLE WHITE EDGE LINE |
| 14 | GROUND MOUNTED SIGN ( SINGLE POST ) | |

# SIGNAGE PAVEMENT MARKING PLAN-1

scale= 1:300

C&G
JMCP + JLGARCHITECTS
113 DIL PARQUE STREET SUITE 7
SAN JUAN, PR 00911
787.309.3837

BAIGES GEOTECHNICAL ENGINEERS, LLC
44 PASEO DE LA ALHAMBRA, URB TORRIMAR, GUAYNABO, P.R. 00966
JAMES.BAIGES@GMAIL.COM – (787) 399-0017

90% DESIGN SET
NOT FOR CONSTRUCTION

PROJECT: **PR-CRP-000721**

**PASEO LA GRUTA-VIVERO DE PECES**

CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

GOBIERNO MUNICIPAL DE MARICAO

PASEO HATCHERY [PR-CRP-000721]

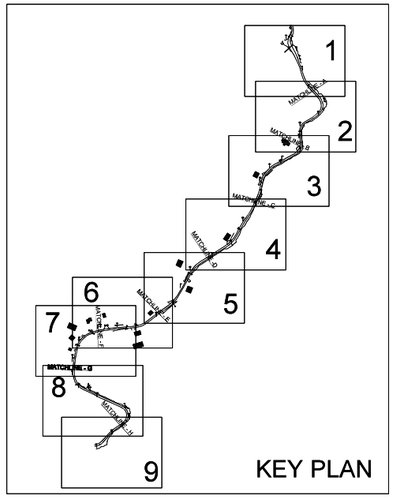
| NO. | DATE | DRAWING ISSUE | BY | APP. |
|---|---|---|---|---|
| | | | | |

DRAWN BY:
REVIEWED BY:
DATE: 05/23

SHEET TITLE: SIGNAGE PAVEMENT MARKING

DRAWING NO.: C-701

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## EXISTING CONDITIONS LEGEND

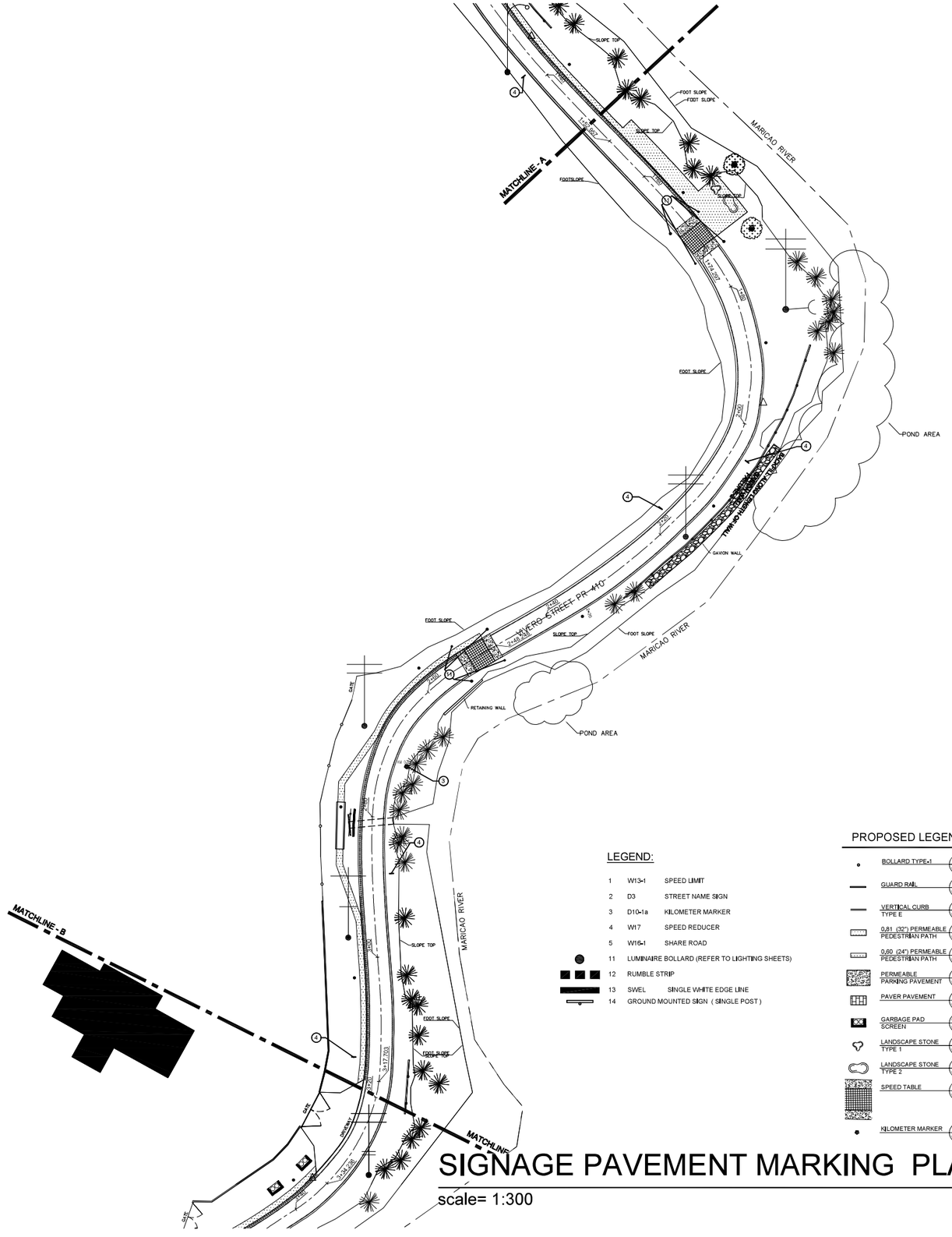
| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

0 5 10 30

SCALE = 1:300

| HORIZONTAL VERTICAL CONTROL # 04 | | | |
|---|---|---|---|
| Y | 238,206.7660 | X | 142,179.5960 |
| EL. | 426.520 | PK | |

| HORIZONTAL VERTICAL CONTROL # 06 | | | |
|---|---|---|---|
| Y | 238,096.5140 | Y | 142115.3990 |
| EL. | 428.450 | PK | |




## LEGEND:

| | | |
|---|---|---|
| 1 | W13-1 | SPEED LIMIT |
| 2 | D3 | STREET NAME SIGN |
| 3 | D10-1a | KILOMETER MARKER |
| 4 | W17 | SPEED REDUCER |
| 5 | W16-1 | SHARE ROAD |
| 11 | | LUMINAIRE BOLLARD (REFER TO LIGHTING SHEETS) |
| 12 | | RUMBLE STRIP |
| 13 | SWEL | SINGLE WHITE EDGE LINE |
| 14 | | GROUND MOUNTED SIGN ( SINGLE POST ) |

## PROPOSED LEGEND

| | | |
|---|---|---|
| | BOLLARD TYPE-1 | BO1 C603 |
| | GUARD RAIL | GR C604 |
| | VERTICAL CURB TYPE E | VC C602 |
| | 0.81 (32") PERMEABLE PEDESTRIAN PATH | PP1 C601 |
| | 0.60 (24") PERMEABLE PEDESTRIAN PATH | PP2 C601 |
| | PERMEABLE PARKING PAVEMENT | PPP C603 |
| | PAVER PAVEMENT | PP3 C603 |
| | GARBAGE PAD SCREEN | GPS C601 |
| | LANDSCAPE STONE TYPE 1 | LS1 C604 |
| | LANDSCAPE STONE TYPE 2 | LS2 C604 |
| | SPEED TABLE | STP C601 |
| | KILOMETER MARKER | KM C603 |

# SIGNAGE PAVEMENT MARKING PLAN-2

scale= 1:300

C&G
JMCP + JLGARCHITECTS
115 DIL PARQUE STREET SUITE 7
SAN JUAN, PR 00911
787.309.3837

BAIGES GEOTECHNICAL ENGINEERS, LLC
44 PASEO DE LA ALHAMBRA, URB TORRIMAR, GUAYNABO, P.R. 00966
JAMES.BAIGES@GMAIL.COM – (787) 399-0017

90% DESIGN SET
NOT FOR CONSTRUCTION

PROJECT: PR-CRP-000721

# PASEO LA GRUTA-VIVERO DE PECES

CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

GOBIERNO MUNICIPAL DE MARICAO

PASEO HATCHERY [PR-CRP-000721]

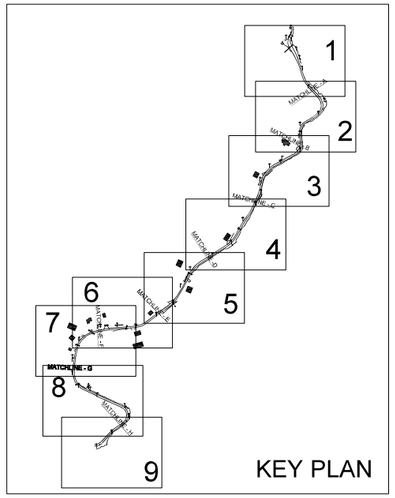
| NO. | DATE | DRAWING ISSUE | BY | APP. |
|---|---|---|---|---|
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DRAWN BY:
REVIEWED BY:
DATE: 05/23

SHEET TITLE: SIGNAGE PAVEMENT MARKING

DRAWING NO.: C-702

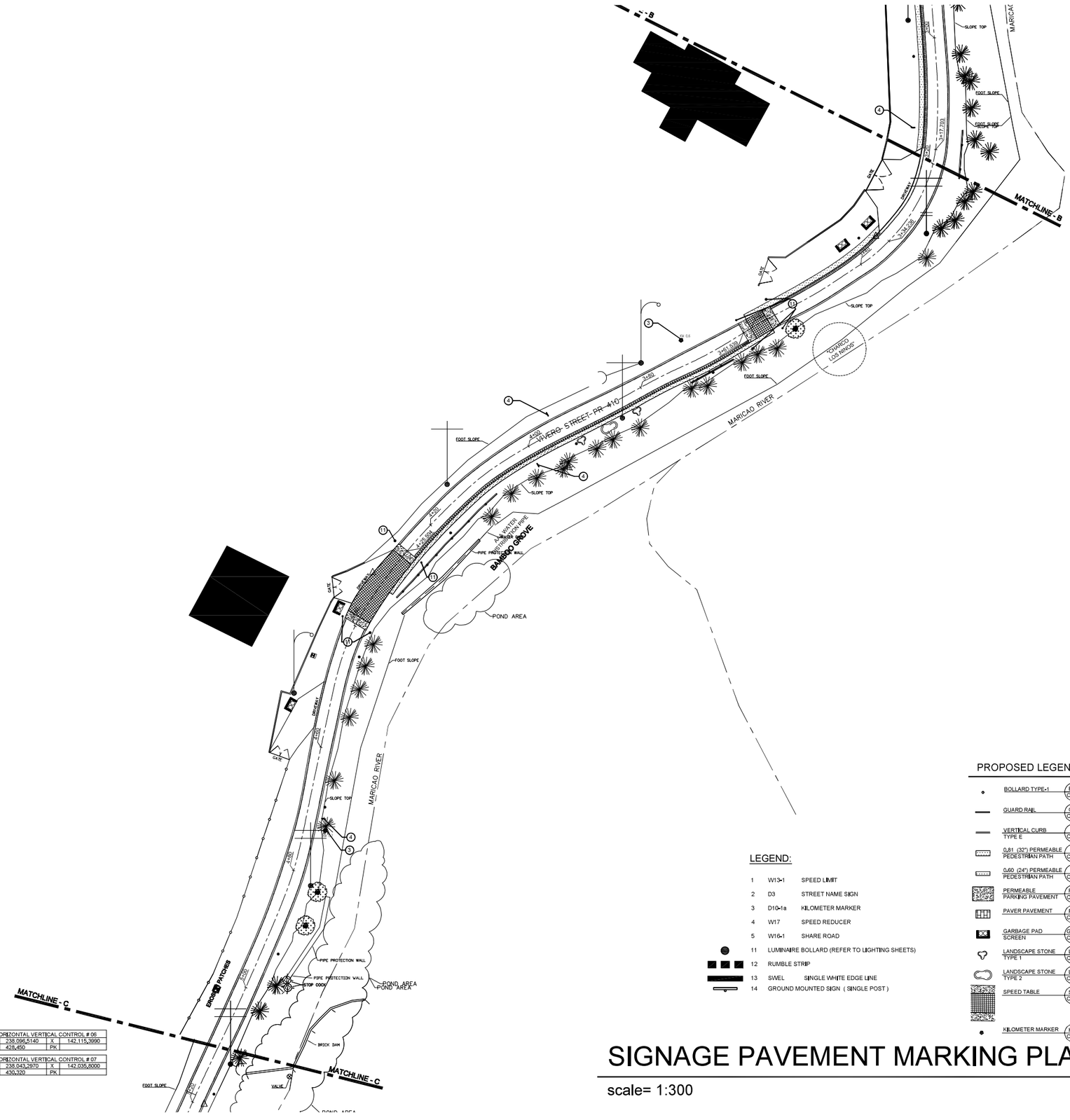
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## EXISTING CONDITIONS LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

0 5 10 30
SCALE = 1:300




| HORIZONTAL VERTICAL CONTROL # 06 | | | |
|---|---|---|---|
| Y | 238,096.5140 | X | 142,115.3990 |
| EL. | 428.450 | PK | |

| HORIZONTAL VERTICAL CONTROL # 07 | | | |
|---|---|---|---|
| Y | 238,043.2970 | X | 142,035.8000 |
| EL. | 430.320 | PK | |

## LEGEND:

| | | | |
|---|---|---|---|
| 1 | W13-1 | SPEED LIMIT |
| 2 | D3 | STREET NAME SIGN |
| 3 | D10-1a | KILOMETER MARKER |
| 4 | W17 | SPEED REDUCER |
| 5 | W16-1 | SHARE ROAD |
| 11 | | LUMINAIRE BOLLARD (REFER TO LIGHTING SHEETS) |
| 12 | | RUMBLE STRIP |
| 13 | SWEL | SINGLE WHITE EDGE LINE |
| 14 | | GROUND MOUNTED SIGN ( SINGLE POST ) |

## PROPOSED LEGEND

| | | |
|---|---|---|
| | BOLLARD TYPE-1 | BO1 C603 |
| | GUARD RAIL | GR C604 |
| | VERTICAL CURB TYPE E | VC C602 |
| | 0,81 (32") PERMEABLE PEDESTRIAN PATH | PP1 C601 |
| | 0,60 (24") PERMEABLE PEDESTRIAN PATH | PP2 C601 |
| | PERMEABLE PARKING PAVEMENT | PPP C605 |
| | PAVER PAVEMENT | PP3 C603 |
| | GARBAGE PAD SCREEN | GPS C601 |
| | LANDSCAPE STONE TYPE 1 | LS1 C604 |
| | LANDSCAPE STONE TYPE 2 | LS2 C604 |
| | SPEED TABLE | STP C601 |
| | KILOMETER MARKER | KM C603 |

# SIGNAGE PAVEMENT MARKING PLAN-3

scale= 1:300

C&G
JMCP + JLGARCHITECTS
115 DIL PARQUE STREET SUITE 7
SAN JUAN, PR 00911
787.309.3837

BAIGES GEOTECHNICAL ENGINEERS, LLC
64 PASEO DE LA ALHAMBRA, URB TORRIMAR - GUAYNABO, P.R. 00966
JAMES@BAIGESGEO.COM - (787) 399-0077

90% DESIGN SET
NOT FOR CONSTRUCTION

PROJECT: PR-CRP-000721
**PASEO LA GRUTA-VIVERO DE PECES**
CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

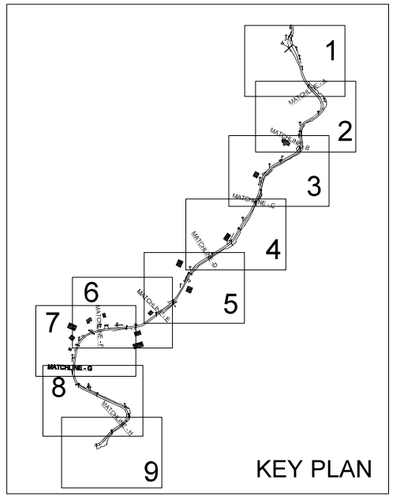
GOBIERNO MUNICIPAL DE MARICAO
PASEO HATCHERY [PR-CRP-000721]

| NO. | DATE | DRAWING ISSUE | BY | APP. |
|---|---|---|---|---|
| | | | | |

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REVIEWED BY:
DATE: 05/23

SHEET TITLE: SIGANGE PAVEMENT MARKING
DRAWING NO.: C-703

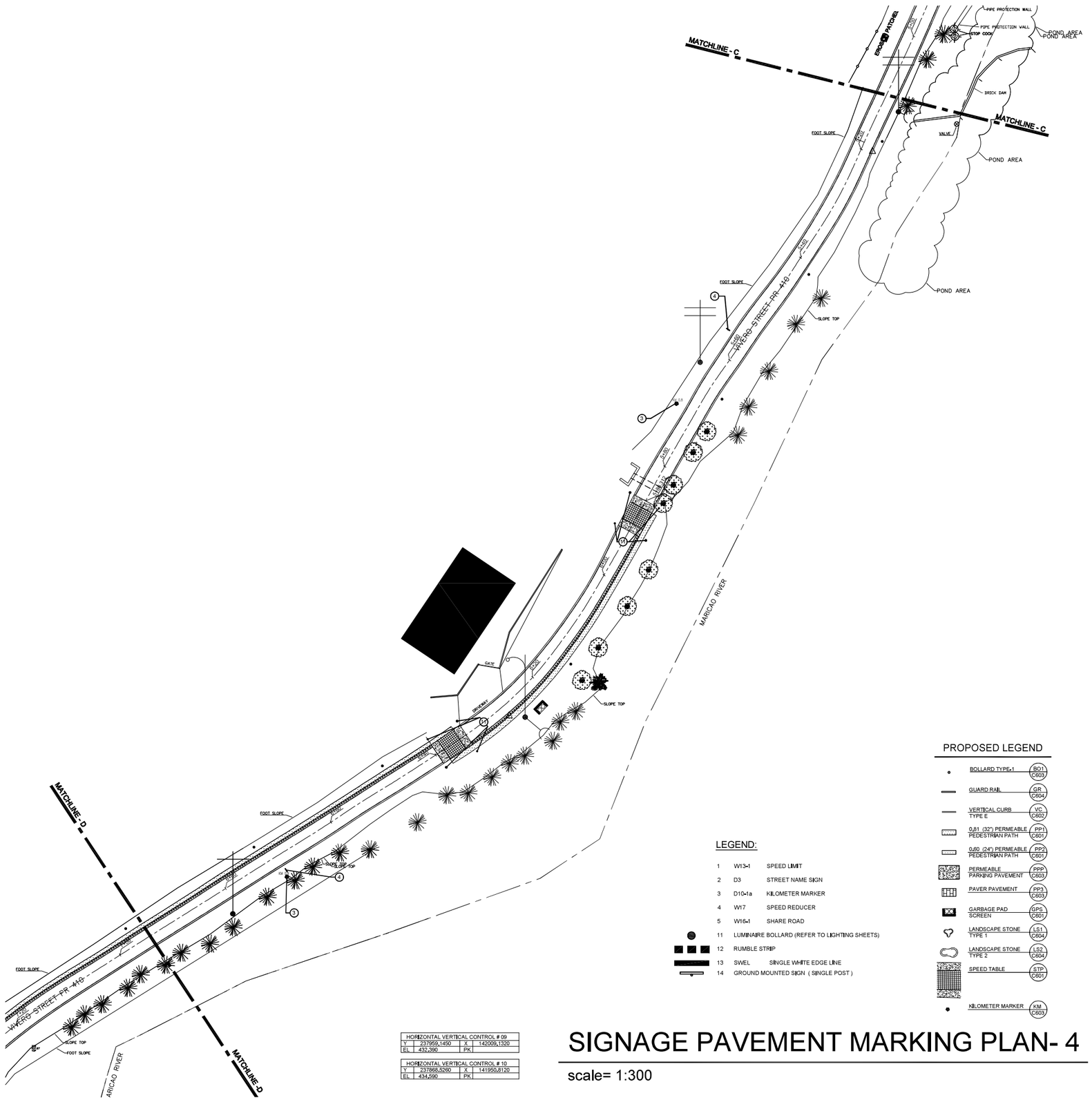
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## EXISTING CONDITIONS LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

0 5 10 30
SCALE = 1:300




| HORIZONTAL VERTICAL CONTROL # 09 | | | |
|---|---|---|---|
| Y | 237959,1450 | X | 142009,1320 |
| EL | 432.390 | PK | |

| HORIZONTAL VERTICAL CONTROL # 10 | | | |
|---|---|---|---|
| Y | 237868,5260 | X | 141950,8120 |
| EL | 434.590 | PK | |

LEGEND:

| | | |
|---|---|---|
| 1 | W13-1 | SPEED LIMIT |
| 2 | D3 | STREET NAME SIGN |
| 3 | D10-1a | KILOMETER MARKER |
| 4 | W17 | SPEED REDUCER |
| 5 | W16-1 | SHARE ROAD |
| 11 | | LUMINAIRE BOLLARD (REFER TO LIGHTING SHEETS) |
| 12 | | RUMBLE STRIP |
| 13 | SWEL | SINGLE WHITE EDGE LINE |
| 14 | | GROUND MOUNTED SIGN ( SINGLE POST ) |

PROPOSED LEGEND

| | | |
|---|---|---|
| | BOLLARD TYPE-1 | BO1 C603 |
| | GUARD RAIL | GR C604 |
| | VERTICAL CURB TYPE E | VC C602 |
| | 0,81 (32") PERMEABLE PEDESTRIAN PATH | PP1 C601 |
| | 0,60 (24") PERMEABLE PEDESTRIAN PATH | PP2 C601 |
| | PERMEABLE PARKING PAVEMENT | PPP C603 |
| | PAVER PAVEMENT | PP3 C603 |
| | GARBAGE PAD SCREEN | GPS C601 |
| | LANDSCAPE STONE TYPE 1 | LS1 C604 |
| | LANDSCAPE STONE TYPE 2 | LS2 C604 |
| | SPEED TABLE | STP C601 |
| | KILOMETER MARKER | KM C603 |

# SIGNAGE PAVEMENT MARKING PLAN- 4

scale= 1:300

C&G
JMCP + JLGARCHITECTS
115 DIE PARQUE STREET SUITE 7
SAN JUAN, PR 00911
787.309.3837

BAIGES GEOTECHNICAL ENGINEERS, LLC
64 PASEO DE LA ALHAMBRA, URB TORRIMAR, GUAYNABO, P.R. 00969
JAMES@BAIGESMAIL.COM • (787) 399-0017

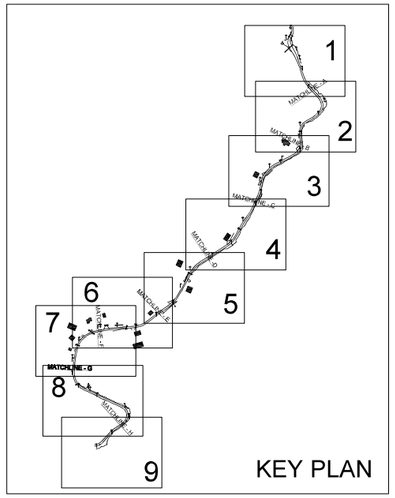
90% DESIGN SET
NOT FOR CONSTRUCTION

PROJECT: PR-CRP-000721
PASEO LA GRUTA-VIVERO DE PECES
CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5
GOBIERNO MUNICIPAL DE MARICAO
PASEO HATCHERY [PR-CRP-000721]

| NO. | DATE | DRAWING ISSUE | BY | APP. |
|---|---|---|---|---|
| | | | | |

DRAWN BY:
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DATE: 05/23
SHEET TITLE: LAYOUT SITE PLAN
DRAWING NO.: C-104

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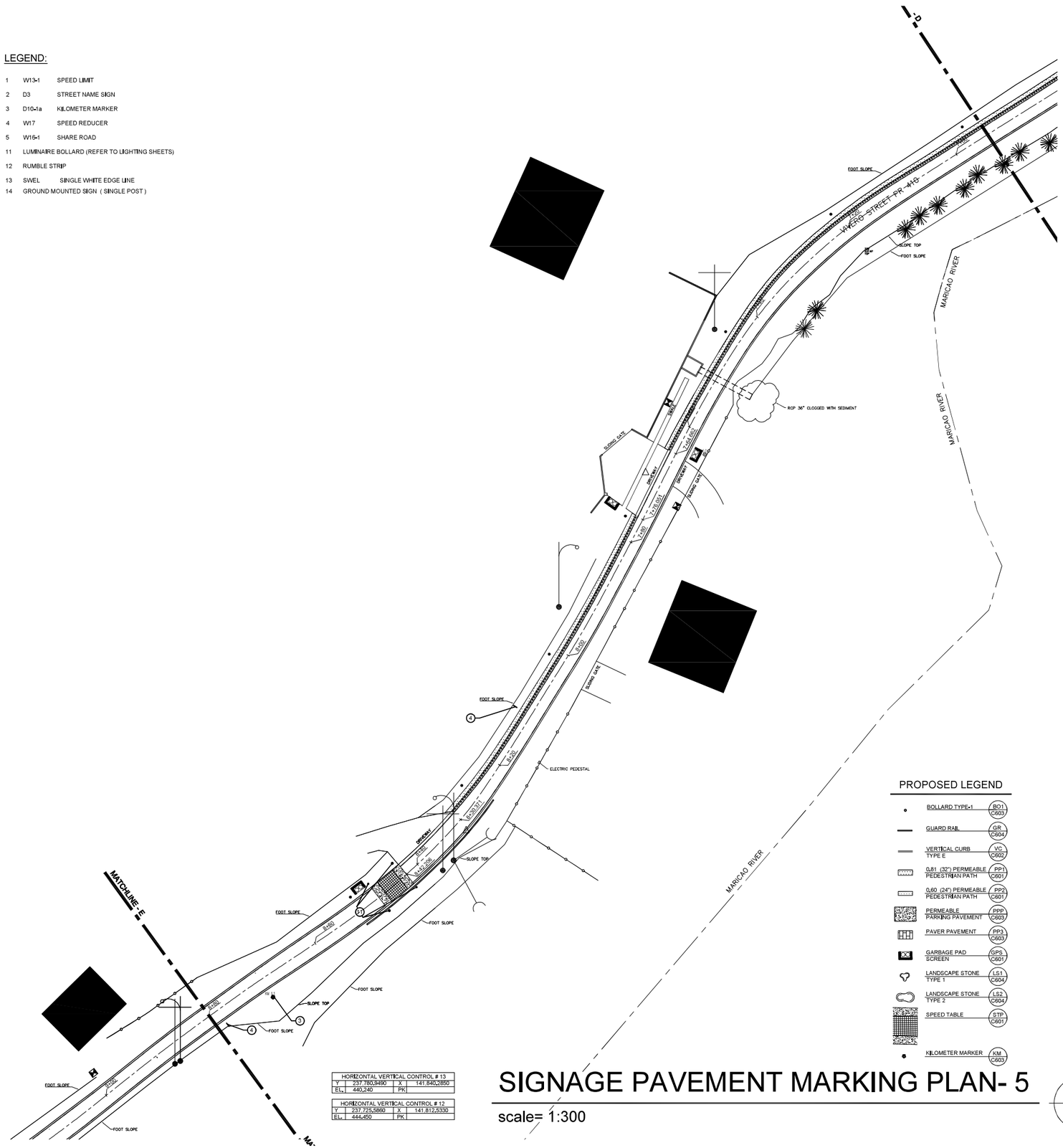
| | | | |
|---|---|---|---|
| 1 | W13-1 | SPEED LIMIT |
| 2 | D3 | STREET NAME SIGN |
| 3 | D10-1a | KILOMETER MARKER |
| 4 | W17 | SPEED REDUCER |
| 5 | W16-1 | SHARE ROAD |
| 11 | | LUMINAIRE BOLLARD (REFER TO LIGHTING SHEETS) |
| 12 | | RUMBLE STRIP |
| 13 | SWEL | SINGLE WHITE EDGE LINE |
| 14 | | GROUND MOUNTED SIGN ( SINGLE POST ) |

## EXISTING CONDITIONS LEGEND

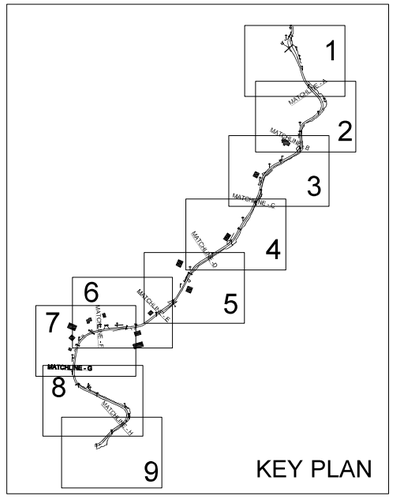
| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

0 5 10 30

SCALE = 1:300


MATCHLINE-E
MATCHLINE-F
MARICAO RIVER
MARICAO RIVER
WIDTH STREET PR-410
FOOT SLOPE
SLOPE TOP
FOOT SLOPE
RCP 36" CLOGGED WITH SEDIMENT
DRIVEWAY
DRIVEWAY
RISING GATE
RISING GATE
ELECTRIC PEDESTAL
SLOPE TOP
FOOT SLOPE
FOOT SLOPE
FOOT SLOPE
FOOT SLOPE
FOOT SLOPE
FOOT SLOPE
SLOPE TOP
FOOT SLOPE
FOOT SLOPE
V-100
V-100
V-100

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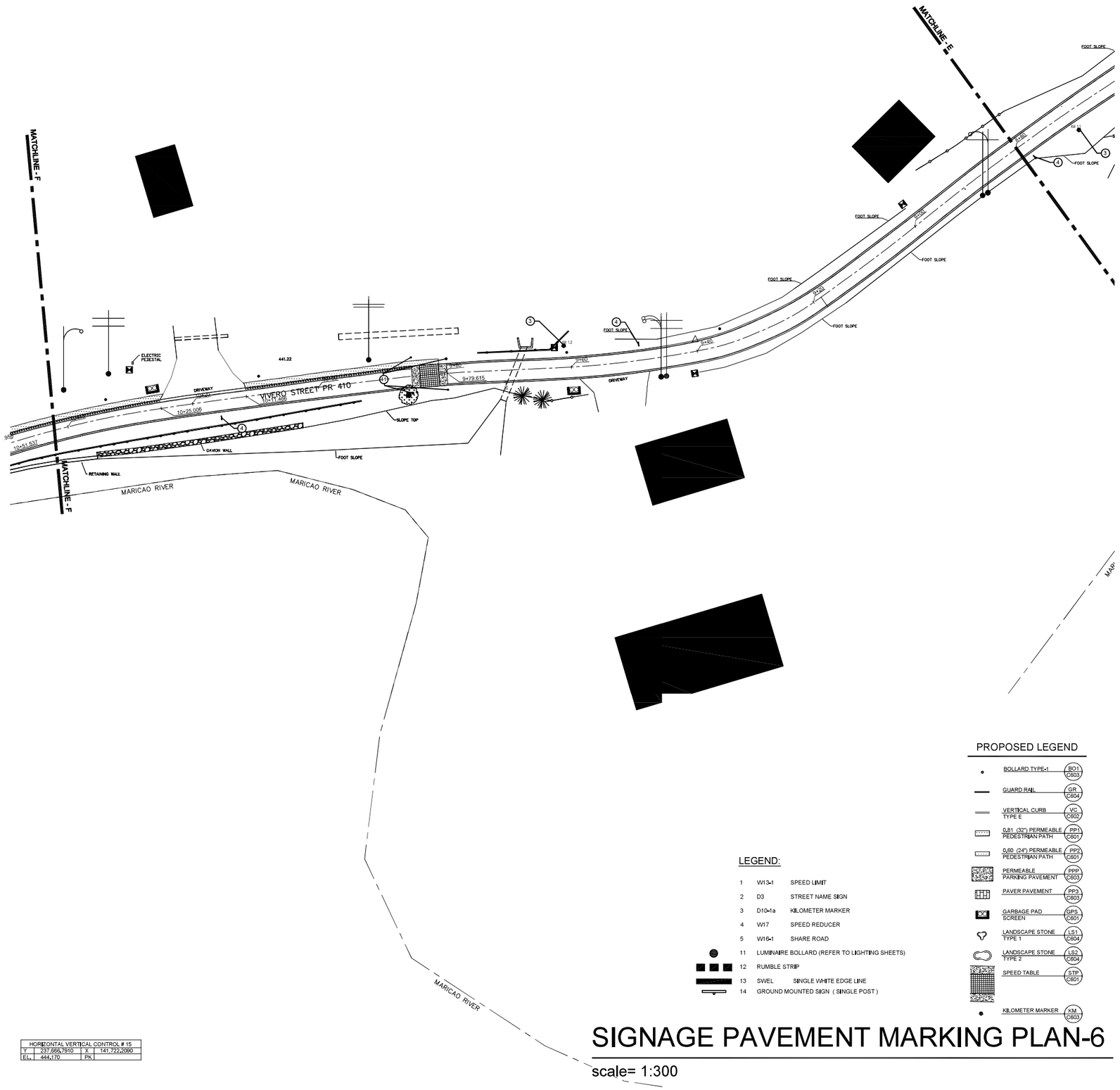



## EXISTING CONDITIONS LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

0 5 10 30
SCALE = 1:300

| HORIZONTAL VERTICAL CONTROL # 15 | | | |
|---|---|---|---|
| Y | 237,666.7910 | X | 141,722.2080 |
| EL. | 444.170 | PK | |




## LEGEND:

| | | | |
|---|---|---|---|
| 1 | W13-1 | SPEED LIMIT |
| 2 | D3 | STREET NAME SIGN |
| 3 | D10-1a | KILOMETER MARKER |
| 4 | W17 | SPEED REDUCER |
| 5 | W16-1 | SHARE ROAD |
| 11 | | LUMINAIRE BOLLARD (REFER TO LIGHTING SHEETS) |
| 12 | | RUMBLE STRIP |
| 13 | SWEL | SINGLE WHITE EDGE LINE |
| 14 | | GROUND MOUNTED SIGN ( SINGLE POST ) |

## PROPOSED LEGEND

| | | |
|---|---|---|
| BOLLARD TYPE-1 | BO1 | C603 |
| GUARD RAIL | GR | C604 |
| VERTICAL CURB TYPE E | VC | C602 |
| 0,81 (32") PERMEABLE PEDESTRIAN PATH | PP1 | C601 |
| 0,60 (24") PERMEABLE PEDESTRIAN PATH | PP2 | C601 |
| PERMEABLE PARKING PAVEMENT | PPP | C603 |
| PAVER PAVEMENT | PP3 | C603 |
| GARBAGE PAD SCREEN | GPS | C601 |
| LANDSCAPE STONE TYPE 1 | LS1 | C604 |
| LANDSCAPE STONE TYPE 2 | LS2 | C604 |
| SPEED TABLE | STP | C601 |
| KILOMETER MARKER | KM | C603 |

# SIGNAGE PAVEMENT MARKING PLAN-6

scale= 1:300

C&G
JMCP + JLGARCHITECTS
113 DEL PARQUE STREET SUITE 7
SAN JUAN, PR 00911
787.309.3837

BAIGES GEOTECHNICAL ENGINEERS, LLC
641 PASEO DE LA ALHAMBRA, URB TORRIMAR, GUAYNABO, P.R. 00969
JAMES@BAIGESMUL.COM • (787) 399-0077

90% DESIGN SET
NOT FOR CONSTRUCTION

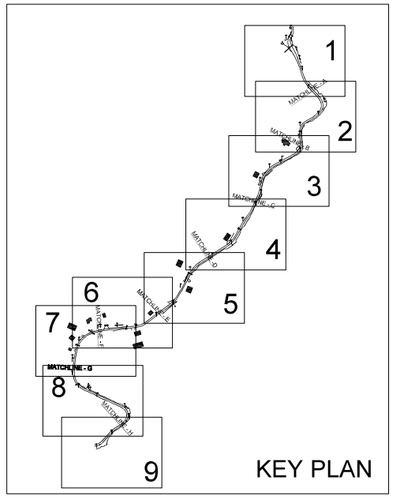
PROJECT: PR-CRP-000721
**PASEO LA GRUTA-VIVERO DE PECES**
CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

GOBIERNO MUNICIPAL DE MARICAO
PASEO HATCHERY [PR-CRP-000721]

| NO. | DATE | DRAWING ISSUE | BY | APP. |
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SHEET TITLE: SIGNAGE PAVEMENT MARKING
DRAWING NO.: C-706

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## EXISTING CONDITIONS LEGEND

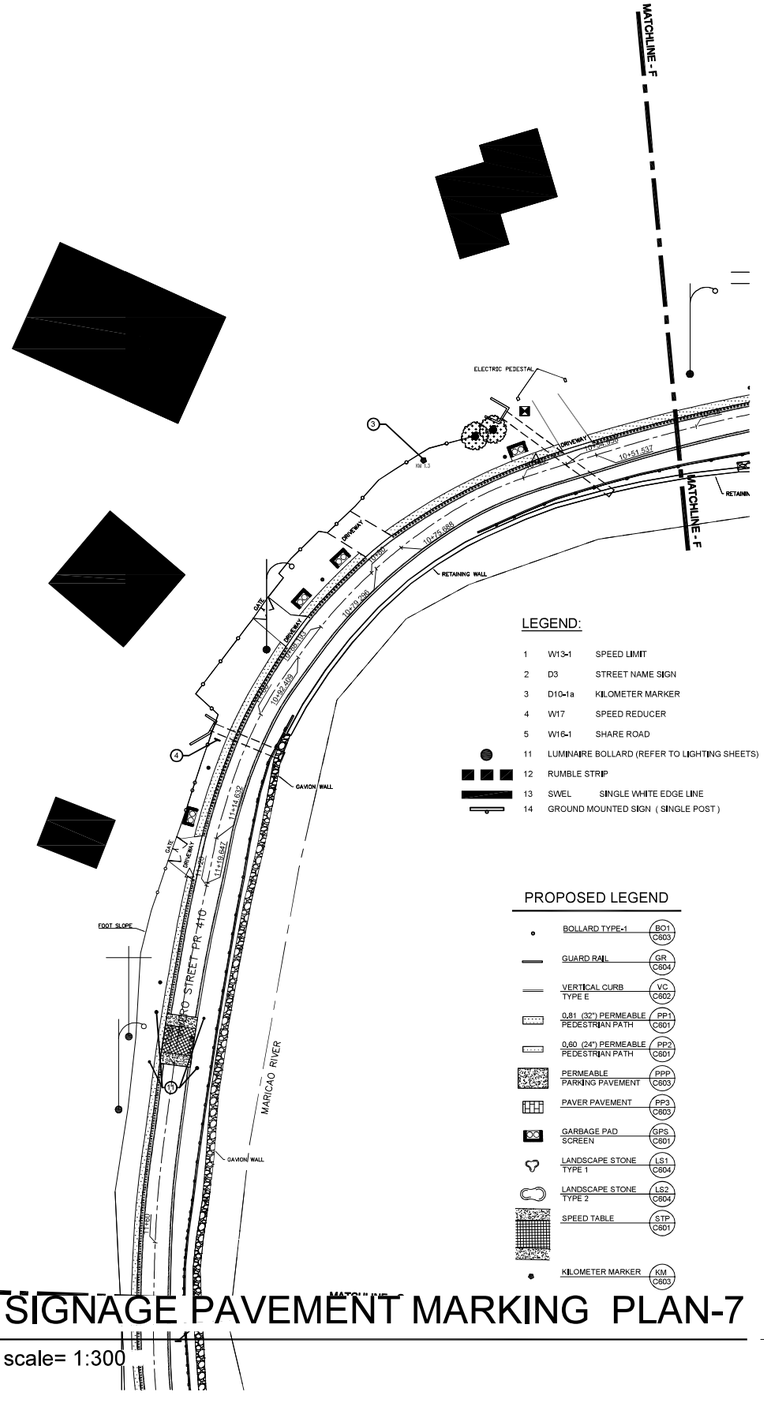
| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

0 5 10 30

SCALE = 1:300

| HORIZONTAL VERTICAL CONTROL # 16 | | | |
|---|---|---|---|
| Y | 237,649.4570 | X | 141,605.5650 |
| EL. | 442.240 | PK | |

| HORIZONTAL VERTICAL CONTROL # 17 | | | |
|---|---|---|---|
| Y | 237,603.4640 | X | 141,587.1870 |
| EL. | 443.040 | PK | |




# SIGNAGE PAVEMENT MARKING PLAN-7

scale= 1:300

C&G
JMCP + JLGARCHITECTS
113 DEL PARQUE STREET SUITE 7
SAN JUAN, PR 00911
787.309.3837

BAIGES GEOTECHNICAL ENGINEERS, LLC
64 PASEO DE LA ALHAMBRA, URB TORRIMAR, GUAYNABO, P.R. 00966
JAMES@BAIGESPR.COM • (787) 399-0077

90% DESIGN SET
NOT FOR CONSTRUCTION

PROJECT: PR-CRP-000721

**PASEO LA GRUTA-VIVERO DE PECES**

CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

GOBIERNO MUNICIPAL DE MARICAO

PASEO HATCHERY [PR-CRP-000721]

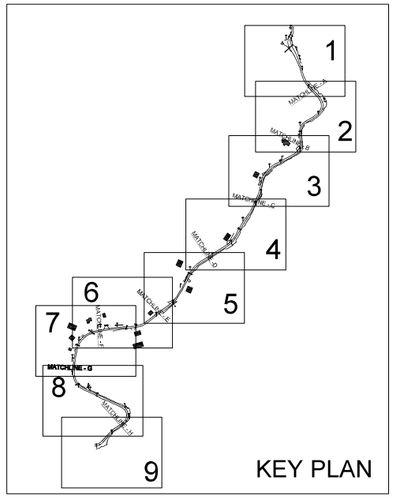
| NO. | DATE | DRAWING ISSUE | BY | APP. |
|---|---|---|---|---|
| | | | | |

DRAWN BY:
REVIEWED BY:
DATE: 05/23

SHEET TITLE: SIGNAGE PAVEMENT MARKING

DRAWING NO.: C-707

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## EXISTING CONDITIONS LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

0 5 10 30

SCALE = 1:300

## PROPOSED LEGEND

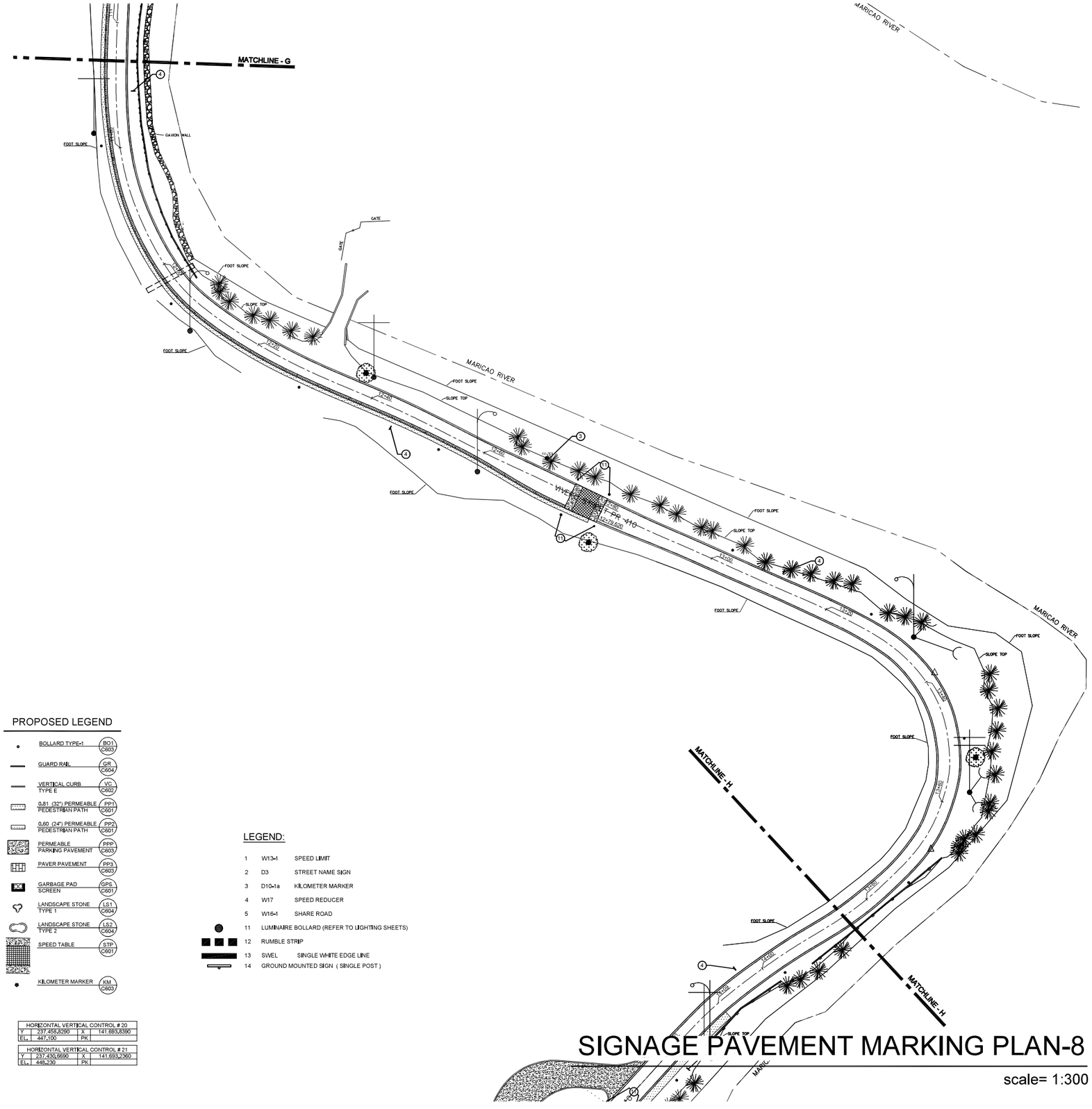
| | | |
|---|---|---|
| | BOLLARD TYPE-1 | BO1 C603 |
| | GUARD RAIL | GR C604 |
| | VERTICAL CURB TYPE E | VC C602 |
| | 0,81 (32") PERMEABLE PEDESTRIAN PATH | PP1 C601 |
| | 0,60 (24") PERMEABLE PEDESTRIAN PATH | PP2 C601 |
| | PERMEABLE PARKING PAVEMENT | PPP C603 |
| | PAVER PAVEMENT | PP3 C603 |
| | GARBAGE PAD SCREEN | GPS C601 |
| | LANDSCAPE STONE TYPE 1 | LS1 C604 |
| | LANDSCAPE STONE TYPE 2 | LS2 C604 |
| | SPEED TABLE | STP C601 |
| | KILOMETER MARKER | KM C603 |

| HORIZONTAL VERTICAL CONTROL # 20 | | | |
|---|---|---|---|
| Y | 237,458,8250 | X | 141.683,8390 |
| EL. | 447,100 | PK | |

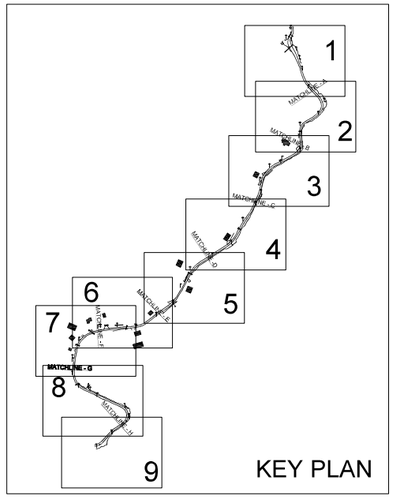
| HORIZONTAL VERTICAL CONTROL # 21 | | | |
|---|---|---|---|
| Y | 237,430,6690 | X | 141.693,2360 |
| EL. | 448,230 | PK | |

## LEGEND:

| | | |
|---|---|---|
| 1 | W13-1 | SPEED LIMIT |
| 2 | D3 | STREET NAME SIGN |
| 3 | D10-1a | KILOMETER MARKER |
| 4 | W17 | SPEED REDUCER |
| 5 | W16-1 | SHARE ROAD |
| 11 | | LUMINAIRE BOLLARD (REFER TO LIGHTING SHEETS) |
| 12 | | RUMBLE STRIP |
| 13 | SWEL | SINGLE WHITE EDGE LINE |
| 14 | | GROUND MOUNTED SIGN ( SINGLE POST ) |



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## EXISTING CONDITIONS LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

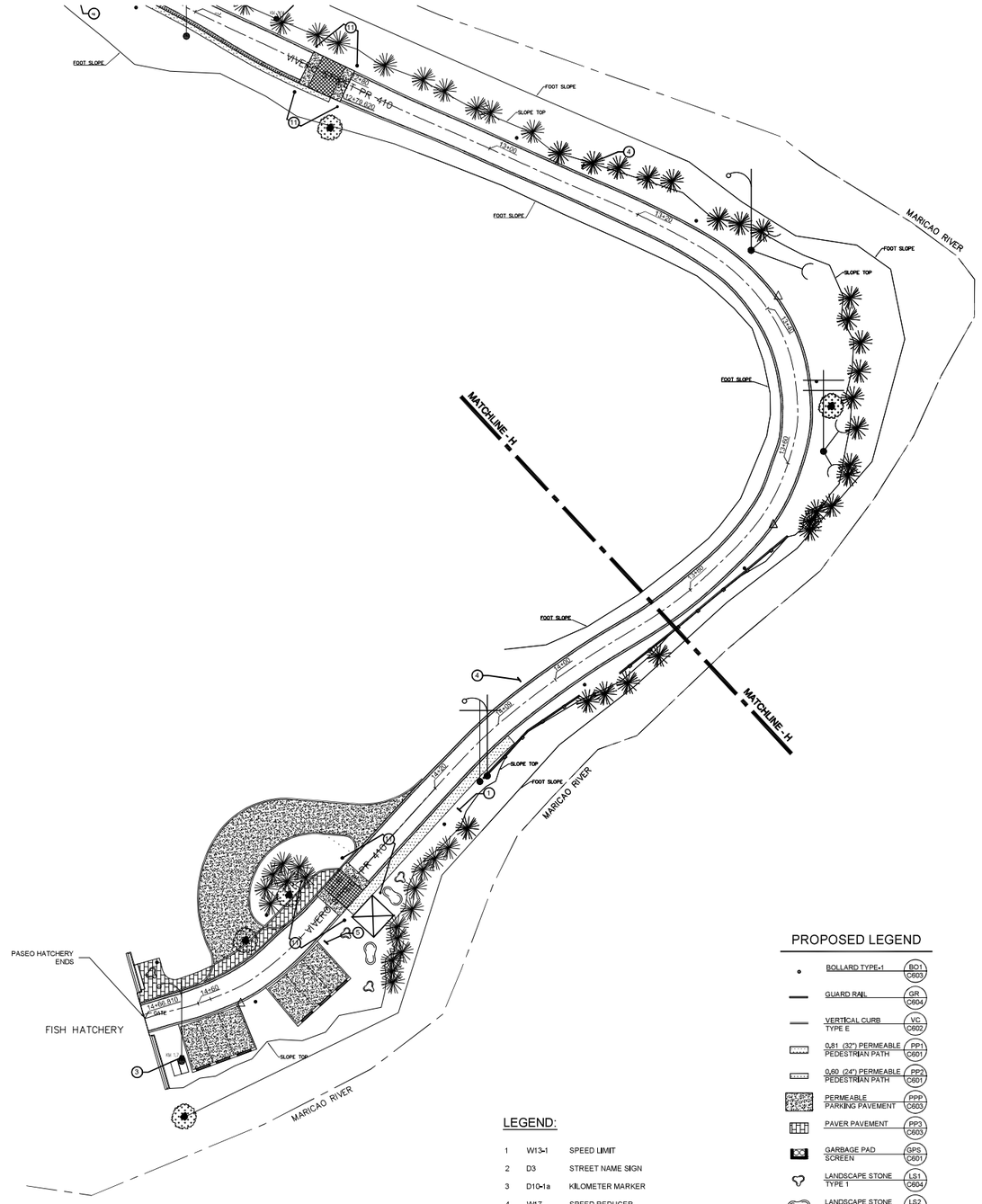
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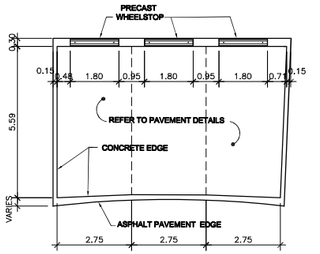
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|---|---|---|---|
| Y | 237,458,8290 | X | 141,693,8390 |
| EL. | 447,100 | PK | |

| HORIZONTAL VERTICAL CONTROL # 21 | | | |
|---|---|---|---|
| Y | 237,430,6690 | X | 141,693,2380 |
| EL. | 448,230 | PK | |

| HORIZONTAL VERTICAL CONTROL # 22 | | | |
|---|---|---|---|
| Y | 237,371,6570 | X | 141,627,5680 |
| EL. | 450,080 | PK | |

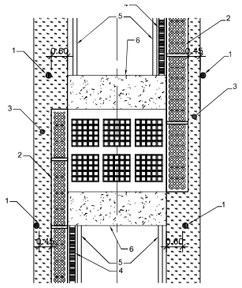


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TYPICAL PARKING STALL

SCALE: 1:100

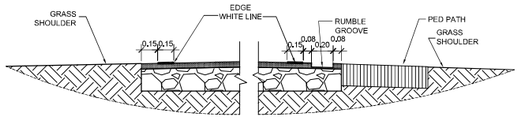



RUMBLE STRIP SITE PLAN

SCALE: 1:100

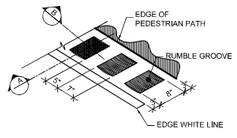
LEGEND:

| CODE | DESCRIPTION |
|---|---|
| 1 | BOLLARD LUMINAIRE |
| 2 | PED PATH |
| 3 | GRASS SHOULDER |
| 4 | RUMBLE STRIP |
| 5 | EDGE WHITE LINE |
| 6 | SPEED TABLE |



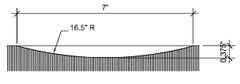

RUMBLE GROOVE SECTION A

SCALE: NTS




RUMBLE GROOVE DETAIL PLAN

SCALE: NTS

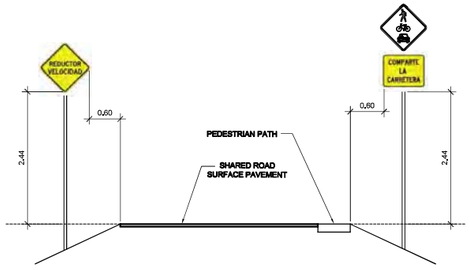



RUMBLE GROOVE SECTION B

SCALE: NTS

RUMBLE STRIP NOTES: :

1. RUMBLE STRIPS SHALL BE MILLED-IN AS SHOWN ON THE PLANS.
2. ALL MATERIAL MILLED TO FORM THE RUMBLE STRIP SHALL BE THOROUGHLY REMOVED, COLLECTED AND DISPOSED OF IN A LOCATION APPROVED BY THE ENGINEER AND SWEPT CLEAN OF DUST.
3. OVERSPRAY OF LIQUID ASPHALT COATING EMULSION SHALL NOT EXTEND MORE THAN 2 INCHES BEYOND THE WIDTH OF THE GROOVE AND/OR SHALL NOT COME IN CONTACT WITH PAVEMENT MARKINGS.




SIGNAGE HORIZONTAL VERTICAL ALIGNMENT

SCALE: 1:50

NOTE: REFERENCE KILOMETER MARKER SIGN HORIZONTAL AND VERTICAL ALIGNMENT IS SAME AS EXISTING.

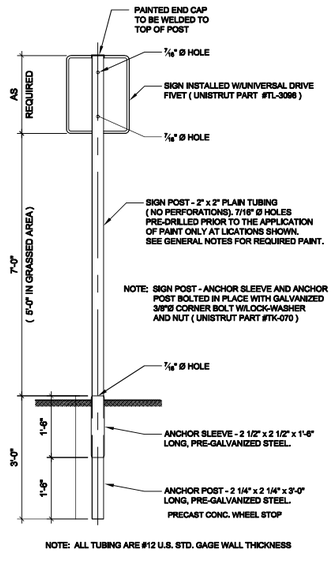
## ROAD SIGNAGE DATA TABLE

| CODE NUMBER | LEGEND SYMBOL | LETTER SIZE | SIZE OF SIGN | MUTCD NUMBER | COLORS | | TYPE OF MOUNTING |
|---|---|---|---|---|---|---|---|
| | | | | | BACKGROUND | CHARACTERS | |
| 1 | 10 MPH | SEE "MANUAL DE ROTULACION PARA LAS VIAS PUBLICAS DE PUERTO RICO" (MRVPPR) | 18"X18" | W13-1 | YELLOW REFELECTIVE | BLACK NON REFLECTIVE | GROUND MOUNTED |
| 2 | CALLE LOÍZA | SEE (MRVPPR) MANUAL | 9"XVARIES" | D3 | GREEN REFELECTIVE | WHITE REFLECTIVE | G. M. |
| 3 | N-1 | SEE (MRVPPR) MANUAL | 6"X18" | D10-1a | GREEN REFELECTIVE | WHITE REFLECTIVE | G. M. |
| 4 | REDUCTOR VELOCIDAD | SEE (MRVPPR) MANUAL | 30"X30" | W17 | YELLOW REFELECTIVE | BLACK NON REFLECTIVE | G. M. |
| 5 | | SEE (MRVPPR) MANUAL | 24"X24" | W11-15 (PR) | YELLOW REFELECTIVE | BLACK NON REFLECTIVE | G. M. |
| | COMPARTE LA CARRETERA | SEE (MRVPPR) MANUAL | 24"X30" | W16-1 | YELLOW REFELECTIVE | BLACK NON REFLECTIVE | G. M. |

NOTE: FOR CODE #5 COMPOSITE WARNING SIGN REFER TO MUTCD CHAPTER 9 AND SECTION 2C-60 SHARED THE ROAD

## PAVEMENT MARKINGS GENERAL NOTES :

1. PAVEMENT MARKING AND GEOMETRY SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND P.R.H.T.A.
2. ALL PAVEMENT MARKINGS SHALL BE YELLOW OR WHITE IN COLOR AND SHALL BE MADE OF THERMOPLASTIC MATERIAL. MARKINGS VISIBLE ONLY TO TRAFFIC PROCEEDING IN THE WRONG SHALL BE RED.
3. WORD AND SYMBOL MARKINGS SHALL BE WHITE IN COLOR AND SHALL BE PLACED AS PER PRHTA SHOWN ON PLANS.
4. ALL THERMOPLASTIC PAVEMENT MARKINGS INCLUDING WORDS AND SYMBOLS, SHALL HAVE AN AVERAGE THICKNESS ABOVE THE PAVEMENT LEVEL OF 120 THOUSANDS OF AN INCH. THE MINIMUM THICKNESS ABOVE THE PAVEMENT LEVEL SHALL BE 110 THOUSANDS OF AN INCH, AND THE MAXIMUM THICKNESS ABOVE THE PAVEMENT LEVEL SHALL NOT EXCEED 130 THOUSANDS OF AN INCH.
5. PAVEMENT EDGE LINES SHALL BE 0.10 M WIDE (OR MATCHING EXISTING WHEN APPLICABLE). PAINT SHALL BE REFLECTORIZED WHITE TRAFFIC PAINT, WITH FINISHED APPLICATION NO LESS THAN 3MM THICKNESS.




NOTE: ALL TUBING ARE #12 U.S. STD. GAGE WALL THICKNESS

SIGN POST DETAIL

SCALE: NTS

## SIGNAGE GENERAL NOTES :

1. FOR SIGN DETAILS, REFER TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), PUBLISHED BY U.S. DEPARTMENT OF TRANSPORTATION, FEDERAL HIGHWAY ADMINISTRATION. LATEST EDITION.
2. THE BACK OF ALL FINISHED PANELS SHALL BE STENCILED WITH THE DATE OF FABRICATION, FABRICATOR'S INITALS AND THE BOTTOM EDGE IN 3 INCH. LETTERS.
3. ALL GROUND MOUNTED STOP, YIELD, WRONG WAY, DO NOT ENTER AND SPEED LIMIT SIGN FACES SHALL BE FABRICATED ENTIRELY WITH TYPE "B" HIGH INTENSITY REFLECTIVE SHEETING.
4. ALL SIGN SHALL BE PLACED IN ACCORDANCE WITH P.R.H.T.A. AND SIGNING SPECIFICATIONS.
5. COORDINATE SIGN LOCATIONS WITH LANDSCAPING AS REQUIRED.
6. MINIMUM ADVANCE PLACEMENT DISTANCE IS 100 FT (30.48 M).

## SIGN POST INSTALLATION :

SIGN POSTS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND THE FOLLOWING:

1. DRIVE ANCHOR POST AND ANCHOR SLEEVE INTO THE GROUND TOGETHER, LEAVING A MAX. OF ONE HOLE EXPOSED FOR BOLT CONNECTION. FOR HAND INSTALLATION, DRIVE CAP OF PROPER SIZE SHALL BE USED TO PREVENT DAMAGE TO TUBING. SIDEWALK SHALL BE POURED AROUND ANCHOR SLEEVE OR EXISTING SIDEWALK SHALL BE CORE DRILLED AND SEALED AROUND THE SLEEVE.
2. INSERT SIGN POST INTO ANCHOR ASSEMBLY APPROXIMATELY 6" TO 8" AND BOLT IN PLACE.
3. INSTALLED SIGN AND POST SHALL BE PLUMB AND FREE OF VERTICAL AND LATERAL MOVEMENT.
4. NO PORTION OF A SIGN OR ITS SUPPORT SHALL BE PLACED LESS THAN 2 FEET LATERALLY FROM THE NEAR EDGE OF THE PATH, OR LESS THAN 8 FEET VERTICALLY OVER THE ENTIRE WIDTH OF THE SHARED-USE PATH.

# SIGNAGE AND PAVEMENT MARKINGS

SCALE = NOT TO SCALE

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JAMES.BAIGES@GMAIL.COM - (787) 399-0077

90% DESIGN SET
NOT FOR CONSTRUCTION

GOBIERNO MUNICIPAL DE MARICAO
PASEO HATCHERY [PR-CRP-000721]

PROJECT: PR-CRP-000721
PASEO LA GRUTA-VIVERO DE PECES
CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

| NO. | DATE | DRAWING ISSUE | BY | APP. |
|---|---|---|---|---|
| | | | | |

DRAWN BY:
REVIEWED BY:
DATE: 05/23

SHEET TITLE: SIGNAGE PAVEMENT MARKINGS
DRAWING NO.: C-710

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NOTE: SIGN SHALL READ 10 M.P.H.

**W13-1**

| SEÑAL | DIMENSIONES (PULGADAS) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | A | B | C | D | E | F | G | H | J |
| MINIMO | 18 | 0.375 | 0.625 | 2.5 | 8E | 2 | 3E | 4.723 | 1.5 |
| NORMAL | 24 | 0.375 | 0.625 | 3.625 | 10E | 2.75 | 4E | 6.284 | 1.5 |
| SEMI-EXPRESO | 30 | 0.5 | 0.75 | 4.5 | 12E | 4 | 5E | 7.416 | 1.875 |

**COLORES :**

LEYENDA - NEGRO (NO REFLECTIVO)
FONDO - AMARILLO (REFLECTIVO)








**W17-1**

**COLORES :**

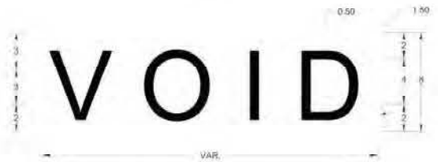
LEYENDA - NEGRO (NO REFLECTIVO)
FONDO - AMARILLO (REFLECTIVO)








**D3**




**D3**



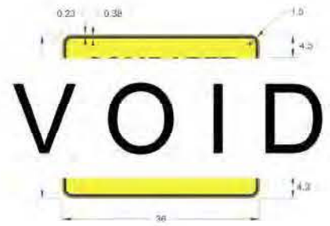

**D3**

**COLORES :**

LEYENDA / BORDE - BLANCO (REFLECTIVO)
FONDO - VERDE (REFLECTIVO)











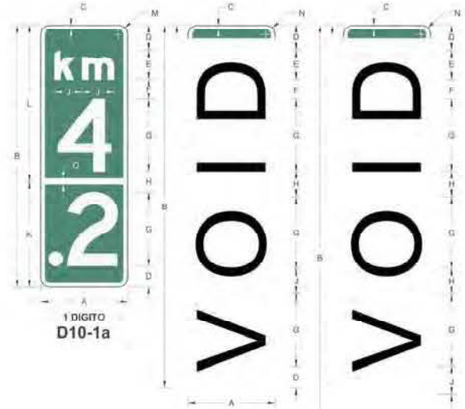
**W16-1**

**COLORES :**

LEYENDA - NEGRO (NO REFLECTIVO)
FONDO - AMARILLO (REFLECTIVO)








| 1 < V < 35 MPH | | | | 25 < V < 50 MPH | | | | V > 55 MPH | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| DIMENSIONES (PULGADAS) | 1 DIGITO | 2 DIGITOS | 3 DIGITOS | DIMENSIONES (PULGADAS) | 1 DIGITO | 2 DIGITOS | 3 DIGITOS | DIMENSIONES (PULGADAS) | 1 DIGITO | 2 DIGITOS | 3 DIGITOS |
| A | 8.00 | 16.00 | 24.00 | A | 10.00 | 20.00 | 30.00 | A | 12.00 | 24.00 | 36.00 |
| B | 10.40 | 20.80 | 31.20 | B | 13.00 | 26.00 | 39.00 | B | 15.60 | 31.20 | 46.80 |
| C | 0.50 | 0.50 | 0.50 | C | 0.50 | 0.50 | 0.50 | C | 0.50 | 0.50 | 0.50 |
| D | 1.75 | 1.75 | 1.75 | D | 2.50 | 2.50 | 2.50 | D | 3.25 | 3.25 | 3.25 |
| E | 40 | 40 | 40 | E | 50 | 50 | 50 | E | 60 | 60 | 60 |
| F | 3.00 | 3.00 | 3.00 | F | 3.00 | 3.00 | 3.00 | F | 3.00 | 3.00 | 3.00 |
| G | 40 | 40 | 40 | G | 50 | 50 | 50 | G | 60 | 60 | 60 |
| H | 6.00 | 6.00 | 6.00 | H | 8.00 | 8.00 | 8.00 | H | 10.00 | 10.00 | 10.00 |
| J | 0.50 | 0.50 | 0.50 | J | 0.50 | 0.50 | 0.50 | J | 0.50 | 0.50 | 0.50 |
| K | 2.00 | 2.00 | 2.00 | K | 2.50 | 2.50 | 2.50 | K | 3.00 | 3.00 | 3.00 |
| L | 7.20 | 14.40 | 21.60 | L | 9.00 | 18.00 | 27.00 | L | 10.80 | 21.60 | 32.40 |
| M | 10.00 | 10.00 | 10.00 | M | 12.50 | 12.50 | 12.50 | M | 15.00 | 15.00 | 15.00 |
| N | 7.00 | 14.00 | 21.00 | N | 8.75 | 17.50 | 26.25 | N | 10.50 | 21.00 | 31.50 |
| P | 1.00 | 1.00 | 1.00 | P | 1.25 | 1.25 | 1.25 | P | 1.50 | 1.50 | 1.50 |

**COLORES :**

LEYENDA / BORDE - BLANCO (REFLECTIVO)
FONDO - VERDE (REFLECTIVO)






| SEÑAL | DIMENSIONES (PULGADAS) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | A | B | C | D | E | F | G | H | J | K |
| MINIMO | 18 | 0.375 | 0.625 | 6.25 | 1 | 0.125 | 8.875 | 2.524 | 2.25 | 1.5 |
| NORMAL | 24 | 0.375 | 0.625 | 8.5 | 1.375 | 0.125 | 11.875 | 3.366 | 3 | 1.5 |
| SEMI-EXPRESO | 30 | 0.5 | 0.75 | 10.75 | 1.75 | 0.25 | 14.75 | 4.207 | 3.75 | 1.875 |
| ESPECIAL | 36 | 0.625 | 0.875 | 12.75 | 2.125 | 0.375 | 17.625 | 5.049 | 4.50 | 2.25 |
| ESPECIAL | 48 | 0.75 | 1.25 | 17 | 2.75 | 0.375 | 23.625 | 6.732 | 6 | 3 |

# SIGNAGE PAVEMENT MARKINGS

SCALE = NOT TO SCALE

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BAIGES GEOTECHNICAL ENGINEERS, LLC
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(787) 840-2345 | (939) 213-1234 | JAIME.BAIGES@GMAIL.COM | JAIME_BAIGES@

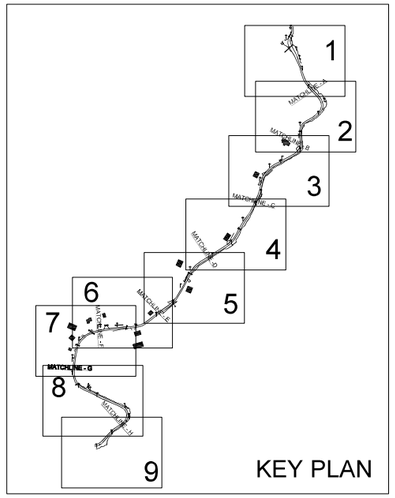
90% DESIGN SET
NOT FOR CONSTRUCTION

PROJECT: PR-CRP-000721
PASEO LA GRUTA-VIVERO DE PECES
CARRETERA ESTATAL PR 410 KM 3.0 - KM 4.5
GOBIERNO MUNICIPAL DE MARICAO
PASEO HATCHERY [PR-CRP-000721]

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SHEET TITLE: SIGNAGE PAVEMENT MARKINGS
DRAWING NO.: C-711

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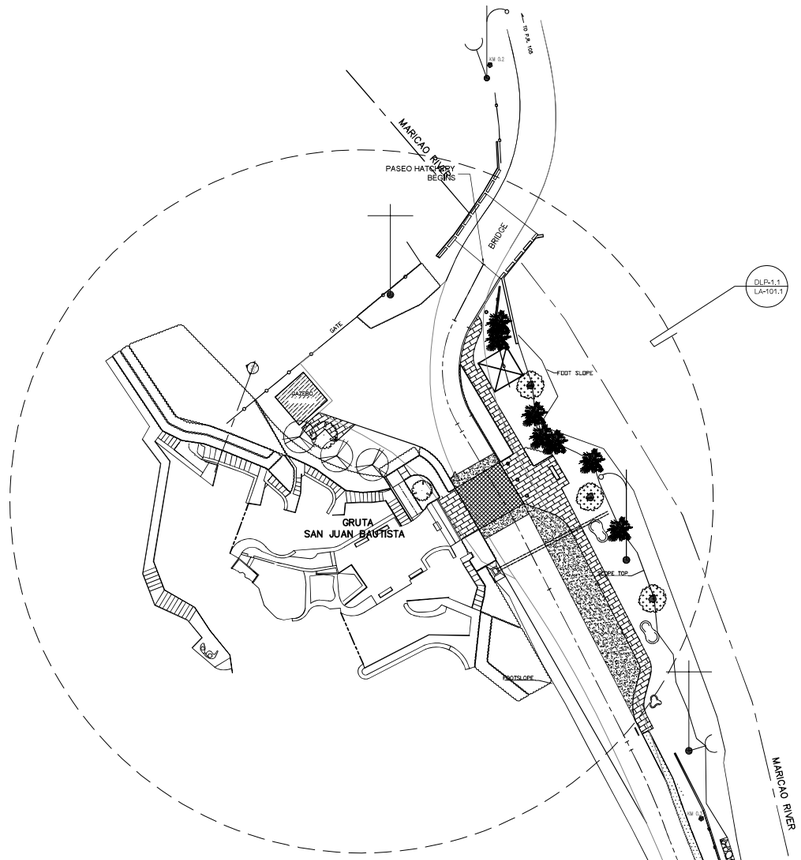

KEY PLAN

## EXISTING CONDITIONS LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

0 5 10 30

SCALE = 1:300







## PROPOSED LEGEND

| | | |
|---|---|---|
| | BOLLARD TYPE-1 | BO1 C603 |
| | GUARD RAIL | GR C604 |
| | VERTICAL CURB TYPE E | VC C602 |
| | 0.81 (32") PERMEABLE PEDESTRIAN PATH | PP1 C601 |
| | 0.60 (24") PERMEABLE PEDESTRIAN PATH | PP2 C601 |
| | PERMEABLE PARKING PAVEMENT | PPP C603 |
| | PAVER PAVEMENT | PP3 C603 |
| | GARBAGE PAD SCREEN | GPS C601 |
| | LANDSCAPE STONE TYPE 1 | LS1 C604 |
| | LANDSCAPE STONE TYPE 2 | LS2 C604 |
| | SPEED TABLE | STP C601 |
| | KILOMETER MARKER | KM C603 |

| HORIZONTAL VERTICAL CONTROL # 02 | | | |
|---|---|---|---|
| Y | 238,355.4430 | X | 142,095.6950 |
| EL. | 423.510 | PK | |

| HORIZONTAL VERTICAL CONTROL # 03 | | | |
|---|---|---|---|
| Y | 238,258.9140 | X | 142,146.5920 |
| EL. | 425.090 | PK | |

## LA-101 PLANTING MATERIALS SCHEDULE - PASEO HATCHERY

| TREES | | | BOTANICAL NAME | COMMON NAME | REMARKS |
|---|---|---|---|---|---|
| KEY | QTY | UNIT | | | |

| PALMS | | | BOTANICAL NAME | COMMON NAME | REMARKS |
|---|---|---|---|---|---|
| KEY | QTY | UNIT | | | |
| P-1 | | | Cyathea Arborea | Helecho de Palma | |
| P-2 | 4 | sq.ent. | Rhapis Excelsa | Rhapis | 3 gal. @ 0.914 m. o.c. |

| SHRUBS | | | BOTANICAL NAME | COMMON NAME | REMARKS |
|---|---|---|---|---|---|
| KEY | QTY | UNIT | | | |
| SH12 | 4 | sq.ent. | Heliconia Andrazoneda Bihai | Heliconia Alta | 3 gal. @ 0.60 m. o.c. |

| GROUND COVERS | | | BOTANICAL NAME | COMMON NAME | REMARKS |
|---|---|---|---|---|---|
| KEY | QTY | UNIT | | | |
| GC16 | 18 | sq.ent. | Impatiens Wallerlana | Miramelinda | 6" pot @ 0.45 m. o.c. |
| GC17 | | | Iris Amarillis | Iris | |
| GC18 | | | Liriope Muscari | Liriope Verde | |
| GC19 | 15 | sq.ent. | Nephrolepsis Biserrata | Helecho Cola de Pescado | 6" pot @ 0.45 m. o.c. |

| EROSION CONTROL | | | | | |
|---|---|---|---|---|---|
| KEY | QTY | UNIT | | | |
| E-1 | 15 | sq.ent. | Erosion control coir fiber mat. Refer to La-110.1. | | |

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JAMES@BAIGESGROUP.COM • (787) 399-0077

90% DESIGN SET
NOT FOR CONSTRUCTION

PROJECT: PR-CRP-000721

# PASEO LA GRUTA-VIVERO DE PECES

CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

GOBIERNO MUNICIPAL DE MARICAO

PASEO HATCHERY [PR-CRP-000721]

| NO. | DATE | DRAWING ISSUE | BY | APP. |
|---|---|---|---|---|
| | | | | |

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DATE: 05/23 11/01/23

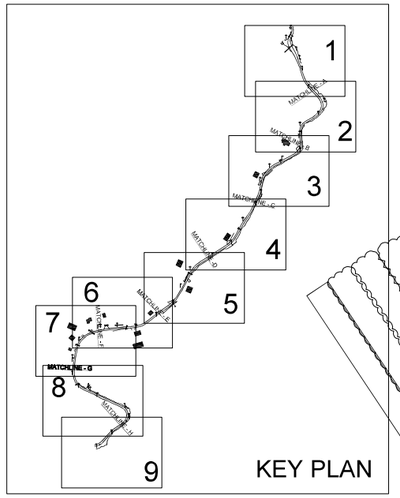
SHEET TITLE: LANDSCAPE PLAN

DRAWING NO.: LA-101

# LANDSCAPE-1

scale= 1:300

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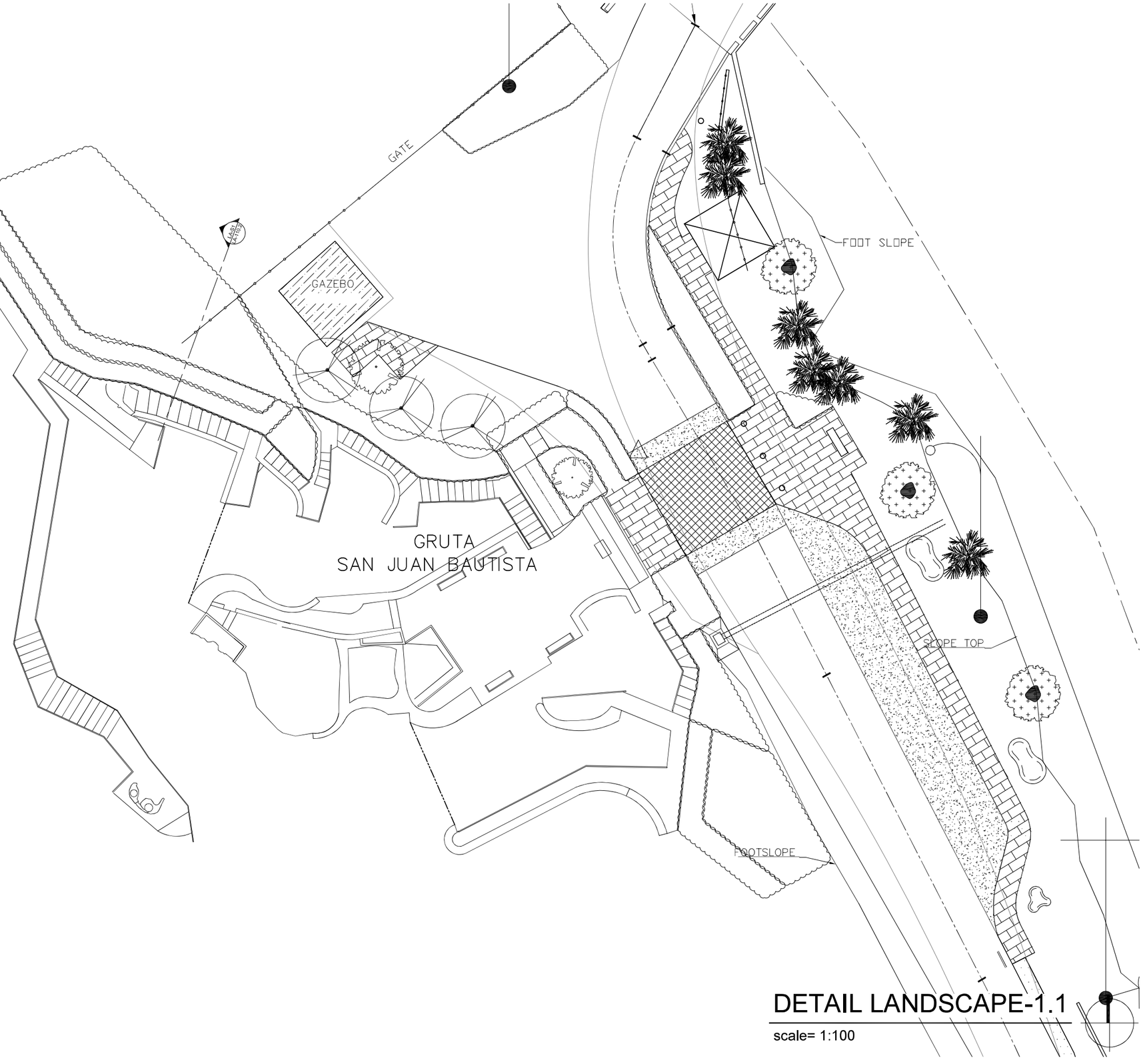

KEY PLAN

## EXISTING CONDITIONS LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

0 5 10 30

SCALE = 1:300




# DETAIL LANDSCAPE-1.1

scale= 1:100

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JMCP +
JLGARCHITECTS
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JAMES@BAIGESPR.COM - (787) 399-0007

90% DESIGN SET
NOT FOR CONSTRUCTION

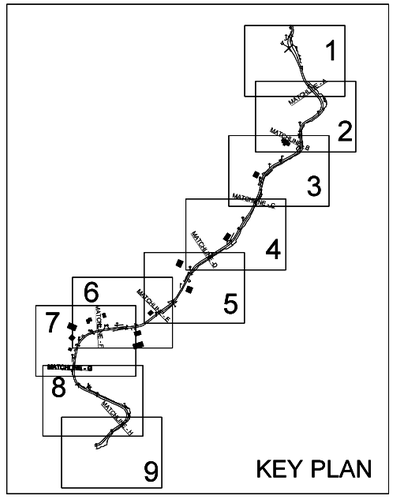
PROJECT: PR-CRP-000721
**PASEO LA GRUTA-VIVERO DE PECES**
CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

GOBIERNO MUNICIPAL DE MARICAO
PASEO HATCHERY [PR-CRP-000721]

| NO. | DATE | DRAWING ISSUE | BY | APP. |
|---|---|---|---|---|

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SHEET TITLE: DETAIL LANDSCAPE PLAN
DRAWING NO.: LA-101.1

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## EXISTING CONDITIONS LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

0 5 10 30

SCALE = 1:300

**LA-102 PLANTING MATERIALS SCHEDULE - PASEO HATCHERY**

| TREES | | | BOTANICAL NAME | COMMON NAME | REMARKS |
|---|---|---|---|---|---|
| KEY | QTY | UNIT | | | |

| PALMS | | | BOTANICAL NAME | COMMON NAME | REMARKS |
|---|---|---|---|---|---|
| KEY | QTY | UNIT | | | |
| P-1 | | | Cyathea Arborea | Helecho de Palma | |
| P-2 | | | Rhapis Excelsa | Rhapis | |

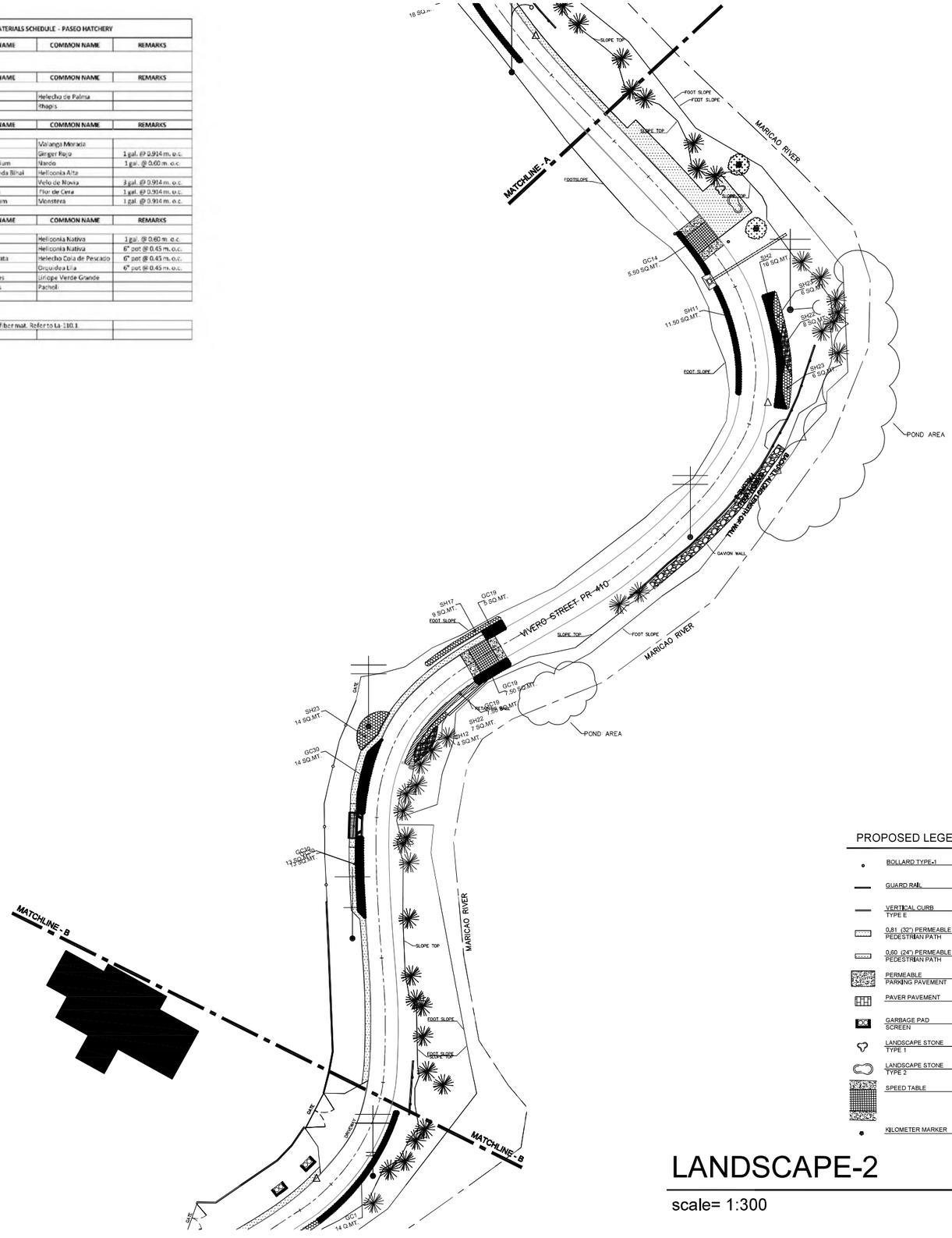
| SHRUBS | | | BOTANICAL NAME | COMMON NAME | REMARKS |
|---|---|---|---|---|---|
| KEY | QTY | UNIT | | | |
| SH1 | | | Alocasia Indica | Malanga Morada | |
| SH2 | 16 | sq.mt. | Alpinia Purpurata | Ginger Rojo | 1 gal. @ 0.914 m. o.c. |
| SH11 | 5.5 | sq.mt. | Hedychium Coronarium | Nardo | 1 gal. @ 0.60 m. o.c. |
| SH12 | 4 | sq.mt. | Heliconia Andrzoomeda Blhai | Heliconia Alta | |
| SH17 | 9 | sq.mt. | Plumeria Spp | Velo de Novia | 3 gal. @ 0.914 m. o.c. |
| SH22 | 13 | sq.mt. | Phaomeria Speciosa | Flor de Cera | 1 gal. @ 0.914 m. o.c. |
| SH23 | 26 | sq.mt. | Philodendron Selloum | Monstera | 1 gal. @ 0.914 m. o.c. |

| GROUND COVERS | | | BOTANICAL NAME | COMMON NAME | REMARKS |
|---|---|---|---|---|---|
| KEY | QTY | UNIT | | | |
| GC14 | 5.5 | sq.mt. | Heliconia Caribae | Heliconia Nativa | 1 gal. @ 0.60 m. o.c. |
| GC15 | 7.5 | sq.mt. | Heliconia Bihai | Heliconia Nativa | 6" pot @ 0.45 m. o.c. |
| GC19 | 5 | sq.mt. | Nephrolepsis Biserrata | Helecho Cola de Pescado | 6" pot @ 0.45 m. o.c. |
| GC30 | 27 | sq.mt. | Spathoglottis | Orquidea Lila | 6" pot @ 0.45 m. o.c. |
| GC31 | | | Tripsacum Dactyliades | Uroipe Verde Grande | |
| GC32 | | | Vetiveria Zizanoides | Pachoi | |

| EROSION CONTROL | | | | | |
|---|---|---|---|---|---|
| KEY | QTY | UNIT | | | |
| E 1 | | sq.mt. | Erosion control coir Fiber mat. Refer to La -110.1 | | |

| HORIZONTAL VERTICAL CONTROL # 04 | | | |
|---|---|---|---|
| Y | 238,206.7660 | X | 142,179.5560 |
| EL. | 426.530 | PK | |

| HORIZONTAL VERTICAL CONTROL # 06 | | | |
|---|---|---|---|
| Y | 238,096.5140 | Y | 142115.3690 |
| EL. | 428.450 | PK | |




## PROPOSED LEGEND

| | | |
|---|---|---|
| | BOLLARD TYPE-1 | BO1 C603 |
| | GUARD RAIL | GR C604 |
| | VERTICAL CURB TYPE E | VC C602 |
| | 0.81 (32") PERMEABLE PEDESTRIAN PATH | PP1 C601 |
| | 0.60 (24") PERMEABLE PEDESTRIAN PATH | PP2 C601 |
| | PERMEABLE PARKING PAVEMENT | PPP C603 |
| | PAVER PAVEMENT | PP3 C603 |
| | GARBAGE PAD SCREEN | GPS C601 |
| | LANDSCAPE STONE TYPE 1 | LS1 C604 |
| | LANDSCAPE STONE TYPE 2 | LS2 C604 |
| | SPEED TABLE | STP C601 |
| | KILOMETER MARKER | KM C603 |

# LANDSCAPE-2

scale= 1:300

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**90% DESIGN SET**
**NOT FOR CONSTRUCTION**

PROJECT: **PR-CRP-000721**

**PASEO LA GRUTA-VIVERO DE PECES**

CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

GOBIERNO MUNICIPAL DE MARICAO

PASEO HATCHERY [PR-CRP-000721]

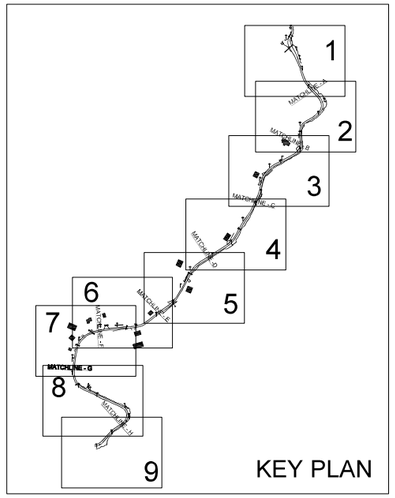
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SHEET TITLE: LANDSCAPE PLAN

DRAWING NO.: **LA-102**

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## EXISTING CONDITIONS LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

0 5 10 30
SCALE = 1:300

**LA-103 PLANTING MATERIALS SCHEDULE - PASEO HATCHERY**

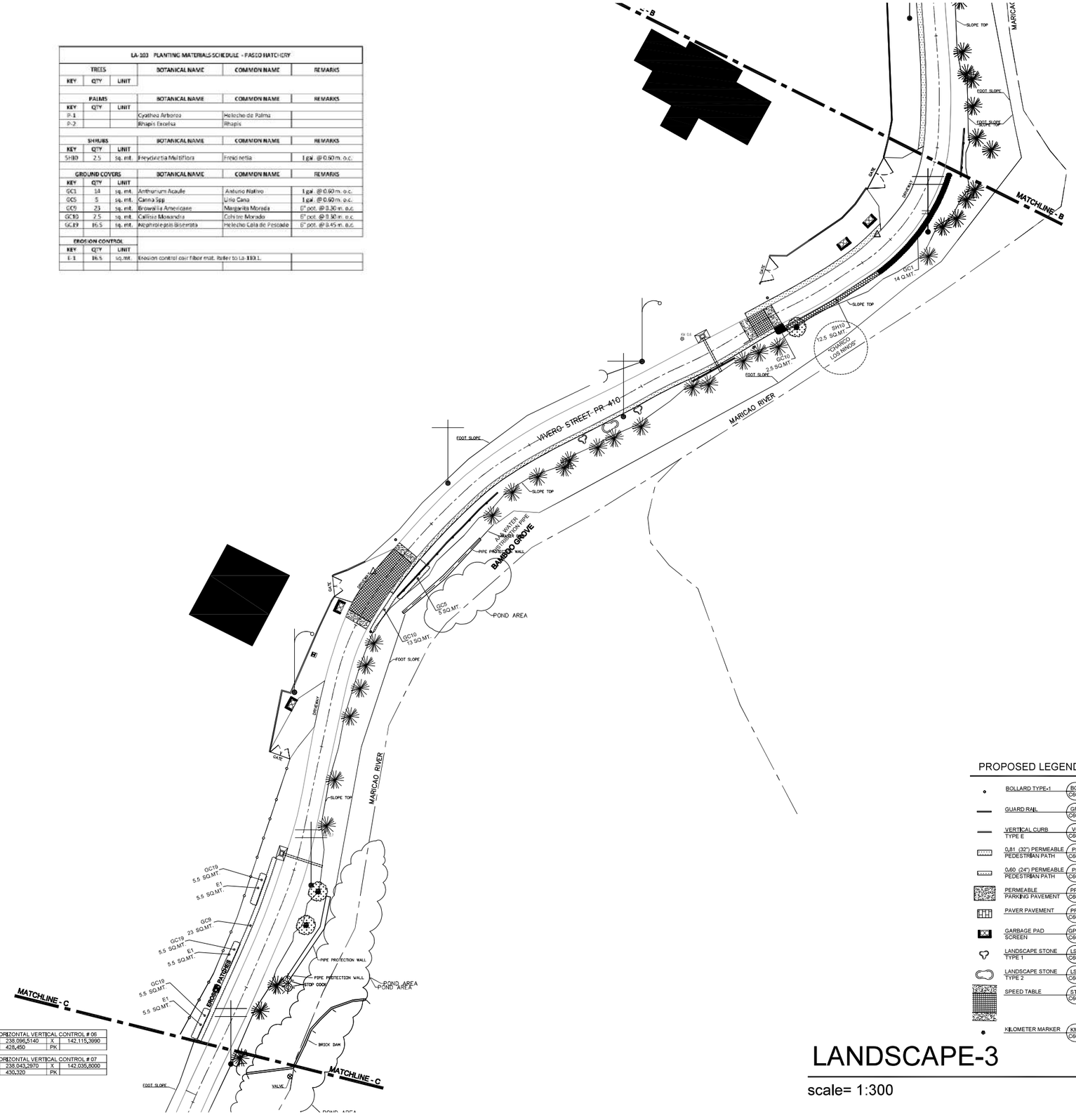
| TREES | | | BOTANICAL NAME | COMMON NAME | REMARKS |
|---|---|---|---|---|---|
| KEY | QTY | UNIT | | | |

| PALMS | | | BOTANICAL NAME | COMMON NAME | REMARKS |
|---|---|---|---|---|---|
| KEY | QTY | UNIT | | | |
| P-1 | | | Cyathea Arborea | Helecho de Palma | |
| P-2 | | | Rhapis Excelsa | Rhapis | |

| SHRUBS | | | BOTANICAL NAME | COMMON NAME | REMARKS |
|---|---|---|---|---|---|
| KEY | QTY | UNIT | | | |
| SH10 | 2.5 | sq. mt. | Freydietia Multiflora | Freicinetia | 1 gal. @ 0.60 m. o.c. |

| GROUND COVERS | | | BOTANICAL NAME | COMMON NAME | REMARKS |
|---|---|---|---|---|---|
| KEY | QTY | UNIT | | | |
| GC1 | 14 | sq. mt. | Anthurium Acaule | Anturio Nativo | 1 gal. @ 0.60 m. o.c. |
| GC5 | 5 | sq. mt. | Canna Spp | Lirio Cana | 1 gal. @ 0.60 m. o.c. |
| GC9 | 23 | sq. mt. | Browallia Americana | Margarita Morada | 6" pot. @ 0.30 m. o.c. |
| GC10 | 2.5 | sq. mt. | Collinsi Monandra | Cohrite Morada | 6" pot. @ 0.30 m. o.c. |
| GC19 | 16.5 | sq. mt. | Nephrolepsis Biserrata | Helecho Cola de Pescado | 6" pot. @ 0.45 m. o.c. |

| EROSION CONTROL | | | |
|---|---|---|---|
| KEY | QTY | UNIT | |
| E-1 | 16.5 | sq.mt. | Erosion control coir fiber mat. Refer to LA-110.1. |




| HORIZONTAL VERTICAL CONTROL # 06 | | | |
|---|---|---|---|
| Y | 238,096.5140 | X | 142,115.3990 |
| EL. | 428.450 | PK | |

| HORIZONTAL VERTICAL CONTROL # 07 | | | |
|---|---|---|---|
| Y | 238,043.2970 | X | 142,035.8000 |
| EL. | 430.320 | PK | |

## PROPOSED LEGEND

| | | |
|---|---|---|
| | BOLLARD TYPE-1 | BO1 C603 |
| | GUARD RAIL | GR C604 |
| | VERTICAL CURB TYPE E | VC C602 |
| | 0.81 (32") PERMEABLE PEDESTRIAN PATH | PP1 C601 |
| | 0.60 (24") PERMEABLE PEDESTRIAN PATH | PP2 C601 |
| | PERMEABLE PARKING PAVEMENT | PPP C605 |
| | PAVER PAVEMENT | PP3 C603 |
| | GARBAGE PAD SCREEN | GPS C601 |
| | LANDSCAPE STONE TYPE 1 | LS1 C604 |
| | LANDSCAPE STONE TYPE 2 | LS2 C604 |
| | SPEED TABLE | STP C601 |
| | KILOMETER MARKER | KM C603 |

# LANDSCAPE-3

scale= 1:300

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90% DESIGN SET
NOT FOR CONSTRUCTION

PROJECT: PR-CRP-000721

**PASEO LA GRUTA-VIVERO DE PECES**

CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

GOBIERNO MUNICIPAL DE MARICAO

PASEO HATCHERY [PR-CRP-000721]

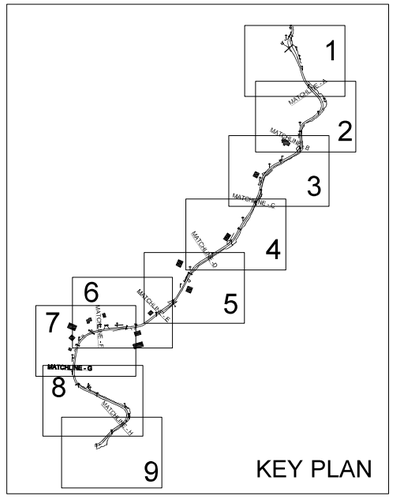
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SHEET TITLE: LANDSCAPE PLAN

DRAWING NO.: LA-103

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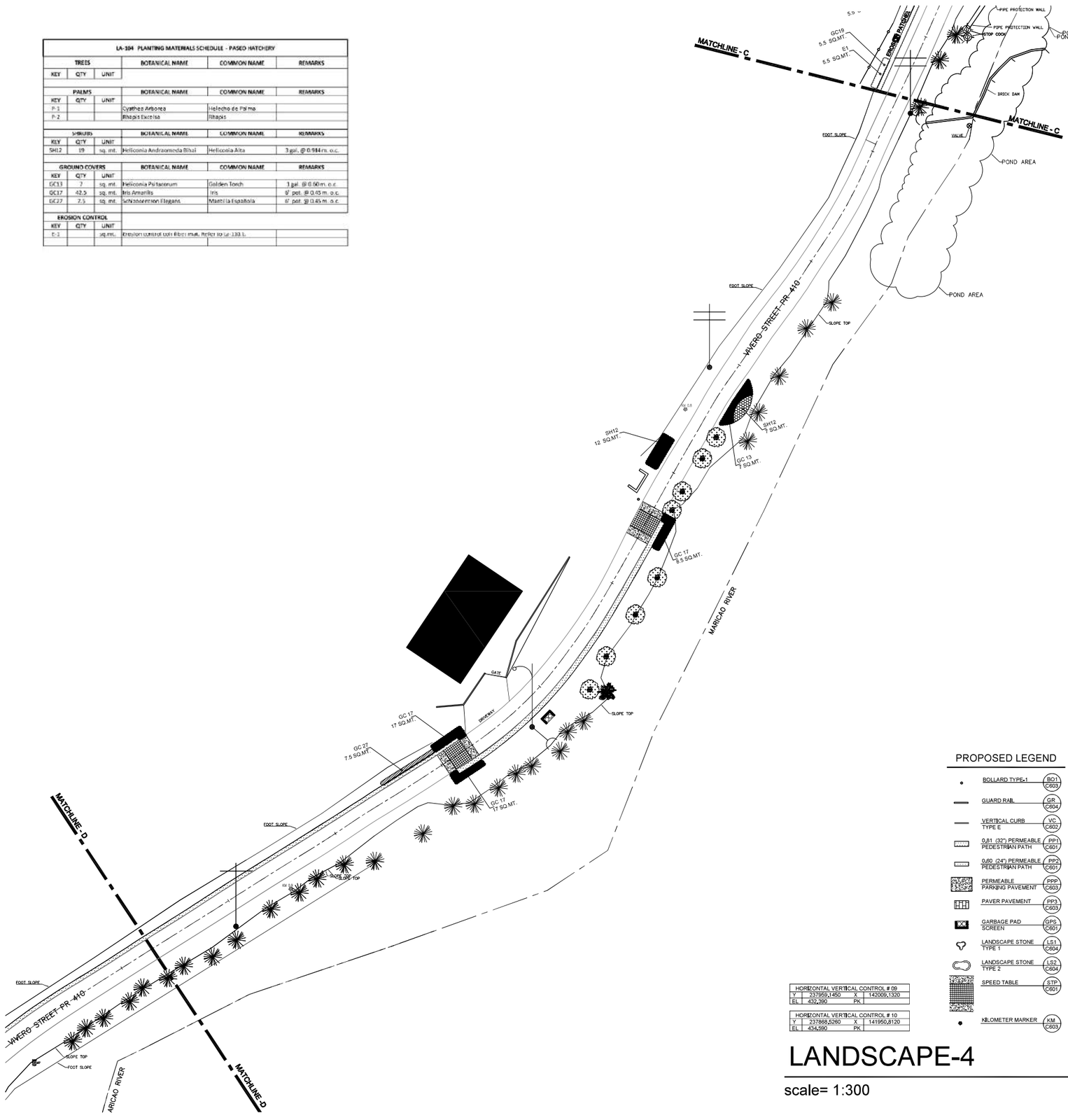



| LA-104 PLANTING MATERIALS SCHEDULE - PASEO HATCHERY | | | | | |
|---|---|---|---|---|---|
| **TREES** | | | **BOTANICAL NAME** | **COMMON NAME** | **REMARKS** |
| KEY | QTY | UNIT | | | |
| **PALMS** | | | **BOTANICAL NAME** | **COMMON NAME** | **REMARKS** |
| KEY | QTY | UNIT | | | |
| P-1 | | | Cyathea Arborea | Helecho de Palma | |
| P-2 | | | Rhapis Excelsa | Rhapis | |
| **SHRUBS** | | | **BOTANICAL NAME** | **COMMON NAME** | **REMARKS** |
| KEY | QTY | UNIT | | | |
| SH12 | 19 | sq. mt. | Heliconia Andrazomeda Bihai | Heliconia Alta | 3 gal. @ 0.914 m. o.c. |
| **GROUND COVERS** | | | **BOTANICAL NAME** | **COMMON NAME** | **REMARKS** |
| KEY | QTY | UNIT | | | |
| GC13 | 7 | sq. mt. | Heliconia Psitacorum | Golden Torch | 1 gal. @ 0.60 m. o.c. |
| GC17 | 42.5 | sq. mt. | Iris Amarilis | Iris | 6" pot. @ 0.45 m. o.c. |
| GC27 | 7.5 | sq. mt. | Sansevieria Elegans | Mantilla Española | 6" pot. @ 0.45 m. o.c. |
| **EROSION CONTROL** | | | | | |
| KEY | QTY | UNIT | | | |
| E-1 | | sq.mt. | Erosion control con fiber mat, Refer to LA-130 L | | |

## EXISTING CONDITIONS LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

0 5 10 30
SCALE = 1:300




| HORIZONTAL VERTICAL CONTROL # 09 | | | |
|---|---|---|---|
| Y | 237850,1450 | X | 142009,1320 |
| EL | 432,390 | PK | |

| HORIZONTAL VERTICAL CONTROL # 10 | | | |
|---|---|---|---|
| Y | 237868,5260 | X | 141950,8120 |
| EL | 434,590 | PK | |

## PROPOSED LEGEND

| | | |
|---|---|---|
| | BOLLARD TYPE-1 | BO1 C603 |
| | GUARD RAIL | GR C604 |
| | VERTICAL CURB TYPE E | VC C602 |
| | 0,81 (32") PERMEABLE PEDESTRIAN PATH | PP1 C601 |
| | 0,60 (24") PERMEABLE PEDESTRIAN PATH | PP2 C601 |
| | PERMEABLE PARKING PAVEMENT | PPP C603 |
| | PAVER PAVEMENT | PP3 C603 |
| | GARBAGE PAD SCREEN | GPS C601 |
| | LANDSCAPE STONE TYPE 1 | LS1 C604 |
| | LANDSCAPE STONE TYPE 2 | LS2 C604 |
| | SPEED TABLE | STP C601 |
| | KILOMETER MARKER | KM C603 |

# LANDSCAPE-4

scale= 1:300

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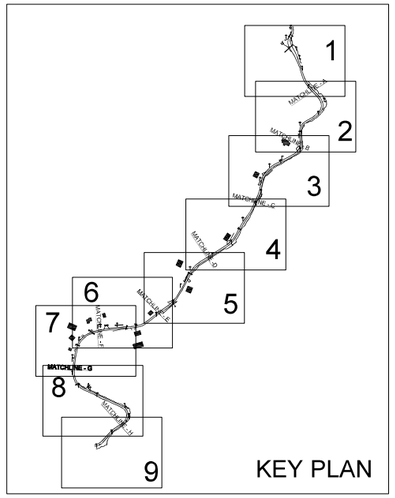
PROJECT: PR-CRP-000721
**PASEO LA GRUTA-VIVERO DE PECES**
CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

GOBIERNO MUNICIPAL DE MARICAO
PASEO HATCHERY [PR-CRP-000721]

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DRAWING NO.: LA-104

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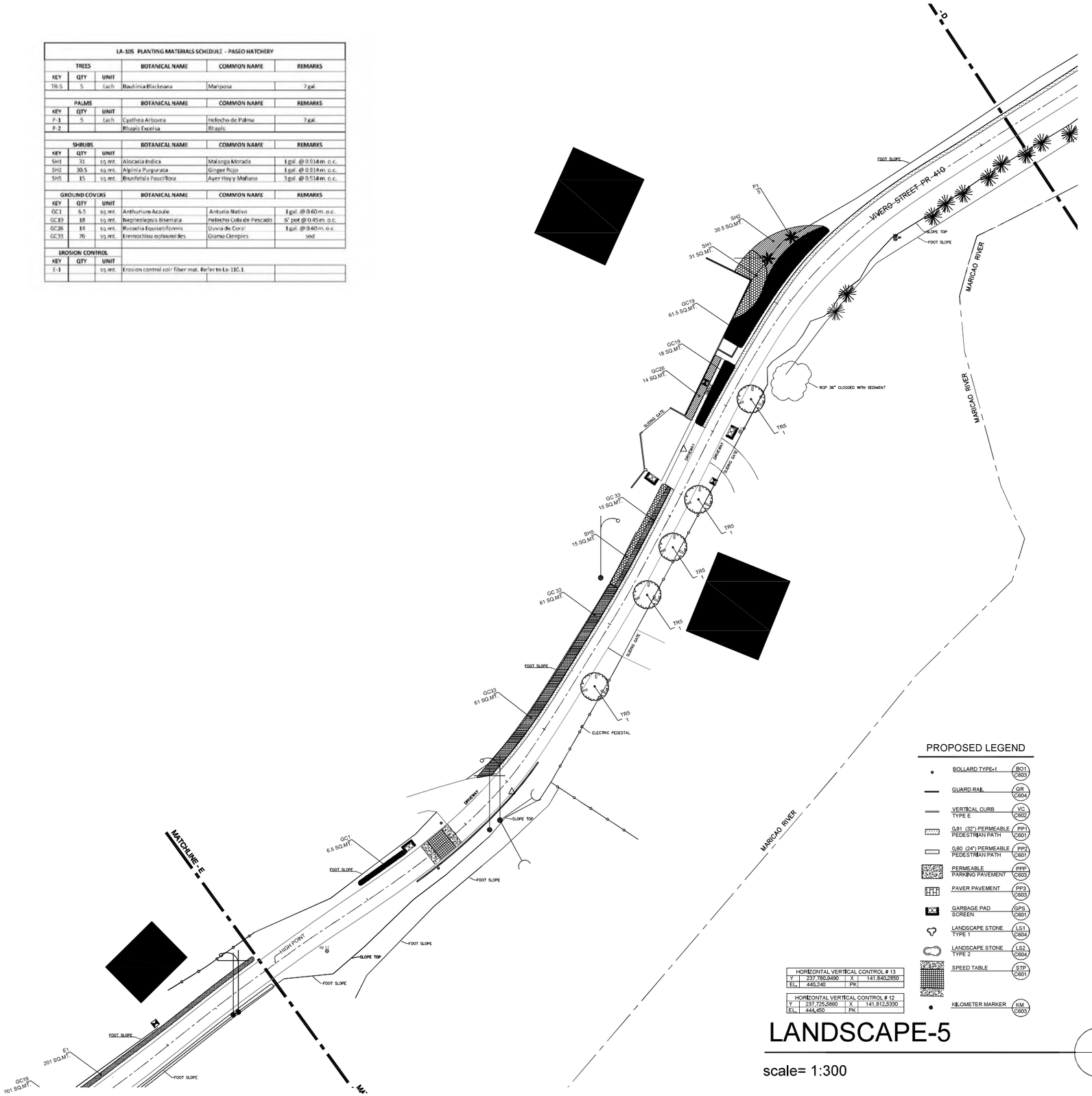



| LA-105 PLANTING MATERIALS SCHEDULE - PASEO HATCHERY | | | | | |
|---|---|---|---|---|---|
| **TREES** | | | **BOTANICAL NAME** | **COMMON NAME** | **REMARKS** |
| KEY | QTY | UNIT | | | |
| TR-5 | 5 | Each | Bauhinia Blackeana | Mariposa | 7 gal. |
| **PALMS** | | | **BOTANICAL NAME** | **COMMON NAME** | **REMARKS** |
| KEY | QTY | UNIT | | | |
| P-1 | 5 | Each | Cyathea Arborea | Helecho de Palma | 7 gal. |
| P-2 | | | Rhapis Excelsa | Rhapis | |
| **SHRUBS** | | | **BOTANICAL NAME** | **COMMON NAME** | **REMARKS** |
| KEY | QTY | UNIT | | | |
| SH1 | 31 | sq.mt. | Alocasia Indica | Malanga Morada | 1 gal. @ 0.914 m. o.c. |
| SH2 | 30.5 | sq.mt. | Alpinia Purpurata | Ginger Rojo | 1 gal. @ 0.914 m. o.c. |
| SH5 | 15 | sq.mt. | Brunfelsia Pauciflora | Ayer Hoy y Mañana | 3 gal. @ 0.514 m. o.c. |
| **GROUND COVERS** | | | **BOTANICAL NAME** | **COMMON NAME** | **REMARKS** |
| KEY | QTY | UNIT | | | |
| GC1 | 6.5 | sq.mt. | Anthurium Acaule | Anturio Nativo | 1 gal. @ 0.60 m. o.c. |
| GC19 | 18 | sq.mt. | Nephrolepsis Biserrata | Helecho Cola de Pescado | 6" pot @ 0.45 m. o.c. |
| GC26 | 14 | sq.mt. | Russelia Equisetiformis | Uuvia de Coral | 1 gal. @ 0.60 m. o.c. |
| GC35 | 76 | sq.mt. | Eremochloa ophiuroides | Grama Cienpies | sod |
| **EROSION CONTROL** | | | | | |
| KEY | QTY | UNIT | | | |
| E-1 | | sq.mt. | Erosion control coir fiber mat. Refer to La-110.1. | | |

## EXISTING CONDITIONS LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

0 5 10 30
SCALE = 1:300




## PROPOSED LEGEND

| | | |
|---|---|---|
| BOLLARD TYPE-1 | BO1 | C603 |
| GUARD RAIL | GR | C604 |
| VERTICAL CURB TYPE E | VC | C602 |
| 0.81 (32") PERMEABLE PEDESTRIAN PATH | PP1 | C601 |
| 0.60 (24") PERMEABLE PEDESTRIAN PATH | PP2 | C601 |
| PERMEABLE PARKING PAVEMENT | PPP | C603 |
| PAVER PAVEMENT | PP3 | C603 |
| GARBAGE PAD SCREEN | GPS | C601 |
| LANDSCAPE STONE TYPE 1 | LS1 | C604 |
| LANDSCAPE STONE TYPE 2 | LS2 | C604 |
| SPEED TABLE | STP | C601 |
| KILOMETER MARKER | KM | C603 |

| HORIZONTAL VERTICAL CONTROL # 13 | | | |
|---|---|---|---|
| Y | 237,780.2490 | X | 141,840.2850 |
| EL. | 440.240 | PK | |

| HORIZONTAL VERTICAL CONTROL # 12 | | | |
|---|---|---|---|
| Y | 237,725.5860 | X | 141,812.5330 |
| EL. | 444.450 | PK | |

# LANDSCAPE-5

scale= 1:300

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90% DESIGN SET
NOT FOR CONSTRUCTION

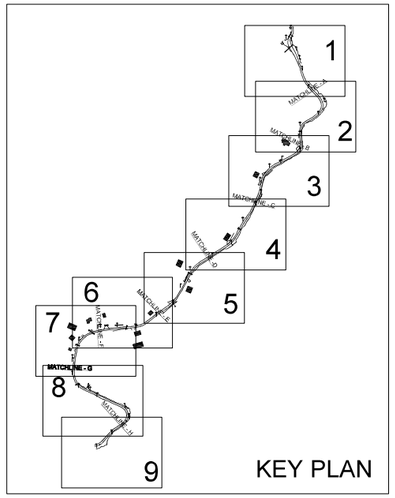
PROJECT: PR-CRP-000721
**PASEO LA GRUTA-VIVERO DE PECES**
CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

GOBIERNO MUNICIPAL DE MARICAO
PASEO HATCHERY [PR-CRP-000721]

| NO. | DATE | DRAWING ISSUE | BY | APP. |
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DRAWING NO.: LA-105

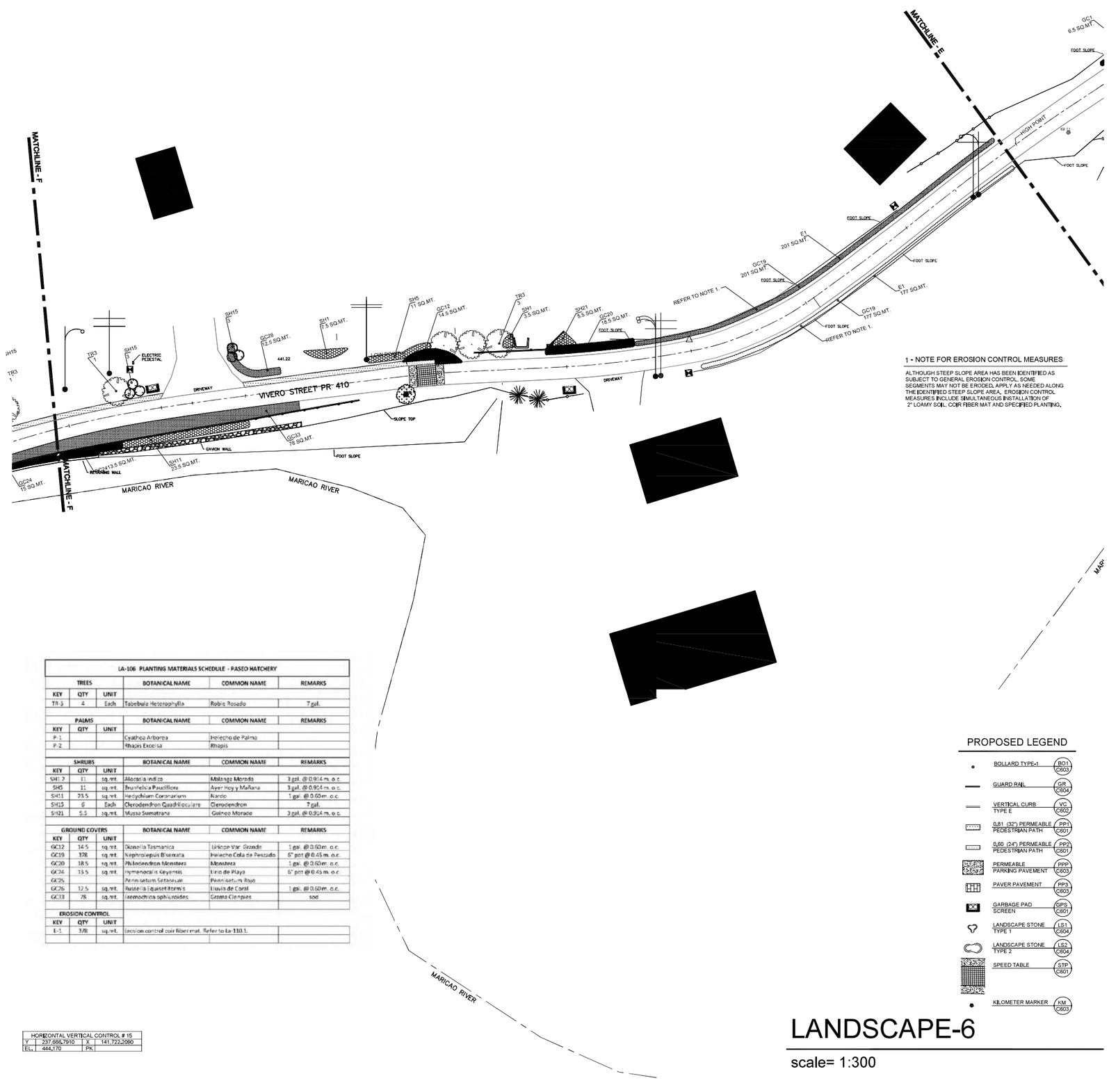
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## EXISTING CONDITIONS LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

0 5 10 30
SCALE = 1:300




### 1 - NOTE FOR EROSION CONTROL MEASURES:

ALTHOUGH STEEP SLOPE AREA HAS BEEN IDENTIFIED AS SUBJECT TO GENERAL EROSION CONTROL, SOME SEGMENTS MAY NOT BE ERODED, APPLY AS NEEDED ALONG THE IDENTIFIED STEEP SLOPE AREA, EROSION CONTROL MEASURES INCLUDE SIMULTANEOUS INSTALLATION OF 2" LOAMY SOIL, COIR FIBER MAT AND SPECIFIED PLANTING.

**LA-106 PLANTING MATERIALS SCHEDULE - PASEO HATCHERY**

| TREES | | | BOTANICAL NAME | COMMON NAME | REMARKS |
|---|---|---|---|---|---|
| KEY | QTY | UNIT | | | |
| TR-3 | 4 | Each | Tabebuia Heterophylla | Roble Rosado | 7 gal. |

| PALMS | | | BOTANICAL NAME | COMMON NAME | REMARKS |
|---|---|---|---|---|---|
| KEY | QTY | UNIT | | | |
| P-1 | | | Cyathea Arborea | Helecho de Palma | |
| P-2 | | | Rhaps Excelsa | Rhapis | |

| SHRUBS | | | BOTANICAL NAME | COMMON NAME | REMARKS |
|---|---|---|---|---|---|
| KEY | QTY | UNIT | | | |
| SH1 2 | 11 | sq.mt. | Alocasia Indica | Malanga Morada | 3 gal. @ 0.914 m. o.c. |
| SH5 | 11 | sq.mt. | Brunfelsia Pauciflora | Ayer Hoy y Mañana | 3 gal. @ 0.914 m. o.c. |
| SH11 | 23.5 | sq.mt. | Hedychium Coronarium | Nardo | 1 gal. @ 0.60m. o.c. |
| SH15 | 6 | Each | Clerodendron Quadrifloculare | Clerodendron | 7 gal. |
| SH21 | 5.5 | sq.mt. | Musa Sumatrana | Guineo Morado | 3 gal. @ 0.914 m. o.c. |

| GROUND COVERS | | | BOTANICAL NAME | COMMON NAME | REMARKS |
|---|---|---|---|---|---|
| KEY | QTY | UNIT | | | |
| GC12 | 14.5 | sq.mt. | Dianella Tasmanica | Liriope Var. Grande | 1 gal. @ 0.60m. o.c. |
| GC19 | 378 | sq.mt. | Nephrolepsis Biserrata | Helecho Cola de Pescado | 6" pot @ 0.45 m. o.c. |
| GC20 | 18.5 | sq.mt. | Philodendron Monstera | Monstera | 1 gal. @ 0.60m. o.c. |
| GC24 | 13.5 | sq.mt. | Hymenocallis Keyensis | Lirio de Playa | 6" pot @ 0.45 m. o.c. |
| GC25 | | | Pennisetum Setaceum | Pennisetum Rojo | |
| GC26 | 12.5 | sq.mt. | Ruisellia Equisetiformis | Lluvia de Coral | 1 gal. @ 0.60m. o.c. |
| GC33 | 78 | sq.mt. | Leemochloa ophiuroides | Grama Clenpies | sod |

| EROSION CONTROL | | | | | |
|---|---|---|---|---|---|
| KEY | QTY | UNIT | | | |
| E-1 | 378 | sq.mt. | Erosion control coir fiber mat. Refer to La-110.1. | | |

| HORIZONTAL VERTICAL CONTROL # 15 | | | |
|---|---|---|---|
| Y | 237,666.7910 | X | 141,722.2080 |
| EL. | 444.170 | PK | |

## PROPOSED LEGEND

| | | |
|---|---|---|
| BOLLARD TYPE-1 | BO1 | C603 |
| GUARD RAIL | GR | C604 |
| VERTICAL CURB TYPE E | VC | C602 |
| 0.81 (32") PERMEABLE PEDESTRIAN PATH | PP1 | C601 |
| 0.60 (24") PERMEABLE PEDESTRIAN PATH | PP2 | C601 |
| PERMEABLE PARKING PAVEMENT | PPP | C603 |
| PAVER PAVEMENT | PP3 | C603 |
| GARBAGE PAD SCREEN | GPS | C601 |
| LANDSCAPE STONE TYPE 1 | LS1 | C604 |
| LANDSCAPE STONE TYPE 2 | LS2 | C604 |
| SPEED TABLE | STP | C601 |
| KILOMETER MARKER | KM | C603 |

# LANDSCAPE-6

scale= 1:300

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JMCP + JLGARCHITECTS
113 DEL PARQUE STREET SUITE 7
SAN JUAN, PR 00911
787.309.1837

BAIGES GEOTECHNICAL ENGINEERS, LLC
64 PASEO DE LA ALHAMBRA, URB TORRIMAR, GUAYNABO, P.R. 00969
JAMES@BAIGESMAIL.COM • (787) 399-0077

90% DESIGN SET
NOT FOR CONSTRUCTION

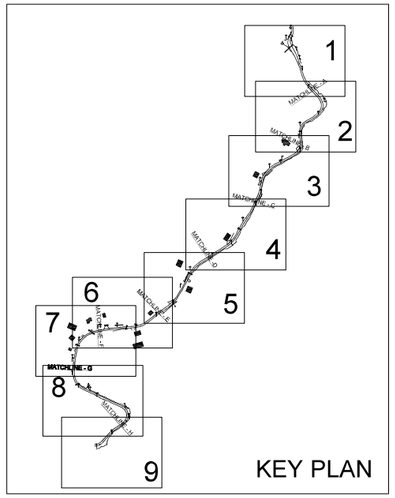
PROJECT: PR-CRP-000721
**PASEO LA GRUTA-VIVERO DE PECES**
CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

GOBIERNO MUNICIPAL DE MARICAO
PASEO HATCHERY [PR-CRP-000721]

| NO. | DATE | DRAWING ISSUE | BY | APP. |
|---|---|---|---|---|

DRAWN BY:
REVIEWED BY:
DATE: 05/23 11/01/23
SHEET TITLE: LANDSCAPE PLAN
DRAWING NO.: LA-106

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| LA-107 PLANTING MATERIALS SCHEDULE - PASEO HATCHERY | | | | | |
|---|---|---|---|---|---|
| TREES | | | BOTANICAL NAME | COMMON NAME | REMARKS |
| KEY | QTY | UNIT | | | |
| TR-3 | 4 | Each | Tabebuia Heterophylla | Roble Rosado | 7 gal. |
| PALMS | | | BOTANICAL NAME | COMMON NAME | REMARKS |
| KEY | QTY | UNIT | | | |
| P-1 | | | Cyathea Arborea | Helecho de Palma | |
| P-2 | | | Rhapis Excelsa | Rhapis | |
| SHRUBS | | | BOTANICAL NAME | COMMON NAME | REMARKS |
| KEY | QTY | UNIT | | | |
| SH1 | | | Alocasia Indica | Malange Morada | |
| SHZ.5 | 8.5 | sq.mt. | Alpinia Purpurata | Ginger Rojo | 1 gal. @ 0.60 m. o.c. |
| SH9 | 3 | Each | Dillenia Suffruticosa | Ojo de Pajaro | 7 gal. |
| SH15 | 9 | Each | Clerodendron Quadrilloculare | Clerodendron | 7 gal. |
| GROUND COVERS | | | BOTANICAL NAME | COMMON NAME | REMARKS |
| KEY | QTY | UNIT | | | |
| GC24 | 15 | sq.mt. | Hymenocallis Keyensis. | Lirio de Playa | 6" pot @ 0.45 m. o.c. |
| GC33 | 78 | sq.mt. | Fremochloa ophiuroides | Grama Ciempies | sod |
| EROSION CONTROL | | | | | |
| KEY | QTY | UNIT | | | |
| E-1 | | sq.mt. | Erosion control coir fiber mat. Refer to La-110.1. | | |

## EXISTING CONDITIONS LEGEND

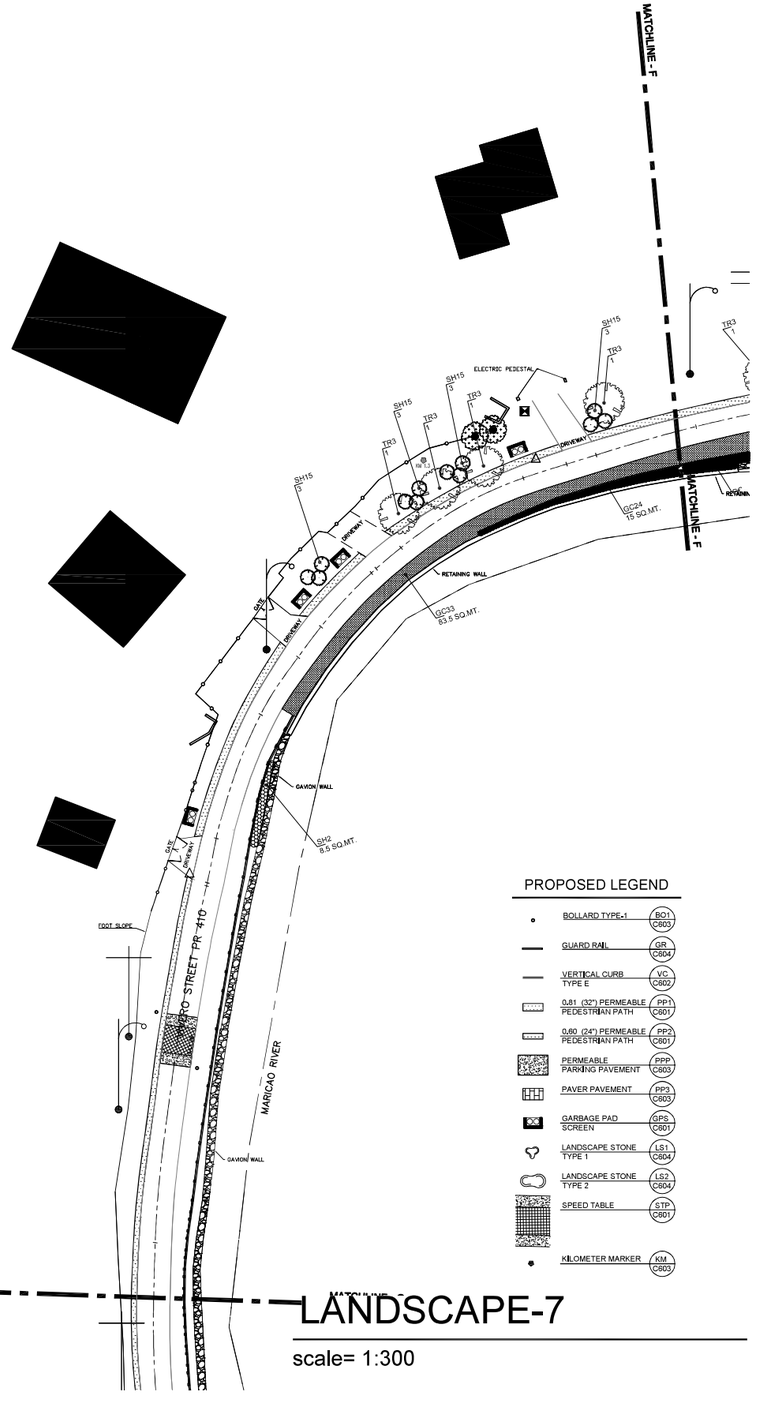
| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

0 5 10 30

SCALE = 1:300

| HORIZONTAL VERTICAL CONTROL # 16 | | | |
|---|---|---|---|
| Y | 237,649.4570 | X | 141,605.5650 |
| EL. | 442.240 | PK | |

| HORIZONTAL VERTICAL CONTROL # 17 | | | |
|---|---|---|---|
| Y | 237,603.4640 | X | 141,587.1870 |
| EL. | 443.040 | PK | |




## PROPOSED LEGEND

| | | |
|---|---|---|
| BOLLARD TYPE-1 | BO1 | C603 |
| GUARD RAIL | GR | C604 |
| VERTICAL CURB TYPE E | VC | C602 |
| 0.81 (32") PERMEABLE PEDESTRIAN PATH | PP1 | C601 |
| 0.60 (24") PERMEABLE PEDESTRIAN PATH | PP2 | C601 |
| PERMEABLE PARKING PAVEMENT | PPP | C603 |
| PAVER PAVEMENT | PP3 | C603 |
| GARBAGE PAD SCREEN | GPS | C601 |
| LANDSCAPE STONE TYPE 1 | LS1 | C604 |
| LANDSCAPE STONE TYPE 2 | LS2 | C604 |
| SPEED TABLE | STP | C601 |
| KILOMETER MARKER | KM | C603 |

MATCHLINE - G

# LANDSCAPE-7

scale= 1:300

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90% DESIGN SET
NOT FOR CONSTRUCTION

PROJECT: PR-CRP-000721

**PASEO LA GRUTA-VIVERO DE PECES**

CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

GOBIERNO MUNICIPAL DE MARICAO

PASEO HATCHERY [PR-CRP-000721]

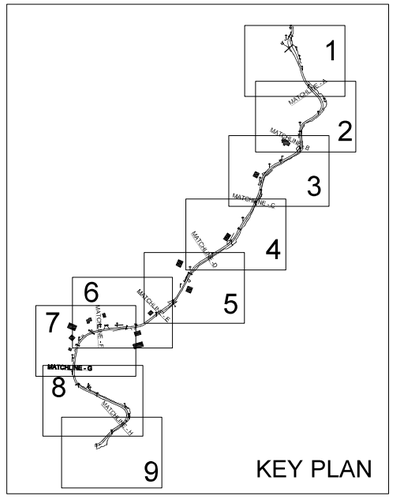
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|---|---|---|---|---|
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REVIEWED BY:
DATE: 05/23 11/01/23

SHEET TITLE: LANDSCAPE PLAN

DRAWING NO.: LA-107

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## EXISTING CONDITIONS LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

0 5 10 30
SCALE = 1:300

## PROPOSED LEGEND

| | | |
|---|---|---|
| | BOLLARD TYPE-1 | BO1 C603 |
| | GUARD RAIL | GR C604 |
| | VERTICAL CURB TYPE E | VC C602 |
| | 0.81 (32") PERMEABLE PEDESTRIAN PATH | PP1 C601 |
| | 0.60 (24") PERMEABLE PEDESTRIAN PATH | PP2 C601 |
| | PERMEABLE PARKING PAVEMENT | PPP C603 |
| | PAVER PAVEMENT | PP3 C603 |
| | GARBAGE PAD SCREEN | GP6 C601 |
| | LANDSCAPE STONE TYPE 1 | LS1 C604 |
| | LANDSCAPE STONE TYPE 2 | LS2 C604 |
| | SPEED TABLE | STP C601 |
| | KILOMETER MARKER | KM C603 |

| HORIZONTAL VERTICAL CONTROL # 20 | | | |
|---|---|---|---|
| Y | 237,458,8250 | X | 141.683,8390 |
| EL. | 447,100 | PK | |

| HORIZONTAL VERTICAL CONTROL # 21 | | | |
|---|---|---|---|
| Y | 237,430,6690 | X | 141.693,2360 |
| EL. | 448,230 | PK | |

**LA-108 PLANTING MATERIALS SCHEDULE - PASEO HATCHERY**

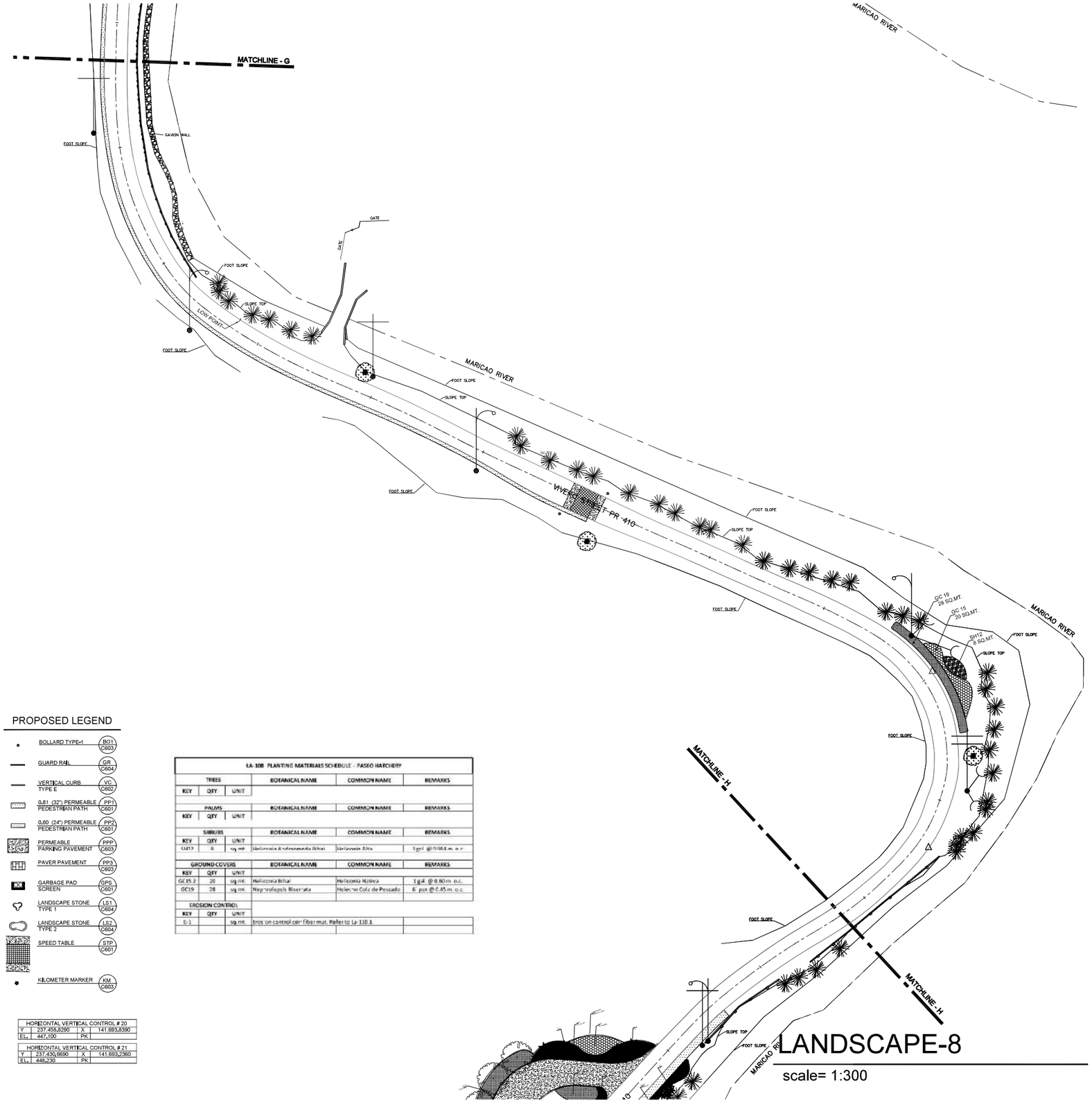
| TREES | | | BOTANICAL NAME | COMMON NAME | REMARKS |
|---|---|---|---|---|---|
| KEY | QTY | UNIT | | | |
| | | | | | |

| PALMS | | | BOTANICAL NAME | COMMON NAME | REMARKS |
|---|---|---|---|---|---|
| KEY | QTY | UNIT | | | |
| | | | | | |

| SHRUBS | | | BOTANICAL NAME | COMMON NAME | REMARKS |
|---|---|---|---|---|---|
| KEY | QTY | UNIT | | | |
| SH12 | 8 | sq.mt. | Heliconia Andromeda Bihai | Heliconia Alta | 3 pot @ 0.80 m. o.c. |

| GROUND COVERS | | | BOTANICAL NAME | COMMON NAME | REMARKS |
|---|---|---|---|---|---|
| KEY | QTY | UNIT | | | |
| GC15.2 | 20 | sq.mt. | Heliconia Bihai | Heliconia Nutica | 1 gal. @ 0.80m. o.c. |
| GC19 | 28 | sq.mt. | Nephrolepsis Biserrata | Helecho Cola de Pescado | 6 pot @ 0.45 m. o.c. |
| | | | | | |

| EROSION CONTROL | | | | | |
|---|---|---|---|---|---|
| KEY | QTY | UNIT | | | |
| E-1 | | sq.mt. | Erosion control coir fiber mat. Refer to La-110.1. | | |
| | | | | | |




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JAMES@BAIGESMAIL.COM • (787) 399-0097

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NOT FOR CONSTRUCTION

PROJECT: PR-CRP-000721
# PASEO LA GRUTA-VIVERO DE PECES
CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

GOBIERNO MUNICIPAL DE MARICAO
PASEO HATCHERY [PR-CRP-000721]

| NO. | DATE | DRAWING ISSUE | BY | APP. |
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SHEET TITLE: LANDSCAPE PLAN
DRAWING NO.: LA-108

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## EXISTING CONDITIONS LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

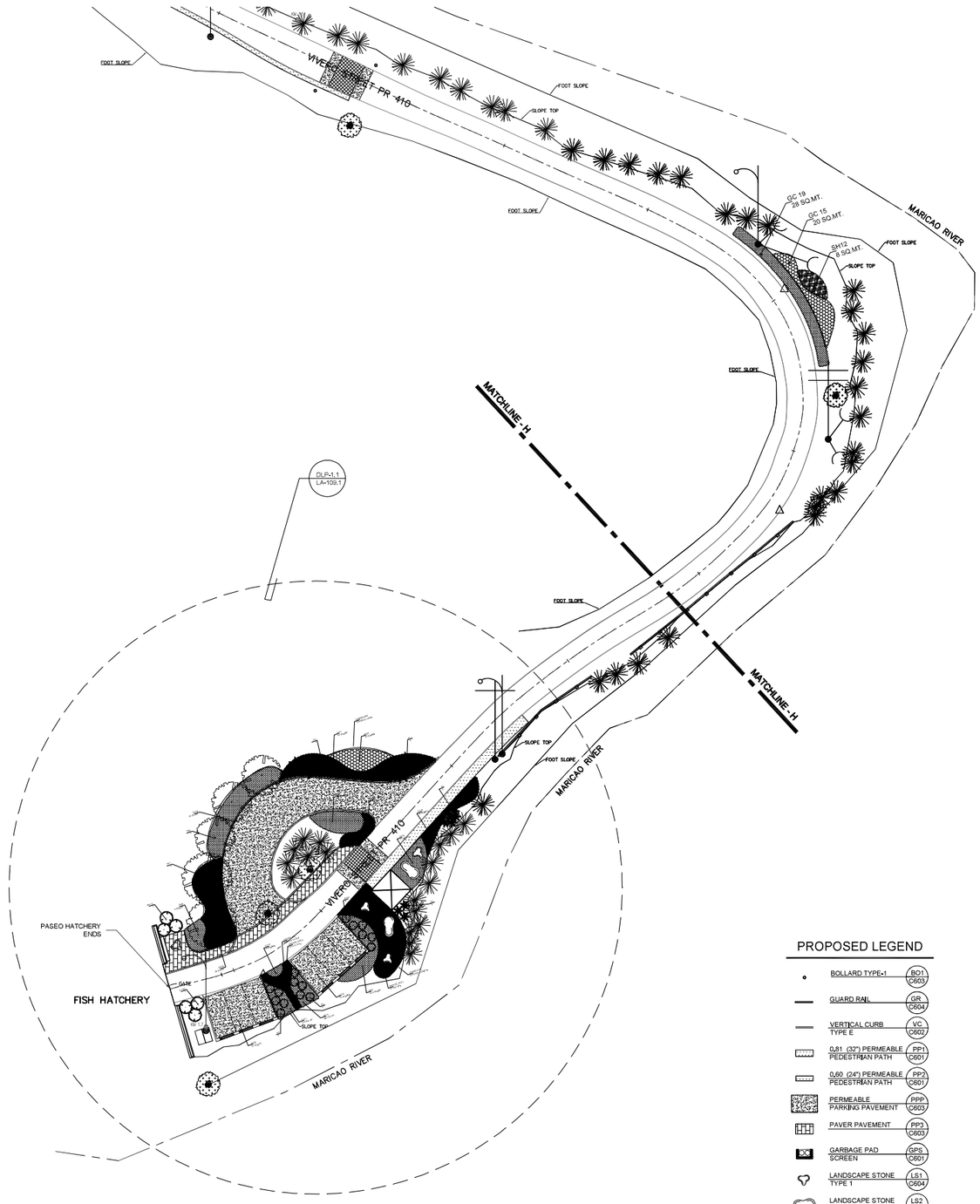
0 5 10 30

SCALE = 1:300

| HORIZONTAL VERTICAL CONTROL # 20 | | | |
|---|---|---|---|
| Y | 237,458,8290 | X | 141,693,8390 |
| EL. | 447,100 | PK | |

| HORIZONTAL VERTICAL CONTROL # 21 | | | |
|---|---|---|---|
| Y | 237,430,6690 | X | 141,693,2360 |
| EL. | 448,230 | PK | |

| HORIZONTAL VERTICAL CONTROL # 22 | | | |
|---|---|---|---|
| Y | 237,371,6570 | X | 141,627,5680 |
| EL. | 450,080 | PK | |




## PROPOSED LEGEND

| | | |
|---|---|---|
| | BOLLARD TYPE-1 | BO1 C603 |
| | GUARD RAIL | GR C604 |
| | VERTICAL CURB TYPE E | VC C602 |
| | 0,81 (32") PERMEABLE PEDESTRIAN PATH | PP1 C601 |
| | 0,60 (24") PERMEABLE PEDESTRIAN PATH | PP2 C601 |
| | PERMEABLE PARKING PAVEMENT | PPP C603 |
| | PAVER PAVEMENT | PP3 C603 |
| | GARBAGE PAD SCREEN | GPS C601 |
| | LANDSCAPE STONE TYPE 1 | LS1 C604 |
| | LANDSCAPE STONE TYPE 2 | LS2 C604 |
| | SPEED TABLE | STP C601 |
| | KILOMETER MARKER | KM C603 |

# LANDSCAPE-9

scale= 1:300

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JAMES@BAIGESMUNIZ.COM • (787) 399-0077

90% DESIGN SET
NOT FOR CONSTRUCTION

PROJECT: PR-CRP-000721

**PASEO LA GRUTA-VIVERO DE PECES**

CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

GOBIERNO MUNICIPAL DE MARICAO

PASEO HATCHERY [PR-CRP-000721]

| NO. | DATE | DRAWING ISSUE | BY | APP. |
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DATE: 05/23 11/01/23

SHEET TITLE: LANDSCAPE PLAN

DRAWING NO.: LA-109

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**LA-109.1 PLANTING MATERIALS SCHEDULE - PASEO HATCHERY**

| TREES | | | BOTANICAL NAME | COMMON NAME | REMARKS |
|---|---|---|---|---|---|
| KEY | QTY | UNIT | | | |
| TR-7 | 2 | Each | Lagerstroemia Speciosa | Reina de las Flores | 7 gal. |
| TR-8 | 3 | Each | Magnolia Portorricensis | Jagüilla | 7 gal. |

| PALMS | | | BOTANICAL NAME | COMMON NAME | REMARKS |
|---|---|---|---|---|---|
| KEY | QTY | UNIT | | | |
| P-1 | 6 | Each | Cyotsea Arborea | Helecho de Palma | 7 gal. |
| P-2 | 18 | Each | Rhapis Excelsa | Rhapis | 3 gal. |

| SHRUBS | | | BOTANICAL NAME | COMMON NAME | REMARKS |
|---|---|---|---|---|---|
| KEY | QTY | UNIT | | | |
| SH4 | 9 | sq.mt. | Alpinia Speciosa | Shell Flower | 3 gal. @ 0.60 m. o.c. |
| SH11 | 41 | sq.mt. | Hedychium Coronarium | Naido | 1 gal. @ 0.60 m. o.c. |
| SH19 | 6 | Each | Graptophyllum Pictum | Graptophyllum | 3 gal. |
| SH21 | 18 | sq.mt. | Mussa Sumatrana | Guineo Morado | 3 gal. @ 0.914 m. o.c. |
| SH24 | 6 | Each | Coffea Arabica | Cafeto | 7 gals. |

| GROUND COVERS | | | BOTANICAL NAME | COMMON NAME | REMARKS |
|---|---|---|---|---|---|
| KEY | QTY | UNIT | | | |
| GC1 | 15.5 | sq.mt. | Anthurium Acaule | Anturio Nativo | 1 gal. @ 0.60 m. o.c. |
| GC3 | 8.5 | sq.mt. | Bromelia spp. | | 1 gal. @ 0.60 m. o.c. |
| GC9 | 20.5 | sq.mt. | Browallia Americana | Margarita Morada | 6" pot @ 0.45 m. o.c. |
| GC11 | 13 | sq.mt. | Commelina Diffusa | Cohitre | 1" pot @ 0.30 m. |
| GC16 | 36 | sq.mt. | Impatiens Walleriana | Miramelinda | 6" pot @ 0.45 m. o.c. |
| GC17 | 2 | sq.mt. | Iris Amarilis | Iris | 6" pot @ 0.45 m. o.c. |
| GC27 | 35 | sq.mt. | Schizocentron Elegans | Mantilla Española | 6" pot @ 0.45 m. o.c. |
| GC33 | 99 | sq.mt. | Eremochloa ophiuroides | Grama Centipies | sod |

| EROSION CONTROL | | | | | |
|---|---|---|---|---|---|
| KEY | QTY | UNIT | | | |
| E-1 | | sq.mt. | Erosion control coir fiber mat. Refer to LA-110.1. | | |

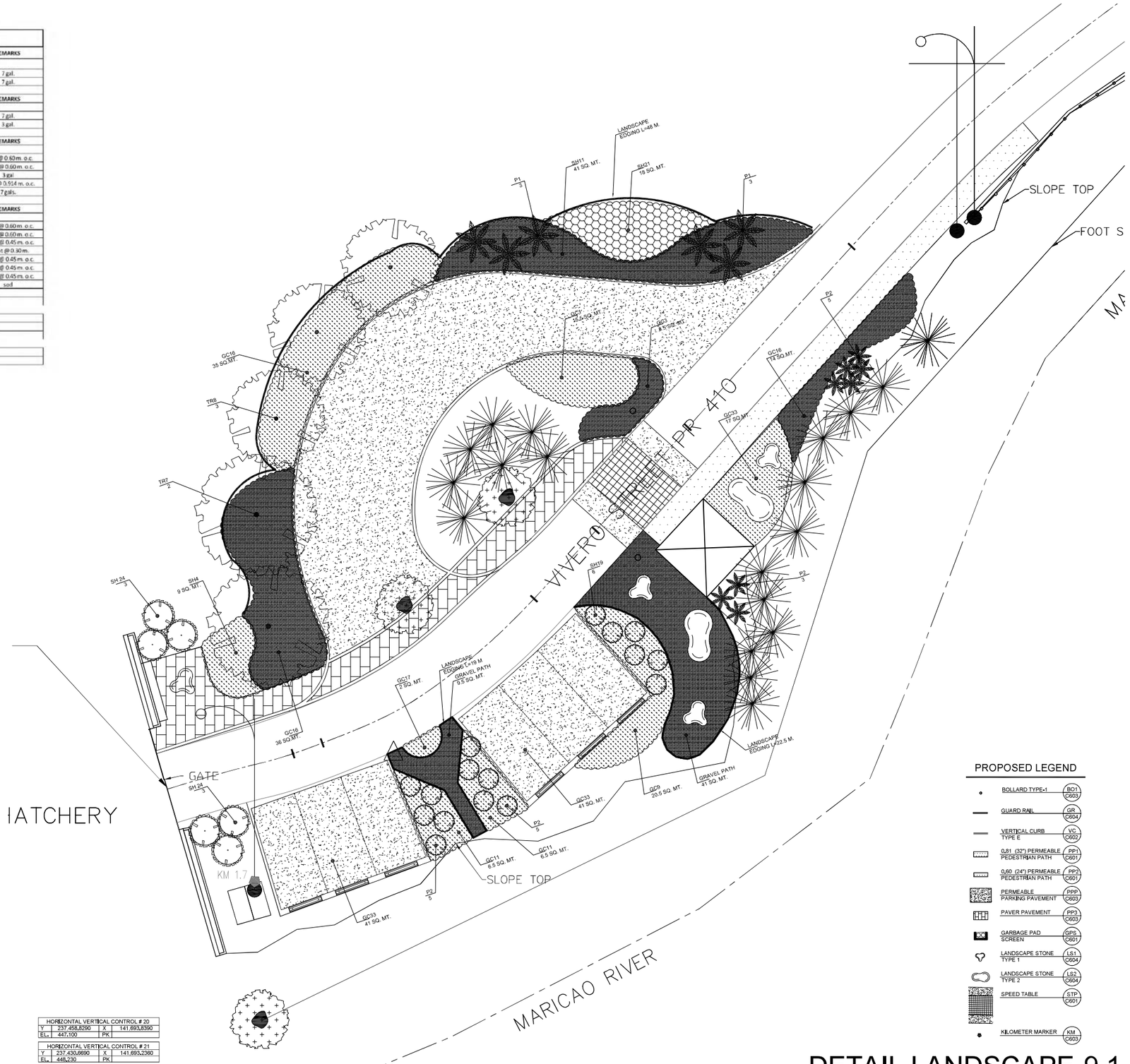
| OTHER | | | | | |
|---|---|---|---|---|---|
| KEY | QTY | UNIT | | | |
| | 90 | mc. | Landscape edging. | | |
| | 503 | sq.mt. | Gravel path (3/8" gravel). | | |

## EXISTING CONDITIONS LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

0 5 10 30

SCALE = 1:300




| HORIZONTAL VERTICAL CONTROL # 20 | | | |
|---|---|---|---|
| Y | 237,458.8290 | X | 141,693.8390 |
| EL. | 447.100 | PK | |

| HORIZONTAL VERTICAL CONTROL # 21 | | | |
|---|---|---|---|
| Y | 237,430.6690 | X | 141,693.2360 |
| EL. | 448.230 | PK | |

| HORIZONTAL VERTICAL CONTROL # 22 | | | |
|---|---|---|---|
| Y | 237,371.8570 | X | 141,627.5680 |
| EL. | 450.080 | PK | |

## PROPOSED LEGEND

| | | |
|---|---|---|
| | BOLLARD TYPE-1 | BO1 C603 |
| | GUARD RAIL | GR C604 |
| | VERTICAL CURB TYPE E | VC C602 |
| | 0,81 (32") PERMEABLE PEDESTRIAN PATH | PP1 C601 |
| | 0,60 (24") PERMEABLE PEDESTRIAN PATH | PP2 C601 |
| | PERMEABLE PARKING PAVEMENT | PPP C603 |
| | PAVER PAVEMENT | PP3 C603 |
| | GARBAGE PAD SCREEN | GPS C601 |
| | LANDSCAPE STONE TYPE 1 | LS1 C604 |
| | LANDSCAPE STONE TYPE 2 | LS2 C604 |
| | SPEED TABLE | STP C601 |
| | KILOMETER MARKER | KM C603 |

# DETAIL LANDSCAPE-9.1

scale= 1:100

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SAN JUAN, PR 00911
787.309.1837

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90% DESIGN SET
NOT FOR CONSTRUCTION

PROJECT: PR-CRP-000721

**PASEO LA GRUTA-VIVERO DE PECES**

CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

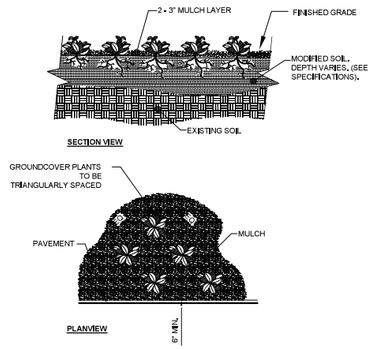
GOBIERNO MUNICIPAL DE MARICAO

PASEO HATCHERY [PR-CRP-000721]

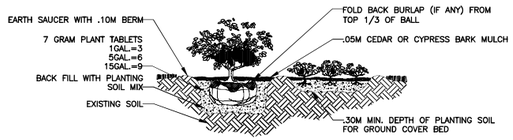
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REVIEWED BY:
DATE: 05/23 11/01/23
SHEET TITLE: LANDSCAPE PLAN
DRAWING NO.: LA-109.1

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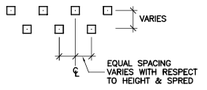



## GROUNDCOVER PLANTING DETAIL



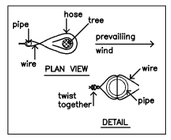

## SHRUB & GROUND COVER PLANTING

NOT TO SCALE



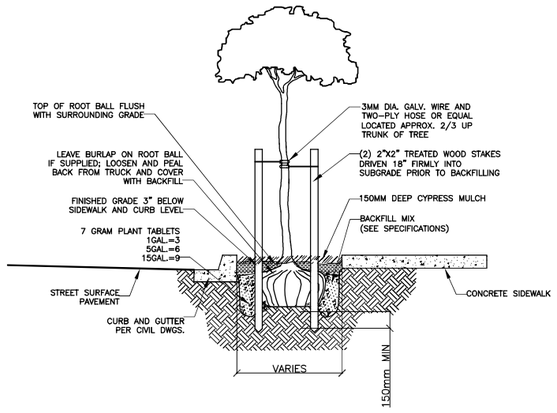

## TYPICAL SHRUB LAYOUT

NOT TO SCALE



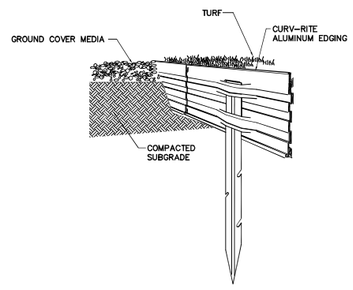

## STAKING DETAIL

NOT TO SCALE




## TREE IN PLANTING STRIP

NOT TO SCALE




## LANDSCAPE BORDER EDGING

NOT TO SCALE

**SPECIFICATION FOR LANDSCAPE BED EDGING**

1. LANDSCAPE BED EDGING SHALL BE EQUAL OR SIMILAR TO CURV-RITE DESIGN 2 (CRD2) AS MANUFACTURED BY CURV-RITE INC. WAYLAND, MICHIGAN 1 – 800 366 – 2878.
2. THICKNESS, DEPTH, LENGTH AND FINISH SHALL BE:1/8" X 5.5"
3. EIGHT (8) OR SIXTEEN (16) FOOT SECTIONS SHALL BE USED WITH ONE STAKE PER (38) INCHES OF EDGING EDGING SHALL BE ALUMINUM ALLOY 6063 – T6 WITH STAKES BEING 6061 – T6
4. STAKE SHALL SECURELY ENGAGE EDGING AND SHALL BE ENTIRELY BELOW TOP SURFACE OF EDGING. EDGING SHALL HAVE A MINIMUM OF (2) INCHES OF INTERLOCKING OVERLAP BETWEEN SECTIONS.
5. INSTALL AS PER MANUFACTURER'S SPECIFICATIONS WITH TOP OF EDGING 1/4" TO 1/2" ABOVE COMPACTED FINISH GRADE. FINISH GRADE TO BE COMPACTED ON EITHER SIDE OF EDGING TO MAINTAIN STABILITY.

## LANDSCAPE WORK NOTES:

1. COSTS LANDSCAPING WORK CONSTRUCTION COSTS SHALL BE CLEARLY ITEMIZED, INCLUDING UNIT PRICES.
2. WATER THE CONTRACTOR IS RESPONSIBLE FOR WATER TRANSPORTATION IN THE EVENT NO WATER IS AVAILABLE ON SITE.
3. MAINTENANCE MAINTENANCE PERIOD BEGINS AFTER FINAL ACCEPTANCE AND EXTENDS FOR (12) MONTHS THEREAFTER, REFER TO WRITTEN SPECIFICATIONS.
4. PALMS SPECIFIED HEIGHT OF PALM TREES DO NOT INCLUDE PALM FRONDS OR LEAVES. SPECIFIED HEIGHT IS FOR A CLEARLY DEFINED TRUNK.
5. FERTILIZER FOR TREES AND PALMS. APPLY COMMERCIAL FERTILIZER PLANT FOOD TABLETS: "Agriform". TABLETS SHALL BE TIGHTLY COMPRESSED, LONG LASTING, TWO (2) YEARS. SLOW RELEASE FERTILIZER DELIVERED TO THE SITE ORIGINAL CONTAINERS BEARING THE MANUFACTURER'S GUARANTEED ANALYSIS OF 20-10-15. TABLETS SHALL WEIGHT FIVE (5). TEN (10) OR TWENTY-ONE (21) GRAMS WITH A POTENTIAL ACIDITY OF NO MORE THAN 5% BY WEIGHT.
6. PLANTING SOIL MIXTURE SHALL BE FREE OF EXTRANEOUS MATTER AND WEEDS AND SHALL CONSIST OF THREE (3) PARTS TOPSOIL AND ONE (1) PART ORGANIC MATTER.
7. LANDSCAPE CONTRACTOR SHALL COORDINATE WITH OWNER LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO START OF WORKS.
8. TOPSOIL INSTALL 4 INCHES MINIMUM DEPTH AT PLANTING AND LAWN AREAS. 12 INCHES MINIMUM BELOW TREES.
9. ROOT BARRIERS INSTALL ROOT BARRIERS ONLY IN PLANTING STRIPS WHERE INDICATED

## NOTES

1. SUPPLY PLANTING SOIL MIX AS MAY BE REQUIRED.
2. ALL QUANTITIES IN THE PLANTING MATERIALS SCHEDULE CONSTITUTE AN APPROXIMATE ESTIMATE WHICH SHALL BE CONFIRMED BY CONTRACTOR AT ALL TIMES.

**PLANTING MATERIALS SCHEDULE - PASEO MATCHERY**

| TREES KEY | QTY | UNIT | BOTANICAL NAME | COMMON NAME | REMARKS |
|---|---|---|---|---|---|
| TR-1 | | | Byrsonima Coriacea | Maricao | |
| TR 2 | | | Ueddia Ferrea | Arbol de Hierro | |
| TR-3 | | | Tabebuia Heterophylla | Roble Rosado | |
| TR 4 | | | Cordia Alliodora | Capá Prieto | |
| TR-5 | | | Bauhinia Blackeana | Mariposa | |
| TR 6 | | | Syzygium Malaccense | Pomarosa | |
| TR-7 | | | Lagerstroemia Speciosa | Reina de Las Flores | |

| PALMS KEY | QTY | UNIT | BOTANICAL NAME | COMMON NAME | REMARKS |
|---|---|---|---|---|---|
| P-1 | | | Cyathea Arborea | Helecho de Palma | |
| P-2 | | | Rhapis Excelsa | Rhapis | |

| SHRUBS KEY | QTY | UNIT | BOTANICAL NAME | COMMON NAME | REMARKS |
|---|---|---|---|---|---|
| SH1 | | | Alocasia Indica | Malanga Morada | |
| SH2 | | | Alpinia Purpurata | Ginger Rojo | |
| SH3 | | | Alpinia Sanderae | Ginger Rosado | |
| SH4 | | | Alpinia Speciosa | Shell Flower | |
| SH5 | | | Brunfelsia Pauciflora | Ayer Hoy y Mañana | |
| SH6 | | | Calliandra Inaequilatera | Mata | |
| SH7 | | | Clusea Rosa | Cupey | |
| SH8 | | | Cordyliine Terminalis | Cordiline | |
| SH9 | | | Dillenia Suffruticosa | Ojo de Pájaro | |
| SH10 | | | Freycinetia Multiflora | Freicinetia | |
| SH11 | | | Hedychium Coronarium | Nardo | |
| SH12 | | | Heliconia Andracarmina Bihai | Heliconia Alta | |
| SH13 | | | Hydrangea Macrophylla | Hortensia | |
| SH14 | | | Jatropha Integerrima | Coralito | |
| SH15 | | | Clerodendrum Quadriloculare | Clerodendron | |
| SH16 | | | Lagerstroemia Indica | | |
| SH17 | | | Plumeria Spp | Virlo de Novia | |
| SH18 | | | Ligustrum Lucidum | Ligustrum | |
| SH19 | | | Magnolia Portoricensis | Eguelito | |
| SH20 | | | Murraya Exotica | Café de la India | |
| SH21 | | | Muyva Sumatrana | Guinea Morado | |
| SH22 | | | Plumeria Speciosa | Flor de Cera | |
| SH23 | | | Philodendron Selloum | Monstera | |

| GROUND COVERS KEY | QTY | UNIT | BOTANICAL NAME | COMMON NAME | REMARKS |
|---|---|---|---|---|---|
| GC1 | | | Anthurium Acaule | Anturio Nativo | |
| GC2 | | | Anthurium Andracanum | Flamingo Flower | |
| GC3 | | | Bromelia spp | | |
| GC4 | | | Canna Coccinea | Maraca | |
| GC5 | | | Canna Spp | Lirio Cana | |
| GC6 | | | Canna Indica | Maraca Nativa | |
| GC7 | | | Clusea Rosea | Cupey Frano | |
| GC8 | | | Commelina Difusa - Cohitre | | |
| GC9 | | | Rhoeodilis Americana | Margarita Morada | |
| SC10 | | | Callisia Monandra | Cohitre Morado | |
| SC11 | | | Commelina Difusa | Cohitre | |
| SC12 | | | Diamella Tawmanica | Liriope Var. Grande | |
| SC13 | | | Heliconia Psitacorum | Golden Torch | |
| SC14 | | | Heliconia Caribae | Heliconia Nativa | |
| SC15 | | | Heliconia Bihai | Heliconia Nativa | |
| SC16 | | | Iris Amarilis | Iris | |
| SC17 | | | Liriope Muscari | Liriope Verde | |
| SC18 | | | Nephrolepsis Biserrata | Helecho Cola de Pescado | |
| SC19 | | | Philodendron Monstera | | |
| SC20 | | | Ophiopogun Japonicus | Grama de Mono | |
| SC21 | | | Plumbago Auriculata | Isabel Segunda Azul | |
| SC22 | | | Plumbago Caponsis | Isabel Segunda Blanca | |
| SC23 | | | Hymenocallis Keyensis | Lirio de Playa | |
| SC24 | | | Pennisetum Setaceum | Pennisetum Rojo | |
| GC2 | | | Russellia Equisetiformis | Lluvia de Coral | |
| SC25 | | | Schizocentron Elegans | Mantilla Española | |
| SC26 | | | Setcreasea Purpurea | Cohitre Lila | |
| SC27 | | | Spathiphyllum Musaica Lea | | |
| SC28 | | | Spathoglottis | Orquídea Lila | |
| SC29 | | | Tripsacum Dactyloides | Liriope Verde Grande | |
| SC30 | | | Vetiveria Zizanioides | Pachelí | |

## PLANT SCHEDULE & PLANTING DETAILS

SCALE = AS SHOWN

C&G
JMCP + JLGARCHITECTS
113 DEL PARQUE STREET SUITE 7
SAN JUAN, PR 00911
787.309.1837

BAIGES GEOTECHNICAL ENGINEERS, LLC
64 PASEO DE LA ALHAMBRA, URB TORRIMAR, GUAYNABO, P.R. 00969
JAMES@BAIGESPR.COM • (787) 399-0077

**90% DESIGN SET**
**NOT FOR CONSTRUCTION**

PROJECT: PR-CRP-000721

# PASEO LA GRUTA-VIVERO DE PECES

CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

GOBIERNO MUNICIPAL DE MARICAO

PASEO HATCHERY [PR-CRP-000721]

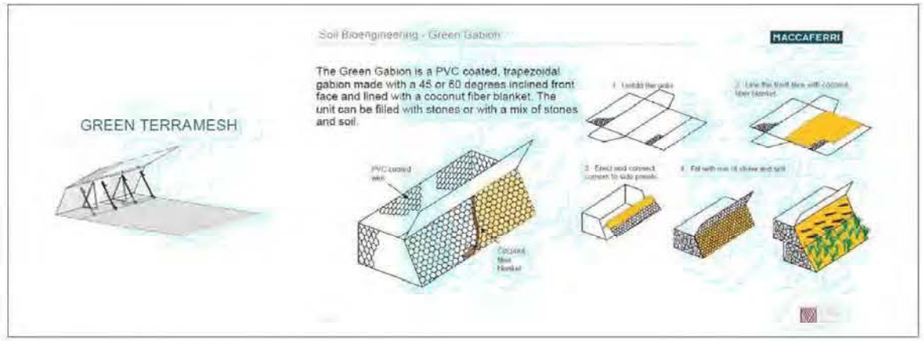
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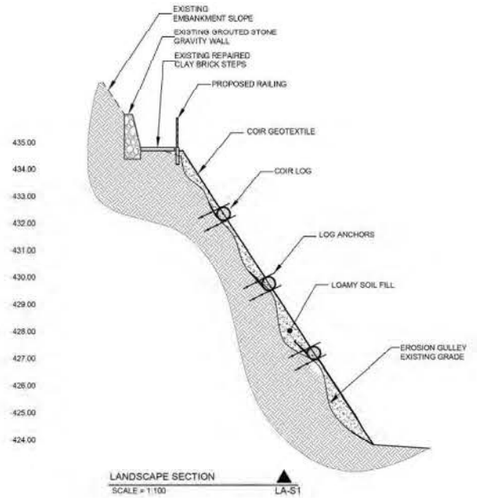
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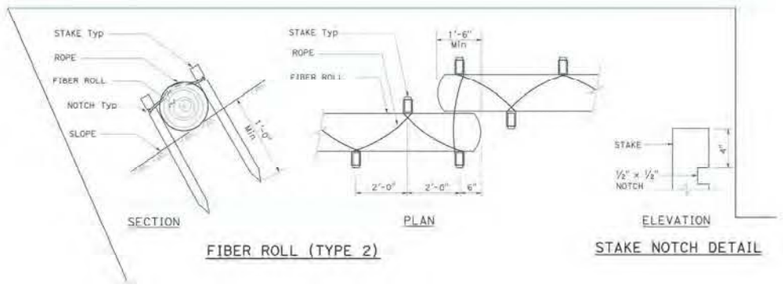
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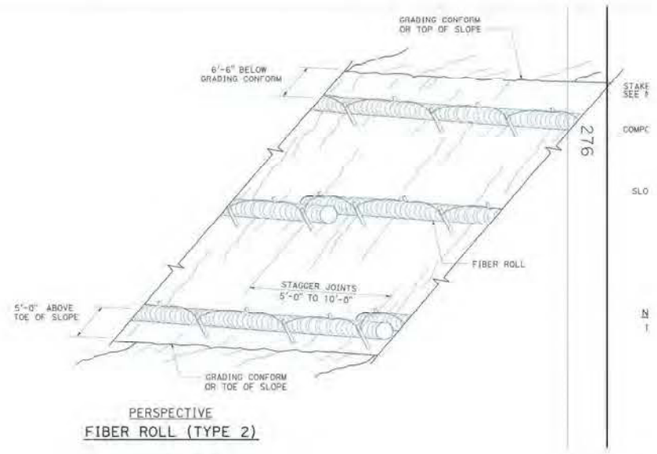
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PLANTING DETAILS
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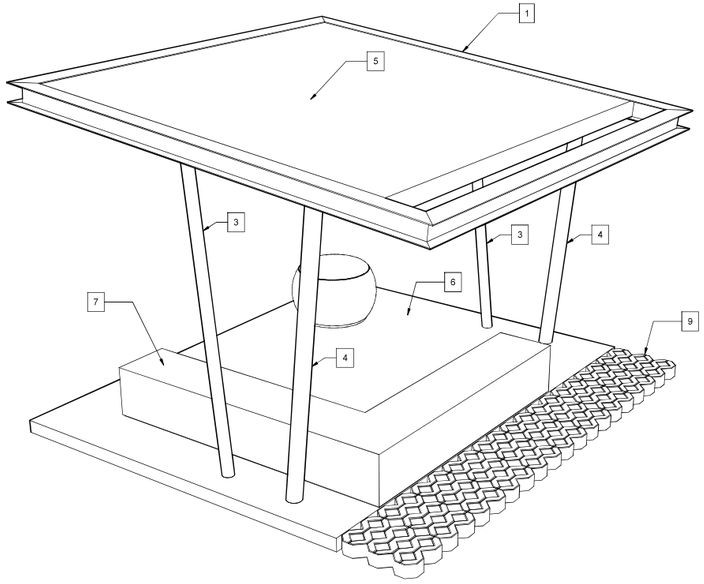
90% DESIGN SET
NOT FOR CONSTRUCTION

PROJECT: PR-CRP-000721
PASEO LA GRUTA-VIVERO DE PECES
CARRETERA ESTATAL PR.4'0 KM.3.0 - KM. 4.5
GOBIERNO MUNICIPAL DE MARICAO
PASEO HATCHERY [PR-CRP-000721]

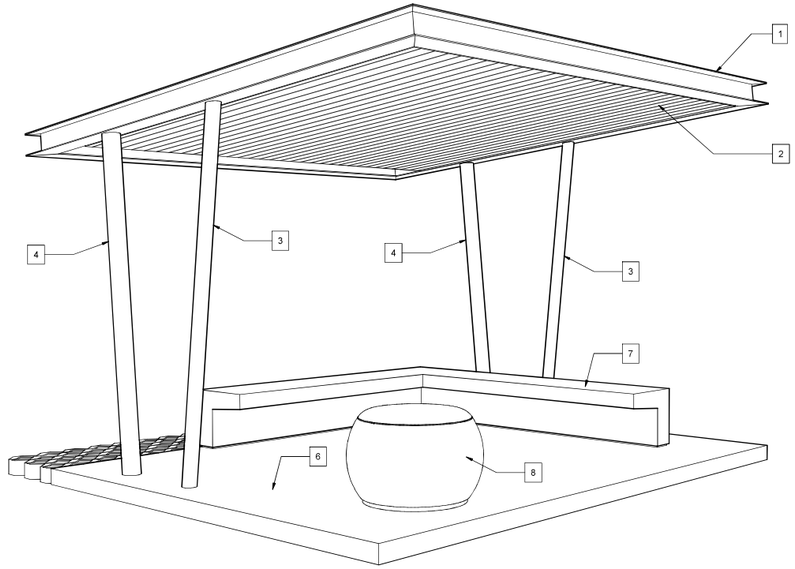
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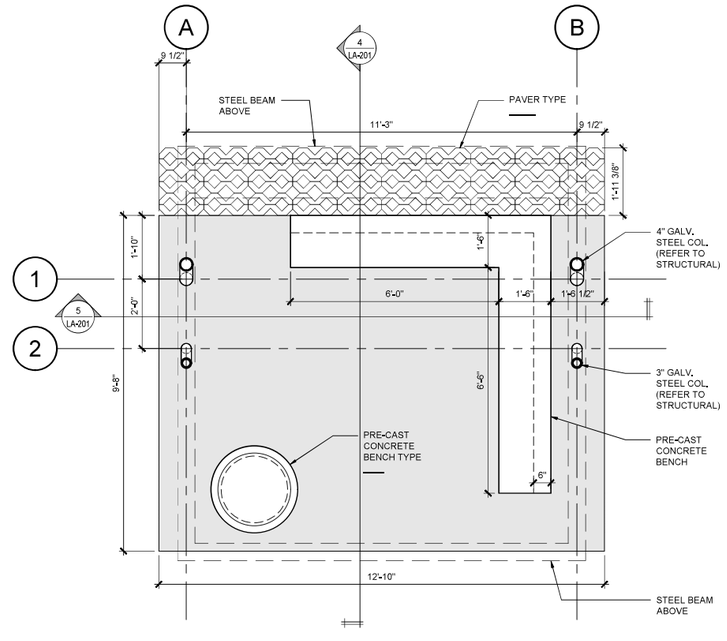

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SCALE: N.T.S.



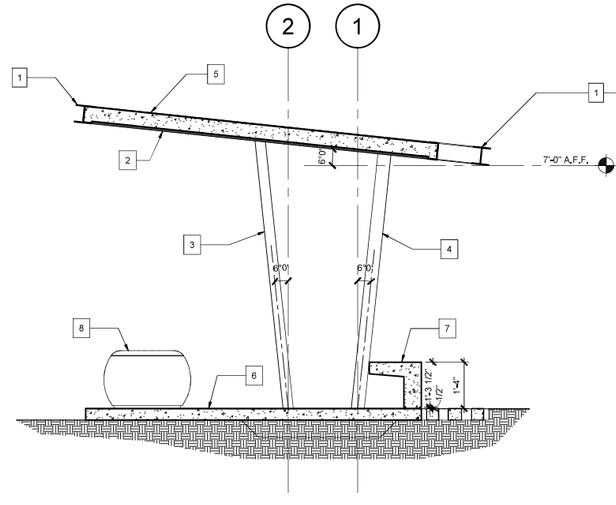

2 ISOMETRIC VIEW
SCALE: N.T.S.

KEY NOTES:

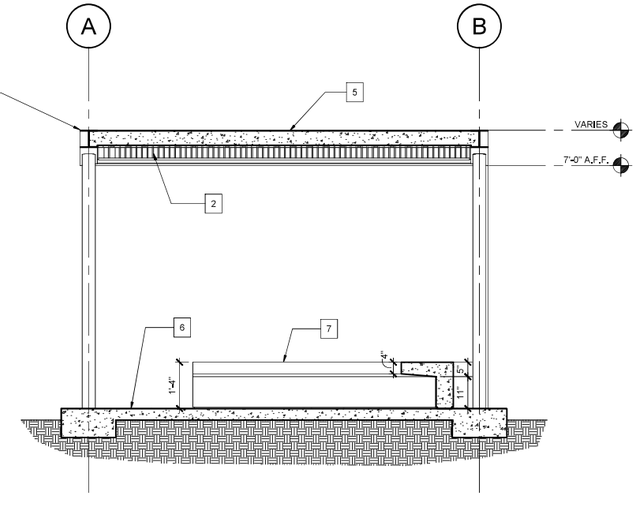
1. GALV. STEEL BEAM. REFER TO STRUCTURAL FOR SIZE AND SPECS. PRIME AND PAINT. PRE-TREAT W/ GALV. METAL PRIMER PRIOR TO PAINT COAT PER MANUFACTURER'S INSTRUCTION.
2. NATURAL FIBER WOOD COMPOUND EQUAL TO RESYSTA 6" LUSSO PROFILE MECHANICALLY ATTACHED TO CONCRETE CEILING PER MANUFACTURER'S INSTRUCTIONS. PRIME & STAIN W/ APPROVED WATER BASED PRIMER (RBP) AND STAIN (RCL) SYSTEM / COLOR C14, SIAM.
3. 3" DIAMETER GALV. STEEL COLUMN. REFER TO STRUCTURAL FOR SIZE AND SPECS. PRIME AND PAINT. PRE-TREAT W/ GALV. METAL PRIMER PRIOR TO PAINT COAT PER MANUFACTURER'S INSTRUCTION.
4. 4" DIAMETER GALV. STEEL COLUMN. REFER TO STRUCTURAL FOR SIZE AND SPECS. PRIME AND PAINT. PRE-TREAT W/ GALV. METAL PRIMER PRIOR TO PAINT COAT PER MANUFACTURER'S INSTRUCTION.
5. REINFORCED CONCRETE ROOF SLAB. REFER TO STRUCTURAL FOR DETAILS.
6. REINFORCED CONCRETE FLOOR SLAB. REFER TO STRUCTURAL FOR DETAILS.
7. CONCRETE BENCH W/ TRAVERTINE FINISH.
8. PRECAST CONCRETE BENCH EQUAL TO 713 PRECAST BE-31 POD SEAT, TRAVERTINE FINISH.
9. PRECAST CONCRETE GRASS PAVER EQUAL TO _____




3 TYP. GAZEBO FLOOR PLAN
SCALE: 1/2" = 1'-0"




4 TYP. GAZEBO FLOOR PLAN
SCALE: 1/2" = 1'-0"




5 TYP. GAZEBO FLOOR PLAN
SCALE: 1/2" = 1'-0"

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115 DEL PARQUE STREET SUITE 7
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787.309.1837

MARICAO
CAPITAL DE LA MONTAÑA

PROGRESS SET
NOT FOR CONSTRUCTION

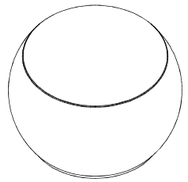
PROJECT:
PASEO LA GRUTA - VIVERO DE PECES
CARRETERA ESTATAL PR 410, KM. 3.0 - KM. 4.5, MARICAO, PR

LANDSCAPE AMENITIES
SCALE: AS SHOWN

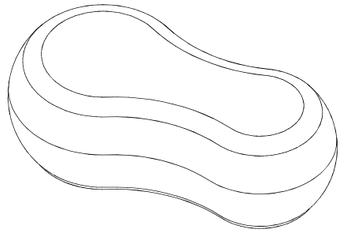
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| 3 | 08.08.23 | 90% PROGRESS SET | . | . |
| 4 | . | . | . | . |
| 5 | . | . | . | . |
| 6 | . | . | . | . |
| 7 | . | . | . | . |

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DATE: 08.09.23
SHEET TITLE: PERMANENT LANDSCAPE AMENITIES
DRAWING NO.: LA-201

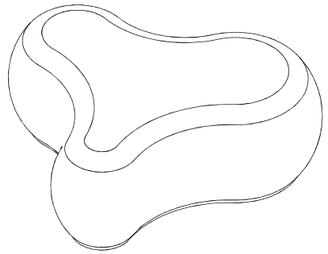
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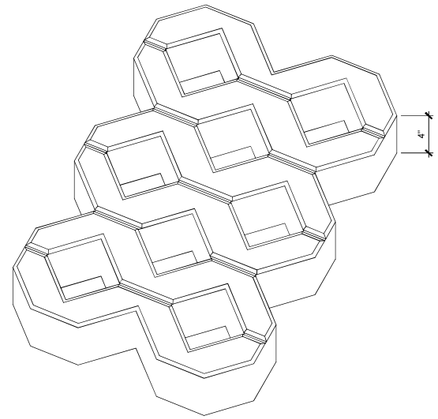
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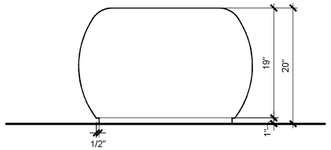
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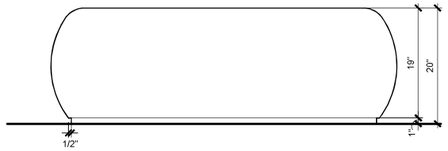
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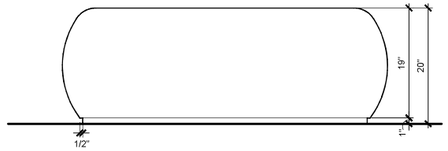

AXONOMETRIC VIEW



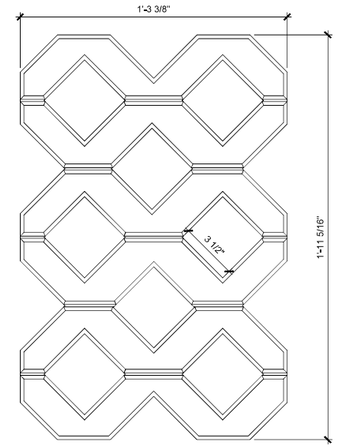

ELEVATION VIEW



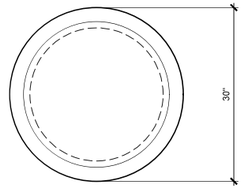

ELEVATION VIEW




ELEVATION VIEW



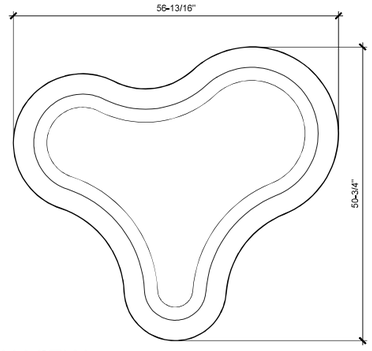

PLAN VIEW




PLAN VIEW




PLAN VIEW




PLAN VIEW

## 1 BENCH TYPE BE-31

SCALE: 1" = 1'-0"

NOTES:

1. PRE-CAST FIBER REINFORCED CONCRETE BENCH EQUAL OR SIMILAR TO 713 PRECAST BENCH MODEL BE-31
2. FINISH - TRAVERTINE FINISH, CONTRACTOR TO SUBMIT AVAILABLE FINISHES AND COLORS FOR SELECTION.

## 2 BENCH TYPE BE-43

SCALE: 1" = 1'-0"

NOTES:

1. PRE-CAST FIBER REINFORCED CONCRETE BENCH EQUAL OR SIMILAR TO 713 PRECAST BENCH MODEL BE-43
2. FINISH - TRAVERTINE FINISH, CONTRACTOR TO SUBMIT AVAILABLE FINISHES AND COLORS FOR SELECTION.

## 3 BENCH TYPE BE-44

SCALE: 1" = 1'-0"

NOTES:

1. PRE-CAST FIBER REINFORCED CONCRETE BENCH EQUAL OR SIMILAR TO 713 PRECAST BENCH MODEL BE-44
2. FINISH - TRAVERTINE FINISH, CONTRACTOR TO SUBMIT AVAILABLE FINISHES AND COLORS FOR SELECTION.

## 4 GRASS PAVER TYPE xx

SCALE: 1" = 3'-0"

NOTES:

1. PRE-CAST FIBER REINFORCED CONCRETE PAVER EQUAL OR SIMILAR TO 713 PRECAST PAVER MODEL xx
2. FINISH - EXPOSED CONCRETE

C&G
JMCP + JLGARCHITECTS
113 DEL PARQUE STREET SUIT 7
SAN JUAN, PR 00911
787.309.1837

MARICAO
CAPITAL DE LA MONTAÑA

PROGRESS SET
NOT FOR CONSTRUCTION

PROJECT:
PASEO LA GRUTA - VIVERO DE PECES
CARRETERA ESTATAL PR 410, KM. 3.0 - KM. 4.5, MARICAO, PR

LANDSCAPE AMENITIES
SCALE: AS SHOWN

| NO. | DATE | DRAWING ISSUE | BY | APP. |
|---|---|---|---|---|
| 1 | 03.31.23 | 30% PROGRESS SET | . | . |
| 2 | 06.01.23 | 60% PROGRESS SET | . | . |
| 3 | 08.08.23 | 90% PROGRESS SET | . | . |
| 4 | | . | . | . |
| 5 | | . | . | . |
| 6 | | . | . | . |
| 7 | | . | . | . |

DRAWN BY: .
REVIEWED BY: .
DATE: 08.09.23

SHEET TITLE: PERMANENT LANDSCAPE AMENITIES
DRAWING NO.: LA-202

GOVERNMENT OF PUERTO RICO
STATE HISTORIC PRESERVATION OFFICE
Executive Director | Carlos A. Rubio Cancela | carubio@prshpo.pr.gov

Monday, May 20, 2024

Lauren B Poche

269 Avenida Ponce de Leon, San Juan, PR, 00917

SHPO-CF-05-02-24-01 PR-CRP-000721 (Maricao), Paseo Hatchery Project

Dear Ms. Poche,

Our Office has reviewed the archaeology monitoring, protection and conservation plan, dated April 16, 2024, prepared for the above referenced project. The plan is deemed acceptable.

If you have any questions please do not hesitate to contact our Office.
Sincerely,



Carlos A. Rubio Cancela

State Historic Preservation Officer
CARC/GMO/ MB

GOVERNMENT OF PUERTO RICO
DEPARTMENT OF HOUSING

April 30, 2024

**Arch. Carlos A. Rubio Cancela**
Executive Director
Puerto Rico State Historic Preservation Office
Cuartel de Ballajá, Third Floor
San Juan, Puerto Rico 00901

**Re: Authorization to Submit Documents for Consultation**

Dear Arch. Rubio Cancela,

The U.S. Department of Housing (HUD) approved the allocations of Community Development Block Grant (CDBG-DR) funds on February 9, 2018. It also approved the allocation of Community Development Block Grant Mitigation (CDBG-MIT) funds on January 27, 2020. The purpose of these allocations is to address unsatisfied needs as a result of Hurricanes Irma and Maria in September 2017; and to carry out strategic and high-impact activities to mitigate disaster risks and reduce future losses.

To comply with the environmental requirements established by HUD, the Department of Housing of Puerto Rico (PRDOH) contracted Horne Federal LLC to provide environmental review services, among others, that will support the objectives of the agenda for both CDBG-DR and CDBG -MIT Programs.

To expedite the processes, Horne Federal LLC, is authorized to submit to the State Historic Preservation Officer, documentation of projects related to both the CDBG-DR and CDBG-MIT on behalf of PRDOH.

Cordially,

**Aldo A. Rivera Vázquez, PE**
Director
Division of Environmental Permitting and Compliance
Office of Disaster Recovery

May 2, 2024

Carlos A. Rubio Cancela
State Historic Preservation Officer
Puerto Rico State Historic Preservation Office
Cuartel de Ballajá (Tercer Piso)
San Juan, PR 00902-3935

**Puerto Rico Disaster Recovery, CDBG-DR City Revitalization (City-Rev) Program**

**Re: PR-CRP-000721: Paseo Hatchery Project, Maricao, Puerto Rico – Archaeological Monitoring, Protection, and Conservation Plan Submission**

Dear Architect Rubio Cancela,

On behalf of the Puerto Rico Department of Housing (PRDOH) and the subrecipient, the Municipality of Maricao, we thank you for your letter dated March 11, 2024 in response to the submission of documentation for PR-CRP-000721, the Paseo Hatchery Project in Maricao. The letter stated that the Maricao Fish Hatchery was a property listed in the National Register of Historic Places (NRHP) and the associated access roads are also potentially eligible to the NRHP. Additionally, it agreed with our finding of no adverse effect to the historic property with the historic culverts are preserved and an archaeological monitor is present during excavation works. An archaeological monitoring plan and conservation plan was requested for your review and concurrence prior to project implementation.

As such, we are submitting the requested *Archaeological Monitoring, Protection, and Conservation Plan for the PRDOH CDBG-DR City Revitalization Program, Paseo Hatchery, Maricao, Puerto Rico (PR-CRP-000721/SHPO CF-03-01-24-03)* prepared by Archaeologists Sharon Meléndez Ortiz and Aida Belén Rivera Ruiz of HORNE Puerto Rico for your review and concurrence that the implementation of this plan is appropriate for this undertaking.

Please contact me with any questions or concerns by email at lauren.poche@horne.com or phone at 225-405-7676.

Kindest regards,

Lauren B. Poche

**Lauren Bair Poche. M.A.**
Architectural Historian, EHP Senior Manager
Attachments

**PRDOH CDBG-DR CITY-REVITALIZATION PROGRAM**

**Paseo Hatchery, Maricao, Puerto Rico**

**PR-CRP-000721 / SHPO CF-03-01-24-03**

# Archaeological Monitoring, Protection, and Conservation Plan



Prepared by:

Sharon Meléndez Ortiz & Aida Belén Rivera Ruiz
Archaeologists – **Horne PR**

April 16, 2024

# I. PREAMBLE

The Municipality of Maricao is seeking Community Development Block Grant disaster recovery funds financed by the federal Department of Housing and Urban Development due to damage received by the 2017 Hurricanes Irma and Maria. The Puerto Rico Department of Housing (PRDOH) has established an Agreement between PRDOH and the Municipality of Maricao for the City Revitalization Program as part of the Community Development Block Grant for Disaster Recovery (CDBG-DR) Program. The municipality proposes the development of a "shared road" concept with a pedestrian and bicycle recreation path "paseo" parallel to Rio Maricao along PR-410, also known as "Calle del Vivero". The actual route is a dead-end street that originates in the north close by the western boundary of the National Register of Historic Places (NHRP) eligible Maricao Traditional Urban center. The road runs along the Maricao River's edge and runs south where it terminates at a historic fish hatchery located within the Maricao Forest Reserve. The Paseo Hatchery will extend from km 0.3 to 1.7 of historic road PR-410, from the Gruta de San Juan Bautista in the north to the entrance of the fish hatchery in the south (Figure 1).

**Figure 1: Project Location in the Satellite Image**
(from López Meléndez 2023: 15)

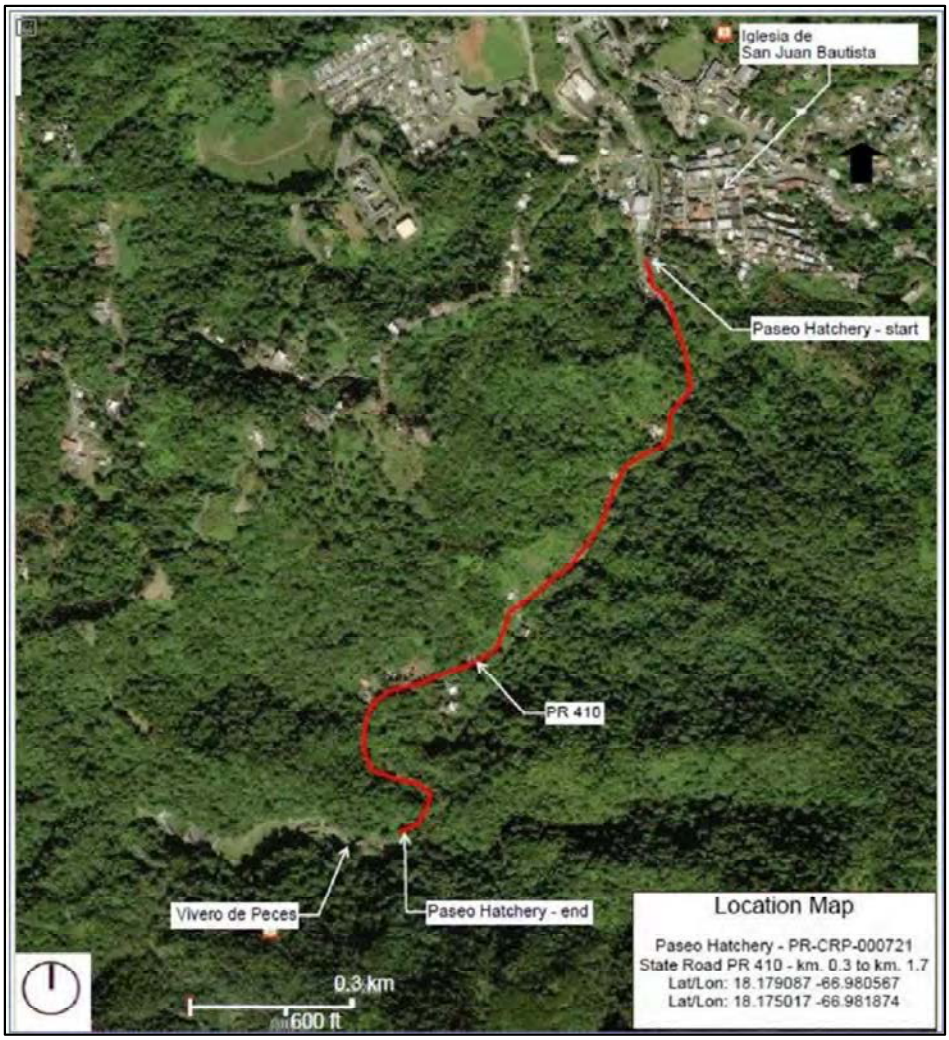
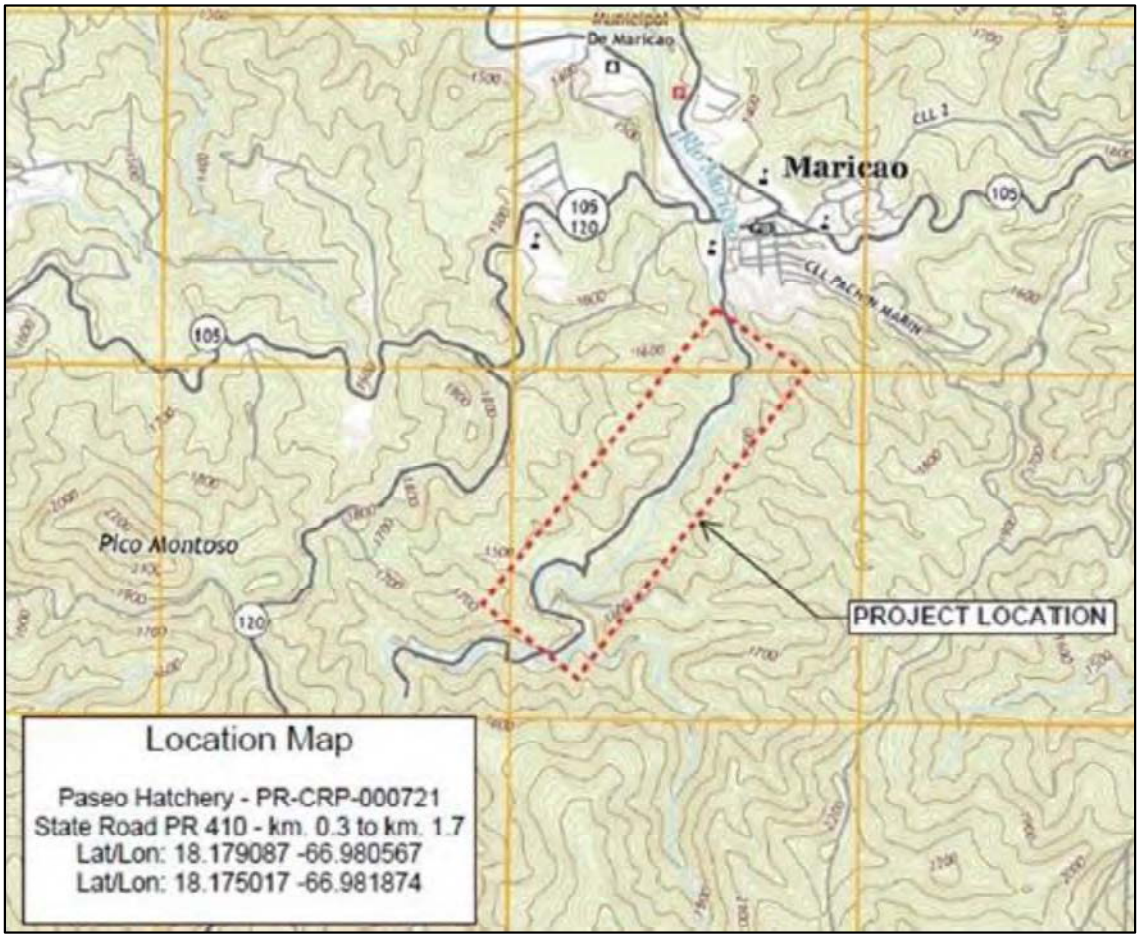


**Figure 2: Project Location in the 2018 Topographic Quadrangle**
(from López Meléndez 2023: 16)




Archaeologist Jaqueline López Meléndez prepared the *Section 106 NHPA Effect Determination Form* for this case on December 7, 2023, revised January 21, 2024. She identified seven (7) historic properties within the project's APE and two (2) adjacent to the project route. The historic properties located within the APE are six (6) culverts and road PR-410. Adjacent to the project is NRHP-listed Maricao Fish Hatchery and a brick dam in the Maricao River near km 0.7. López Meléndez concluded that project actions will not affect these historic properties provided that archaeological monitoring is conducted, and the culverts are preserved and documented (López Meléndez 2023: 12).

The Puerto Rico State Historic Preservation Office (PRSHPO), in a letter dated March 11, 2024, concurred with a finding of No Adverse Effect for this undertaking conditioned to the preservation of the historic culverts and the implementation of an archaeological monitoring plan and a conservation plan. It is important to mention that the condition of the historic culverts is currently unknown, as they are partially covered and full of sediment.

The objectives of the archaeological monitoring plan are: (1) to establish the protocol to be followed in archaeological monitoring; (2) to establish the protocol to be followed if previously unknown resources are identified; (3) to establish the protocol to be followed if there are any unexpected or previously unanticipated adverse effects; (4) to establish the protocol for cleaning the culverts, (5) to establish the

parameters for documentation and evaluation of the structures, and (6) to establish the consultation protocol to be followed in case the structures require major repairs.

This document complies with applicable federal and state laws, regulations, and guidelines, and is consistent with the Secretary of the Interior's (SOI) Guidelines for Archeological Documentation, the Advisory Council on Historic Preservation's (ACHP) recommendations on the recovery of significant information from archaeological sites as updated in 2009, and Regulation #8932 of the Institute of Puerto Rican Culture (ICP). The plan was prepared by archaeologists Aida Belén Rivera Ruiz and Sharon Meléndez Ortiz, who meets the Professional Qualifications Standards set forth in 36 CFR Part 61 and is listed as an archaeologist by the Council for the Protection of Earth Archaeological Heritage (Council) to conduct Phase I, Phase II, and Phase III studies.

## II. PROJECT DESCRIPTION

Paseo Hatchery proposed actions are located within the boundaries of the existing PR-410 right of way (ROW). The average ROW cross section is 6.15 m wide and consists of a surface asphalt pavement width of 3.65 m and two grass shoulders of 1.25 meters each.

The proposed project includes the construction of a "paseo" pavement along the existing grass shoulders of PR-410. The paseo will have variable widths between 0.762 m (2'-6") and 1.25 m (4'-1") and a length of approximately 1.4 km.

The proposed design program includes a sequence of "speed tables" intended to control vehicular speeds at 15 mph, new signage and pavement marking, led luminaires, replacement of guardrails, visual enhancement landscape planting and erosion control measures when applicable. The project also includes a rest and information area located at the start of the route, where the Gruta de San Juan Bautista is located, and another at the end, at the entrance gate to the fish hatchery.

Gruta de San Juan Bautista Plaza which will be renovated. Renovations include an ADA ramp to provide access to the ground floor plaza, the restoration of the extensive staircase steps, missing red clay bricks will be replaced, existing railings will also be replaced, the two retention tanks will be restored, light poles luminaires will be replaced with efficient led bulb fixtures, two new waste receptacles will be installed, landscape accent planting and embankment erosion control measures will also be installed.

The project activities that entail below-surface ground disturbance are

- Installation of permeable pedestrian path modules along existing PR 410 shoulders. The depth of the excavations will be 0.34 m and will cover an area of 628 m2.
- Installation of speed tables. The depth of the excavations will be 0.55 m and will cover an area of 432.94 m2.
- Installation of 43 signs within the ROW.
- Installation of 353 m of guard rails.
- Installation of 59 8-foot lighting posts.
- Installation of 48 bollards.
- Installation of storm water management. The depths of excavations will be 1 m.
- Pedestrian bridge footing. The depth of excavation is 1 m, and the area is 1.8 m2.
- Construction of two gazebos. The excavations for the footings will be 0.6 m and for the slabs 0.30 m.
- Construction of sidewalks. The depth of excavation is 0.31 m, and the area is 103 m2.
- Installation of parking modular pavement. The depth of excavation is 0.34 m, and the area is 127.5 m2.

## III. HISTORIC PROPERTIES WITHIN THE PROJECT AREA

The information below is taken from the Section 106 NHPA Effect Determination Form completed by archaeologist Jaqueline López Meléndez in 2023 (revised in 2024).

The linear route of the paseo begins at the Gruta San Juan Bautista built in the 1980s by the Catholic Church (Photo 1). The Gruta is a monument located on PR-410, km 0.2 that pays homage to the moment when Jesus asks his cousin John on the banks of the Jordan River to baptize him. At the bottom of the monument there is a brick floor and benches for resting and observing nature. There are also stairs on both sides of the sculpture to climb up for a closer look. These stairs are made of bricks.

**Photo 1: General view of the Gruta de San Juan Bautista, looking west** (from López Meléndez 2023: 22)



The project continues south along PR-410 road, ending at the entrance to the Maricao Fish Hatchery located within the Maricao Island Forest, established in 1919 (Photo 2). The Hatchery, listed in the NRHP, was built by the Civilian Conservation Corps (CCC) between 1937 and 1942. The CCC was a program created by President Franklin Delano Roosevelt in 1933 with the purpose of giving people work after the depression years. The program included planting trees, building roads, and opening trails (López Meléndez 2023: 8).

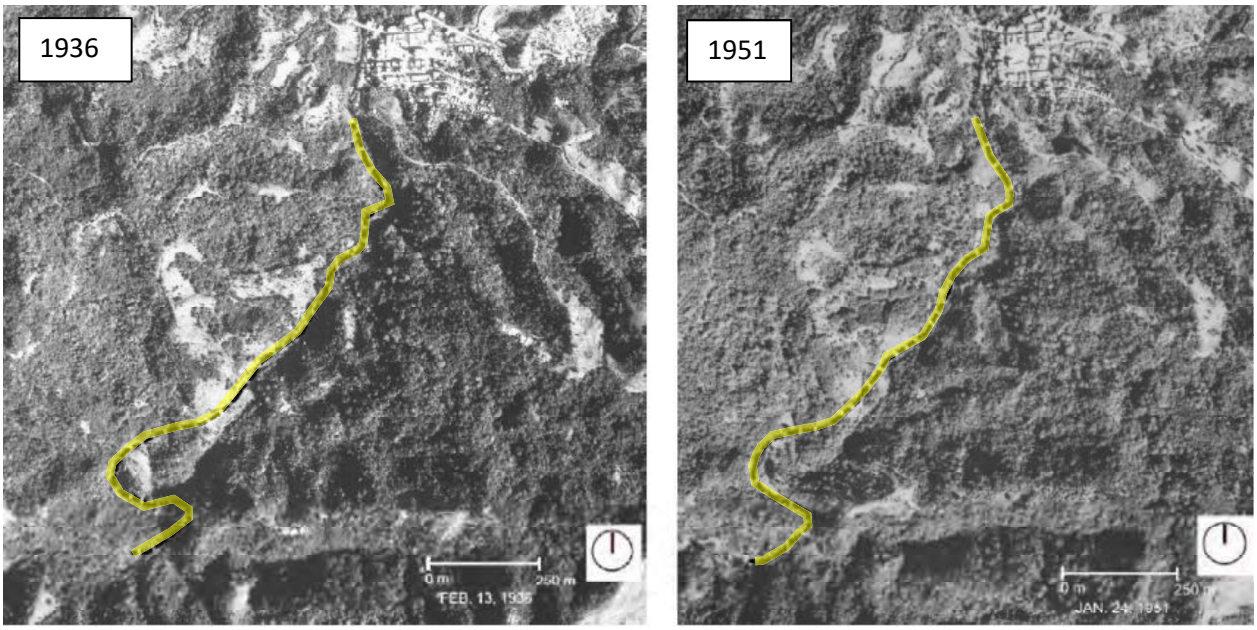
The Maricao Fish Hatchery was created with the objective of introducing new species of freshwater fish to Puerto Rico, such as the rainbow trout (*Salmo gairdneri*) and the chokecherry trout (*Salmo trutta*). The fish were planted in the rivers of the mountainous area in order to encourage recreational fishing on the island, but the experiment failed. Both species were cold-water species, so they were unable to reproduce in the warmer waters of Puerto Rico. Then, the hatchery began to experiment with warm water fish such as the *chopas* and the *barbudos*. In the early 1970's the administration of the hatchery passed to the Department of Natural and Environmental Resources. At this time the Maricao Fish Hatchery is the only state government facility dedicated to the maintenance and diversity of freshwater fish populations in all of Puerto Rico.

**Photo 2: View of the entrance to the Maricao Fish Hatchery, looking southwest from PR-410** (from López Meléndez 2023: 30)



PR-410 was built as an access road to the Maricao Insular Forest, so it must have early 20th century origins. Later, it gave access to the Maricao Fish Hatchery, built in the late 1930s. It is understood that the road must have been upgraded by the CCC in the 1930s when construction of the hatchery began. This must have included the construction of the drainage system and possibly stone paving, as was characteristic of the work done by the CCC. Available cartographic sources show that PR-410 has the same alignment as it has had since 1936 (Figure 3).

**Figure 3: PR-410 in 1936 and 1951** (adapted from López Meléndez 2023: 7)



Archaeologist López Meléndez conducted a surface survey on December 8, 2023, where she identified six culverts along PR-410. Five of these -Culverts 1, 2, 3, 4, and 6- are vaulted structures built in stone and concrete masonry, with front walls that extend vertically above road level. Their interior and exit mouth could not be inspected because they were covered by dense vegetation and sediment. There is a sixth culvert, called Culvert 5, which is different from the others. It is a concrete structure with wing walls that has a corrugated metal pipe inside. It is understood that this structure is later than the others, but it is still considered historic. (Table 1, Photo 4)

**Table 1: Location of Historic Culverts within the Project's APE** (adapted from López Meléndez 2023: 10)

| ID | Location | Coordinates |
|---|---|---|
| Culvert 1 | PR-410 km 0.5 | 18.177225, -66.980396 |
| Culvert 2 | PR-410 km 0.8 | 18.1750664, -66.9817737 |
| Culvert 3 | PR-410 km 1.0 | 18.1740126, -66.9829385 |
| Culvert 4 | PR-410 km 1.2 | 18.1728360, -66.9844700 |
| Culvert 5 | PR-410 km 1.3 | 18.1727161 -66.9852211 |
| Culvert 6 | Ca. PR-410 km 1.45 | 18.171536, -66.985540 |

In addition to the culverts, López Meléndez identified two additional resources along the route. At km 1.3, on the southeast side of PR-410, there is a long concrete retaining wall topped with bollards. According to neighbors, this area of the road had to be reconstructed after Hurricane María, however this wall has characteristics that should be evaluated to determine if it is a historic structure, as suggested by its typology and surface vegetative cover. (Photo 3).

**Photo 3: Retaining wall with bollards located at PR-410 km 1.3**



**Photo 4: Historic Culverts Located within the Project's APE (from López Meléndez 2023)**



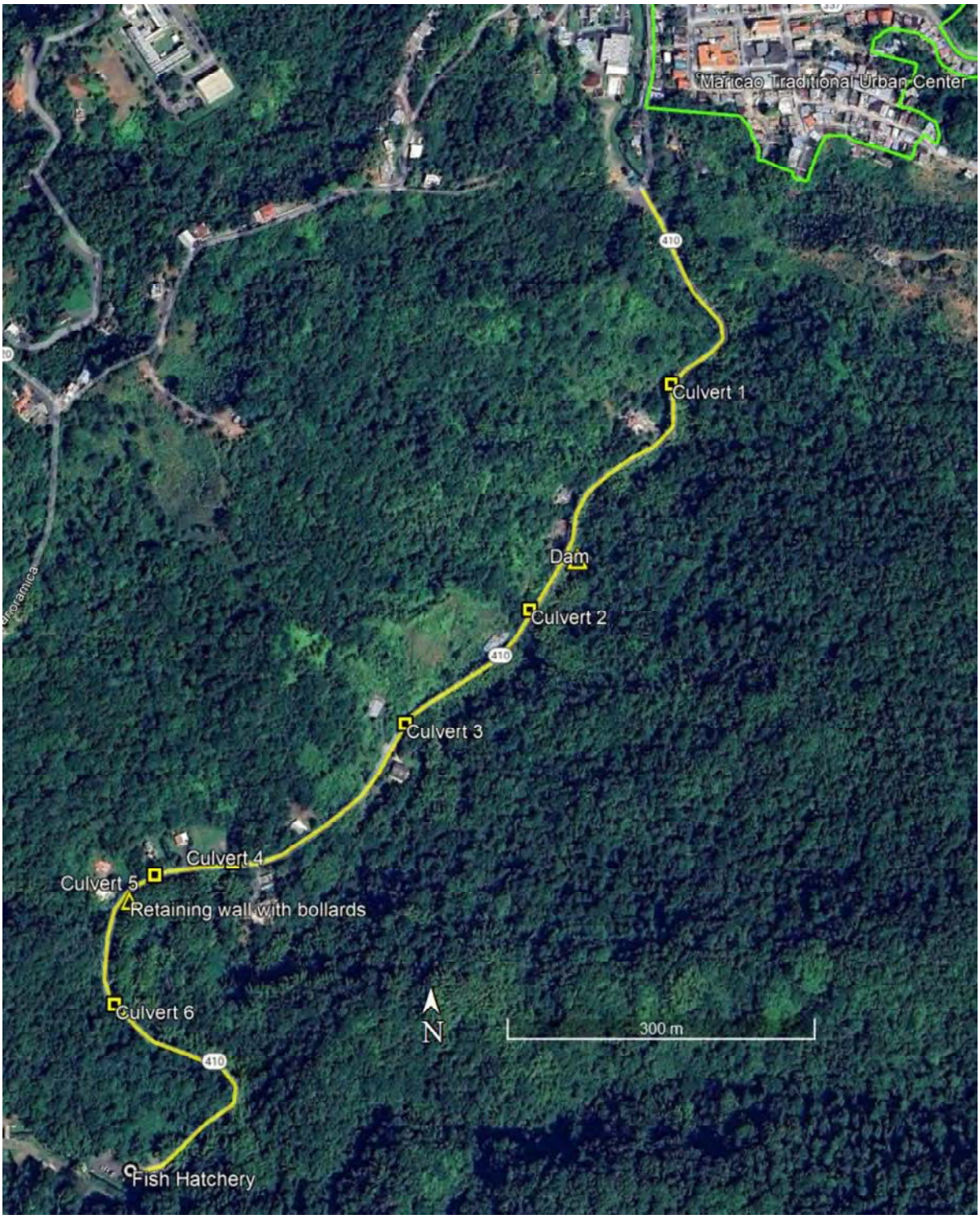

The other resource identified by López Meléndez is a beautiful brick masonry dam in the Maricao River, located at km 0.75, about 10 m east of PR-410 (coordinates 18.175570°, -66.981288°). This resource, which must be associated with the fish hatchery, is easily accessible from the road, from where it is visible (Photo 5).

**Photo 5: View of the brick dam within the Maricao River, looking northeast from PR-410 (above). Detail view of the brick dam, looking east (below) (**from López Meléndez 2023)





**Figure 4: Location of Listed and Eligible Historic Properties within and Adjacent to the APE**



# IV. ARCHAEOLOGICAL MONITORING PROCEDURE

The monitoring activities can be divided into three groups: activities before the project begins, activities during construction, and post-construction activities. Monitoring is limited to activities that entail demolition, excavations, and cleaning of historic structures.

**A. Before Construction Begins**

1. The Construction Manager (CM) will notify the Project Manager (PM), Grant Manager (GM), and Monitor of the proposed activities' start date. The PM is responsible for coordination between the CM and the SOI-qualified archaeologist who will oversee the monitoring (Monitor).

2. The location of historic properties should be clearly marked on the project plans, with appropriate notes. Signs, guardrails, lighting posts, bollards, or any other type of element requiring excavation shall not be installed in the areas where historic culverts are located.

3. Before any demolition or construction begins, the PM, CM, GM, and Monitor will have a kickoff meeting to discuss the procedure for archaeological monitoring, including the coordination protocol between the Monitor and the Contractor. The Monitor will provide an orientation on the area's cultural resources and potential resources and their proper treatment. The Monitor will also explain which project activities require archaeological monitoring.

4. The CM, PM, and construction crew will complete and sign a statement outlining the activities that may not be performed without the Monitor's presence, demonstrating their understanding and commitment to following the archaeological monitoring procedures.

5. Prior to the start of construction, the Monitor shall document the historic properties considered in this Plan with verbal descriptions, photographs, and drawings. In order to document the culverts, it may be necessary to remove vegetation and sediment that obstructs visibility. In case there is vegetation growing in the fabric of the structure, it should be cut, not pulled up. The Monitor will prepare a report with this information that shall be submitted to the GM along with the first weekly report.

6. With the support of the archaeological team, the contractor shall mark the road surface with permanent paint to mark the limits of the historic culverts on the road surface.

**B. During Demolition and Construction**

1. The Monitor shall be in the field during all project activities involving demolition and ground disturbance; access and clear sightlines to all demolition and excavation activities and debris removal will be provided to the Monitor.

2. The Monitor shall provide instructions directly to the construction field personnel concerning how to proceed when there is a potential to impact an archaeological resource. The construction field personnel will abide by these requests: excavate slowly, stop the excavation work to evaluate a finding, etc. Caution should be exercised when excavating in areas where there may be buried

resources. Likewise, if the pavement has to be lifted, this will have to be done slowly and in a controlled manner so as not to affect the cobblestone that may exist underneath it.

3. The Monitor shall keep a record of monitored activities. The Monitor shall fill out the Daily Record of Activities Form (see **Error! Reference source not found.**). These Forms will be attached to the final report as an appendix. These forms should be send weekly to the GM for review.

4. The Monitor shall document all archaeological remains identified during construction activities, except for previously unidentified historically significant findings (refer to B-5 below). The documentation shall include a detailed description of the discovery, context, horizontal and vertical provenience, photos, and a plan drawing. This documentation shall be done within a reasonable amount of time, trying as much as possible, not to impact on the project schedule.

    a. The monitor shall document the interior of historic culverts. If the structure is full of sediment, vegetation or debris, the contractor, under the guidance of the Monitor, shall remove it in a controlled manner, following these guidelines:

        i. Remove plants manually, pulling gently from the bottom of the stems. If requiring a forceful pull, cut them down to the base instead.

        ii. Wash the surfaces using a low-pressure sprayer (set at no more than 500 psi), maintaining the nozzle at a 45$^{o}$ degree angle, twelve inches away. Spray in both horizontal and vertical directions. Clean square areas of 3' X 3' at a time, moving on to adjacent areas.

    b. Once the culverts are cleaned, the Monitor shall proceed to document and evaluate their condition. The Monitor shall pay attention to the presence of cracks, loss of material, scouring, cladding, differential settlement due to the non-uniform movement of underlying soils, among others. The Monitor shall prepare a condition report with recommendations on how to repair the structures, if needed. This report shall be sent to the GM for evaluation. The GM shall review the report and consult with the SHPO on the recommendations prior to implementation.

5. If the identified archaeological remains are considered historically significant – i.e., complex structures, precolonial remains or stratified deposits – the Monitor shall instruct the construction crew to (1) immediately cease work in the vicinity of the discovery, (2) take all reasonable measures to avoid or minimize harm to the property, and (3) notify the PM, CM, and GM. The GM shall immediately notify the SHPO, as per stipulation III.B.1.b. of the PA. The following protocol shall be followed:

    a. The Monitor shall make a preliminary assessment of the finding. The assessment shall include a description of the discovery, location, horizontal and vertical extent (if known), context, photographs, and drawings, as deemed necessary. The assessment shall also include a work plan for implementing a National Register of Historic Places' eligibility evaluation of the exceptional remains.

b. The assessment and NRHP-eligibility evaluation work plan shall be submitted via email to the PM and GM within 24 hours of the discovery. The GM will comment on the work plan within 24 hours of receiving it.

c. The Monitor shall implement the work plan after receiving the GM's authorization to proceed. After completing the fieldwork, the Monitor shall prepare an End of Field Report, summarizing the results. Said report should include an NRHP-eligibility determination. The End of Field Report shall be submitted via email to the PM and GM within 48 hours after completing the fieldwork.

d. The GM shall notify the SHPO of the NRHP-eligibility determination.

   i. If the finding is **not eligible** to the NRHP, the GM shall notify the SHPO and provide supporting documentation. Construction activities may resume under archaeological monitoring unless the SHPO disagrees with the NRHP determination and makes a timely objection within 48 hours of the notification.

   ii. If the finding is **eligible** to the NRHP, the criteria of adverse effect shall be applied. If the project activities do not adversely affect the finding, the GM shall notify the SHPO and provide supporting documentation. Construction activities may resume under archaeological monitoring unless the SHPO makes a timely objection within 48 hours of the notification.

   iii. If the project activities have an **adverse effect** on the NRHP-eligible finding, a Data Recovery will be implemented as a Treatment Measure per Appendix F of the PA. The Monitor shall develop a data recovery plan with a research design consistent with the Secretary of the Interior's Guidelines for Archeological Documentation (http://www.nps.gov/history/locallaw/arch_ stnds_7.htm) and the Advisory Council on Historic Preservation's (ACHP) recommendations on the recovery of significant information from archaeological sites as updated in 2009, at https://www.achp.gov/protectinghistoricproperties/Section_106_Archaeology_Guidance. The data recovery plan shall be submitted via email to the GM for comments. The GM shall be responsible for submitting the data recovery plan to the SHPO for comments and approval. This treatment measure does not apply to burials or human remains (refer to IV.D of this work plan).

6. If any additional construction activities are added or design changes are made after the project has begun, the CM and PM, prior to performing the work, shall inform the GM and the Monitor. The Monitor, in conjunction with GM, shall evaluate these activities and apply the adverse effect criteria. If it is determined that the effect is adverse, the archaeologist will provide recommendations on how to avoid, minimize, or mitigate the adverse effect. These recommendations will be consulted with the SHPO prior to implementation. The SHPO will have 15 days to comment on the recommendations. If no communication is received within that time frame it will be assumed that the SHPO has no objection and concurs with the recommendations outlined.

7. If during construction activities a historic property is affected in an unanticipated manner, the CM shall stop work immediately, and inform the PM, GM, and Monitor. The Monitor, in conjunction

with GM, shall evaluate the unanticipated effects and apply the adverse effect criteria within no more than 24 hours. If the effect is determined to be adverse, the Monitor and GM will provide recommendations on how to avoid, minimize, or mitigate such adverse effects. The GM shall consult with the SHPO on the recommendations prior to implementation. The SHPO will have 48 hours to comment on the recommendations. If no communication is received within that timeframe, it will be understood that the SHPO has no objection and concurs with the recommendations outlined.

**D. After Construction Ends**

1. Upon the completion of archaeological monitoring, the PM and GM shall be notified. The estimated date of delivery of the final report shall be indicated in the said notification.

2. The Monitor shall again document the historic properties located within the project's area of potential effects. The condition of the properties should be compared with those documented at the beginning of the project. This documentation shall be included in the final technical report.

3. A technical report shall be prepared detailing monitored construction activities, documentary research (if any), documentation archaeological features and other findings, and analysis and interpretation of the results. The report must include visual information, such as drawings and photos, and a sketch plan of all the documented findings. The report shall be submitted to the GM no later than two (2) weeks after completing the archaeological monitoring work. The GM shall submit the report to the SHPO no later than one (1) week after receiving it.

**E. Human Remains**

If human remains are discovered, the protocol established in Stipulation III.B.1.c. of the PA must be followed:

1. Stop work immediately.

2. Notify the local law enforcement office and coroner/medical examiner following applicable Commonwealth statute(s).

3. Protect the remains from any harm.

4. The GM shall be responsible for notifying the SHPO within twenty-four (24) hours of identifying human remains.

## V. PROFESSIONAL QUALIFICATIONS

The Monitor must meet the minimum Secretary of the Interior Professional Qualifications Standards for Archaeology established in 36CFR Part 61. These are: a graduate degree in archaeology, anthropology, or closely related field, plus at least one (1) year of full-time professional experience or equivalent specialized training in archaeological research, administration, or management; at least four (4) months of supervised field and analytic experience in general Puerto Rican archaeology; the demonstrated ability to carry research to completion; and at least one (1) year of full-time professional experience at a supervisory level in the study of archaeological resources of the pre-Columbian and colonial periods. Please see https://www.nps.gov/history/local-law/arch_stnds_9.htm for more information.

The SOI-qualified archaeologist shall not defer their monitoring responsibilities to any other person who does not meet the minimum professional qualifications. Any additional personnel to intervene in monitoring efforts shall have vast experience in historic archaeology, in working in evaluation (Phase II), documentation (Phase III), and monitoring projects dealing with colonial period properties.

The Principal Investigator may not transfer his or her duties, obligations, and responsibilities to subordinates or other technicians who are not professionally trained in archaeology. In the case of hiring archaeologists and trained technicians to assist in archaeological monitoring, the Principal Investigator must be present for at least 25 percent of the duration of the fieldwork to supervise them.

## VI. CITED REFERENCES

Advisory Council on Historic Preservation
2009 ACHP recommendations on the recovery of significant information from archaeological sites https://www.achp.gov/protectinghistoricproperties/Section_106_Archaeology_Guidance.

Consejo para la Protección del Patrimonio Arqueológico Terrestre de Puerto Rico.
2017 *Reglamento para la radicación y evaluación arqueológica de proyectos de construcción y desarrollo.* San Juan: ICP. Reglamento #8932 del 8 de febrero de 2017.

López Meléndez, Jaqueline
2023 Puerto Rico 2017 Disaster Recovery, CDBG-DR Program. City Revitalization Program (City-Rev). Section 106 NHPA Effect Determination. Revised January 21, 2024.

National Park Service
s/f "Archeology and Historic Preservation: Secretary of the Interior's Standards and Guidelines [As Amended and Annotated] Professional Qualification Standards". https://www.nps.gov/history/local-law/arch_stnds_9.htm

s/f "Archeology and Historic Preservation: Secretary of the Interior's Standards and Guidelines for Archeological Documentation". http://www.cr.nps.gov/local-law/arch_stnds_7.htm

# APPENDIX A: MONITORING DAILY ACTIVITY SHEET

| | |
|---|---|
| | **PUERTO RICO 2017 DISASTER RECOVERY**<br>**City Revitalization Program**<br>**ARCHAEOLOGICAL MONITORING DAILY RECORD OF ACTIVITIES** |
| **Case ID:** | **Project Location:** |
| **Municipality:** | **Project Coordinates** (lat/long)**:** |

| |
|---|
| **SOI Qualified-Archaeologist:** |
| **Date of Monitoring:** Click or tap to enter a date. |
| **Work Hours:** |

**Description of work performed by contractor and supervised by the Monitor:**

| | YES | NO |
|---|---|---|
| Are the project activities conforming to the LIDRS? If not, explain below. | ☐ | ☐ |
| Was an archaeological remain documented during the day. If yes, include required information below. | ☐ | ☐ |
| Was an exceptional archaeological remain identified during the day? If yes, explain below. | ☐ | ☐ |
| Have the construction activities affected a previously unidentified property or a known historic property in an unanticipated manner? If yes, explain below. | ☐ | ☐ |
| Has there been a change in the scope of work of the project? If yes, explain below. | ☐ | ☐ |

| | |
|---|---|
| | **PUERTO RICO 2017 DISASTER RECOVERY**<br>**City Revitalization Program**<br>**ARCHAEOLOGICAL MONITORING DAILY RECORD OF ACTIVITIES** |
| **Case ID:** | **Project Location:** |
| **Municipality:** | **Project Coordinates** (lat/long)**:** |

| **Site Photos** | |
|---|---|
| **Direction of Photo:** Click here to enter text.<br>**Description:** Click here to enter text. | |
| **Direction of Photo:** Click here to enter text.<br>**Description:** Click here to enter text. | |

GOVERNMENT OF PUERTO RICO
STATE HISTORIC PRESERVATION OFFICE
Executive Director | Carlos A. Rubio Cancela | carubio@prshpo.pr.gov

Thursday, March 14, 2024

## Lauren B Poche

269 Avenida Ponce de Leon, San Juan, PR, 00917

SHPO-CF-03-01-24-03 PR-CRP-000721 (Maricao), Paseo Hatchery

March 11, 2024

Lauren Bair PocheHORNE 10000 Perkins Rowe, Suite 610, Bldg GBaton Rouge, LA 70810

SHPO CF-03-01-24-03 SECTION 106 NHPA EFFECT DETERMINATION SUBMITTAL: PR-CRP-000721: PASEO HATCHERY, MARICAO, PUERTO RICO

Dear Ms. Poche,

Our Office has received and reviewed the above referenced project in accordance with 54 U.S.C. 306108 (commonly known as Section 106 of the National Historic Preservation Act) and 36 CFR Part 800: Protection of Historic Properties. The Maricao Fish Hatchery is a property listed in the National Register of Historic Places (NRHP), and its associated access roads are potentially eligible to the NRHP as well. However, we agree with your finding of no adverse effect with conditions. Specifically, that the historic culverts are preserved and that an archaeological monitor be present during excavation works. We request both an archaeological monitoring plan and a conservation plan for our review and concurrence prior to project implementation.Please note that should you discover other historic properties at any point during project implementation, you should notify the SHPO immediately. If you have any questions regarding our comments, please do not hesitate to contact our Office.

Sincerely,

Carlos A. Rubio-CancelaState Historic Preservation Officer

CARC/GMO/MB

Sincerely,



Carlos A. Rubio Cancela

State Historic Preservation Officer

CARC/GMO/ MB

October 20, 2022

**Arch. Carlos A. Rubio Cancela**
Executive Director
State Historic Preservation Officer
Cuartel de Ballajá Bldg.
San Juan, Puerto Rico

**Re: Authorization to Submit Documents**

Dear Arch. Rubio Cancela:

The U.S. Department of Housing (HUD) approved the allocations of Community Development Block Grant (CDBG-DR) funds on February 9, 2018. It also approved the allocation of Community Development Block Grant Mitigation (CDBG-MIT) funds on January 27, 2020. The purpose of these allocations is to address unsatisfied needs as a result of Hurricanes Irma and Maria in September 2017; and to carry out strategic and high-impact activities to mitigate disaster risks and reduce future losses.

To comply with the environmental requirements established by HUD, the Department of Housing of Puerto Rico (PRDOH) contracted Horne Federal LLC to provide environmental registry review services, among others, that will support the objectives of the agenda for both CDBG-DR and CDBG -MIT Programs.

In line to expedite the processes, Horne Federal LLC, is authorized to submit to the State Historic Preservation Officer, documentation of projects related to both the CDBG-DR and CDBG-MIT on behalf of PRDOH.

Cordially,

Juan C. Pérez Bofill, P.E. M.Eng
Director of Disaster Recovery
CDBG DR-MIT

March 1, 2024

Carlos A. Rubio Cancela
State Historic Preservation Officer
Puerto Rico State Historic Preservation Office
Cuartel de Ballajá (Tercer Piso)
San Juan, PR 00902-3935

## Puerto Rico Disaster Recovery, CDBG-DR City Revitalization (City-Rev) Program

**Section 106 Effect Determination Submittal for PR-CRP-000721: Paseo Hatchery Project, Maricao, Puerto Rico – *No Adverse Effect, Conditioned***

Dear Architect Rubio Cancela,

On February 9, 2018, an allocation of Community Development Block Grant - Disaster Recovery (CDBG-DR) funds was approved by the United States Department of Housing and Urban Development (HUD) under the Federal Register Volume 83, No. 28, 83 FR 5844, to assist the Commonwealth of Puerto Rico in meeting unmet needs in the wake of Hurricanes Irma and Maria. On August 14, 2018, an additional $8.22 billion recovery allocation was allocated to Puerto Rico under the Federal Register Volume 83, No. 157, 83 FR 40314. With these funding allocations, the Puerto Rico Department of Housing (PRDOH) aims to lead a comprehensive and transparent recovery for the benefit of Puerto Rico residents. To faithfully comply with HUD's environmental requirements, the Puerto Rico Department of Housing contracted Horne Federal, LLC (HORNE) to provide environmental records review services that will support the Department's objectives Puerto Rico Housing (PRDOH) for CDBG-DR.

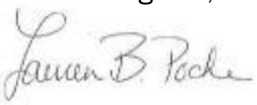
On behalf of PRDOH and the subrecipient, the Municipality of Maricao, we are submitting documentation for the proposed Paseo Hatchery Project, part of the City Revitalization Program. The objective of the project consists in the development of a “shared road” concept with a pedestrian and bicycle recreation path “paseo” parallel to Rio Maricao along PR Road 410, also known as “Calle del Vivero”. The actual route is a dead-end street that originates in the north close by the western boundary of the National Register of Historic Places eligible Maricao Traditional Urban center. The road runs along the Maricao River’s edge and runs south where it terminates at a historic fish hatchery located within the Maricao Forest Reserve.

Project activities include the construction of speed tables to control vehicular speeds, new signate and pavement marking, LED luminaries, new guardrails, landscaping, erosion control measures, ADA ramps and the renovation of the Gruta de San Juan Bautista Plaza at the project's northern end and another plaza at the end of the project area. Historic properties located within or adjacent to the direct Area of Potential Effect consist of the Vivero de Peces de Maricao (adjacent, early 20th century fish hatchery), six stone culverts (within), a brick dam (adjacent), and the circa 1920 historic PR-410. The full scope of the project is described in detail within the submitted documentation, which includes mapping, photographs, and 90% design plans.

Based on the provided documentation, the Program requests a concurrence with a determination that no adverse effect to historic properties is appropriate for this undertaking, conditioned to archaeological monitoring by an SOI-qualified archaeologist conducted during excavation works. Additionally, the historic culverts should be documented, and conservation work be carried out, including but not limited to cleaning and removal of soil, debris and vegetation, and that they be consolidated if necessary. An archaeological monitoring plan and conservation plan should be prepared and submitted to the PRSHPO for review and approval for appropriateness.

Please contact me with any questions or concerns by email at lauren.poche@horne.com or phone at 225-405-7676.

Kindest regards,



**Lauren Bair Poche. M.A.**
Architectural Historian, EHP Senior Manager
Attachments

| PUERTO RICO 2017 DISASTER RECOVERY, CDBG-DR PROGRAM<br>CITY REVITALIZATION PROGRAM (CITY-REV)<br>Section 106 NHPA Effect Determination | |
|---|---|
| Subrecipient: Municipality of Maricao | |
| Project Name: Paseo Hatchery | Project ID: PR-CRP-000721 |

| | |
|---|---|
| **Project Location:** PR Road 410, Maricao, Puerto Rico 00606 | |
| **Project Coordinates:** 18.179253 -66.980708 to 18.170269 -66.985604 | |
| **TPID** (Número de Catastro)**:** n/a | |
| **Type of Undertaking**:<br>☒ Substantial Repair<br>☐ New Construction | |
| **Construction Date** (AH est.): ca. 1920-1942 | **Property Size** (acres)**:** 3.90 |

| |
|---|
| **SOI-Qualified Architect/Architectural Historian**: n/a |
| **Date Reviewed**: n/a |
| **SOI-Qualified Archaeologist**: Jaqueline López Meléndez |
| **Date Reviewed**: December 7, 2023, January 21, 2024-REVISED |

In compliance with Section 106 of the National Historic Preservation Act (NHPA), the Program is responsible for identifying historic properties listed in the NRHP and any properties not listed that would be considered eligible for listing that are located within the geographic area of potential effects (APE) of the proposed project and assessing the potential effects of its undertakings on these historic properties.

## Project Description (Undertaking)

The proposed project is located by PR Road 410 from Km 0.3 to km 1.7, Maricao, Puerto Rico. The objective of the project consists in the development of a "shared road" concept with a pedestrian and bicycle recreation path "paseo" parallel to Rio Maricao along PR Road 410, also known as "Calle del Vivero". The actual route is a dead-end street along the river Maricao edge which leads to a Fish Hatchery located within the Maricao Forest Reserve. Only about 10 residences are located along the proposed "paseo". The road location generates little vehicular traffic, and its narrow travel path and winding road curves manage to control speed limits. Therefore, the contextual location and roadway alignment characterize the Paseo Hatchery route as a low volume low speed local rural road. The "paseo" pavement along the existing grass shoulders will preferably be permeable, with variable widths between 0.762 (2'-6") and 1.25 (4'-1") meters along a length of approximately 1.4 km. The proposed design program includes a sequence of "speed tables" intended to control vehicular speeds at 15 mph, new signage and pavement marking, led luminaires, replacement of guardrails, visual enhancement landscape planting and erosion control measures when applicable. The "Paseo Hatchery" project also includes a rest and information area located at the start of the "paseo" where the Gruta de San Juan Bautista is located and another at the end of the "paseo" at the entrance gate to the fish hatchery. A speed table facilitates a pedestrian crossing to the adjacent Gruta de San Juan Bautista Plaza which will be renovated. Renovations include an ADA ramp to provide access to the ground floor plaza, the extensive staircase steps will be restored, missing red clay bricks will be replaced, existing railings will also be replaced, the two retention tanks will be restored, light poles luminaires will be

replaced with efficient led bulb fixtures, two new waste receptacles will be installed, landscape accent planting and embankment erosion control measures will also be installed. Paseo Hatchery proposed actions are located within the boundaries of the existing PR-410 ROW. The average ROW cross section 6.15 meters wide and consists of a surface asphalt pavement width of 3.65 meters and two grass shoulders of 1.25 meters each. The PR 410 road Right of Way (ROW) along the project length of 1.5 km. is an area of 3.65 acres. The project also includes the "Gruta de San Juan Bautista" which consists of 0.25 acres. The Project Limits total area is 3.90 acres.

Below-surface ground disturbance activities:

1. Installation of permeable pedestrian path modules along existing PR 410 shoulders (Area of excavation-628 sq. mt.; Depth of excavation-0.34 m; Volume of excavation-213.52 cm).
2. Installation of speed tables (Area of excavation-432.94 sq. mt.; Depth of excavation-0.55 m; Volume of excavation-38.12 cm).
3. Installation of signage within ROW (Qty. = 43).
4. Installation of guard rail (L = 353 mt)
5. Installation of lighting post (8 ft height; Qty. = 59)
6. Installation of bollards (Qty. = 48)
7. Installation of storm water management (Area of excavation-96.68 sq. mt.; Depth of excavation-1.00 sq. mt.; Volume of excavation-96.68 cm)
8. Pedestrian bridge footing (Area of excavation-1.80 sq. m; Depth of excavation-1.00 m; Volume of excavation 1.80 cm)
9. Installation of gazebo (2) (Area of excavation-288 sq. mt.; Depth of footing excavation-0.60 m; Depth of slab excavation-0.30 m; Volume of excavation -91.26 cm).
10. Installation of sidewalk (Area of excavation-103 sq. mt.; Depth of excavation-0.30 m; Volume of excavation -30.9 cm).
11. Installation of parking modular pavement (Area of excavation-127.5 sq. mt.; Depth of excavation-0.34 m; Volume of excavation -43.35 cm).

**Area of Potential Effects**

As defined in 36 CFR §800.16(d), the area of potential effects (APE) is the geographic area or areas within which an undertaking may directly or indirectly cause changes in the character or use of historic properties if any such properties exist. Based on this definition and the nature and scope of the Project, the Program has determined that the direct APE for this project is the entire segment of the PR-410 road from kilometer 0.3 to kilometer 1.7 plus the area of the Gruta de San Juan Bautista to the north and the entrance to the fish hatchery to the south, and the viewshed of the proposed project (Figures 1-3).

## Identification of Historic Properties – Archaeology

Existing information on previously identified historic properties has been reviewed to determine if any such properties are located within the APE of this undertaking. The review of this existing information, by a Program contracted Historic Preservation Specialist meeting the Secretary of the Interior's Professional Qualification Standards (36 CFR Part 61), shows that within a 0.25-mile radius of the project area we have thirteen (13) cultural resources, two of which are included in the NRHP (see Table 1). All sites located within the 0.25-mile radius are historic. The sites included in the NRHP located within the 0.25-mile radius are the Maricao Fish Hatchery and the San Juan Bautista de Maricao Church (SHPO: MI0200001). At the southern end adjacent to the project Paseo Hatchery, we have the Maricao Fish Nursery and the San Juan Bautista Church is 0.13 miles northeast. Eight of the thirteen sites reported appear as eligible for the NRHP in the survey for Maricao (NPS Grant money). These are: Maricao Town Square located 0.11 miles northeast; Raul Ybarra school located 0.24 miles northeast; Commercial Building located 0.15 miles northeast; El Buen Pastor Presbyterian Church located 0. 11 miles northeast; City Hall located 0.10 miles northeast; Sisters of Fatima Convent located 0.14 miles northeast; Mariana Bracetti school located 0.23 miles northeast; and Rafael Janer school located 0.13 miles northeast. The information shown in the table for eligible sites is what we have available in the survey (NPS grant money). Within the 0.25-miles radius we also have the Maricao Town Square (ICP: MR-47), located 0.09 miles northeast; the Hacienda Rolón (ICP: MR-76) located 0.16 miles northwest; the Hacienda Santa Rita (ICP: MR-18), located 0.17 miles southeast; and the brick kiln (SHPO: MI0100005), located 0.03 miles southeast (see Table 1). The Traditional Urban Center of Maricao is 0.05 miles northeast of the project area.

**Table 1. Table of archaeological sites, historic properties and historic districts located within the project area or within a 0.25-miles radius**

| | Name | SHPO id # | IPRC id # | Distance/Direction | Description | NRHP (listed, eligible, non-eligible, no data) |
|---|---|---|---|---|---|---|
| 1 | Plaza del Pueblo de Maricao | - | MR-47 | 0.11 mi NE | Colonial Spanish period | Eligible |
| 2 | Iglesia San Juan Bautista de Maricao | MI0200001 | MR-5 | 0.13 mi NE | Church built in 1898. Designed by Eng. Jerónimo Jiménez. It replaced a wooden church. Its design combines the neoclassical style and consists of a | Listed, September 18, 1984 |

| | Name | SHPO id # | IPRC id # | Distance/Direction | Description | NRHP (listed, eligible, non-eligible, no data) |
|---|---|---|---|---|---|---|
| | | | | | rectangular volume with a tower on the facade. The original gabled roof was replaced in 1960 by a concrete one. | |
| 3 | Escuela Raúl Ybarra | - | - | 0.24 mi NE | ca. 1970, has modern language | Eligible |
| 4 | Edificio Comercial | - | - | 0.15 mi NE | Commercial structure built in 1890. It has classic language and today is used as a medical office. | Eligible |
| 5 | Iglesia Presbiteriana El Buen Pastor | - | - | 0.11 mi NE | Structure with elements of neo-Romanesque language. Ca. 1946 | Eligible |
| 6 | Alcaldía | - | - | 0.10 mi NE | Ca. 1944 Originally with modern language, designed by Henry Klumb although it was altered with contemporary addiction. | Eligible |
| 7 | Convento de las Hermanas Fátima | - | - | 0.14 mi NE | It has a similar volumetry to other convents on the island, with large balconies, ca. 1950. | Eligible |
| 8 | Escuela Mariana Bracetti | - | - | 0.23 mi NE | School ca. 1946 | Eligible |
| 9 | Escuela Rafael Janer | - | - | 0.13 mi NE | School built in 1942. It appears to have been modified and is now used as an integrated service center. | Eligible |
| 10 | Hacienda Rolón | - | MR-76 | 0.16 mi NW | Spanish period Hacienda Cafetalera | No data |
| 11 | Hacienda Santa Rita | - | MR-18 | 0.17 mi SE | Hacienda identified in the 1960 topographic quadrangle. | No data |
| 12 | Horno de ladrillo | MI0100005 | - | 0.03 mi SE | Structure in ruins of a kiln built in stone, brick and mortar, to manufacture bricks. Ca. 1843. Located behind a ruined wooden structure used as a dwelling. | No data |

| | Name | SHPO id # | IPRC id # | Distance/Direction | Description | NRHP (listed, eligible, non-eligible, no data) |
|---|---|---|---|---|---|---|
| | | | | | It measures 10 ft. x 10 ft., the top of the kiln is 2 ft. above the ground | |
| 13 | Vivero de Peces de Maricao | - | - | Adjacent | 20th Century Fish Hatchery built by CCC | Listed February 21, 2017 |
| - | Culvert 1 | - | - | Within | Stone culvert PR-410 Km. 0.5 | No data |
| - | Culvert 2 | - | - | Within | Stone c culvert PR-410 Km. 0.8 | No data |
| - | Culvert 3 | - | - | Within | Stone culvert PR-410 Km 1.0 | No data |
| - | Culvert 4 | - | - | Within | Stone culvert PR-410 Km. 1.2 | No data |
| - | Culvert 6 | - | - | Within | Stone culvert PR-410 | No data |
| - | Brick Dam | - | - | Adjacent | Brick dam | No data |
| - | PR-410 | - | - | Km 0.3 to 1.7 | Historic road (PR-410) built ca. 1920 by CCC | No data |
| - | Maricao Traditional Urban Center | - | - | 0.05 mi NE | 19th Century city plaza | No data |

The municipality of Maricao extends northward from the highest elevations of the Cordillera Central mountains range in western Puerto Rico. The project area is located in a flat area between mountains at an elevation of 1,500 feet above sea level. Adjacent to the project is the Rosario River and there are several unnamed streams that cross the road. The west coast is 11.49 miles northwest. In 98% of the soils in the project area we have HmE2 (29.5%), CoF2 (23.9%) and HmF2 (44.6%) soils. The soil Humatas clay, 20 to 40 percent slopes eroded (HmE2 is on side slopes and narrow ridgetops of the volcanic uplands. This soil is somewhat difficult to work. Slope, runoff, past erosion and the hazard of further erosion are limitations. The soil Consumo clay, 40 to 60 percent slopes eroded (CoF2) is on strongly dissected side slopes and ridgetops throughout the volcanic uplands. This soil is not suited to cultivated crops. Slope, runoff, shallowness to saprolite, past erosion, and hazard of further erosion are severe limitations. The soil Humatas clay, 40 to 60 percent slopes (HmF2) is deep, very steep, and well drained. It is on the side slopes and ridgetops of humid volcanic uplands. The permeability and available water capacity of this Humatas soil are moderate. Runoff is very rapid, and

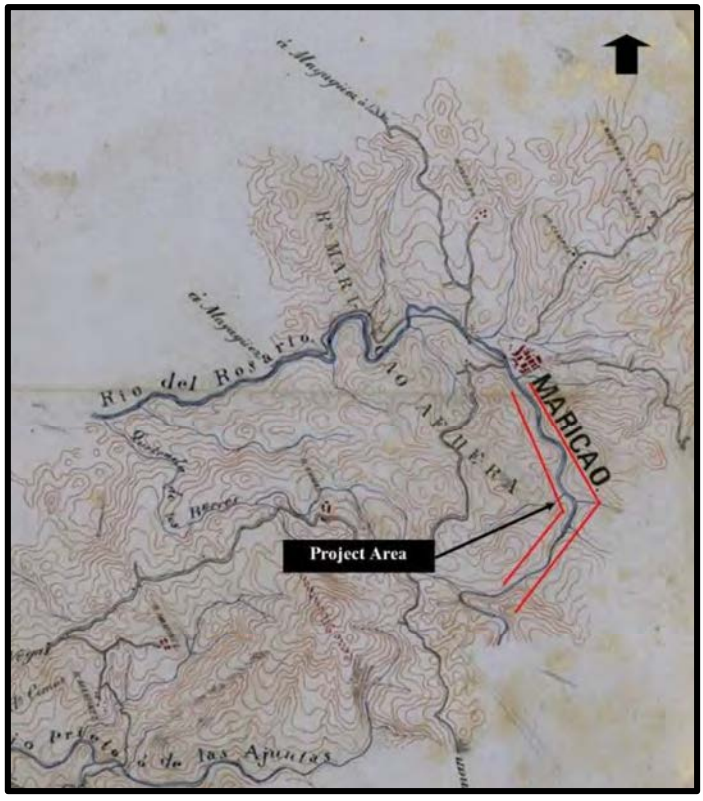
fertility is medium. Slope and an erosion hazard make this soil poorly suited for cultivated crops.

The area of the municipality of Maricao was populated very early in history by Indians, especially in the mid-sixteenth century when they received their freedom. There are three known Pre-Columbian sites, three historic sites included in the National Register of Historic Places, and more than twenty coffee plantations.

Maricao was founded as a municipality in 1874 after being separated from San Germán. The Traditional urban center of Maricao is 0.02 miles northeast of the project area. During the 19th century, Maricao's economy was entirely agricultural. It was based mainly on the harvest of small fruits, citrus fruits and coffee as the main product.

The first image we have of the Maricao area is a map of the Itinerary from San Germán to Maricao by Montoso made by the Army Geographic Center in 1888. This plan shows no construction of any kind in the project area, neither structures nor roads. The area is totally uninhabited.

**Figure- Itinerario de San Germán a Maricao, 1888**
**Archivo Nacional Digital de Puerto Rico. Source: https://archivonacional.com/PL/1/1/1293**



No changes in the project area are visible on the 1936 and 1951 aerial photos reviewed. The amount of vegetation in the area makes it very difficult to check the path to the fish hatchery and surface changes. Structures could be obscured by vegetation. What we can notice is that the alignment of the PR-410 road remains the same to this day. In the 1936 photo there is a small rectangle that we understand is possibly a housing structure. In the 1951 photo it is no longer visible. While in the aerial photo of the location of the project, some structures can be seen along the PR-410 road. During the surface tour we were able to confirm that these are housing structures.

**Figure Photo aerial-1936**

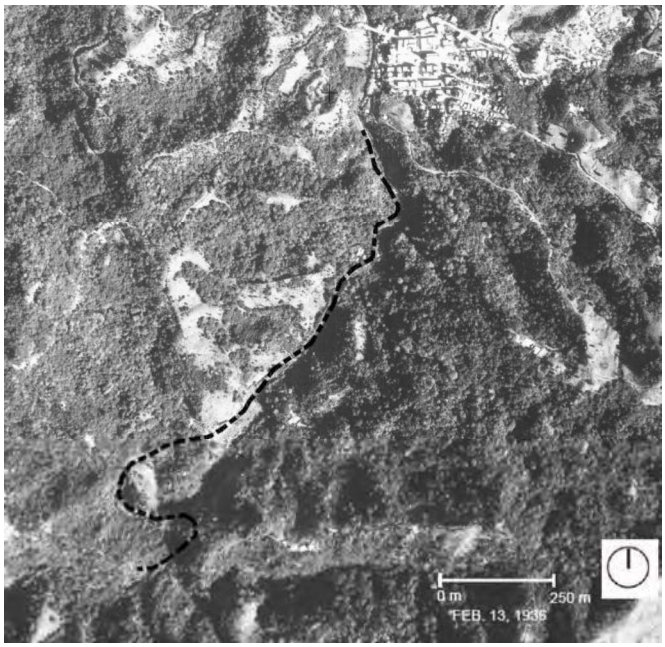
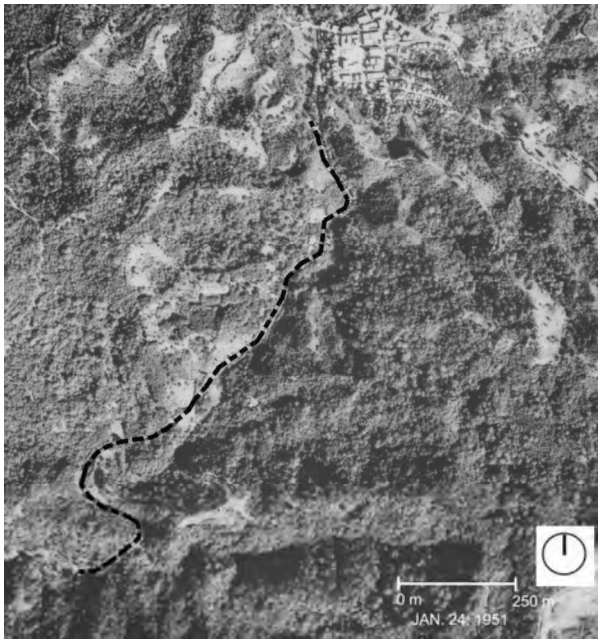


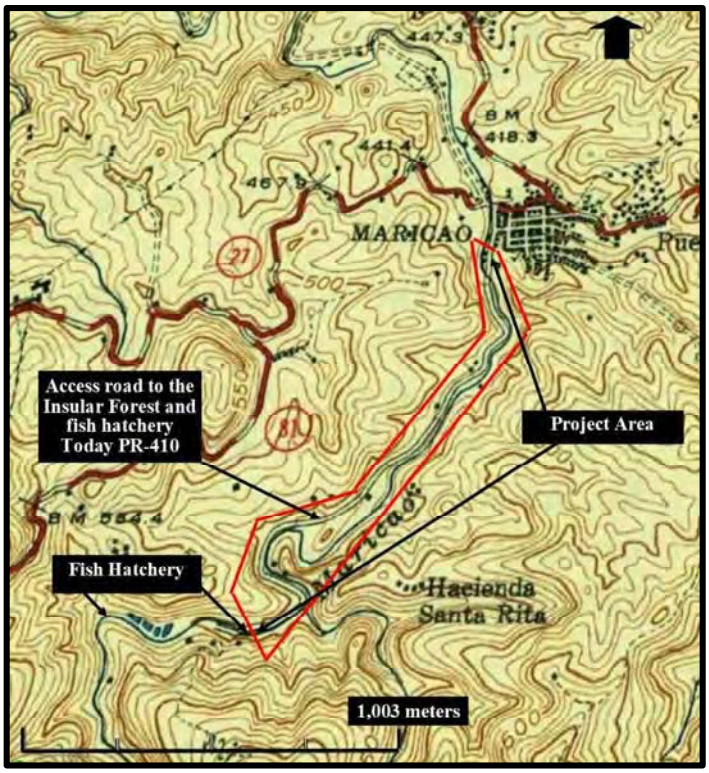

**Figure Photo aerial-1951**




The 1946 topographic map shows the route of the road to the fish hatchery with the same alignment as the current alignment of the PR-410 road. But it is marked as a road and is not identified with a name or road number. The fish hatchery is built by this year and the road is the access to the fish hatchery. In fact, the road only goes as far as the Fish Hatchery. Along the road there are a few black spots that could be housing structures. They are few and far between. To the southeast of the project there is an area identified as Hacienda Santa Rita.

Observing the 1960 topographic map photo-revised in 1985 and the most recent aerial photo, it is evident that the area has remained the same during all these years. The changes have been minimal and consist of the construction of few and scattered small housing structures.

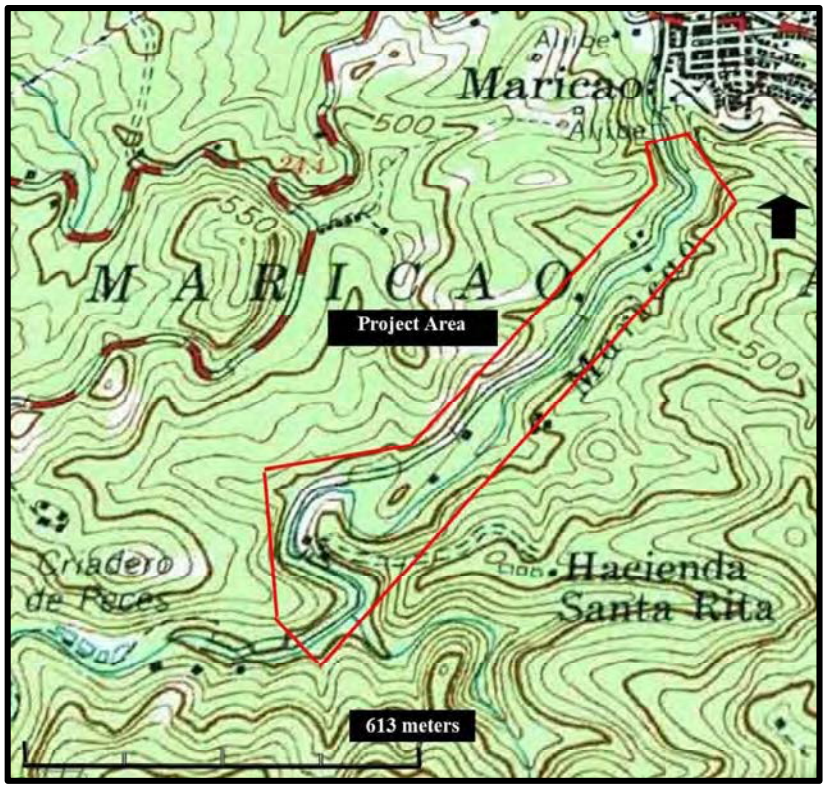
**Figure. Project (Parcel)Location - USGS Topographic Map 1946**




The linear walk begins at the San Juan Bautista gruta built in the 1980s by the Catholic Church. The gruta is a monument located on PR-410, Km. 0.2. It pays homage to the moment when Jesus asks his cousin John on the banks of the Jordan River to baptize him. The fountain is designed in such a way that it seems that the water that falls on Jesus' face comes from the container that St. John the Baptist holds in his hand. At the bottom there is a brick floor and benches for resting and observing nature. There are also stairs on both sides of the sculpture to climb up for a closer look. These stairs are made of bricks. The project continues along the PR-410 road, which is paved, until it reaches the entrance to the fish hatchery located within the Maricao Island Forest. This project will only reach the entrance to the fish hatchery. The PR-410 road ends at the entrance to the fish hatchery.

The second proclamation for the creation of island forests in Puerto Rico after the establishment of the 1917 Forestry Law became effective through Bulletin 159 of December 22, 1919. Governor Arthur Yager designated the Maricao Forest as the first upland forest. At that time, the Maricao forest had an area of approximately 5,040 cuerdas (Domínguez 2000: 428). More or less organized reforestation began in the Maricao forest unit in 1920 (Domínguez 2000: 439).

**Figure- Project (Parcel)Location - USGS Topographic Map 1960 Photorevised 1985**




On May 28, 1935, through President Roosevelt's Executive Order number 7057, the Puerto Rico Reconstruction Administration (PRRA) was created (Domínguez 2000:485). Among ARPR's functions was the acquisition of land for timber production and watershed protection. This agency also had a forestry division. Puerto Rico had three forestry services: Insular, Federal and the Forestry Division of the ARPR. These agencies, together with the CCCs, joined efforts in favor of a forestry program for the country (Domínguez 2000:486).

The CCC was a program created in the United States by President Franklin Delano Roosevelt in 1933, to give people work after the depression years (Pabón: 1999:25). In Puerto Rico it was also implemented in different areas such as: Guánica Forest, El Yunque Forest, Maricao Forest, the tunnels in the Parguera mangrove, Toro Negro Forest, kilometers of highways and landscaping details in the Río Piedras campus of the University of Puerto Rico. The workers carried out a large part of the reforestation work as it kept more than 2,000 men working throughout the island planting trees, building roads and opening trails (Domínguez 2000: 487-488).

The participants spent the night in self-built camps with infirmaries, dining rooms, kitchens, offices for administration, ranchones, cisterns, ovens and corrals for animals (Pabón 1999:73).

The fish hatchery was built by the Civilian Conservation Corps (CCC) between 1937 and 1942. When it was created, its objective was to study some freshwater fish and introduce new species to the island, such as the rainbow trout (Salmo gairdneri) and the chokecherry trout (Salmo trutta). The fish were planted in the rivers of the mountainous area in order to encourage recreational fishing on the island. Both species were cold-water species, so they were unable to adapt to the quality waters of Puerto Rico. Although they grew in our waters, they were unable to reproduce, so they began to experiment with warm water fish such as the chopas and the barbudos. In the early 1970's the administration of the hatchery passed to the Department of Natural Resources. At this time the Maricao Fish Hatchery is the only state government facility dedicated to the maintenance and diversity of freshwater fish populations in all of Puerto Rico.

During our surface survey conducted on December 8, 2023, we noted that the area has not changed since the construction of the Maricao Island Forest facilities. On the PR-410 road, we only observed less than fifteen housing structures, two of them in total abandonment. On the road we observed six culverts, but number 5 has a metal pipe inside. According to neighbors during the rains of Hurricane Maria in September 2017 the area was flooded and the water current passing through was so strong that it tore out a good part of the road and the culvert, so this area of the road was rebuilt. The five stone-built culverts are partially or totally covered by earth and vegetation. Currently the PR-410 road is paved, but we understand that this road was a road built by the CCC in the 1930s. It is very likely that like the culverts the road was built using stones (see Table 2).

**Table 2. Table of cultural resources within the project area**

| Name | Location | Coordinates | Description |
|---|---|---|---|
| Culvert 1 | PR-410 Km 0.5 | 18.177225<br>-66.980396 | Stone culvert |
| Culvert 2 | PR-410 Km 0.8 | 18.1750664<br>-66.9817737 | Stone culvert |
| Culvert 3 | PR-410 Km. 1.0 | 18.1740126<br>-66.9829385 | Stone culvert |
| Culvert 4 | PR-410 Km 1.2 | 18.1728360<br>-66.9844700 | Stone culvert |
| Culvert 6 | PR-410 | 18.171536<br>-66.985540 | Stone culvert |
| PR-410 | PR-410 | 18.179253 -66.980708 to<br>18.170269<br>-66.985604 | Historic road (PR-410) built ca. 1920 |

PR-410 is the access road first to the Maricao Island Forest built in 1920 and then to the Fish Hatchery located within the Island Forest and built between 1937 and 1942 by the Civilian Conservation Corps. Surely this road was originally built in stones as well as the culverts, which is why we consider it historic.

Adjacent to the PR-410 road, inside the Rosario River very close to kilometer 0.7 there is a brick dam.

The Fish Hatchery has been closed since 2017, so we were unable to enter the facilities.

Three (3) archaeological surveys have been conducted within 0.25 miles of the project area, all of them with negative results (see Table 3).

**Table 3. Table of cultural resources surveys conducted within the project area or within a 0.25-miles radius.**

| Author | Phase/Title | Year | SHPO / IPRC code | Results | Distance/ Direction |
|---|---|---|---|---|---|
| Jaqueline Lopez Meléndez | IA-IB/ Construcción de Escuela Superior Urbana | 1994 | ICP/CAT-MR-94-01-02 | Negative | 0.25 mi W |
| Juan González | IA-IB/ Cerro Alto Apartments Project | 1991 | SHPO: 11-01-91-01 | Negative | 0.23 mi NW |
| Ethel Schlafer | IA-IB/ Proyecto Parque Acuático de Maricao | 1995 | SHPO: 03-13-95-02 | Negative | Adjacent |

## Reference

Domínguez Cristóbal, Carlos M.
2000 *Panorama Histórico Forestal de Puerto Rico.* Editorial de la Universidad de Puerto Rico. San Juan, PR.

López Meléndez, Jaqueline
2002 Evaluación Arqueológica Fases IA-IB. Proyecto *Mejoras al sistema de acueductos, Villalba, Puerto Rico.* Informe sometido al Ing. José Ocasio por requerimiento de la Autoridad de Acueductos y Alcantarillados de Puerto Rico.

Pabón Arleen
1999 *Taking the Fiesta to the Forest: The Civilian Conservation Corps and Puerto Rico. Interpretative analysis of Guanica's Camp Borinquen and Fort Caprón.* Final Version.

National Register of Historic Places Registration Form- Vivero de Peces de Maricao, December 30, 2016.

## Determination

The archaeological potential of the proposed project is high. Within the 0.25-miles area of the PR-CRP-000721 project we have twenty (20) cultural resources, five (5) located within the project area and two (2) adjacent to the project. The cultural resources within the project area are four (4) stone culvert and the PR-410 road built in the first half of the 20th century as an access road to the Maricao Insular Forest and in 1937 as access to the Maricao Fish Hatchery located within the Insular Forest. Adjacent to the project and included in the NRHP is the Maricao Fish Hatchery located within the Maricao Insular Forest and also built in stone by the CCCs. Adjacent and within the river near kilometer 0.7 we have a brick dam.

In 2002 we had the opportunity to document several culverts and a stone road built by the CCCs in the Villalba area for a project of the Aqueduct and Sewer Authority. The road, known as Camino El Bolo, also had several stone culverts (Figure 7). This road reached the observation tower located in the Toro Negro Forest in Villalba (López 2002). It is very possible that under the asphalt layer of the PR-410 road there are remains of the old stone road built between 1920 and 1937.

Based on the results of our historic property identification effort and viewshed assessment, the Program has determined that project actions will not affect the historic properties that comprise the Area of Potential Effect, provided that archaeological monitoring is conducted and the culvert are preserved and documented.

We recommend that archaeological monitoring be conducted during excavation work. We further recommend that the culverts be documented and that conservation work be carried out, including but not limited to cleaning and removal of soil, debris and vegetation, and that they be consolidated if necessary.

**Recommendation**

The Puerto Rico Department of Housing requests that the Puerto Rico SHPO concur that the following determination is appropriate for the undertaking (Choose One):

☐ No Historic Properties Affected

☒ No Adverse Effect

**Condition:** Archaeological monitoring by an SOI-qualified archaeologist should be conducted during excavation work. Additionally, the historic culverts should be documented and conservation work be carried out, including but not limited to cleaning and removal of soil, debris and vegetation, and that they be consolidated if necessary. An archaeological monitoring plan and conservation plan should be prepared and submitted to the PRSHPO for review and approval for appropriateness.

☐ Adverse Effect

Proposed Resolution (if appliable).

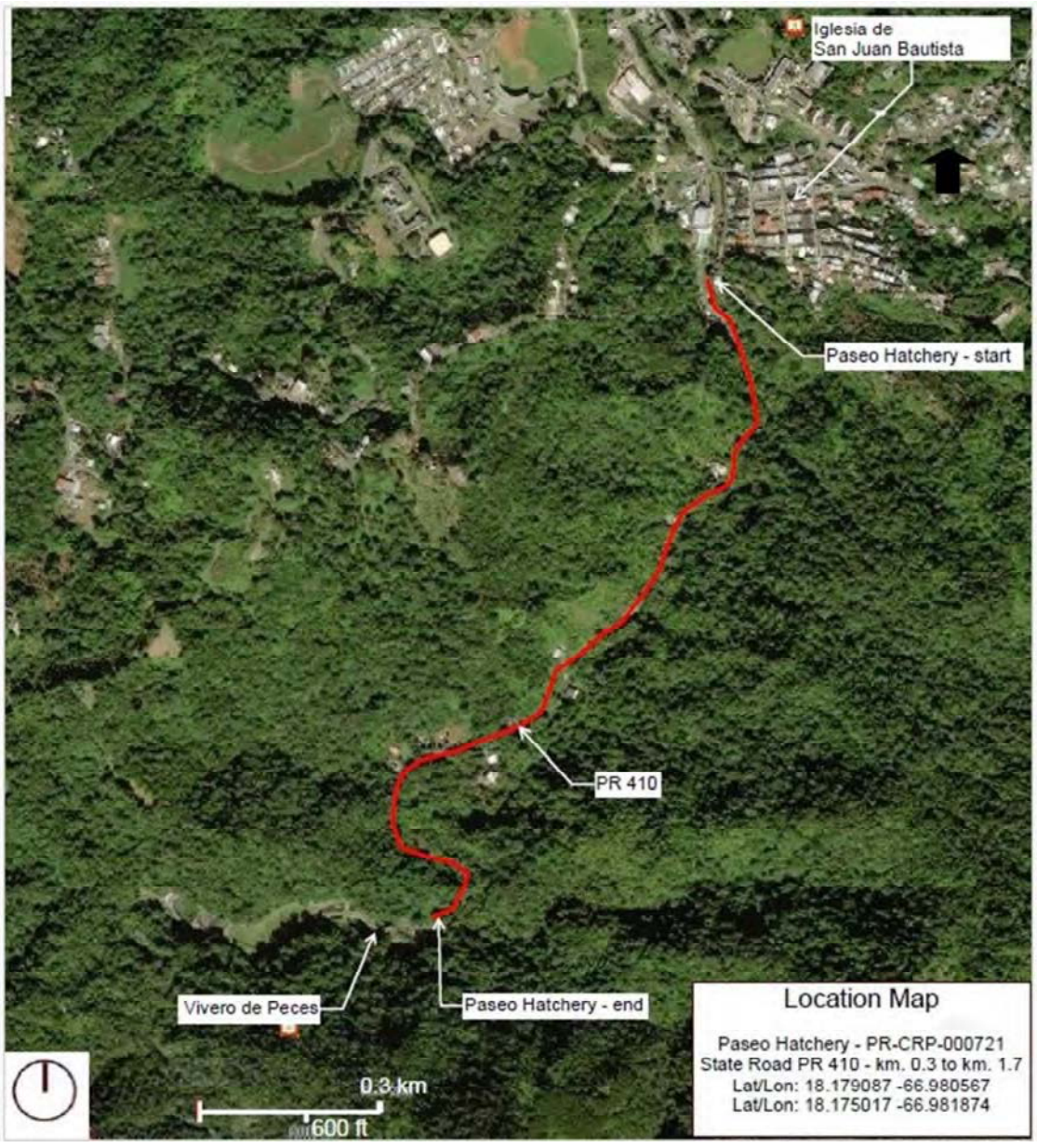
**This Section is to be Completed by SHPO Staff Only**

| The Puerto Rico State Historic Preservation Office has reviewed the above information and:<br><br>☐ **Concurs** with the information provided.<br>☐ **Does not concur** with the information provided. | |
|---|---|
| **Comments:** | |
| Carlos Rubio-Cancela<br>State Historic Preservation Officer | Date: |

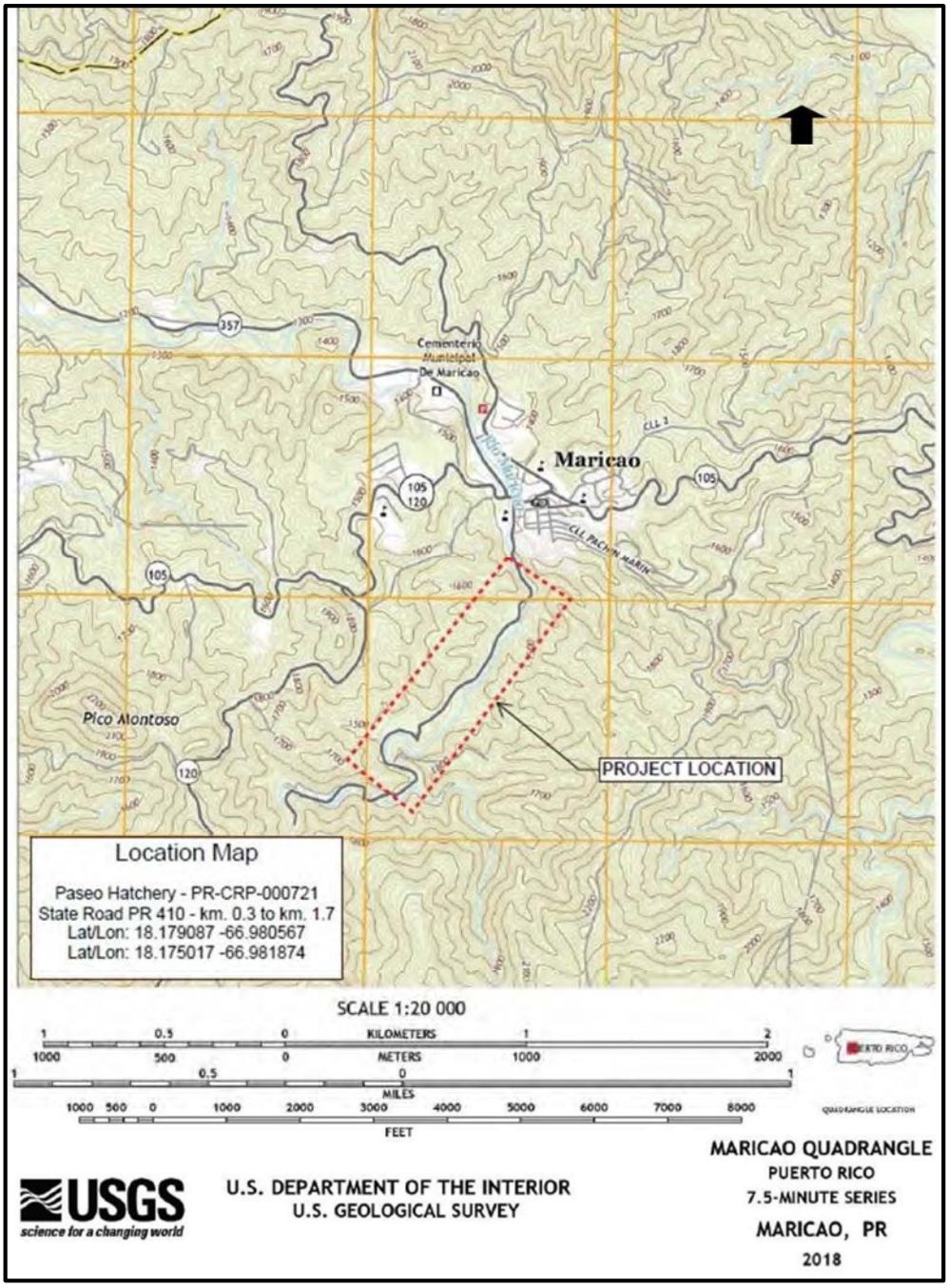
## Figure 1. Project (Parcel) Location – Area of Potential Effect Map (Aerial)



## Figure 2. Project (Parcel) Location - Aerial Map



## Figure 3. Project (Parcel) Location - USGS Topographic Map



## Figure 4. Project (Parcel) Location – Soils Map

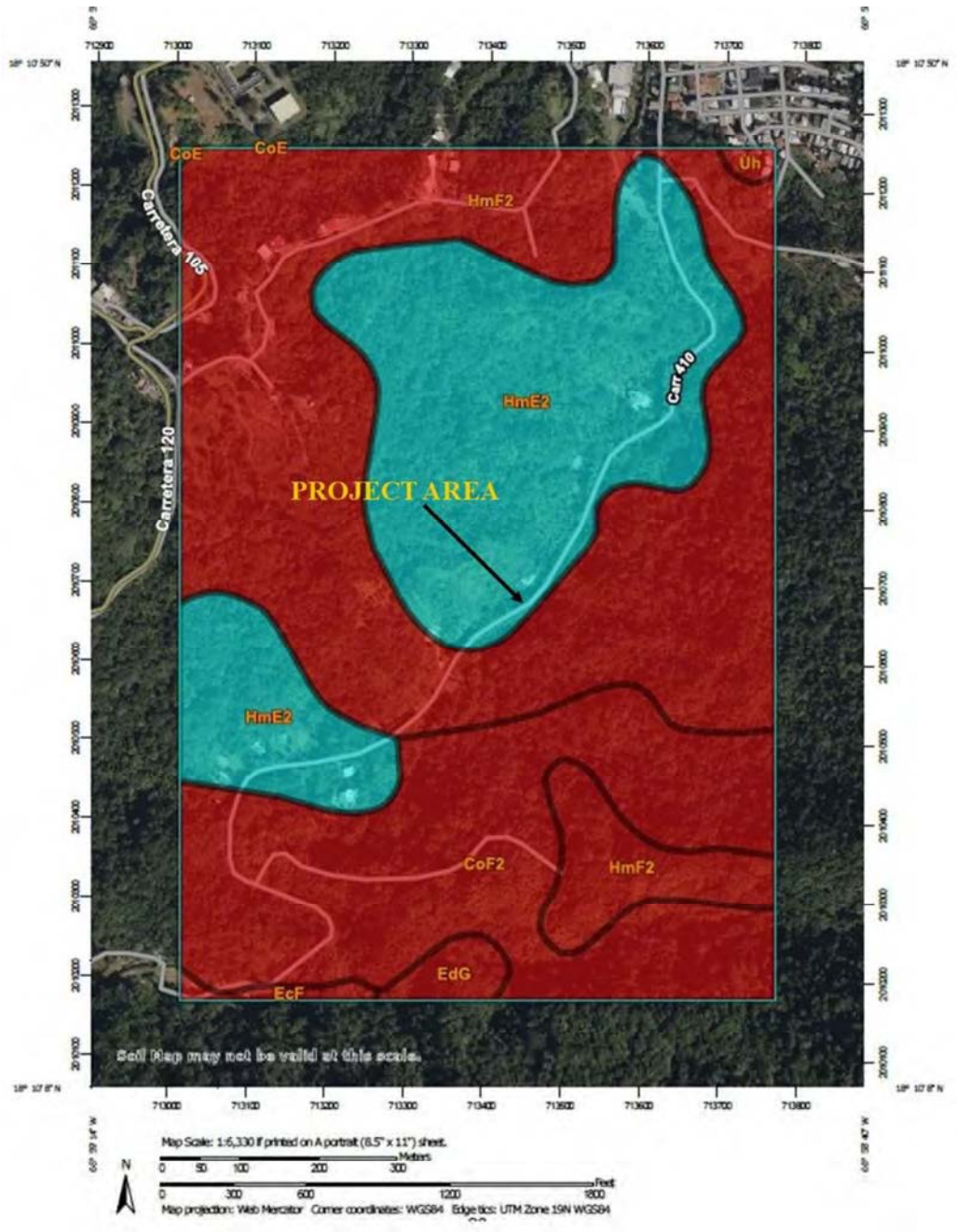
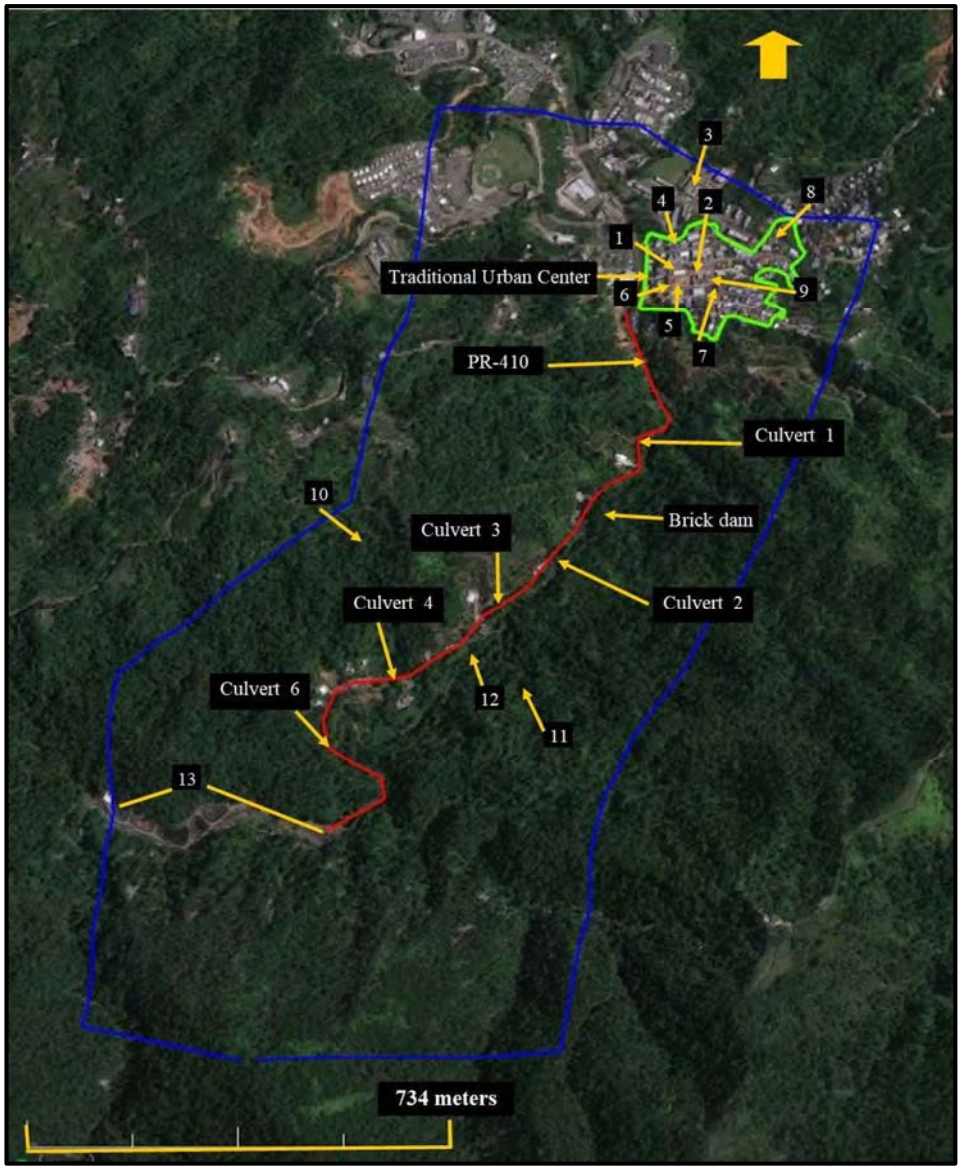
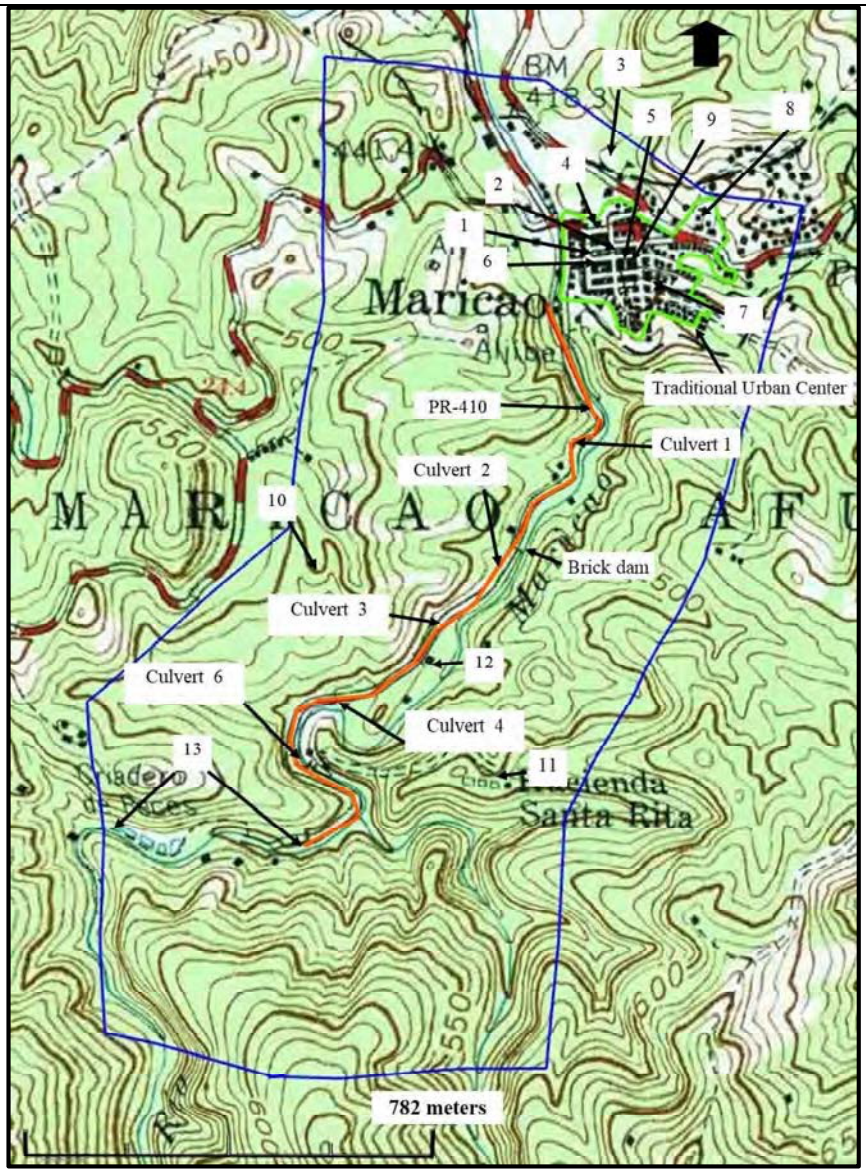


**Figure 5. Project (Parcel) Location with Previous Investigations - Aerial Map**




1. Maricao city plaza; 2. Iglesia San Juan Bautista de Maricao; 3. Escuela Raúl Ybarra; 4. Edificio Comercial; 5. Iglesia Presbiteriana El Buen Pastor; 6. Alcaldía; 7. Convento de las Hermanas de Fátima; 8. Escuela Mariana Bracetti; 9. Escuela Rafael Janer; 10. Hacienda Rolón; 11. Hacienda Santa Rita; 12. Horno de ladrillo; 13. Vivero de Peces de Maricao

**Figure 6. Project (Parcel) Location with Previously Recorded Cultural Resources USGS Topographic Map**



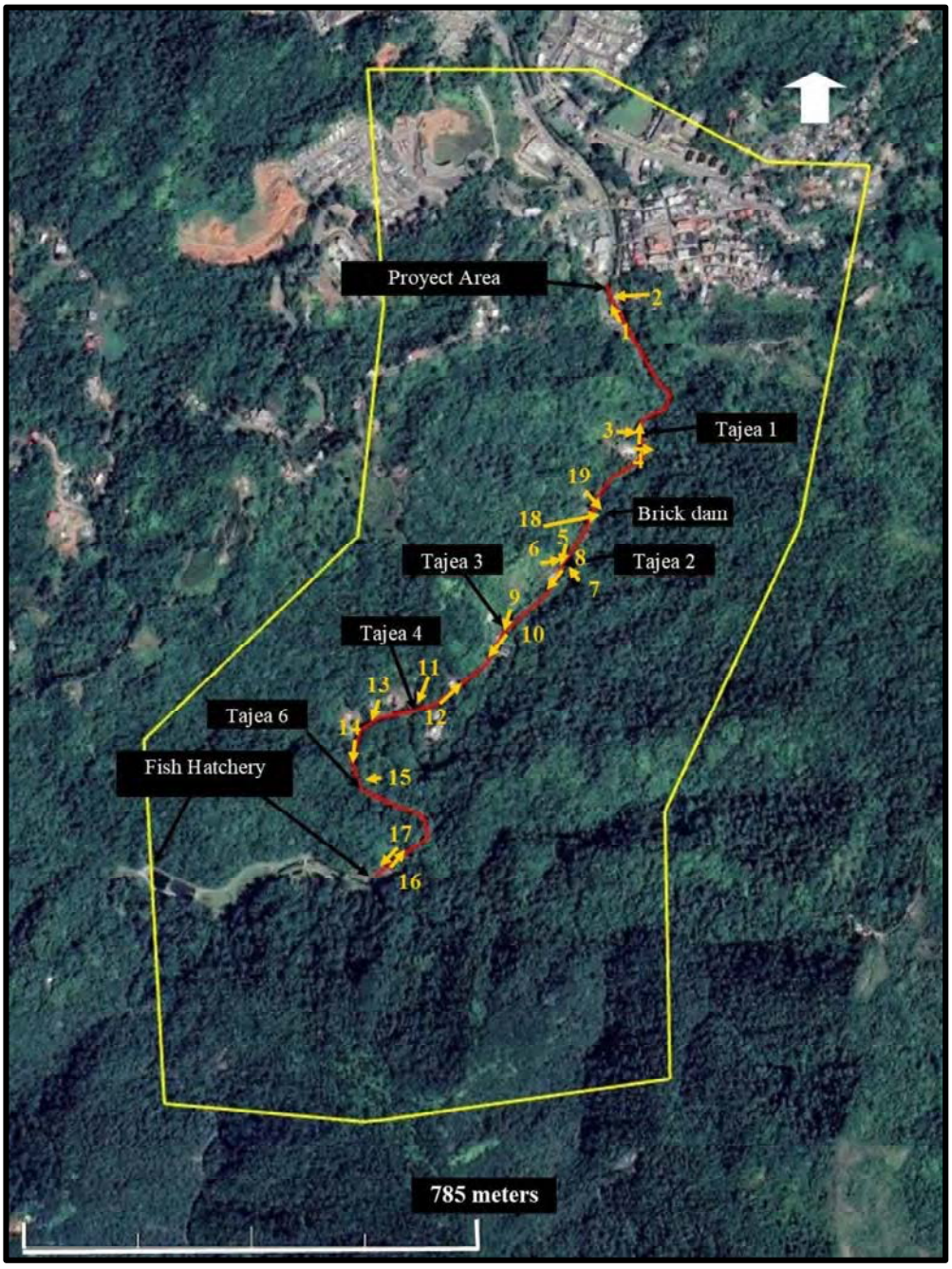

1.Maricao city plaza; 2. Iglesia San Juan Bautista de Maricao; 3. Escuela Raúl Ybarra; 4. Edificio Comercial; 5. Iglesia Presbiteriana El Buen Pastor; 6. Alcaldía; 7. Convento de las Hermanas de Fátima; 8. Escuela Mariana Bracetti; 9. Escuela Rafael Janer; 10. Hacienda Rolón; 11. Hacienda Santa Rita; 12. Horno de ladrillo; 13. Vivero de Peces de Maricao

**Figure 7. Camino El Bolo and culvert in Toro Negro in Villalba built by CCC (López 2002).**





## Figure 8. Photograph Key





| Photo #: 1<br>Date: December 8, 2023 | Description (include direction): General view of the project area, looking northwest. |
|---|---|



| Photo #: 2<br>Date: December 8, 2023 | Description (include direction): General view of the Gruta d San Juan Bautista, looking west. |
|---|---|



| Photo #: 3 | Description (include direction): Culvert 1, looking east. |
|---|---|
| Date: December 8, 2023 | |



| Photo #: 4 | Description (include direction): PR-410 km. 0.5, looking north. |
|---|---|
| Date: December 8, 2023 | |



| Photo #: 5 | Description (include direction): Culvert 2, looking southwest. |
|---|---|
| Date: December 8, 2023 | |



| Photo #: 6 | Description (include direction): Culvert 2, looking northeast. |
|---|---|
| Date: December 8, 2023 | |



| Photo #: 7 | Description (include direction): Culvert 2, looking northwest. |
|---|---|
| Date: December 8, 2023 | |



| Photo #: 8 | Description (include direction): General view of PR-410, Km 0.8, looking southwest. |
|---|---|
| Date: December 8, 2023 | |



| Photo #: 9 | Description (include direction): Culvert 3, looking southwest. |
|---|---|
| Date: December 8, 2023 | |



| Photo #: 10 | Description (include direction): General view of PR-410, Km 1.0, looking southwest. |
|---|---|
| Date: December 8, 2023 | |



| Photo #: 11 | Description (include direction): Culvert 4, looking southwest. |
|---|---|
| Date: December 8, 2023 | |



| Photo #: 12 | Description (include direction): General view of PR-410, Km 1.0, looking northeast. |
|---|---|
| Date: December 8, 2023 | |



| Photo #: 13<br>Date: December 8, 2023 | Description (include direction): Culvert 5 located PR-410 Km. 1.3, looking southwest. |
|---|---|



| Photo #: 14<br>Date: December 8, 2023 | Description (include direction): General view of PR-410, Km 1.3, looking south. |
|---|---|



| Photo #: 15<br>Date: December 8, 2023 | Description (include direction): Area where pit 6 is located (totally covered), looking west. |
|---|---|



| Photo #: 16<br>Date: December 8, 2023 | Description (include direction): General view of PR-410, Km 1.7, looking northeast. |
|---|---|



| Photo #: 17<br>Date: December 8, 2023 | Description (include direction): Entrance to the fish hatchery, looking southwest. |
|---|---|



| Photo #: 18<br>Date: December 8, 2023 | Description (include direction): General view of the brick dam within the Rosario River, looking northeast. |
|---|---|



| Photo #: 19 | Description (include direction): General view of the brick dam within the Rosario River, looking southeast. |
|---|---|
| Date: December 8, 2023 | |

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# PASEO HATCHERY

## PROJECT PR-CRP-000721

STATE ROAD PR 410, KM. 3.0 - KM. 4.5, MARICAO, PR

90% PROGRESS SET - AUG/09/2023

## PROJECT DIRECTORY


| | |
|---|---|
| CLIENT | **MUNICIPALITY OF MARICAO, PR**<br>HON. ALCALDE WILFREDO RUIZ FELICIANO |
| A/E TEAM | **C&G | JMCP + JLGARCHITECTS**<br>ING. JOSE M. CASTRO PAVIA, PE, CAAPPR<br>ARQ. JOSE GODINEZ ROMAN, AIA, CAAPPR<br>115 CALLE DEL PARQUE<br>SUITE 7<br>SAN JUAN, PR 00911<br>T 787.309.1837<br>E JGODINEZ@JLG-ARCHITECTS.COM<br>E JMCP.SITEDESIGN@GMAIL.COM |
| ELECTRICAL ENGINEER | **ENRIQUE M. FIGUEROA PE, CEM, LEED AP**<br>(787) 448-3876 CEL. |
| LAND SURVEYOR | **TECHNIGROUP**<br>ING. JUAN ALBERTO TORRES BERRIOS<br>RIVERSIDE PARK, CALLE 4 B-4<br>BAYAMON, PR 00961<br>T 787.379.9500 |
| GEOTECHNICAL ENGINEER | **BEG | BAIGES GEOTECHNICAL ENGINEERS LLC**<br>ING. JAMES BAIGES<br>T 787.398.0097<br>E JAMES.BAIGES@GMAIL.COM |
| GEOTECHNICAL ENGINEER | **REFORESTA, INC.**<br>ALEJANDRO CUBIÑA<br>PO. BOX 8972, SAN JUAN, PR 00910-0972<br>T 787.748-5435<br>E REFORESTA@COQUI.NET |


## INDEX OF DRAWINGS

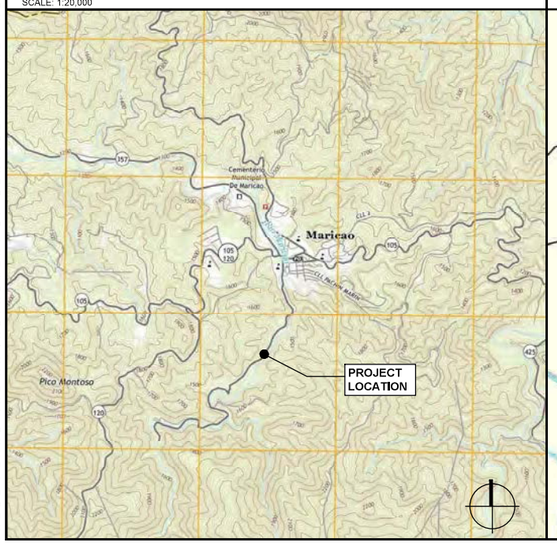
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| G-001 | GENERAL NOTES |
| G-100 | MASTER PLAN |
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| 2 OF 09 | AS BUILT & TOPOGRAPHIC PLAN |
| 3 OF 09 | AS BUILT & TOPOGRAPHIC PLAN |
| 4 OF 09 | AS BUILT & TOPOGRAPHIC PLAN |
| 5 OF 09 | AS BUILT & TOPOGRAPHIC PLAN |
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| 7 OF 09 | AS BUILT & TOPOGRAPHIC PLAN |
| 8 OF 09 | AS BUILT & TOPOGRAPHIC PLAN |
| 9 OF 09 | AS BUILT & TOPOGRAPHIC PLAN |
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| CD-103 | DEMOLITION SITE PLAN |
| CD-104 | DEMOLITION SITE PLAN |
| CD-105 | DEMOLITION SITE PLAN |
| CD-106 | DEMOLITION SITE PLAN |
| CD-107 | DEMOLITION SITE PLAN |
| CD-108 | DEMOLITION SITE PLAN |
| CD-109 | DEMOLITION SITE PLAN |
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| LA-202 | PERMANENT LANDSCAPE AMENITIES |


## TOPOGRAPHIC MAP

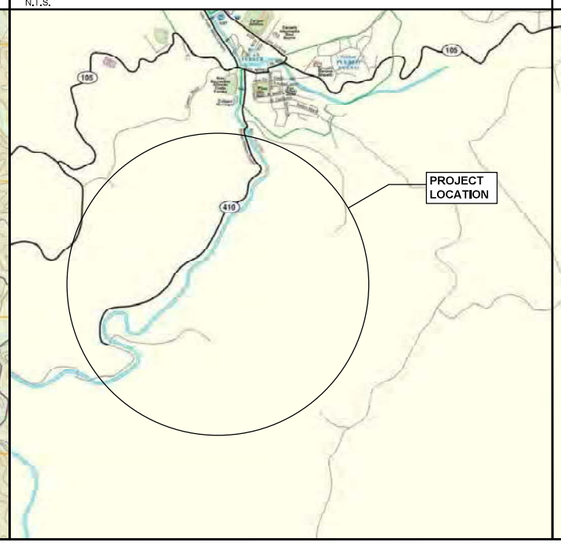
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REVISED 2018

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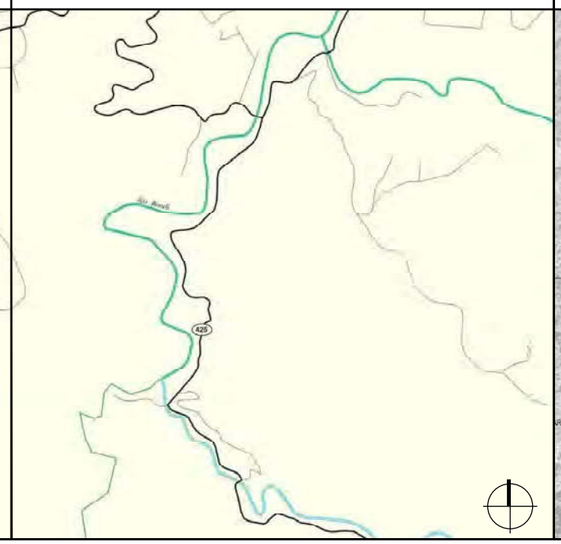



## ROAD MAP

N.T.S.



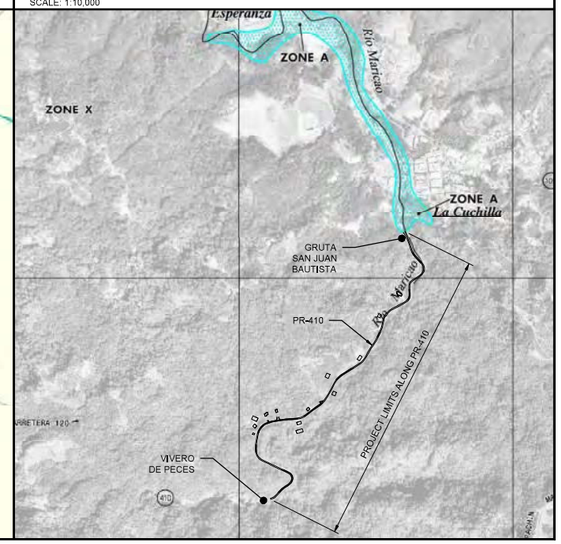

MARICAO, PR



## FLOOD MAP

PANEL 72000C1040H
REV. 04/19/2005

SCALE: 1:10,000




C&G
JMCP + JLGARCHITECTS
115 DEL PARQUE STREET SUIT 7
SAN JUAN, PR 00911
787.309.1837

MARICAO
CAPITAL DE LA MONTAÑA

PROGRESS SET
NOT FOR CONSTRUCTION

PROJECT: PR-CRP-000721
PASEO LA GRUTA - VIVERO DE PECES
CARRETERA ESTATAL PR 410, KM. 3.0 - KM. 4.5, MARICAO, PR

TITLE SHEET
SCALE: AS SHOWN

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| 3 | 08.09.23 | 90% PROGRESS SET | . | . |

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REVIEWED BY: .
DATE: 08.09.23
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DRAWING NO.: G-000

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## GENERAL NOTES

1. CONTRACTOR SHALL ASSURE ALL REQUIRED PERMITS PRIOR TO BEGINNING ANY EARTH MOVEMENTS OR EXCAVATIONS IN THE PROJECT. BEFORE ANY EXCAVATION CONTRACTOR SHALL NOTIFY "CENTRO DE COORDINACION DE EXCAVACIONES Y DEMOLICIONES" HTTP://DDED.DTOP.GOV.PR/EXC/, TELEPHONES: 787-722-2929, X 12277, 12274, 12400, 12513.

2. THE CONTRACTOR SHALL PROVIDE ADEQUATE COFFERDAM OR PROTECTION SYSTEM FOR THE EXCAVATIONS, FOR THE STORM SEWER PIPES AND STRUCTURES CONSTRUCTION, AS TO AVOID ANY ACCIDENT OR SLIDING OF EARTH IN THE PROJECT. EXCAVATION OF TRENCHES MUST BE SUFFICIENTLY WIDE TO ENABLE INSTALLATION AND ALLOW INSPECTION. ALL CONSTRUCTION AND OSHA SAFETY REGULATIONS MUST BE FOLLOWED AT ALL TIMES. CONTRACTOR SHALL COMPLY TO THE FULLEST EXTENT THE LATEST STANDARDS OF OSHA DIRECTIVES OR ANY OTHER AGENCY HAVING JURISDICTION FOR EXCAVATION AND TRENCHING PROCEDURES. THE CONTRACTOR SHALL PROVIDE ALL SUPPORT SYSTEMS, SLOPING, BENCHING, AND OTHER MEANS OF PROTECTION. THIS IS TO INCLUDE, BUT NOT LIMITED TO ACCESS AND EGRESS FROM ALL EXCAVATION AND TRENCHING. CONTRACTOR IS RESPONSIBLE TO COMPLY WITH PERFORMANCE CRITERIA FOR OSHA.

3. SHORING SHALL BE USED IN OPEN TRENCHES WITHIN 1.5 METERS (ANY DIRECTION) OF LIGHT OR POWER POLES, 7.0 METERS OF TOWERS, AND WITHIN 45° BEARING SPLAY OF ANY STRUCTURE UNLESS OTHERWISE NOTED. THE CONTRACTOR SHALL DESIGN THE SHORING TO ACCOUNT FOR ADDITIONAL SURCHARGE LOADS OF THE POLE, TOWER, OR STRUCTURE FOUNDATIONS ACTING ON THE SHORING. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR DESIGNING ALL SHORING AND FOR PROTECTING ALL ELECTRICAL AND TELECOMMUNICATIONS POLES AND TOWERS.

4. THE CONTRACTOR SHALL ABIDE BY ALL APPLICABLE DNER, NSF, EQB, AWWA, USACE AND OGPE STANDARDS FOR INSTALLING STORM SEWER PIPELINES.

5. UPON COMPLETION OF CONSTRUCTION, FINISHED GRADES WILL BE BROUGHT BACK TO PRE-CONSTRUCTION CONDITIONS UNLESS APPROVED BY THE PROPERTY OWNER OR NOTED ON THE PLANS. FENCES, GATES, ROADWAYS, DRIVES, GROUND SURFACES, ETC., SHALL BE LEFT IN A CONDITION EQUAL TO OR BETTER THAN THAT FOUND BEFORE CONSTRUCTION. COORDINATE WITH THE PROPERTY OWNERS.

6. ALL IMPACTED FENCES AND OR STRUCTURES SHALL BE REINSTALLED IN ORIGINAL LOCATION AND OF SAME TYPE UNLESS OTHERWISE SHOWN ON PLANS DIRECTED OR BY THE ENGINEER.

7. IF CONTRACTOR ENCOUNTERS WET OR SEEPING SOIL CONDITIONS IN TRENCH OR CONDITIONS INDICATING THE POSSIBLE LOCATION OF SINKHOLE. CONTRACTOR SHALL NOTIFY ENGINEER AND NOT PROCEED WITH PIPE INSTALLATION IN THIS AREA UNTIL DIRECTION ON HOW TO PROCEED IS RECEIVED FROM THE ENGINEER. IF GROUNDWATER IS ENCOUNTERED, CONTRACTOR SHALL TAKE MEASURES TO PREVENT AND TO NOT PROMOTE THE MIGRATION OF THE GROUNDWATER IN THE TRENCH EXCAVATION AND PIPE EMBEDMENT ZONE. CONTRACTOR IS RESPONSIBLE FOR DEWATERING COSTS IF DEEMED NECESSARY.

8. DISCOVERY OF UNSUITABLE SOILS OR ROCK MUST BE IMMEDIATELY REPORTED TO THE OWNER, OWNER REPRESENTATIVE, AND ENGINEER. ALL EARTHWORK OPERATION IN THIS AREA MUST NOT PROCEED UNTIL PROJECT GEOTECHNICAL ENGINEER REVIEWS THE AREA AND THE OWNER RELEASES THE CONTRACTOR TO PROCEED.

9 CONTRACTOR SHALL PROVIDE ALL MAINTENANCE AND PROTECTION OF TRAFFIC DURING THE EXECUTION OF THE CONTRACTOR'S WORK. THE CONTRACTOR SHALL PROVIDE ALL THE SAFETY MEASUREMENTS TO AVOID HAZARDOUS CONDITIONS DURING THE CONSTRUCTION PERIOD. SAFETY TRAFFIC AND CONSTRUCTION PLAN SHOULD BE SUBMITTED TO THE PROJECT MANAGER APPROVAL BEFORE ANY HAZARDOUS OR RISKY WORK IS STARTED.

10. NEW CONSTRUCTION SHALL MEET HORIZONTAL AND VERTICAL ALIGNMENTS OF EXISTING FACILITIES.

11. CONTRACTOR SHALL NOTIFY THE OCCURRENCE OF ANY CHANGES ON THE PIPING HORIZONTAL OR VERTICAL ALIGNMENT TO THE DESIGNER PRIOR TO MAKING THEM.

12. THE CONTRACTOR WILL ASSUME ALL RESPONSIBILITY FOR ANY PROPERTY OR PERSONAL DAMAGE OR LOSS, THAT MAY OCCUR, PRIVATE OR PUBLIC RELATED TO THE CONSTRUCTION OF THE PROJECT OR DURING THE CONSTRUCTION PROCESS, THE OWNER WILL BE RELIEVED BY THE CONTRACTOR FROM ANY LOSS OR DAMAGE CAUSED .

13. CONTRACTOR SHALL BE CAREFUL DURING THE CONSTRUCTION OPERATIONS IN ORDER TO PRESERVE ALL EXISTING TREES, PLANTS, BUSHES OR CROPS WITHIN THE PROJECT SITE HAVING NO INTERFERENCE.

14. CONTRACTOR SHALL PREPARE AN INVENTORY OF ALL TREES THAT REQUIRE CUTTING, PRUNING AND/OR REMOVAL AND CONSEQUENTLY PREPARE AND EXECUTE A TREE MITIGATION PLAN ACCORDING TO OGPE'S REGULATIONS.

15. THE CONTRACTOR SHALL PROTECT AND PRESERVE ALL EXISTING PROPERTY, PAVED AREAS, TREES, GRASS AND VEGETATION FROM CONSTRUCTION PERSONNEL TRAFFIC AND SHOULD KEEP THESE AREAS FREE FROM TRASH OR WEEDS.

16. CONTRACTOR SHALL SUBMIT TO THE RESIDENT ENGINEER INSPECTOR A DETAILED PLAN OF CONSTRUCTION, THAT WILL INCLUDE DEFINED STAGING AREAS AND TEMPORARY STORAGE AREAS TO BE USED TO PILE EXCAVATED MATERIALS OR SELECTED BACKFILL DUE TO SPACE LIMITATION IN THE AREA OF WORK.

17. THE CONTRACTOR SHALL ACQUIRE AT HIS OWN EXPENSE ALL TEMPORARY RIGHT OF WAY NECESSARY TO PERFORM HIS WORK, INCLUDING STAGING AREAS AND TEMPORARY FACILITIES.

18. CONTRACTOR SHALL COORDINATE WITH LUMA THE MINIMUM CLEARANCE REQUIRED FOR OVERHEAD POWER LINES. ANY WORK WITHIN THIS MINIMUM CLEARANCE DISTANCE IS STRICTLY PROHIBITED. IN THE EVENT THAT WORK NEAR THE POWER LINES, WITHIN THE CLEARANCE DISTANCE. IS REQUIRED, CONTRACTOR MUST COORDINATE WITH LUMA ENERGY THE DE-ENERGIZING OF THE POWER LINES ("VIA LIBRE") WHILE THE CONSTRUCTION ACTIVITIES ARE PERFORMED, AND ITS ASSOCIATED COST.

19. DETAILS OF CONSTRUCTION NOT SPECIFICALLY SHOWN SHALL BE CONSTRUCTED IN ACCORDANCE WITH DETAILS SHOWN FOR SIMILAR CONDITIONS AND MATERIALS, AND IN ACCORDANCE WITH ACCEPTED PUERTO RICO STANDARDS.

20. THE OWNER SHALL RETAIN A QUALIFIED PROFESSIONAL TO OBSERVE THE CONSTRUCTION IN ORDER TO VERIFY THAT THE PROJECT IS BEING CONSTRUCTED IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS.

21. ALL DISTANCES AND ELEVATIONS ARE IN METERS UNLESS OTHERWISE NOTED.

22. COORDINATES AND ELEVATIONS ARE REFERRED TO THE STATE PLANE COORDINATES SYSTEM FOR PUERTO RICO AND THE US VIRGIN ISLANDS, NAD 83.

23. THE CONTRACTOR IS RESPONSIBLE TO OBTAIN THE FOLLOWING PERMITS PRIOR TO COMMENCE WITH THE CONSTRUCTION.
    A. EROSION AND SEDIMENTATION CONTROL (CES)
    B. ATMOSPHERIC EMISSION (PFE)
    C. NON HAZARDOUS SOLID WASTE (DS-3)
    D. DISPOSAL OF HAZARDOUS WASTE
    E. DISCHARGE OF STORM WATER RUNOFF DURING CONSTRUCTION (NPDES)
    F. IN CASE OF REMOVAL AND DISPOSAL OF MATERIALS CONTAINING ASBESTOS AND LEAD PAINT, THE CONTRACTOR SHALL SUBMIT A PLAN FOR REMOVAL, MANAGEMENT AND DISPOSAL OF SUCH MATERIALS.
    G. OGPE INCIDENTAL PERMIT (PUI-IN SPANISH)

24. ALL EROSION AND SEDIMENTATION CONTROL DEVICES SHALL BE INSTALLED PRIOR TO COMMENCE WITH ANY EARTHWORK OR EXCAVATION AND MAINTAINED THROUGHOUT THE DURATION OF THE CONSTRUCTION.

25. THE SIZE AND LOCATION OF EXISTING UTILITIES SHOWN ON THE CONTRACT PLANS, BOTH ABOVE AND BELOW GROUND IS BASED ON AN EXAMINATION OF EXISTING PLANS AND THE RESULT OF FIELD INSPECTION. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING IN THE FIELD THE LOCATION AND SIZE OF ALL UTILITIES INCLUDING ELECTRIC, SANITARY, TELEPHONE, STORM SEWER AND WATER. NO EXTRA COMPENSATION WILL BE MADE TO THE CONTRACTOR FOR DISCREPANCIES BETWEEN THE SIZE AND LOCATION OF THE UTILITIES SHOWN ON THE PLANS AND THE UTILITIES AS DETERMINED BY HIS FIELD VERIFICATION. HOWEVER, ANY MAJOR CONFLICT THAT CANNOT BE RESOLVED IN THE FIELD SHALL BE NOTIFIED TO THE ENGINEER FOR ITS RESOLUTION. DAMAGES CAUSED TO EXISTING UTILITIES WITHIN THE PROJECT AREA SHALL BE REPAIRED BY CONTRACTOR AT NO COST TO THE OWNER.

26. THE CONTRACTOR SHALL VERIFY ALL HORIZONTAL AND VERTICAL CONTROLS.

27. ALL DEMOLITION TO BE PERFORMED BY THE CONTRACTOR ACCORDING TO SPEC. 202 REMOVAL OF STRUCTURES AND OBSTRUCTIONS UNLESS OTHERWISE NOTED.

28. IN CASE OF DOUBT IN THE INTERPRETATION OF ANY ASPECTS OF THESE DRAWINGS AND/OR SPECIFICATIONS THE ENGINEER SHALL BE CONSULTED.

29. CONTRACTOR SHALL COORDINATE WITH PRHTA (OFICINA DE CONTROL DE ACCESOS) THE CONSTRUCTION WORKS TO BE PERFORMED DURING SPECIAL EVENTS IN THE AREA. CONTRACTOR SHALL SUBMIT TO PRTHA (CONTROL ACCESOS) THE CONSTRUCTION SCHEDULE FOR REVISION AND TO COORDINATE THESE SPECIAL EVENTS.

30. THE MOT PLAN INCLUDED ON THIS SET WAS DESIGNED CONSIDERING PROPOSED ROAD IMPROVEMENTS TO PR 410. ANY CHANGES IN THE MOT PLANS SHALL BE SUBMITTED TO THE DESIGNER AND PRHTA FOR REVISION AND FINAL APPROVAL.

31. THE CONTRACTOR SHALL OBTAIN ALL THE PERMITS AND ENDORSEMENTS REQUIRED AND PAY ALL THE FEES REQUESTED BY LOCAL OR FEDERAL AGENCY, PRIOR THE CONSTRUCTION WORKS BEGINS AND/OR DURING THE CONSTRUCTION WORKS, AT NO ADDITIONAL COST TO THE OWNER.

32. THE CONSTRUCTOR IS RESPONSIBLE TO PAY THE COSTS ASSOCIATED TO THE LABORATORY TESTS REQUIRED FOR ALL THE MATERIALS AS PER SPECIFICATIONS AND DURING CONSTRUCTION THE COSTS INCLUDE SAMPLES,TRANSPORTATION, TECHNICAL SUPPORT, TESTS, LABORATORY EXPENSES, AND OTHERS.

33. THE CONTRACTOR SHALL NOTIFY THE SOIL ENGINEER AT LEAST THREE DAYS PRIOR TO COMPLETION OF EXCAVATIONS. NO FOUNDATION FILL OR CONCRETE SHALL BE DEPOSITED UNTIL THE SOIL BEARING CAPACITY IS VALIDATED BY THE GEOTECHNICAL ENGINEER.

34. IT IS THE CONTRACTOR'S RESPONSIBILITY TO RESTORE TO THE ORIGINAL CONDITION, DAMAGES MADE TO SIDEWALKS, CURBS, PAVEMENT OR PRIVATE PROPERTY OUTSIDE THE CONSTRUCTION LIMIT OR NOT INCLUDED IN THE SCOPE.

35. THE CONTRACTOR SHALL MAINTAIN ALL UTILITIES IN SERVICE AT ALL TIMES DURING THE CONSTRUCTION.

36. ALL METAL BARRIERS TO BE INSTALLED IN THIS PROJECT SHALL BE DONE AS MASH STANDARD DRAWINGS DATED JUNE 2018.

37. ALL DRAINAGE STRUCTURES. (PIPES, MANHOLES, INLETS, HEADWALLS) INDICATED TO REMAIN SHALL BE CLEANED AND REPAIRED AS PER SPEC. 632.

38. PAVEMENT MARKING SHALL BE AS PER SPEC. 618. PROPOSED PAVEMENT MARKING SHALL MATCH WITH EXISTING PAVEMENT MARKING OF THE ROADWAY.

39. ALL AREAS DISTURBED BY THE CONSTRUCTION SHALL BE GRADED AND FINISHED AS INDICATED ON PLANS OR AS DIRECTED BY THE ENGINEER.

40. FINAL ELEVATION FOR SETTING MANHOLE CASTINGS SHOULD BE BASED ON ACTUAL FINISHED GRADE OF SURFACE AT MANHOLE.

41. NEW CONSTRUCTION SHALL MEET HORIZONTAL AND VERTICAL ALIGNMENTS OF EXISTING ROADWAYS.

42. EQUIPMENT, MATERIALS AND OTHER DEVICES USED FOR CONSTRUCTION SHALL BE REMOVED FROM THE TRAFFIC LANES AFTER WORK HOURS, EVERY DAY AND SHALL BE STAGED A MINIMUM OF TEN METERS FROM THE TRAVELED WAY.

43. THE CONTRACTOR SHALL BE RESPONSIBLE TO KEEP ACCESS PAVED AT ALL TIME ADJACENT TO ALL PROPERTIES DURING THE PROJECT CONSTRUCTION. MAINTAIN PROTECT THROUGH LOCAL TRAFFIC WITHIN THE LIMITS OF THE PROJECT INCLUDING TRAFFIC ON ACCEPTANCE OF PROJECT. THIS TASK WILL REQUIRE COORDINATION WITH BUSINESSES AND PRIVATE OWNERS.

## PAVING, GRADING AND DRAINAGE NOTES

1. ALL SPOT ELEVATIONS WITHIN VEHICULAR CIRCULATION AREAS ARE AT THE EDGE OF PAVEMENT AND / OR THE TOP OF CURB, WHERE SOD IS APPLIED, FINISHED GRADE SHALL BE NOMINAL HEIGHT OF GRASS AFTER SOD IS FIRMLY PLACED.

2. CONCRETE PAVEMENT CONSTRUCTION AND JOINTING SHALL BE IN ACCORDANCE WITH ACI-330R. CONCRETE PAVING SHALL INCLUDE THE USE OF FULL DEPTH EXPANSION JOINTS CONTAINING PREMOLDED JOINT FILLER AT ALL MANHOLES, STORM SEWER STRUCTURES, BUILDINGS, SIDEWALKS, POWER POLES, OR OTHER PERMANENT STRUCTURES. COORDINATE FINISH AND PATTERNS WITH ARCHITECTURAL DRAWINGS. OTHERWISE, PROVIDE LIGHT BROOM FINISH.

3. ALL CONCRETE PAVING SUBJECT TO VEHICULAR TRAFFIC SHALL BE 4,000 PSI AT 28 DAYS, BROOM FINISH, MATERIALS AND WORKMANSHIP TO MEET OR EXCEED PRHTA SPECIFICATIONS FOR PORTLAND CEMENT CONCRETE PAVING.

4. PROVIDE ISOLATION JOINTS WITH THICKENED EDGE PAVEMENT AT CONNECTIONS TO EXISTING ASPHALT OR CONCRETE PAVING.

5. SUBGRADE FOR CONCRETE PAVING SHALL BE COMPACTED TO 95% STANDARD PROCTOR. COMPACTION AROUND STRUCTURES, MANHOLES AND STORM INLETS SHALL BE VERIFIED. PRIOR TO PLACING CONCRETE PAVING, THE SUBGRADE SHALL BE SMOOTH AND LEVEL, ANY WHEEL RUTS OR OTHER DISTURBANCES SHALL BE LEVELED, MOISTEN SUBGRADE PRIOR TO PLACING PAVEMENT.

6. SOD AND LANDSCAPING SHALL NOT IMPEDE THE FLOW OF RUN OFF FROM PAVED SURFACES. SOIL, GRASS AND PLANTING BEDS SHALL PROVIDE POSITIVE DRAINAGE AWAY FROM SIDEWALKS.

7. BEFORE REQUESTING FINAL INSPECTION BY THE ENGINEER AND BEFORE PLACING SOD, THE CONTRACTOR SHALL PROVIDE THE ENGINEER WITH A COMPLETE AS-BUILT SURVEY FROM A REGISTERED SURVEYOR, AS FOLLOWS:

   a. LOCATION AND FINISH FLOOR ELEVATION OF CONSTRUCTED STRUCTUES WITH TIES TO PROPERTY LINE,
   b. LOCATION AND ELEVATION OF PAVEMENT AT ELEVATION POINTS SHOWN ON PLANS, AND WHERE EXISTING PAVEMENT IS REPLACED OR OVERLAYED, AT SUFFICIENT POINT TO DETERMINE GRADE AND DRAINAGE PATTERNS.
   c. LOCATION AND ELEVATION OF WALKS, AND OTHER CONSTRUCTED IMPROVEMENTS SUCH AS DUMPSTER ENCLOSURES, MECHANICAL PADS, FENCING, ETC.
   d. PERIMETER, SLOPE BREAK AND BOTTOM ELEVATIONS OF ALL SWALES AND RETENTION AREAS.
   e. LOCATION, RIM/FLOW AND INVERT ELEVATIONS, TYPE AND SIZE OF ALL DRAINAGE STRUCTURES AND PIPES, INCLUDING WEIRS, ORIFICES AND OTHER APPURTENANCES.

8. ALL FILL MATERIAL SHALL MEET RECOMMENDATIONS SPECIFIED IN THE SOIL'S REPORT.

## SOURCES OF DATA

1. THE SURVEY PLAN WAS PREPARED BY JUAN TORRES, LIC. # 8765 .
2. THE GEOTECHNICAL REPORT PREPARED ON THE GEOTECHNICAL EXPLORATION PERFORMED AT THE PROPOSED PROJECT'S SITE BY * FORMS PART OF THE CONSTRUCTION DOCUMENTS. THE CONTRACTOR SHALL NOTIFY THE ENGINEER BEFORE CONTINUING WORK IF DISCREPANCIES ARE FOUND BETWEEN THE REPORT AND THE CONSTRUCTION DESIGN PLANS.

C&G
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SAN JUAN, PR 00911
787.309.1837

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JAMES@BAIGESPR.COM • (787) 399-0077

90% DESIGN SET
NOT FOR CONSTRUCTION

PROJECT: PR-CRP-000721

# PASEO LA GRUTA-VIVERO DE PECES

CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

GOBIERNO MUNICIPAL DE MARICAO

PASEO HATCHERY [PR-CRP-000721]

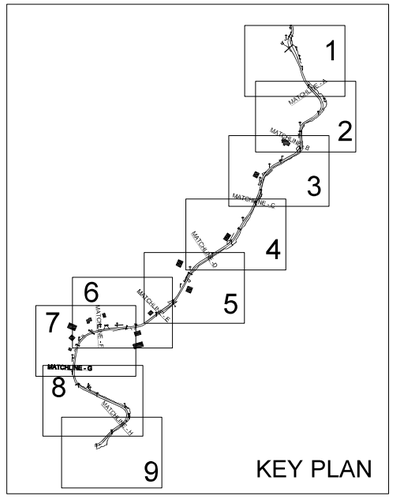
| NO. | DATE | DRAWING ISSUE | BY | APP. |
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DRAWN BY:
REVIEWED BY:
DATE: 05/23

SHEET TITLE: GENERAL NOTES

DRAWING NO.: G-001

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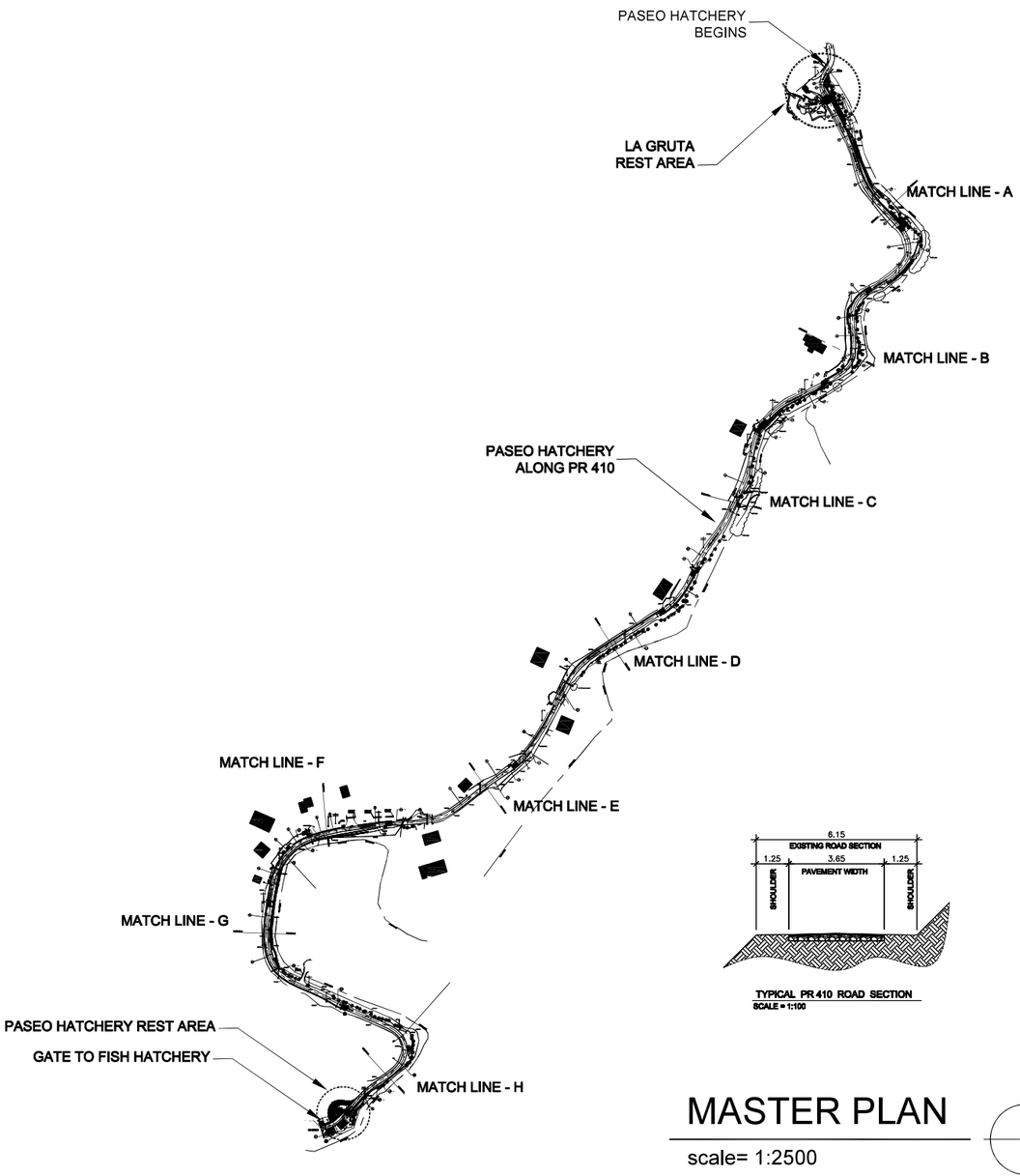

KEY PLAN

## EXISTING CONDITIONS LEGEND

| SYMBOL | DESCRIPTION |
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| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

0 5 10 30

SCALE = 1:300







TYPICAL PR 410 ROAD SECTION
SCALE = 1:100

# MASTER PLAN

scale= 1:2500

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JAMES@BAIGESGROUP.COM • (787) 399-0077

90% DESIGN SET
NOT FOR CONSTRUCTION

PROJECT: PR-CRP-000721

**PASEO LA GRUTA-VIVERO DE PECES**
CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.3

**GOBIERNO MUNICIPAL DE MARICAO**
PASEO HATCHERY [PR-CRP-000721]

| NO. | DATE | DRAWING ISSUE | BY | APP. |
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DRAWN BY:
REVIEWED BY:
DATE: 05/23

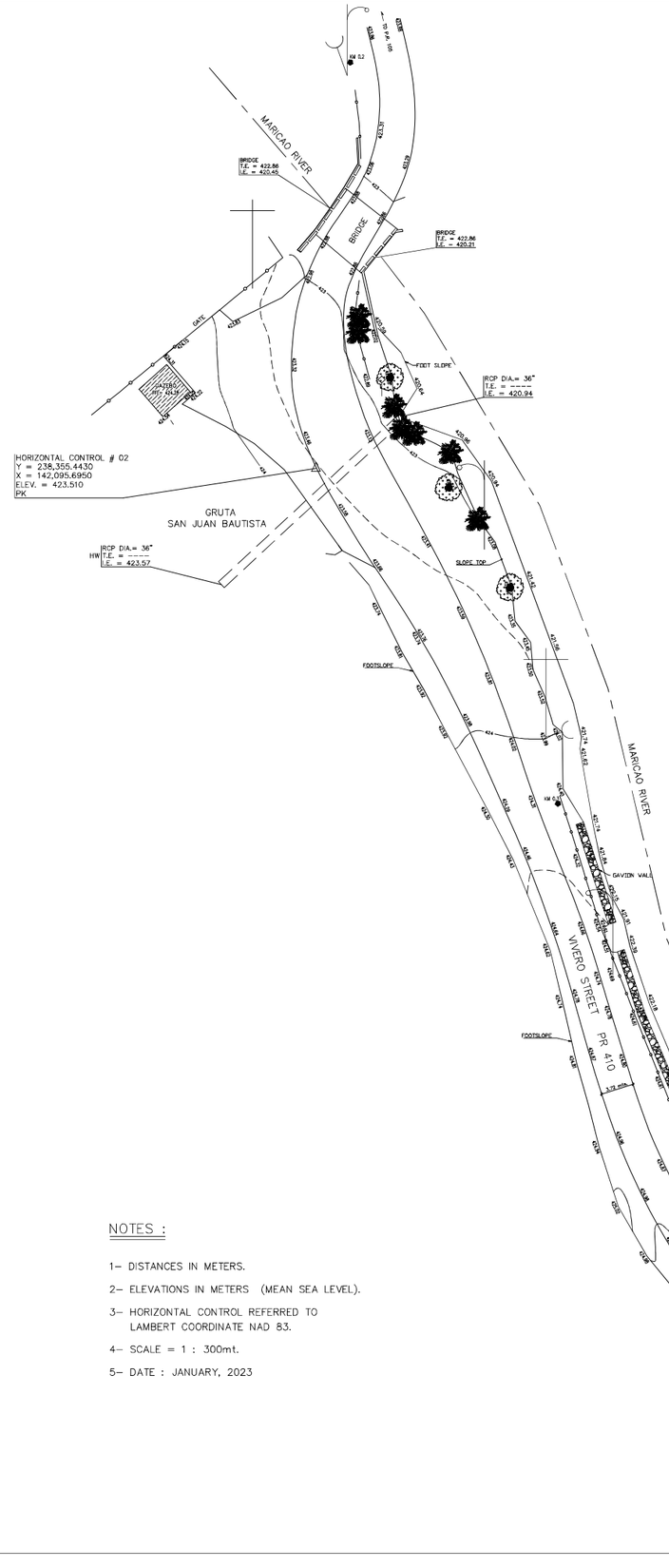
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DRAWING NO.: G-100

NORTH

SCALE = 1 : 300

## LEGEND

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NOTES :

1– DISTANCES IN METERS.

2– ELEVATIONS IN METERS (MEAN SEA LEVEL).

3– HORIZONTAL CONTROL REFERRED TO LAMBERT COORDINATE NAD 83.

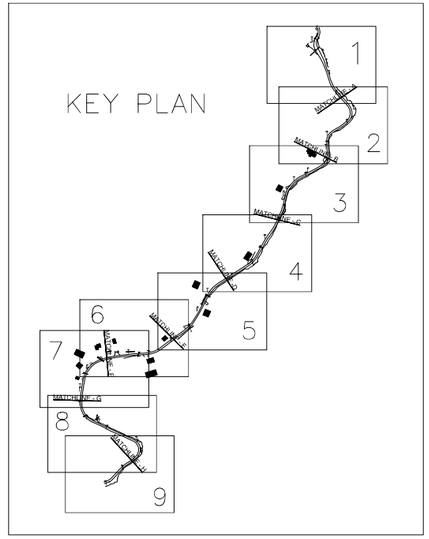
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5– DATE : JANUARY, 2023




LOCATION MAP

SCALE = 1 : 20,000




REVISIONS

| SYMBOL | DATE | BY |
|---|---|---|
| | | |

# AS BUILT & TOPOGRAPHY PLAN
# PROJECT PASEO HATCHERY
State Road No. 410 Km. 0.2
MARICAO PUERTO RICO

STAMP:
I CERTIFY CORRECT :
JUAN TORRES BERRIOS
ENGINEER LIC. NO. 8745, RPA

TECHNIGROUP
Riverside Park Street # No. B-4, Bayamon, P.R. 00961 – Tel. (787) 379-9500

Project:
DATE : 01/2023
SCALE : 1: 300

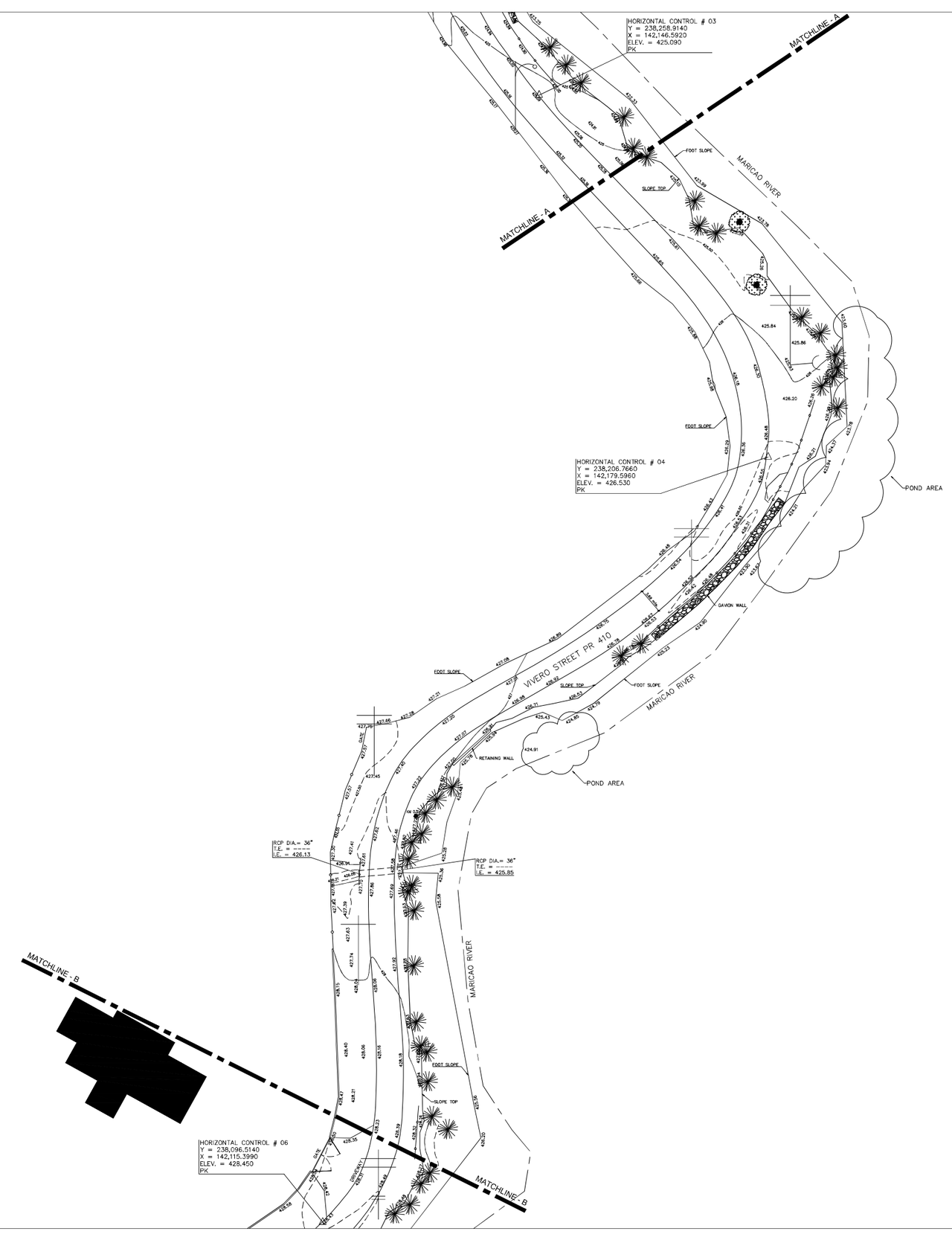
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NORTH

SCALE = 1 : 300

## LEGEND

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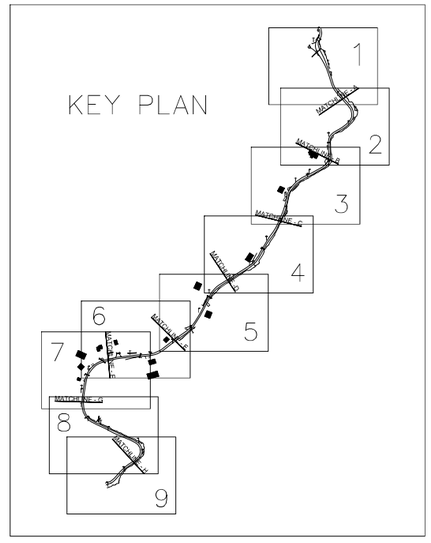






LOCATION MAP

SCALE = 1 : 20,000




NOTES :

1- DISTANCES IN METERS.

2- ELEVATIONS IN METERS (MEAN SEA LEVEL).

3- HORIZONTAL CONTROL REFERRED TO LAMBERT COORDINATE NAD 83.

4- SCALE = 1 : 300mt.

5- DATE : JANUARY, 2023

REVISIONS

| SYMBOL | DATE | BY |
|---|---|---|
| | | |

AS BUILT & TOPOGRAPHY PLAN
PROJECT PASEO HATCHERY
State Road No. 410 Km. 0.2
MARICAO PUERTO RICO

STAMP: CERTIFY CORRECT:
JUAN TORRES BERROS
ENGINEER LIC. NO. 8761, RPA

TECHNIGROUP
Riverside Pon. Street 4 No. B-4, Bayamon, P.R. 00961 - Tel. (787) 379-8500

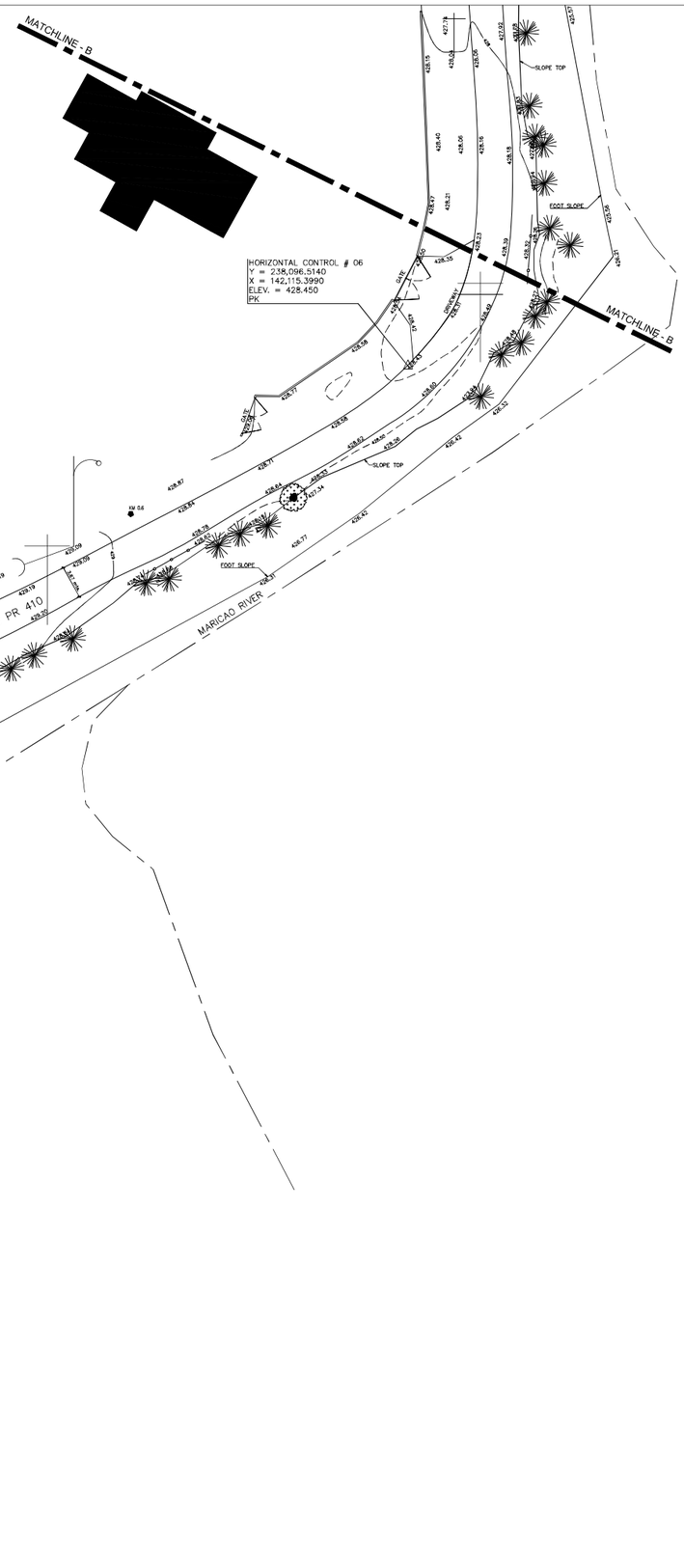
Project:
DATE : 01/2023
SCALE : 1: 300

NORTH

SCALE = 1 : 300

## LEGEND

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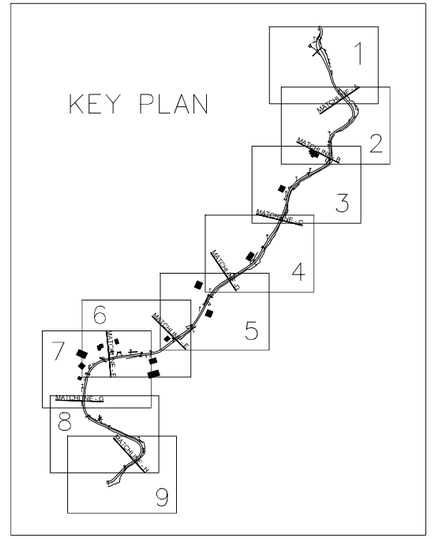






LOCATION MAP

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AS BUILT & TOPOGRAPHY PLAN

PROJECT PASEO HATCHERY

State Road No. 410 Km. 0.2

MARICAO PUERTO RICO

STAMP:

I CERTIFY CORRECT :

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ENGINEER LIC. NO. 8765, RPA


TECHNIGROUP

Riverside Park Street # No. B-4, Bayamon, P.R. 00961 – Tel. (787) 379-8500


Project:

DATE : 01/2023

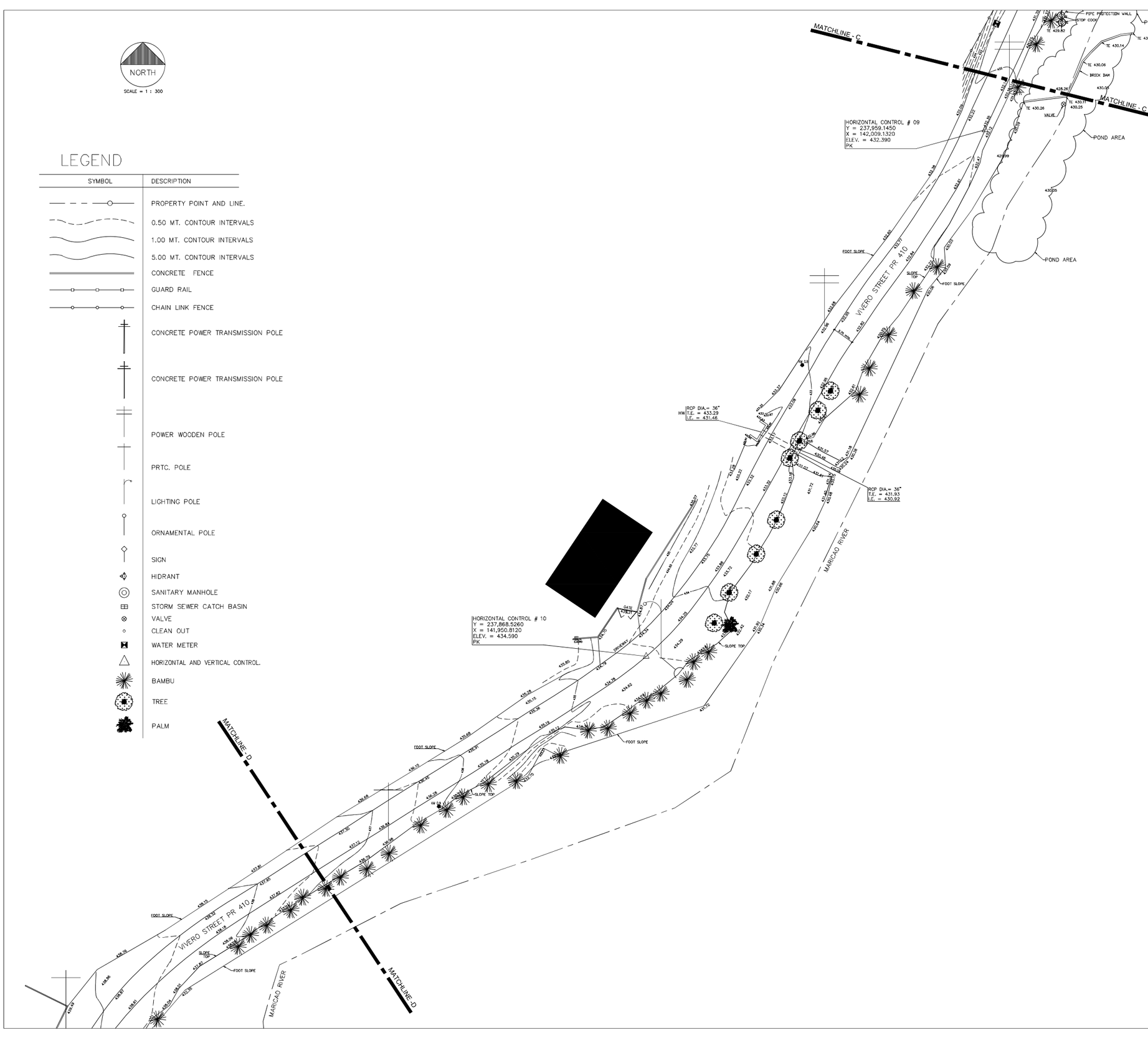
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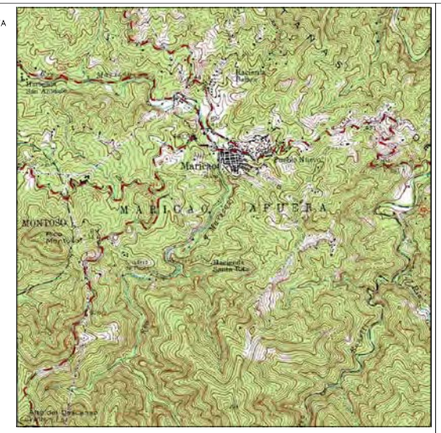
NORTH

SCALE = 1 : 300

## LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
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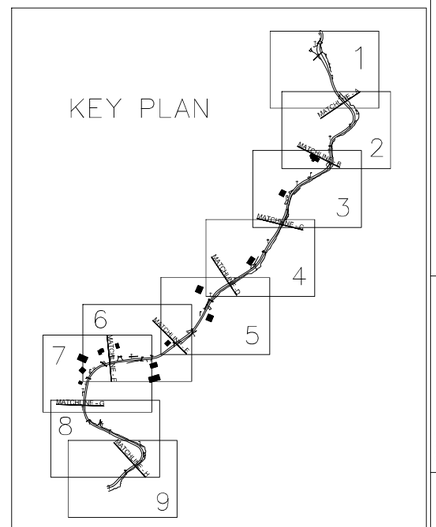



LOCATION MAP

SCALE = 1 : 20,000

KEY PLAN




NOTES :

1- DISTANCES IN METERS.

2- ELEVATIONS IN METERS (MEAN SEA LEVEL).

3- HORIZONTAL CONTROL REFERRED TO LAMBERT COORDINATE NAD 83.

4- SCALE = 1 : 300mt.

5- DATE : JANUARY, 2023

REVISIONS

| SYMBOL | DATE | BY |
|---|---|---|
| | | |

AS BUILT & TOPOGRAPHY PLAN

PROJECT PASEO HATCHERY

State Road No. 410 Km. 0.2

MARICAO PUERTO RICO

STAMP: CERTIFY CORRECT:

JUAN TORRES BERRIOS

ENGINEER LIC. NO. 87651, RPA


TECHNIGROUP

Riverside Park Street 4 No. B-4, Boyamon, P.R. 00961 - Tel. (787) 379-9500


Project

DATE : 01/2023

SCALE : 1: 300

NORTH

SCALE = 1 : 300

## LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
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LOCATION MAP

SCALE = 1 : 20,000

KEY PLAN




NOTES :

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AS BUILT & TOPOGRAPHY PLAN

PROJECT PASEO HATCHERY

State Road No. 410 Km. 0.2

MARICAO PUERTO RICO

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ENGINEER LIC. NO. 8765, RPA


TECHNIGROUP

Riverside Park Street 4 No. B-4, Bayamon, P.R. 00961 - Tel. (787) 379-9500


Project:

DATE : 01/2023

SCALE : 1: 300

# LEGEND

| SYMBOL | DESCRIPTION |
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| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

NORTH

SCALE = 1 : 300

NOTES :

1- DISTANCES IN METERS.

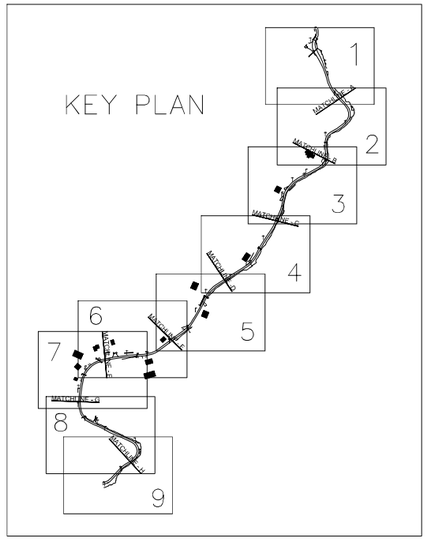
2- ELEVATIONS IN METERS (MEAN SEA LEVEL).

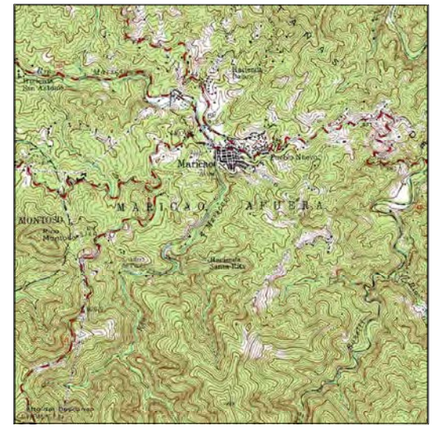
3- HORIZONTAL CONTROL REFERRED TO LAMBERT COORDINATE NAD 83.

4- SCALE = 1 : 300mt.

5- DATE : JANUARY, 2023

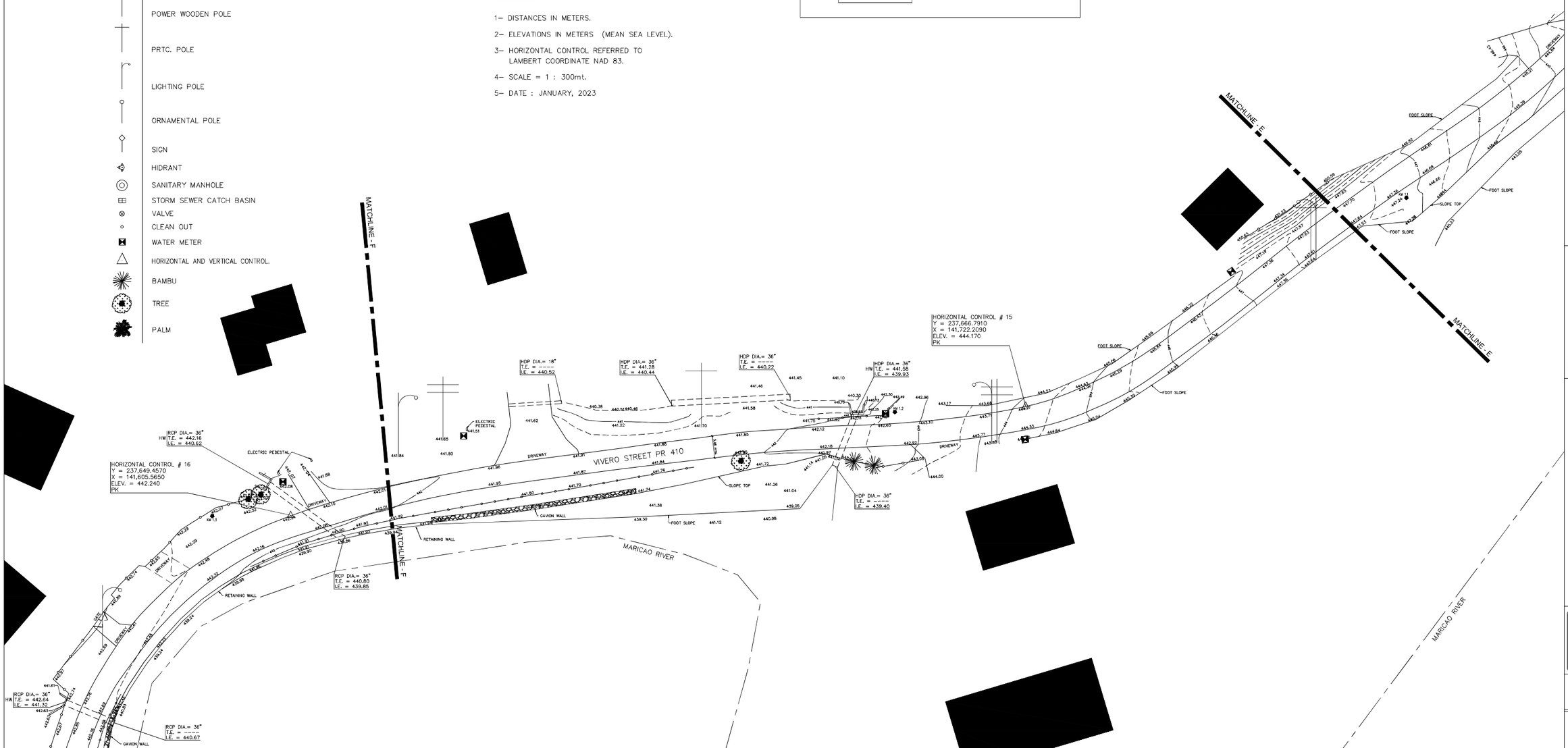
KEY PLAN




LOCATION MAP

SCALE = 1 : 20,000




| REVISIONS | SYMBOL | DATE | BY |
|---|---|---|---|
| | | | |

AS BUILT & TOPOGRAPHY PLAN

PROJECT PASEO HATCHERY

State Road No. 410 Km. 0.2

MARICAO PUERTO RICO

STAMP: CERTIFY CORRECT:

JUAN TORRES BERRIOS

ENGINEER LIC. NO. 8765, PPA

TECHNIGROUP

Riverside Park Street 4 No. B-4, Boyamon, P.R. 00961 - Tel. (787) 379-9500

Project:

DATE : 01/2023

SCALE : 1: 300

6 of 09

NORTH

SCALE = 1 : 300

## LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

NOTES :

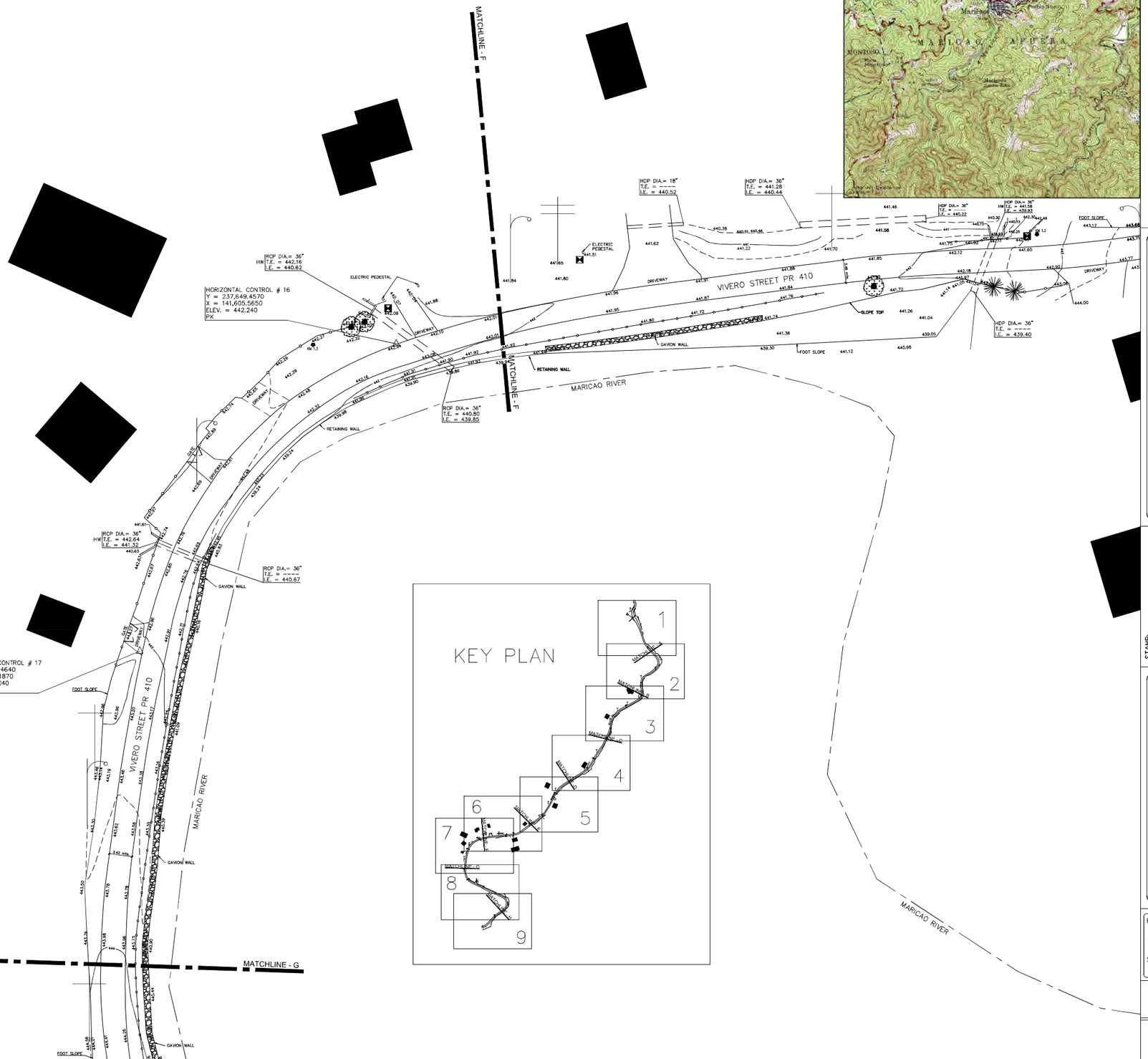
1- DISTANCES IN METERS.

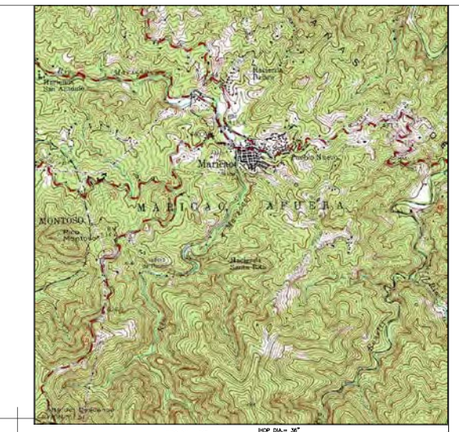
2- ELEVATIONS IN METERS (MEAN SEA LEVEL).

3- HORIZONTAL CONTROL REFERRED TO LAMBERT COORDINATE NAD 83.

4- SCALE = 1 : 300mt.

5- DATE : JANUARY, 2023







REVISIONS

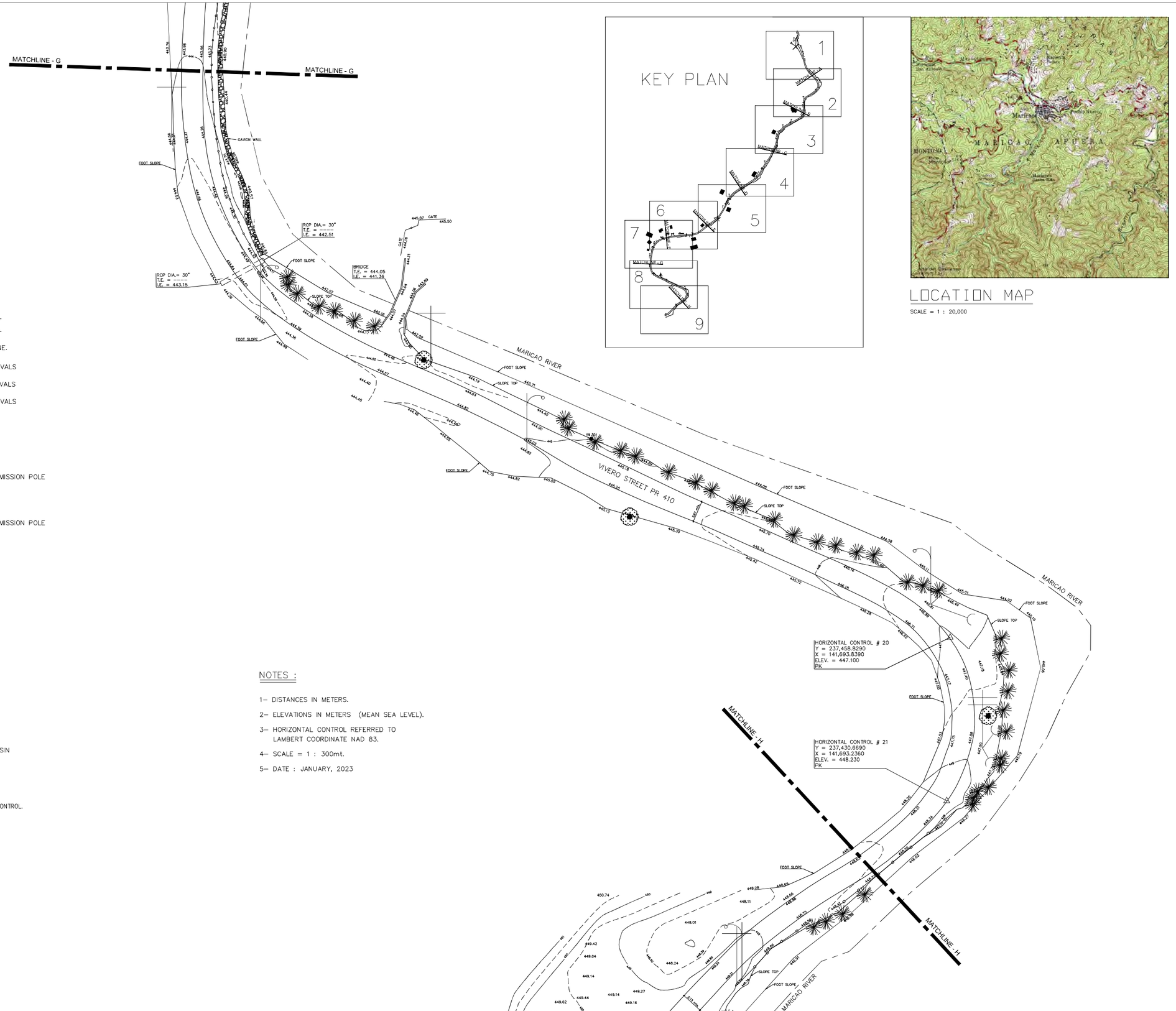
| SYMBOL | DATE | BY |
|---|---|---|
| | | |

# AS BUILT & TOPOGRAPHY PLAN
# PROJECT PASEO HATCHERY
State Road No. 410 Km. 0.2
MARICAO PUERTO RICO

STAMP: CERTIFY CORRECT:
JUAN TORRES BERRIOS
ENGINEER LIC. NO. 8765, RPA


TECHNIGROUP
Riverside Park Street 4 No. B-4, Bayamon, P.R. 00961 - Tel. (787) 379-9500


Project:
DATE : 01/2023
SCALE : 1: 300




NORTH

SCALE = 1 : 300

## LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

## NOTES :

1– DISTANCES IN METERS.

2– ELEVATIONS IN METERS (MEAN SEA LEVEL).

3– HORIZONTAL CONTROL REFERRED TO LAMBERT COORDINATE NAD 83.

4– SCALE = 1 : 300mt.

5– DATE : JANUARY, 2023







LOCATION MAP

SCALE = 1 : 20,000

REVISIONS | SYMBOL | DATE | BY

AS BUILT & TOPOGRAPHY PLAN
PROJECT PASEO HATCHERY
State Road No. 410 Km. 0.2
MARICAO PUERTO RICO

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ENGINEER LIC. NO. 8761, RPA

TECHNIGROUP
Riverside Pcm. Street 4 No. B–4, Bayamon, P.R. 00961 – Tel. (787) 379–8500

Project:
DATE : 01/2023
SCALE : 1: 300

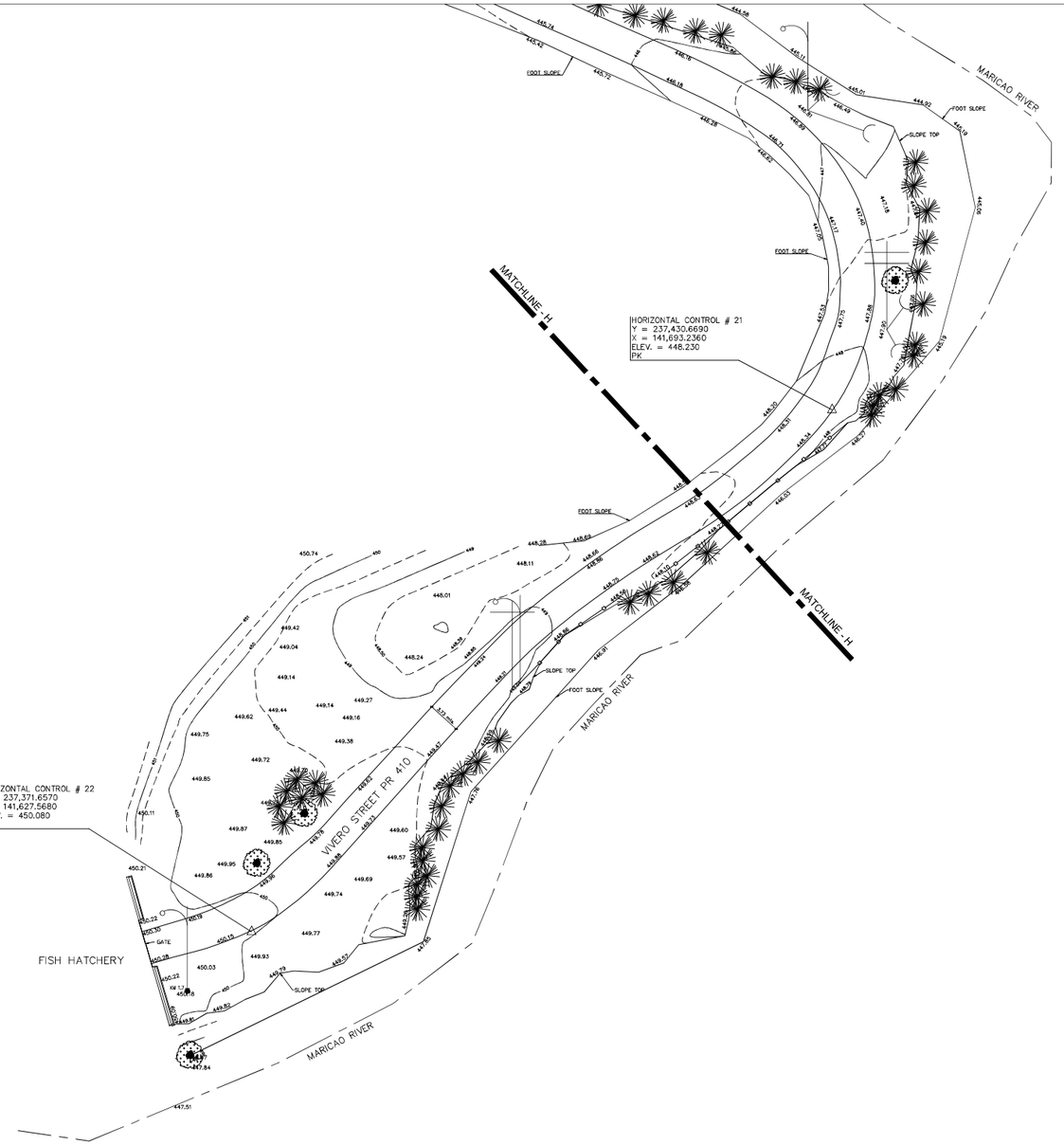
8 of 09

NORTH

SCALE = 1 : 300

## LEGEND

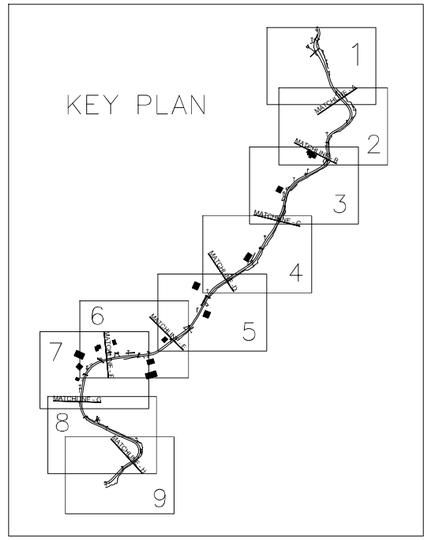
| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |







LOCATION MAP




NOTES :

1– DISTANCES IN METERS.

2– ELEVATIONS IN METERS (MEAN SEA LEVEL).

3– HORIZONTAL CONTROL REFERRED TO LAMBERT COORDINATE NAD 83.

4– SCALE = 1 : 300mt.

5– DATE : JANUARY, 2023

REVISIONS | SYMBOL | DATE | BY

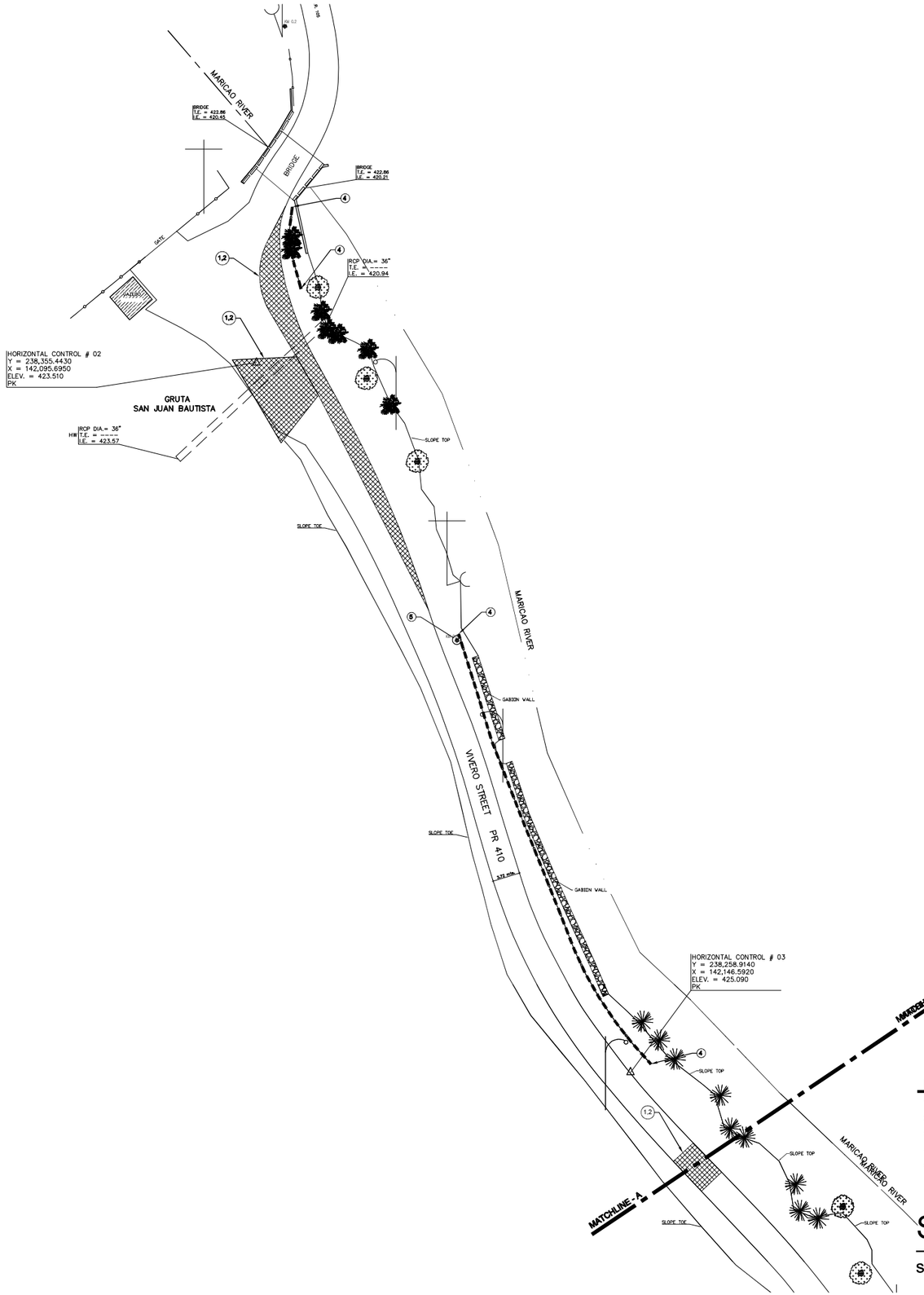
AS BUILT & TOPOGRAPHY PLAN
PROJECT PASEO HATCHERY
State Road No. 410 Km. 0.2
MARICAO PUERTO RICO

STAMP: CERTIFY CORRECT:
JUAN TORRES BERRIOS
ENGINEER LIC. NO. 8765, RPA

TECHNIGROUP
Riverside Park Street 4 No. B-4, Bayamon, P.R. 00961 – Tel. (787) 379-8500

Project:
DATE : 01/2023
SCALE : 1: 300

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LEGEND

1 SCARIFY AND REMOVE ASPHALT PAVEMENT.
2 REMOVE AND HAUL BASE COURSE AS NEEDED.
3 EXCAVATE AND HAUL AS NEEDED.
4 REMOVE GUARDRAIL.
5 REMOVE KILOMETER MARKER

# SITE PLAN-1

scale= 1:300

C&G
JMCP + JLGARCHITECTS
113 DEL PARQUE STREET SUITE 7
SAN JUAN, PR 00911
787.309.3837

BAIGES GEOTECHNICAL ENGINEERS, LLC
641 PASEO DE LA ALHAMBRA, URB TORRIMAR, GUAYNABO, P.R. 00969
JAMES@BAIGESMAIL.COM • (787) 399-0017

90% DESIGN SET
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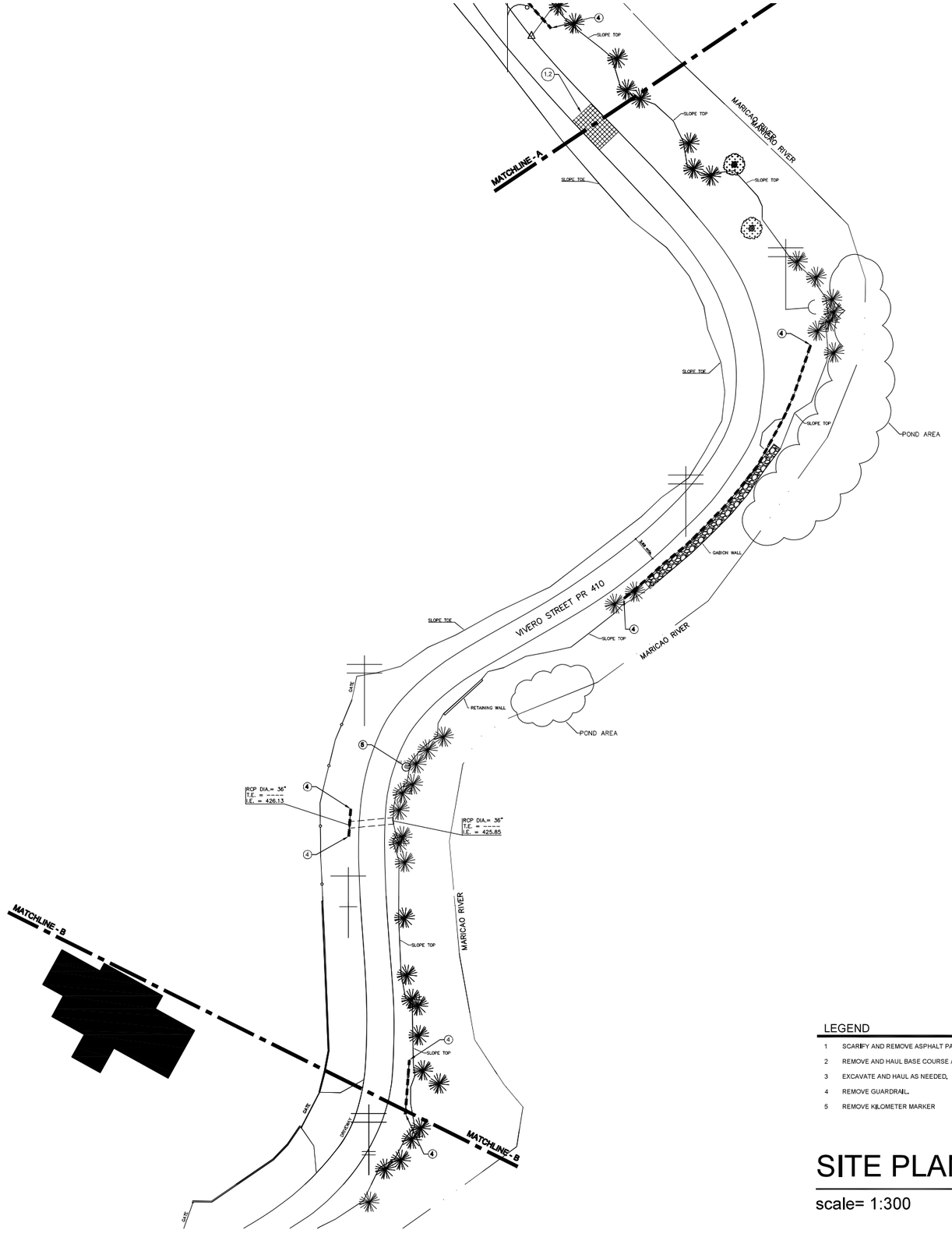
DRAWN BY:
REVIEWED BY:
DATE: 05/23

PROJECT: PR-CRP-000721
**PASEO LA GRUTA-VIVERO DE PECES**
CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

GOBIERNO MUNICIPAL DE MARICAO
PASEO HATCHERY [PR-CRP-000721]

SHEET TITLE: DEMOLITION SITE PLAN
DRAWING NO.: CD-101

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## LEGEND

1. SCARIFY AND REMOVE ASPHALT PAVEMENT.
2. REMOVE AND HAUL BASE COURSE AS NEEDED.
3. EXCAVATE AND HAUL AS NEEDED.
4. REMOVE GUARDRAIL.
5. REMOVE KILOMETER MARKER

# SITE PLAN-2

scale= 1:300

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JMCP + JLGARCHITECTS
115 DEL PARQUE STREET SUITE 7
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787.309.3837

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PROJECT: PR-CRP-000721

**PASEO LA GRUTA-VIVERO DE PECES**

CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

GOBIERNO MUNICIPAL DE MARICAO

PASEO HATCHERY [PR-CRP-000721]

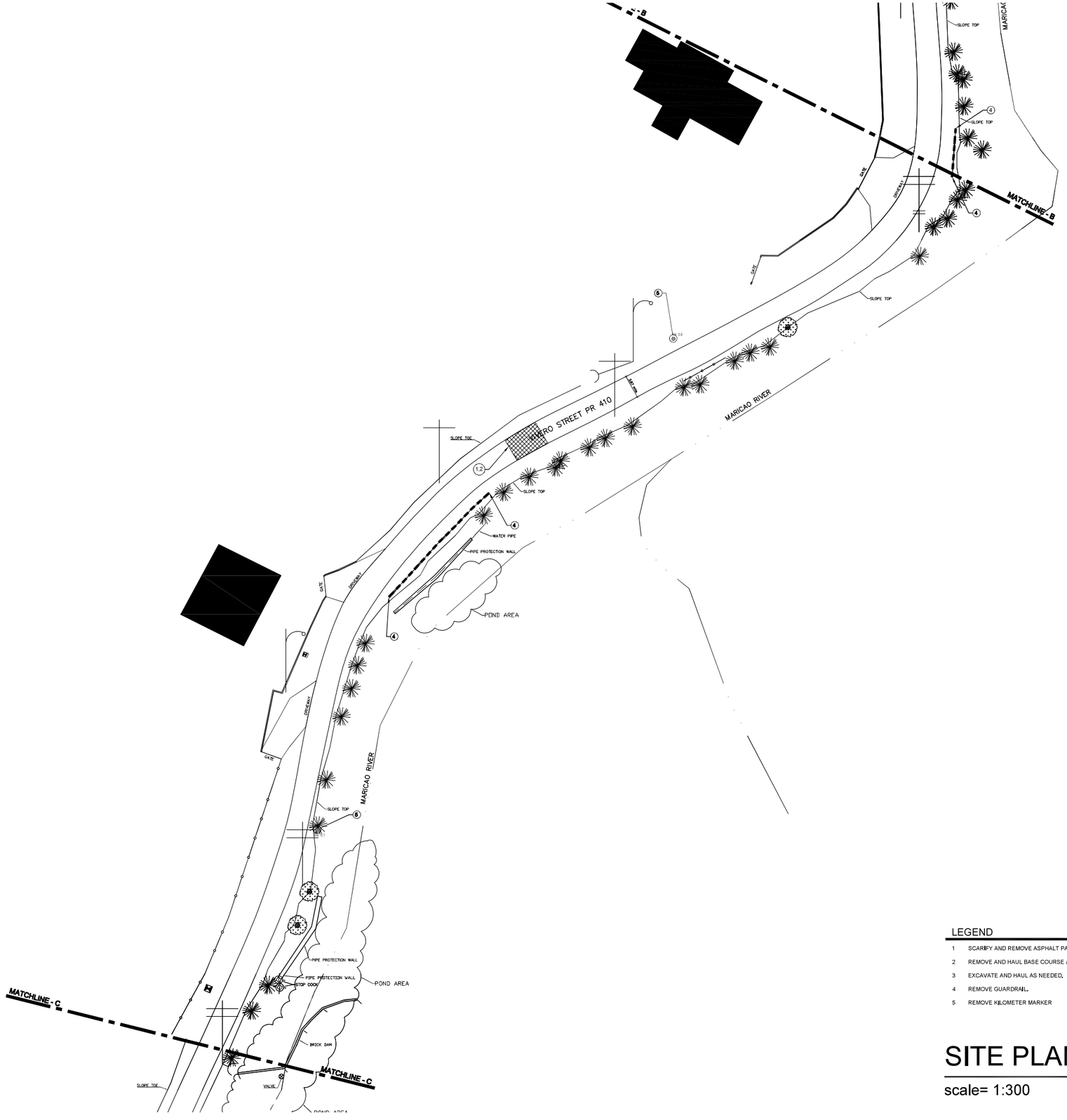
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SHEET TITLE: DEMOLITION SITE PLAN

DRAWING NO.: CD-102

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LEGEND

1 SCARIFY AND REMOVE ASPHALT PAVEMENT.
2 REMOVE AND HAUL BASE COURSE AS NEEDED.
3 EXCAVATE AND HAUL AS NEEDED.
4 REMOVE GUARDRAIL.
5 REMOVE KILOMETER MARKER

CD-104

# SITE PLAN-3

scale= 1:300

C&G
JMCP + JLGARCHITECTS
115 DEL PARQUE STREET SUITE 7
SAN JUAN, PR 00911
787.309.3837

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641 PASEO DE LA ALHAMBRA, URB TORRIMAR - GUAYNABO, P.R. 00966
JAMES@BAIGESMUNIZ.COM • (787) 399-0077

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PROJECT: PR-CRP-000721
**PASEO LA GRUTA-VIVERO DE PECES**
CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

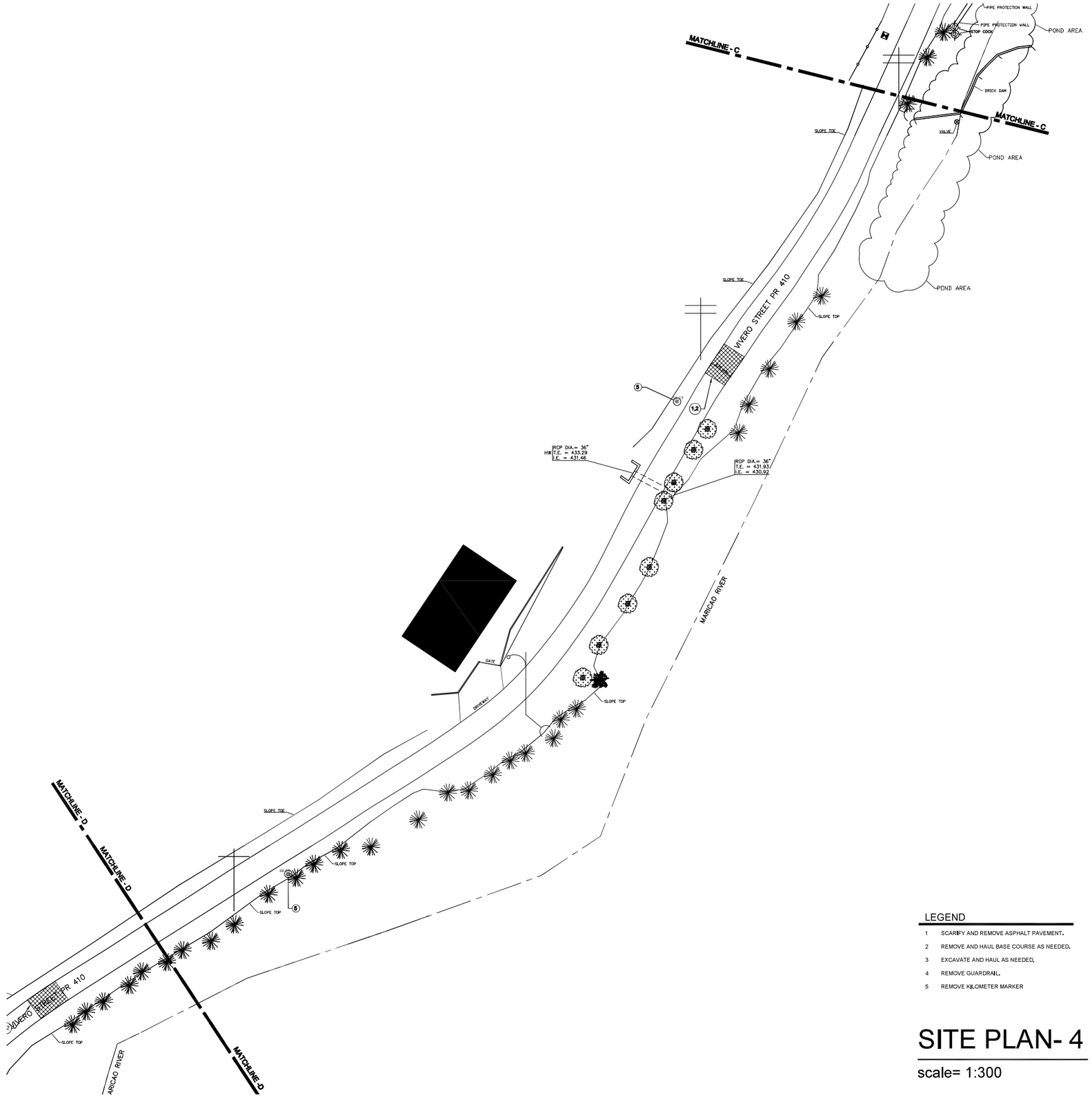
GOBIERNO MUNICIPAL DE MARICAO
PASEO HATCHERY [PR-CRP-000721]

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SHEET TITLE: DEMOLITION SITE PLAN
DRAWING NO.: CD-103

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LEGEND

1 SCARIFY AND REMOVE ASPHALT PAVEMENT.
2 REMOVE AND HAUL BASE COURSE AS NEEDED.
3 EXCAVATE AND HAUL AS NEEDED,
4 REMOVE GUARDRAIL.
5 REMOVE KILOMETER MARKER

# SITE PLAN- 4

scale= 1:300

C&G
JMCP + JLGARCHITECTS
113 DEL PARQUE STREET SUITE 7
SAN JUAN, PR 00911
787.309.3837

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JAMES@BAIGESMAIL.COM • (787) 399-0077

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PROJECT: PR-CRP-000721
**PASEO LA GRUTA-VIVERO DE PECES**
CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

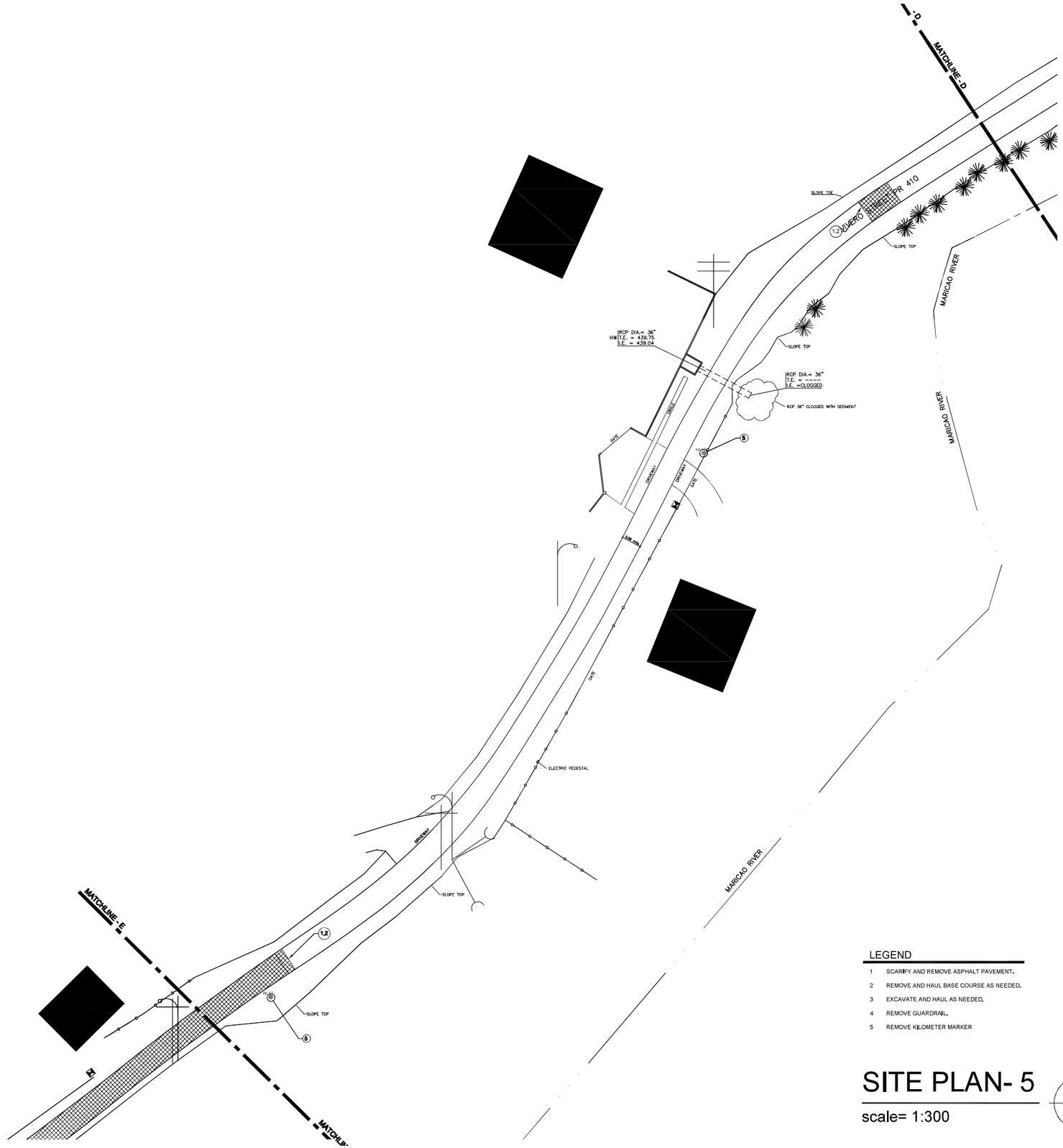
GOBIERNO MUNICIPAL DE MARICAO
PASEO HATCHERY [PR-CRP-000721]

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DATE: 05/23

SHEET TITLE: DEMOLITION SITE PLAN
DRAWING NO.: **CD-104**

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LEGEND

1. SCARIFY AND REMOVE ASPHALT PAVEMENT.
2. REMOVE AND HAUL BASE COURSE AS NEEDED.
3. EXCAVATE AND HAUL AS NEEDED.
4. REMOVE GUARDRAIL.
5. REMOVE KILOMETER MARKER

# SITE PLAN- 5

scale= 1:300

C&G
JMCP + JLGARCHITECTS
113 DEL PARQUE STREET SUITE 7
SAN JUAN, PR 00911
787.309.3837

BAIGES GEOTECHNICAL ENGINEERS, LLC
641 PASEO DE LA ALHAMBRA, URB TOPACIO, CAROLINA PO BOX 13779, 00985
JAMES@BAIGESPR.COM • (787) 399-0077

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PROJECT: PR-CRP-000721

**PASEO LA GRUTA-VIVERO DE PECES**

CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

GOBIERNO MUNICIPAL DE MARICAO

PASEO HATCHERY [PR-CRP-000721]

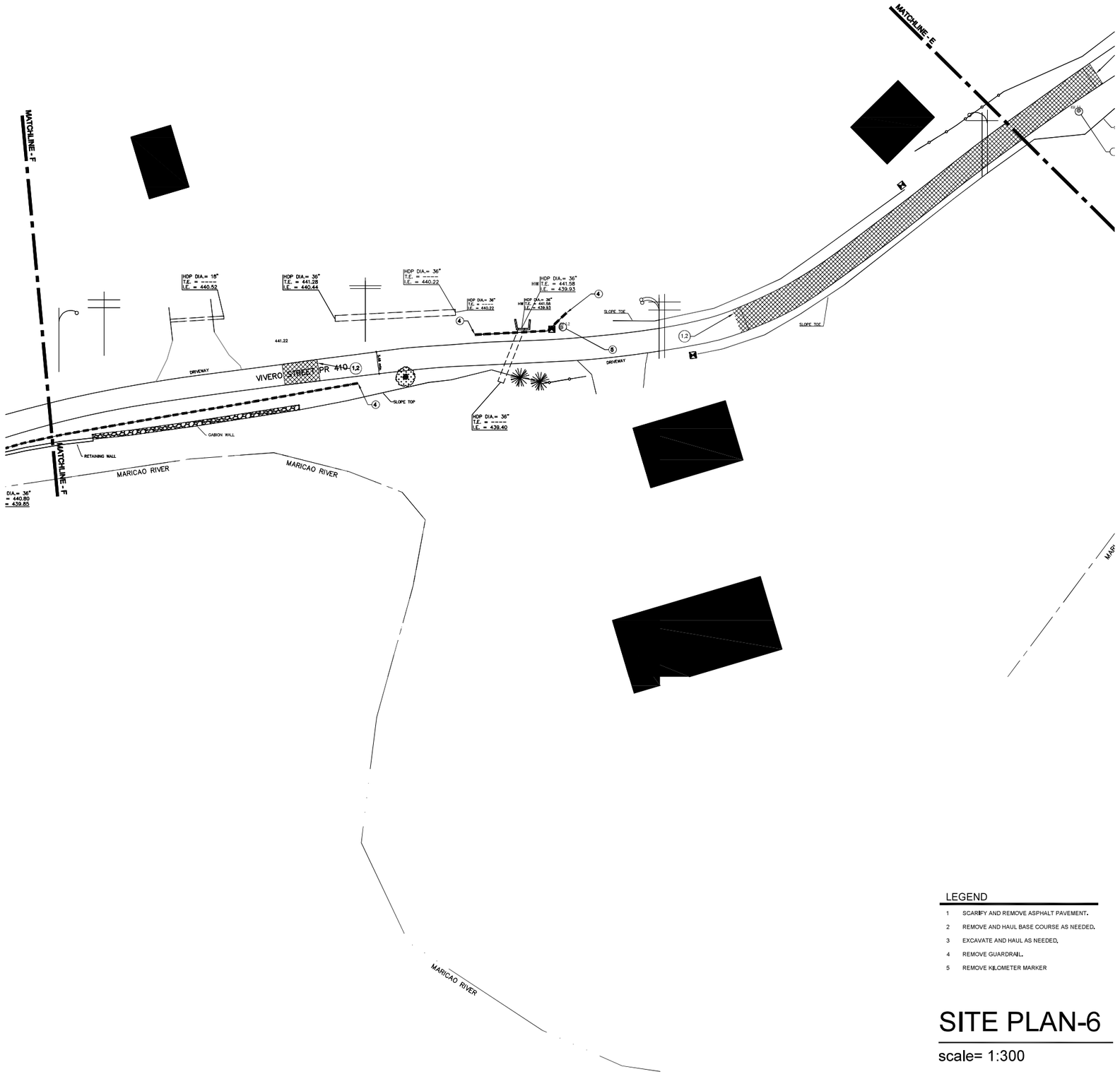
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SHEET TITLE: DEMOLITION SITE PLAN

DRAWING NO.: CD-105

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LEGEND

1. SCARIFY AND REMOVE ASPHALT PAVEMENT.
2. REMOVE AND HAUL BASE COURSE AS NEEDED.
3. EXCAVATE AND HAUL AS NEEDED.
4. REMOVE GUARDRAIL.
5. REMOVE KILOMETER MARKER

# SITE PLAN-6

scale= 1:300

C&G
JMCP + JLGARCHITECTS
113 DEL PARQUE STREET SUITE 7
SAN JUAN, PR 00911
787.309.3837

BAIGES GEOTECHNICAL ENGINEERS, LLC
64 PASEO DE LA ALHAMBRA, URB TORRIMAR, GUAYNABO, P.R. 00969
JAMES@BAIGESGEO.COM • (787) 399-0007

90% DESIGN SET
NOT FOR CONSTRUCTION

PROJECT: PR-CRP-000721

**PASEO LA GRUTA-VIVERO DE PECES**

CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

GOBIERNO MUNICIPAL DE MARICAO

PASEO HATCHERY [PR-CRP-000721]

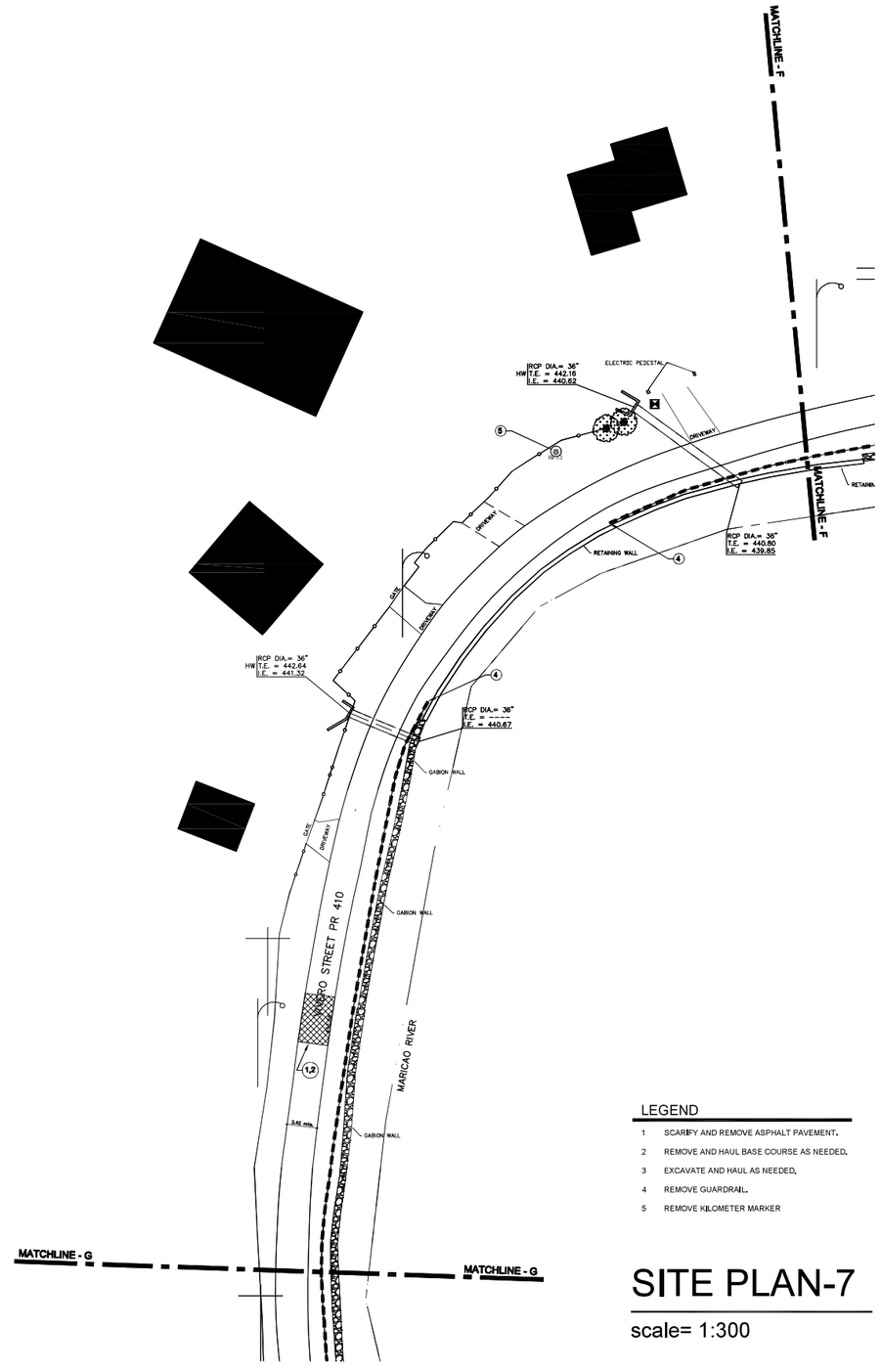
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DATE: 05/23

SHEET TITLE: DEMOLITION SITE PLAN

DRAWING NO.: CD-106

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LEGEND

1. SCARIFY AND REMOVE ASPHALT PAVEMENT.
2. REMOVE AND HAUL BASE COURSE AS NEEDED.
3. EXCAVATE AND HAUL AS NEEDED.
4. REMOVE GUARDRAIL.
5. REMOVE KILOMETER MARKER

# SITE PLAN-7

scale= 1:300

C&G
JMCP +
JLGARCHITECTS
113 DEL PARQUE STREET SUITE 7
SAN JUAN, PR 00911
787.309.3837

BAIGES GEOTECHNICAL ENGINEERS, LLC
44 PASEO DE LA ALHAMBRA, URB TORRIMAR, GUAYNABO, P.R. 00966
JAMES.BAIGES@GMAIL.COM – (787) 399-0077

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PROJECT: PR-CRP-000721
**PASEO LA GRUTA-VIVERO DE PECES**
CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

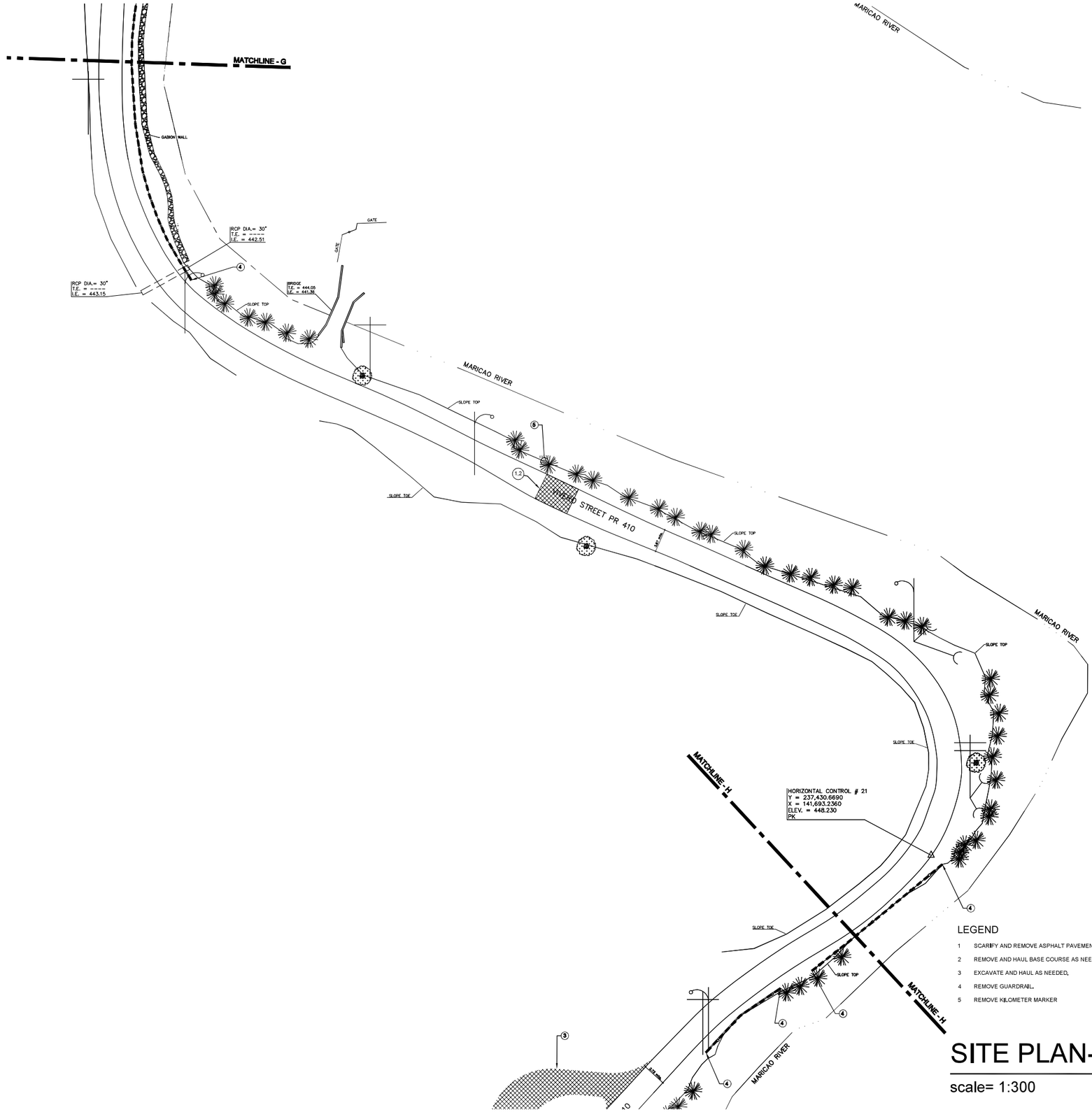
GOBIERNO MUNICIPAL DE MARICAO
PASEO HATCHERY [PR-CRP-000721]

| NO. | DATE | DRAWING ISSUE | BY | APP. |
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DRAWN BY:
REVIEWED BY:
DATE: 05/23

SHEET TITLE: DEMOLITION SITE PLAN
DRAWING NO.: CD-107

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LEGEND

1 SCARIFY AND REMOVE ASPHALT PAVEMENT.
2 REMOVE AND HAUL BASE COURSE AS NEEDED.
3 EXCAVATE AND HAUL AS NEEDED.
4 REMOVE GUARDRAIL.
5 REMOVE KILOMETER MARKER

# SITE PLAN-8

scale= 1:300

C&G
JMCP + JLGARCHITECTS
115 DEL PARQUE STREET SUITE 7
SAN JUAN, PR 00911
787.309.3837

BAIGES GEOTECHNICAL ENGINEERS, LLC
641 PASEO DE LA ALHAMBRA, URB TORRIMAR, GUAYNABO, P.R. 00966
JAIMEBAIGES@GMAIL.COM • (787) 399-0007

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PROJECT: PR-CRP-000721
**PASEO LA GRUTA-VIVERO DE PECES**
CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

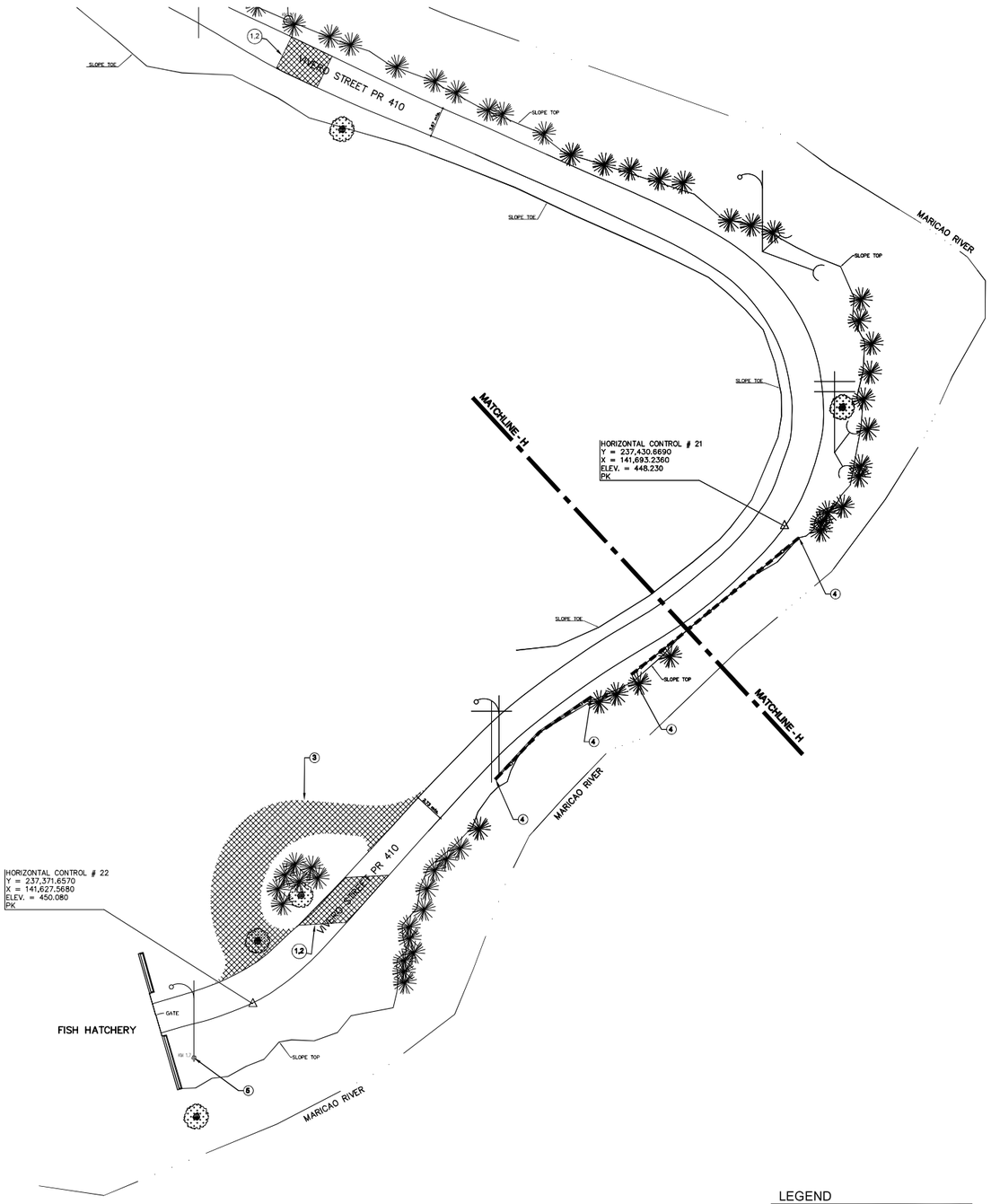
GOBIERNO MUNICIPAL DE MARICAO
PASEO HATCHERY [PR-CRP-000721]

| NO. | DATE | DRAWING ISSUE | BY | APP. |
|---|---|---|---|---|
| | | | | |

DRAWN BY:
REVIEWED BY:
DATE: 05/23

SHEET TITLE: DEMOLITION SITE PLAN
DRAWING NO.: CD-108

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HORIZONTAL CONTROL # 22
Y = 237,371.6570
X = 141,627.5680
ELEV. = 450.080
PK

LEGEND

1 SCARIFY AND REMOVE ASPHALT PAVEMENT.
2 REMOVE AND HAUL BASE COURSE AS NEEDED.
3 EXCAVATE AND HAUL AS NEEDED.
4 REMOVE GUARDRAIL.
5 REMOVE KILOMETER MARKER

# SITE PLAN-9

scale= 1:300

C&G
JMCP + JLGARCHITECTS
113 DEL PARQUE STREET SUITE 7
SAN JUAN, PR 00911
787.309.3837

BAIGES GEOTECHNICAL ENGINEERS, LLC
641 PASEO DE LA ALHAMBRA, URB TORRIMAR, GUAYNABO, P.R. 00966
JAMES@BAIGESGEO.COM • (787) 399-0007

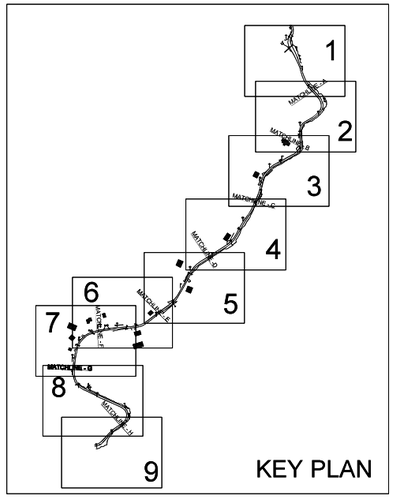
90% DESIGN SET
NOT FOR CONSTRUCTION

PROJECT: PR-CRP-000721
**PASEO LA GRUTA-VIVERO DE PECES**
CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5
GOBIERNO MUNICIPAL DE MARICAO
PASEO HATCHERY [PR-CRP-000721]

| NO. | DATE | DRAWING ISSUE | BY | APP. |
|---|---|---|---|---|
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DRAWN BY:
REVIEWED BY:
DATE: 05/23
SHEET TITLE: DEMOLITION SITE PLAN
DRAWING NO.: CD-109

THESE PLANS ARE AN INSTRUMENT OF SERVICE AND THE PROPERTY OF THE ARCHITECTS. THEY MAY NOT BE COPIED OR REPRODUCED WITHOUT THEIR EXPRESS WRITTEN CONSENT.




## EXISTING CONDITIONS LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

0 5 10 30

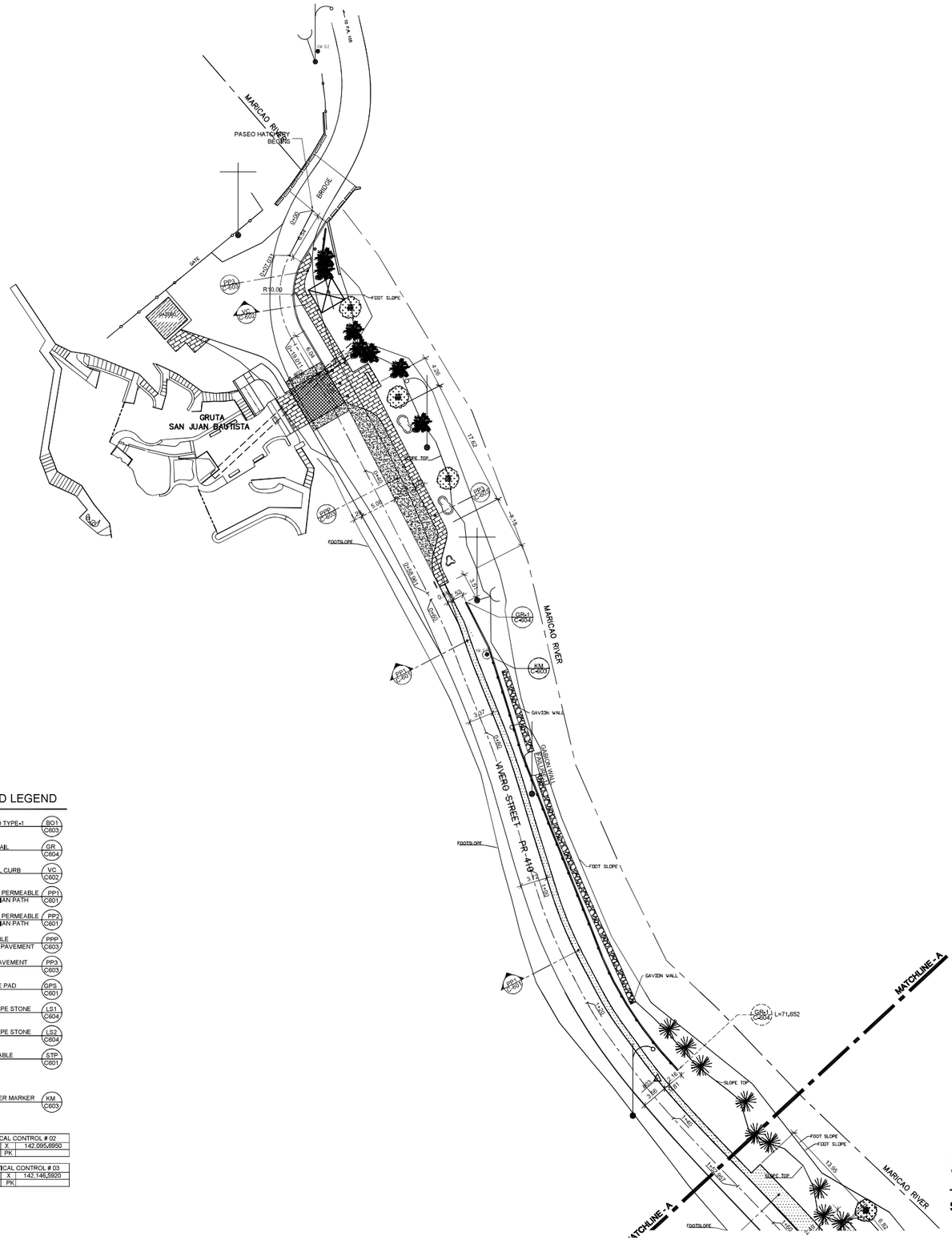
SCALE = 1:300

## PROPOSED LEGEND

| | | |
|---|---|---|
| | BOLLARD TYPE-1 | BO1 C603 |
| | GUARD RAIL | GR C604 |
| | VERTICAL CURB TYPE E | VC C602 |
| | 0,61 (32") PERMEABLE PEDESTRIAN PATH | PP1 C601 |
| | 0,60 (24") PERMEABLE PEDESTRIAN PATH | PP2 C601 |
| | PERMEABLE PARKING PAVEMENT | PPP C603 |
| | PAVER PAVEMENT | PP3 C603 |
| | GARBAGE PAD SCREEN | GPS C601 |
| | LANDSCAPE STONE TYPE 1 | LS1 C604 |
| | LANDSCAPE STONE TYPE 2 | LS2 C604 |
| | SPEED TABLE | STP C601 |
| | KILOMETER MARKER | KM C603 |

| HORIZONTAL VERTICAL CONTROL # 02 | | | |
|---|---|---|---|
| Y | 238,355.4430 | X | 142,095.8950 |
| EL. | 423.510 | PK | |

| HORIZONTAL VERTICAL CONTROL # 03 | | | |
|---|---|---|---|
| Y | 238,258.9140 | X | 142,146.5920 |
| EL. | 425.090 | PK | |




# SITE PLAN-1

scale= 1:300

C&G
JMCP + JLGARCHITECTS
115 DIL PARQUE STREET SUITE 7
SAN JUAN, PR 00911
787.309.3837

BAIGES GEOTECHNICAL ENGINEERS, LLC
44 PASEO DE LA ALHAMBRA, URB TORRIMAR, GUAYNABO, P.R. 00966
JAMES.BAIGES@GMAIL.COM – (787) 399-0017

**90% DESIGN SET**
**NOT FOR CONSTRUCTION**

PROJECT: **PR-CRP-000721**

**PASEO LA GRUTA-VIVERO DE PECES**

CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

GOBIERNO MUNICIPAL DE MARICAO

PASEO HATCHERY [PR-CRP-000721]

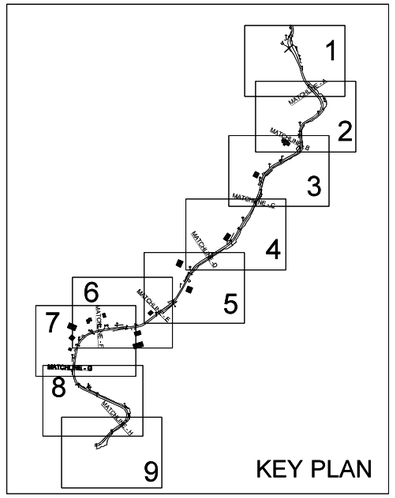
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| | | | | |

DRAWN BY:
REVIEWED BY:
DATE: 05/23

SHEET TITLE: LAYOUT SITE PLAN

DRAWING NO.: C-101

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## EXISTING CONDITIONS LEGEND

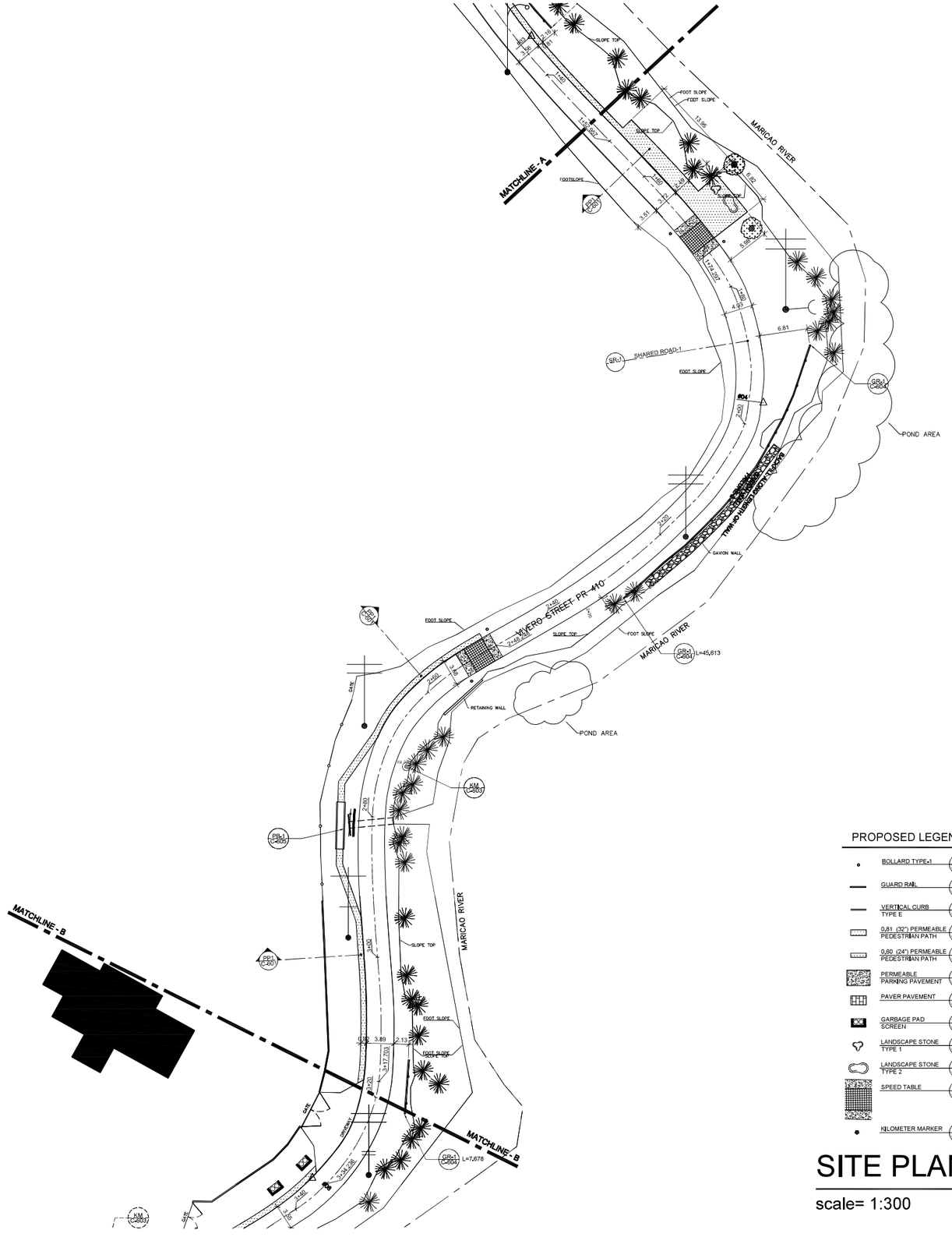
| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

0 5 10 30

SCALE = 1:300

| HORIZONTAL VERTICAL CONTROL # 04 | | | |
|---|---|---|---|
| Y | 238,206.7660 | X | 142,175.5960 |
| EL. | 426.530 | PK | |

| HORIZONTAL VERTICAL CONTROL # 06 | | | |
|---|---|---|---|
| Y | 238,096.5140 | Y | 142115.3990 |
| EL. | 428.450 | PK | |




## PROPOSED LEGEND

| | | |
|---|---|---|
| BOLLARD TYPE-1 | BO1 | C603 |
| GUARD RAIL | GR | C604 |
| VERTICAL CURB TYPE E | VC | C602 |
| 0.81 (32") PERMEABLE PEDESTRIAN PATH | PP1 | C601 |
| 0.60 (24") PERMEABLE PEDESTRIAN PATH | PP2 | C601 |
| PERMEABLE PARKING PAVEMENT | PPP | C603 |
| PAVER PAVEMENT | PP3 | C603 |
| GARBAGE PAD SCREEN | GPD | C601 |
| LANDSCAPE STONE TYPE 1 | LS1 | C604 |
| LANDSCAPE STONE TYPE 2 | LS2 | C604 |
| SPEED TABLE | STP | C601 |
| KILOMETER MARKER | KM | C603 |

# SITE PLAN-2

scale= 1:300

C&G
JMCP + JLGARCHITECTS
115 DIL PARQUE STREET SUITE 7
SAN JUAN, PR 00911
787.309.3837

BAIGES GEOTECHNICAL ENGINEERS, LLC
44 PASEO DE LA ALHAMBRA, URB TORRIMAR, GUAYNABO, P.R. 00966
JAMES.BAIGES@GMAIL.COM – (787) 399-0017

**90% DESIGN SET**
**NOT FOR CONSTRUCTION**

PROJECT: **PR-CRP-000721**

# PASEO LA GRUTA-VIVERO DE PECES

CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

GOBIERNO MUNICIPAL DE MARICAO

PASEO HATCHERY [PR-CRP-000721]

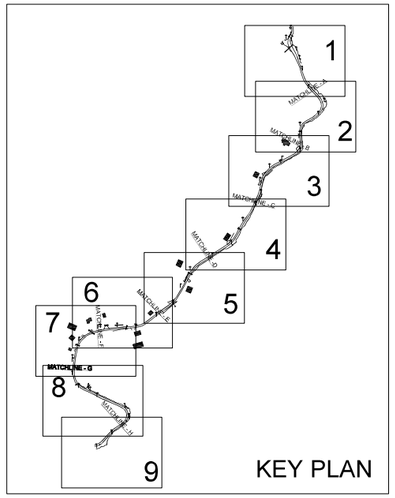
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|---|---|---|---|---|
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DATE: 05/23

SHEET TITLE: LAYOUT SITE PLAN

DRAWING NO.: **C-102**

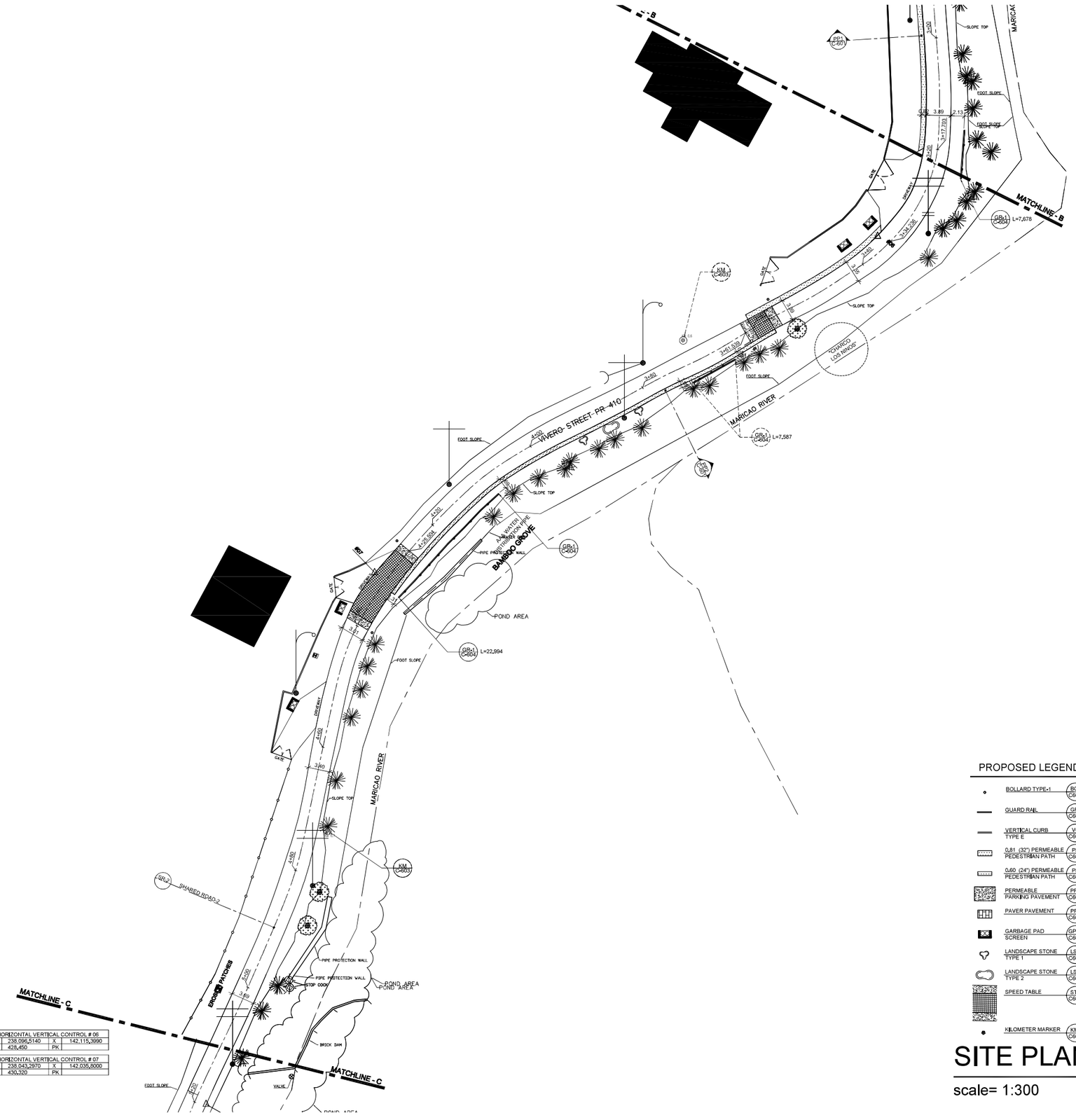
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## EXISTING CONDITIONS LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

0 5 10 30
SCALE = 1:300




| HORIZONTAL VERTICAL CONTROL # 06 | | | |
|---|---|---|---|
| Y | 238,096,5140 | X | 142,115,3990 |
| EL. | 428,450 | PK | |

| HORIZONTAL VERTICAL CONTROL # 07 | | | |
|---|---|---|---|
| Y | 238,043,2970 | X | 142,035,8000 |
| EL. | 430,320 | PK | |

## PROPOSED LEGEND

| | | |
|---|---|---|
| | BOLLARD TYPE-1 | BO1 C603 |
| | GUARD RAIL | GR C604 |
| | VERTICAL CURB TYPE E | VC C602 |
| | 0,81 (32") PERMEABLE PEDESTRIAN PATH | PP1 C601 |
| | 0,60 (24") PERMEABLE PEDESTRIAN PATH | PP2 C601 |
| | PERMEABLE PARKING PAVEMENT | PPP C605 |
| | PAVER PAVEMENT | PP3 C605 |
| | GARBAGE PAD SCREEN | GPS C601 |
| | LANDSCAPE STONE TYPE 1 | LS1 C604 |
| | LANDSCAPE STONE TYPE 2 | LS2 C604 |
| | SPEED TABLE | STP C601 |
| | KILOMETER MARKER | KM C603 |

# SITE PLAN-3

scale= 1:300

C&G
JMCP + JLGARCHITECTS
115 DIE PARQUE STREET SUITE 7
SAN JUAN, PR 00911
787.309.3837

BAIGES GEOTECHNICAL ENGINEERS, LLC
64 PASEO DE LA ALHAMBRA, URB TOPACIO - CAGUAS PUERTO RICO 725
JAMES@BAIGESGEO.COM - (787) 286-0077

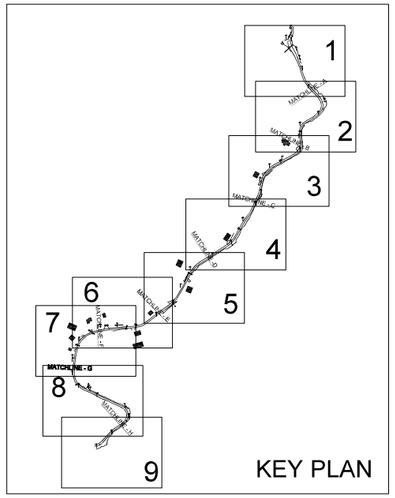
90% DESIGN SET
NOT FOR CONSTRUCTION

PROJECT: PR-CRP-000721
**PASEO LA GRUTA-VIVERO DE PECES**
CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5
GOBIERNO MUNICIPAL DE MARICAO
PASEO HATCHERY [PR-CRP-000721]

| NO. | DATE | DRAWING ISSUE | BY | APP. |
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DATE: 05/23
SHEET TITLE: LAYOUT SITE PLAN
DRAWING NO.: C-103

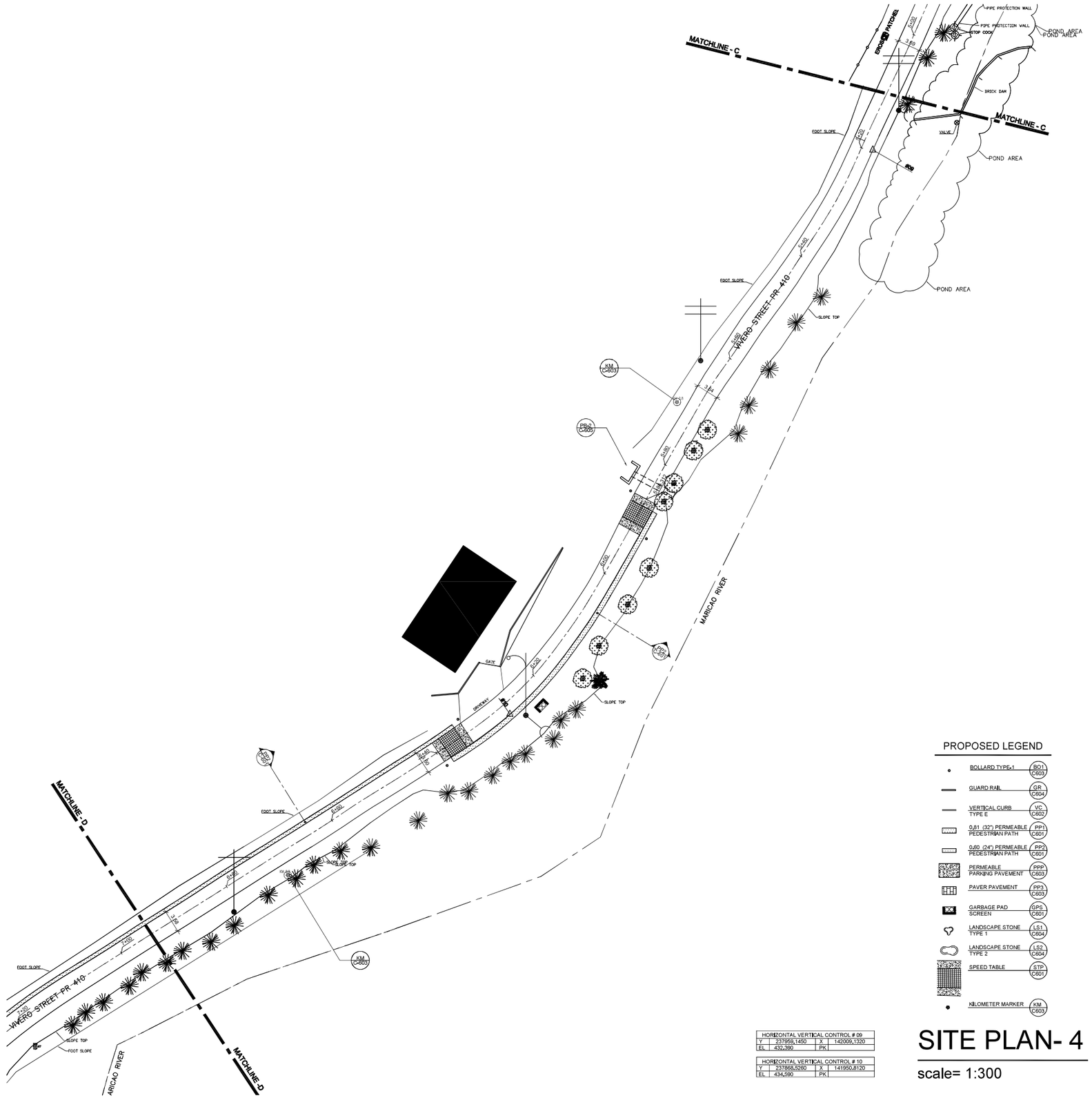
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## EXISTING CONDITIONS LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

0 5 10 30
SCALE = 1:300




| HORIZONTAL VERTICAL CONTROL # 09 | | | |
|---|---|---|---|
| Y | 237959,1450 | X | 142009,1320 |
| EL | 432,390 | PK | |

| HORIZONTAL VERTICAL CONTROL # 10 | | | |
|---|---|---|---|
| Y | 237868,5260 | X | 141950,8120 |
| EL | 434,590 | PK | |

## PROPOSED LEGEND

| | | |
|---|---|---|
| BOLLARD TYPE-1 | BO1 | C603 |
| GUARD RAIL | GR | C604 |
| VERTICAL CURB TYPE E | VC | C602 |
| 0,81 (32") PERMEABLE PEDESTRIAN PATH | PP1 | C601 |
| 0,60 (24") PERMEABLE PEDESTRIAN PATH | PP2 | C601 |
| PERMEABLE PARKING PAVEMENT | PPP | C603 |
| PAVER PAVEMENT | PP3 | C603 |
| GARBAGE PAD SCREEN | GPS | C601 |
| LANDSCAPE STONE TYPE 1 | LS1 | C604 |
| LANDSCAPE STONE TYPE 2 | LS2 | C604 |
| SPEED TABLE | STP | C601 |
| KILOMETER MARKER | KM | C603 |

# SITE PLAN- 4

scale= 1:300

C&G
JMCP + JLGARCHITECTS
113 DIL PARQUE STREET SUITE 7
SAN JUAN, PR 00911
787.309.3837

BAIGES GEOTECHNICAL ENGINEERS, LLC
641 PASEO DE LA ALHAMBRA, URB TORRIMAR, GUAYNABO, P.R. 00969
JAMES@BAIGESGMAIL.COM • (787) 399-0017

90% DESIGN SET
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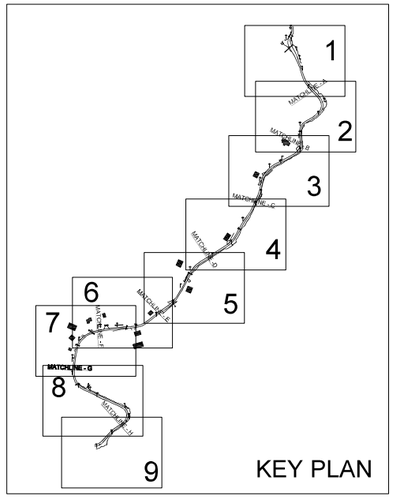
PROJECT: PR-CRP-000721
# PASEO LA GRUTA-VIVERO DE PECES
CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

GOBIERNO MUNICIPAL DE MARICAO
PASEO HATCHERY [PR-CRP-000721]

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SHEET TITLE: LAYOUT SITE PLAN
DRAWING NO.: C-104

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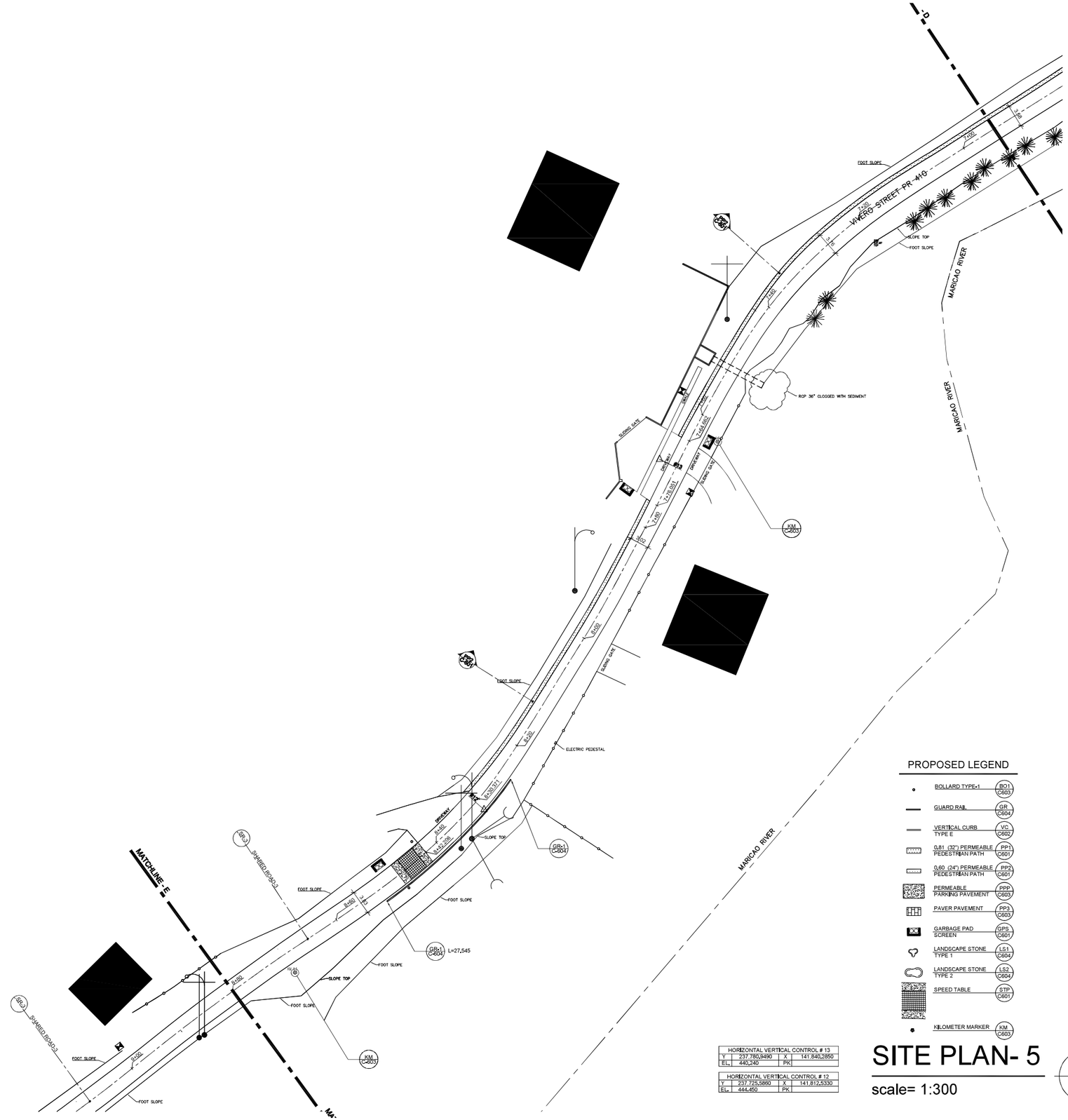



## EXISTING CONDITIONS LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

0 5 10 30

SCALE = 1:300




## PROPOSED LEGEND

| | | |
|---|---|---|
| BOLLARD TYPE-1 | BO1 | C603 |
| GUARD RAIL | GR | C604 |
| VERTICAL CURB TYPE E | VC | C602 |
| 0,81 (32") PERMEABLE PEDESTRIAN PATH | PP1 | C601 |
| 0,60 (24") PERMEABLE PEDESTRIAN PATH | PP2 | C601 |
| PERMEABLE PARKING PAVEMENT | PPP | C603 |
| PAVER PAVEMENT | PP3 | C603 |
| GARBAGE PAD SCREEN | GPS | C601 |
| LANDSCAPE STONE TYPE 1 | LS1 | C604 |
| LANDSCAPE STONE TYPE 2 | LS2 | C604 |
| SPEED TABLE | STP | C601 |
| KILOMETER MARKER | KM | C603 |

# SITE PLAN- 5

scale= 1:300

C&G
JMCP + JLGARCHITECTS
115 DEL PARQUE STREET SUITE 7
SAN JUAN, PR 00911
787.309.3837

BAIGES GEOTECHNICAL ENGINEERS, LLC
64 PASEO DE LA ALHAMBRA, URB TORRIMAR, GUAYNABO, P.R. 00969
JAMES@BAIGESMAIL.COM • (787) 399-0077

90% DESIGN SET
NOT FOR CONSTRUCTION

PROJECT: PR-CRP-000721

# PASEO LA GRUTA-VIVERO DE PECES

CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

GOBIERNO MUNICIPAL DE MARICAO

PASEO HATCHERY [PR-CRP-000721]

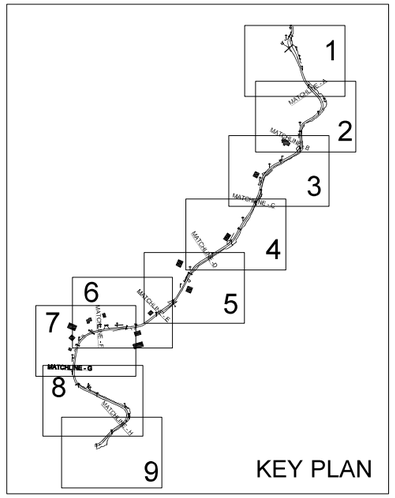
| NO. | DATE | DRAWING ISSUE | BY | APP. |
|---|---|---|---|---|
| | | | | |

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REVIEWED BY:
DATE: 05/23

SHEET TITLE: LAYOUT SITE PLAN

DRAWING NO.: C-105

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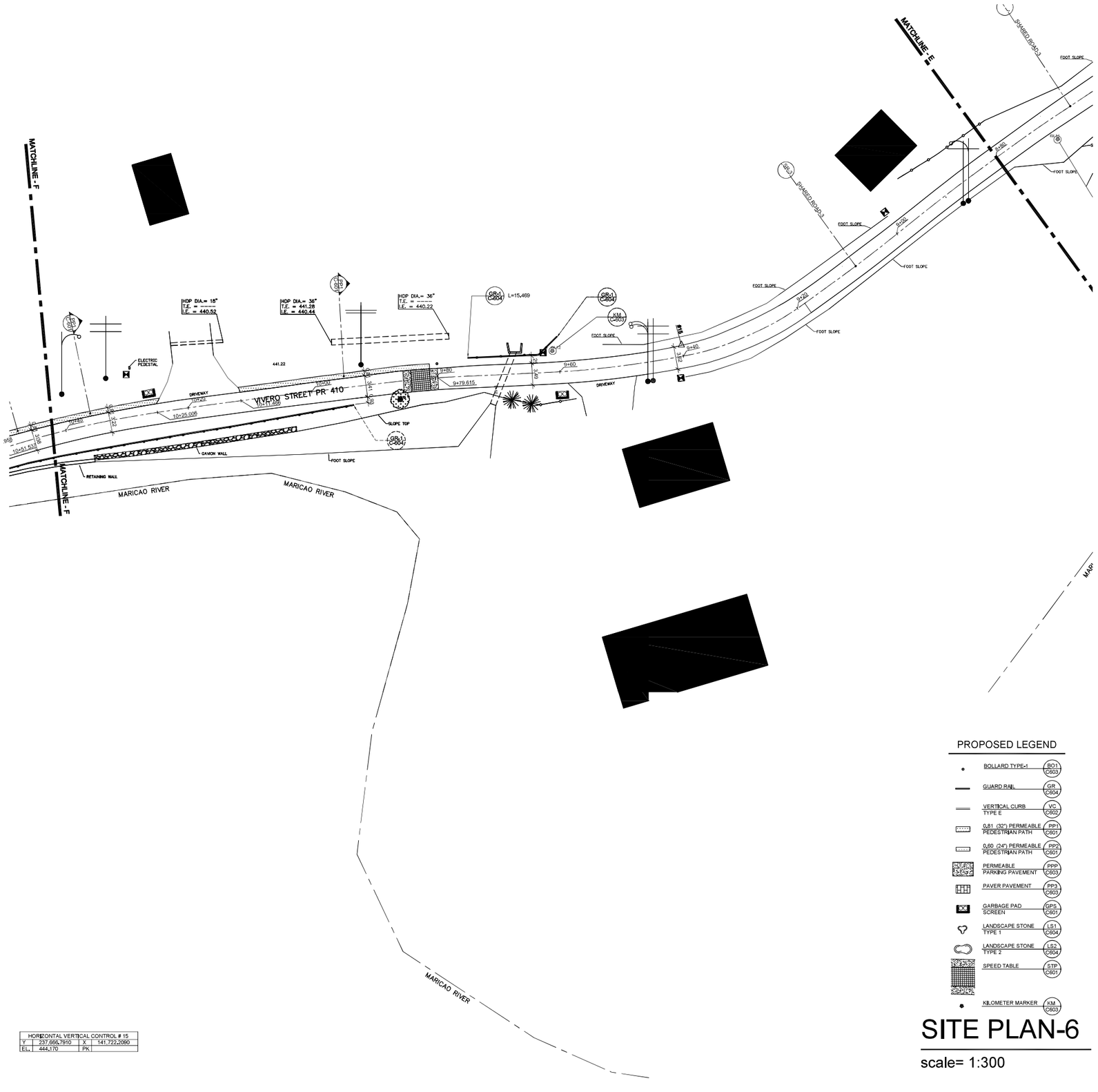



## EXISTING CONDITIONS LEGEND

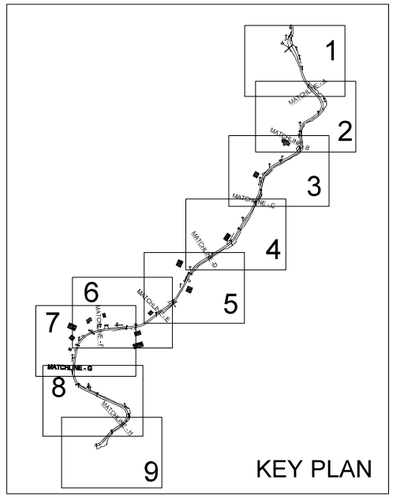
| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

0 5 10 30
SCALE = 1:300

| HORIZONTAL VERTICAL CONTROL # 15 | | | |
|---|---|---|---|
| Y | 237,666.7910 | X | 141,722.2080 |
| EL. | 444.170 | PK | |



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## EXISTING CONDITIONS LEGEND

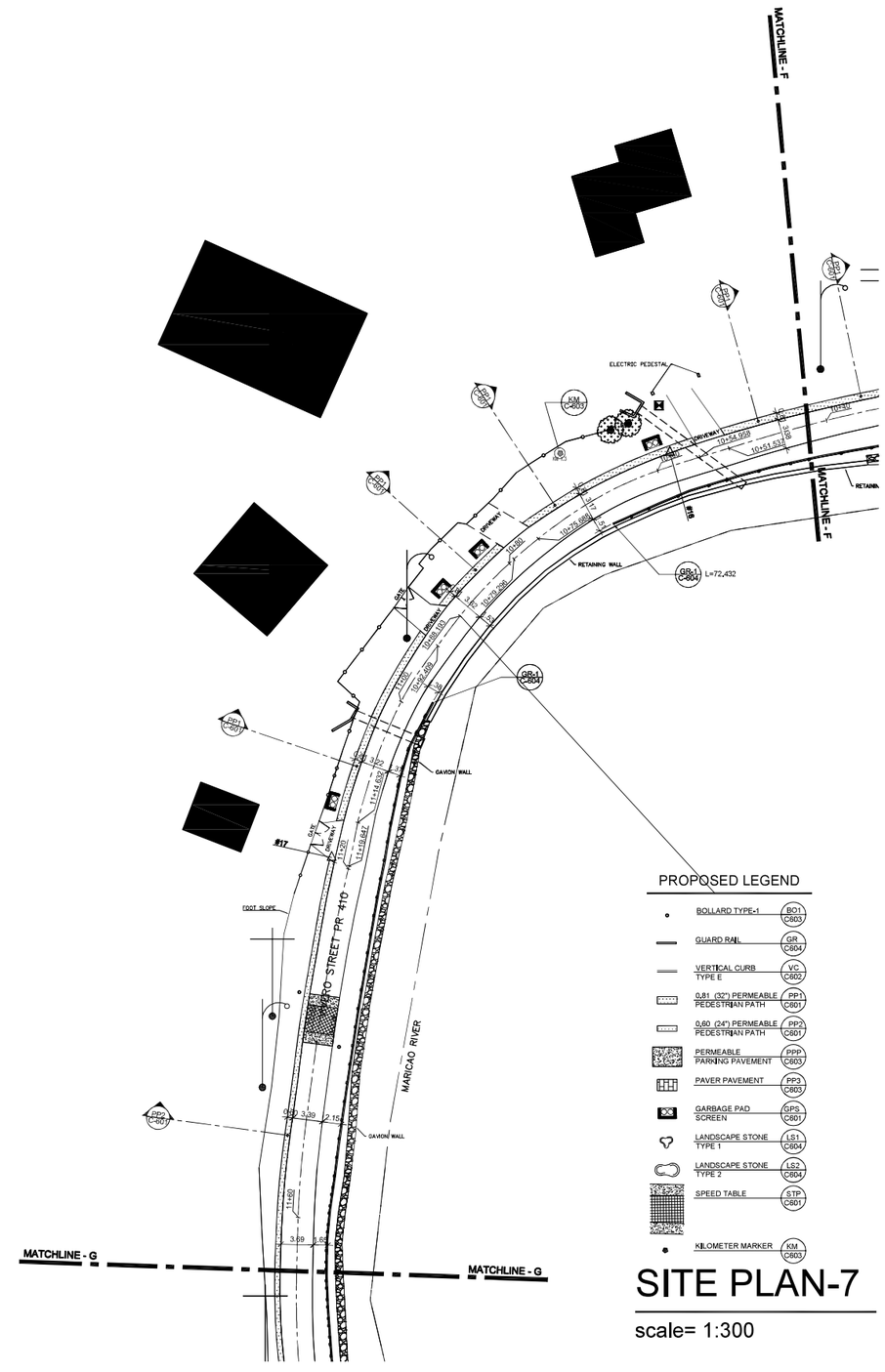
| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

0 5 10 30

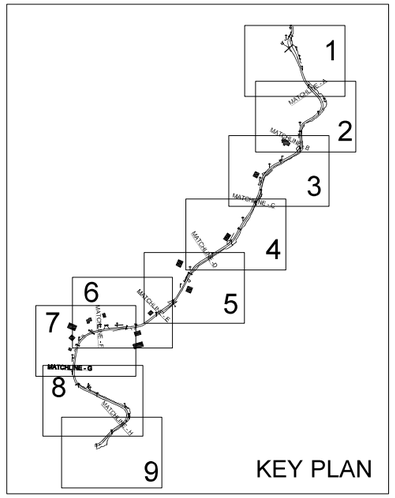
SCALE = 1:300

| HORIZONTAL VERTICAL CONTROL # 16 | | | |
|---|---|---|---|
| Y | 237,649.4570 | X | 141,605.5650 |
| EL. | 442.240 | PK | |

| HORIZONTAL VERTICAL CONTROL # 17 | | | |
|---|---|---|---|
| Y | 237,603.4640 | X | 141,587.1870 |
| EL. | 443.040 | PK | |



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## EXISTING CONDITIONS LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

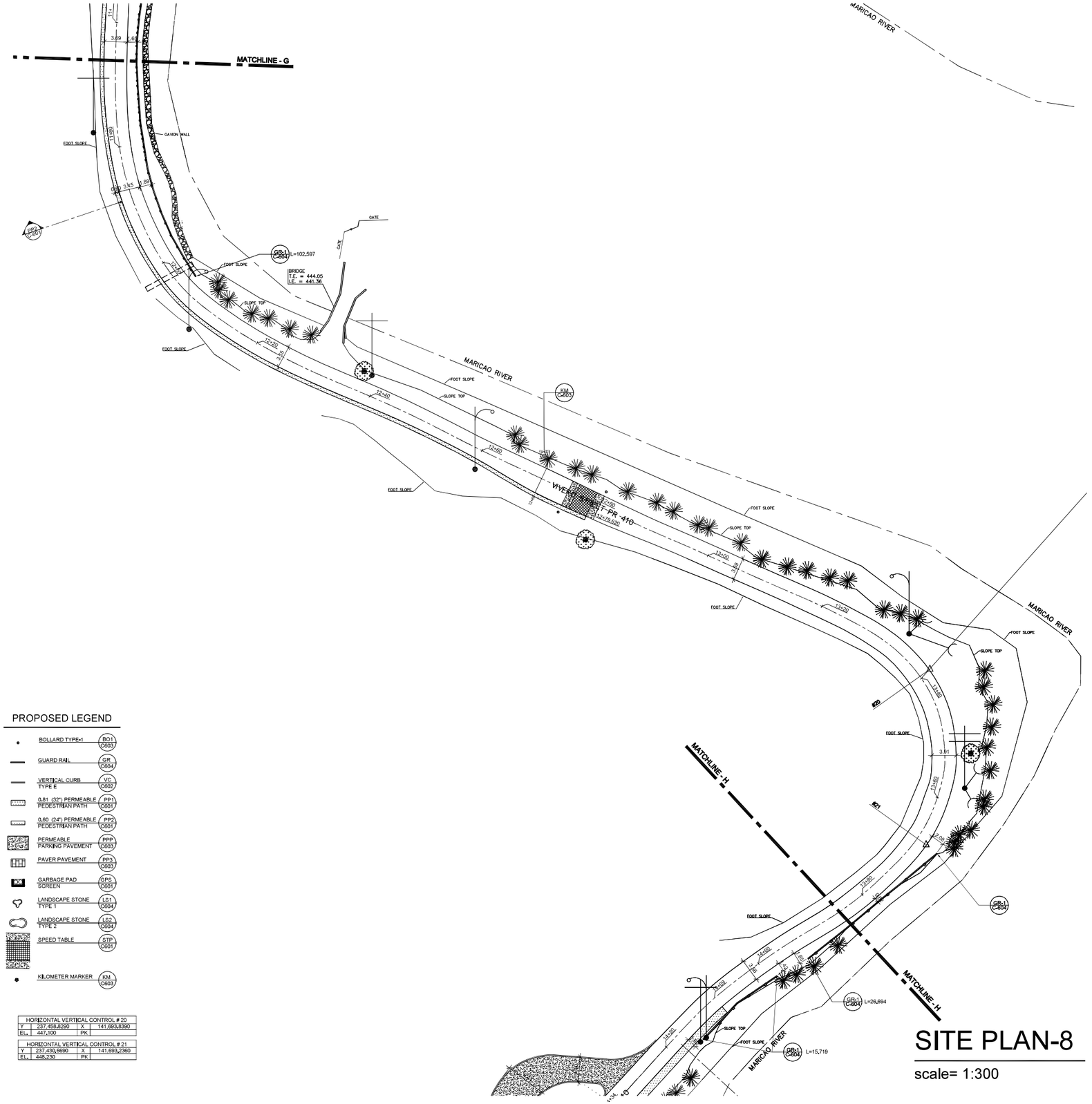
0 5 10 30
SCALE = 1:300

## PROPOSED LEGEND

| | | |
|---|---|---|
| | BOLLARD TYPE-1 | BO1 C603 |
| | GUARD RAIL | GR C604 |
| | VERTICAL CURB TYPE E | VC C602 |
| | 0.81 (32") PERMEABLE PEDESTRIAN PATH | PP1 C601 |
| | 0.60 (24") PERMEABLE PEDESTRIAN PATH | PP2 C601 |
| | PERMEABLE PARKING PAVEMENT | PPP C603 |
| | PAVER PAVEMENT | PP3 C603 |
| | GARBAGE PAD SCREEN | GPS C601 |
| | LANDSCAPE STONE TYPE 1 | LS1 C604 |
| | LANDSCAPE STONE TYPE 2 | LS2 C604 |
| | SPEED TABLE | STP C601 |
| | KILOMETER MARKER | KM C603 |

| HORIZONTAL VERTICAL CONTROL # 20 | | | |
|---|---|---|---|
| Y | 237,458,8250 | X | 141.683,8390 |
| EL. | 447,100 | PK | |

| HORIZONTAL VERTICAL CONTROL # 21 | | | |
|---|---|---|---|
| Y | 237,430,6690 | X | 141.693,2360 |
| EL. | 448,230 | PK | |




# SITE PLAN-8

scale= 1:300

C&G
JMCP + JLGARCHITECTS
113 DEL PARQUE STREET SUITE 7
SAN JUAN, PR 00911
787.309.1837

BAIGES GEOTECHNICAL ENGINEERS, LLC
641 PASEO DE LA ALHAMBRA, URB TORRIMAR, GUAYNABO, P.R. 00966
JAMES@BAIGESMAIL.COM • (787) 399-0017

90% DESIGN SET
NOT FOR CONSTRUCTION

PROJECT: PR-CRP-000721
# PASEO LA GRUTA-VIVERO DE PECES
CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

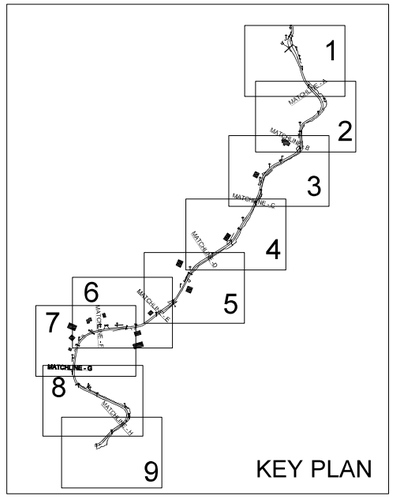
GOBIERNO MUNICIPAL DE MARICAO
PASEO HATCHERY [PR-CRP-000721]

| NO. | DATE | DRAWING ISSUE | BY | APP. |
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DRAWN BY:
REVIEWED BY:
DATE: 05/23

SHEET TITLE: LAYOUT SITE PLAN
DRAWING NO.: C-108

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## EXISTING CONDITIONS LEGEND

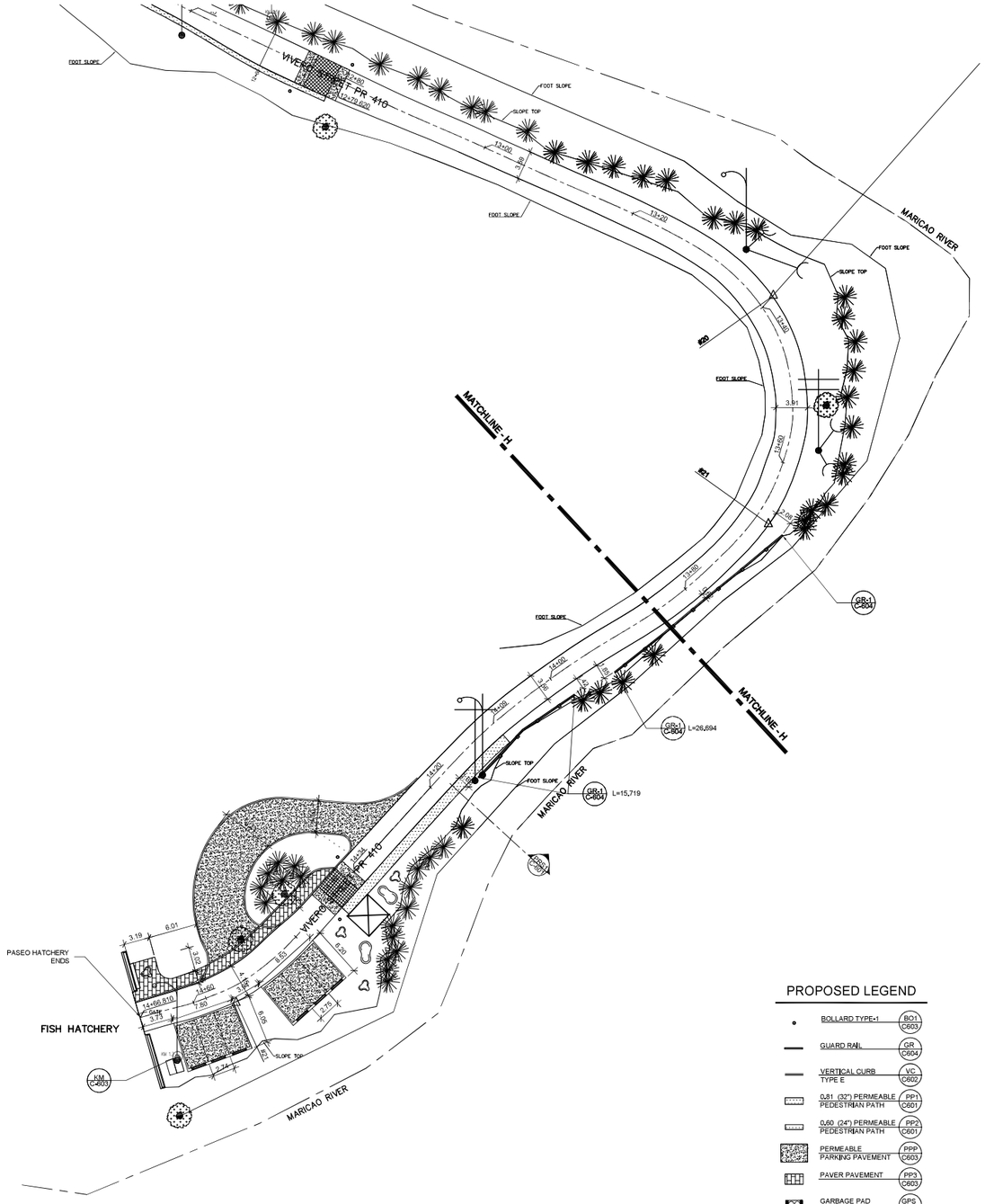
| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

0 5 10 30
SCALE = 1:300

| HORIZONTAL VERTICAL CONTROL # 20 | | | |
|---|---|---|---|
| Y | 237,458.8290 | X | 141,693.8390 |
| EL. | 447.100 | PK | |

| HORIZONTAL VERTICAL CONTROL # 21 | | | |
|---|---|---|---|
| Y | 237,430.6690 | X | 141,693.2380 |
| EL. | 448.230 | PK | |

| HORIZONTAL VERTICAL CONTROL # 22 | | | |
|---|---|---|---|
| Y | 237,371.6570 | X | 141,627.5680 |
| EL. | 450.080 | PK | |




## PROPOSED LEGEND

| | | |
|---|---|---|
| | BOLLARD TYPE-1 | BO1 C603 |
| | GUARD RAIL | GR C604 |
| | VERTICAL CURB TYPE E | VC C602 |
| | 0,81 (32") PERMEABLE PEDESTRIAN PATH | PP1 C601 |
| | 0,60 (24") PERMEABLE PEDESTRIAN PATH | PP2 C601 |
| | PERMEABLE PARKING PAVEMENT | PPP C603 |
| | PAVER PAVEMENT | PP3 C603 |
| | GARBAGE PAD SCREEN | GPS C601 |
| | LANDSCAPE STONE TYPE 1 | LS1 C604 |
| | LANDSCAPE STONE TYPE 2 | LS2 C604 |
| | SPEED TABLE | STP C601 |
| | KILOMETER MARKER | KM C603 |

# SITE PLAN-9

scale= 1:300

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113 DIL PARQUE STREET SUITE 7
SAN JUAN, PR 00911
787.309.3837

BAIGES GEOTECHNICAL ENGINEERS, LLC
64 PASEO DE LA ALHAMBRA, URB TORRIMAR, GUAYNABO, P.R. 00969
JAMES@BAIGESMUL.COM • (787) 399-0017

90% DESIGN SET
NOT FOR CONSTRUCTION

PROJECT: **PR-CRP-000721**

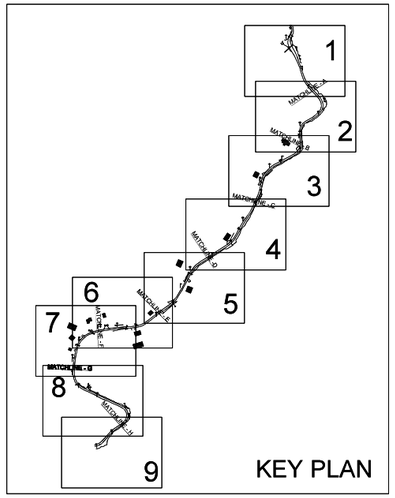
**PASEO LA GRUTA-VIVERO DE PECES**
CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

GOBIERNO MUNICIPAL DE MARICAO
PASEO HATCHERY [PR-CRP-000721]

| NO. | DATE | DRAWING ISSUE | BY | APP. |
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REVIEWED BY:
DATE: 05/23
SHEET TITLE: LAYOUT SITE PLAN
DRAWING NO.: C-109

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KEY PLAN

## EXISTING CONDITIONS LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

0 5 10 30

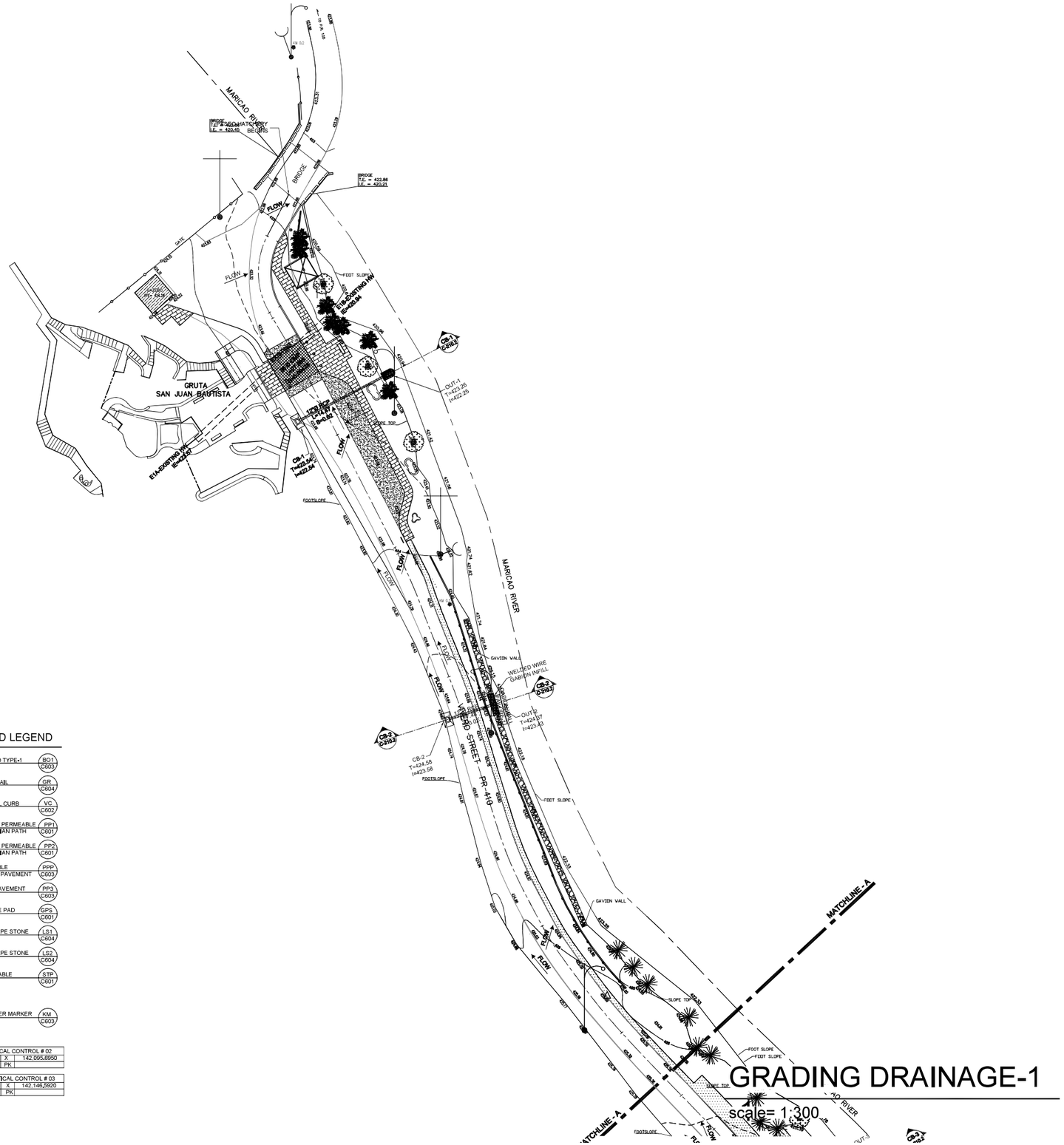
SCALE = 1:300

## PROPOSED LEGEND

| | | |
|---|---|---|
| | BOLLARD TYPE-1 | BO1 C603 |
| | GUARD RAIL | GR C604 |
| | VERTICAL CURB TYPE E | VC C602 |
| | 0.81 (32") PERMEABLE PEDESTRIAN PATH | PP1 C601 |
| | 0.60 (24") PERMEABLE PEDESTRIAN PATH | PP2 C601 |
| | PERMEABLE PARKING PAVEMENT | PPP C603 |
| | PAVER PAVEMENT | PP3 C603 |
| | GARBAGE PAD SCREEN | GPS C601 |
| | LANDSCAPE STONE TYPE 1 | LS1 C604 |
| | LANDSCAPE STONE TYPE 2 | LS2 C604 |
| | SPEED TABLE | STP C601 |
| | KILOMETER MARKER | KM C603 |

| HORIZONTAL VERTICAL CONTROL # 02 | | | |
|---|---|---|---|
| Y | 238,355.4430 | X | 142,095.6950 |
| EL. | 423.510 | PK | |

| HORIZONTAL VERTICAL CONTROL # 03 | | | |
|---|---|---|---|
| Y | 238,258.9140 | X | 142,146.5920 |
| EL. | 425.090 | PK | |




# GRADING DRAINAGE-1

scale= 1:300

C&G
JMCP + JLGARCHITECTS
113 DIL PARQUE STREET SUITE 7
SAN JUAN, PR 00911
787.309.3837

BAIGES GEOTECHNICAL ENGINEERS, LLC
44 PASEO DE LA ALHAMBRA, URB TORRIMAR, GUAYNABO, P.R. 00966
JAMES.BAIGES@GMAIL.COM – (787) 399-0017

90% DESIGN SET
NOT FOR CONSTRUCTION

PROJECT: PR-CRP-000721

**PASEO LA GRUTA-VIVERO DE PECES**

CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

GOBIERNO MUNICIPAL DE MARICAO

PASEO HATCHERY [PR-CRP-000721]

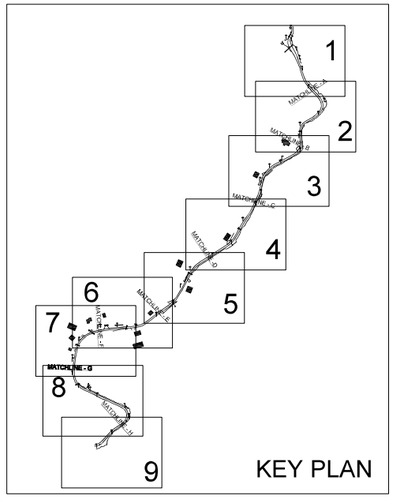
| NO. | DATE | DRAWING ISSUE | BY | APP. |
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SHEET TITLE: GRADING DRAINAGE PLAN

DRAWING NO.: C-201

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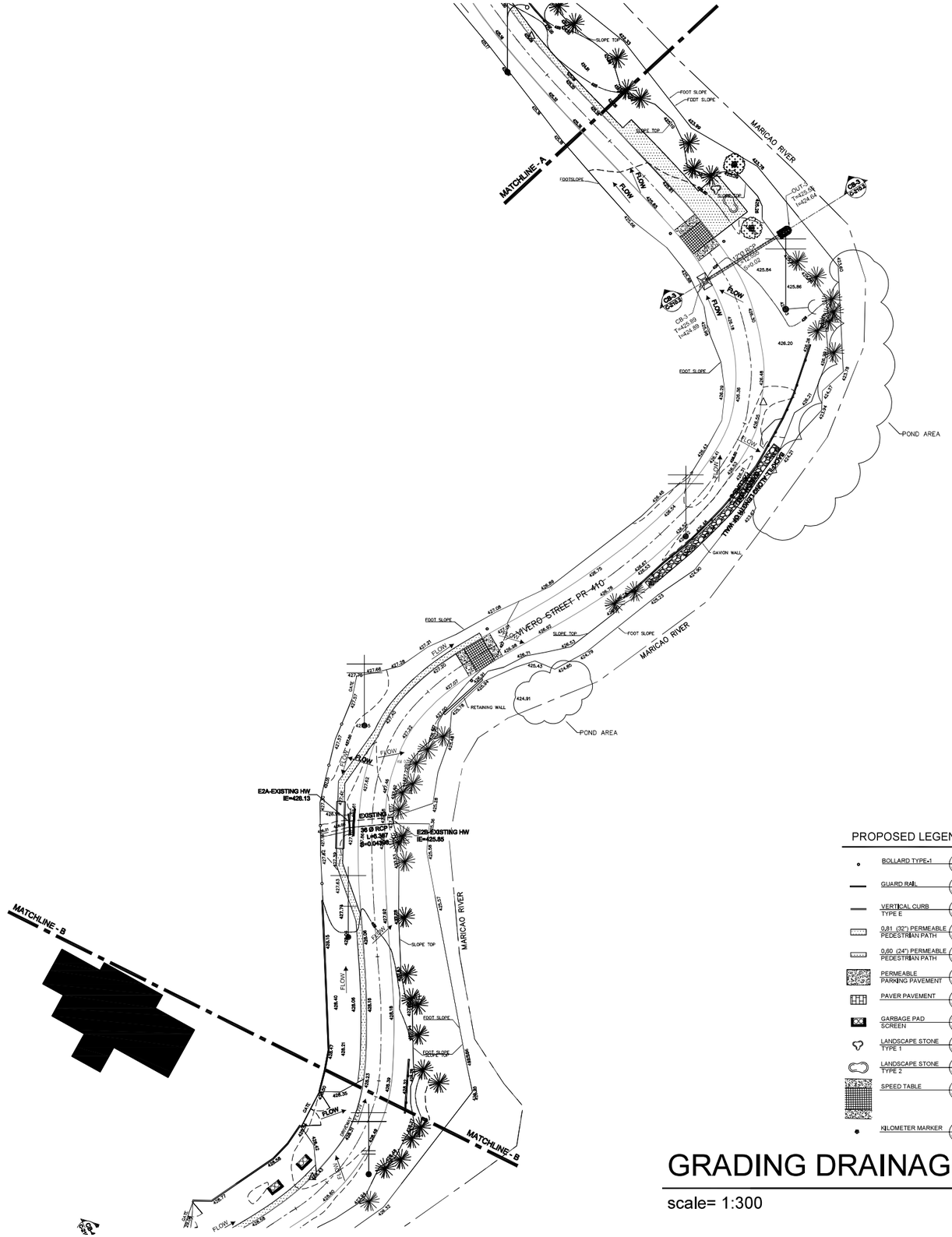



## EXISTING CONDITIONS LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

0 5 10 30

SCALE = 1:300




| HORIZONTAL VERTICAL CONTROL # 04 | | | |
|---|---|---|---|
| Y | 238,206.7660 | X | 142,179.5560 |
| EL. | 426.530 | PK | |

| HORIZONTAL VERTICAL CONTROL # 06 | | | |
|---|---|---|---|
| Y | 238,096.5140 | Y | 142115.3990 |
| EL. | 428.450 | PK | |

## PROPOSED LEGEND

| | | |
|---|---|---|
| BOLLARD TYPE-1 | BO1 | C605 |
| GUARD RAIL | GR | C604 |
| VERTICAL CURB TYPE E | VC | C602 |
| 0.81 (32") PERMEABLE PEDESTRIAN PATH | PP1 | C601 |
| 0.60 (24") PERMEABLE PEDESTRIAN PATH | PP2 | C601 |
| PERMEABLE PARKING PAVEMENT | PPP | C603 |
| PAVER PAVEMENT | PP3 | C603 |
| GARBAGE PAD SCREEN | GPS | C601 |
| LANDSCAPE STONE TYPE 1 | LS1 | C604 |
| LANDSCAPE STONE TYPE 2 | LS2 | C604 |
| SPEED TABLE | STP | C601 |
| KILOMETER MARKER | KM | C603 |

# GRADING DRAINAGE-2

scale= 1:300

C&G
JMCP + JLGARCHITECTS
113 DEL PARQUE STREET SUITE 7
SAN JUAN, PR 00911
787.309.3837

BAIGES GEOTECHNICAL ENGINEERS, LLC
64 PASEO DE LA ALHAMBRA, URB TOWN & MR. CIDRA PARCO, P.R. 00739
JAMES@BAIGESPR.COM • (787) 399-0077

90% DESIGN SET
NOT FOR CONSTRUCTION

PROJECT: PR-CRP-000721

**PASEO LA GRUTA-VIVERO DE PECES**

CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

GOBIERNO MUNICIPAL DE MARICAO

PASEO HATCHERY [PR-CRP-000721]

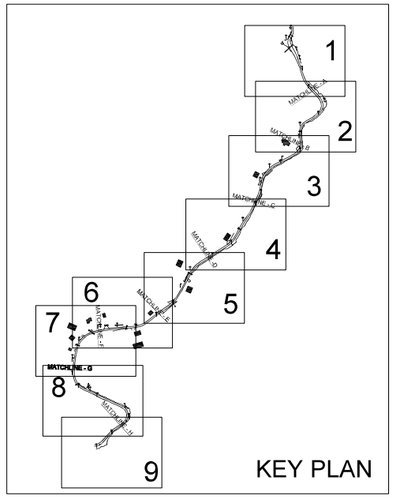
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SHEET TITLE: GRADING DRAINAGE PLAN

DRAWING NO.: C-202

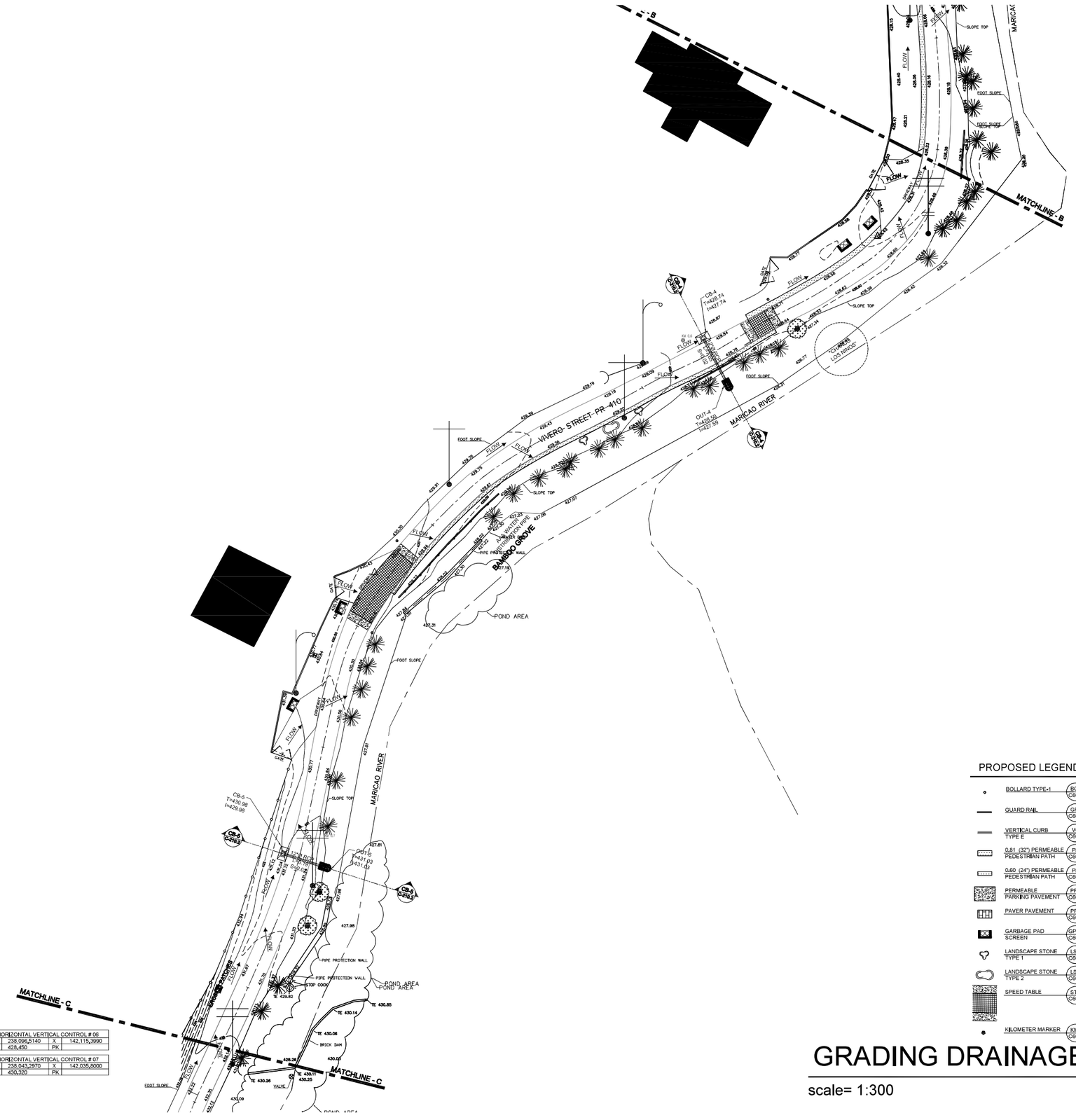
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## EXISTING CONDITIONS LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

0 5 10 30
SCALE = 1:300




| HORIZONTAL VERTICAL CONTROL # 06 | | | |
|---|---|---|---|
| Y | 238,096.5140 | X | 142,115.3990 |
| EL. | 428.450 | PK | |

| HORIZONTAL VERTICAL CONTROL # 07 | | | |
|---|---|---|---|
| Y | 238,043.2970 | X | 142,035.8000 |
| EL. | 430.320 | PK | |

## PROPOSED LEGEND

| | | |
|---|---|---|
| | BOLLARD TYPE-1 | BO1 C603 |
| | GUARD RAIL | GR C604 |
| | VERTICAL CURB TYPE E | VC C602 |
| | 0,81 (32") PERMEABLE PEDESTRIAN PATH | PP1 C601 |
| | 0,60 (24") PERMEABLE PEDESTRIAN PATH | PP2 C601 |
| | PERMEABLE PARKING PAVEMENT | PPP C605 |
| | PAVER PAVEMENT | PP3 C603 |
| | GARBAGE PAD SCREEN | GPS C601 |
| | LANDSCAPE STONE TYPE 1 | LS1 C604 |
| | LANDSCAPE STONE TYPE 2 | LS2 C604 |
| | SPEED TABLE | STP C601 |
| | KILOMETER MARKER | KM C603 |

# GRADING DRAINAGE-3

scale= 1:300

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JMCP + JLGARCHITECTS
115 DIE PARQUE STREET SUITE 7
SAN JUAN, PR 00911
787.309.3837

BAIGES GEOTECHNICAL ENGINEERS, LLC
64 PASEO DE LA ALHAMBRA, URB TOPACIO - CAGUAS PUERTO RICO
JAMES@BAIGESGEO.COM - (787) 399-0077

90% DESIGN SET
NOT FOR CONSTRUCTION

PROJECT: PR-CRP-000721
**PASEO LA GRUTA-VIVERO DE PECES**
CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

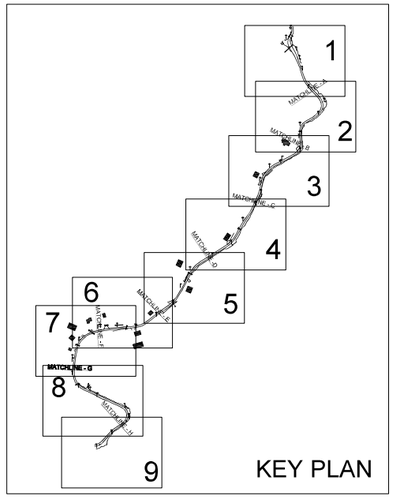
GOBIERNO MUNICIPAL DE MARICAO
PASEO HATCHERY [PR-CRP-000721]

| NO. | DATE | DRAWING ISSUE | BY | APP. |
|---|---|---|---|---|
| | | | | |

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SHEET TITLE: GRADING DRAINAGE PLAN
DRAWING NO.: C-203

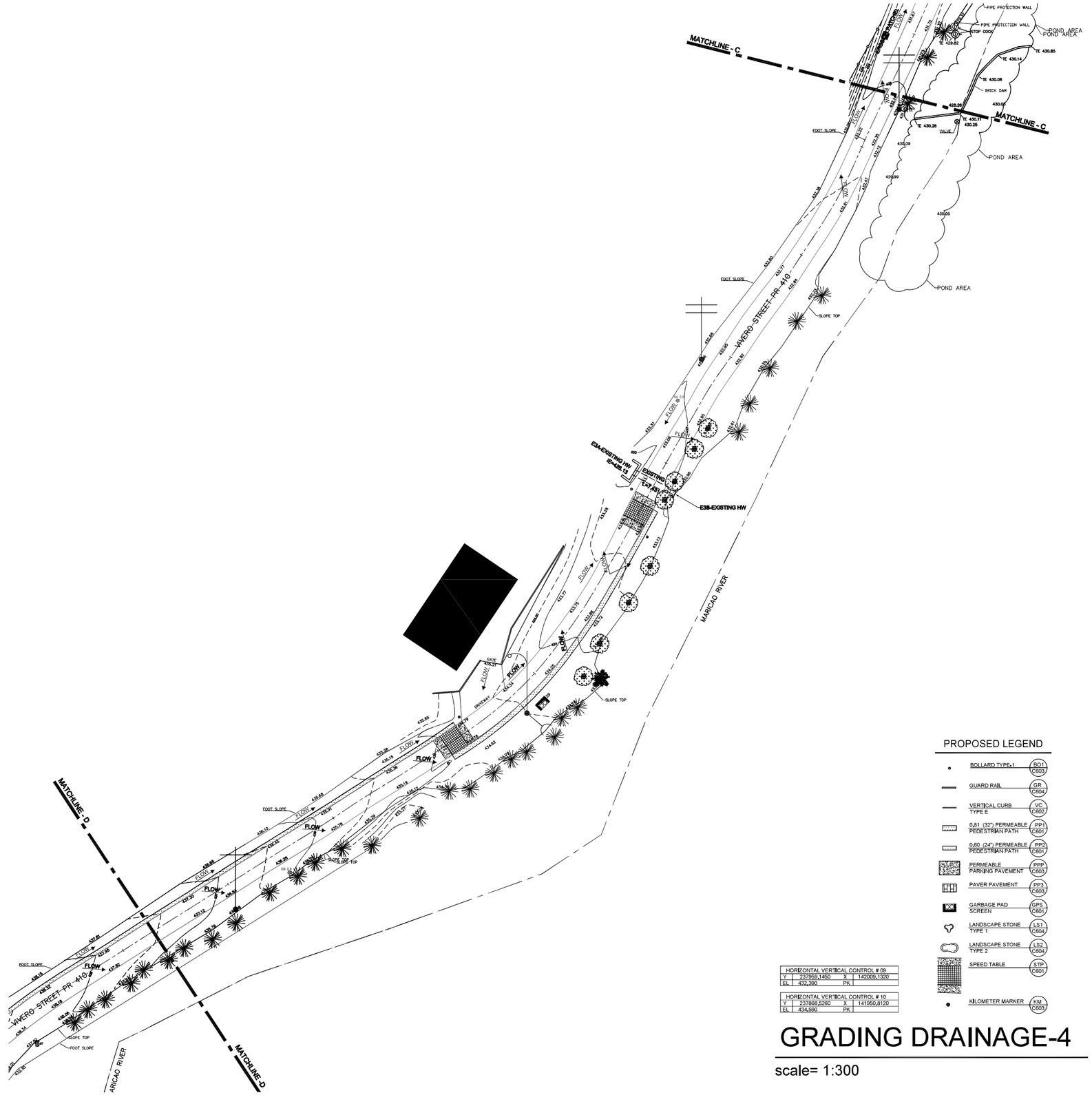
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## EXISTING CONDITIONS LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

0 5 10 30
SCALE = 1:300




| HORIZONTAL VERTICAL CONTROL # 09 | | | |
|---|---|---|---|
| Y | 237950,1450 | X | 142009,1320 |
| EL | 432,390 | PK | |

| HORIZONTAL VERTICAL CONTROL # 10 | | | |
|---|---|---|---|
| Y | 237868,5260 | X | 141950,8120 |
| EL | 434,590 | PK | |

## PROPOSED LEGEND

| | | |
|---|---|---|
| | BOLLARD TYPE-1 | BO1 C603 |
| | GUARD RAIL | GR C604 |
| | VERTICAL CURB TYPE E | VC C602 |
| | 0,81 (32") PERMEABLE PEDESTRIAN PATH | PP1 C601 |
| | 0,60 (24") PERMEABLE PEDESTRIAN PATH | PP2 C601 |
| | PERMEABLE PARKING PAVEMENT | PPP C603 |
| | PAVER PAVEMENT | PP3 C603 |
| | GARBAGE PAD SCREEN | GPS C601 |
| | LANDSCAPE STONE TYPE 1 | LS1 C604 |
| | LANDSCAPE STONE TYPE 2 | LS2 C604 |
| | SPEED TABLE | STP C601 |
| | KILOMETER MARKER | KM C603 |

# GRADING DRAINAGE-4

scale= 1:300

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JAMES@BAIGESGEO.COM • (787) 399-0077

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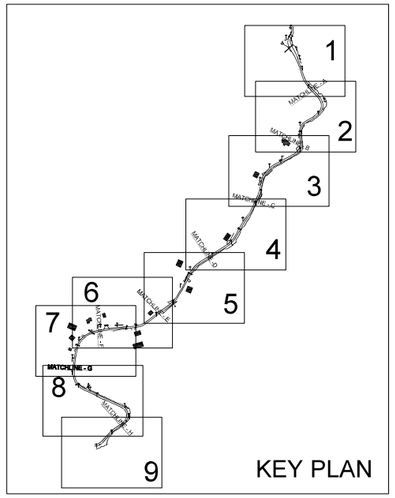
PROJECT: PR-CRP-000721
**PASEO LA GRUTA-VIVERO DE PECES**
CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

GOBIERNO MUNICIPAL DE MARICAO
PASEO HATCHERY [PR-CRP-000721]

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SHEET TITLE: GRADING DRAINAGE PLAN
DRAWING NO.: C-204

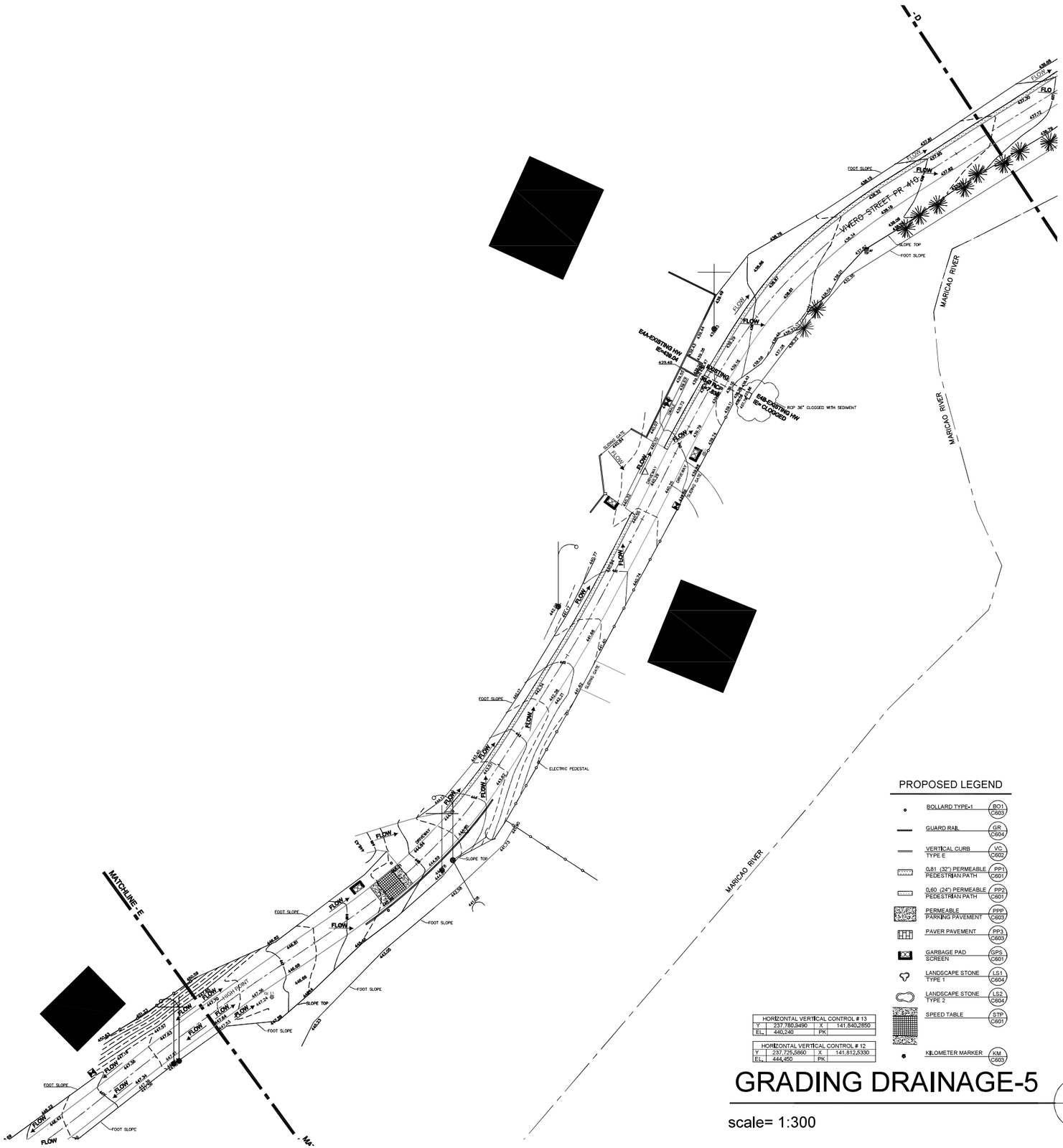
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## EXISTING CONDITIONS LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

0 5 10 30
SCALE = 1:300




| HORIZONTAL VERTICAL CONTROL # 13 | | | |
|---|---|---|---|
| Y | 237,760.9490 | X | 141,540.2850 |
| EL. | 440.240 | PK | |

| HORIZONTAL VERTICAL CONTROL # 12 | | | |
|---|---|---|---|
| Y | 237,725.5860 | X | 141,812.5330 |
| EL. | 444.450 | PK | |

## PROPOSED LEGEND

| | | |
|---|---|---|
| BOLLARD TYPE-1 | BO1 | C603 |
| GUARD RAIL | GR | C604 |
| VERTICAL CURB TYPE E | VC | C602 |
| 0.81 (32") PERMEABLE PEDESTRIAN PATH | PP1 | C601 |
| 0.60 (24") PERMEABLE PEDESTRIAN PATH | PP2 | C601 |
| PERMEABLE PARKING PAVEMENT | PPP | C603 |
| PAVER PAVEMENT | PP3 | C603 |
| GARBAGE PAD SCREEN | GPS | C601 |
| LANDSCAPE STONE TYPE 1 | LS1 | C604 |
| LANDSCAPE STONE TYPE 2 | LS2 | C604 |
| SPEED TABLE | STP | C601 |
| KILOMETER MARKER | KM | C603 |

# GRADING DRAINAGE-5

scale= 1:300

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PROJECT: PR-CRP-000721
**PASEO LA GRUTA-VIVERO DE PECES**
CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

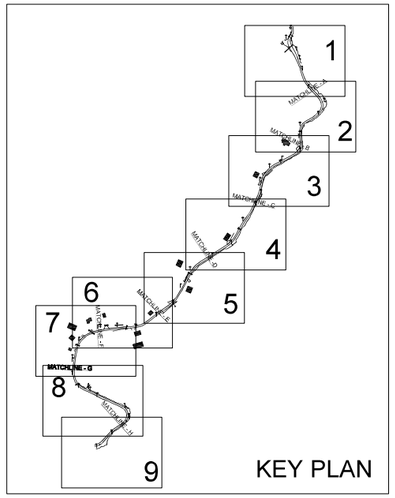
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PASEO HATCHERY [PR-CRP-000721]

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SHEET TITLE: GRADING DRAINAGE PLAN
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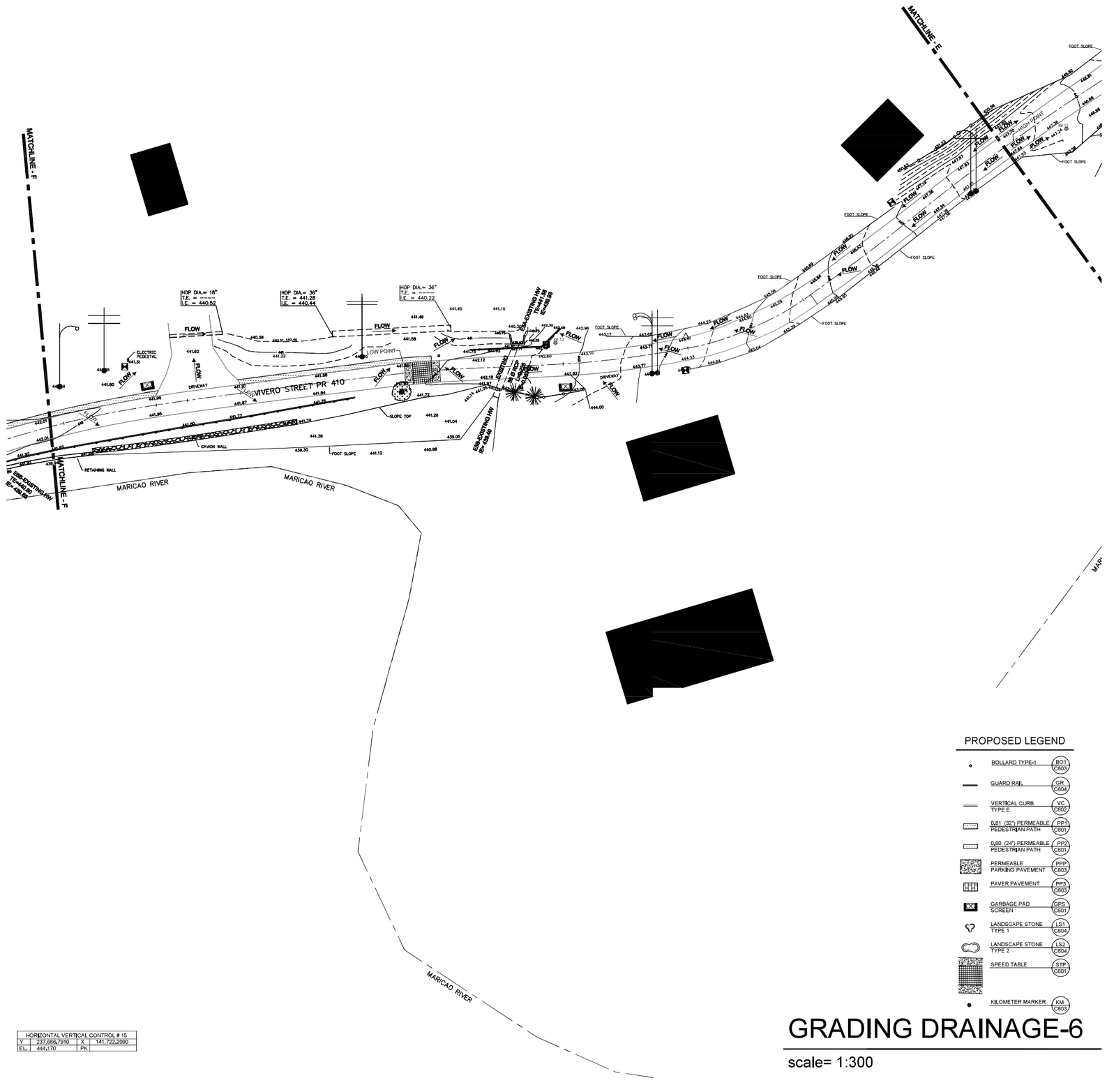



## EXISTING CONDITIONS LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

0 5 10 30
SCALE = 1:300

| HORIZONTAL VERTICAL CONTROL # 15 | | | |
|---|---|---|---|
| Y | 237,666.7910 | X | 141,722.2080 |
| EL. | 444.170 | PK | |




## PROPOSED LEGEND

| | | |
|---|---|---|
| BOLLARD TYPE-1 | BO1 | C603 |
| GUARD RAIL | GR | C604 |
| VERTICAL CURB TYPE E | VC | C602 |
| 0.81 (32") PERMEABLE PEDESTRIAN PATH | PP1 | C601 |
| 0.60 (24") PERMEABLE PEDESTRIAN PATH | PP2 | C601 |
| PERMEABLE PARKING PAVEMENT | PPP | C603 |
| PAVER PAVEMENT | PP3 | C603 |
| GARBAGE PAD SCREEN | GPS | C601 |
| LANDSCAPE STONE TYPE 1 | LS1 | C604 |
| LANDSCAPE STONE TYPE 2 | LS2 | C604 |
| SPEED TABLE | STP | C601 |
| KILOMETER MARKER | KM | C603 |

# GRADING DRAINAGE-6

scale= 1:300

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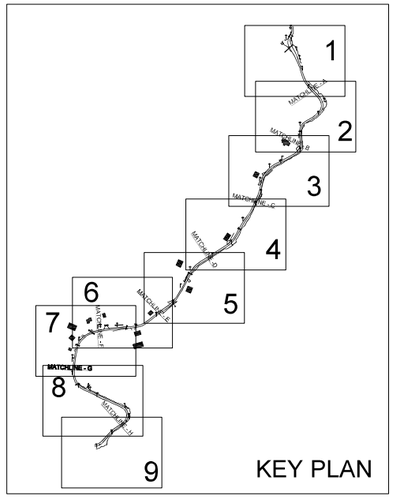
90% DESIGN SET
NOT FOR CONSTRUCTION

PROJECT: PR-CRP-000721
PASEO LA GRUTA-VIVERO DE PECES
CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5
GOBIERNO MUNICIPAL DE MARICAO
PASEO HATCHERY [PR-CRP-000721]

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## EXISTING CONDITIONS LEGEND

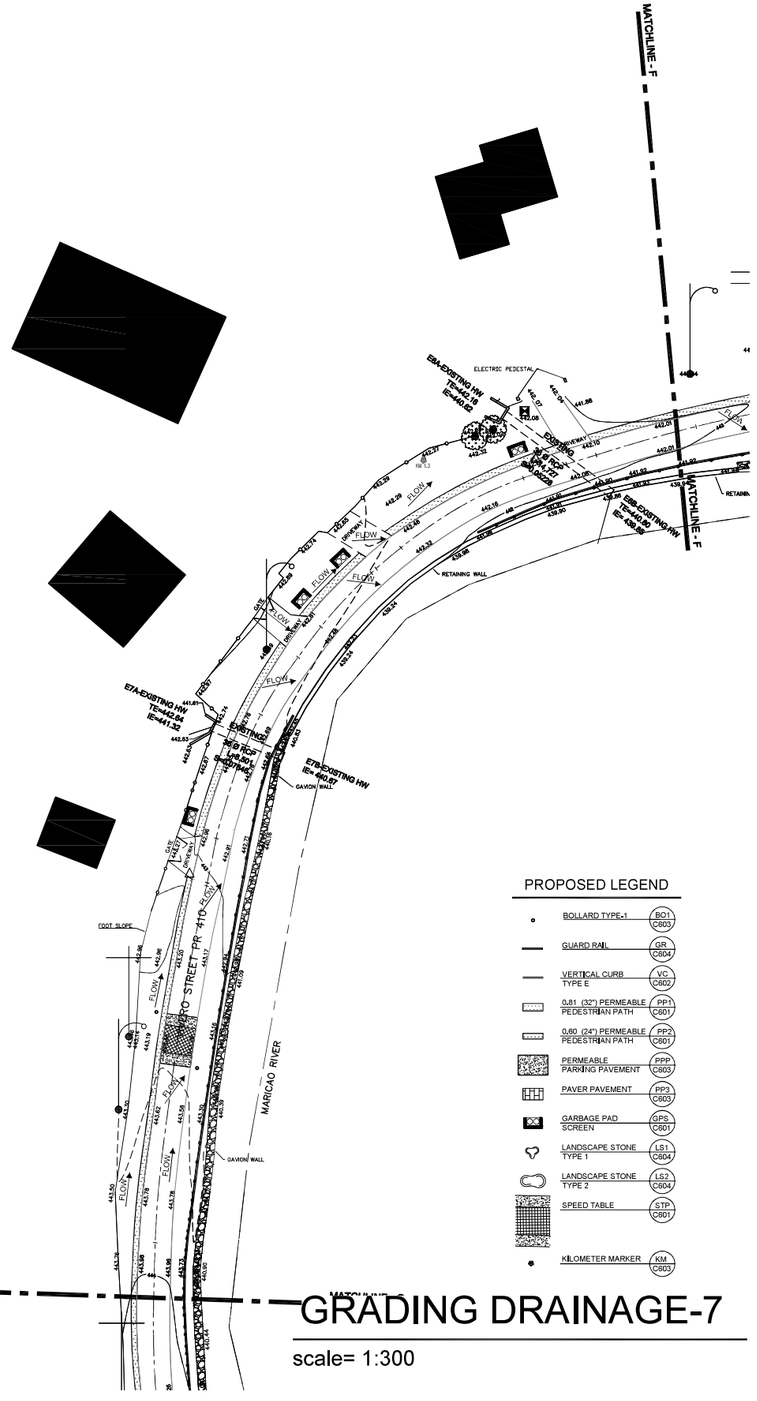
| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

0 5 10 30

SCALE = 1:300

| HORIZONTAL VERTICAL CONTROL # 16 | | | |
|---|---|---|---|
| Y | 237,649.4570 | X | 141,605.5650 |
| EL. | 442.240 | PK | |

| HORIZONTAL VERTICAL CONTROL # 17 | | | |
|---|---|---|---|
| Y | 237,603.4640 | X | 141,587.1870 |
| EL. | 443.040 | PK | |




## PROPOSED LEGEND

| | | |
|---|---|---|
| BOLLARD TYPE-1 | BO1 | C603 |
| GUARD RAIL | GR | C604 |
| VERTICAL CURB TYPE E | VC | C602 |
| 0.81 (32") PERMEABLE PEDESTRIAN PATH | PP1 | C601 |
| 0.60 (24") PERMEABLE PEDESTRIAN PATH | PP2 | C601 |
| PERMEABLE PARKING PAVEMENT | PPP | C603 |
| PAVER PAVEMENT | PP3 | C603 |
| GARBAGE PAD SCREEN | GPS | C601 |
| LANDSCAPE STONE TYPE 1 | LS1 | C604 |
| LANDSCAPE STONE TYPE 2 | LS2 | C604 |
| SPEED TABLE | STP | C601 |
| KILOMETER MARKER | KM | C603 |

# GRADING DRAINAGE-7

scale= 1:300

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PROJECT: PR-CRP-000721

**PASEO LA GRUTA-VIVERO DE PECES**

CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

GOBIERNO MUNICIPAL DE MARICAO

PASEO HATCHERY [PR-CRP-000721]

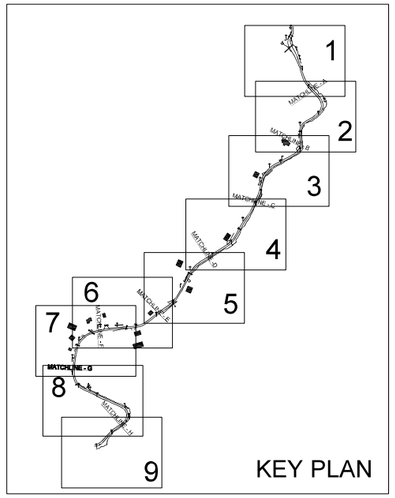
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## EXISTING CONDITIONS LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

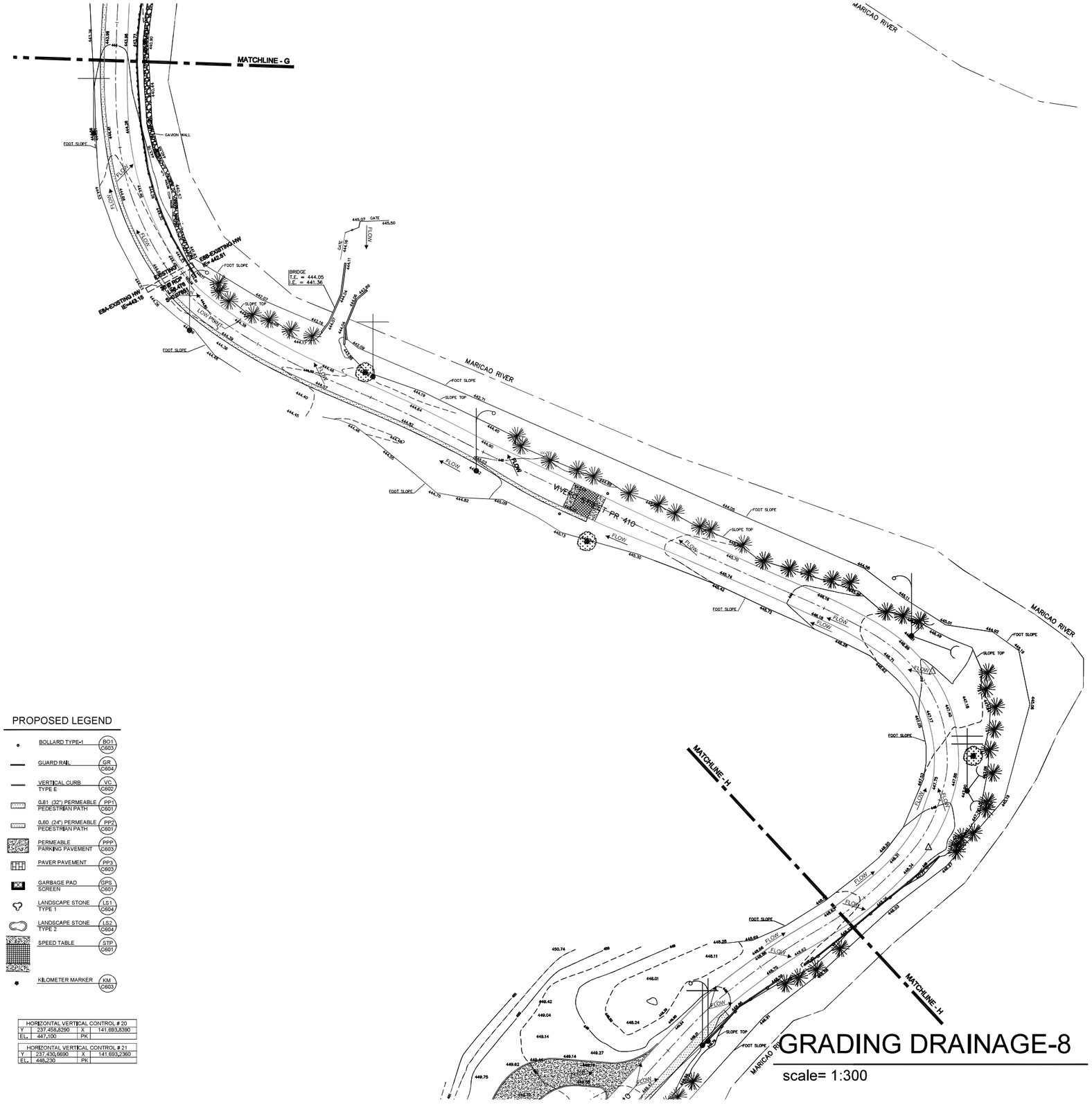
0 5 10 30
SCALE = 1:300

## PROPOSED LEGEND

| | | |
|---|---|---|
| BOLLARD TYPE-1 | BO1 | C603 |
| GUARD RAIL | GR | C604 |
| VERTICAL CURB TYPE E | VC | C602 |
| 0.81 (32") PERMEABLE PEDESTRIAN PATH | PP1 | C601 |
| 0.60 (24") PERMEABLE PEDESTRIAN PATH | PP2 | C601 |
| PERMEABLE PARKING PAVEMENT | PPP | C603 |
| PAVER PAVEMENT | PP3 | C603 |
| GARBAGE PAD SCREEN | GPS | C601 |
| LANDSCAPE STONE TYPE 1 | LS1 | C604 |
| LANDSCAPE STONE TYPE 2 | LS2 | C604 |
| SPEED TABLE | STP | C601 |
| KILOMETER MARKER | KM | C603 |

| HORIZONTAL VERTICAL CONTROL # 20 | | | |
|---|---|---|---|
| Y | 237,456,8290 | X | 141.693,8390 |
| EL. | 447,100 | PK | |

| HORIZONTAL VERTICAL CONTROL # 21 | | | |
|---|---|---|---|
| Y | 237,430,6690 | X | 141.693,2360 |
| EL. | 448,200 | PK | |




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PROJECT: PR-CRP-000721
# PASEO LA GRUTA-VIVERO DE PECES
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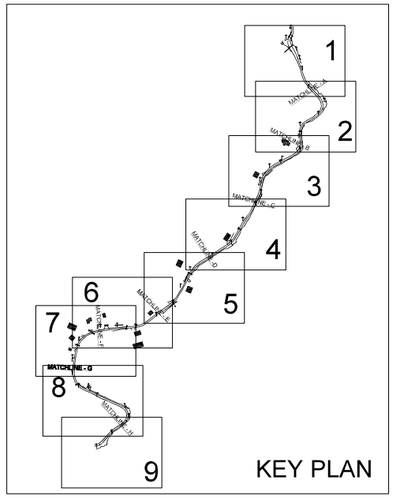
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PASEO HATCHERY [PR-CRP-000721]

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## EXISTING CONDITIONS LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

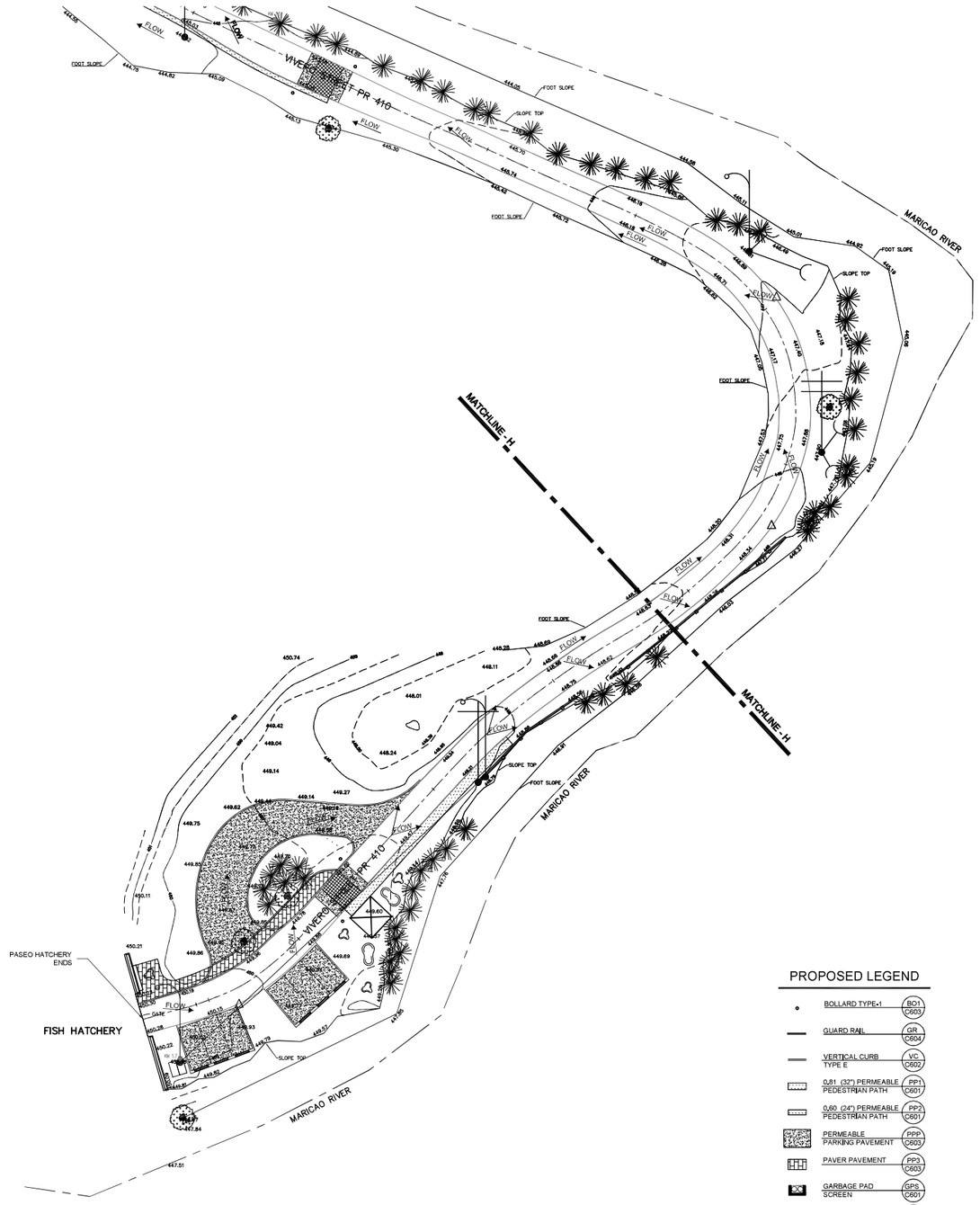
0 5 10 30

SCALE = 1:300

| HORIZONTAL VERTICAL CONTROL # 20 | | | |
|---|---|---|---|
| Y | 237,458.8290 | X | 141,693.8390 |
| EL. | 447.100 | PK | |

| HORIZONTAL VERTICAL CONTROL # 21 | | | |
|---|---|---|---|
| Y | 237,430.6690 | X | 141,693.2360 |
| EL. | 448.230 | PK | |

| HORIZONTAL VERTICAL CONTROL # 22 | | | |
|---|---|---|---|
| Y | 237,371.6570 | X | 141,627.5680 |
| EL. | 450.080 | PK | |




## PROPOSED LEGEND

| | | |
|---|---|---|
| | BOLLARD TYPE-1 | BO1 C603 |
| | GUARD RAIL | GR C604 |
| | VERTICAL CURB TYPE E | VC C602 |
| | 0,81 (32") PERMEABLE PEDESTRIAN PATH | PP1 C601 |
| | 0,60 (24") PERMEABLE PEDESTRIAN PATH | PP2 C601 |
| | PERMEABLE PARKING PAVEMENT | PPP C603 |
| | PAVER PAVEMENT | PP3 C603 |
| | GARBAGE PAD SCREEN | GPS C601 |
| | LANDSCAPE STONE TYPE 1 | LS1 C604 |
| | LANDSCAPE STONE TYPE 2 | LS2 C604 |
| | SPEED TABLE | STP C601 |
| | KILOMETER MARKER | KM C603 |

# GRADING DRAINAGE-9

scale= 1:300

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787.309.3837

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90% DESIGN SET
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PROJECT: PR-CRP-000721

**PASEO LA GRUTA-VIVERO DE PECES**

CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

GOBIERNO MUNICIPAL DE MARICAO

PASEO HATCHERY [PR-CRP-000721]

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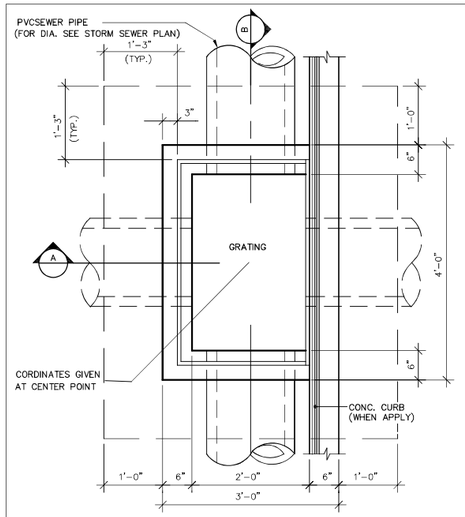
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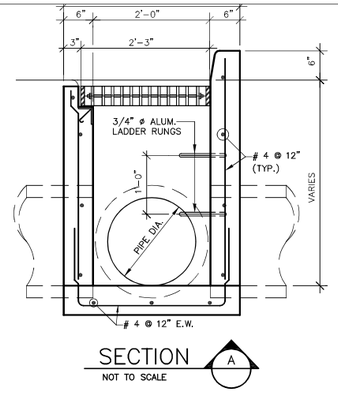
SHEET TITLE: GRADING DRAINAGE PLAN

DRAWING NO.: C-209

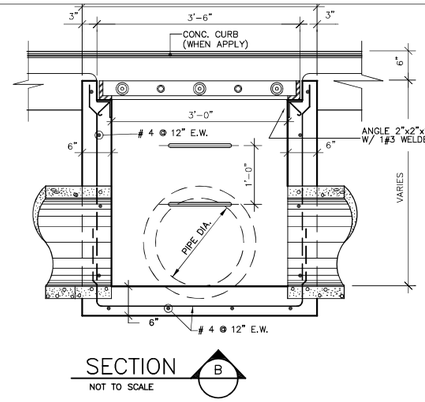
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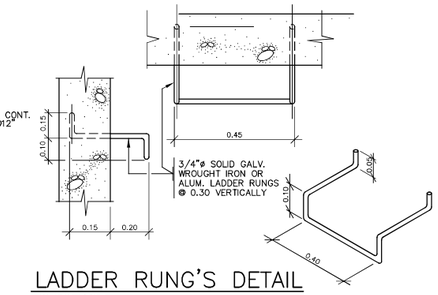

## STANDARD CONCRETE INLET PLAN
NOT TO SCALE



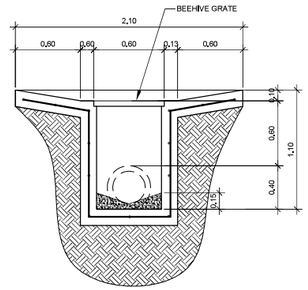

## SECTION A
NOT TO SCALE




## SECTION B
NOT TO SCALE



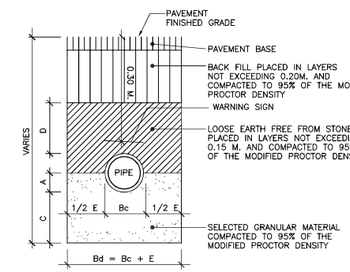

## LADDER RUNG'S DETAIL
NOT TO SCALE




## SECTION A
NOT TO SCALE

### NOTES

1- COORDINATES ARE INDICATED AT CENTER OF CATCH BASINS OR MANHOLES
2- TOP ELEVATIONS OF MANHOLES OR CATCH BASINS MUST BE ADJUSTED TO FINISH GRADE ELEVATION
3- ALL PIPES TO BE PVC SDR-35

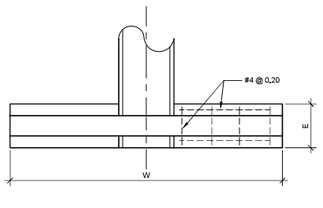



## STORM SEWER PIPE TRENCH DETAIL
NOT TO SCALE

### TRENCH DATA TABLE

| DIAM. | Bc | E | Bd | A | C | D |
|---|---|---|---|---|---|---|
| 12" | 0.41 | 0.40 | 0.81 | 0.11 | 0.10 | 0.30 |
| 18" | 0.56 | 0.50 | 1.08 | 0.18 | 0.12 | 0.30 |
| 24" | 0.77 | 0.60 | 1.37 | 0.20 | 0.16 | 0.39 |
| 30" | 0.94 | 0.60 | 1.34 | 0.24 | 0.19 | 0.47 |
| 36" | 1.11 | 0.75 | 1.86 | 0.28 | 0.23 | 0.56 |
| 42" | 1.30 | 0.75 | 2.05 | 0.33 | 0.27 | 0.65 |
| 48" | 1.48 | 0.90 | 2.38 | 0.37 | 0.31 | 0.74 |
| 36"x60" | 1.80 | 0.90 | 2.70 | 0.62 | 0.35 | 0.90 |

ALL DIMENSIONS IN METERS EXCEPT DIA.

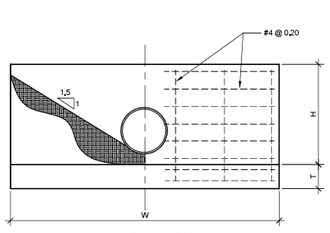



## PLAN

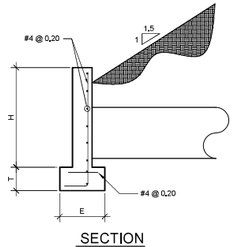
### HEADWALL TYPE "A" DIMENSIONS

| PIPE | W | H | E | T |
|---|---|---|---|---|
| D=18" | 3.24 | 1.07 | 0.46 | 0.23 |
| D=24" | 3.98 | 1.22 | 0.56 | 0.23 |
| D=30" | 4.83 | 1.37 | 0.61 | 0.23 |
| D=36" | 5.66 | 1.52 | 0.71 | 0.30 |

ALL DIMENSIONS IN METERS EXCEPT PIPE DIAMETER

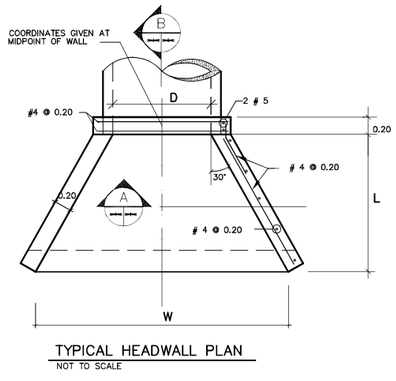



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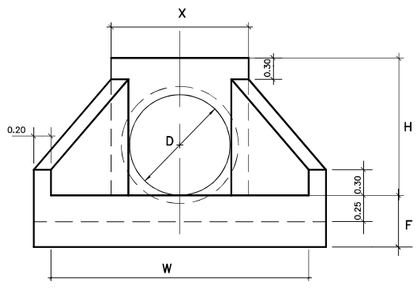



## SECTION

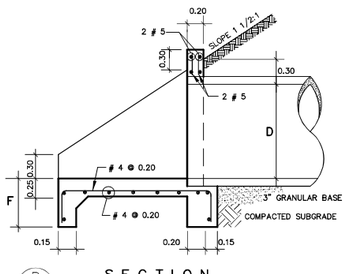
## HEADWALL TYPE A DETAILS
NOT TO SCALE



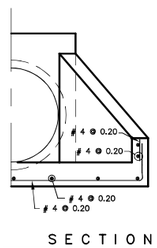

## TYPICAL HEADWALL PLAN
NOT TO SCALE




## E L E V A T I O N – A
NOT TO SCALE

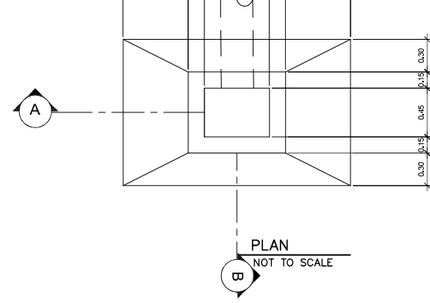



B
## S E C T I O N
NOT TO SCALE

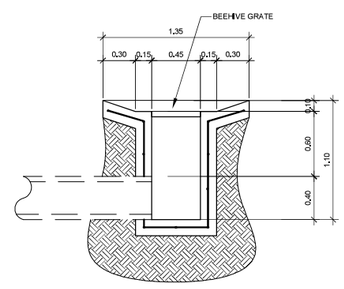



A
## S E C T I O N
NOT TO SCALE

## DEPRESSED CATCH BASIN DETAILS – DI
NOT TO SCALE

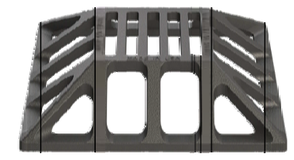



## PLAN
NOT TO SCALE




## SECTION B
NOT TO SCALE

- Frame bottom flange to rest on concrete structure
- Designed for H-20 traffic loading
- Most available with solid covers
- Options for one piece solid covers: bolted, watertight



**BEEHIVE**

## BEEHIVE GRATE
NOT TO SCALE

### HEADWALL DIMENSIONS

| PIPE | W | X | H | L | F |
|---|---|---|---|---|---|
| D=12" | 0.85 | 0.76 | 0.80 | 0.48 | 0.30 |
| D=18" | 1.00 | 0.93 | 0.91 | 0.48 | 0.30 |
| D=24" | 1.42 | 1.08 | 1.07 | 0.71 | 0.43 |
| D=30" | 1.84 | 1.23 | 1.22 | 0.94 | 0.51 |
| D=36" | 2.22 | 1.47 | 1.37 | 1.17 | 0.58 |

ALL DIMENSIONS IN METERS EXCEPT PIPE DIAMETER

### NOTES:

1 - Fc=3,000 psi
2 - Fy= 60,000 psi
3 - PORTLAND CONCRETE SHALL BE CLASS A.
4 - REINFORCING STEEL SHALL BE GRADE 60, AASHTO M-31 OR M31-M.

# H E A D W A L L  D E T A I L S

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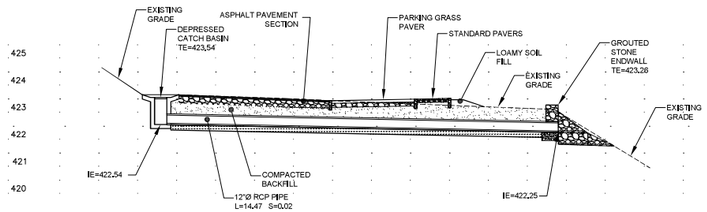
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**PASEO LA GRUTA-VIVERO DE PECES**
CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5
GOBIERNO MUNICIPAL DE MARICAO
PASEO HATCHERY [PR-CRP-000721]

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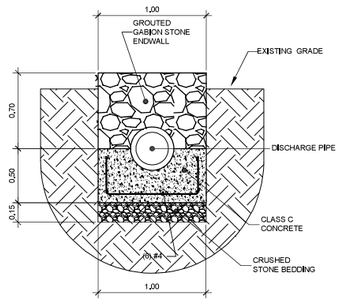
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REVIEWED BY:
DATE: 05/23

SHEET TITLE: DRAINAGE DETAILS
DRAWING NO.: C-210.1

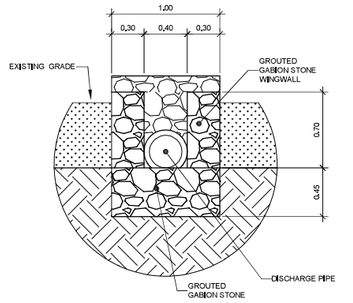
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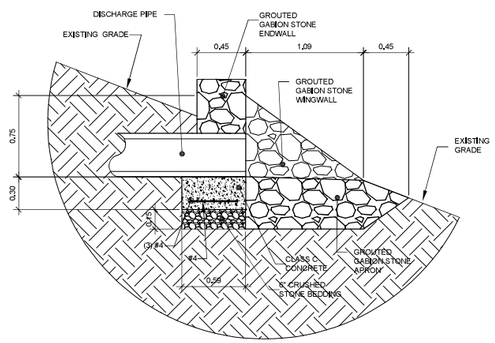

CATCH BASIN CB-1 PROFILE SECTION
SCALE = 1:100



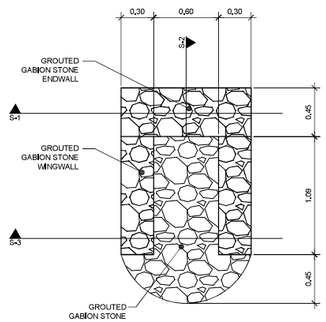

SECTION
SCALE = 1:25
S-1




SECTION
SCALE = 1:25
S-3




SECTION
SCALE = 1:25
S-2

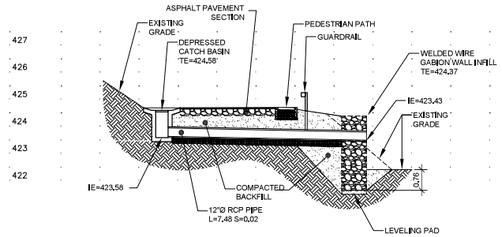



PLAN
SCALE = 1:25

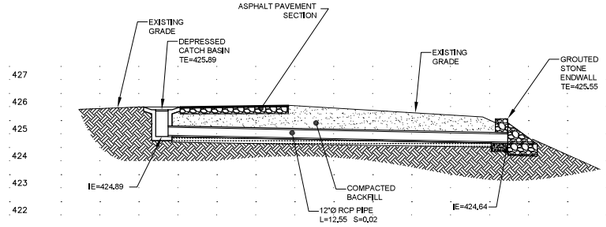
# GABION STONE GROUTED ENDWALL DETAILS

NOTES:

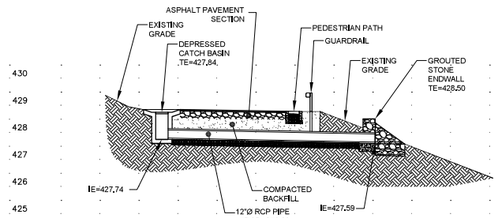
1. ALL EDGES OF EXPOSED CONCRETE SURFACE SHALL BE CHAMFERED 1 INCH.
2. ENDWALL SHALL BE CONSTRUCTED PERPENDICULAR TO TO CENTERLINE OF PIPE.



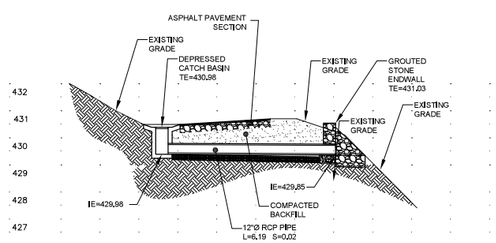

CATCH BASIN CB-2 PROFILE SECTION
SCALE = 1:100




CATCH BASIN CB-3 PROFILE SECTION
SCALE = 1:100




CATCH BASIN CB-4 PROFILE SECTION
SCALE = 1:100




CATCH BASIN CB-5 PROFILE SECTION
SCALE = 1:100

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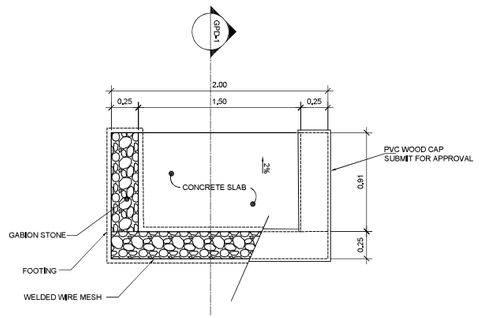
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PASEO HATCHERY [PR-CRP-000721]

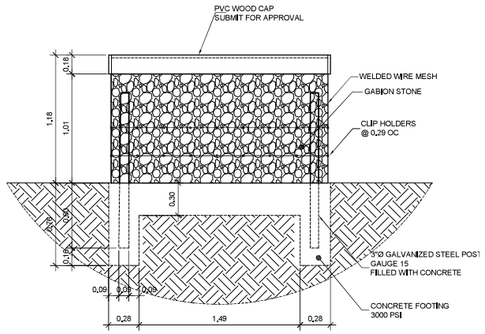
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SHEET TITLE: DRAINAGE DETAILS
DRAWING NO.: C-210.2

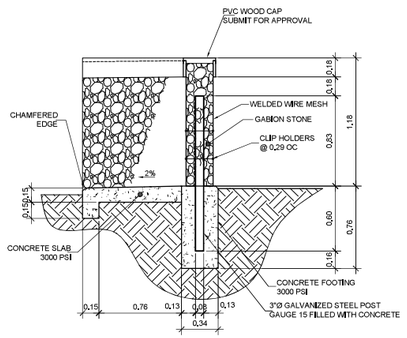
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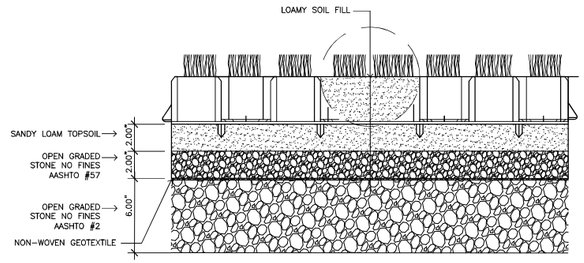

GARBAGE PAD SCREEN GPD
SCALE = 1:25



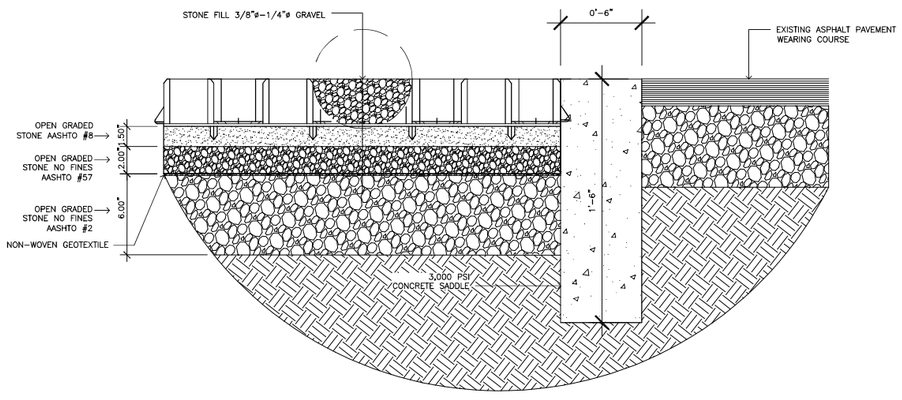

SECTION GPD-2
SCALE = 1:25



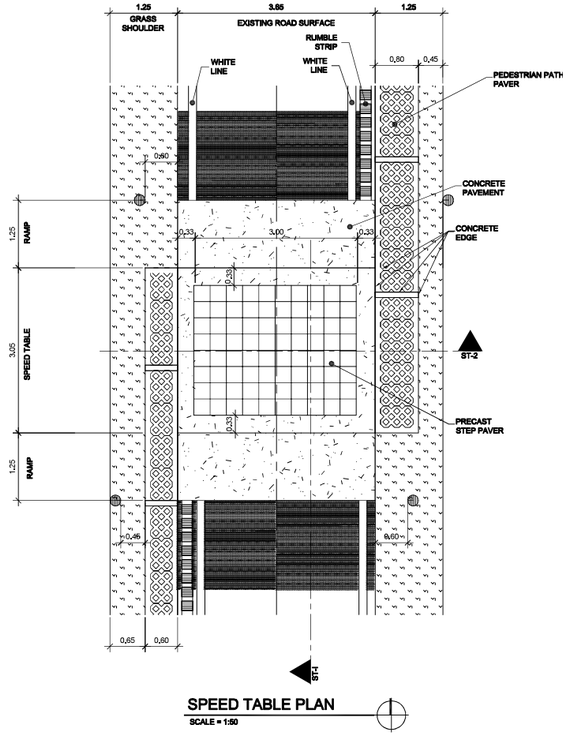

SECTION GPD-1
SCALE = 1:25



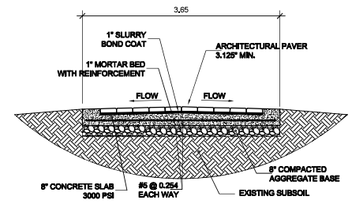

PEDESTRIAN PATH PAVER SECTION AT PARKING OR PEDESTRIAN TRAFFIC
SCALE: NTS



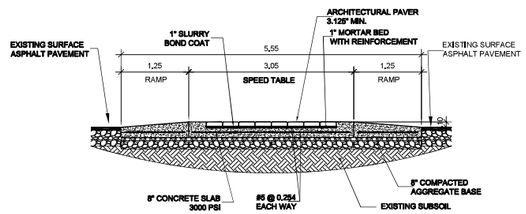

PEDESTRIAN PATH PAVER SECTION AT VEHICULAR TRAFFIC
SCALE: NTS




SPEED TABLE PLAN
SCALE = 1:50




SECTION ST-2
SCALE = 1:50




SECTION ST-1
SCALE = 1:50

# TYPICAL DETAILS

SCALE = AS SHOWN

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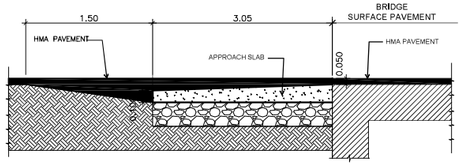
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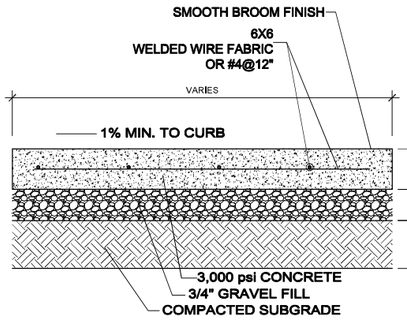
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SHEET TITLE: TYPICAL DETAILS
DRAWING NO.: C-601

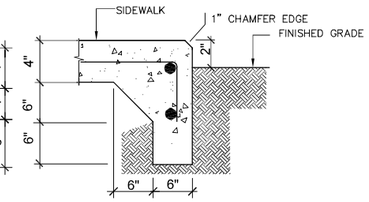
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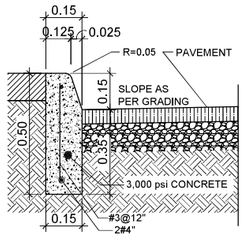

## FLEXIBLE & RIGID PAVEMENTS TRANSITION
NOT TO SCALE



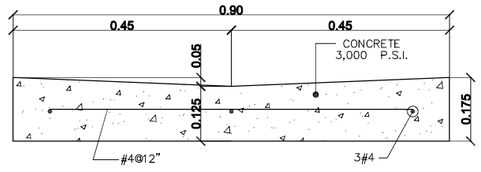

## SIDEWALK DETAIL _
SCALE : N.T.S.



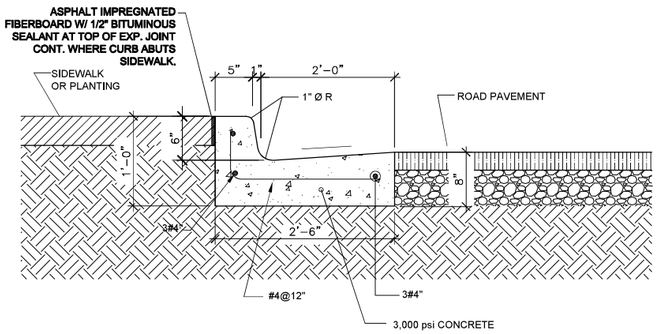

## DETAIL @ SIDEWALK EDGE
SCALE: N.T.S.



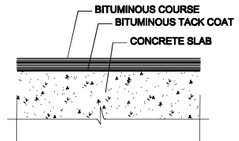

## VERTICAL CURB TYPE " E "
SCALE : N.T.S.




## CONCRETE SWALE DETAIL
SCALE: N.T.S.




## STANDARD CURB & GUTTER TYPE - F
NOT TO SCALE




## ASPHALT OVERLAY DETAIL
SCALE : NOT TO SCALE

### SIDEWALK PAVEMENT NOTES

1 CONCRETE FOR SIDEWALK SHALL HAVE A 28 DAY COMPRESSIVE STRENGTH OF 3000 PSI AND A MAXIMUM W/C RATIO OF 0.72.

2 PROVIDE TOOLED CONTROL JOINTS @5'–0" ON CENTER. A MINIMUM DEPTH OF 1" AND ⅛" WIDTH.

3 PROVIDE ½" EXPANSION JOINTS @ 30'–0" ON CENTER WITH A PRE MOLDED JOINT FILLER AND JOINT SEALANT.

4 WHERE SIDEWALK ABUTS PROPOSED OR EXISTING FIXED OBJECTS PROVIDE A ½" EXPANSION JOINT WITH PRE MOLDED JOINT FILLER AND SEALANT.

5 WELDED WIRE MESH TO BE INTERRUPTED AT ALL EXPANSION OR CONSTRUCTION JOINTS LOCATIONS. WELDED WIRE MESH SHALL BE STARTED OR INTERRUPTED AT 2" FROM JOINT OR EDGE LOCATION.

### PCC PAVEMENT NOTES:

1 ALL CONCRETE PAVING SUBJECT TO VEHICULAR TRAFFIC SHALL BE 4,000 PSI AT 28 DAYS WITH FIBERMESH,BROOM FINISH, MATERIALS AND WORKMANSHIP TO MEET OR EXCEED PRHTA SPECIFICATIONS FOR PORTLAND CEMENT CONCRETE PAVING.

2 SUBGRADE FOR CONCRETE PAVING SHALL BE COMPACTED TO 95% STANDARD PROCTOR. COMPACTION AROUND STRUCTURES, MANHOLES AND STORM INLETS SHALL BE VERIFIED. PRIOR TO PLACING CONCRETE PAVING, THE SUBGRADE SHALL BE SMOOTH AND LEVEL, ANY WHEEL RUTS OR OTHER DISTURBANCES SHALL BE LEVELED. MOISTEN SUBGRADE PRIOR TO PLACING PAVEMENT,

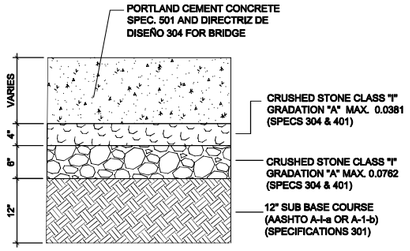
3 FINAL SUBGRADE ELEVATION SHALL BE PROOF ROLLED USING A FULLY LOADED TANDEM AXLE TRUCK. ANY LOOSE OR SOFT AREAS SHALL BE STABILIZED BY DRYING AND RECOMPACTION OR UNDER CUT AND REPLACED WITH ENGINEERED FILL.

4 ENGINEERED FILL SHALL CONSIST OF A–1–a GRANULAR FILL MATERIAL UNLESS OTHERWISE NOTED. MATERIAL SHALL BE PLACED IN MAXIMUM LOOSE FITS OF 6 INCHES IN THICKNESS AND COMPACTED TO 95% OF ITS MAXIMUM DRY DENSITY AS DETERMINED FROM THE MODIFIED PROCTOR TEST OR FOR COMPLETELY GRANULAR SOILS WITH LESS THAN 5% FINES, 75% RELATIVE DENSITY AS DETERMINED BY THE INSPECTING GEOTECHNICAL ENGINEER.

5 SEAL CONCRETE WITH WHITE PIGMENTED LIQUID MEMBRANE CURING COMPOUND MEETING ASTM C309–0RASTM C1315 (TYPE II) PRIOR TO SAW CUTTING CONTROL JOINTS.

6 PROVIDE CONTROL JOINTS FOR CONCRETE PAVING,SPACING SHALL BE BASED ON PAVEMENT SECTION THICKNESS, OR WIDTH OF PAVEMENT, WHICHEVER IS LESS: 4"THICK 8' MAX,5" THICK–12' MAX, 6" THICK OR GREATER – 15' MAX. AT CURVES, JOINT SPACING SHALL BE MEASURED ALONG THE OUTSIDE OF THE CURVE.

7 CONTRACTOR SHALL SUBMIT A JOINT PATTERN TO THE ENGINEER AND ARCHITECT FOR APPROVAL PRIOR TO PAVING. SAW CUT CONTROL JOINTS $\frac{1}{3}$ EPTH OF SLAB THICKNESS AS SOON AS CONCRETE HAS HARDENED ENOUGH TO SUPPORT THE SAW AND PREVENT RAVELING, NO LONGER THAN 12 HOURS FROM BEGINNING OF CONCRETE PLACEMENT. SEAL ALL JOINTS PER DETAILS,JOINT MATERIAL TO BE SONNEBORN SL–1 OR APPROVED EQUIVALENT.




## PCC PAVEMENT SECTION
SCALE: NOT TO SCALE
NOTE: REFER TO STRUCTURAL DRAWINGS

NOTES:
A REFER TO SF-101 FOR SECTION DEPTH AND REINFORCEMENT.
B CONCRETE STEEL REINFORCEMENT SHALL BE ANTICORROSION EPOXY COATED WITH A MINIMUM OF 3 IN COVER.

### PCC PAVEMENT NOTES CONTINUED:

8 CONTROL JOINTS SHALL BE SAWED AS SOON AS THE CONCRETE HAS HARDENED SUFFICIENTLY TO PERMIT SAWING WITHOUT RAVELING (USUALLY 4 TO 8 HOURS). ALL JOINTS SHALL BE SAWED BEFORE UNCONTROLLED SHRINKAGE TAKES PLACE. THE SAWING OPERATIONS SHALL BE CARRIED ON, BOTH DURING THE DAY AND NIGHT, AND REGARDLESS OF WEATHER CONDITIONS, UNTIL SAWING IS COMPLETED WITHIN THE PRESCRIBED TIME LAPSE. THE SAWING OF ANY JOINT SHALL BE OMITTED IF A CRACK OCCURS AT OR NEAR THE JOINT LOCATION PRIOR TO THE TIME OF SAWING. SAWING SHALL BE DISCONTINUED WHEN A CRACK DEVELOPS AHEAD OF THE SAW.

9 REFER TO PCC PAVEMENT JOINT LAYOUT PLANS FOR SPECIFIED JOINT PATTERN.

10 GRADATION FOR COARSE AGGREGATE FOR PORTLAND CEMENT CONCRETE FOR PAVEMENT SHALL USE AGGREGATE SIZE AND GRADATION ACCORDING TO 1.5 INCH TO NO. 4 GRADATION LISTED IN TABLE 703–2 OF THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION OF THE PUERTO RICO DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS.

11 CONTRACTOR IS RESPONSIBLE FOR RESTORATION OF ANY EXISTING PAVEMENT,SIDEWALKS, CURBING, UTILITIES AND DRAINAGE SYSTEM DAMAGED DURING CONSTRUCTION. ALL DAMAGED AREAS ARE TO BE RESTORED TO ORIGINAL CONDITION OR BETTER.

12 THE BITUMINOUS TACK COAT SHALL MEET THE REQUIREMENTS OF SPECIFICATION 407–"BITUMINOUS TACK COAT".

13 AL BITUMINOUS COURSES SHALL MEET THE REQUIREMENTS OF SPECIFICATION 959–"HOT PLANT MIX BITUMINOUS PAVEMENT" OR SPECIFICATION 959 – "HOT PLANT MIX BITUMINOUS PAVEMENT (SUPERPAVE)".

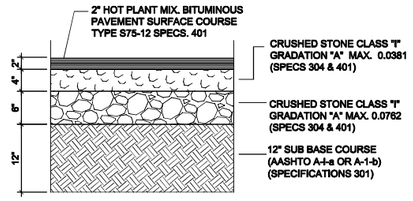
14 JOINT SEALANT SHALL MEET THE REQUIREMENTS OF AASHTO M 301 AND ASTM D 3405.

15 THE MILLING IN PORTLAND CEMENT CONCRETE PAVEMENTS AND APPROACH SLABS SHALL MEET THE REQUIREMENTS OF SPECIAL PROVISIONS OF SPECIFICATION 943–"MILLING OF PORTLAND CEMENT CONCRETE PAVEMENT".

16 THE COLD MILLING IN BITUMINOUS PAVEMENT SHALL MEET THE REQUIREMENTS OF SPECIFICATION 403 – "COLD MILLING OF BITUMINOUS PAVEMENT".

17 THE TRANSITION DETAIL SHALL BE PEPRFORMED AT THE BEGINNING OF THE APPROACH SLAB".

18 THE BITUMINOUS SURFACE COURSE SHALL BE PLACED IMMEDIATELY, AFTER MILLING AND OR CLEANING OPERATIONS ARE COMPLETED.




## ASPHALT PAVEMENT SECTION
SCALE : NOT TO SCALE

### ASPHALT PAVEMENT NOTES:

1 EXCAVATE ALL EXISTING FILL AND UNSUITABLE SOILS TO EXPOSE SUITABLE NATURAL VERY STIFF TO HARD CLAY SOILS, PROOFROLL EXPOSED NATURAL SOILS, STABILIZE AS NECESSARY AND THE PLACE ENGINEERED FILL TO SUBGRADE ELEVATION. IN CUT AREAS EXCAVATE TO THE DEPTH OF THE FINAL SUBGRADE ELEVATION TO ALLOW FOR SUBGRADE PREPARATION AND EVALUATION, AND PLACEMENT OF THE PAVEMENT SYSTEM.

2 COMPACT THE TOP 12 INCHES OF THE EXPOSED SUBGARDE AS WELL MAS INDIVIDUAL FILL LAYERS TO A MINIMUM 95 PERCENT OF THE MAXIMUM MODIFIED PROCTOR (ASTM 1557) DENSITY.

3 THOROUGHLY PROOFROLL THE FINAL SUBGRADE USING THE EQUIVALENT OF A FULLY LOADED TANDEM AXLE TRUCK UNDER THE OBSERVATION OF A GEOTECHNICAL/PAVEMWENT ENGINEER. SOFT OR LOOSE YIELDING AREAS THAT CANNOT BE MECHANICALLY STABILIZED SHOULD BE REMOVED AND REPLACED WITH ENGINEERED FILL OR STABILIZED AS DICTATED BY FIELD CONDITIONS.

4 THE AGGREGATE BASE AND SUBBASE SHOULD BE COMPACTED TO A MINIMUM 95 PERCENT OF THE MAXIMUM MODIFIED PROCTOR (ASTM 1557) DENSITY.

5 A BOND COAT OF SS-1H EMULSION SHOULD BE REQUIRED BETWEEN THE LEVELING COURSE AND THE SURFACE COURSE WHEN EITHER 48 HOURS HAVE ELAPSED BETWEEN PLACEMENT OF THE BITUMINOUS COURSES OR THE SURFACE OF THE PAVEMENT HAS BEEN CONTAMINATED WITH DIRT, DUST OR FOREIGN MATERIAL. THE BOND COAT SHOULD BE APPLIED IN A UNIFORM MANNER OVER THE SURFACE AT A RATE OF 0.1 GALLONS/ S.Y. IN THE EVENT A BOND COAT IS NOT REQUIRED, THE LEVELING COURSE MAY REQUIRE LOCALIZED BROOM CLEANING.

6 PENETRATION GRADE PG 64-22 ASPHALT CEMENT SHALL BE USED IN THE PRODUCTION OF ALL BITUMINOUS MIXTURES. RECLAIMED ASPHALT PAVEMENT (RAP) SHOULD BE LIMITED TO 5% IN THE WEARING COURSE AND 10% IN THE LEVELING COURSE.

7 MIX DESIGN SHALL BE BASED ON 75 BLOWS OF THE MARSHALL HAMMER.

### CONCRETE CURB TYP. NOTES

1-CONCRETE CURB SECTIONS SHALL BE OF UNIFORM LENGTHS OF 20 FEET OR LESS BUT NO SECTION TO BE LESS THAN SIX FEET.

2-PLACE 1/2 " THICK PREFORMED EXPANSION JOINT FILLER TO FULL DEPTH, FLUSH WITH TOP AND FACE OF CURB, BETWEEN CURB SECTIONS.

3-PLACE PRIME COAT ON CURB SURFACES THAT ABUTTS BITUMINOUS PAVEMENT.

4-BETWEEN CONCRETE CURB AND CONCRETE PAVEMENT OR OTHER ABUTTING STRUCTURES, PLACE 1/2 " PREFORMED EXPANSION JOINT FILLER AND SEALER.

5-CURB & GUTTER SURFACE SHALL HAVE A SMOOTH AND EVEN FINISH.

6-PORTLAND CEMENT CONCRETE SHALL BE CLASS "A".

7-CURBING SHALL BE CONSTRUCTED IN SECTIONS HAVING A UNIFORM LENGTH OF 3 METERS WITHOUT NEED OF ANY JOINT FILLER. SECTIONS SHALL BE SEPARATED BY OPEN JOINTS 0.003 WIDE. WHERE THE CURBING IS CONSTRUCTED ADJACENT TO CONCRETE PAVEMENT, THE OPEN JOINTS IN THE CURBING SHALL MATCH THE CONTRACTION JOINTS IN THE PAVEMENT.

8-FORMS SHALL BE OF METAL AND SHALL EXTEND FOR THE FULL DEPTH OF THE CONCRETE. WOODEN FORMS MAY BE USED, WHEN AUTHORIZED BY THE ENGINEER, ON SHORT RADIUS CURVES SUCH AS AT STREET INTERSECTIONS AND AT SUCH OTHER LOCATIONS FOR WHICH CURVED METAL FORMS MAY NOT BE AVAILABLE. ALL FORMS SHALL BE FREE FORM WARP AND OF SUFFICIENT STRENGTH TO RESIST THE PRESSURE OF THE CONCRETE WITHOUT DISPLACEMENT. BRACING AND STACKING OF FORMS SHALL BE SUCH THAT THE FORMS REMAIN IN BOTH HORIZONTAL AND VERTICAL ALIGNMENT UNTIL THEIR REMOVAL. ALL FORMS SHALL BE CLEANED AND COATED WITH AN APPROVED FORM RELEASE AGENT OR FORM OIL BEFORE CONCRETE IS PLACED. DIVIDER PLATES SHALL BE OF METAL. FORMS SHALL CONFORM TO THE SPECIFIED RADIUS WHEN PLACED ON CURVES.

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64 PASEO DE LA ALHAMBRA, URB TORRIMAR, GUAYNABO, P.R. 00966
JAMES@BAIGESMAIL.COM • (787) 399-0077

90% DESIGN SET
NOT FOR CONSTRUCTION

PROJECT: PR-CRP-000721
PASEO LA GRUTA-VIVERO DE PECES
CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5
GOBIERNO MUNICIPAL DE MARICAO
PASEO HATCHERY [PR-CRP-000721]

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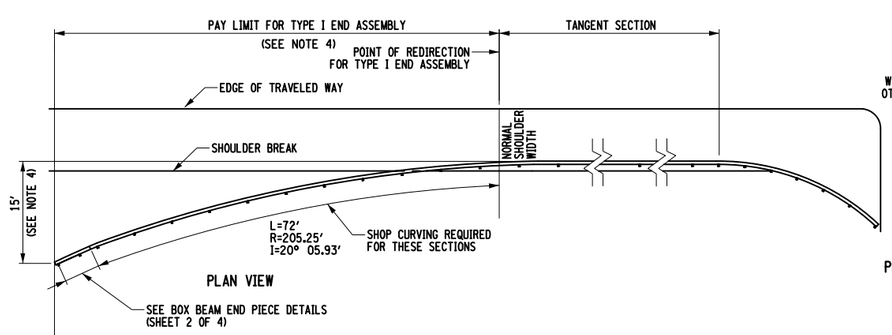
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REVIEWED BY:
DATE: 05/23

SHEET TITLE
PAVEMENT
**DETAILS**

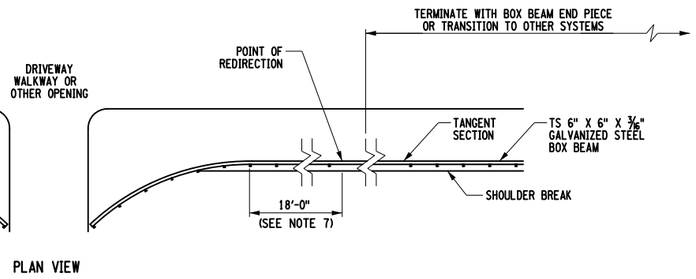
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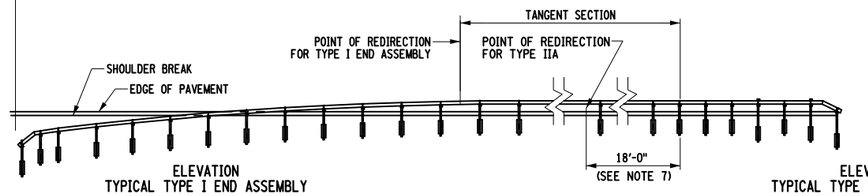
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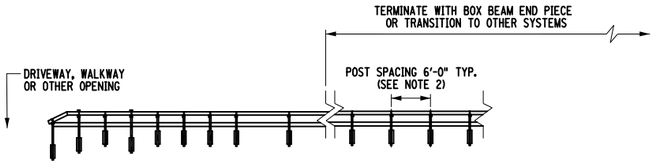

PLAN VIEW




PLAN VIEW

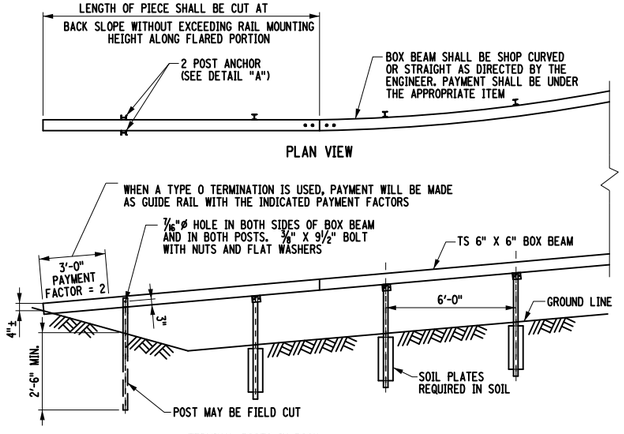



ELEVATION
TYPICAL TYPE I END ASSEMBLY
(SEE NOTE 4)

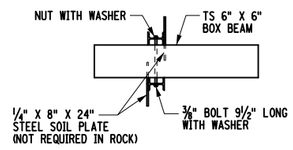



ELEVATION
TYPICAL TYPE IIA END ASSEMBLY
(SEE DETAILS ON SHEET 3 OF 4)

ELEVATION
TYPICAL LAYOUT




TYPE O END TERMINAL




DETAIL "A" - PLAN VIEW

GENERAL NOTES:

1. POST SPACING SHALL BE 6'-0" EXCEPT WHERE REDUCED POST SPACING IS INDICATED ON THE CONTRACT PLANS. FOR RUNS UNDER 130 FEET IN LENGTH, BACKUP POSTS ARE ARE REQUIRED TO REDUCE POST SPACING TO 3'-0" AND SHALL BE FASTENED TORAIL, EXCEPT AT SPLICE LOCATIONS.
2. SEE BRIDGE PLANS FOR GUIDE RAIL DETAILS, POST SPACING AND PAY ITEMS FOR TRANSITIONS AND CONNECTIONS TO BRIDGE RAIL.
3. THE LINE OF BOX BEAM GUIDE RAIL, WHEN COMPLETED, SHALL PRESENT A SMOOTH AND PLEASING GRADE LINE IN BOTH HORIZONTAL AND VERTICAL PLANES. BOX BEAM WITH RADIUS OF 720'-0" OR LESS SHALL BE SHOP WORKED TO THE REQUIRED CURVATURE. PAYMENT FOR SUCH CURVED LENGTHS SHALL BE MADE UNDER THE APPROPRIATE ITEM.
4. THE END MAY BE EXTENDED BY ONE 18'-0" STRAIGHT SECTION, PLACED BETWEEN THE CURVED SECTION AND THE END PIECE, TO MOVE THE END CLOSER TO THE EDGE OF THE CLEAR ZONE. PAYMENT SHALL BE MADE UNDER THE APPROPRIATE ITEM.
5. BACKUP MAY REMAIN IN PLACE.
6. THE RAIL MOUNTING HEIGHT OF ALL GUIDE RAIL OR MEDIAN BARRIER PLACED BEHIND CURB (REGARDLESS OF THE CURB HEIGHT OR SPEED) SHALL BE MEASURED FROM THE PAVEMENT SURFACE WHEN THE OFFSET IS 12" OR LESS AND TO THE GROUND SURFACE UNDER THE FACE OF THE RAIL WHEN THE OFFSET IS GREATER.
7. FOR DESIGN SPEEDS UNDER 50 MPH THE POINT OF REDIRECTION WILL BE AT THE POINT OF TANGENCY.

NEW YORK STATE OF OPPORTUNITY. **Department of Transportation**

U.S. CUSTOMARY STANDARD SHEET

BOX BEAM GUIDE RAIL
(SHEET 1 OF 5)

| APPROVED JUNE 21, 2011 | ISSUED UNDER EB 11-013 |
|---|---|
| /S/ RICHARD W. LEE, P.E. | 606-04 |
| DEPUTY CHIEF ENGINEER (DESIGN) | |

ERRATA 1 EFF. 01/01/2020
ISSUED WITH EB 19-041

# GUARD RAIL DETAILS
SCALE: NOT TO SCALE

C&G
JMCP + JLGARCHITECTS
115 DEL PARQUE STREET SUITE 7
SAN JUAN, PR 00911
787.309.1837

MARICAO
CAPITAL DE LA MONTAÑA

PROGRESS SET
NOT FOR CONSTRUCTION

PROJECT: PR-CRP-000721
PASEO LA GRUTA - VIVERO DE PECES
CARRETERA ESTATAL PR 410, KM. 3.0 - KM. 4.5, MARICAO, PR
GOBIERNO MUNICIPAL DE MARICAO
SCALE: AS SHOWN

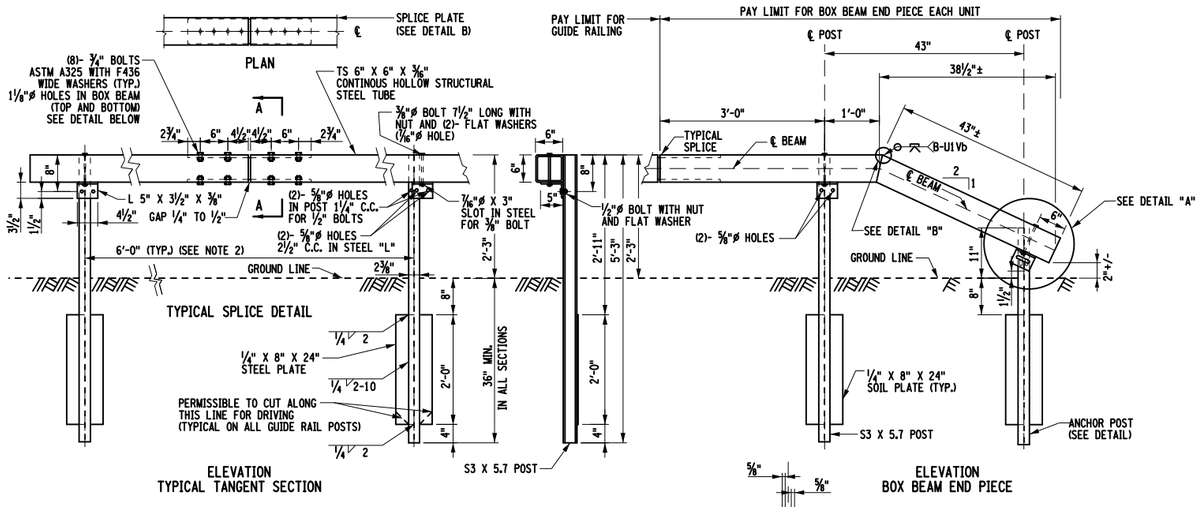
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| 2 | 06.01.23 | 60% PROGRESS SET | . | . |
| 3 | 08.09.23 | 90% PROGRESS SET | . | . |

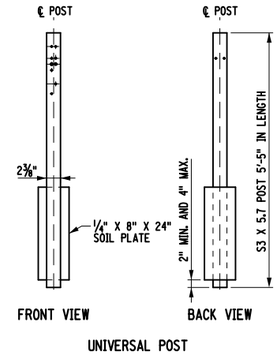
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REVIEWED BY: .
DATE: 08.09.23

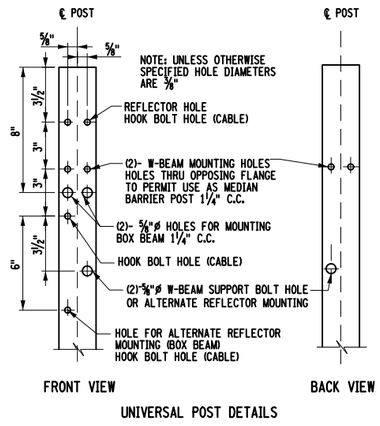
SHEET TITLE: REFERENCE GUARD RAIL DETAILS
DRAWING NO.: C-603.1

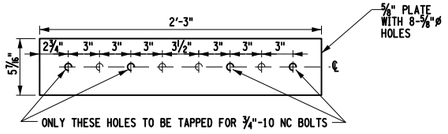
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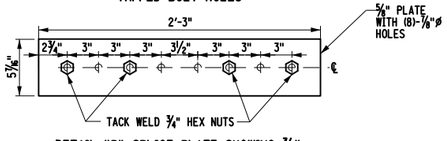
GENERAL NOTES ON SHEET 1 OF 4

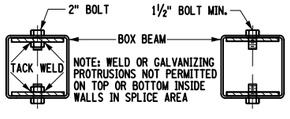


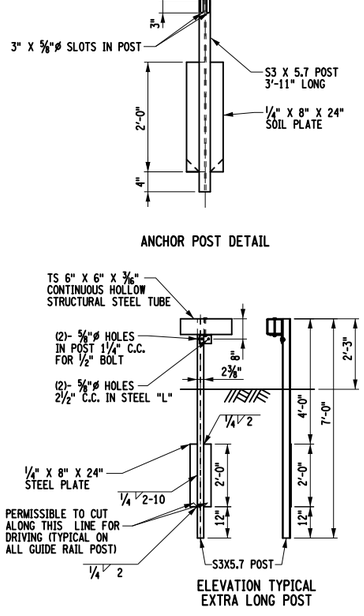



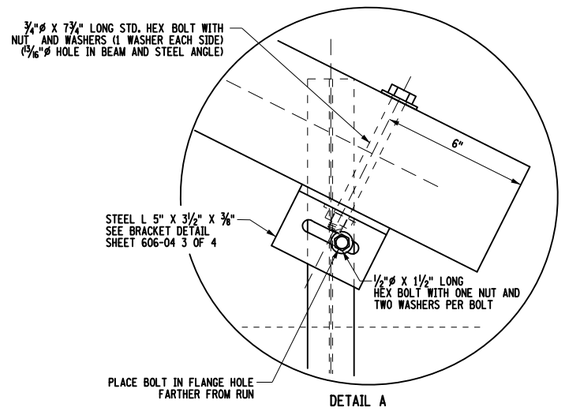



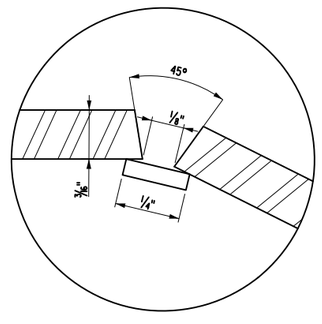




NEW YORK STATE OF OPPORTUNITY. **Department of Transportation**

U.S. CUSTOMARY STANDARD SHEET

BOX BEAM GUIDE RAIL
(SHEET 2 of 5)

| | |
|---|---|
| APPROVED JULY 28, 2014 | ISSUED UNDER EB 11-013 |
| /S/ RICHARD W. LEE, P.E. | 606-04 |
| DEPUTY CHIEF ENGINEER DESIGN | |

ERRATA 2 EFF. 05/01/2018 ISSUED WITH EB 18-003

ERRATA 1 EFF. 09/04/2014 ISSUED WITH EB 14-025

# GUARD RAIL DETAILS

SCALE: NOT TO SCALE

C&G
JMCP + JLGARCHITECTS
115 DEL PARQUE STREET SUITE 7
SAN JUAN, PR 00911
787.309.1837

MARICAO
CAPITAL DE LA MONTAÑA

PROGRESS SET
NOT FOR CONSTRUCTION

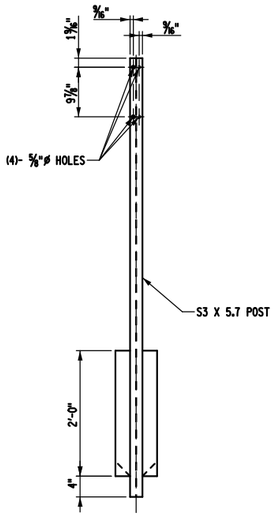
PROJECT: PR-CRP-000721
PASEO LA GRUTA - VIVERO DE PECES
CARRETERA ESTATAL PR 410, KM. 3.0 - KM. 4.5, MARICAO, PR
GOBIERNO MUNICIPAL DE MARICAO
SCALE: AS SHOWN

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| . | 08.09.23 | 90% PROGRESS SET | . | . |

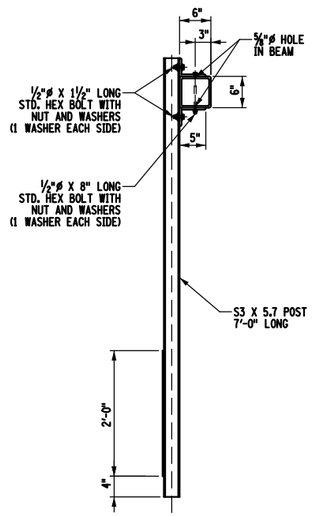
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DATE: 08.09.23

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DRAWING NO.: C-603.2

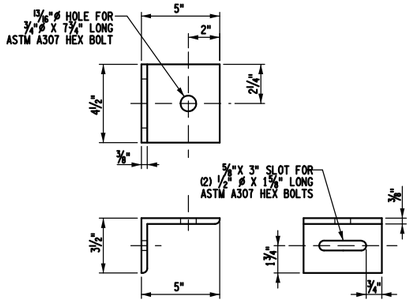
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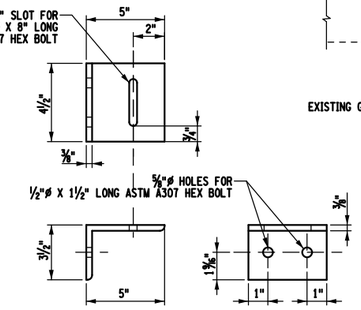

FRONT ELEVATION
POST 2 AND 4



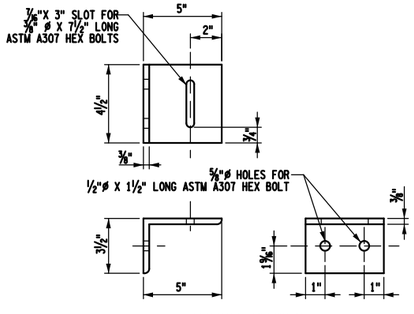

SIDE ELEVATION
POST 2 AND 4



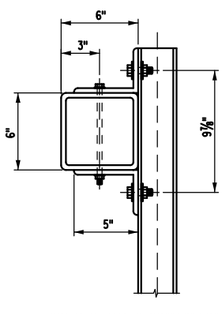

BRACKET DETAILS
POST 1




BRACKET DETAILS
POSTS 2 AND 4

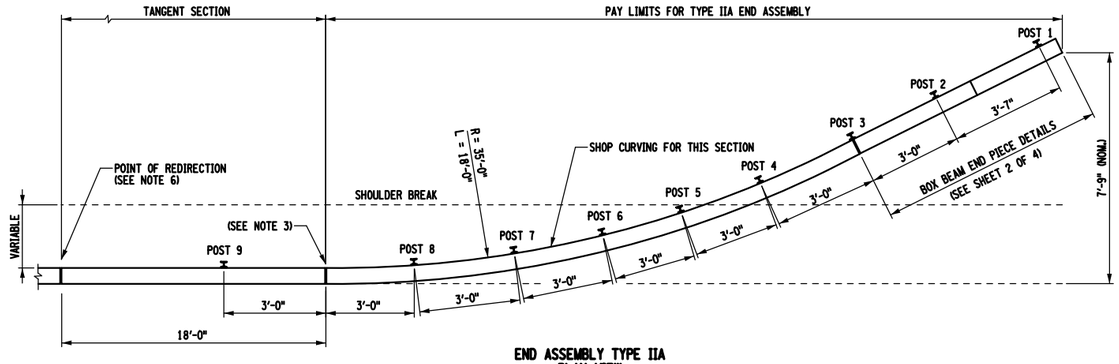



BRACKET DETAILS
POSTS 3, 5, 6, 7, 8 AND 9

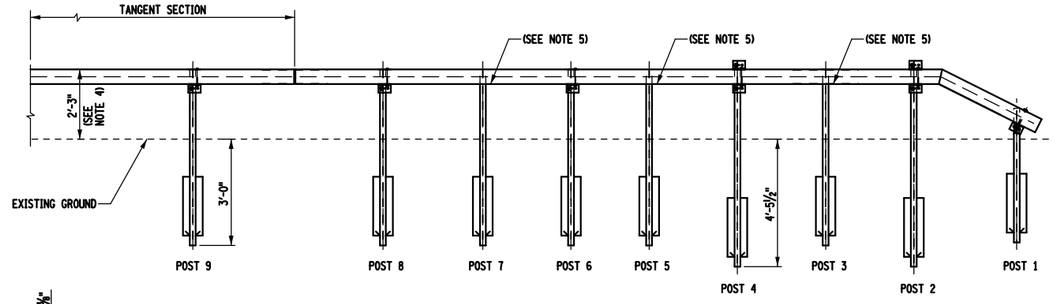



POSTS 2 AND 4 CONNECTION DETAIL
"DETAIL A"
(SEE NOTES 1 AND 2)

GENERAL NOTES ON SHEET 1 OF 4




END ASSEMBLY TYPE IIA
PLAN VIEW




END ASSEMBLY TYPE IIA
ELEVATION

TYPE IIA NOTES:

1. POSTS 2, AND 4 SHALL BE EXTRA LONG POSTS. POSTS 3, 5, 6, 7, 8, AND 9 SHALL BE STANDARD LENGTH.
2. POSTS 2 AND 4 SHALL BE FASTENED TO THE RAIL USING DETAIL "A".
3. FOR SIDE SLOPES 1:5 OR FLATTER, THE 18' OF CURVED BOX BEAM MAY BE PROVIDED IN A CURVED PORTION OF A 24' OR 36' PIECE. OTHERWISE, AN 18' SECTION IS TO BE SPLICED AT THE POINT OF TANGENCY.
4. THE DRAWING INDICATES THE TERMINAL INSTALLED ON LEVEL GROUND. WHEN INSTALLED OVER A SLOPE OR DITCH, THE TERMINAL END SHOULD BE PUSHED DOWN WITH THE EQUIVALENT OF APPROXIMATELY 100 LBS EFFORT TO DEPRESS THE TERMINAL DOWN.
5. POSTS 3, 5, AND 7 SHALL NOT BE CONNECTED TO BOX BEAM GUIDE RAIL.
6. FOR DESIGN SPEEDS UNDER 50 MPH THE POINT OF REDIRECTION WILL BE AT THE POINT OF TANGENCY.

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION

U.S. CUSTOMARY STANDARD SHEET

BOX BEAM GUIDE RAIL
(SHEET 3 OF 5)

| APPROVED JUNE 21, 2011 | ISSUED UNDER EB 11-013 |
|---|---|
| /S/ RICHARD W. LEE, P.E.<br>DEPUTY CHIEF ENGINEER DESIGN (ACTING) | 606-04 |

EFFECTIVE DATE: 01/12/2012

# GUARD RAIL DETAILS

SCALE: NOT TO SCALE

FILE NAME = 606-R403_011212.dgn
DATE/TIME = 17-SEP-2019 09:26
USER = rfoote

C&G
JMCP + JLGARCHITECTS
115 DEL PARQUE STREET SUITE 7
SAN JUAN, PR 00911
787.309.1837

MARICAO
CAPITAL DE LA MONTAÑA

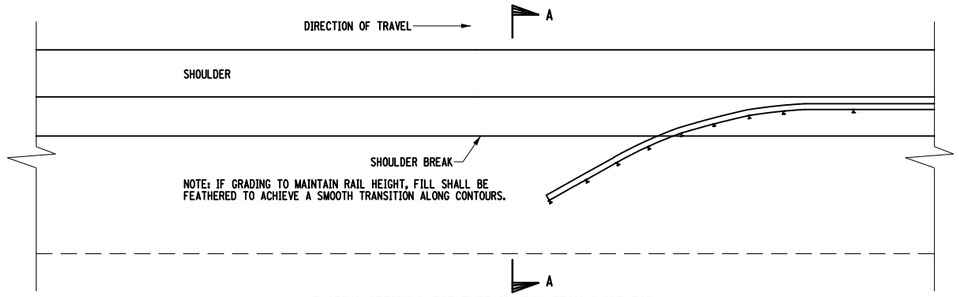
PROGRESS SET
NOT FOR CONSTRUCTION

PROJECT: PR-CRP-000721
PASEO LA GRUTA - VIVERO DE PECES
CARRETERA ESTATAL PR 410, KM. 3.0 - KM. 4.5, MARICAO, PR
GOBIERNO MUNICIPAL DE MARICAO
SCALE: AS SHOWN

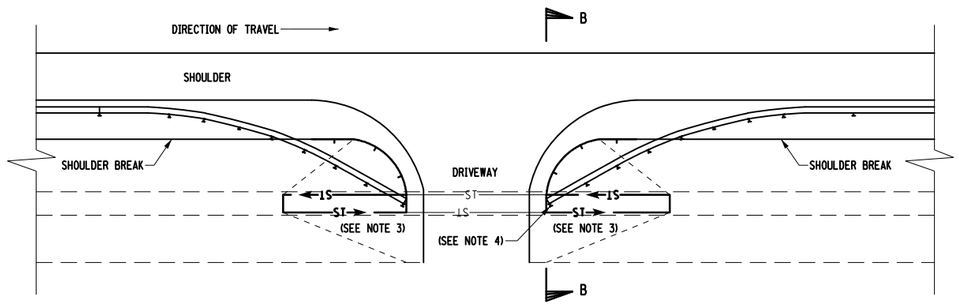
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|---|---|---|---|---|
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| . | 06.01.23 | 60% PROGRESS SET | . | . |
| . | 08.09.23 | 90% PROGRESS SET | . | . |
| . | . | . | . | . |
| . | . | . | . | . |
| . | . | . | . | . |
| . | . | . | . | . |

DRAWN BY: .
REVIEWED BY: .
DATE: 08.09.23
SHEET TITLE: REFERENCE GUARD RAIL DETAILS
DRAWING NO.: C-603.3

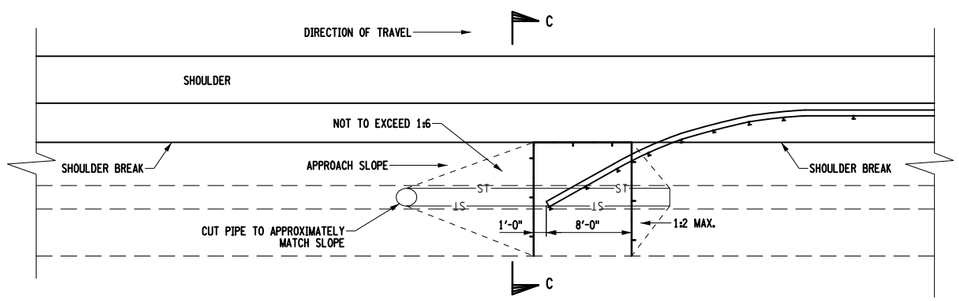
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FLARING OPTION 1 FOR TYPE IIA BOX BEAM GUIDE RAIL
(SEE NOTE 4 SHEET 1 OF 4)

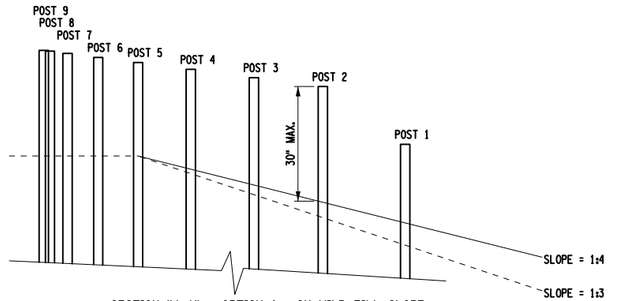



FLARING OPTION 2 FOR TYPE IIA BOX BEAM GUIDE RAIL
(SEE NOTE 4 SHEET 1 OF 4)




| TYPICAL PIPE LENGTHS | |
|---|---|
| DITCH DEPTH | PIPE LENGTH |
| 2'-0" | 25'-0" |
| 2'-6" | 29'-0" |
| 3'-0" | 33'-0" |
| 4'-0" | 40'-0" |

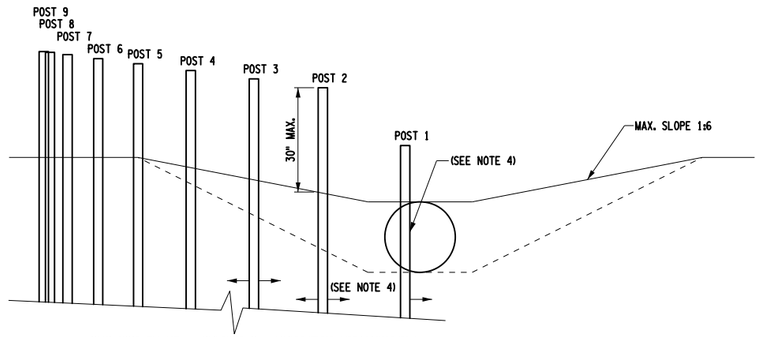
FLARING OPTION 3 FOR TYPE IIA BOX BEAM GUIDE RAIL
(SEE NOTE 4 SHEET 1 OF 4)




SECTION "A-A" - OPTION 1 : ON MILD FILL SLOPE

1. DEPRESS TERMINAL END BY 12" AND FASTEN TO POSTS BEFORE TIGHTENING BOLTS ON SPLICE BETWEEN POSTS 8 AND 9. IF THE SLOPE FROM SHOULDER BREAK BEGINS 2'-0" OR MORE BEHIND GUIDE RAIL RUN AND IS 1:4 OR FLATTER, NO ADDITIONAL GRADING IS REQUIRED.

2. TERMINAL WAY BE PLACED ON STEEPER SLOPES IF GRADING IS PROVIDED TO LIMIT RAIL HEIGHT TO 30" OR LESS.



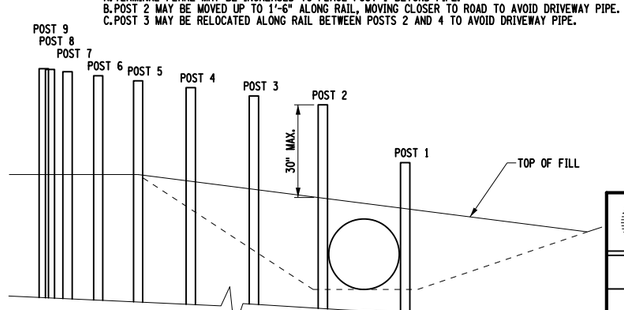

SECTION "B-B" - OPTION 2 : DRIVEWAY EMBANKMENT

1. EXTEND CULVERT A MINIMUM OF 4'-0" PAST GUIDE RAIL FOR GRADING.

2. DEPRESS TERMINAL BY 12" BEFORE TIGHTENING BOLTS ON SPLICE BETWEEN POSTS 8 AND 9. IF THE SLOPE FROM SHOULDER BREAK IS 1:4 OR FLATTER, NO ADDITIONAL GRADING IS REQUIRED.

3. POST 1 SHALL BE POSITIONED AT OR BELOW SHOULDER BREAK OF DRIVEWAY.

4. DO NOT DRIVE POST THROUGH PIPE. TO AVOID POST HITTING DRIVEWAY PIPE:
   A. TERMINAL FLARE MAY BE INCREASED TO PLACE POST 1 BEYOND PIPE.
   B. POST 2 MAY BE MOVED UP TO 1'-6" ALONG RAIL, MOVING CLOSER TO ROAD TO AVOID DRIVEWAY PIPE.
   C. POST 3 MAY BE RELOCATED ALONG RAIL BETWEEN POSTS 2 AND 4 TO AVOID DRIVEWAY PIPE.




SECTION "C-C" - OPTION 3 : LOCALIZED DITCH FILLING

1. WHEN TERMINAL MUST FLARE ACROSS A DEEP DITCH AND NO LATERAL EMBANKMENT IS NEAR, A PIPE SHALL BE SET IN THE DITCH AND AN EMBANKMENT CONSTRUCTED AT THE TERMINAL.
   A. THE APPROACH SLOPE SHALL HAVE A MAXIMUM STEEPNESS OF 1:6.
   B. THE FILL SHALL BE SUFFICIENT TO LIMIT GUIDE RAIL HEIGHT TO NO MORE THAN 30".
   C. IF A BACK SLOPE IS ACCESSIBLE AT THE CORRECT HEIGHT, THE BOX BEAM END PIECE SHOULD BE ELIMINATED AND A TYPE 0 ENDING USED.

GENERAL NOTES ON SHEET 1 OF 4

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION

U.S. CUSTOMARY STANDARD SHEET

BOX BEAM GUIDE RAIL
(SHEET 4 OF 5)

| APPROVED JULY 2, 2010 | ISSUED UNDER EB 10-022 |
|---|---|
| /S/ RICHARD W. LEE, P.E. | 606-04 |
| FOR THE DEPUTY CHIEF ENGINEER (DESIGN) | |

EFFECTIVE DATE: 01/06/2011

# GUARD RAIL DETAILS

SCALE: NOT TO SCALE

FILE NAME = 606-04d01212.dgn
DATE/TIME = 17-SEP-2019 09:33
USER = rfcosta

C&G
JMCP +
JLGARCHITECTS
115 DEL PARQUE STREET SUIT 7
SAN JUAN, PR 00911
787.309.1837

MARICAO
CAPITAL DE LA MONTAÑA

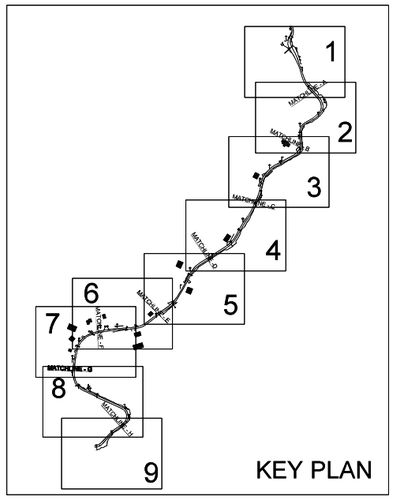
PROGRESS SET
NOT FOR CONSTRUCTION

PROJECT: PR-CRP-000721
PASEO LA GRUTA - VIVERO DE PECES
CARRETERA ESTATAL PR 410, KM. 3.0 - KM. 4.5, MARICAO, PR
GOBIERNO MUNICIPAL DE MARICAO
SCALE: AS SHOWN

| NO. | DATE | DRAWING ISSUE | BY | APP. |
|---|---|---|---|---|
| 1 | 03.31.23 | 30% PROGRESS SET | . | . |
| . | 06.01.23 | 60% PROGRESS SET | . | . |
| . | 08.09.23 | 90% PROGRESS SET | . | . |

DRAWN BY: .
REVIEWED BY: .
DATE: 08.09.23
SHEET TITLE: REFERENCE GUARD RAIL DETAILS
DRAWING NO.: C-603.4

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## EXISTING CONDITIONS LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

0 5 10 30

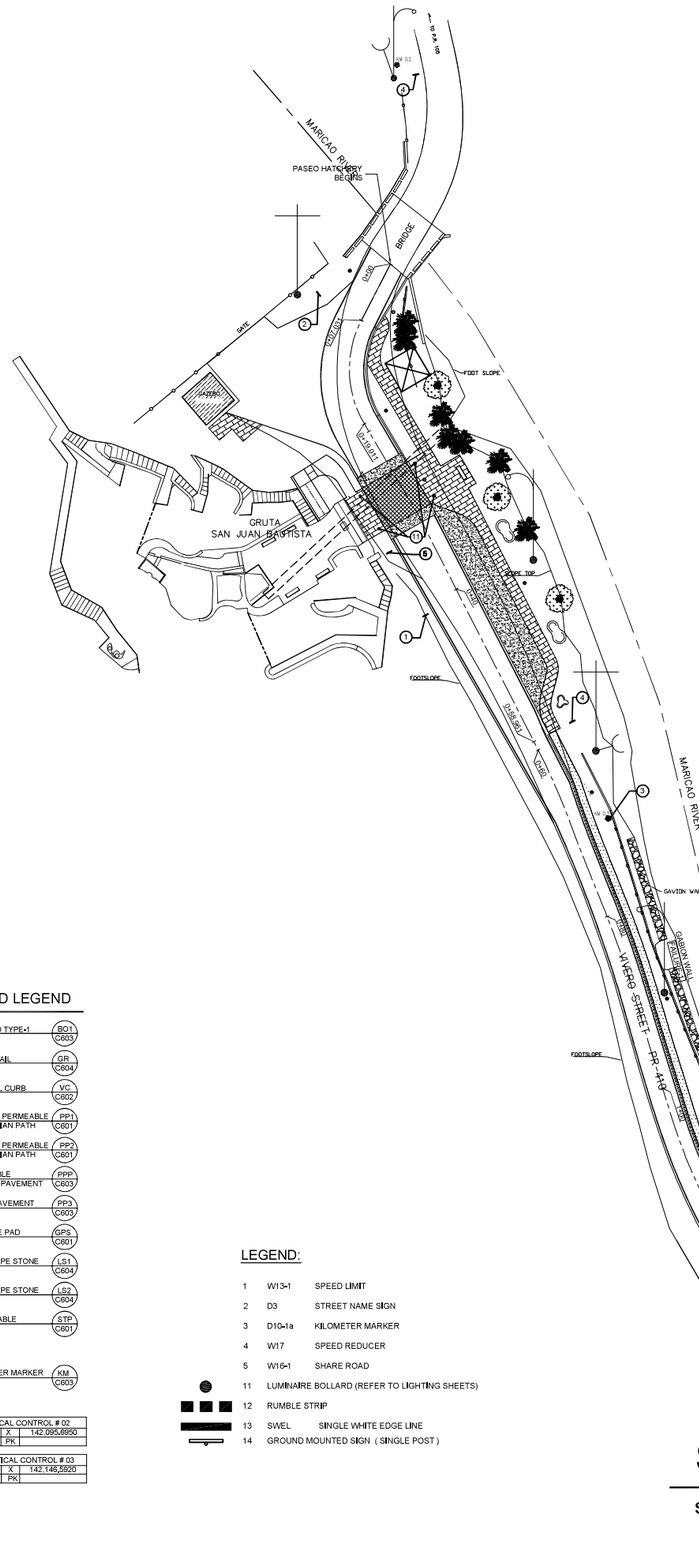
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## PROPOSED LEGEND

| | | |
|---|---|---|
| | BOLLARD TYPE-1 | BO1 C603 |
| | GUARD RAIL | GR C604 |
| | VERTICAL CURB TYPE E | VC C602 |
| | 0,81 (32") PERMEABLE PEDESTRIAN PATH | PP1 C601 |
| | 0,60 (24") PERMEABLE PEDESTRIAN PATH | PP2 C601 |
| | PERMEABLE PARKING PAVEMENT | PPP C603 |
| | PAVER PAVEMENT | PP3 C603 |
| | GARBAGE PAD SCREEN | GPS C601 |
| | LANDSCAPE STONE TYPE 1 | LS1 C604 |
| | LANDSCAPE STONE TYPE 2 | LS2 C604 |
| | SPEED TABLE | STP C601 |
| | KILOMETER MARKER | KM C603 |

| HORIZONTAL VERTICAL CONTROL # 02 | | | |
|---|---|---|---|
| Y | 238,355.4430 | X | 142,095.6950 |
| EL. | 423.510 | PK | |

| HORIZONTAL VERTICAL CONTROL # 03 | | | |
|---|---|---|---|
| Y | 238,358.9140 | X | 142,146.5920 |
| EL. | 425.090 | PK | |




## LEGEND:

| | | |
|---|---|---|
| 1 | W13-1 | SPEED LIMIT |
| 2 | D3 | STREET NAME SIGN |
| 3 | D10-1a | KILOMETER MARKER |
| 4 | W17 | SPEED REDUCER |
| 5 | W16-1 | SHARE ROAD |
| 11 | LUMINAIRE BOLLARD (REFER TO LIGHTING SHEETS) | |
| 12 | RUMBLE STRIP | |
| 13 | SWEL | SINGLE WHITE EDGE LINE |
| 14 | GROUND MOUNTED SIGN ( SINGLE POST ) | |

# SIGNAGE PAVEMENT MARKING PLAN-1

scale= 1:300

C&G
JMCP + JLGARCHITECTS
113 DIL PARQUE STREET SUITE 7
SAN JUAN, PR 00911
787.309.3837

BAIGES GEOTECHNICAL ENGINEERS, LLC
44 PASEO DE LA ALHAMBRA, URB TORRIMAR, GUAYNABO, P.R. 00966
JAMES.BAIGES@GMAIL.COM – (787) 399-0017

90% DESIGN SET
NOT FOR CONSTRUCTION

PROJECT: **PR-CRP-000721**

**PASEO LA GRUTA-VIVERO DE PECES**

CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

GOBIERNO MUNICIPAL DE MARICAO

PASEO HATCHERY [PR-CRP-000721]

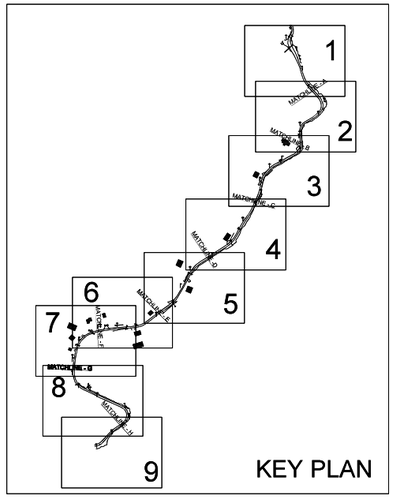
| NO. | DATE | DRAWING ISSUE | BY | APP. |
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DRAWN BY:
REVIEWED BY:
DATE: 05/23

SHEET TITLE: SIGNAGE PAVEMENT MARKING

DRAWING NO.: C-701

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## EXISTING CONDITIONS LEGEND

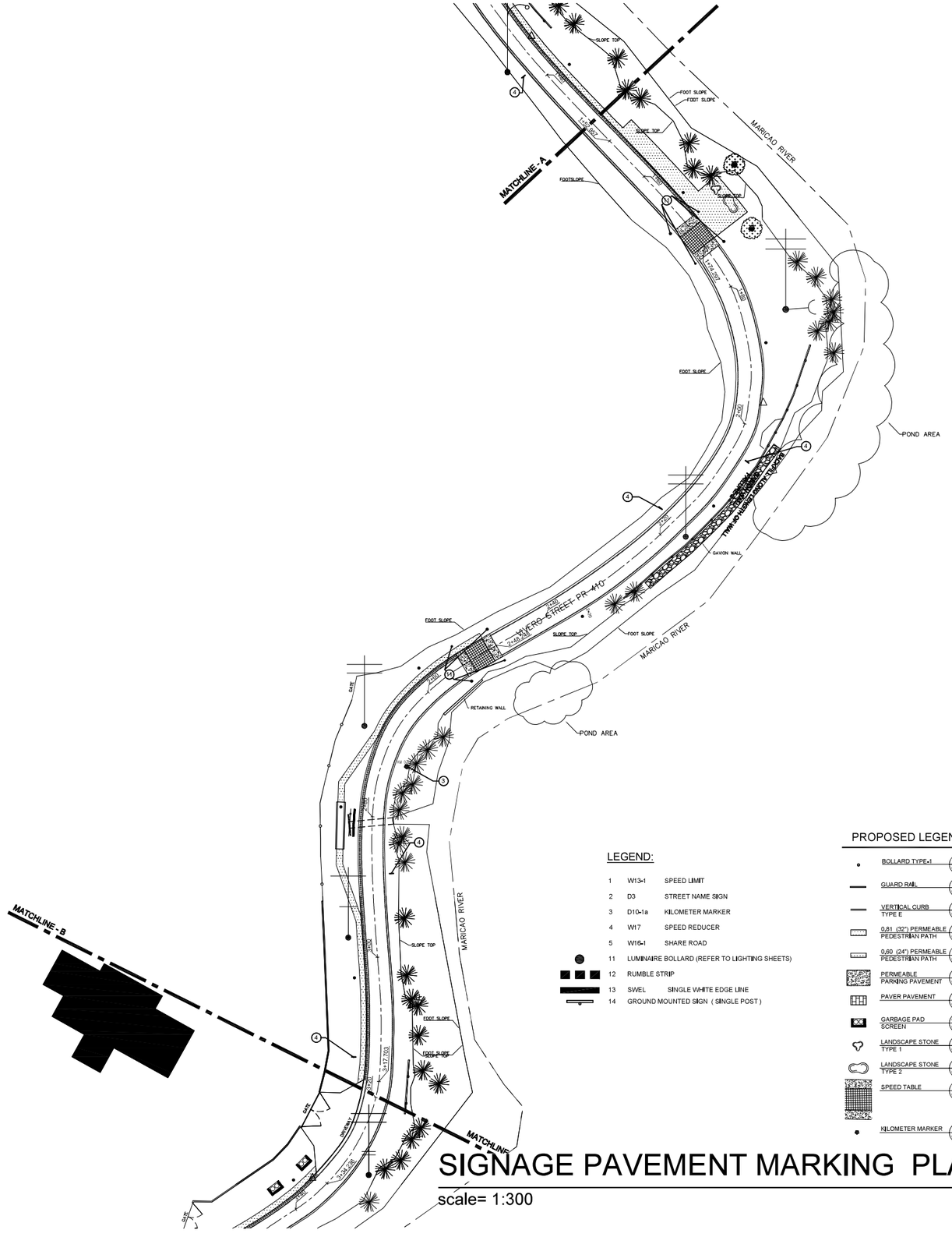
| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

0 5 10 30

SCALE = 1:300

| HORIZONTAL VERTICAL CONTROL # 04 | | | |
|---|---|---|---|
| Y | 238,206.7660 | X | 142,179.5960 |
| EL. | 426.520 | PK | |

| HORIZONTAL VERTICAL CONTROL # 06 | | | |
|---|---|---|---|
| Y | 238,096.5140 | Y | 142115.3990 |
| EL. | 428.450 | PK | |




## LEGEND:

| | | |
|---|---|---|
| 1 | W13-1 | SPEED LIMIT |
| 2 | D3 | STREET NAME SIGN |
| 3 | D10-1a | KILOMETER MARKER |
| 4 | W17 | SPEED REDUCER |
| 5 | W16-1 | SHARE ROAD |
| 11 | | LUMINAIRE BOLLARD (REFER TO LIGHTING SHEETS) |
| 12 | | RUMBLE STRIP |
| 13 | SWEL | SINGLE WHITE EDGE LINE |
| 14 | | GROUND MOUNTED SIGN ( SINGLE POST ) |

## PROPOSED LEGEND

| | | |
|---|---|---|
| | BOLLARD TYPE-1 | BO1 C603 |
| | GUARD RAIL | GR C604 |
| | VERTICAL CURB TYPE E | VC C602 |
| | 0.81 (32") PERMEABLE PEDESTRIAN PATH | PP1 C601 |
| | 0.60 (24") PERMEABLE PEDESTRIAN PATH | PP2 C601 |
| | PERMEABLE PARKING PAVEMENT | PPP C603 |
| | PAVER PAVEMENT | PP3 C603 |
| | GARBAGE PAD SCREEN | GPS C601 |
| | LANDSCAPE STONE TYPE 1 | LS1 C604 |
| | LANDSCAPE STONE TYPE 2 | LS2 C604 |
| | SPEED TABLE | STP C601 |
| | KILOMETER MARKER | KM C603 |

# SIGNAGE PAVEMENT MARKING PLAN-2

scale= 1:300

C&G
JMCP + JLGARCHITECTS
115 DIL PARQUE STREET SUITE 7
SAN JUAN, PR 00911
787.309.3837

BAIGES GEOTECHNICAL ENGINEERS, LLC
44 PASEO DE LA ALHAMBRA, URB TORRIMAR, GUAYNABO, P.R. 00966
JAMES.BAIGES@GMAIL.COM – (787) 399-0017

90% DESIGN SET
NOT FOR CONSTRUCTION

PROJECT: PR-CRP-000721

# PASEO LA GRUTA-VIVERO DE PECES

CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

GOBIERNO MUNICIPAL DE MARICAO

PASEO HATCHERY [PR-CRP-000721]

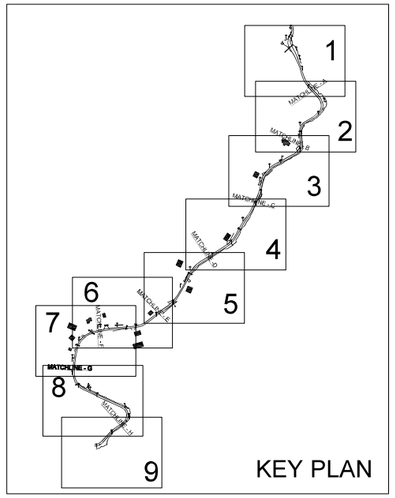
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REVIEWED BY:
DATE: 05/23

SHEET TITLE: SIGNAGE PAVEMENT MARKING

DRAWING NO.: C-702

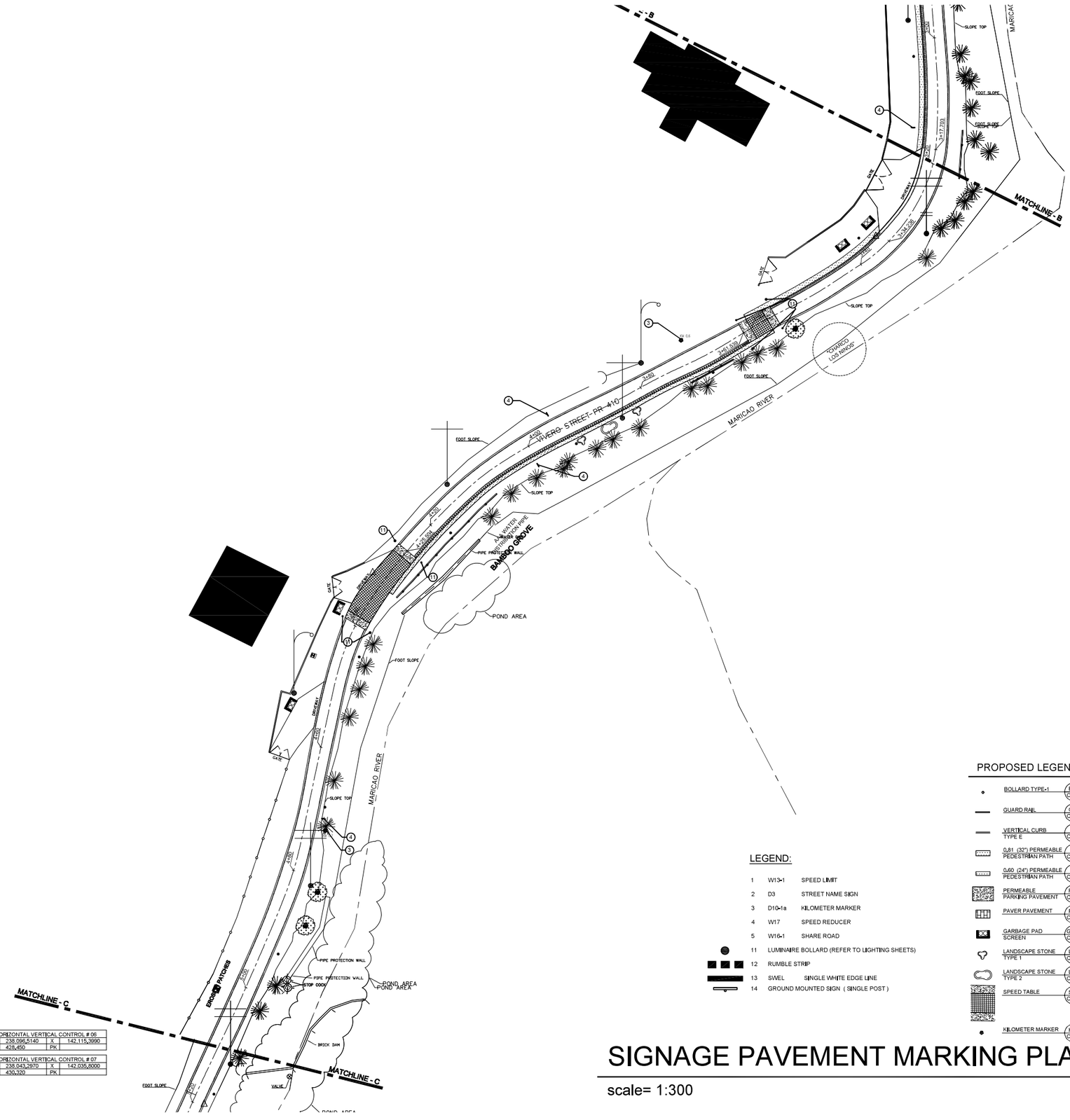
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## EXISTING CONDITIONS LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

0 5 10 30
SCALE = 1:300




| HORIZONTAL VERTICAL CONTROL # 06 | | | |
|---|---|---|---|
| Y | 238,096.5140 | X | 142,115.3990 |
| EL. | 428.450 | PK | |

| HORIZONTAL VERTICAL CONTROL # 07 | | | |
|---|---|---|---|
| Y | 238,043.2970 | X | 142,035.8000 |
| EL. | 430.320 | PK | |

## LEGEND:

| | | | |
|---|---|---|---|
| 1 | W13-1 | SPEED LIMIT |
| 2 | D3 | STREET NAME SIGN |
| 3 | D10-1a | KILOMETER MARKER |
| 4 | W17 | SPEED REDUCER |
| 5 | W16-1 | SHARE ROAD |
| 11 | | LUMINAIRE BOLLARD (REFER TO LIGHTING SHEETS) |
| 12 | | RUMBLE STRIP |
| 13 | SWEL | SINGLE WHITE EDGE LINE |
| 14 | | GROUND MOUNTED SIGN ( SINGLE POST ) |

## PROPOSED LEGEND

| | | |
|---|---|---|
| | BOLLARD TYPE-1 | BO1 C603 |
| | GUARD RAIL | GR C604 |
| | VERTICAL CURB TYPE E | VC C602 |
| | 0,81 (32") PERMEABLE PEDESTRIAN PATH | PP1 C601 |
| | 0,60 (24") PERMEABLE PEDESTRIAN PATH | PP2 C601 |
| | PERMEABLE PARKING PAVEMENT | PPP C605 |
| | PAVER PAVEMENT | PP3 C603 |
| | GARBAGE PAD SCREEN | GPS C601 |
| | LANDSCAPE STONE TYPE 1 | LS1 C604 |
| | LANDSCAPE STONE TYPE 2 | LS2 C604 |
| | SPEED TABLE | STP C601 |
| | KILOMETER MARKER | KM C603 |

# SIGNAGE PAVEMENT MARKING PLAN-3

scale= 1:300

C&G
JMCP + JLGARCHITECTS
115 DIL PARQUE STREET SUITE 7
SAN JUAN, PR 00911
787.309.3837

BAIGES GEOTECHNICAL ENGINEERS, LLC
64 PASEO DE LA ALHAMBRA, URB TORRIMAR - GUAYNABO, P.R. 00966
JAMES@BAIGESGEO.COM - (787) 399-0077

90% DESIGN SET
NOT FOR CONSTRUCTION

PROJECT: PR-CRP-000721
**PASEO LA GRUTA-VIVERO DE PECES**
CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

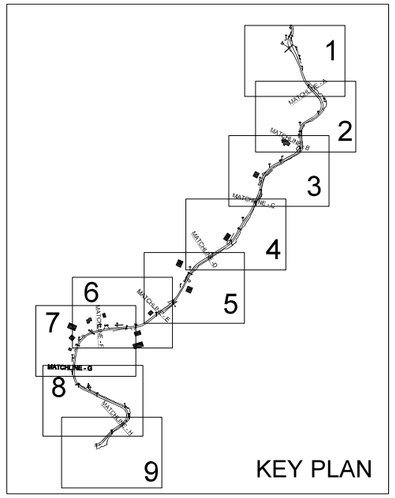
GOBIERNO MUNICIPAL DE MARICAO
PASEO HATCHERY [PR-CRP-000721]

| NO. | DATE | DRAWING ISSUE | BY | APP. |
|---|---|---|---|---|
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DRAWN BY:
REVIEWED BY:
DATE: 05/23

SHEET TITLE: SIGANGE PAVEMENT MARKING
DRAWING NO.: C-703

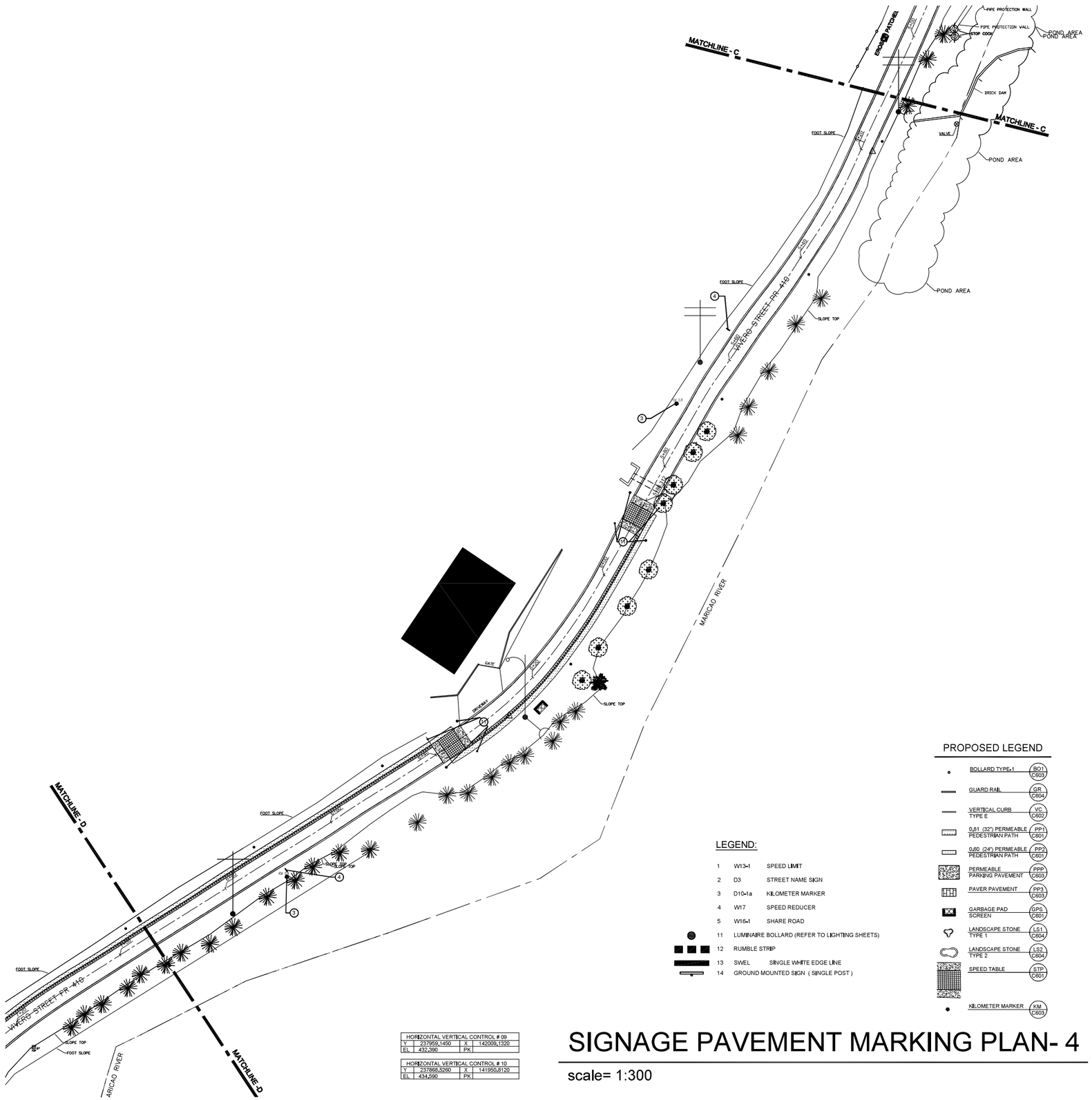
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## EXISTING CONDITIONS LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

0 5 10 30
SCALE = 1:300




| HORIZONTAL VERTICAL CONTROL # 09 | | | |
|---|---|---|---|
| Y | 237959,1450 | X | 142009,1320 |
| EL | 432.390 | PK | |

| HORIZONTAL VERTICAL CONTROL # 10 | | | |
|---|---|---|---|
| Y | 237868,5260 | X | 141950,8120 |
| EL | 434.590 | PK | |

LEGEND:

| | | |
|---|---|---|
| 1 | W13-1 | SPEED LIMIT |
| 2 | D3 | STREET NAME SIGN |
| 3 | D10-1a | KILOMETER MARKER |
| 4 | W17 | SPEED REDUCER |
| 5 | W16-1 | SHARE ROAD |
| 11 | | LUMINAIRE BOLLARD (REFER TO LIGHTING SHEETS) |
| 12 | | RUMBLE STRIP |
| 13 | SWEL | SINGLE WHITE EDGE LINE |
| 14 | | GROUND MOUNTED SIGN ( SINGLE POST ) |

PROPOSED LEGEND

| | | |
|---|---|---|
| | BOLLARD TYPE-1 | BO1 C603 |
| | GUARD RAIL | GR C604 |
| | VERTICAL CURB TYPE E | VC C602 |
| | 0,81 (32") PERMEABLE PEDESTRIAN PATH | PP1 C601 |
| | 0,60 (24") PERMEABLE PEDESTRIAN PATH | PP2 C601 |
| | PERMEABLE PARKING PAVEMENT | PPP C603 |
| | PAVER PAVEMENT | PP3 C603 |
| | GARBAGE PAD SCREEN | GPS C601 |
| | LANDSCAPE STONE TYPE 1 | LS1 C604 |
| | LANDSCAPE STONE TYPE 2 | LS2 C604 |
| | SPEED TABLE | STP C601 |
| | KILOMETER MARKER | KM C603 |

# SIGNAGE PAVEMENT MARKING PLAN- 4

scale= 1:300

C&G
JMCP + JLGARCHITECTS
115 DIE PARQUE STREET SUITE 7
SAN JUAN, PR 00911
787.309.3837

BAIGES GEOTECHNICAL ENGINEERS, LLC
64 PASEO DE LA ALHAMBRA, URB TORRIMAR, GUAYNABO, P.R. 00969
JAMES@BAIGESMAIL.COM • (787) 399-0017

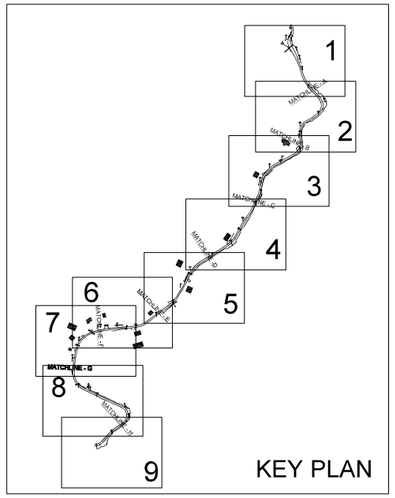
90% DESIGN SET
NOT FOR CONSTRUCTION

PROJECT: PR-CRP-000721
PASEO LA GRUTA-VIVERO DE PECES
CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5
GOBIERNO MUNICIPAL DE MARICAO
PASEO HATCHERY [PR-CRP-000721]

| NO. | DATE | DRAWING ISSUE | BY | APP. |
|---|---|---|---|---|
| | | | | |

DRAWN BY:
REVIEWED BY:
DATE: 05/23
SHEET TITLE: LAYOUT SITE PLAN
DRAWING NO.: C-104

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LEGEND:

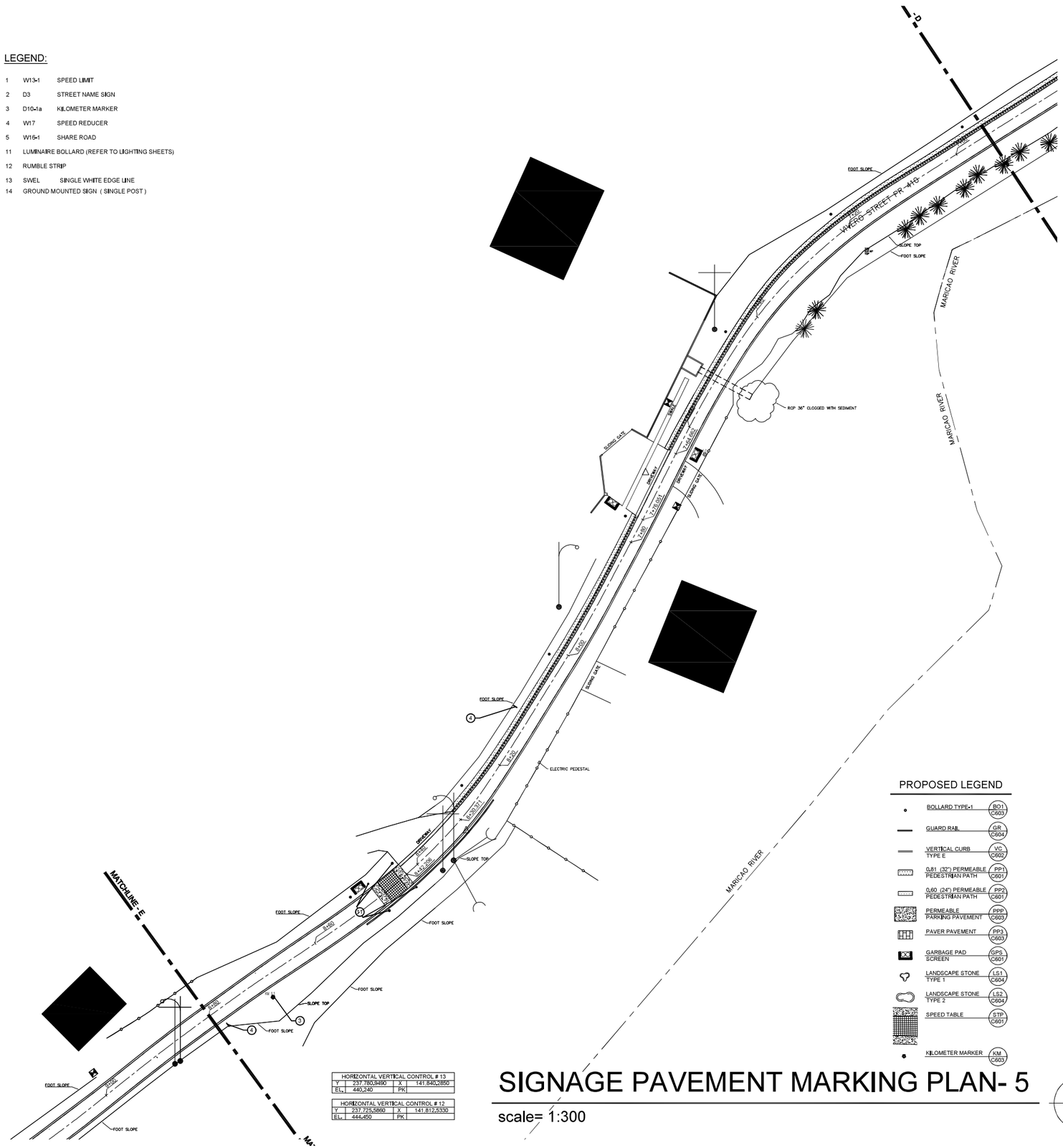
| | | | |
|---|---|---|---|
| 1 | W13-1 | SPEED LIMIT |
| 2 | D3 | STREET NAME SIGN |
| 3 | D10-1a | KILOMETER MARKER |
| 4 | W17 | SPEED REDUCER |
| 5 | W16-1 | SHARE ROAD |
| 11 | | LUMINAIRE BOLLARD (REFER TO LIGHTING SHEETS) |
| 12 | | RUMBLE STRIP |
| 13 | SWEL | SINGLE WHITE EDGE LINE |
| 14 | | GROUND MOUNTED SIGN ( SINGLE POST ) |

## EXISTING CONDITIONS LEGEND

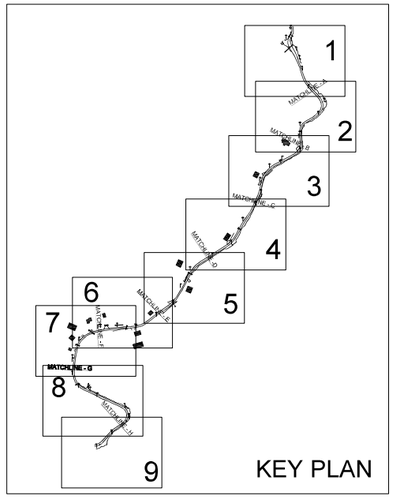
| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

0 5 10 30

SCALE = 1:300


MATCHLINE-E
MATCHLINE-F
MARICAO RIVER
MARICAO RIVER
WIDTH STREET PR-410
FOOT SLOPE
SLOPE TOP
FOOT SLOPE
RCP 36" CLOGGED WITH SEDIMENT
DRIVEWAY
DRIVEWAY
RISING GATE
RISING GATE
ELECTRIC PEDESTAL
SLOPE TOP
FOOT SLOPE
FOOT SLOPE
FOOT SLOPE
FOOT SLOPE
FOOT SLOPE
FOOT SLOPE
SLOPE TOP
FOOT SLOPE
FOOT SLOPE
V-100
V-100
V-100

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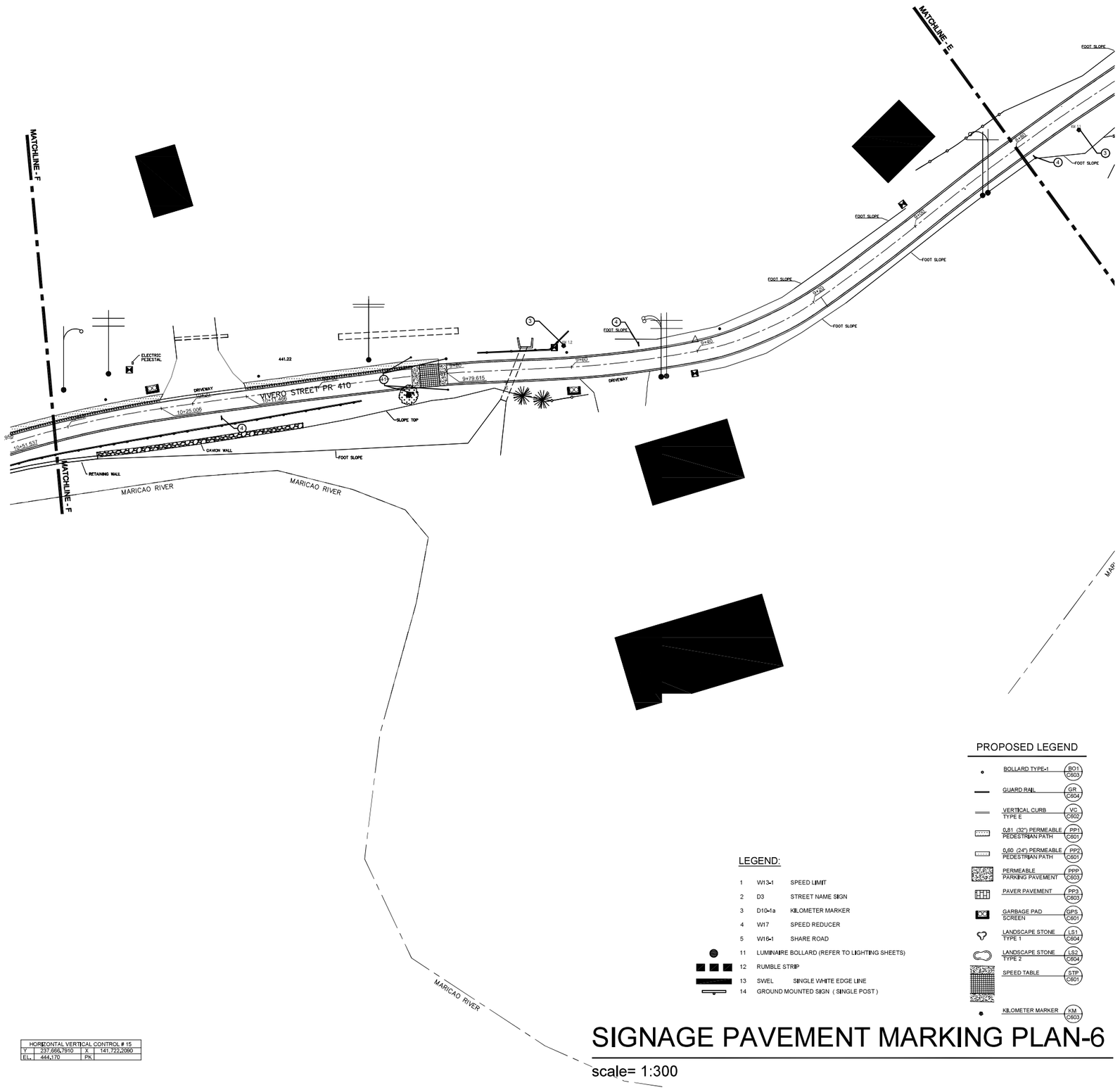



## EXISTING CONDITIONS LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

0 5 10 30
SCALE = 1:300

| HORIZONTAL VERTICAL CONTROL # 15 | | | |
|---|---|---|---|
| Y | 237,666.7910 | X | 141,722.2080 |
| EL. | 444.170 | PK | |




## LEGEND:

| | | | |
|---|---|---|---|
| 1 | W13-1 | SPEED LIMIT |
| 2 | D3 | STREET NAME SIGN |
| 3 | D10-1a | KILOMETER MARKER |
| 4 | W17 | SPEED REDUCER |
| 5 | W16-1 | SHARE ROAD |
| 11 | | LUMINAIRE BOLLARD (REFER TO LIGHTING SHEETS) |
| 12 | | RUMBLE STRIP |
| 13 | SWEL | SINGLE WHITE EDGE LINE |
| 14 | | GROUND MOUNTED SIGN ( SINGLE POST ) |

## PROPOSED LEGEND

| | | |
|---|---|---|
| BOLLARD TYPE-1 | BO1 | C603 |
| GUARD RAIL | GR | C604 |
| VERTICAL CURB TYPE E | VC | C602 |
| 0,81 (32") PERMEABLE PEDESTRIAN PATH | PP1 | C601 |
| 0,60 (24") PERMEABLE PEDESTRIAN PATH | PP2 | C601 |
| PERMEABLE PARKING PAVEMENT | PPP | C603 |
| PAVER PAVEMENT | PP3 | C603 |
| GARBAGE PAD SCREEN | GPS | C601 |
| LANDSCAPE STONE TYPE 1 | LS1 | C604 |
| LANDSCAPE STONE TYPE 2 | LS2 | C604 |
| SPEED TABLE | STP | C601 |
| KILOMETER MARKER | KM | C603 |

# SIGNAGE PAVEMENT MARKING PLAN-6

scale= 1:300

C&G
JMCP + JLGARCHITECTS
113 DEL PARQUE STREET SUITE 7
SAN JUAN, PR 00911
787.309.3837

BAIGES GEOTECHNICAL ENGINEERS, LLC
641 PASEO DE LA ALHAMBRA, URB TORRIMAR, GUAYNABO, P.R. 00969
JAMES@BAIGESMUL.COM • (787) 399-0077

90% DESIGN SET
NOT FOR CONSTRUCTION

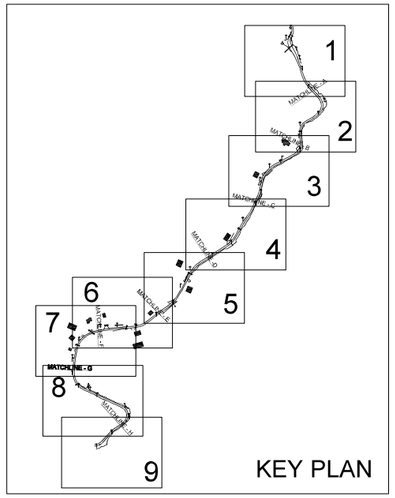
PROJECT: PR-CRP-000721
**PASEO LA GRUTA-VIVERO DE PECES**
CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

GOBIERNO MUNICIPAL DE MARICAO
PASEO HATCHERY [PR-CRP-000721]

| NO. | DATE | DRAWING ISSUE | BY | APP. |
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DRAWN BY:
REVIEWED BY:
DATE: 05/23
SHEET TITLE: SIGNAGE PAVEMENT MARKING
DRAWING NO.: C-706

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## EXISTING CONDITIONS LEGEND

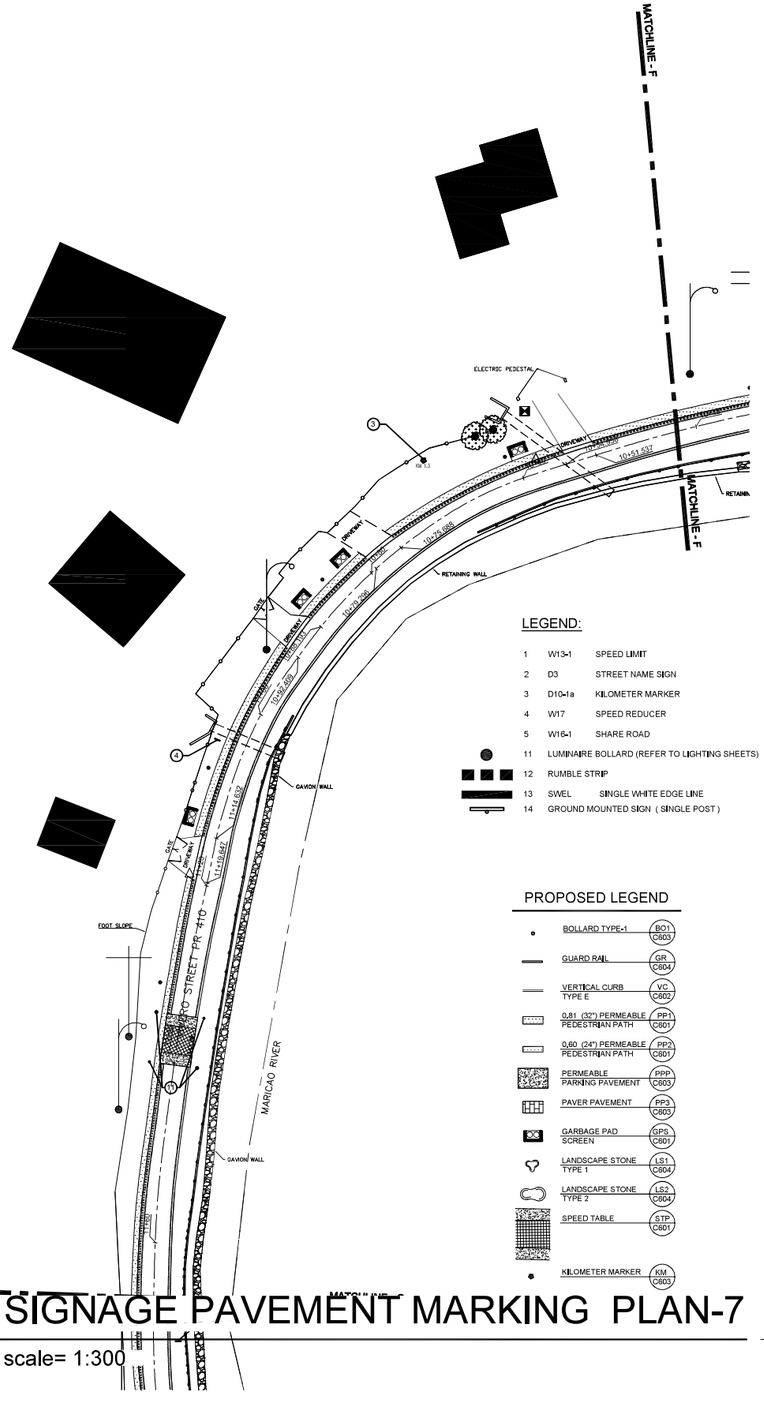
| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

0 5 10 30

SCALE = 1:300

| HORIZONTAL VERTICAL CONTROL # 16 | | | |
|---|---|---|---|
| Y | 237,649.4570 | X | 141,605.5650 |
| EL. | 442.240 | PK | |

| HORIZONTAL VERTICAL CONTROL # 17 | | | |
|---|---|---|---|
| Y | 237,603.4640 | X | 141,587.1870 |
| EL. | 443.040 | PK | |




# SIGNAGE PAVEMENT MARKING PLAN-7

scale= 1:300

C&G
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113 DEL PARQUE STREET SUITE 7
SAN JUAN, PR 00911
787.309.3837

BAIGES GEOTECHNICAL ENGINEERS, LLC
64 PASEO DE LA ALHAMBRA, URB TORRIMAR, GUAYNABO, P.R. 00966
JAMES@BAIGESPR.COM • (787) 399-0077

90% DESIGN SET
NOT FOR CONSTRUCTION

PROJECT: PR-CRP-000721

**PASEO LA GRUTA-VIVERO DE PECES**

CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

GOBIERNO MUNICIPAL DE MARICAO

PASEO HATCHERY [PR-CRP-000721]

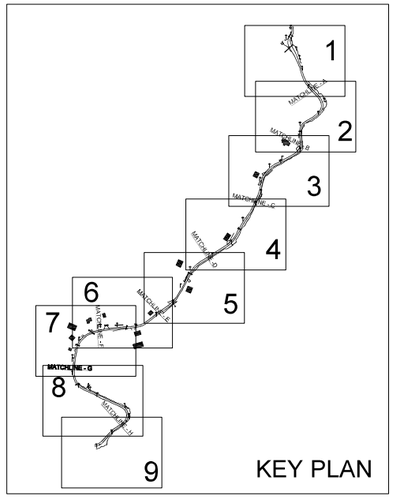
| NO. | DATE | DRAWING ISSUE | BY | APP. |
|---|---|---|---|---|
| | | | | |

DRAWN BY:
REVIEWED BY:
DATE: 05/23

SHEET TITLE: SIGNAGE PAVEMENT MARKING

DRAWING NO.: C-707

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## EXISTING CONDITIONS LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

0 5 10 30

SCALE = 1:300

## PROPOSED LEGEND

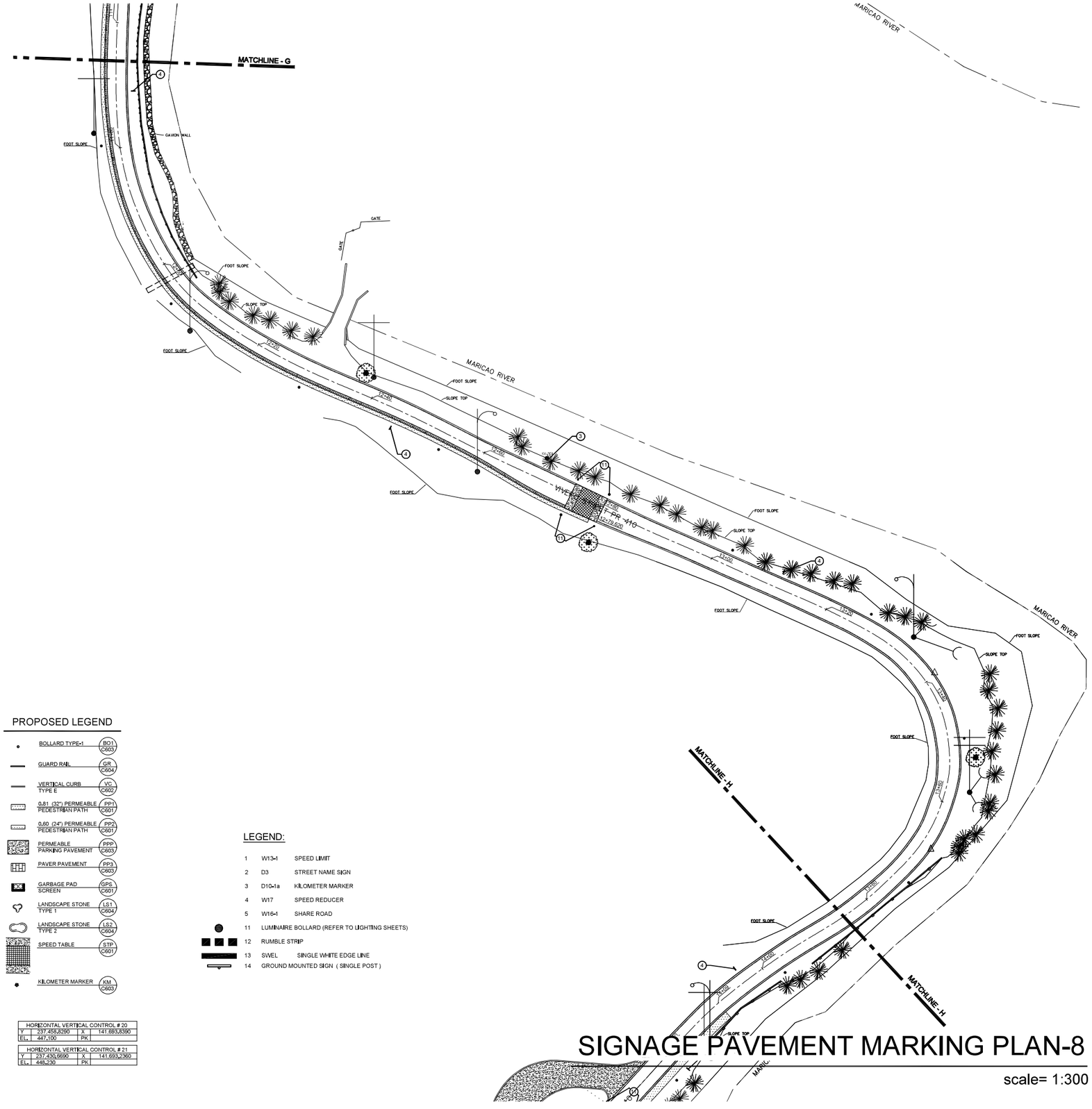
| | | |
|---|---|---|
| | BOLLARD TYPE-1 | BO1 C603 |
| | GUARD RAIL | GR C604 |
| | VERTICAL CURB TYPE E | VC C602 |
| | 0,81 (32") PERMEABLE PEDESTRIAN PATH | PP1 C601 |
| | 0,60 (24") PERMEABLE PEDESTRIAN PATH | PP2 C601 |
| | PERMEABLE PARKING PAVEMENT | PPP C603 |
| | PAVER PAVEMENT | PP3 C603 |
| | GARBAGE PAD SCREEN | GPS C601 |
| | LANDSCAPE STONE TYPE 1 | LS1 C604 |
| | LANDSCAPE STONE TYPE 2 | LS2 C604 |
| | SPEED TABLE | STP C601 |
| | KILOMETER MARKER | KM C603 |

| HORIZONTAL VERTICAL CONTROL # 20 | | | |
|---|---|---|---|
| Y | 237,458,8250 | X | 141.683,8390 |
| EL. | 447,100 | PK | |

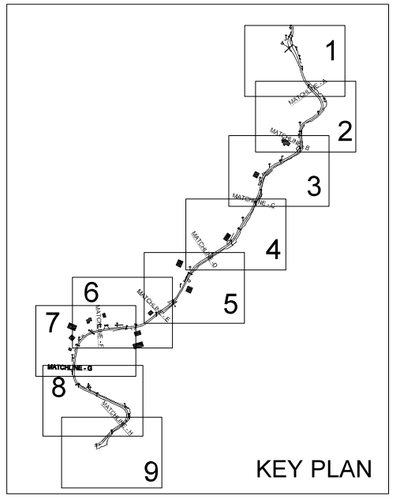
| HORIZONTAL VERTICAL CONTROL # 21 | | | |
|---|---|---|---|
| Y | 237,430,6690 | X | 141.693,2360 |
| EL. | 448,230 | PK | |

## LEGEND:

| | | |
|---|---|---|
| 1 | W13-1 | SPEED LIMIT |
| 2 | D3 | STREET NAME SIGN |
| 3 | D10-1a | KILOMETER MARKER |
| 4 | W17 | SPEED REDUCER |
| 5 | W16-1 | SHARE ROAD |
| 11 | | LUMINAIRE BOLLARD (REFER TO LIGHTING SHEETS) |
| 12 | | RUMBLE STRIP |
| 13 | SWEL | SINGLE WHITE EDGE LINE |
| 14 | | GROUND MOUNTED SIGN ( SINGLE POST ) |



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## EXISTING CONDITIONS LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

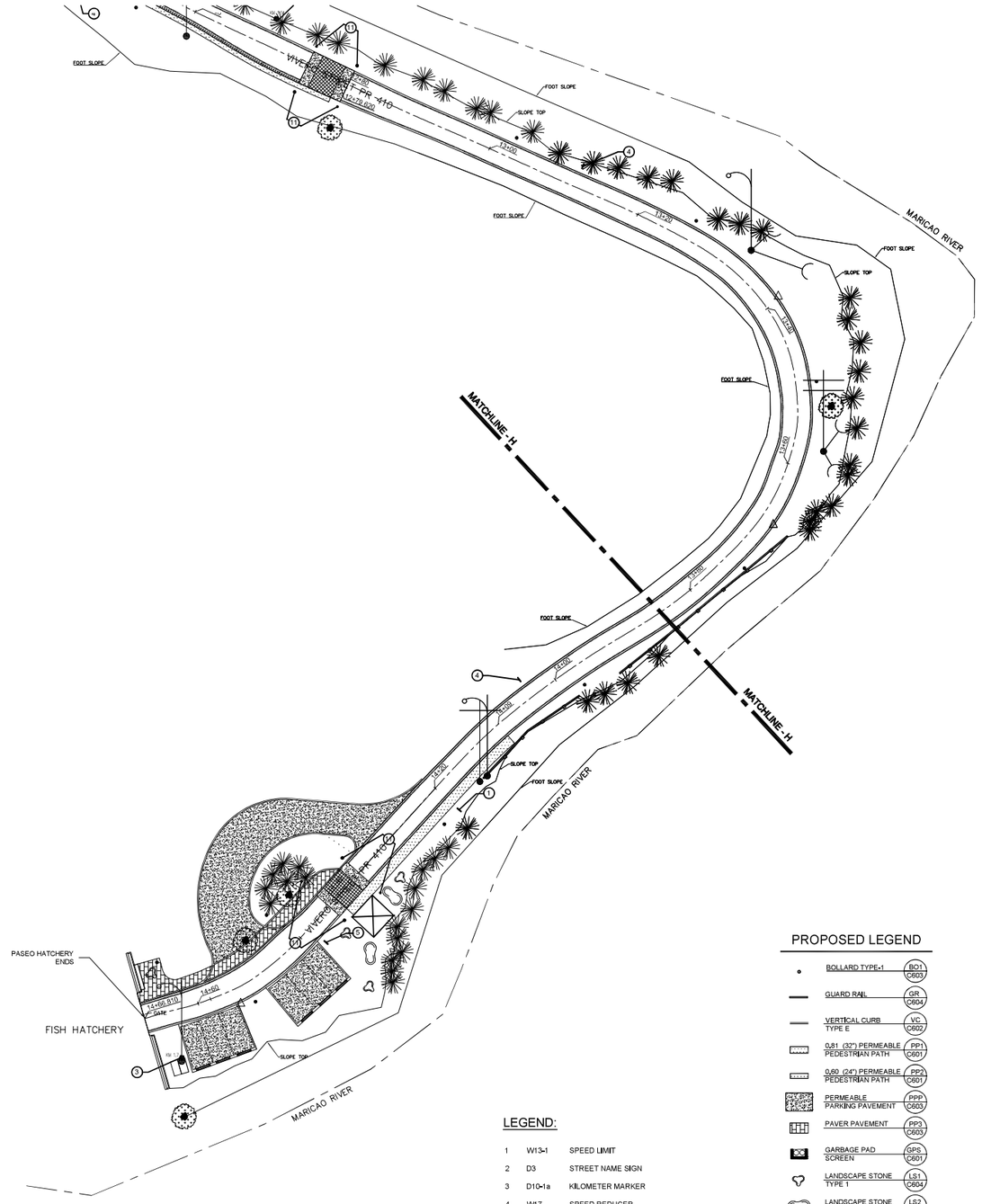
0 5 10 30

SCALE = 1:300

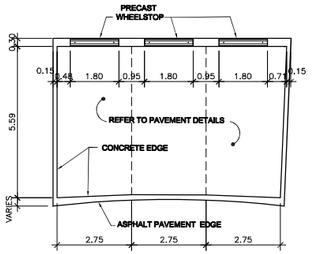
| HORIZONTAL VERTICAL CONTROL # 20 | | | |
|---|---|---|---|
| Y | 237,458,8290 | X | 141,693,8390 |
| EL. | 447,100 | PK | |

| HORIZONTAL VERTICAL CONTROL # 21 | | | |
|---|---|---|---|
| Y | 237,430,6690 | X | 141,693,2380 |
| EL. | 448,230 | PK | |

| HORIZONTAL VERTICAL CONTROL # 22 | | | |
|---|---|---|---|
| Y | 237,371,6570 | X | 141,627,5680 |
| EL. | 450,080 | PK | |

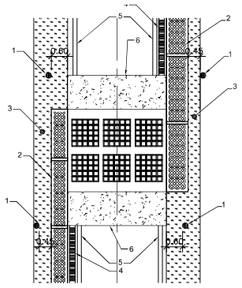


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TYPICAL PARKING STALL

SCALE: 1:100

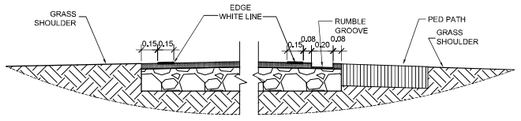



RUMBLE STRIP SITE PLAN

SCALE: 1:100

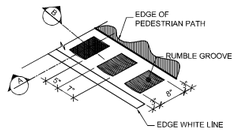
LEGEND:

| CODE | DESCRIPTION |
|---|---|
| 1 | BOLLARD LUMINAIRE |
| 2 | PED PATH |
| 3 | GRASS SHOULDER |
| 4 | RUMBLE STRIP |
| 5 | EDGE WHITE LINE |
| 6 | SPEED TABLE |



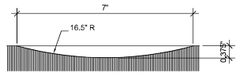

RUMBLE GROOVE SECTION A

SCALE: NTS




RUMBLE GROOVE DETAIL PLAN

SCALE: NTS

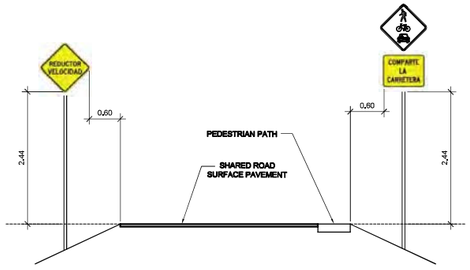



RUMBLE GROOVE SECTION B

SCALE: NTS

RUMBLE STRIP NOTES: :

1. RUMBLE STRIPS SHALL BE MILLED-IN AS SHOWN ON THE PLANS.
2. ALL MATERIAL MILLED TO FORM THE RUMBLE STRIP SHALL BE THOROUGHLY REMOVED, COLLECTED AND DISPOSED OF IN A LOCATION APPROVED BY THE ENGINEER AND SWEPT CLEAN OF DUST.
3. OVERSPRAY OF LIQUID ASPHALT COATING EMULSION SHALL NOT EXTEND MORE THAN 2 INCHES BEYOND THE WIDTH OF THE GROOVE AND/OR SHALL NOT COME IN CONTACT WITH PAVEMENT MARKINGS.




SIGNAGE HORIZONTAL VERTICAL ALIGNMENT

SCALE: 1:50

NOTE: REFERENCE KILOMETER MARKER SIGN HORIZONTAL AND VERTICAL ALIGNMENT IS SAME AS EXISTING.

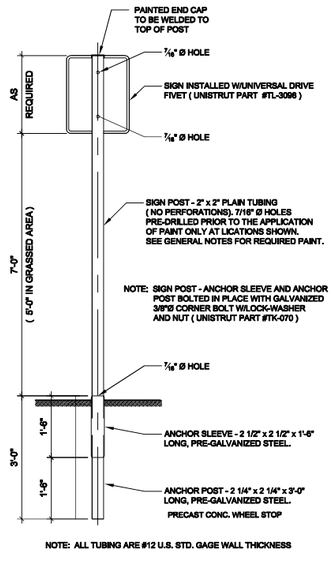
## ROAD SIGNAGE DATA TABLE

| CODE NUMBER | LEGEND SYMBOL | LETTER SIZE | SIZE OF SIGN | MUTCD NUMBER | COLORS | | TYPE OF MOUNTING |
|---|---|---|---|---|---|---|---|
| | | | | | BACKGROUND | CHARACTERS | |
| 1 | 10 MPH | SEE "MANUAL DE ROTULACION PARA LAS VIAS PUBLICAS DE PUERTO RICO" (MRVPPR) | 18"X18" | W13-1 | YELLOW REFELECTIVE | BLACK NON REFLECTIVE | GROUND MOUNTED |
| 2 | CALLE LOÍZA | SEE (MRVPPR) MANUAL | 9"XVARIES" | D3 | GREEN REFELECTIVE | WHITE REFLECTIVE | G. M. |
| 3 | N-1 | SEE (MRVPPR) MANUAL | 6"X18" | D10-1a | GREEN REFELECTIVE | WHITE REFLECTIVE | G. M. |
| 4 | REDUCTOR VELOCIDAD | SEE (MRVPPR) MANUAL | 30"X30" | W17 | YELLOW REFELECTIVE | BLACK NON REFLECTIVE | G. M. |
| 5 | | SEE (MRVPPR) MANUAL | 24"X24" | W11-15 (PR) | YELLOW REFELECTIVE | BLACK NON REFLECTIVE | G. M. |
| | COMPARTE LA CARRETERA | SEE (MRVPPR) MANUAL | 24"X30" | W16-1 | YELLOW REFELECTIVE | BLACK NON REFLECTIVE | G. M. |

NOTE: FOR CODE #5 COMPOSITE WARNING SIGN REFER TO MUTCD CHAPTER 9 AND SECTION 2C-60 SHARED THE ROAD

## PAVEMENT MARKINGS GENERAL NOTES :

1. PAVEMENT MARKING AND GEOMETRY SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND P.R.H.T.A.
2. ALL PAVEMENT MARKINGS SHALL BE YELLOW OR WHITE IN COLOR AND SHALL BE MADE OF THERMOPLASTIC MATERIAL. MARKINGS VISIBLE ONLY TO TRAFFIC PROCEEDING IN THE WRONG SHALL BE RED.
3. WORD AND SYMBOL MARKINGS SHALL BE WHITE IN COLOR AND SHALL BE PLACED AS PER PRHTA SHOWN ON PLANS.
4. ALL THERMOPLASTIC PAVEMENT MARKINGS INCLUDING WORDS AND SYMBOLS, SHALL HAVE AN AVERAGE THICKNESS ABOVE THE PAVEMENT LEVEL OF 120 THOUSANDS OF AN INCH. THE MINIMUM THICKNESS ABOVE THE PAVEMENT LEVEL SHALL BE 110 THOUSANDS OF AN INCH, AND THE MAXIMUM THICKNESS ABOVE THE PAVEMENT LEVEL SHALL NOT EXCEED 130 THOUSANDS OF AN INCH.
5. PAVEMENT EDGE LINES SHALL BE 0.10 M WIDE (OR MATCHING EXISTING WHEN APPLICABLE). PAINT SHALL BE REFLECTORIZED WHITE TRAFFIC PAINT, WITH FINISHED APPLICATION NO LESS THAN 3MM THICKNESS.




NOTE: ALL TUBING ARE #12 U.S. STD. GAGE WALL THICKNESS

SIGN POST DETAIL

SCALE: NTS

## SIGNAGE GENERAL NOTES :

1. FOR SIGN DETAILS, REFER TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), PUBLISHED BY U.S. DEPARTMENT OF TRANSPORTATION, FEDERAL HIGHWAY ADMINISTRATION. LATEST EDITION.
2. THE BACK OF ALL FINISHED PANELS SHALL BE STENCILED WITH THE DATE OF FABRICATION, FABRICATOR'S INITALS AND THE BOTTOM EDGE IN 3 INCH. LETTERS.
3. ALL GROUND MOUNTED STOP, YIELD, WRONG WAY, DO NOT ENTER AND SPEED LIMIT SIGN FACES SHALL BE FABRICATED ENTIRELY WITH TYPE "B" HIGH INTENSITY REFLECTIVE SHEETING.
4. ALL SIGN SHALL BE PLACED IN ACCORDANCE WITH P.R.H.T.A. AND SIGNING SPECIFICATIONS.
5. COORDINATE SIGN LOCATIONS WITH LANDSCAPING AS REQUIRED.
6. MINIMUM ADVANCE PLACEMENT DISTANCE IS 100 FT (30.48 M).

## SIGN POST INSTALLATION :

SIGN POSTS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND THE FOLLOWING:

1. DRIVE ANCHOR POST AND ANCHOR SLEEVE INTO THE GROUND TOGETHER, LEAVING A MAX. OF ONE HOLE EXPOSED FOR BOLT CONNECTION. FOR HAND INSTALLATION, DRIVE CAP OF PROPER SIZE SHALL BE USED TO PREVENT DAMAGE TO TUBING. SIDEWALK SHALL BE POURED AROUND ANCHOR SLEEVE OR EXISTING SIDEWALK SHALL BE CORE DRILLED AND SEALED AROUND THE SLEEVE.
2. INSERT SIGN POST INTO ANCHOR ASSEMBLY APPROXIMATELY 6" TO 8" AND BOLT IN PLACE.
3. INSTALLED SIGN AND POST SHALL BE PLUMB AND FREE OF VERTICAL AND LATERAL MOVEMENT.
4. NO PORTION OF A SIGN OR ITS SUPPORT SHALL BE PLACED LESS THAN 2 FEET LATERALLY FROM THE NEAR EDGE OF THE PATH, OR LESS THAN 8 FEET VERTICALLY OVER THE ENTIRE WIDTH OF THE SHARED-USE PATH.

# SIGNAGE AND PAVEMENT MARKINGS

SCALE = NOT TO SCALE

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JMCP + JLGARCHITECTS
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JAMES.BAIGES@GMAIL.COM - (787) 399-0077

90% DESIGN SET
NOT FOR CONSTRUCTION

GOBIERNO MUNICIPAL DE MARICAO
PASEO HATCHERY [PR-CRP-000721]

PROJECT: PR-CRP-000721
PASEO LA GRUTA-VIVERO DE PECES
CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

| NO. | DATE | DRAWING ISSUE | BY | APP. |
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| | | | | |

DRAWN BY:
REVIEWED BY:
DATE: 05/23

SHEET TITLE: SIGNAGE PAVEMENT MARKINGS
DRAWING NO.: C-710

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NOTE: SIGN SHALL READ 10 M.P.H.

**W13-1**

| SEÑAL | DIMENSIONES (PULGADAS) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | A | B | C | D | E | F | G | H | J |
| MINIMO | 18 | 0.375 | 0.625 | 2.5 | 8E | 2 | 3E | 4.723 | 1.5 |
| NORMAL | 24 | 0.375 | 0.625 | 3.625 | 10E | 2.75 | 4E | 6.284 | 1.5 |
| SEMI-EXPRESO | 30 | 0.5 | 0.75 | 4.5 | 12E | 4 | 5E | 7.416 | 1.875 |

**COLORES :**

LEYENDA - NEGRO (NO REFLECTIVO)
FONDO - AMARILLO (REFLECTIVO)








**W17-1**

**COLORES :**

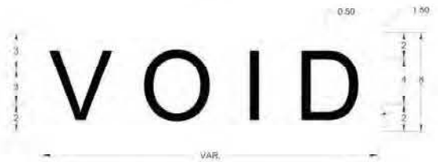
LEYENDA - NEGRO (NO REFLECTIVO)
FONDO - AMARILLO (REFLECTIVO)








**D3**




**D3**



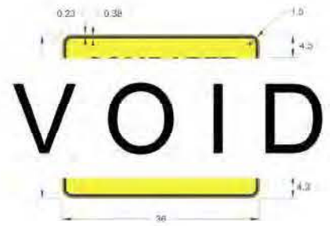

**D3**

**COLORES :**

LEYENDA / BORDE - BLANCO (REFLECTIVO)
FONDO - VERDE (REFLECTIVO)











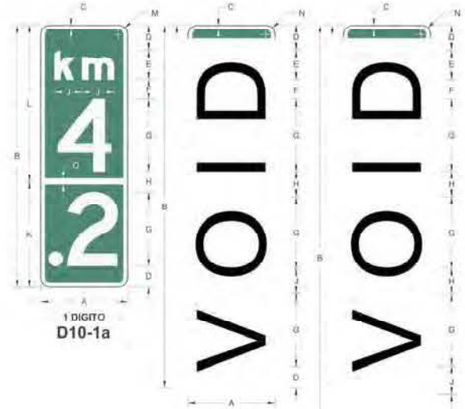
**W16-1**

**COLORES :**

LEYENDA - NEGRO (NO REFLECTIVO)
FONDO - AMARILLO (REFLECTIVO)








| 1 < V < 35 MPH | | | | 25 < V < 50 MPH | | | | V > 55 MPH | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| DIMENSIONES (PULGADAS) | 1 DIGITO | 2 DIGITOS | 3 DIGITOS | DIMENSIONES (PULGADAS) | 1 DIGITO | 2 DIGITOS | 3 DIGITOS | DIMENSIONES (PULGADAS) | 1 DIGITO | 2 DIGITOS | 3 DIGITOS |
| A | 8.00 | 16.00 | 24.00 | A | 10.00 | 20.00 | 30.00 | A | 12.00 | 24.00 | 36.00 |
| B | 10.40 | 20.80 | 31.20 | B | 13.00 | 26.00 | 39.00 | B | 15.60 | 31.20 | 46.80 |
| C | 0.50 | 0.50 | 0.50 | C | 0.50 | 0.50 | 0.50 | C | 0.50 | 0.50 | 0.50 |
| D | 1.75 | 1.75 | 1.75 | D | 2.50 | 2.50 | 2.50 | D | 3.25 | 3.25 | 3.25 |
| E | 40 | 40 | 40 | E | 50 | 50 | 50 | E | 60 | 60 | 60 |
| F | 3.00 | 3.00 | 3.00 | F | 3.00 | 3.00 | 3.00 | F | 3.00 | 3.00 | 3.00 |
| G | 40 | 40 | 40 | G | 50 | 50 | 50 | G | 60 | 60 | 60 |
| H | 6.00 | 6.00 | 6.00 | H | 8.00 | 8.00 | 8.00 | H | 10.00 | 10.00 | 10.00 |
| J | 0.50 | 0.50 | 0.50 | J | 0.50 | 0.50 | 0.50 | J | 0.50 | 0.50 | 0.50 |
| K | 2.00 | 2.00 | 2.00 | K | 2.50 | 2.50 | 2.50 | K | 3.00 | 3.00 | 3.00 |
| L | 7.20 | 14.40 | 21.60 | L | 9.00 | 18.00 | 27.00 | L | 10.80 | 21.60 | 32.40 |
| M | 10.00 | 10.00 | 10.00 | M | 12.50 | 12.50 | 12.50 | M | 15.00 | 15.00 | 15.00 |
| N | 7.00 | 14.00 | 21.00 | N | 8.75 | 17.50 | 26.25 | N | 10.50 | 21.00 | 31.50 |
| P | 1.00 | 1.00 | 1.00 | P | 1.25 | 1.25 | 1.25 | P | 1.50 | 1.50 | 1.50 |

**COLORES :**

LEYENDA / BORDE - BLANCO (REFLECTIVO)
FONDO - VERDE (REFLECTIVO)






| SEÑAL | DIMENSIONES (PULGADAS) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | A | B | C | D | E | F | G | H | J | K |
| MINIMO | 18 | 0.375 | 0.625 | 6.25 | 1 | 0.125 | 8.875 | 2.524 | 2.25 | 1.5 |
| NORMAL | 24 | 0.375 | 0.625 | 8.5 | 1.375 | 0.125 | 11.875 | 3.366 | 3 | 1.5 |
| SEMI-EXPRESO | 30 | 0.5 | 0.75 | 10.75 | 1.75 | 0.25 | 14.75 | 4.207 | 3.75 | 1.875 |
| ESPECIAL | 36 | 0.625 | 0.875 | 12.75 | 2.125 | 0.375 | 17.625 | 5.049 | 4.50 | 2.25 |
| ESPECIAL | 48 | 0.75 | 1.25 | 17 | 2.75 | 0.375 | 23.625 | 6.732 | 6 | 3 |

# SIGNAGE PAVEMENT MARKINGS

SCALE = NOT TO SCALE

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787.305.1837

BAIGES GEOTECHNICAL ENGINEERS, LLC
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(787) 840-2345 | (939) 213-1234 | JAIME.BAIGES@GMAIL.COM | JAIME_BAIGES@

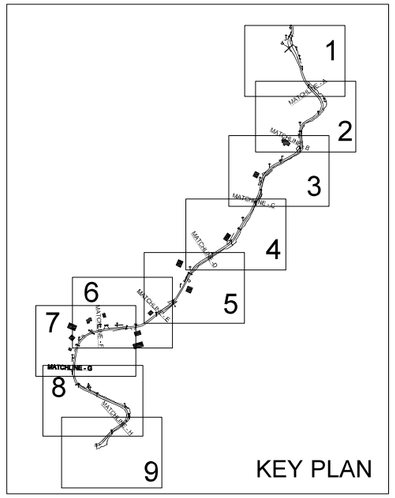
90% DESIGN SET
NOT FOR CONSTRUCTION

PROJECT: PR-CRP-000721
PASEO LA GRUTA-VIVERO DE PECES
CARRETERA ESTATAL PR 410 KM 3.0 - KM 4.5
GOBIERNO MUNICIPAL DE MARICAO
PASEO HATCHERY [PR-CRP-000721]

| NO. | DATE | DRAWING ISSUE | BY | APP. |
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DRAWN BY:
REVIEWED BY:
DATE: 05/23
SHEET TITLE: SIGNAGE PAVEMENT MARKINGS
DRAWING NO.: C-711

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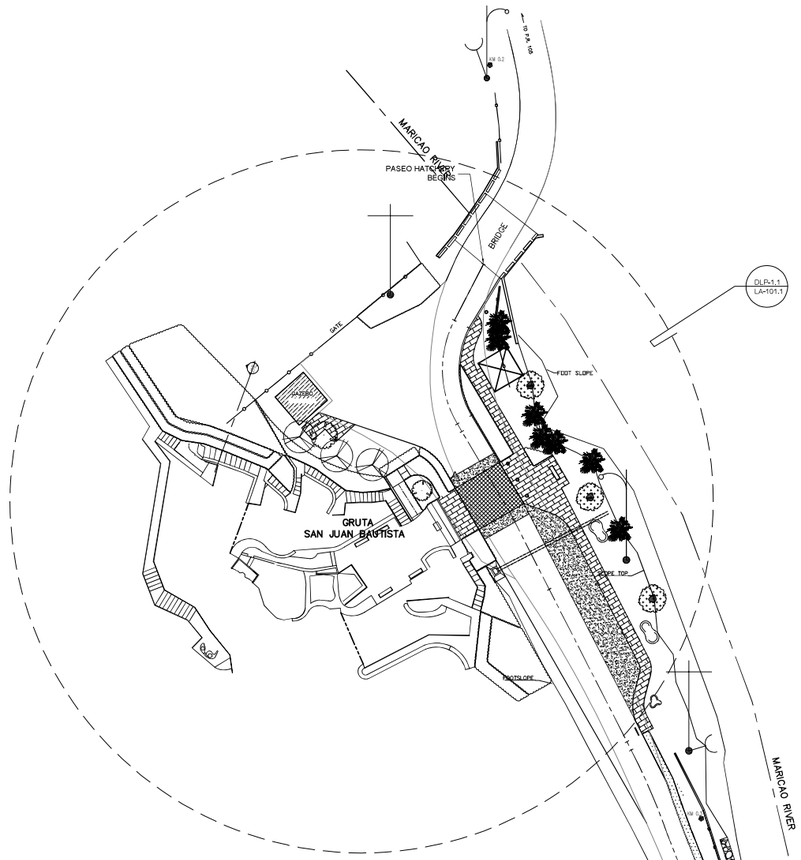

KEY PLAN

## EXISTING CONDITIONS LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

0 5 10 30

SCALE = 1:300







## PROPOSED LEGEND

| | | |
|---|---|---|
| | BOLLARD TYPE-1 | BO1 C603 |
| | GUARD RAIL | GR C604 |
| | VERTICAL CURB TYPE E | VC C602 |
| | 0.81 (32") PERMEABLE PEDESTRIAN PATH | PP1 C601 |
| | 0.60 (24") PERMEABLE PEDESTRIAN PATH | PP2 C601 |
| | PERMEABLE PARKING PAVEMENT | PPP C603 |
| | PAVER PAVEMENT | PP3 C603 |
| | GARBAGE PAD SCREEN | GPS C601 |
| | LANDSCAPE STONE TYPE 1 | LS1 C604 |
| | LANDSCAPE STONE TYPE 2 | LS2 C604 |
| | SPEED TABLE | STP C601 |
| | KILOMETER MARKER | KM C603 |

| HORIZONTAL VERTICAL CONTROL # 02 | | | |
|---|---|---|---|
| Y | 238,355.4430 | X | 142,095.6950 |
| EL. | 423.510 | PK | |

| HORIZONTAL VERTICAL CONTROL # 03 | | | |
|---|---|---|---|
| Y | 238,258.9140 | X | 142,146.5920 |
| EL. | 425.090 | PK | |

## LA-101 PLANTING MATERIALS SCHEDULE - PASEO HATCHERY

| TREES | | | BOTANICAL NAME | COMMON NAME | REMARKS |
|---|---|---|---|---|---|
| KEY | QTY | UNIT | | | |

| PALMS | | | BOTANICAL NAME | COMMON NAME | REMARKS |
|---|---|---|---|---|---|
| KEY | QTY | UNIT | | | |
| P-1 | | | Cyathea Arborea | Helecho de Palma | |
| P-2 | 4 | sq.ent. | Rhapis Excelsa | Rhapis | 3 gal. @ 0.914 m. o.c. |

| SHRUBS | | | BOTANICAL NAME | COMMON NAME | REMARKS |
|---|---|---|---|---|---|
| KEY | QTY | UNIT | | | |
| SH12 | 4 | sq.ent. | Heliconia Andrazoneda Bihai | Heliconia Alta | 3 gal. @ 0.60 m. o.c. |

| GROUND COVERS | | | BOTANICAL NAME | COMMON NAME | REMARKS |
|---|---|---|---|---|---|
| KEY | QTY | UNIT | | | |
| GC16 | 18 | sq.ent. | Impatiens Wallerlana | Miramelinda | 6" pot @ 0.45 m. o.c. |
| GC17 | | | Iris Amarillis | Iris | |
| GC18 | | | Liriope Muscari | Liriope Verde | |
| GC19 | 15 | sq.ent. | Nephrolepsis Biserrata | Helecho Cola de Pescado | 6" pot @ 0.45 m. o.c. |

| EROSION CONTROL | | | | | |
|---|---|---|---|---|---|
| KEY | QTY | UNIT | | | |
| E-1 | 15 | sq.ent. | Erosion control coir fiber mat. Refer to La-110.1. | | |

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787.309.1837

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JAMES@BAIGESGROUP.COM • (787) 399-0077

90% DESIGN SET
NOT FOR CONSTRUCTION

PROJECT: PR-CRP-000721

# PASEO LA GRUTA-VIVERO DE PECES

CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

GOBIERNO MUNICIPAL DE MARICAO

PASEO HATCHERY [PR-CRP-000721]

| NO. | DATE | DRAWING ISSUE | BY | APP. |
|---|---|---|---|---|
| | | | | |

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REVIEWED BY:
DATE: 05/23 11/01/23

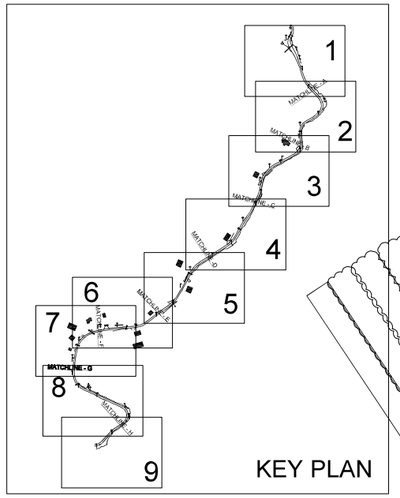
SHEET TITLE: LANDSCAPE PLAN

DRAWING NO.: LA-101

# LANDSCAPE-1

scale= 1:300

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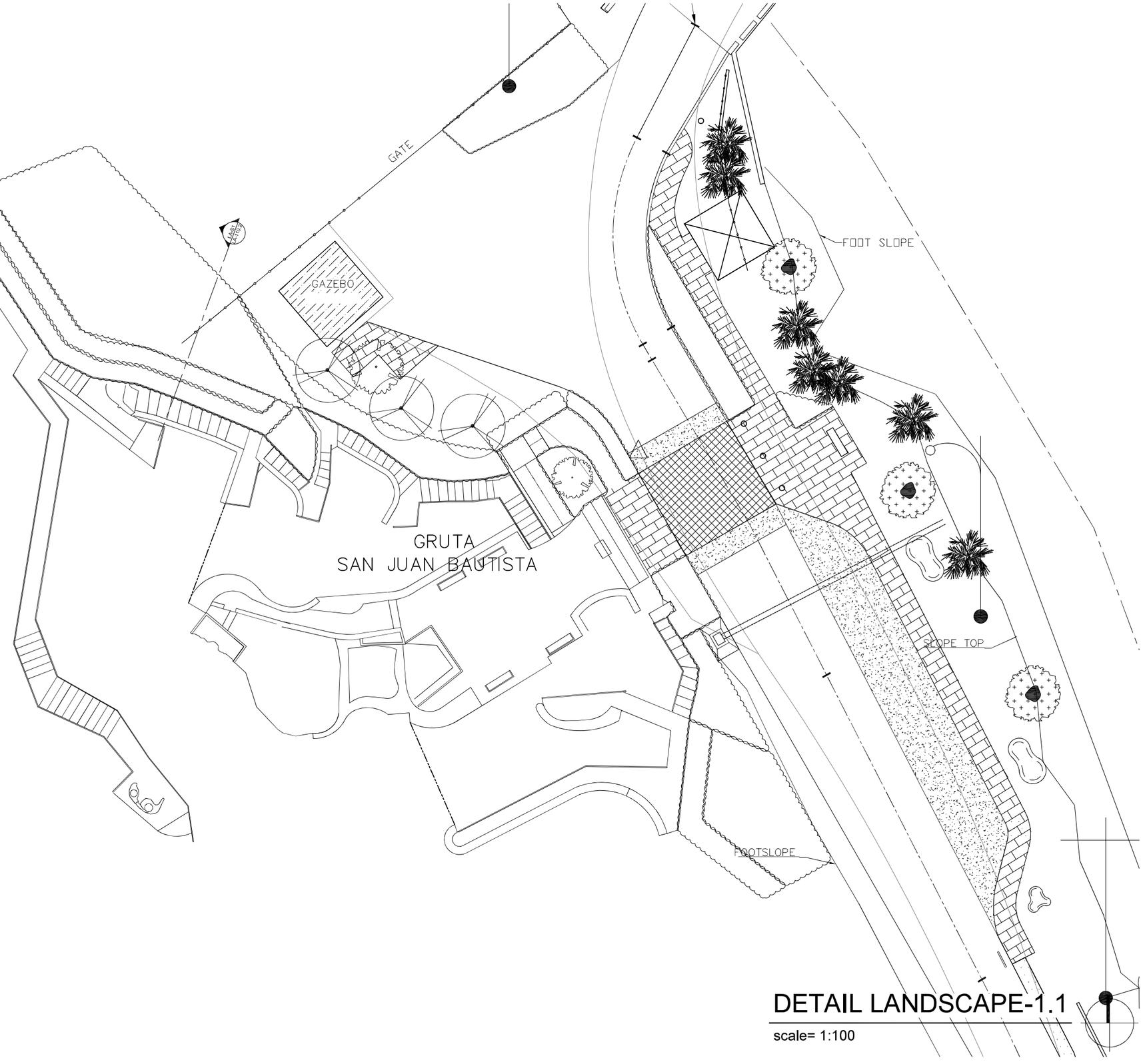

KEY PLAN

## EXISTING CONDITIONS LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

0 5 10 30

SCALE = 1:300




# DETAIL LANDSCAPE-1.1

scale= 1:100

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JMCP +
JLGARCHITECTS
115 DEL PARQUE STREET SUITE 7
SAN JUAN, PR 00911
787.309.3837

BAIGES GEOTECHNICAL ENGINEERS, LLC
641 PASEO DE LA ALHAMBRA, URB. TORRIMAR - GUAYNABO, P.R. 00966
JAMES@BAIGESPR.COM - (787) 399-0007

90% DESIGN SET
NOT FOR CONSTRUCTION

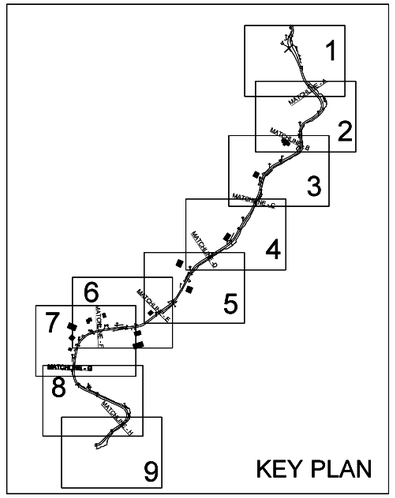
PROJECT: PR-CRP-000721
**PASEO LA GRUTA-VIVERO DE PECES**
CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

GOBIERNO MUNICIPAL DE MARICAO
PASEO HATCHERY [PR-CRP-000721]

| NO. | DATE | DRAWING ISSUE | BY | APP. |
|---|---|---|---|---|

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DATE: 05/23
SHEET TITLE: DETAIL LANDSCAPE PLAN
DRAWING NO.: LA-101.1

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## EXISTING CONDITIONS LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

0 5 10 30

SCALE = 1:300

**LA-102 PLANTING MATERIALS SCHEDULE - PASEO HATCHERY**

| TREES | | | BOTANICAL NAME | COMMON NAME | REMARKS |
|---|---|---|---|---|---|
| KEY | QTY | UNIT | | | |

| PALMS | | | BOTANICAL NAME | COMMON NAME | REMARKS |
|---|---|---|---|---|---|
| KEY | QTY | UNIT | | | |
| P-1 | | | Cyathea Arborea | Helecho de Palma | |
| P-2 | | | Rhapis Excelsa | Rhapis | |

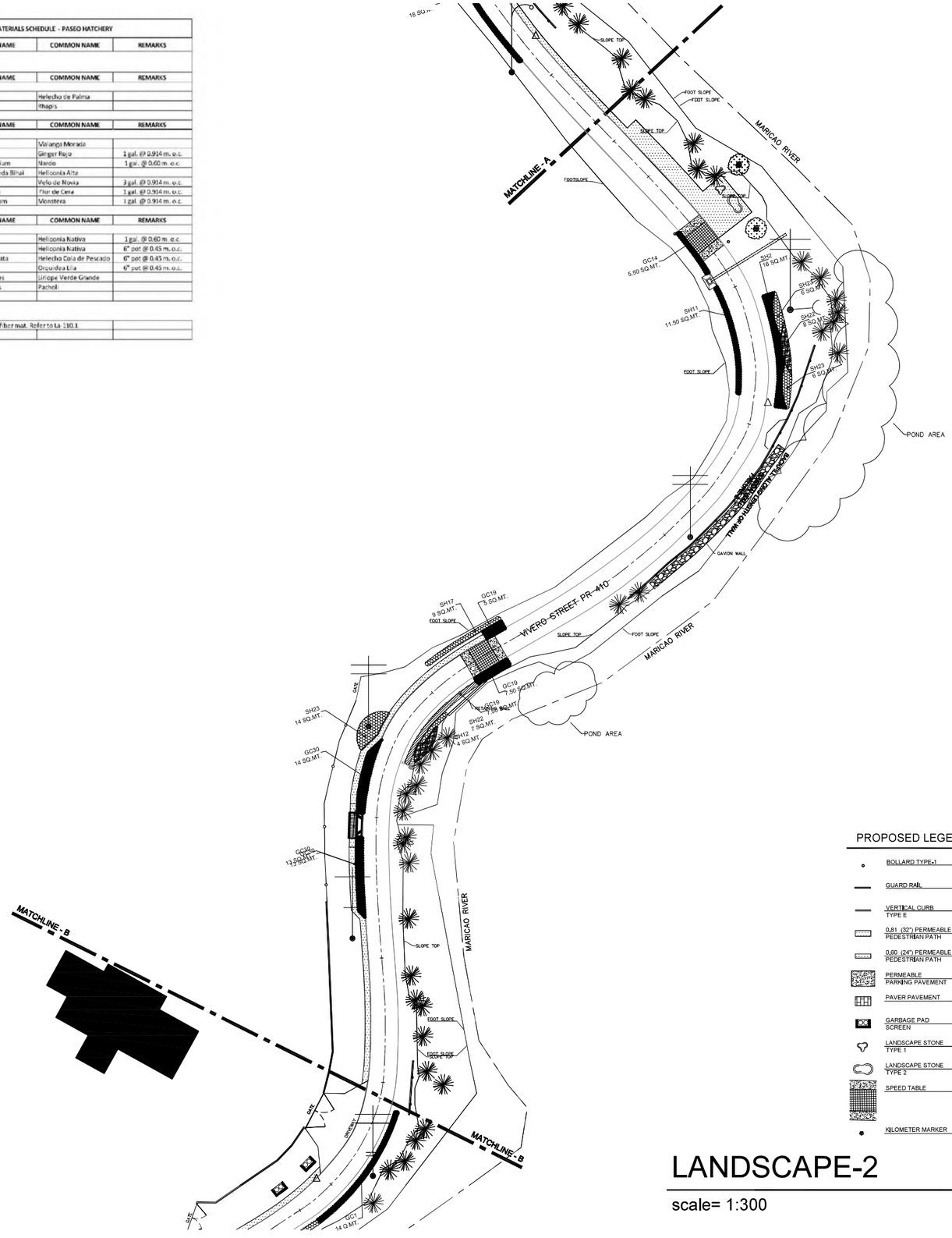
| SHRUBS | | | BOTANICAL NAME | COMMON NAME | REMARKS |
|---|---|---|---|---|---|
| KEY | QTY | UNIT | | | |
| SH1 | | | Alocasia Indica | Malanga Morada | |
| SH2 | 16 | sq.mt. | Alpinia Purpurata | Ginger Rojo | 1 gal. @ 0.914 m. o.c. |
| SH11 | 5.5 | sq.mt. | Hedychium Coronarium | Nardo | 1 gal. @ 0.60 m. o.c. |
| SH12 | 4 | sq.mt. | Heliconia Andrzoomeda Blhai | Heliconia Alta | |
| SH17 | 9 | sq.mt. | Plumeria Spp | Velo de Novia | 3 gal. @ 0.914 m. o.c. |
| SH22 | 13 | sq.mt. | Phaomeria Speciosa | Flor de Cera | 1 gal. @ 0.914 m. o.c. |
| SH23 | 26 | sq.mt. | Philodendron Selloum | Monstera | 1 gal. @ 0.914 m. o.c. |

| GROUND COVERS | | | BOTANICAL NAME | COMMON NAME | REMARKS |
|---|---|---|---|---|---|
| KEY | QTY | UNIT | | | |
| GC14 | 5.5 | sq.mt. | Heliconia Caribae | Heliconia Nativa | 1 gal. @ 0.60 m. o.c. |
| GC15 | 7.5 | sq.mt. | Heliconia Bihai | Heliconia Nativa | 6" pot @ 0.45 m. o.c. |
| GC19 | 5 | sq.mt. | Nephrolepsis Biserrata | Helecho Cola de Pescado | 6" pot @ 0.45 m. o.c. |
| GC30 | 27 | sq.mt. | Spathoglottis | Orquidea Lila | 6" pot @ 0.45 m. o.c. |
| GC31 | | | Tripsacum Dactyliades | Uroipe Verde Grande | |
| GC32 | | | Vetiveria Zizanoides | Pachoi | |

| EROSION CONTROL | | | | | |
|---|---|---|---|---|---|
| KEY | QTY | UNIT | | | |
| E 1 | | sq.mt. | Erosion control coir Fiber mat. Refer to La -110.1 | | |

| HORIZONTAL VERTICAL CONTROL # 04 | | | |
|---|---|---|---|
| Y | 238,206.7660 | X | 142,179.5560 |
| EL. | 426.530 | PK | |

| HORIZONTAL VERTICAL CONTROL # 06 | | | |
|---|---|---|---|
| Y | 238,096.5140 | Y | 142115.3690 |
| EL. | 428.450 | PK | |




## PROPOSED LEGEND

| | | |
|---|---|---|
| | BOLLARD TYPE-1 | BO1 C603 |
| | GUARD RAIL | GR C604 |
| | VERTICAL CURB TYPE E | VC C602 |
| | 0.81 (32") PERMEABLE PEDESTRIAN PATH | PP1 C601 |
| | 0.60 (24") PERMEABLE PEDESTRIAN PATH | PP2 C601 |
| | PERMEABLE PARKING PAVEMENT | PPP C603 |
| | PAVER PAVEMENT | PP3 C603 |
| | GARBAGE PAD SCREEN | GPS C601 |
| | LANDSCAPE STONE TYPE 1 | LS1 C604 |
| | LANDSCAPE STONE TYPE 2 | LS2 C604 |
| | SPEED TABLE | STP C601 |
| | KILOMETER MARKER | KM C603 |

# LANDSCAPE-2

scale= 1:300

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JAMES.BAIGES@GMAIL.COM – (787) 399-0077

**90% DESIGN SET**
**NOT FOR CONSTRUCTION**

PROJECT: **PR-CRP-000721**

**PASEO LA GRUTA-VIVERO DE PECES**

CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

GOBIERNO MUNICIPAL DE MARICAO

PASEO HATCHERY [PR-CRP-000721]

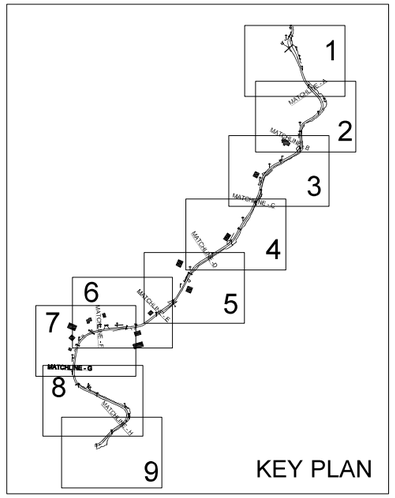
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DATE: 05/23 11/01/23

SHEET TITLE: LANDSCAPE PLAN

DRAWING NO.: **LA-102**

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## EXISTING CONDITIONS LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

0 5 10 30
SCALE = 1:300

**LA-103 PLANTING MATERIALS SCHEDULE - PASEO HATCHERY**

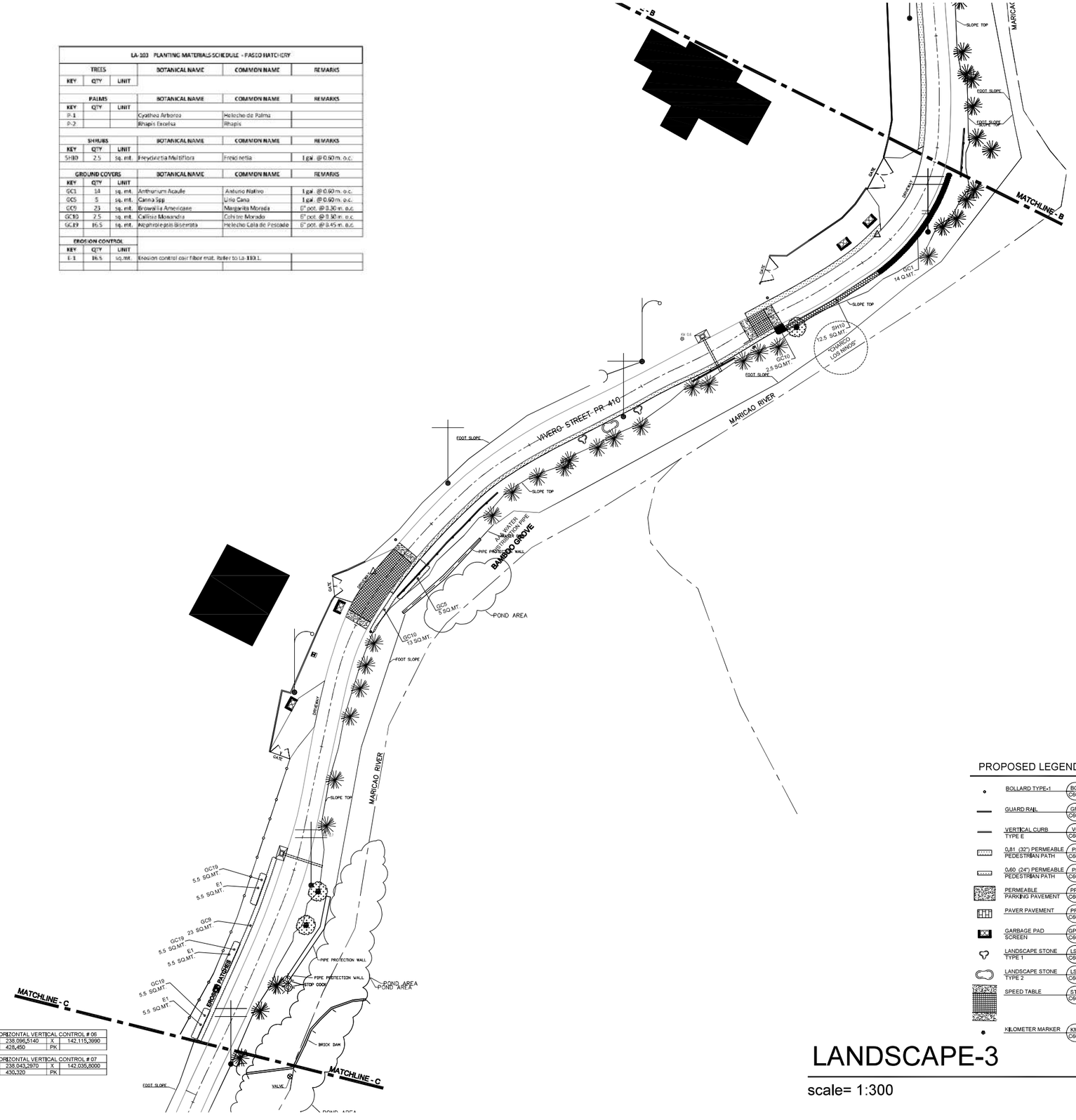
| TREES | | | BOTANICAL NAME | COMMON NAME | REMARKS |
|---|---|---|---|---|---|
| KEY | QTY | UNIT | | | |

| PALMS | | | BOTANICAL NAME | COMMON NAME | REMARKS |
|---|---|---|---|---|---|
| KEY | QTY | UNIT | | | |
| P-1 | | | Cyathea Arborea | Helecho de Palma | |
| P-2 | | | Rhapis Excelsa | Rhapis | |

| SHRUBS | | | BOTANICAL NAME | COMMON NAME | REMARKS |
|---|---|---|---|---|---|
| KEY | QTY | UNIT | | | |
| SH10 | 2.5 | sq. mt. | Freydietia Multiflora | Freicinetia | 1 gal. @ 0.60 m. o.c. |

| GROUND COVERS | | | BOTANICAL NAME | COMMON NAME | REMARKS |
|---|---|---|---|---|---|
| KEY | QTY | UNIT | | | |
| GC1 | 14 | sq. mt. | Anthurium Acaule | Anturio Nativo | 1 gal. @ 0.60 m. o.c. |
| GC5 | 5 | sq. mt. | Canna Spp | Lirio Cana | 1 gal. @ 0.60 m. o.c. |
| GC9 | 23 | sq. mt. | Browallia Americana | Margarita Morada | 6" pot. @ 0.30 m. o.c. |
| GC10 | 2.5 | sq. mt. | Collinsi Monandra | Cohrite Morada | 6" pot. @ 0.30 m. o.c. |
| GC19 | 16.5 | sq. mt. | Nephrolepsis Biserrata | Helecho Cola de Pescado | 6" pot. @ 0.45 m. o.c. |

| EROSION CONTROL | | | |
|---|---|---|---|
| KEY | QTY | UNIT | |
| E-1 | 16.5 | sq.mt. | Erosion control coir fiber mat. Refer to LA-110.1. |




| HORIZONTAL VERTICAL CONTROL # 06 | | | |
|---|---|---|---|
| Y | 238,096.5140 | X | 142,115.3990 |
| EL. | 428.450 | PK | |

| HORIZONTAL VERTICAL CONTROL # 07 | | | |
|---|---|---|---|
| Y | 238,043.2970 | X | 142,035.8000 |
| EL. | 430.320 | PK | |

## PROPOSED LEGEND

| | | |
|---|---|---|
| | BOLLARD TYPE-1 | BO1 C603 |
| | GUARD RAIL | GR C604 |
| | VERTICAL CURB TYPE E | VC C602 |
| | 0.81 (32") PERMEABLE PEDESTRIAN PATH | PP1 C601 |
| | 0.60 (24") PERMEABLE PEDESTRIAN PATH | PP2 C601 |
| | PERMEABLE PARKING PAVEMENT | PPP C605 |
| | PAVER PAVEMENT | PP3 C603 |
| | GARBAGE PAD SCREEN | GPS C601 |
| | LANDSCAPE STONE TYPE 1 | LS1 C604 |
| | LANDSCAPE STONE TYPE 2 | LS2 C604 |
| | SPEED TABLE | STP C601 |
| | KILOMETER MARKER | KM C603 |

# LANDSCAPE-3

scale= 1:300

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90% DESIGN SET
NOT FOR CONSTRUCTION

PROJECT: PR-CRP-000721

**PASEO LA GRUTA-VIVERO DE PECES**

CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

GOBIERNO MUNICIPAL DE MARICAO

PASEO HATCHERY [PR-CRP-000721]

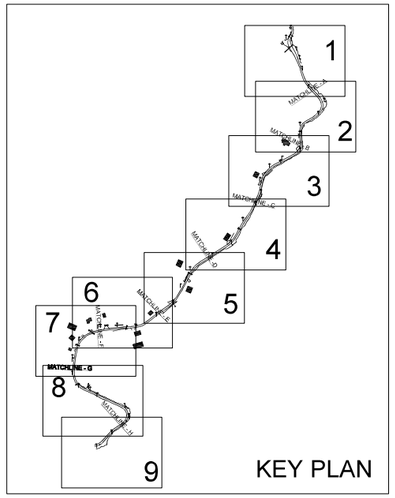
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| | | | | |

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SHEET TITLE: LANDSCAPE PLAN

DRAWING NO.: LA-103

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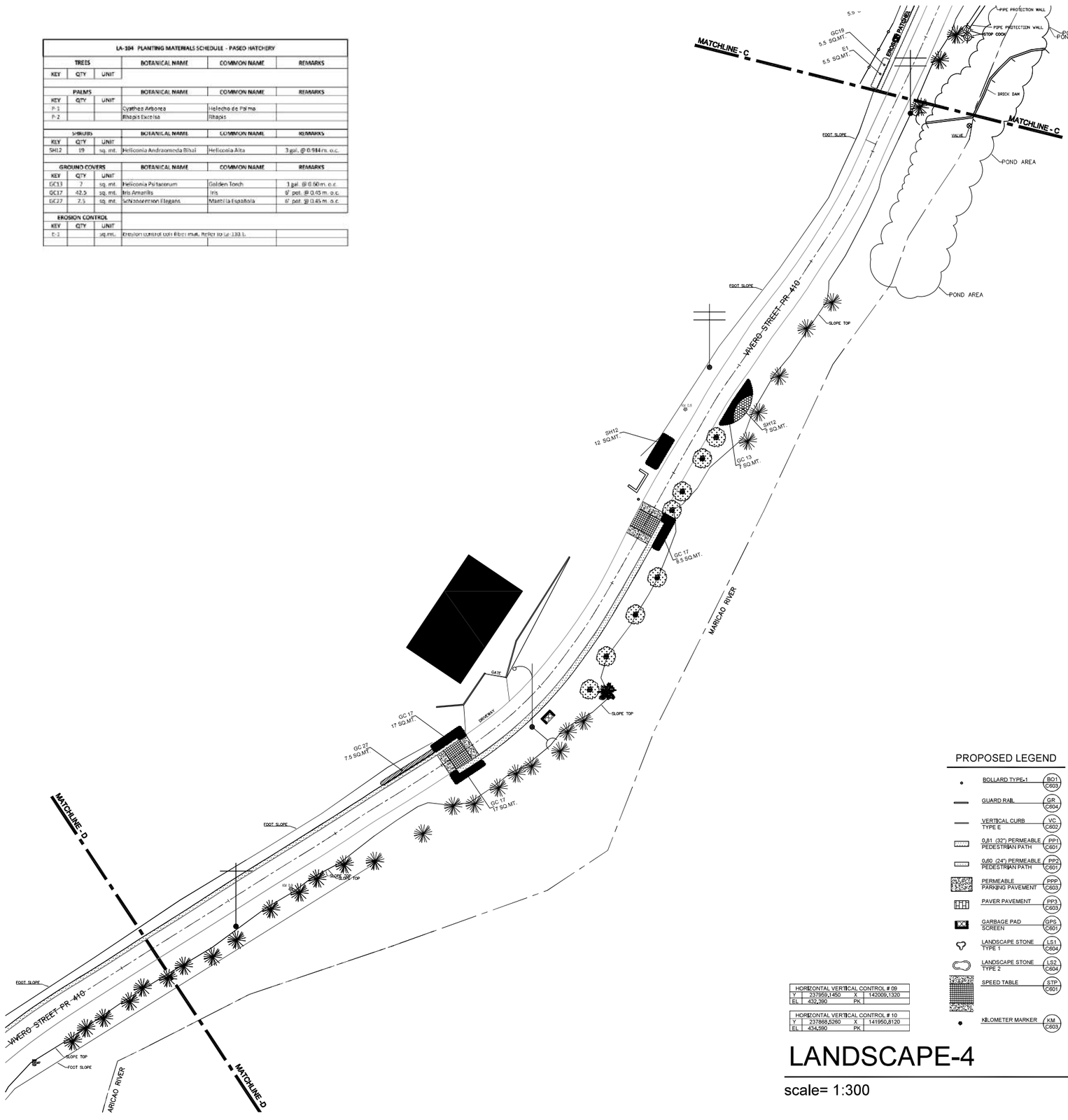



| LA-104 PLANTING MATERIALS SCHEDULE - PASEO HATCHERY | | | | | |
|---|---|---|---|---|---|
| **TREES** | | | **BOTANICAL NAME** | **COMMON NAME** | **REMARKS** |
| KEY | QTY | UNIT | | | |
| **PALMS** | | | **BOTANICAL NAME** | **COMMON NAME** | **REMARKS** |
| KEY | QTY | UNIT | | | |
| P-1 | | | Cyathea Arborea | Helecho de Palma | |
| P-2 | | | Rhapis Excelsa | Rhapis | |
| **SHRUBS** | | | **BOTANICAL NAME** | **COMMON NAME** | **REMARKS** |
| KEY | QTY | UNIT | | | |
| SH12 | 19 | sq. mt. | Heliconia Andrazomeda Bihai | Heliconia Alta | 3 gal. @ 0.914 m. o.c. |
| **GROUND COVERS** | | | **BOTANICAL NAME** | **COMMON NAME** | **REMARKS** |
| KEY | QTY | UNIT | | | |
| GC13 | 7 | sq. mt. | Heliconia Psitacorum | Golden Torch | 1 gal. @ 0.60 m. o.c. |
| GC17 | 42.5 | sq. mt. | Iris Amarilis | Iris | 6" pot. @ 0.45 m. o.c. |
| GC27 | 7.5 | sq. mt. | Sansevieria Elegans | Mantilla Española | 6" pot. @ 0.45 m. o.c. |
| **EROSION CONTROL** | | | | | |
| KEY | QTY | UNIT | | | |
| E-1 | | sq.mt. | Erosion control con fiber mat, Refer to LA-130 L | | |

## EXISTING CONDITIONS LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

0 5 10 30
SCALE = 1:300




| HORIZONTAL VERTICAL CONTROL # 09 | | | |
|---|---|---|---|
| Y | 237850,1450 | X | 142009,1320 |
| EL | 432,390 | PK | |

| HORIZONTAL VERTICAL CONTROL # 10 | | | |
|---|---|---|---|
| Y | 237868,5260 | X | 141950,8120 |
| EL | 434,590 | PK | |

## PROPOSED LEGEND

| | | |
|---|---|---|
| | BOLLARD TYPE-1 | BO1 C603 |
| | GUARD RAIL | GR C604 |
| | VERTICAL CURB TYPE E | VC C602 |
| | 0,81 (32") PERMEABLE PEDESTRIAN PATH | PP1 C601 |
| | 0,60 (24") PERMEABLE PEDESTRIAN PATH | PP2 C601 |
| | PERMEABLE PARKING PAVEMENT | PPP C603 |
| | PAVER PAVEMENT | PP3 C603 |
| | GARBAGE PAD SCREEN | GPS C601 |
| | LANDSCAPE STONE TYPE 1 | LS1 C604 |
| | LANDSCAPE STONE TYPE 2 | LS2 C604 |
| | SPEED TABLE | STP C601 |
| | KILOMETER MARKER | KM C603 |

# LANDSCAPE-4

scale= 1:300

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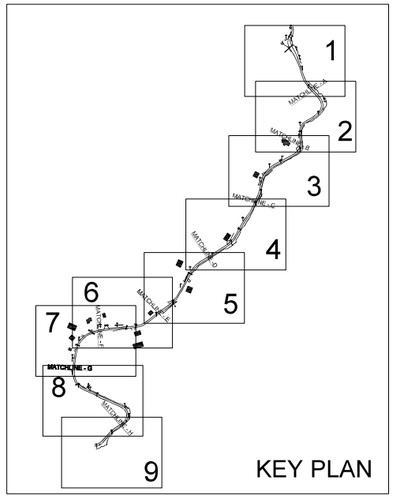
PROJECT: PR-CRP-000721
**PASEO LA GRUTA-VIVERO DE PECES**
CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

GOBIERNO MUNICIPAL DE MARICAO
PASEO HATCHERY [PR-CRP-000721]

| NO. | DATE | DRAWING ISSUE | BY | APP. |
|---|---|---|---|---|

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DRAWING NO.: LA-104

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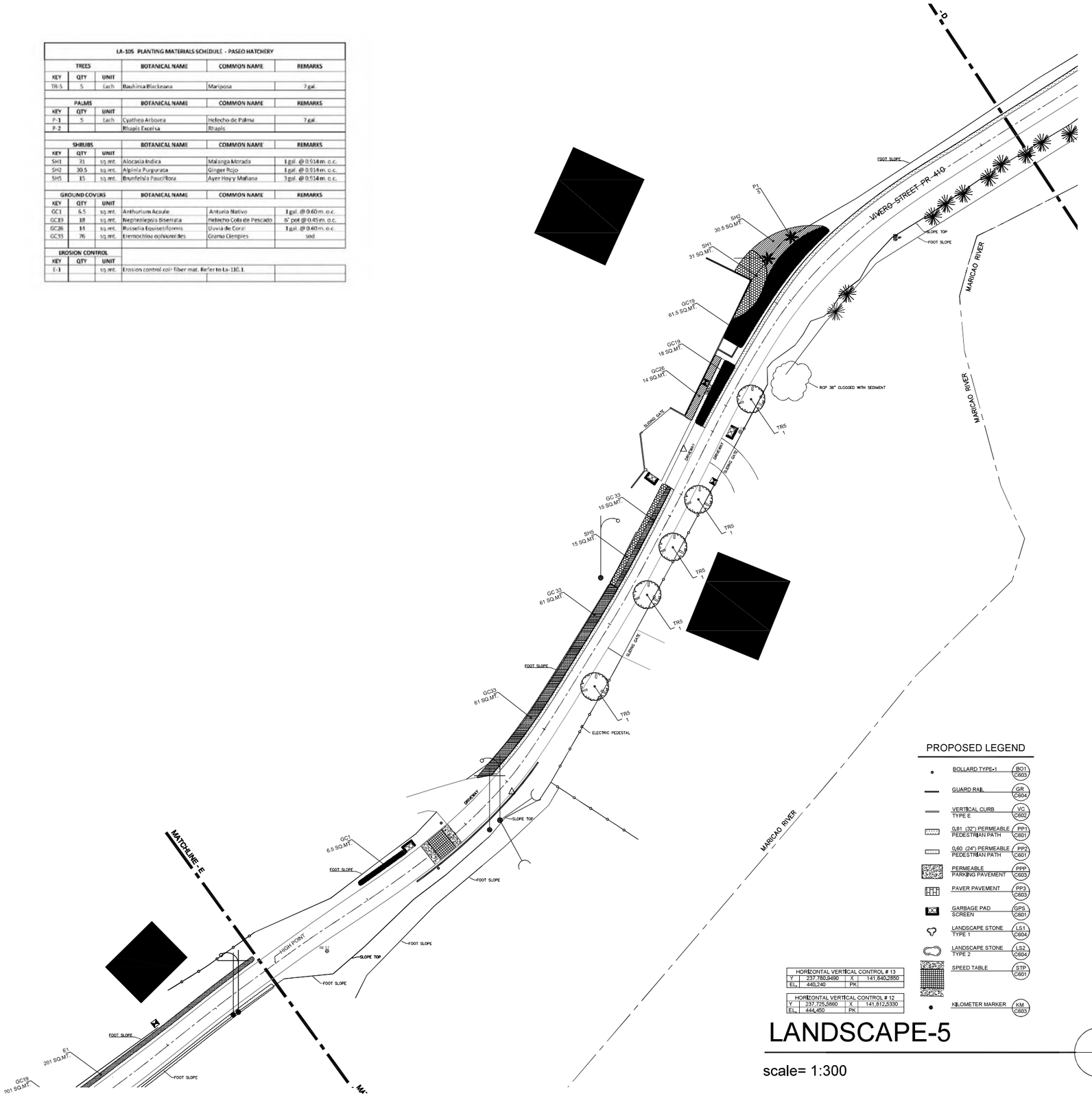



| LA-105 PLANTING MATERIALS SCHEDULE - PASEO HATCHERY | | | | | |
|---|---|---|---|---|---|
| **TREES** | | | **BOTANICAL NAME** | **COMMON NAME** | **REMARKS** |
| KEY | QTY | UNIT | | | |
| TR-5 | 5 | Each | Bauhinia Blackeana | Mariposa | 7 gal. |
| **PALMS** | | | **BOTANICAL NAME** | **COMMON NAME** | **REMARKS** |
| KEY | QTY | UNIT | | | |
| P-1 | 5 | Each | Cyathea Arborea | Helecho de Palma | 7 gal. |
| P-2 | | | Rhapis Excelsa | Rhapis | |
| **SHRUBS** | | | **BOTANICAL NAME** | **COMMON NAME** | **REMARKS** |
| KEY | QTY | UNIT | | | |
| SH1 | 31 | sq.mt. | Alocasia Indica | Malanga Morada | 1 gal. @ 0.914 m. o.c. |
| SH2 | 30.5 | sq.mt. | Alpinia Purpurata | Ginger Rojo | 1 gal. @ 0.914 m. o.c. |
| SH5 | 15 | sq.mt. | Brunfelsia Pauciflora | Ayer Hoy y Mañana | 3 gal. @ 0.514 m. o.c. |
| **GROUND COVERS** | | | **BOTANICAL NAME** | **COMMON NAME** | **REMARKS** |
| KEY | QTY | UNIT | | | |
| GC1 | 6.5 | sq.mt. | Anthurium Acaule | Anturio Nativo | 1 gal. @ 0.60 m. o.c. |
| GC19 | 18 | sq.mt. | Nephrolepsis Biserrata | Helecho Cola de Pescado | 6" pot @ 0.45 m. o.c. |
| GC26 | 14 | sq.mt. | Russelia Equisetiformis | Uuvia de Coral | 1 gal. @ 0.60 m. o.c. |
| GC35 | 76 | sq.mt. | Eremochloa ophiuroides | Grama Cienpies | sod |
| **EROSION CONTROL** | | | | | |
| KEY | QTY | UNIT | | | |
| E-1 | | sq.mt. | Erosion control coir fiber mat. Refer to La-110.1. | | |

## EXISTING CONDITIONS LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

0 5 10 30
SCALE = 1:300




## PROPOSED LEGEND

| | | |
|---|---|---|
| BOLLARD TYPE-1 | BO1 | C603 |
| GUARD RAIL | GR | C604 |
| VERTICAL CURB TYPE E | VC | C602 |
| 0.81 (32") PERMEABLE PEDESTRIAN PATH | PP1 | C601 |
| 0.60 (24") PERMEABLE PEDESTRIAN PATH | PP2 | C601 |
| PERMEABLE PARKING PAVEMENT | PPP | C603 |
| PAVER PAVEMENT | PP3 | C603 |
| GARBAGE PAD SCREEN | GPS | C601 |
| LANDSCAPE STONE TYPE 1 | LS1 | C604 |
| LANDSCAPE STONE TYPE 2 | LS2 | C604 |
| SPEED TABLE | STP | C601 |
| KILOMETER MARKER | KM | C603 |

| HORIZONTAL VERTICAL CONTROL # 13 | | | |
|---|---|---|---|
| Y | 237,780.2490 | X | 141,840.2850 |
| EL. | 440.240 | PK | |

| HORIZONTAL VERTICAL CONTROL # 12 | | | |
|---|---|---|---|
| Y | 237,725.5860 | X | 141,812.5330 |
| EL. | 444.450 | PK | |

# LANDSCAPE-5

scale= 1:300

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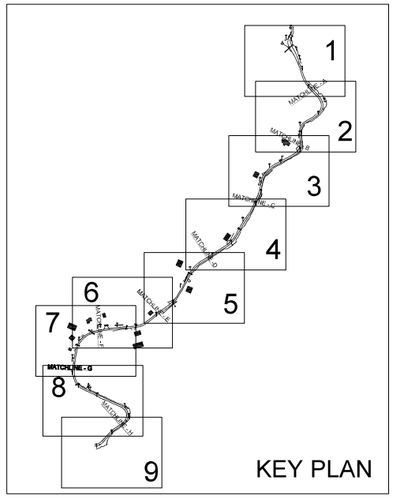
PROJECT: PR-CRP-000721
**PASEO LA GRUTA-VIVERO DE PECES**
CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

GOBIERNO MUNICIPAL DE MARICAO
PASEO HATCHERY [PR-CRP-000721]

| NO. | DATE | DRAWING ISSUE | BY | APP. |
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DRAWING NO.: LA-105

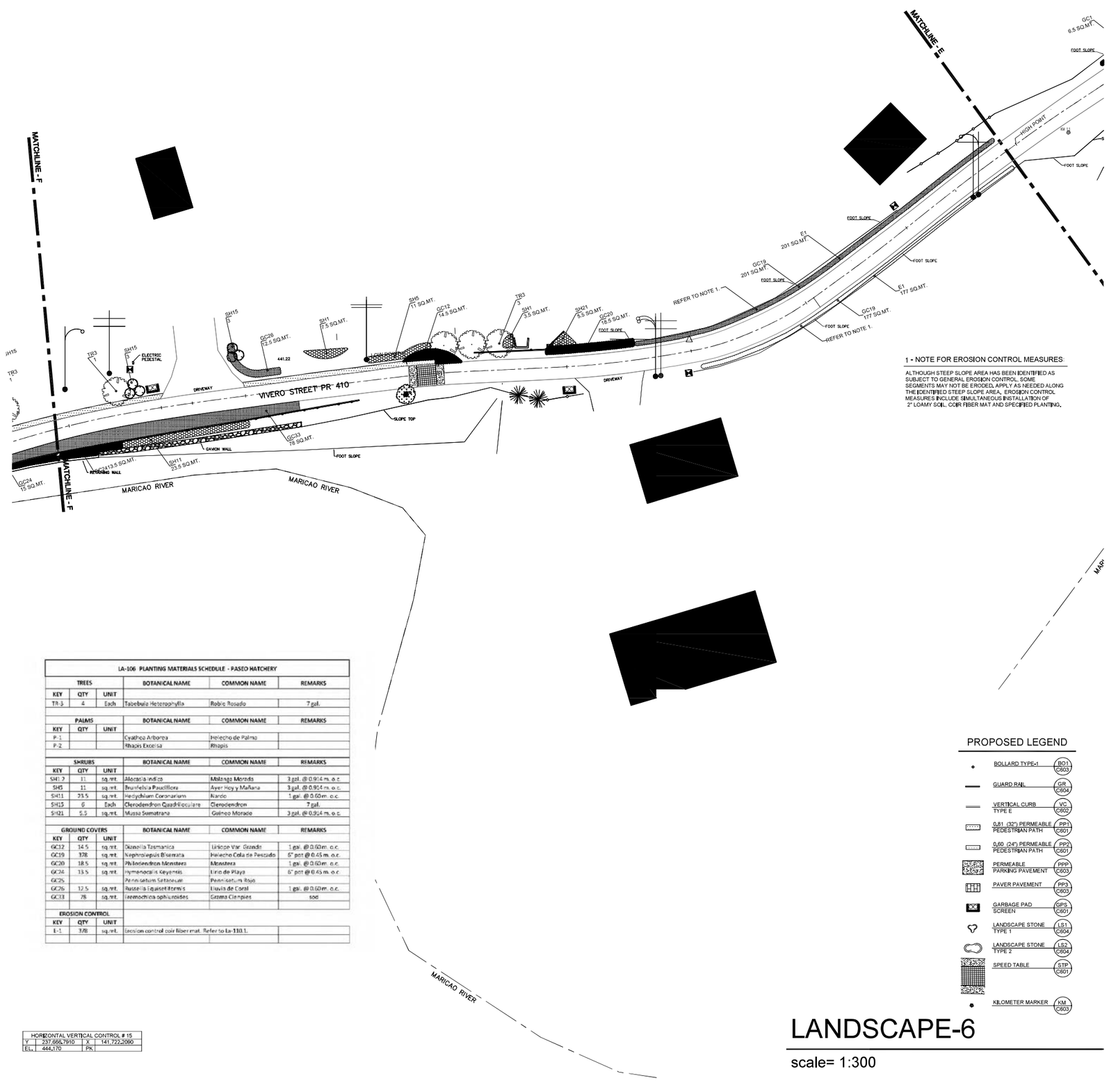
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## EXISTING CONDITIONS LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

0 5 10 30
SCALE = 1:300




### 1 - NOTE FOR EROSION CONTROL MEASURES:

ALTHOUGH STEEP SLOPE AREA HAS BEEN IDENTIFIED AS SUBJECT TO GENERAL EROSION CONTROL, SOME SEGMENTS MAY NOT BE ERODED, APPLY AS NEEDED ALONG THE IDENTIFIED STEEP SLOPE AREA, EROSION CONTROL MEASURES INCLUDE SIMULTANEOUS INSTALLATION OF 2" LOAMY SOIL, COIR FIBER MAT AND SPECIFIED PLANTING.

**LA-106 PLANTING MATERIALS SCHEDULE - PASEO HATCHERY**

| TREES | | | BOTANICAL NAME | COMMON NAME | REMARKS |
|---|---|---|---|---|---|
| KEY | QTY | UNIT | | | |
| TR-3 | 4 | Each | Tabebuia Heterophylla | Roble Rosado | 7 gal. |

| PALMS | | | BOTANICAL NAME | COMMON NAME | REMARKS |
|---|---|---|---|---|---|
| KEY | QTY | UNIT | | | |
| P-1 | | | Cyathea Arborea | Helecho de Palma | |
| P-2 | | | Rhaps Excelsa | Rhapis | |

| SHRUBS | | | BOTANICAL NAME | COMMON NAME | REMARKS |
|---|---|---|---|---|---|
| KEY | QTY | UNIT | | | |
| SH1 2 | 11 | sq.mt. | Alocasia Indica | Malanga Morada | 3 gal. @ 0.914 m. o.c. |
| SH5 | 11 | sq.mt. | Brunfelsia Pauciflora | Ayer Hoy y Mañana | 3 gal. @ 0.914 m. o.c. |
| SH11 | 23.5 | sq.mt. | Hedychium Coronarium | Nardo | 1 gal. @ 0.60m. o.c. |
| SH15 | 6 | Each | Clerodendron Quadrifloculare | Clerodendron | 7 gal. |
| SH21 | 5.5 | sq.mt. | Musa Sumatrana | Guineo Morado | 3 gal. @ 0.914 m. o.c. |

| GROUND COVERS | | | BOTANICAL NAME | COMMON NAME | REMARKS |
|---|---|---|---|---|---|
| KEY | QTY | UNIT | | | |
| GC12 | 14.5 | sq.mt. | Dianella Tasmanica | Liriope Var. Grande | 1 gal. @ 0.60m. o.c. |
| GC19 | 378 | sq.mt. | Nephrolepsis Biserrata | Helecho Cola de Pescado | 6" pot @ 0.45 m. o.c. |
| GC20 | 18.5 | sq.mt. | Philodendron Monstera | Monstera | 1 gal. @ 0.60m. o.c. |
| GC24 | 13.5 | sq.mt. | Hymenocallis Keyensis | Lirio de Playa | 6" pot @ 0.45 m. o.c. |
| GC25 | | | Pennisetum Setaceum | Pennisetum Rojo | |
| GC26 | 12.5 | sq.mt. | Ruisellia Equisetiformis | Lluvia de Coral | 1 gal. @ 0.60m. o.c. |
| GC33 | 78 | sq.mt. | Leemochloa ophiuroides | Grama Clenpies | sod |

| EROSION CONTROL | | | | | |
|---|---|---|---|---|---|
| KEY | QTY | UNIT | | | |
| E-1 | 378 | sq.mt. | Erosion control coir fiber mat. Refer to La-110.1. | | |

| HORIZONTAL VERTICAL CONTROL # 15 | | | |
|---|---|---|---|
| Y | 237,666.7910 | X | 141,722.2080 |
| EL. | 444.170 | PK | |

## PROPOSED LEGEND

| | | |
|---|---|---|
| BOLLARD TYPE-1 | BO1 | C603 |
| GUARD RAIL | GR | C604 |
| VERTICAL CURB TYPE E | VC | C602 |
| 0.81 (32") PERMEABLE PEDESTRIAN PATH | PP1 | C601 |
| 0.60 (24") PERMEABLE PEDESTRIAN PATH | PP2 | C601 |
| PERMEABLE PARKING PAVEMENT | PPP | C603 |
| PAVER PAVEMENT | PP3 | C603 |
| GARBAGE PAD SCREEN | GPS | C601 |
| LANDSCAPE STONE TYPE 1 | LS1 | C604 |
| LANDSCAPE STONE TYPE 2 | LS2 | C604 |
| SPEED TABLE | STP | C601 |
| KILOMETER MARKER | KM | C603 |

# LANDSCAPE-6

scale= 1:300

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JMCP + JLGARCHITECTS
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787.309.1837

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64 PASEO DE LA ALHAMBRA, URB TORRIMAR, GUAYNABO, P.R. 00969
JAMES@BAIGESMAIL.COM • (787) 399-0077

90% DESIGN SET
NOT FOR CONSTRUCTION

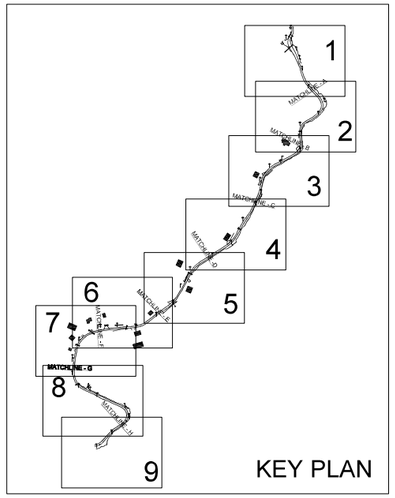
PROJECT: PR-CRP-000721
**PASEO LA GRUTA-VIVERO DE PECES**
CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

GOBIERNO MUNICIPAL DE MARICAO
PASEO HATCHERY [PR-CRP-000721]

| NO. | DATE | DRAWING ISSUE | BY | APP. |
|---|---|---|---|---|

DRAWN BY:
REVIEWED BY:
DATE: 05/23 11/01/23
SHEET TITLE: LANDSCAPE PLAN
DRAWING NO.: LA-106

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| LA-107 PLANTING MATERIALS SCHEDULE - PASEO HATCHERY | | | | | |
|---|---|---|---|---|---|
| TREES | | | BOTANICAL NAME | COMMON NAME | REMARKS |
| KEY | QTY | UNIT | | | |
| TR-3 | 4 | Each | Tabebuia Heterophylla | Roble Rosado | 7 gal. |
| PALMS | | | BOTANICAL NAME | COMMON NAME | REMARKS |
| KEY | QTY | UNIT | | | |
| P-1 | | | Cyathea Arborea | Helecho de Palma | |
| P-2 | | | Rhapis Excelsa | Rhapis | |
| SHRUBS | | | BOTANICAL NAME | COMMON NAME | REMARKS |
| KEY | QTY | UNIT | | | |
| SH1 | | | Alocasia Indica | Malange Morada | |
| SHZ.5 | 8.5 | sq.mt. | Alpinia Purpurata | Ginger Rojo | 1 gal. @ 0.60 m. o.c. |
| SH9 | 3 | Each | Dillenia Suffruticosa | Ojo de Pajaro | 7 gal. |
| SH15 | 9 | Each | Clerodendron Quadrilloculare | Clerodendron | 7 gal. |
| GROUND COVERS | | | BOTANICAL NAME | COMMON NAME | REMARKS |
| KEY | QTY | UNIT | | | |
| GC24 | 15 | sq.mt. | Hymenocallis Keyensis. | Lirio de Playa | 6" pot @ 0.45 m. o.c. |
| GC33 | 78 | sq.mt. | Fremochloa ophiuroides | Grama Ciempies | sod |
| EROSION CONTROL | | | | | |
| KEY | QTY | UNIT | | | |
| E-1 | | sq.mt. | Erosion control coir fiber mat. Refer to La-110.1. | | |

## EXISTING CONDITIONS LEGEND

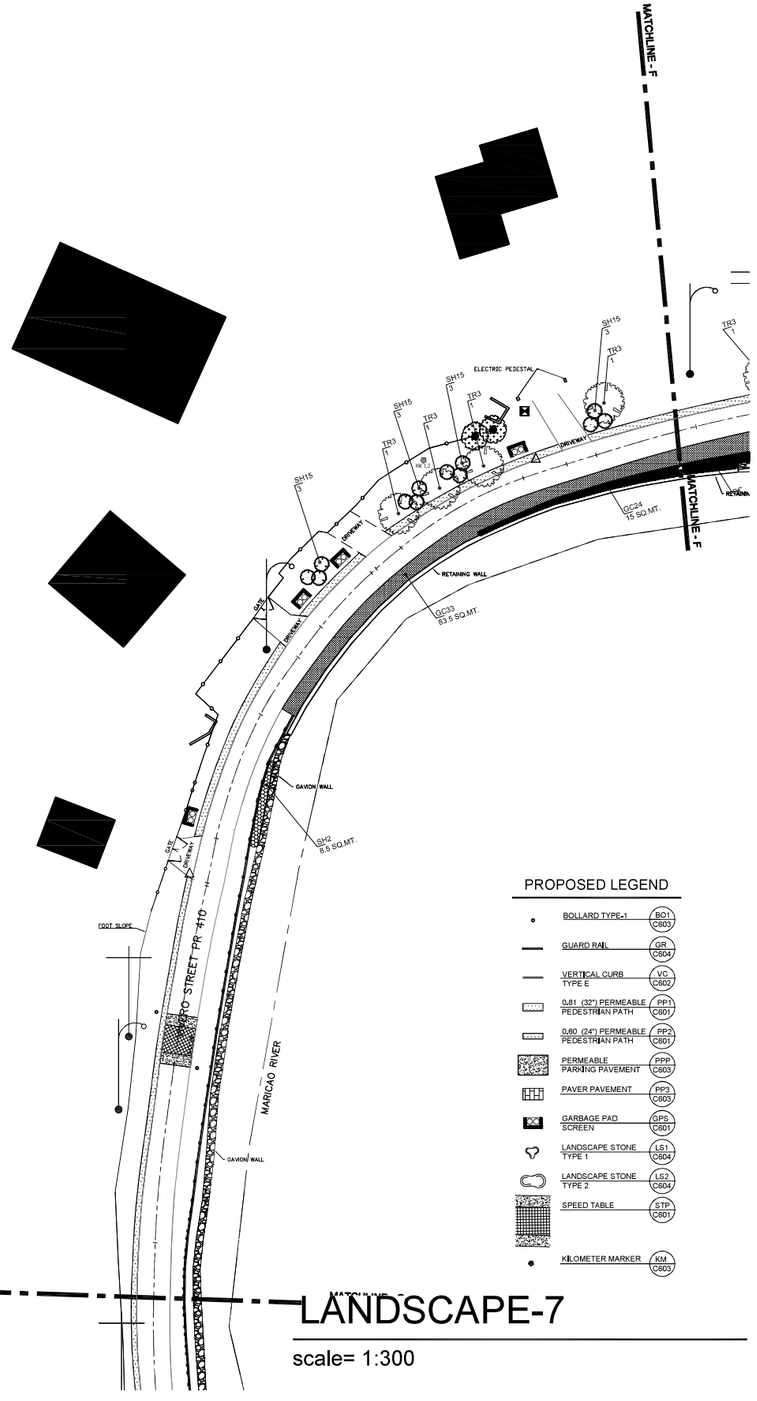
| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

0 5 10 30

SCALE = 1:300

| HORIZONTAL VERTICAL CONTROL # 16 | | | |
|---|---|---|---|
| Y | 237,649.4570 | X | 141,605.5650 |
| EL. | 442.240 | PK | |

| HORIZONTAL VERTICAL CONTROL # 17 | | | |
|---|---|---|---|
| Y | 237,603.4640 | X | 141,587.1870 |
| EL. | 443.040 | PK | |




## PROPOSED LEGEND

| | | |
|---|---|---|
| BOLLARD TYPE-1 | BO1 | C603 |
| GUARD RAIL | GR | C604 |
| VERTICAL CURB TYPE E | VC | C602 |
| 0.81 (32") PERMEABLE PEDESTRIAN PATH | PP1 | C601 |
| 0.60 (24") PERMEABLE PEDESTRIAN PATH | PP2 | C601 |
| PERMEABLE PARKING PAVEMENT | PPP | C603 |
| PAVER PAVEMENT | PP3 | C603 |
| GARBAGE PAD SCREEN | GPS | C601 |
| LANDSCAPE STONE TYPE 1 | LS1 | C604 |
| LANDSCAPE STONE TYPE 2 | LS2 | C604 |
| SPEED TABLE | STP | C601 |
| KILOMETER MARKER | KM | C603 |

MATCHLINE - G

# LANDSCAPE-7

scale= 1:300

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JMCP +
JLGARCHITECTS
113 DEL PARQUE STREET SUITE 7
SAN JUAN, PR 00911
787.309.1837

BAIGES GEOTECHNICAL ENGINEERS, LLC
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90% DESIGN SET
NOT FOR CONSTRUCTION

PROJECT: PR-CRP-000721

**PASEO LA GRUTA-VIVERO DE PECES**

CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

GOBIERNO MUNICIPAL DE MARICAO

PASEO HATCHERY [PR-CRP-000721]

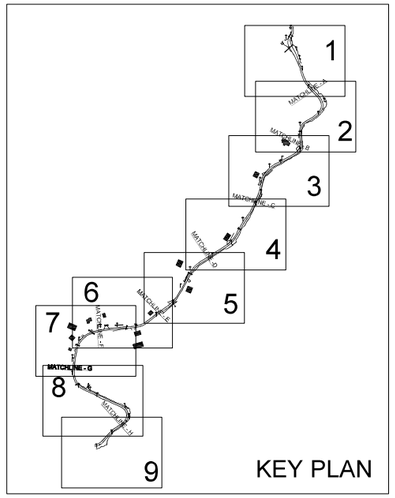
| NO. | DATE | DRAWING ISSUE | BY | APP. |
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DATE: 05/23 11/01/23

SHEET TITLE: LANDSCAPE PLAN

DRAWING NO.: LA-107

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## EXISTING CONDITIONS LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

0 5 10 30
SCALE = 1:300

## PROPOSED LEGEND

| | | |
|---|---|---|
| | BOLLARD TYPE-1 | BO1 C603 |
| | GUARD RAIL | GR C604 |
| | VERTICAL CURB TYPE E | VC C602 |
| | 0.81 (32") PERMEABLE PEDESTRIAN PATH | PP1 C601 |
| | 0.60 (24") PERMEABLE PEDESTRIAN PATH | PP2 C601 |
| | PERMEABLE PARKING PAVEMENT | PPP C603 |
| | PAVER PAVEMENT | PP3 C603 |
| | GARBAGE PAD SCREEN | GP6 C601 |
| | LANDSCAPE STONE TYPE 1 | LS1 C604 |
| | LANDSCAPE STONE TYPE 2 | LS2 C604 |
| | SPEED TABLE | STP C601 |
| | KILOMETER MARKER | KM C603 |

| HORIZONTAL VERTICAL CONTROL # 20 | | | |
|---|---|---|---|
| Y | 237,458,8250 | X | 141.683,8390 |
| EL. | 447,100 | PK | |

| HORIZONTAL VERTICAL CONTROL # 21 | | | |
|---|---|---|---|
| Y | 237,430,6690 | X | 141.693,2360 |
| EL. | 448,230 | PK | |

**LA-108 PLANTING MATERIALS SCHEDULE - PASEO HATCHERY**

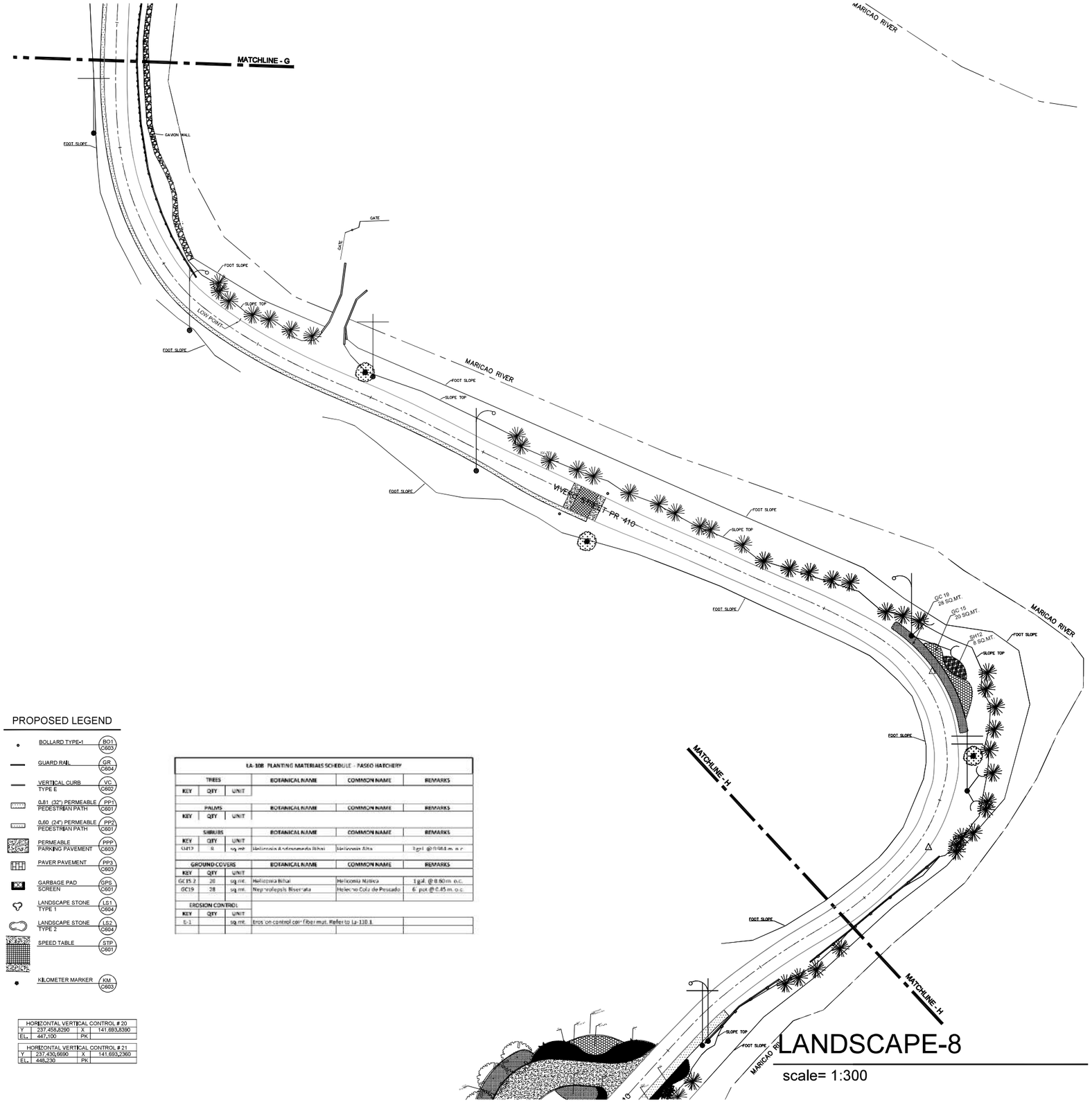
| TREES | | | BOTANICAL NAME | COMMON NAME | REMARKS |
|---|---|---|---|---|---|
| KEY | QTY | UNIT | | | |
| | | | | | |

| PALMS | | | BOTANICAL NAME | COMMON NAME | REMARKS |
|---|---|---|---|---|---|
| KEY | QTY | UNIT | | | |
| | | | | | |

| SHRUBS | | | BOTANICAL NAME | COMMON NAME | REMARKS |
|---|---|---|---|---|---|
| KEY | QTY | UNIT | | | |
| SH12 | 8 | sq.mt. | Heliconia Andromeda Bihai | Heliconia Alta | 3 pot @ 0.80 m. o.c. |

| GROUND COVERS | | | BOTANICAL NAME | COMMON NAME | REMARKS |
|---|---|---|---|---|---|
| KEY | QTY | UNIT | | | |
| GC15.2 | 20 | sq.mt. | Heliconia Bihai | Heliconia Nutica | 1 gal. @ 0.80m. o.c. |
| GC19 | 28 | sq.mt. | Nephrolepsis Biserrata | Helecho Cola de Pescado | 6 pot @ 0.45 m. o.c. |
| | | | | | |

| EROSION CONTROL | | | | | |
|---|---|---|---|---|---|
| KEY | QTY | UNIT | | | |
| E-1 | | sq.mt. | Erosion control coir fiber mat. Refer to La-110.1. | | |
| | | | | | |




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JAMES@BAIGESMAIL.COM • (787) 399-0097

90% DESIGN SET
NOT FOR CONSTRUCTION

PROJECT: PR-CRP-000721
# PASEO LA GRUTA-VIVERO DE PECES
CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

GOBIERNO MUNICIPAL DE MARICAO
PASEO HATCHERY [PR-CRP-000721]

| NO. | DATE | DRAWING ISSUE | BY | APP. |
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SHEET TITLE: LANDSCAPE PLAN
DRAWING NO.: LA-108

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## EXISTING CONDITIONS LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

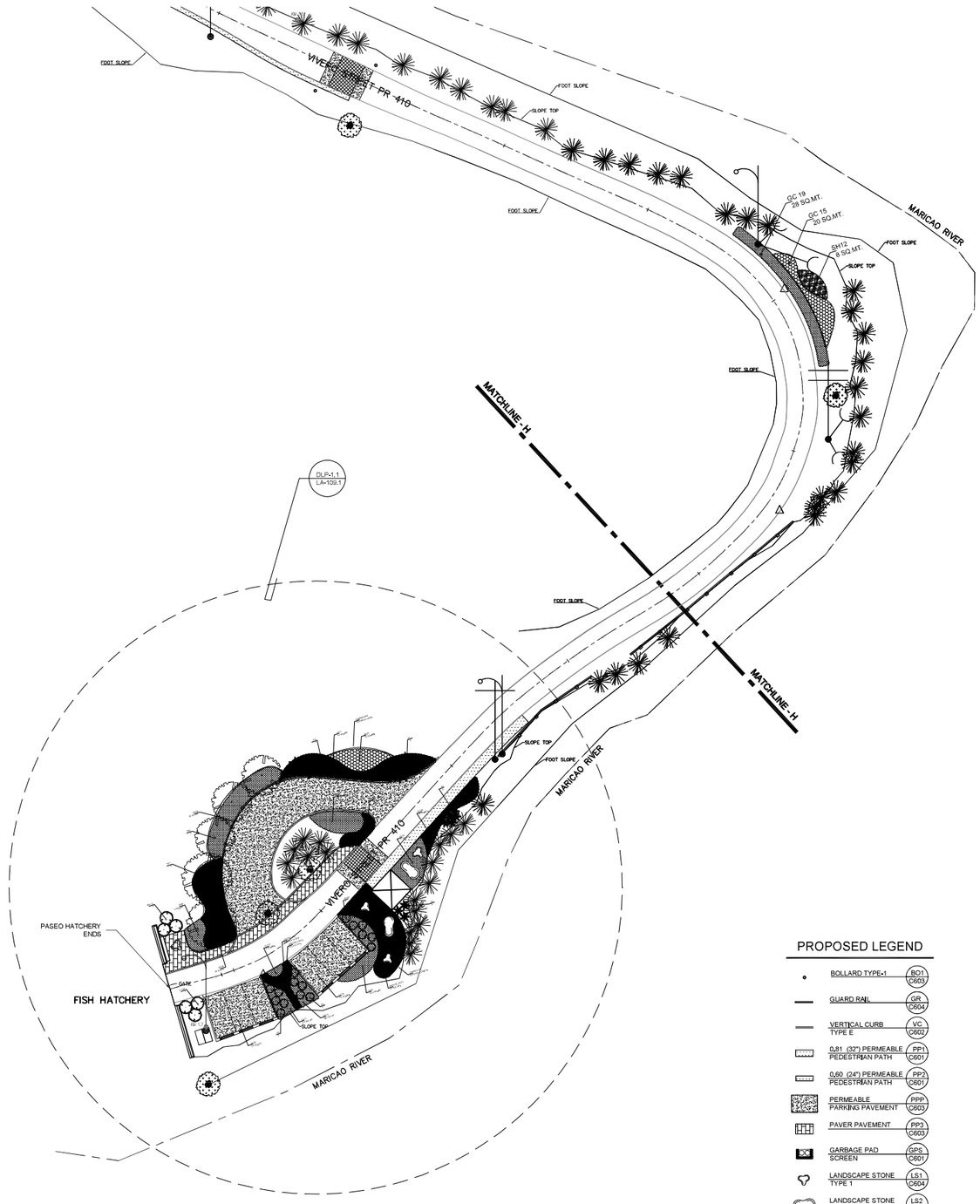
0 5 10 30

SCALE = 1:300

| HORIZONTAL VERTICAL CONTROL # 20 | | | |
|---|---|---|---|
| Y | 237,458,8290 | X | 141,693,8390 |
| EL. | 447,100 | PK | |

| HORIZONTAL VERTICAL CONTROL # 21 | | | |
|---|---|---|---|
| Y | 237,430,6690 | X | 141,693,2360 |
| EL. | 448,230 | PK | |

| HORIZONTAL VERTICAL CONTROL # 22 | | | |
|---|---|---|---|
| Y | 237,371,6570 | X | 141,627,5680 |
| EL. | 450,080 | PK | |




## PROPOSED LEGEND

| | | |
|---|---|---|
| | BOLLARD TYPE-1 | BO1 C603 |
| | GUARD RAIL | GR C604 |
| | VERTICAL CURB TYPE E | VC C602 |
| | 0,81 (32") PERMEABLE PEDESTRIAN PATH | PP1 C601 |
| | 0,60 (24") PERMEABLE PEDESTRIAN PATH | PP2 C601 |
| | PERMEABLE PARKING PAVEMENT | PPP C603 |
| | PAVER PAVEMENT | PP3 C603 |
| | GARBAGE PAD SCREEN | GPS C601 |
| | LANDSCAPE STONE TYPE 1 | LS1 C604 |
| | LANDSCAPE STONE TYPE 2 | LS2 C604 |
| | SPEED TABLE | STP C601 |
| | KILOMETER MARKER | KM C603 |

# LANDSCAPE-9

scale= 1:300

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787.309.1837

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90% DESIGN SET
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PROJECT: PR-CRP-000721

**PASEO LA GRUTA-VIVERO DE PECES**

CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

GOBIERNO MUNICIPAL DE MARICAO

PASEO HATCHERY [PR-CRP-000721]

| NO. | DATE | DRAWING ISSUE | BY | APP. |
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SHEET TITLE: LANDSCAPE PLAN

DRAWING NO.: LA-109

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**LA-109.1 PLANTING MATERIALS SCHEDULE - PASEO HATCHERY**

| TREES | | | BOTANICAL NAME | COMMON NAME | REMARKS |
|---|---|---|---|---|---|
| KEY | QTY | UNIT | | | |
| TR-7 | 2 | Each | Lagerstroemia Speciosa | Reina de las Flores | 7 gal. |
| TR-8 | 3 | Each | Magnolia Portorricensis | Jagüilla | 7 gal. |

| PALMS | | | BOTANICAL NAME | COMMON NAME | REMARKS |
|---|---|---|---|---|---|
| KEY | QTY | UNIT | | | |
| P-1 | 6 | Each | Cyotsea Arborea | Helecho de Palma | 7 gal. |
| P-2 | 18 | Each | Rhapis Excelsa | Rhapis | 3 gal. |

| SHRUBS | | | BOTANICAL NAME | COMMON NAME | REMARKS |
|---|---|---|---|---|---|
| KEY | QTY | UNIT | | | |
| SH4 | 9 | sq.mt. | Alpinia Speciosa | Shell Flower | 3 gal. @ 0.60 m. o.c. |
| SH11 | 41 | sq.mt. | Hedychium Coronarium | Naido | 1 gal. @ 0.60 m. o.c. |
| SH19 | 6 | Each | Graptophyllum Pictum | Graptophyllum | 3 gal. |
| SH21 | 18 | sq.mt. | Mussa Sumatrana | Guineo Morado | 3 gal. @ 0.914 m. o.c. |
| SH24 | 6 | Each | Coffea Arabica | Cafeto | 7 gals. |

| GROUND COVERS | | | BOTANICAL NAME | COMMON NAME | REMARKS |
|---|---|---|---|---|---|
| KEY | QTY | UNIT | | | |
| GC1 | 15.5 | sq.mt. | Anthurium Acaule | Anturio Nativo | 1 gal. @ 0.60 m. o.c. |
| GC3 | 8.5 | sq.mt. | Bromelia spp. | | 1 gal. @ 0.60 m. o.c. |
| GC9 | 20.5 | sq.mt. | Browallia Americana | Margarita Morada | 6" pot @ 0.45 m. o.c. |
| GC11 | 13 | sq.mt. | Commelina Diffusa | Cohitre | 1" pot @ 0.30 m. |
| GC16 | 36 | sq.mt. | Impatiens Walleriana | Miramelinda | 6" pot @ 0.45 m. o.c. |
| GC17 | 2 | sq.mt. | Iris Amarilis | Iris | 6" pot @ 0.45 m. o.c. |
| GC27 | 35 | sq.mt. | Schizocentron Elegans | Mantilla Española | 6" pot @ 0.45 m. o.c. |
| GC33 | 99 | sq.mt. | Eremochloa ophiuroides | Grama Centipies | sod |

| EROSION CONTROL | | | | | |
|---|---|---|---|---|---|
| KEY | QTY | UNIT | | | |
| E-1 | | sq.mt. | Erosion control coir fiber mat. Refer to LA-110.1. | | |

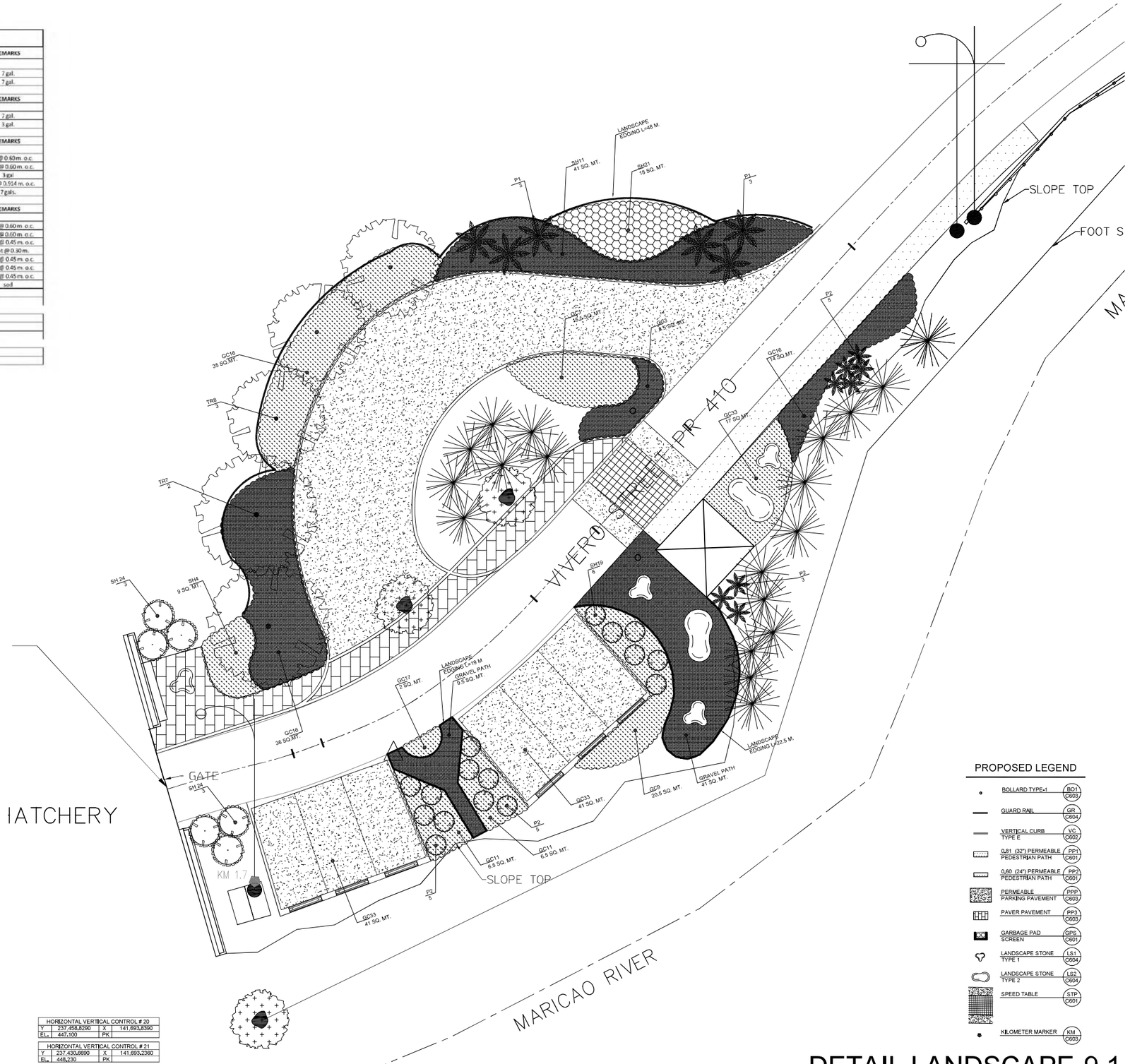
| OTHER | | | | | |
|---|---|---|---|---|---|
| KEY | QTY | UNIT | | | |
| | 90 | mc. | Landscape edging. | | |
| | 503 | sq.mt. | Gravel path (3/8" gravel). | | |

## EXISTING CONDITIONS LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
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| | POWER WOODEN POLE |
| | PRTC. POLE |
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| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

0 5 10 30

SCALE = 1:300




| HORIZONTAL VERTICAL CONTROL # 20 | | | |
|---|---|---|---|
| Y | 237,458.8290 | X | 141,693.8390 |
| EL. | 447.100 | PK | |

| HORIZONTAL VERTICAL CONTROL # 21 | | | |
|---|---|---|---|
| Y | 237,430.6690 | X | 141,693.2360 |
| EL. | 448.230 | PK | |

| HORIZONTAL VERTICAL CONTROL # 22 | | | |
|---|---|---|---|
| Y | 237,371.8570 | X | 141,627.5680 |
| EL. | 450.080 | PK | |

## PROPOSED LEGEND

| | | |
|---|---|---|
| | BOLLARD TYPE-1 | BO1 C603 |
| | GUARD RAIL | GR C604 |
| | VERTICAL CURB TYPE E | VC C602 |
| | 0,81 (32") PERMEABLE PEDESTRIAN PATH | PP1 C601 |
| | 0,60 (24") PERMEABLE PEDESTRIAN PATH | PP2 C601 |
| | PERMEABLE PARKING PAVEMENT | PPP C603 |
| | PAVER PAVEMENT | PP3 C603 |
| | GARBAGE PAD SCREEN | GPS C601 |
| | LANDSCAPE STONE TYPE 1 | LS1 C604 |
| | LANDSCAPE STONE TYPE 2 | LS2 C604 |
| | SPEED TABLE | STP C601 |
| | KILOMETER MARKER | KM C603 |

# DETAIL LANDSCAPE-9.1

scale= 1:100

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JMCP + JLGARCHITECTS
113 DEL PARQUE STREET SUITE 7
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CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

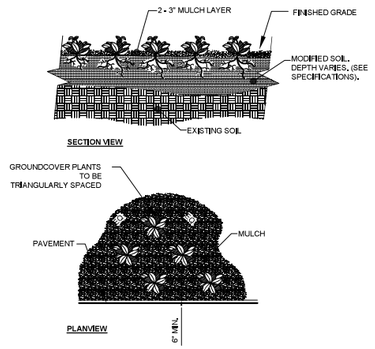
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PASEO HATCHERY [PR-CRP-000721]

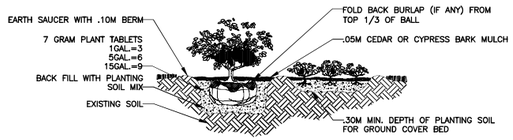
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DATE: 05/23 11/01/23
SHEET TITLE: LANDSCAPE PLAN
DRAWING NO.: LA-109.1

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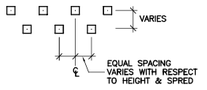



## GROUNDCOVER PLANTING DETAIL



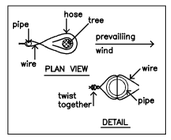

## SHRUB & GROUND COVER PLANTING

NOT TO SCALE



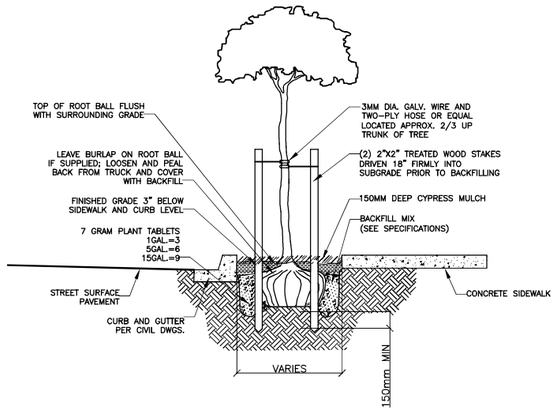

## TYPICAL SHRUB LAYOUT

NOT TO SCALE



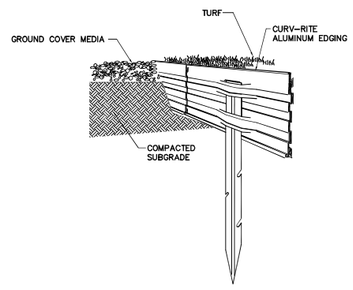

## STAKING DETAIL

NOT TO SCALE




## TREE IN PLANTING STRIP

NOT TO SCALE




## LANDSCAPE BORDER EDGING

NOT TO SCALE

**SPECIFICATION FOR LANDSCAPE BED EDGING**

1. LANDSCAPE BED EDGING SHALL BE EQUAL OR SIMILAR TO CURV-RITE DESIGN 2 (CRD2) AS MANUFACTURED BY CURV-RITE INC. WAYLAND, MICHIGAN 1 – 800 366 – 2878.
2. THICKNESS, DEPTH, LENGTH AND FINISH SHALL BE:1/8" X 5.5"
3. EIGHT (8) OR SIXTEEN (16) FOOT SECTIONS SHALL BE USED WITH ONE STAKE PER (38) INCHES OF EDGING EDGING SHALL BE ALUMINUM ALLOY 6063 – T6 WITH STAKES BEING 6061 – T6
4. STAKE SHALL SECURELY ENGAGE EDGING AND SHALL BE ENTIRELY BELOW TOP SURFACE OF EDGING. EDGING SHALL HAVE A MINIMUM OF (2) INCHES OF INTERLOCKING OVERLAP BETWEEN SECTIONS.
5. INSTALL AS PER MANUFACTURER'S SPECIFICATIONS WITH TOP OF EDGING 1/4" TO 1/2" ABOVE COMPACTED FINISH GRADE. FINISH GRADE TO BE COMPACTED ON EITHER SIDE OF EDGING TO MAINTAIN STABILITY.

## LANDSCAPE WORK NOTES:

1. COSTS LANDSCAPING WORK CONSTRUCTION COSTS SHALL BE CLEARLY ITEMIZED, INCLUDING UNIT PRICES.
2. WATER THE CONTRACTOR IS RESPONSIBLE FOR WATER TRANSPORTATION IN THE EVENT NO WATER IS AVAILABLE ON SITE.
3. MAINTENANCE MAINTENANCE PERIOD BEGINS AFTER FINAL ACCEPTANCE AND EXTENDS FOR (12) MONTHS THEREAFTER, REFER TO WRITTEN SPECIFICATIONS.
4. PALMS SPECIFIED HEIGHT OF PALM TREES DO NOT INCLUDE PALM FRONDS OR LEAVES. SPECIFIED HEIGHT IS FOR A CLEARLY DEFINED TRUNK.
5. FERTILIZER FOR TREES AND PALMS. APPLY COMMERCIAL FERTILIZER PLANT FOOD TABLETS: "Agriform". TABLETS SHALL BE TIGHTLY COMPRESSED, LONG LASTING, TWO (2) YEARS. SLOW RELEASE FERTILIZER DELIVERED TO THE SITE ORIGINAL CONTAINERS BEARING THE MANUFACTURER'S GUARANTEED ANALYSIS OF 20-10-15. TABLETS SHALL WEIGHT FIVE (5). TEN (10) OR TWENTY-ONE (21) GRAMS WITH A POTENTIAL ACIDITY OF NO MORE THAN 5% BY WEIGHT.
6. PLANTING SOIL MIXTURE SHALL BE FREE OF EXTRANEOUS MATTER AND WEEDS AND SHALL CONSIST OF THREE (3) PARTS TOPSOIL AND ONE (1) PART ORGANIC MATTER.
7. LANDSCAPE CONTRACTOR SHALL COORDINATE WITH OWNER LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO START OF WORKS.
8. TOPSOIL INSTALL 4 INCHES MINIMUM DEPTH AT PLANTING AND LAWN AREAS. 12 INCHES MINIMUM BELOW TREES.
9. ROOT BARRIERS INSTALL ROOT BARRIERS ONLY IN PLANTING STRIPS WHERE INDICATED

## NOTES

1. SUPPLY PLANTING SOIL MIX AS MAY BE REQUIRED.
2. ALL QUANTITIES IN THE PLANTING MATERIALS SCHEDULE CONSTITUTE AN APPROXIMATE ESTIMATE WHICH SHALL BE CONFIRMED BY CONTRACTOR AT ALL TIMES.

**PLANTING MATERIALS SCHEDULE - PASEO MATCHERY**

| TREES KEY | QTY | UNIT | BOTANICAL NAME | COMMON NAME | REMARKS |
|---|---|---|---|---|---|
| TR-1 | | | Byrsonima Coriacea | Maricao | |
| TR 2 | | | Ueddia Ferrea | Arbol de Hierro | |
| TR-3 | | | Tabebuia Heterophylla | Roble Rosado | |
| TR 4 | | | Cordia Alliodora | Capá Prieto | |
| TR-5 | | | Bauhinia Blackeana | Mariposa | |
| TR 6 | | | Syzygium Malaccense | Pomarosa | |
| TR-7 | | | Lagerstroemia Speciosa | Reina de Las Flores | |

| PALMS KEY | QTY | UNIT | BOTANICAL NAME | COMMON NAME | REMARKS |
|---|---|---|---|---|---|
| P-1 | | | Cyathea Arborea | Helecho de Palma | |
| P-2 | | | Rhapis Excelsa | Rhapis | |

| SHRUBS KEY | QTY | UNIT | BOTANICAL NAME | COMMON NAME | REMARKS |
|---|---|---|---|---|---|
| SH1 | | | Alocasia Indica | Malanga Morada | |
| SH2 | | | Alpinia Purpurata | Ginger Rojo | |
| SH3 | | | Alpinia Sanderae | Ginger Rosado | |
| SH4 | | | Alpinia Speciosa | Shell Flower | |
| SH5 | | | Brunfelsia Pauciflora | Ayer Hoy y Mañana | |
| SH6 | | | Calliandra Inaequilatera | Mata | |
| SH7 | | | Clusea Rosa | Cupey | |
| SH8 | | | Cordyliine Terminalis | Cordiline | |
| SH9 | | | Dillenia Suffruticosa | Ojo de Pájaro | |
| SH10 | | | Freycinetia Multiflora | Freicinetia | |
| SH11 | | | Hedychium Coronarium | Nardo | |
| SH12 | | | Heliconia Andracarmina Bihai | Heliconia Alta | |
| SH13 | | | Hydrangea Macrophylla | Hortensia | |
| SH14 | | | Jatropha Integerrima | Coralito | |
| SH15 | | | Clerodendrum Quadriloculare | Clerodendron | |
| SH16 | | | Lagerstroemia Indica | | |
| SH17 | | | Plumeria Spp | Virlo de Novia | |
| SH18 | | | Ligustrum Lucidum | Ligustrum | |
| SH19 | | | Magnolia Portoricensis | Eguelito | |
| SH20 | | | Murraya Exotica | Café de la India | |
| SH21 | | | Muyva Sumatrana | Guinea Morado | |
| SH22 | | | Plumeria Speciosa | Flor de Cera | |
| SH23 | | | Philodendron Selloum | Monstera | |

| GROUND COVERS KEY | QTY | UNIT | BOTANICAL NAME | COMMON NAME | REMARKS |
|---|---|---|---|---|---|
| GC1 | | | Anthurium Acaule | Anturio Nativo | |
| GC2 | | | Anthurium Andracanum | Flamingo Flower | |
| GC3 | | | Bromelia spp | | |
| GC4 | | | Canna Coccinea | Maraca | |
| GC5 | | | Canna Spp | Lirio Cana | |
| GC6 | | | Canna Indica | Maraca Nativa | |
| GC7 | | | Clusea Rosea | Cupey Frano | |
| GC8 | | | Commelina Difusa - Cohitre | | |
| GC9 | | | Rhoeodilis Americana | Margarita Morada | |
| SC10 | | | Callisia Monandra | Cohitre Morado | |
| SC11 | | | Commelina Difusa | Cohitre | |
| SC12 | | | Diamella Tawmanica | Liriope Var. Grande | |
| SC13 | | | Heliconia Psitacorum | Golden Torch | |
| SC14 | | | Heliconia Caribae | Heliconia Nativa | |
| SC15 | | | Heliconia Bihai | Heliconia Nativa | |
| SC16 | | | Iris Amarilis | Iris | |
| SC17 | | | Liriope Muscari | Liriope Verde | |
| SC18 | | | Nephrolepsis Biserrata | Helecho Cola de Pescado | |
| SC19 | | | Philodendron Monstera | | |
| SC20 | | | Ophiopogun Japonicus | Grama de Mono | |
| SC21 | | | Plumbago Auriculata | Isabel Segunda Azul | |
| SC22 | | | Plumbago Caponsis | Isabel Segunda Blanca | |
| SC23 | | | Hymenocallis Keyensis | Lirio de Playa | |
| SC24 | | | Pennisetum Setaceum | Pennisetum Rojo | |
| GC2 | | | Russellia Equisetiformis | Lluvia de Coral | |
| SC25 | | | Schizocentron Elegans | Mantilla Española | |
| SC26 | | | Setcreasea Purpurea | Cohitre Lila | |
| SC27 | | | Spathiphyllum Musaica Lea | | |
| SC28 | | | Spathoglottis | Orquídea Lila | |
| SC29 | | | Tripsacum Dactyloides | Liriope Verde Grande | |
| SC30 | | | Vetiveria Zizanioides | Pachelí | |

## PLANT SCHEDULE & PLANTING DETAILS

SCALE = AS SHOWN

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JMCP + JLGARCHITECTS
113 DEL PARQUE STREET SUITE 7
SAN JUAN, PR 00911
787.309.1837

BAIGES GEOTECHNICAL ENGINEERS, LLC
64 PASEO DE LA ALHAMBRA, URB TORRIMAR, GUAYNABO, P.R. 00969
JAMES@BAIGESPR.COM • (787) 399-0077

**90% DESIGN SET**
**NOT FOR CONSTRUCTION**

PROJECT: PR-CRP-000721

# PASEO LA GRUTA-VIVERO DE PECES

CARRETERA ESTATAL PR 410 KM.3.0 - KM. 4.5

GOBIERNO MUNICIPAL DE MARICAO

PASEO HATCHERY [PR-CRP-000721]

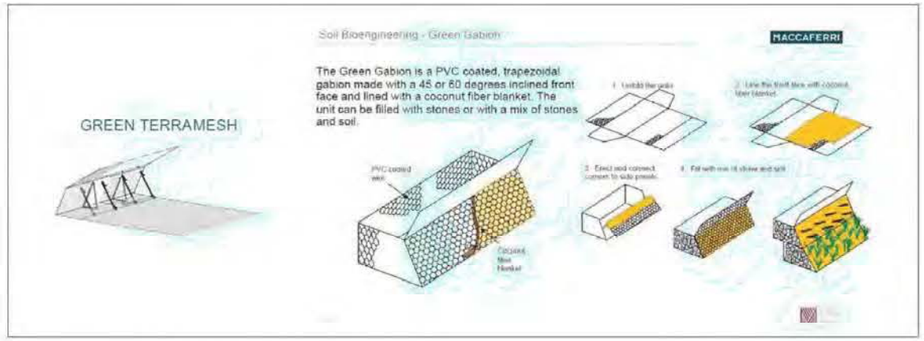
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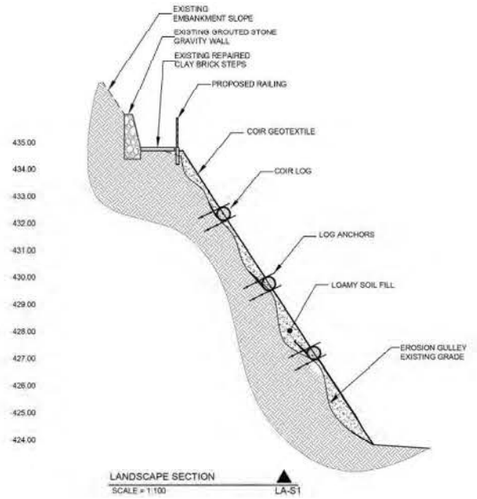
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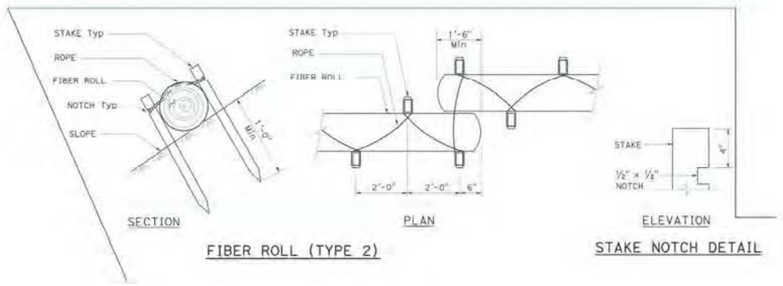
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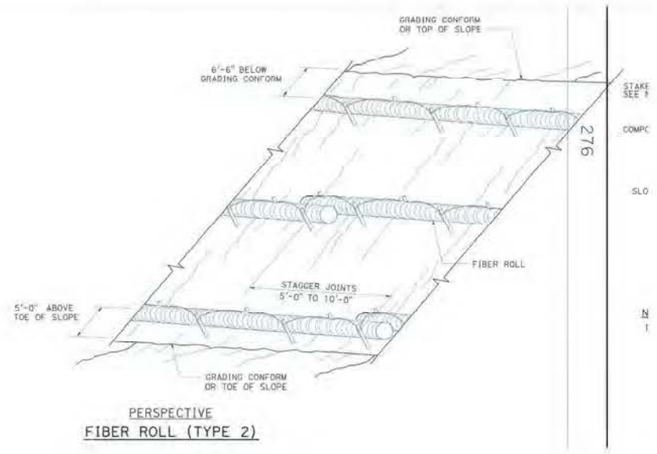
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PLANTING DETAILS
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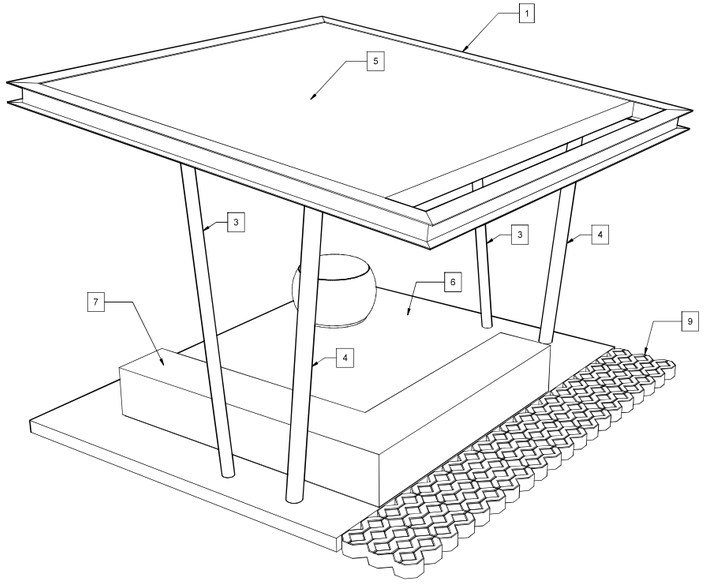
90% DESIGN SET
NOT FOR CONSTRUCTION

PROJECT: PR-CRP-000721
PASEO LA GRUTA-VIVERO DE PECES
CARRETERA ESTATAL PR.4'0 KM.3.0 - KM. 4.5
GOBIERNO MUNICIPAL DE MARICAO
PASEO HATCHERY [PR-CRP-000721]

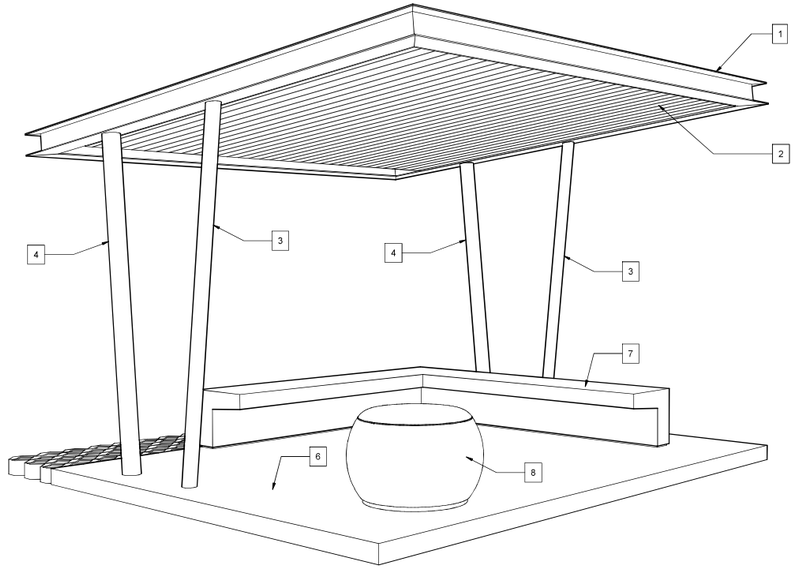
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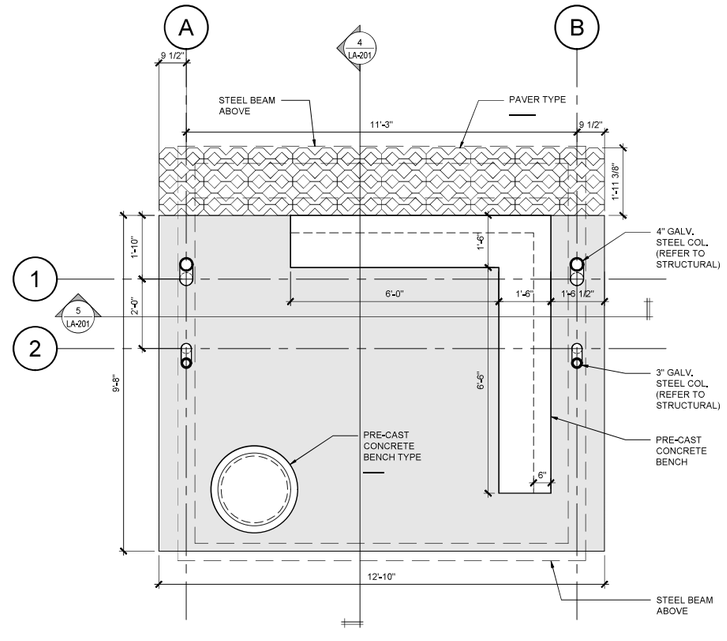

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SCALE: N.T.S.



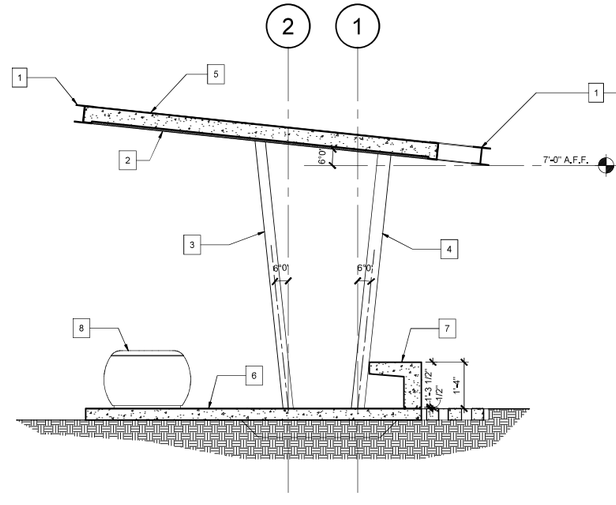

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KEY NOTES:

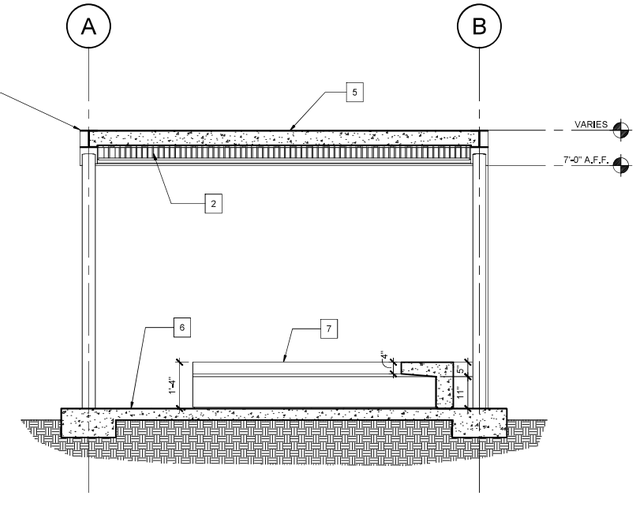
1. GALV. STEEL BEAM. REFER TO STRUCTURAL FOR SIZE AND SPECS. PRIME AND PAINT. PRE-TREAT W/ GALV. METAL PRIMER PRIOR TO PAINT COAT PER MANUFACTURER'S INSTRUCTION.
2. NATURAL FIBER WOOD COMPOUND EQUAL TO RESYSTA 6" LUSSO PROFILE MECHANICALLY ATTACHED TO CONCRETE CEILING PER MANUFACTURER'S INSTRUCTIONS. PRIME & STAIN W/ APPROVED WATER BASED PRIMER (RBP) AND STAIN (RCL) SYSTEM / COLOR C14, SIAM.
3. 3" DIAMETER GALV. STEEL COLUMN. REFER TO STRUCTURAL FOR SIZE AND SPECS. PRIME AND PAINT. PRE-TREAT W/ GALV. METAL PRIMER PRIOR TO PAINT COAT PER MANUFACTURER'S INSTRUCTION.
4. 4" DIAMETER GALV. STEEL COLUMN. REFER TO STRUCTURAL FOR SIZE AND SPECS. PRIME AND PAINT. PRE-TREAT W/ GALV. METAL PRIMER PRIOR TO PAINT COAT PER MANUFACTURER'S INSTRUCTION.
5. REINFORCED CONCRETE ROOF SLAB. REFER TO STRUCTURAL FOR DETAILS.
6. REINFORCED CONCRETE FLOOR SLAB. REFER TO STRUCTURAL FOR DETAILS.
7. CONCRETE BENCH W/ TRAVERTINE FINISH.
8. PRECAST CONCRETE BENCH EQUAL TO 713 PRECAST BE-31 POD SEAT, TRAVERTINE FINISH.
9. PRECAST CONCRETE GRASS PAVER EQUAL TO _____




3 TYP. GAZEBO FLOOR PLAN
SCALE: 1/2" = 1'-0"




4 TYP. GAZEBO FLOOR PLAN
SCALE: 1/2" = 1'-0"




5 TYP. GAZEBO FLOOR PLAN
SCALE: 1/2" = 1'-0"

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PROGRESS SET
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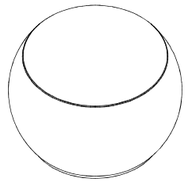
PROJECT:
PASEO LA GRUTA - VIVERO DE PECES
CARRETERA ESTATAL PR 410, KM. 3.0 - KM. 4.5, MARICAO, PR

LANDSCAPE AMENITIES
SCALE: AS SHOWN

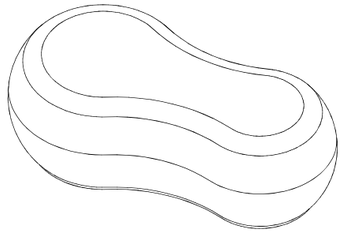
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| 3 | 08.08.23 | 90% PROGRESS SET | . | . |
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REVIEWED BY: .
DATE: 08.09.23
SHEET TITLE: PERMANENT LANDSCAPE AMENITIES
DRAWING NO.: LA-201

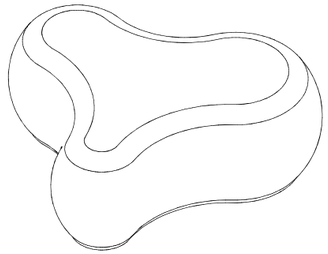
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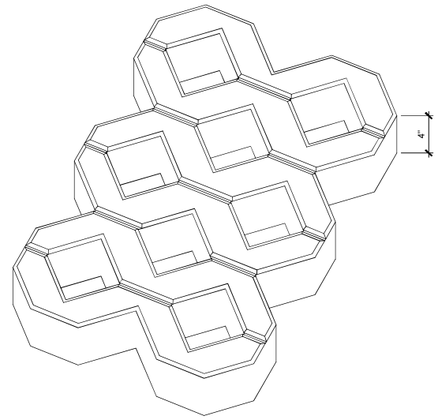
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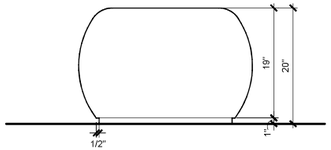
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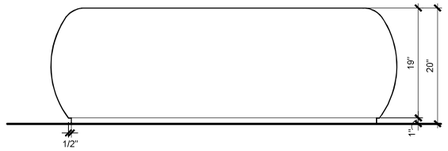
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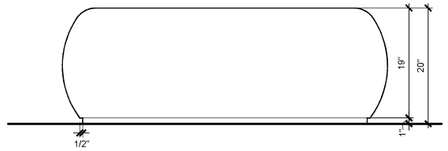

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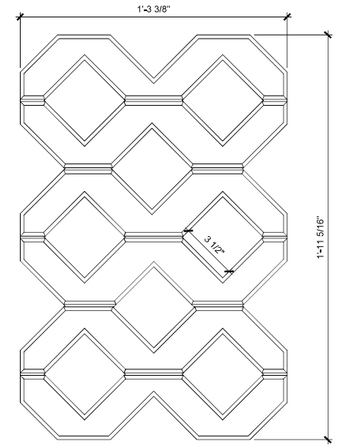

ELEVATION VIEW



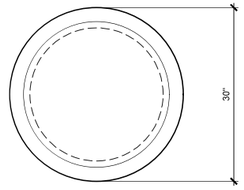

ELEVATION VIEW




ELEVATION VIEW



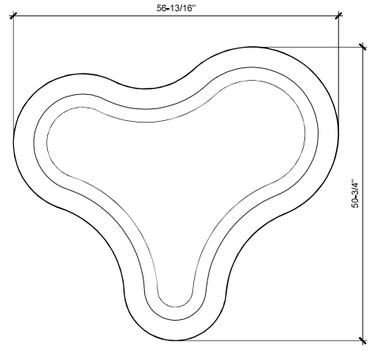

PLAN VIEW




PLAN VIEW




PLAN VIEW




PLAN VIEW

## 1 BENCH TYPE BE-31

SCALE: 1" = 1'-0"

NOTES:

1. PRE-CAST FIBER REINFORCED CONCRETE BENCH EQUAL OR SIMILAR TO 713 PRECAST BENCH MODEL BE-31
2. FINISH - TRAVERTINE FINISH, CONTRACTOR TO SUBMIT AVAILABLE FINISHES AND COLORS FOR SELECTION.

## 2 BENCH TYPE BE-43

SCALE: 1" = 1'-0"

NOTES:

1. PRE-CAST FIBER REINFORCED CONCRETE BENCH EQUAL OR SIMILAR TO 713 PRECAST BENCH MODEL BE-43
2. FINISH - TRAVERTINE FINISH, CONTRACTOR TO SUBMIT AVAILABLE FINISHES AND COLORS FOR SELECTION.

## 3 BENCH TYPE BE-44

SCALE: 1" = 1'-0"

NOTES:

1. PRE-CAST FIBER REINFORCED CONCRETE BENCH EQUAL OR SIMILAR TO 713 PRECAST BENCH MODEL BE-44
2. FINISH - TRAVERTINE FINISH, CONTRACTOR TO SUBMIT AVAILABLE FINISHES AND COLORS FOR SELECTION.

## 4 GRASS PAVER TYPE xx

SCALE: 1" = 3'-0"

NOTES:

1. PRE-CAST FIBER REINFORCED CONCRETE PAVER EQUAL OR SIMILAR TO 713 PRECAST PAVER MODEL xx
2. FINISH - EXPOSED CONCRETE

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MARICAO
CAPITAL DE LA MONTAÑA

PROGRESS SET
NOT FOR CONSTRUCTION

PROJECT:
PASEO LA GRUTA - VIVERO DE PECES
CARRETERA ESTATAL PR 410, KM. 3.0 - KM. 4.5, MARICAO, PR

LANDSCAPE AMENITIES
SCALE: AS SHOWN

| NO. | DATE | DRAWING ISSUE | BY | APP. |
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| 6 | | . | . | . |
| 7 | | . | . | . |

DRAWN BY: .
REVIEWED BY: .
DATE: 08.09.23

SHEET TITLE: PERMANENT LANDSCAPE AMENITIES
DRAWING NO.: LA-202

# Appendix F

# Farmlands

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

# Custom Soil Resource Report for Mayaguez Area, Puerto Rico Western Part

## Paseo Hatchery

Soil Report

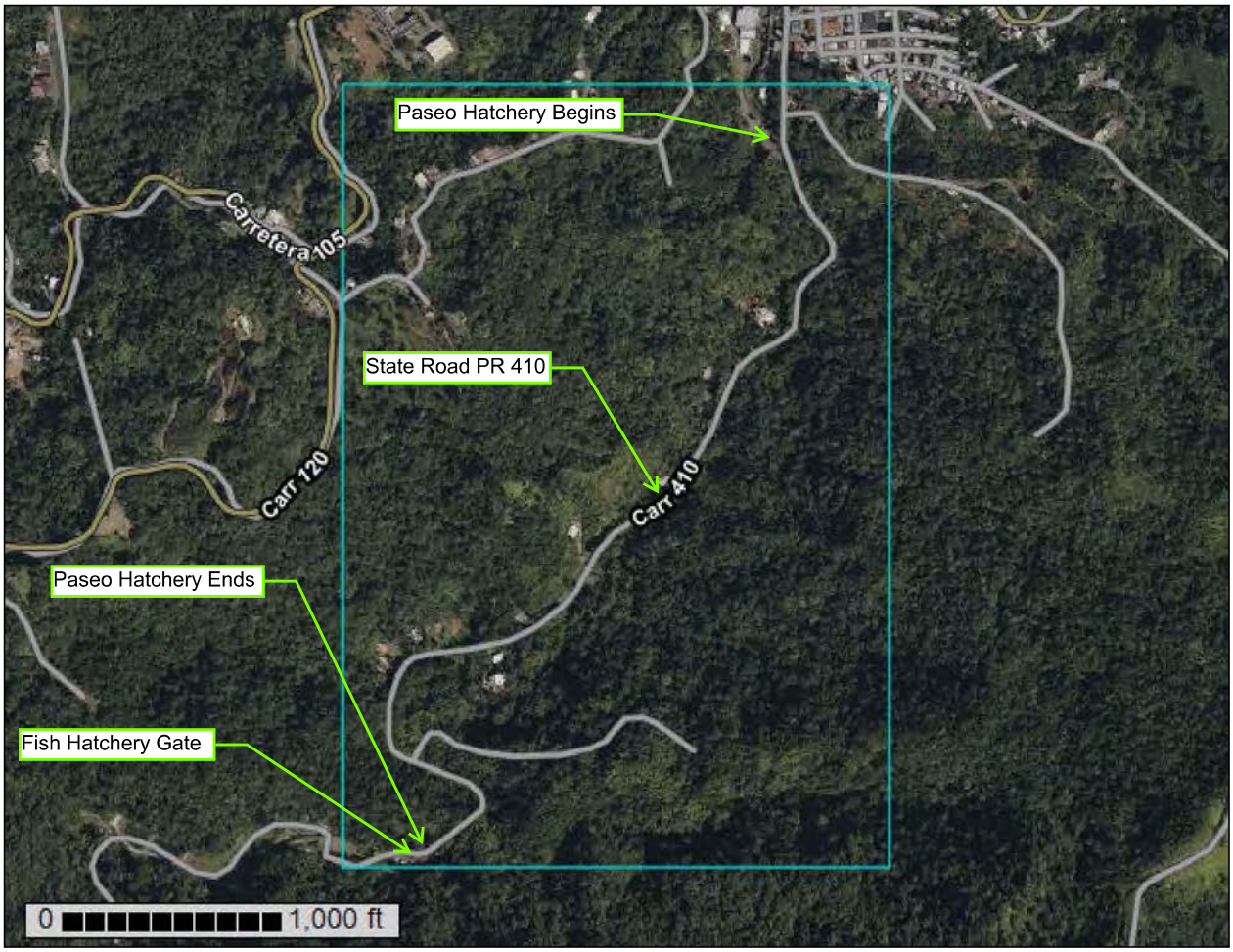
Paseo Hatchery - PR-CRP-000721
State Road PR 410 - km. 0.3 to km. 1.7

Lat/Lon: 18.179087 -66.980567
Lat/Lon: 18.175017 -66.981874

Source of Data: NRCS

MARICAO
CAPITAL DE LA MONTAÑA

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SAN JUAN PR 00911
787.309.1837




August 24, 2023

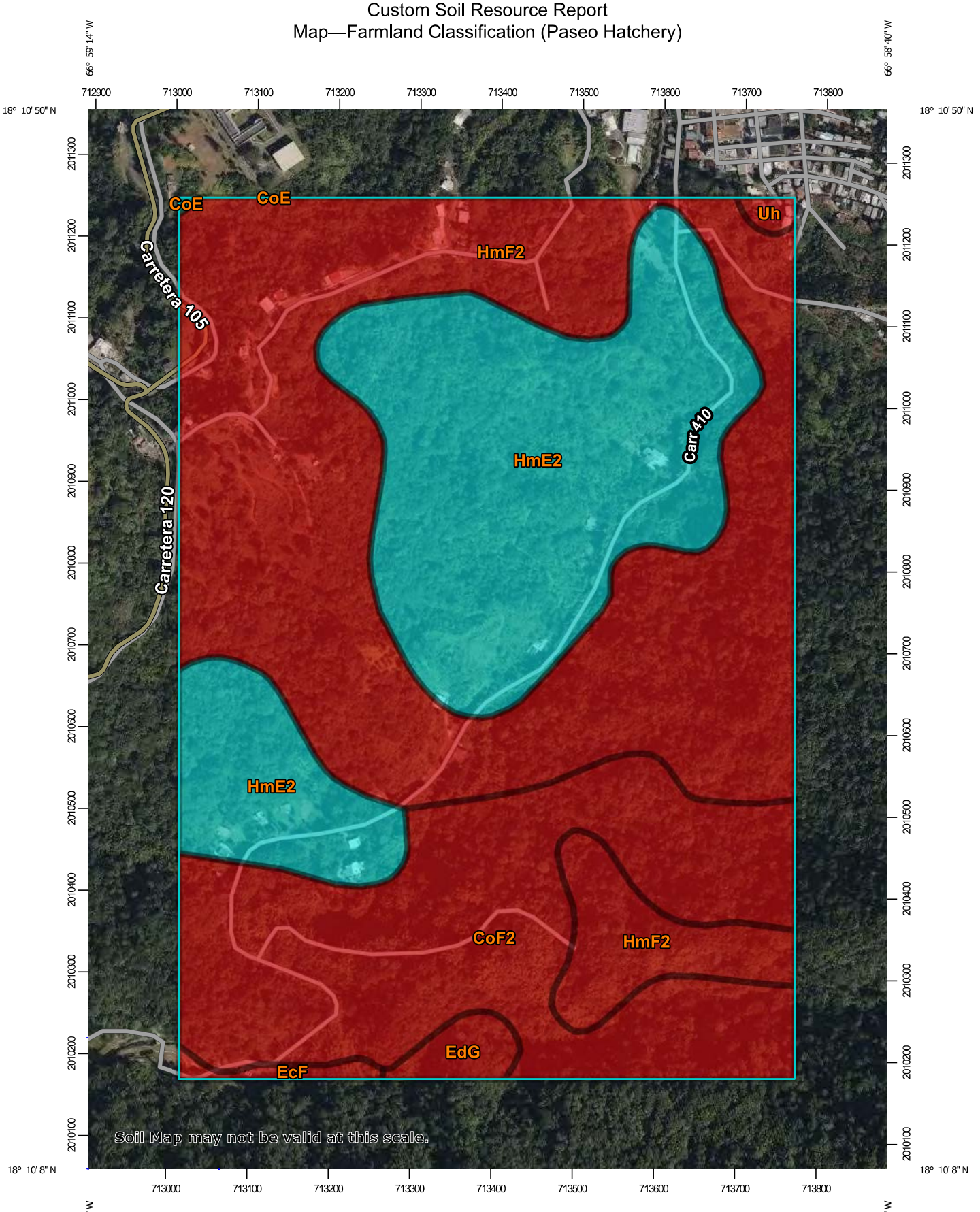
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# Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

# Map—Farmland Classification (Paseo Hatchery)



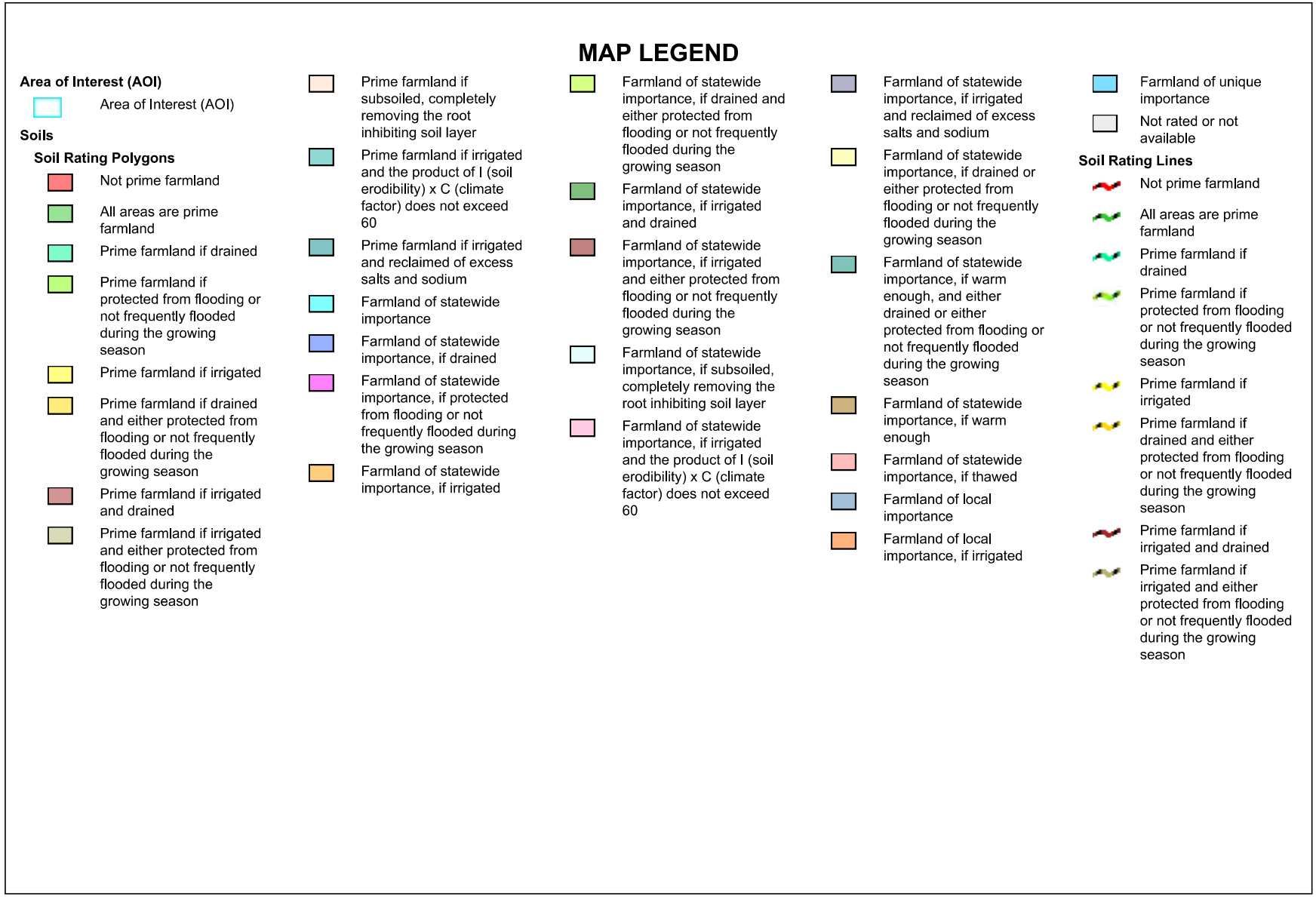

Map Scale: 1:6,330 if printed on A portrait (8.5" x 11") sheet.

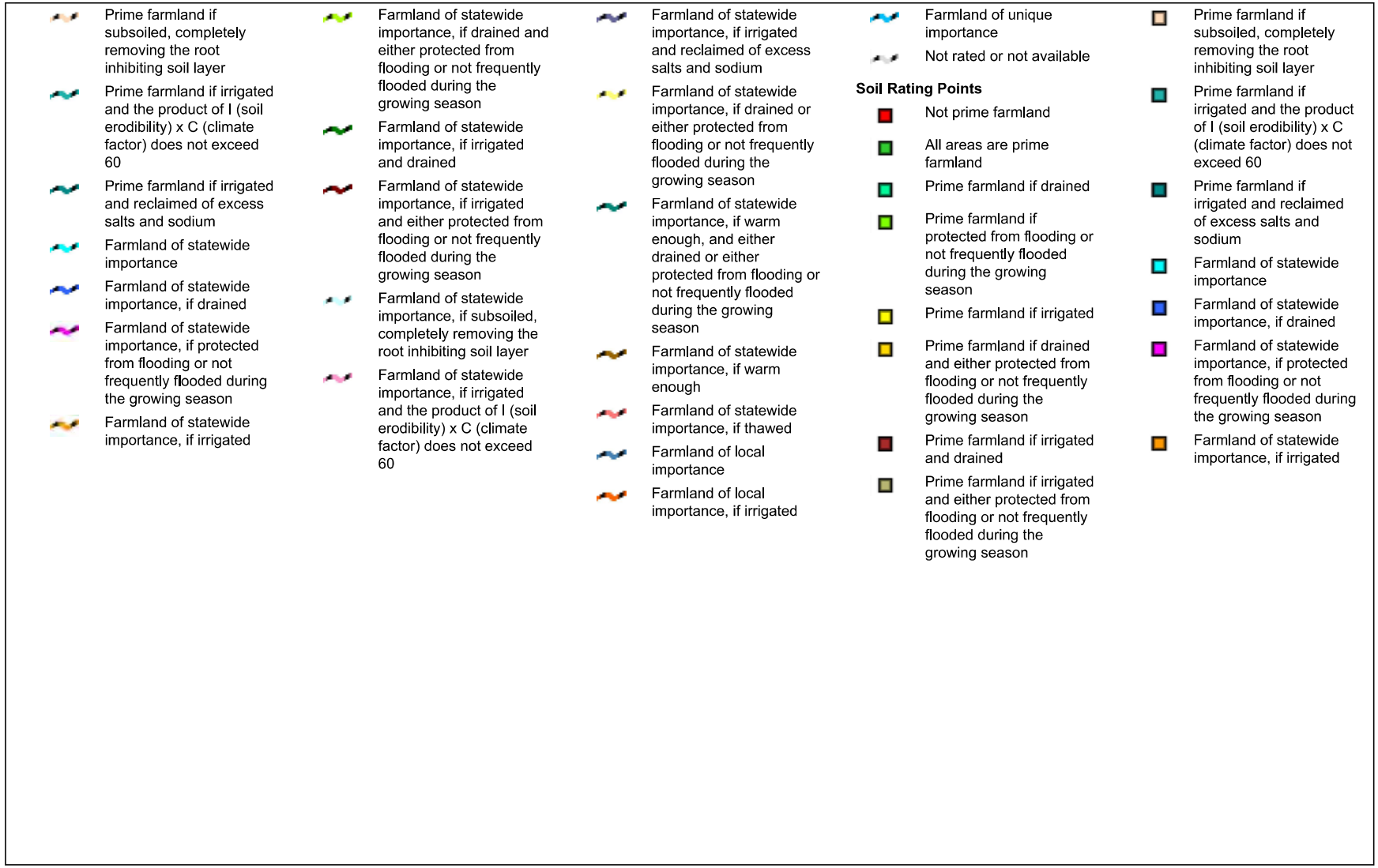
N

Meters
0 50 100 200 300

Feet
0 300 600 1200 1800

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 19N WGS84


MAP LEGEND
Area of Interest (AOI)
Area of Interest (AOI)
Soils
Soil Rating Polygons
Not prime farmland
All areas are prime farmland
Prime farmland if drained
Prime farmland if protected from flooding or not frequently flooded during the growing season
Prime farmland if irrigated
Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
Prime farmland if irrigated and drained
Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season
Prime farmland if subsoiled, completely removing the root inhibiting soil layer
Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
Prime farmland if irrigated and reclaimed of excess salts and sodium
Farmland of statewide importance
Farmland of statewide importance, if drained
Farmland of statewide importance, if protected from flooding or not frequently flooded during the growing season
Farmland of statewide importance, if irrigated
Farmland of statewide importance, if drained and either protected from flooding or not frequently flooded during the growing season
Farmland of statewide importance, if irrigated and drained
Farmland of statewide importance, if irrigated and either protected from flooding or not frequently flooded during the growing season
Farmland of statewide importance, if subsoiled, completely removing the root inhibiting soil layer
Farmland of statewide importance, if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
Farmland of statewide importance, if irrigated and reclaimed of excess salts and sodium
Farmland of statewide importance, if drained or either protected from flooding or not frequently flooded during the growing season
Farmland of statewide importance, if warm enough, and either drained or either protected from flooding or not frequently flooded during the growing season
Farmland of statewide importance, if warm enough
Farmland of statewide importance, if thawed
Farmland of local importance
Farmland of local importance, if irrigated
Farmland of unique importance
Not rated or not available
Soil Rating Lines
Not prime farmland
All areas are prime farmland
Prime farmland if drained
Prime farmland if protected from flooding or not frequently flooded during the growing season
Prime farmland if irrigated
Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
Prime farmland if irrigated and drained
Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season


Prime farmland if subsoiled, completely removing the root inhibiting soil layer
Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
Prime farmland if irrigated and reclaimed of excess salts and sodium
Farmland of statewide importance
Farmland of statewide importance, if drained
Farmland of statewide importance, if protected from flooding or not frequently flooded during the growing season
Farmland of statewide importance, if irrigated
Farmland of statewide importance, if drained and either protected from flooding or not frequently flooded during the growing season
Farmland of statewide importance, if irrigated and drained
Farmland of statewide importance, if irrigated and either protected from flooding or not frequently flooded during the growing season
Farmland of statewide importance, if subsoiled, completely removing the root inhibiting soil layer
Farmland of statewide importance, if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
Farmland of statewide importance, if irrigated and reclaimed of excess salts and sodium
Farmland of statewide importance, if drained or either protected from flooding or not frequently flooded during the growing season
Farmland of statewide importance, if warm enough, and either drained or either protected from flooding or not frequently flooded during the growing season
Farmland of statewide importance, if warm enough
Farmland of statewide importance, if thawed
Farmland of local importance
Farmland of local importance, if irrigated
Farmland of unique importance
Not rated or not available
Soil Rating Points
Not prime farmland
All areas are prime farmland
Prime farmland if drained
Prime farmland if protected from flooding or not frequently flooded during the growing season
Prime farmland if irrigated
Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
Prime farmland if irrigated and drained
Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season
Prime farmland if subsoiled, completely removing the root inhibiting soil layer
Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
Prime farmland if irrigated and reclaimed of excess salts and sodium
Farmland of statewide importance
Farmland of statewide importance, if drained
Farmland of statewide importance, if protected from flooding or not frequently flooded during the growing season
Farmland of statewide importance, if irrigated

- Farmland of statewide importance, if drained and either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if irrigated and drained
- Farmland of statewide importance, if irrigated and either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if subsoiled, completely removing the root inhibiting soil layer
- Farmland of statewide importance, if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
- Farmland of statewide importance, if irrigated and reclaimed of excess salts and sodium
- Farmland of statewide importance, if drained or either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if warm enough, and either drained or either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if warm enough
- Farmland of statewide importance, if thawed
- Farmland of local importance
- Farmland of local importance, if irrigated
- Farmland of unique importance
- Not rated or not available

**Water Features**

- Streams and Canals

**Transportation**

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

**Background**

- Aerial Photography

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Mayaguez Area, Puerto Rico Western Part
Survey Area Data: Version 18, Sep 12, 2022

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jan 23, 2022—Mar 1, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

## Table—Farmland Classification (Paseo Hatchery)

| Map unit symbol | Map unit name | Rating | Acres in AOI | Percent of AOI |
|---|---|---|---|---|
| CoE | Consumo clay, 20 to 40 percent slopes | Farmland of statewide importance | 0.1 | 0.0% |
| CoF2 | Consumo clay, 40 to 60 percent slopes | Not prime farmland | 48.4 | 23.9% |
| EcF | El Cacique-La Taina complex, 20 to 60 percent slopes, very stony | Not prime farmland | 1.2 | 0.6% |
| EdG | El Descanso-Hoconuco complex, 60 to 90 percent slopes, very stony | Not prime farmland | 2.3 | 1.1% |
| HmE2 | Humatas clay, 20 to 40 percent slopes | Farmland of statewide importance | 59.6 | 29.5% |
| HmF2 | Humatas clay, 40 to 60 percent slopes | Not prime farmland | 90.2 | 44.6% |
| Uh | Urban land-Humatas complex, 20 to 40 percent slopes | Not prime farmland | 0.6 | 0.3% |
| **Totals for Area of Interest** | | | **202.3** | **100.0%** |

## Rating Options—Farmland Classification (Paseo Hatchery)

*Aggregation Method:* No Aggregation Necessary

*Tie-break Rule:* Lower

# Custom Soil Resource Report
## Soil Map (Paseo Hatchery)




Map Scale: 1:6,330 if printed on A portrait (8.5" x 11") sheet.

N

Meters
0 50 100 200 300

Feet
0 300 600 1200 1800

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 19N WGS84

## MAP LEGEND

**Area of Interest (AOI)**
- Area of Interest (AOI)

**Soils**
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

**Special Point Features**
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

**Water Features**
- Streams and Canals

**Transportation**
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

**Background**
- Aerial Photography

## MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Mayaguez Area, Puerto Rico Western Part
Survey Area Data: Version 18, Sep 12, 2022

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jan 23, 2022—Mar 1, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

# Map Unit Legend (Paseo Hatchery)

| Map Unit Symbol | Map Unit Name | Acres in AOI | Percent of AOI |
|---|---|---|---|
| CoE | Consumo clay, 20 to 40 percent slopes | 0.1 | 0.0% |
| CoF2 | Consumo clay, 40 to 60 percent slopes | 48.4 | 23.9% |
| EcF | El Cacique-La Taina complex, 20 to 60 percent slopes, very stony | 1.2 | 0.6% |
| EdG | El Descanso-Hoconuco complex, 60 to 90 percent slopes, very stony | 2.3 | 1.1% |
| HmE2 | Humatas clay, 20 to 40 percent slopes | 59.6 | 29.5% |
| HmF2 | Humatas clay, 40 to 60 percent slopes | 90.2 | 44.6% |
| Uh | Urban land-Humatas complex, 20 to 40 percent slopes | 0.6 | 0.3% |
| **Totals for Area of Interest** | | **202.3** | **100.0%** |

# Map Unit Descriptions (Paseo Hatchery)

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a

given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

# Mayaguez Area, Puerto Rico Western Part

## CoE—Consumo clay, 20 to 40 percent slopes

### Map Unit Setting

*National map unit symbol:* 2thqj
*Elevation:* 100 to 2,460 feet
*Mean annual precipitation:* 54 to 96 inches
*Mean annual air temperature:* 65 to 90 degrees F
*Frost-free period:* 365 days
*Farmland classification:* Farmland of statewide importance

### Map Unit Composition

*Consumo and similar soils:* 90 percent
*Minor components:* 10 percent
*Estimates are based on observations, descriptions, and transects of the mapunit.*

### Description of Consumo

#### Setting

*Landform:* Hillslopes on mountains, hills on mountains
*Landform position (two-dimensional):* Summit, shoulder, backslope
*Landform position (three-dimensional):* Mountaintop, mountainflank, interfluve, side slope
*Down-slope shape:* Concave, convex, linear
*Across-slope shape:* Convex, linear, concave
*Parent material:* Residuum weathered from volcanic rock

#### Typical profile

*Ap - 0 to 6 inches:* clay
*Bt - 6 to 14 inches:* clay
*BC - 14 to 20 inches:* clay
*C - 20 to 60 inches:* silty clay loam

#### Properties and qualities

*Slope:* 20 to 40 percent
*Depth to restrictive feature:* More than 80 inches
*Drainage class:* Well drained
*Runoff class:* High
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low to moderately high (0.14 to 1.42 in/hr)
*Depth to water table:* More than 80 inches
*Frequency of flooding:* None
*Frequency of ponding:* None
*Maximum salinity:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
*Available water supply, 0 to 60 inches:* High (about 9.6 inches)

#### Interpretive groups

*Land capability classification (irrigated):* None specified
*Land capability classification (nonirrigated):* 6e
*Hydrologic Soil Group:* B
*Hydric soil rating:* No

**Minor Components**

**Daguey**

*Percent of map unit:* 5 percent
*Landform:* Ridges
*Landform position (two-dimensional):* Summit, shoulder, backslope
*Landform position (three-dimensional):* Mountaintop, mountainflank
*Down-slope shape:* Convex
*Across-slope shape:* Linear
*Hydric soil rating:* No

**Humatas**

*Percent of map unit:* 5 percent
*Landform:* Hillslopes, mountain slopes
*Landform position (two-dimensional):* Backslope
*Landform position (three-dimensional):* Mountainflank, side slope
*Down-slope shape:* Convex, linear
*Across-slope shape:* Linear, convex
*Hydric soil rating:* No

## CoF2—Consumo clay, 40 to 60 percent slopes

**Map Unit Setting**

*National map unit symbol:* 2thqk
*Elevation:* 100 to 2,460 feet
*Mean annual precipitation:* 54 to 96 inches
*Mean annual air temperature:* 65 to 90 degrees F
*Frost-free period:* 365 days
*Farmland classification:* Not prime farmland

**Map Unit Composition**

*Consumo and similar soils:* 90 percent
*Minor components:* 10 percent
*Estimates are based on observations, descriptions, and transects of the mapunit.*

**Description of Consumo**

**Setting**

*Landform:* Hillslopes on mountains, hills on mountains
*Landform position (two-dimensional):* Summit, shoulder, backslope
*Landform position (three-dimensional):* Mountaintop, mountainflank, interfluve, side slope
*Down-slope shape:* Concave, convex, linear
*Across-slope shape:* Convex, linear, concave
*Parent material:* Residuum weathered from volcanic rock

**Typical profile**

*Ap - 0 to 6 inches:* clay
*Bt - 6 to 14 inches:* clay
*BC - 14 to 20 inches:* clay

*C - 20 to 60 inches:* silty clay loam

**Properties and qualities**

*Slope:* 40 to 60 percent
*Depth to restrictive feature:* More than 80 inches
*Drainage class:* Well drained
*Runoff class:* Very high
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low to moderately high (0.14 to 1.42 in/hr)
*Depth to water table:* More than 80 inches
*Frequency of flooding:* None
*Frequency of ponding:* None
*Maximum salinity:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
*Available water supply, 0 to 60 inches:* High (about 9.6 inches)

**Interpretive groups**

*Land capability classification (irrigated):* None specified
*Land capability classification (nonirrigated):* 7e
*Hydrologic Soil Group:* B
*Hydric soil rating:* No

**Minor Components**

**Humatas**

*Percent of map unit:* 5 percent
*Landform:* Hillslopes, mountain slopes
*Landform position (two-dimensional):* Backslope
*Landform position (three-dimensional):* Mountainflank, side slope
*Down-slope shape:* Convex, linear
*Across-slope shape:* Linear, convex
*Hydric soil rating:* No

**Anones**

*Percent of map unit:* 5 percent
*Landform:* Hillslopes on mountains, hills on mountains
*Landform position (two-dimensional):* Summit, shoulder, backslope
*Landform position (three-dimensional):* Mountaintop, mountainflank, interfluve, side slope
*Down-slope shape:* Concave, convex, linear
*Across-slope shape:* Convex, linear, concave
*Hydric soil rating:* No

## EcF—El Cacique-La Taina complex, 20 to 60 percent slopes, very stony

**Map Unit Setting**

*National map unit symbol:* 2yq8b
*Elevation:* 160 to 2,130 feet
*Mean annual precipitation:* 43 to 73 inches
*Mean annual air temperature:* 65 to 89 degrees F
*Frost-free period:* 365 days
*Farmland classification:* Not prime farmland

**Map Unit Composition**

*El cacique and similar soils:* 60 percent
*La taina and similar soils:* 30 percent
*Minor components:* 10 percent
*Estimates are based on observations, descriptions, and transects of the mapunit.*

**Description of El Cacique**

**Setting**

*Landform:* Ridges, hillslopes, mountain slopes
*Landform position (two-dimensional):* Summit, shoulder, backslope
*Landform position (three-dimensional):* Mountaintop, mountainflank, interfluve, side slope
*Down-slope shape:* Concave, convex, linear
*Across-slope shape:* Linear
*Parent material:* Residuum weathered from serpentinite

**Typical profile**

*A - 0 to 6 inches:* gravelly clay loam
*Bt - 6 to 11 inches:* very paragravelly clay
*Cr - 11 to 14 inches:* bedrock
*R - 14 to 80 inches:* bedrock

**Properties and qualities**

*Slope:* 20 to 60 percent
*Surface area covered with cobbles, stones or boulders:* 1.0 percent
*Depth to restrictive feature:* 10 to 11 inches to paralithic bedrock; 14 to 17 inches to lithic bedrock
*Drainage class:* Well drained
*Runoff class:* High
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low to moderately high (0.14 to 0.38 in/hr)
*Depth to water table:* More than 80 inches
*Frequency of flooding:* None
*Frequency of ponding:* None
*Available water supply, 0 to 60 inches:* Very low (about 0.9 inches)

**Interpretive groups**

*Land capability classification (irrigated):* None specified
*Land capability classification (nonirrigated):* 6s
*Hydrologic Soil Group:* D
*Hydric soil rating:* No

**Description of La Taina**

**Setting**

*Landform:* Ridges, hillslopes, mountain slopes
*Landform position (two-dimensional):* Summit, shoulder, backslope
*Landform position (three-dimensional):* Mountaintop, mountainflank, head slope, side slope, crest
*Down-slope shape:* Concave, convex, linear
*Across-slope shape:* Linear
*Parent material:* Residuum weathered from serpentinite

**Typical profile**

*A - 0 to 8 inches:* very gravelly clay

*Bt - 8 to 17 inches:* extremely paragravelly clay
*Cr - 17 to 29 inches:* bedrock
*R - 29 to 80 inches:* bedrock

**Properties and qualities**

*Slope:* 20 to 60 percent
*Surface area covered with cobbles, stones or boulders:* 1.0 percent
*Depth to restrictive feature:* 17 to 25 inches to paralithic bedrock; 26 to 39 inches to lithic bedrock
*Drainage class:* Well drained
*Runoff class:* High
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low to moderately high (0.14 to 1.42 in/hr)
*Depth to water table:* More than 80 inches
*Frequency of flooding:* None
*Frequency of ponding:* None
*Available water supply, 0 to 60 inches:* Very low (about 0.9 inches)

**Interpretive groups**

*Land capability classification (irrigated):* None specified
*Land capability classification (nonirrigated):* 6s
*Hydrologic Soil Group:* D
*Hydric soil rating:* No

## Minor Components

**Maresua**

*Percent of map unit:* 5 percent
*Landform:* Ridges, hillslopes, mountain slopes
*Landform position (two-dimensional):* Summit, shoulder, backslope
*Landform position (three-dimensional):* Mountaintop, mountainflank, head slope, nose slope, side slope
*Down-slope shape:* Linear, concave, convex
*Across-slope shape:* Linear, concave, convex
*Hydric soil rating:* No

**Rosario**

*Percent of map unit:* 4 percent
*Landform:* Ridges, mountain slopes, hillslopes
*Landform position (two-dimensional):* Summit, shoulder, backslope
*Landform position (three-dimensional):* Mountaintop, upper third of mountainflank, head slope, nose slope, side slope
*Down-slope shape:* Concave, linear
*Across-slope shape:* Linear, concave
*Other vegetative classification:* Unnamed (G270XZ000PR)
*Hydric soil rating:* No

**Rock outcrop, serpentinite, udic**

*Percent of map unit:* 1 percent
*Landform:* Hillslopes, mountain slopes
*Landform position (three-dimensional):* Mountaintop, mountainflank, side slope, crest
*Hydric soil rating:* No

## EdG—El Descanso-Hoconuco complex, 60 to 90 percent slopes, very stony

### Map Unit Setting

*National map unit symbol:* 2yq8f
*Elevation:* 2,460 to 2,900 feet
*Mean annual precipitation:* 59 to 120 inches
*Mean annual air temperature:* 63 to 80 degrees F
*Frost-free period:* 365 days
*Farmland classification:* Not prime farmland

### Map Unit Composition

*El descanso and similar soils:* 50 percent
*Hoconuco and similar soils:* 49 percent
*Minor components:* 1 percent
*Estimates are based on observations, descriptions, and transects of the mapunit.*

### Description of El Descanso

#### Setting

*Landform:* Mountain slopes
*Landform position (two-dimensional):* Summit, shoulder, backslope
*Landform position (three-dimensional):* Mountaintop, mountainflank
*Down-slope shape:* Concave, convex, linear
*Across-slope shape:* Linear
*Parent material:* Clayey residuum weathered from serpentinite

#### Typical profile

*Oe - 0 to 3 inches:* mucky peat
*A - 3 to 8 inches:* very gravelly clay loam
*Bt - 8 to 15 inches:* extremely paragravelly clay
*R - 15 to 80 inches:* bedrock

#### Properties and qualities

*Slope:* 60 to 90 percent
*Surface area covered with cobbles, stones or boulders:* 1.0 percent
*Depth to restrictive feature:* 13 to 17 inches to lithic bedrock
*Drainage class:* Well drained
*Runoff class:* Very high
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low to moderately high (0.14 to 0.38 in/hr)
*Depth to water table:* More than 80 inches
*Frequency of flooding:* None
*Frequency of ponding:* None
*Available water supply, 0 to 60 inches:* Very low (about 0.5 inches)

#### Interpretive groups

*Land capability classification (irrigated):* None specified

*Land capability classification (nonirrigated):* 6s
*Hydrologic Soil Group:* D
*Hydric soil rating:* No

### Description of Hoconuco

#### Setting

*Landform:* Mountain slopes
*Landform position (two-dimensional):* Summit, shoulder, backslope
*Landform position (three-dimensional):* Mountainflank
*Down-slope shape:* Convex
*Across-slope shape:* Linear
*Parent material:* Clayey residuum weathered from serpentinite

#### Typical profile

*Oe - 0 to 3 inches:* mucky peat
*A - 3 to 7 inches:* gravelly clay loam
*Bt - 7 to 14 inches:* paragravelly clay
*Cr - 14 to 37 inches:* bedrock
*R - 37 to 80 inches:* bedrock

#### Properties and qualities

*Slope:* 60 to 90 percent
*Surface area covered with cobbles, stones or boulders:* 1.0 percent
*Depth to restrictive feature:* 14 to 18 inches to paralithic bedrock; 23 to 38 inches to lithic bedrock
*Drainage class:* Well drained
*Runoff class:* Very high
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low (0.01 to 0.14 in/hr)
*Depth to water table:* More than 80 inches
*Frequency of flooding:* None
*Frequency of ponding:* None
*Available water supply, 0 to 60 inches:* Very low (about 1.1 inches)

#### Interpretive groups

*Land capability classification (irrigated):* None specified
*Land capability classification (nonirrigated):* 6s
*Hydrologic Soil Group:* D
*Hydric soil rating:* No

### Minor Components

#### Rock outcrop, serpentinite, perudic

*Percent of map unit:* 1 percent
*Landform:* Mountain slopes
*Landform position (three-dimensional):* Mountaintop, mountainflank
*Hydric soil rating:* No

## HmE2—Humatas clay, 20 to 40 percent slopes

### Map Unit Setting

*National map unit symbol:* 2tgwq
*Elevation:* 100 to 2,460 feet
*Mean annual precipitation:* 54 to 96 inches
*Mean annual air temperature:* 65 to 90 degrees F
*Frost-free period:* 365 days
*Farmland classification:* Farmland of statewide importance

### Map Unit Composition

*Humatas and similar soils:* 85 percent
*Minor components:* 15 percent
*Estimates are based on observations, descriptions, and transects of the mapunit.*

### Description of Humatas

#### Setting

*Landform:* Hillslopes, mountain slopes
*Landform position (two-dimensional):* Backslope
*Landform position (three-dimensional):* Mountainflank, side slope
*Down-slope shape:* Convex, linear
*Across-slope shape:* Linear, convex
*Parent material:* Clayey residuum weathered from volcanic rock

#### Typical profile

*A - 0 to 4 inches:* clay
*Bt1 - 4 to 12 inches:* clay
*Bt2 - 12 to 19 inches:* clay
*BC - 19 to 38 inches:* clay
*C - 38 to 80 inches:* clay

#### Properties and qualities

*Slope:* 20 to 40 percent
*Depth to restrictive feature:* More than 80 inches
*Drainage class:* Well drained
*Runoff class:* Very high
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low (0.01 to 0.14 in/hr)
*Depth to water table:* More than 80 inches
*Frequency of flooding:* None
*Frequency of ponding:* None
*Available water supply, 0 to 60 inches:* High (about 9.5 inches)

#### Interpretive groups

*Land capability classification (irrigated):* None specified
*Land capability classification (nonirrigated):* 4e
*Hydrologic Soil Group:* C
*Hydric soil rating:* No

**Minor Components**

**Consumo**

*Percent of map unit:* 5 percent
*Landform:* Hillslopes, mountain slopes, hills
*Landform position (three-dimensional):* Mountaintop, mountainflank, interfluve, side slope
*Down-slope shape:* Concave, convex, linear
*Across-slope shape:* Convex, linear, concave
*Other vegetative classification:* Unnamed (G270XZ000PR)
*Hydric soil rating:* No

**Daguey**

*Percent of map unit:* 5 percent
*Landform:* Ridges
*Landform position (two-dimensional):* Summit, shoulder, backslope
*Landform position (three-dimensional):* Mountaintop, mountainflank
*Down-slope shape:* Convex
*Across-slope shape:* Linear
*Hydric soil rating:* No

**Alonso**

*Percent of map unit:* 5 percent
*Landform:* Ridges
*Landform position (two-dimensional):* Backslope
*Landform position (three-dimensional):* Mountaintop, mountainflank
*Down-slope shape:* Convex
*Across-slope shape:* Linear, convex
*Hydric soil rating:* No

## HmF2—Humatas clay, 40 to 60 percent slopes

**Map Unit Setting**

*National map unit symbol:* 2tgwr
*Elevation:* 100 to 2,460 feet
*Mean annual precipitation:* 54 to 96 inches
*Mean annual air temperature:* 65 to 90 degrees F
*Frost-free period:* 365 days
*Farmland classification:* Not prime farmland

**Map Unit Composition**

*Humatas and similar soils:* 85 percent
*Minor components:* 15 percent
*Estimates are based on observations, descriptions, and transects of the mapunit.*

**Description of Humatas**

**Setting**

*Landform:* Hillslopes, mountain slopes
*Landform position (two-dimensional):* Backslope

*Landform position (three-dimensional):* Mountainflank, side slope
*Down-slope shape:* Convex, linear
*Across-slope shape:* Linear, convex
*Parent material:* Clayey residuum weathered from volcanic rock

**Typical profile**

*A - 0 to 4 inches:* clay
*BC - 19 to 38 inches:* clay
*C - 38 to 80 inches:* clay

**Properties and qualities**

*Slope:* 40 to 60 percent
*Depth to restrictive feature:* More than 80 inches
*Drainage class:* Well drained
*Runoff class:* Very high
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low (0.01 to 0.14 in/hr)
*Depth to water table:* More than 80 inches
*Frequency of flooding:* None
*Frequency of ponding:* None
*Available water supply, 0 to 60 inches:* Moderate (about 7.2 inches)

**Interpretive groups**

*Land capability classification (irrigated):* None specified
*Land capability classification (nonirrigated):* 6e
*Hydrologic Soil Group:* C
*Hydric soil rating:* No

**Minor Components**

**Consumo**

*Percent of map unit:* 10 percent
*Landform:* Hillslopes on mountains, hills on mountains
*Landform position (three-dimensional):* Mountaintop, mountainflank, interfluve, side slope
*Down-slope shape:* Concave, convex, linear
*Across-slope shape:* Convex, linear, concave
*Other vegetative classification:* Unnamed (G270XZ000PR)
*Hydric soil rating:* No

**Alonso**

*Percent of map unit:* 5 percent
*Landform:* Ridges
*Landform position (two-dimensional):* Backslope
*Landform position (three-dimensional):* Mountaintop, mountainflank
*Down-slope shape:* Convex
*Across-slope shape:* Linear, convex
*Hydric soil rating:* No

## Uh—Urban land-Humatas complex, 20 to 40 percent slopes

### Map Unit Setting

*National map unit symbol:* 2yg2n
*Elevation:* 100 to 2,000 feet
*Mean annual precipitation:* 54 to 96 inches
*Mean annual air temperature:* 65 to 90 degrees F
*Frost-free period:* 365 days
*Farmland classification:* Not prime farmland

### Map Unit Composition

*Urban land:* 46 percent
*Humatas and similar soils:* 44 percent
*Minor components:* 10 percent
*Estimates are based on observations, descriptions, and transects of the mapunit.*

### Description of Urban Land

#### Interpretive groups

*Land capability classification (irrigated):* None specified
*Land capability classification (nonirrigated):* 8
*Hydric soil rating:* No

### Description of Humatas

#### Setting

*Landform:* Hillslopes, mountain slopes
*Landform position (two-dimensional):* Backslope
*Landform position (three-dimensional):* Mountainflank, side slope
*Down-slope shape:* Convex, linear
*Across-slope shape:* Linear, convex
*Parent material:* Clayey residuum weathered from volcanic rock

#### Typical profile

*Ap - 0 to 4 inches:* clay
*Bt1 - 4 to 12 inches:* clay
*Bt2 - 12 to 19 inches:* clay
*BC - 19 to 38 inches:* clay
*C - 38 to 80 inches:* clay

#### Properties and qualities

*Slope:* 20 to 40 percent
*Depth to restrictive feature:* More than 80 inches
*Drainage class:* Well drained
*Runoff class:* Very high
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low (0.01 to 0.14 in/hr)
*Depth to water table:* More than 80 inches
*Frequency of flooding:* None
*Frequency of ponding:* None

*Available water supply, 0 to 60 inches:* Moderate (about 7.9 inches)

**Interpretive groups**

*Land capability classification (irrigated):* None specified
*Land capability classification (nonirrigated):* 4e
*Hydrologic Soil Group:* C
*Hydric soil rating:* No

**Minor Components**

**Daguey**

*Percent of map unit:* 5 percent
*Landform:* Ridges
*Landform position (two-dimensional):* Summit, shoulder, backslope
*Landform position (three-dimensional):* Mountaintop, mountainflank
*Down-slope shape:* Convex
*Across-slope shape:* Linear
*Hydric soil rating:* No

**Consumo**

*Percent of map unit:* 5 percent
*Landform:* Hillslopes, mountain slopes
*Landform position (two-dimensional):* Backslope
*Landform position (three-dimensional):* Mountaintop, mountainflank, interfluve, side slope
*Down-slope shape:* Concave, convex, linear
*Across-slope shape:* Convex, linear, concave
*Other vegetative classification:* Unnamed (G270XZ000PR)
*Hydric soil rating:* No

Appendix G

Flood Plain Management

**EXECUTIVE ORDER 11988 – FLOODPLAIN MANAGEMENT**

# 8-STEP PROCESS

## U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT:

### COMMUNITY DEVELOPMENT BLOCK GRANT – DISASTER RELIEF (CDBG-DR) PROGRAM

**Paseo Hatchery, Road PR 410, Maricao Puerto Rico**
C&G (Project No. PR-CRP-000721, Grant No. B-17-DM-72-0001 & B-18-DP-720001)
Decision Process for E.O. 11988 as Provided by 24 CFR §55.20

**Introduction and Overview**

The proposed project, **PR-CRP-000721 Paseo Hatchery**, is within a municipality with structures damaged by Hurricanes Irma and María and it is located by PR Road 410 from Km 0.3 to km 1.7, Maricao, PR 00606; from coordinate 18.179253, -66.980708 to coordinate 18.170269, -66.985604. The proposed activity is situated in flood zones AE with dimensions of 2.25 acres. The floodplains in the project area can be found at Flood Insurance Rate Map (FIRM) Panel 72000C01040H, revised on April 19, 2005, as shown in the FEMA Flood Map Service Center at https://msc.fema.gov/portal/home, and at ABFE Map effective December 11, 2018, as shown at https://gis-r2-fema.hub.arcgis.com/pages/puertorico.

The objective of the project consists in the development of a "shared road" concept with a pedestrian and bicycle recreation path "paseo" parallel to Rio Maricao along PR Road 410, also known as "Calle del Vivero". The actual route is a dead-end street along the river Maricao edge which leads to a Fish Hatchery located within the Maricao Forest Reserve. Only about 10 residences are located along the proposed "paseo". The road location generates little vehicular traffic, and its narrow travel path and winding road curves manage to control speed limits. Therefore, the contextual location and roadway alignment characterize the Paseo Hatchery route as a low volume low speed local rural road. The "paseo" pavement along the existing grass shoulders will preferably be permeable, with variable widths between 0.762 (2'-6") and 1.25 (4'-1") meters along a length of approximately 1.4 km. The proposed design program includes a sequence of "speed tables" intended to control vehicular speeds at 15 mph, new signage and pavement marking, led luminaires, replacement of guardrails, visual enhancement landscape planting and erosion control measures when applicable. The "Paseo Hatchery" project also includes a rest and information area located at the start of the "paseo" where the Gruta de San Juan Bautista is located and another at the end of the "paseo" at the entrance gate to the fish hatchery. A speed table facilitates a pedestrian crossing to the adjacent Gruta de San Juan Bautista Plaza which will be renovated. Renovations include an ADA ramp to provide access to the ground floor plaza, the extensive staircase steps will be restored, missing red clay bricks will be replaced, existing railings will also be replaced, the two retention tanks will be restored, light poles luminaires will be replaced with efficient led bulb fixtures, two new waste receptacles will be installed, landscape accent planting and embankment erosion control measures will also be installed.

**Step 1:** ***Determine whether the action is located in a 100-year floodplain (or a 500-year floodplain for critical actions) or wetland.***

The Maricao Municipality proposes to conduct noncritical actions to an existing roadway facility within an A Zone (area of special flood hazard where base flood elevations have not been determined). A small portion of the existing roadway facility alignment is located within the A Zone as shown on the Flood Insurance rate Map (FIRM) Panel 1040 no. 72000C1040H effective April 19, 2005. The FIRMette, ABFE MAP AND other data sources are attached to this document.

The proposed action named as "Paseo Hatchery" includes improvements along a segment of state road PR 410 to incorporate a pedestrian path within the existing shoulder when site conditions allow, storm drainage management, landscaping, complementary lighting, replacement of guardrails, signage and pavement marking. Two rest areas are provided at the beginning and the end of the "Paseo Hatchery". The Gruta de San Juan Bautista adjacent to the road at km. 0.3 is also part of the project. Proposed actions include repair of existing brick steps and replacement of existing railing. Also, the two retaining tanks will be provided maintenance.

The project begins at the Gruta de San Juan Bautista at km 0.3 and extends to the gate at the entrance to the Fish Hatchery at km 1.7 of PR 410.

The Puerto Rico HUD CRP performed a Flood Zone Evaluation and determined it is located in a flood prone area. The Flood Insurance Rate Map (FIRM) 72000C1040H Panel 1040 effective date April 19, 2005, locates a very small portion of the beginning of the project within the SFHA Zone A for the 100 yr. event. However, the Advisory Base Flood Elevations Map (ABFE) locates approximately 75% of the project route within a SFHA. In both instances the Gruta de San Juan Bautista is outside SFHA or 100 yr floodplain.

ABFEs are advisory in nature and more accurately reflect the 1% annual chance flood hazard elevations in a given area. Following large storm events, such as Hurricane Sandy, FEMA performs an assessment to determine whether the 1% annual chance flood event, shown on the effective FIRMs adequately reflects the current flood hazard. In some cases, due to the age of the analysis and the science used to develop the effective FIRMs, FEMA determines there is a need to produce ABFEs. ABFEs are provided to communities as a tool to support them in recovering in ways that will make them more resilient to future storms. Attached is a map with the project limits and boundaries of the SFHA.

HUD's regulations in 24 CFR Part 55 outline HUD's procedures for complying with EO 11988. Part 55 applies to all HUD actions that could be harmed or cause harm if located in a floodplain, including but not limited to proposed acquisition, construction, demolition, improvement, disposition, and financing actions under any HUD program. The purpose of Part 55 is not in most cases to prohibit actions in a floodplain, but to provide the method for HUD projects to comply with EO 11988 and avoid unnecessary impacts.

HUD divides its environmental review by whether the proposed activity is a critical or a noncritical action. A critical action means any activity for which even a slight chance of flooding might be too great because such flooding might result in a loss of life, injury to persons, or damage to property.

The proposed project "Paseo Hatchery" provides improvements to an existing roadway facility, PR Road 410. The actual route is a dead-end street which leads to a Fish Hatchery, which is an important landmark of Maricao. Only about 10 residences are located along the proposed "shared road" concept with a

pedestrian and bicycle recreation path "paseo". It has a length of 1.5 kilometers. All improvements are within the existing Right of Way (ROW) of the road with a few exceptions such as the rehabilitation works within the Gruta de San Juan Bautista at the beginning of the project, which in itself is also an important landmark.

This road is actually used by residents and visitors as an exercise and recreational route. The "Paseo Hatchery" proposed by Municipality of Maricao as part of its City Revitalization Program enhances the natural landscape scenery and provides a safe panoramic route for all to enjoy.

The proposed project is a non-critical action for which 24 CFR Part 55.12 provides some exceptions such as: 1. No new or existing buildings or improvements occupy or modify the 100-year floodplain, floodway, coastal high hazard area, or – for critical actions – the 500-year floodplain.

Although this project seems to meet exception 1 at 24 CFR 55.12 mentioned above, improvements do not occupy or modify the 100-year floodplain, the HUD Flood Zone Evaluation in section 2.6 determined the project to be in a flood prone area and advised the Municipality to perform the 8 Step analysis and comply with E.O. 11988-Floodplain Management. Therefore, this analysis will consider potential impacts to the floodway.

There are no wetlands observed or mapped within the project boundaries, therefore, E.O. 11990-Wetlands Protection does not apply. The National Wetland Inventory Map is included as an attachment. The HUD Flood Zone Evaluation letter is attached to this document.

**Step 2:** ***Notify the public for early review of the proposal and involve the affected and interested public in the decision-making process.***

A public notice describing the project was published in the PRIMERA HORA daily newspaper, on July 25, 2023. The ad targeted local residents, including those in the floodplain. The required 15 calendar days were allowed for public comment. As required by regulation, the notice also included the name, proposed location and description of the activity, total number of floodplain and wetland acres involved, and the responsible entity contact for information (insert HUD official under Part 50) as well as a website and the location and hours of the office at which a full description of the proposed action can be viewed.

No public comments were received.

**Step 3:** ***Identify and evaluate practicable alternatives.***

The Municipality of Maricao project site selection criteria are:

(a) Integrate the 2 existing landmarks, Gruta de San Juan Bautista and Fish Hatchery
(b) Provide improvements to an existing popular residents and tourist walking and jogging trail.
(c) Enhance natural scenery and develop an amenable scenic route for the benefit of residents and visitors.
(d) Minimize environmental impact.
(e) Minimize impact on the floodplain; and
(f) Land acquisition is not feasible.

The local government evaluated alternatives that could satisfy these requirements of the Maricao Community Revitalization Plan (CRP):

The CRP funds projects that contribute to economic revitalization throughout Puerto Rico typically include public improvement or streetscape revitalization. The proposed project "Paseo Hatchery" fits into the category of streetscape revitalization. It is divided into 2 subareas, all directly interconnected with existing road PR 410.

**I Gruta de San Juan Bautista**
**II PR 410 Paseo Hatchery**

I Gruta de San Juan Bautista
Gruta de San Juan Bautista is located outside the floodplain above Base Flood Elevations (BFE). Therefore, it is not subject to EO11988 and is not part of this analysis.

**A. Construction of Paseo Hatchery streetscape improvements along State Road PR 410**

Communities are becoming a more health-conscious society and people are naturally drawn to water. Initiatives that provide linear trails for walking, jogging, and biking have grown in popularity. Trails are one of the most common recreational uses within floodplains and are used for a variety of activities including walking, jogging, and biking. Generally, multi-use trails are paved to improve accessibility, prevent erosion, increase longevity, and minimize maintenance needs.

The Paseo Hatchery plan and design of the trail along greenway and floodplain along Maricao River includes interpretive/educational signage with information about the function and importance of floodplains and natural functions and ecological systems as part of community outreach. The proposed action not only interconnects important landmarks such as the Gruta de San Juan Bautista and the Fish Hatchery, but it also connects with Costa Formes Recreational Facilities providing additional interconnection to existing facilities and increasing the potential use of compatible recreational opportunities in the community.

The proposed project along the existing road PR 410 ROW runs for the most part along the Maricao River floodplain parallel to the road. The existing road is low volume speed rural road. The project proposes improvement of current activities by enhancing existing scenic quality, pedestrian, and bicycle safety. Improvements include a sidewalk, signage, speed control tables, stormwater management, erosion control measures, new guardrails, and landscape diversification.

Initial preliminary design program called for a concrete sidewalk parallel to the embankment at the Western shoulder of the existing road opposite the Maricao River edge. Further site analysis concluded that a continuous concrete sidewalk along that shoulder was not physically or environmentally feasible.

The road PR 410 shoulders are sometimes constricted by a cliff to the West or the Maricao River to the East and therefore shoulder lengths are not continuous along either side of the road route. This condition prevents developing a continuous pedestrian sidewalk which suggests developing the Paseo Hatchery route as a shared road because there are inevitable gaps where a pedestrian path along the shoulder is not feasible.

Representatives of the local government eventually determined that the concrete sidewalk be substituted with a permeable path of varying width adapting to the existing condition of the shoulder. The path varies in width between 0.762 (2'-6") and 1.25 (4'-1") meters along a length of 1.466 km. The proposed design program includes a sequence of "speed tables" intended to control vehicular speeds at 15 mph, new signage, led luminaires, replacement of guardrails, and discreet garbage disposal containers among others.

There are 4 gaps that are identified as a shared road. Their length is 478 meters equivalent to 33% of the Paseo Hatchery length. These modifications to the existing impacted footprint preserve existing grades and drainage patterns. The proposed gazebo has columns and a paved ground floor to match existing grades.

Although only 25% of the proposed project is outside the ABFE floodplain limits, this action is convenient because it complies with the City Revitalization Program Objectives. Proposed project is constructed at existing grades, no topographic fill is required, and no impact or damage is exerted over the existing drainage patterns and flood plain natural functions.

**B. Locate the Paseo Hatchery Project Outside of the Floodplain**

The City Revitalization Program recognized the intrinsic recreational and economic values of the existing state road PR 410 which provides the only access to the fish hatchery and 10 residences located along its length. To relocate the road will diminish these intrinsic values and exponentially increase development costs, rendering the project economically unfeasible. The existing road is old and has sustained without serious damage multiple hurricane events.

Maricao has a particular topography characterized by very steep slopes. Shifting the road to the east encounters the river. Shifting to higher grounds to the west locate steep slopes or private properties. Land acquisition or resident displacements is outside the realm of consideration for this specific project.

The cost of the mitigating measures for the environmental and combined potential social costs of relocating the alignment of the road PR 410 will make the project prohibitively expensive to develop and would not meet the programmatic objectives of the CRP.

C. **No Action**

No action, under this alternative no streetscape improvements will be performed, and the CRP objectives will be truncated. This would not assist the need to rehabilitate and revitalize the community.

The proposed project recognizes an opportunity to integrate two existing landmarks and a scenic road and expand the recreational facilities that the town of Maricao can offer its residents and visitors. Our analysis concludes that developing the project within the floodplain is not a hazard and taking no action will deprive the local community of social and economic benefits.

**Step 4:** ***Identify Potential Direct and Indirect Impacts of Associated with Floodplain Development.***

The proposed action is partially located within a Special Flood Hazard Area (SFHA) identified on the FEMA ABFE Map as Zone A. This zone is defined as the area that will be inundated by the flood event having a

1-percent chance of being equaled or exceeded in any given year. The 1-percent annual chance flood is also referred to as the base flood or 100-year flood.

Locating the project within a floodplain Zone A would not adversely affect its natural habitat values because the pedestrian path will be developed within the ROW of the existing state road PR 410. There will be no quantifiable impact on plant and animal life because no wetland is located near the road. Also, because the proposed action will take place on previously disturbed road shoulder and road pavement bearing surface. This is an old road which has previously experienced various hurricane events without suffering substantial damage.

The highest priority of this review is to prevent the loss of life. The Maricao River is born close to the fish hatchery and its profile along the route has a low gradient which prevents flash floods. So, if it's not raining there is a low probability of flash flood occurring. If it's raining, there will be a warning time to safely take refuge from a potential flood. The rest areas gazebos will provide links to the FEMA Map Service and the National Weather Service. The link will also provide a list of clues to identify potential flood. The proposed Paseo Hatchery route has a segment of approximately 368 meters located close to the halfway mark of the route which rises above ABFE elevations. These segments will also be identified in the link information.

Structures located within the floodplain are required by HUD and the NFIP to maintain flood insurance for the life of the property. This requisite applies to mortgaged residential, commercial properties. The only two structures located within the floodplain are the gazebos which measure 12' x12' and consist of a roof supported by four columns designed to sustain hydrostatic force loads. Therefore, these structures don't require flood insurance and compliance with NFIP.

In addition to concerns for life and property, this analysis also considers the environmental value of the floodplain. The natural resources of the floodplain include water, flora and fauna, and historical and cultural resources.

Part of river edge along the route has been declared a protected zone by the USFWS. The inventory of flora and fauna performed along the project route length by REFORESTA Inc., did not detect endangered species. Attached are a copy of the Flora and Fauna Inventory and the US Fish and Wildlife Service map of Protected Areas.

The areas close to the road PR 410 and its shoulders have been previously disturbed, therefore existing vegetation is characteristically a mixture of native and introduced vegetation. The proposed landscape planting of the existing shoulder will diversify this mixture with broad leaf flowering plants. As expected, in areas further apart from the road edge native planting dominates. Since the project occurs within the ROW of the existing road PR 410 there won't be a quantifiable impact upon plant and natural life.

Since the project development along the floodplain requires no fill and the proposed pedestrian path is a prefabricated permeable pavement, the construction will have minimal effects on water resources, natural flood and erosion control, water quality, and groundwater recharge are preserved along the shared road route.

The Paseo Hatchery route ends at the gate of the Fish Hatchery which was constructed during 1933-1942 at the edge of the Forest Reserve as part of the New Deal Era Constructions. It is listed in the National register of Historic Places.

The proposed shared route also considered societal and cultural resources during the design process. The rest areas gazebo will offer link to information about the value of the natural reserve and protected areas. The objective is to educate the visitor and make him aware of the flora and fauna within the area which will add value to the visit. The route will complement the natural features of the area and enhance scenic visuals.

For the environmental issues of Clean Air, Contamination and Toxic Substances, Floodplain Management, Historic Preservation, Noise Abatement and Control, the project was found to result in no impacts. The project would result primarily in no adverse impacts and no effects to the environment, with beneficial socioeconomic results.

**Step 5:** ***Where practicable, design or modify the proposed action to minimize the potential adverse impacts to lives, property, and natural values within the floodplain and to restore, and preserve the values of the floodplain.***

a) Preserving Lives: In order to preserve lives, the rest areas will include signage informing the route is for the most part (75%) located within a Special Flood Hazard Area (SFHA). Signage will also be installed identifying the route segment located above the (SFHA) base flood elevation levels.

b) The rest areas will also provide links to information in the National Weather Service Forecast Maps and Active Alerts. The link will also include to local law enforcement and search and rescue unit located close by in the Costa Formes Recreation Complex. The information link will also provide clues to anticipate potential flood event.

c) Preserving Property: In order to preserve route improvements, rest area gazebos columns will be designed to sustain hydraulic load forces. Other improvements won't require any special provisions to sustain hydraulic forces. Project improvements are not required to carry insurance subject to NFIP.

d) Preserving Natural Values and Minimizing Impacts: The site design has no alternative but to design the project within a floodplain as concluded in Step 3. The proposed recreational shared road route will be developed within the existing road PR 410 ROW, therefore the project for the most part will be developed over previously disturbed site conditions preserving original grade levels and drainage patterns minimizing impacts to the floodplain.

e) The proposed pedestrian path will be constructed with precast permeable modules which while preserving groundwater recharge flow will also avoid the use of heavy equipment and machinery during the construction process which also minimizes potential accidental pollution risks. These actions will serve to both preserve habitat off and on site while also preserving non-impacted areas to minimize effects contributing to preserve the values of the floodplain.

**Step 6:** ***Reevaluate the Alternatives.***

a) **Construction of Paseo Hatchery streetscape improvements along State Road PR 410**
Although the Paseo Hatchery Street site is in a floodplain, it has no impact on floodplain natural values. One of its design objectives is to showcase the intrinsic values of the Maricao River riparian ecosystem which can be appreciated along the Paseo Hatchery. Construction method was modified to include permeable pavement modules for the pedestrian path which will provide soil perviousness to the

previously compacted road shoulders and minimize the use of large machinery which minimizes potential construction impact.

Additionally, the design incorporates information in the rest areas which provide information and warnings to users in order to minimize risks to human life. The proposed road or street improvements will result in no impact to the floodplain values and will result in long term benefits to the Maricao community through increased accessibility to compatible recreational opportunities, community aesthetics and visitors' enjoyment of scenic landscape. Most communities want to increase greenspace and recreational opportunities. Floodplains provide the green alternative for pleasurable recreational activities and this project has the opportunity to educate the community on the importance of floodplain management and the protected riverine reserve.

b) **Locate the Paseo Hatchery Project Outside of the Floodplain**
This alternative was previously rejected. It is still an impracticable option because it doesn't comply with the Maricao Municipal Government location criteria and objectives, its enormous cost, diminished recreational value, potential environmental impacts, land acquisition cost and potential displacement.

**c) No Action**
A no action alternative is not an option because the preferred alternative locating the Paseo Hatchery within the floodplain exerts no negative impacts upon existing conditions, then there is no reason why to take no action and deprive the Maricao community of its long-term benefits.

**Step 7: Determination of No Practicable Alternative**

PRDOH has reevaluated the alternatives to building in the floodplain and wetland and has determined that it has no practicable alternative. Environmental files that document compliance with Steps 3 through 6 of 24 Executive Order 11988/19900 are provided in the attachments below. A final notice was published on January 19, 2024 at a local newspaper "Primera Ahora" detailing the reasons why the modified project must be located in the floodplain/wetland, a list of alternatives considered, and all mitigation measures taken to minimize adverse impacts and preserve natural and beneficial floodplain values. No concerns were expressed by the public concerning this notice.

**Step 8: Implement the Proposed Action**

The Municipality of Mayaguez will assure that this plan, as modified and described above, is executed and necessary language will be included in all agreements with participating parties. The Municipality of Mayaguez and designer will take an active role in monitoring the construction process to ensure no unnecessary impacts occur nor unnecessary risks are taken.

# 8-STEP PROCESS

## U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT:

### COMMUNITY DEVELOPMENT BLOCK GRANT – DISASTER RELIEF (CDBG-DR) PROGRAM

**Paseo Hatchery _ Project PR-CRP-000721**

# APPENDIX


01 Location Map

02 Flood Zone Notification Letter

03 First Notification

04 FIRMETTE

05 FIRMETTE Overlays

06 FIRMETTE Limits

07 ABFE – Street Map

08 ABFE – Image Map

09 Proposed Project Flood Zone Limits

10 Proposed Project Demolition Plan

11 General Site Plan

12 Flora Fauna

13 Final Notice

# 8-STEP PROCESS

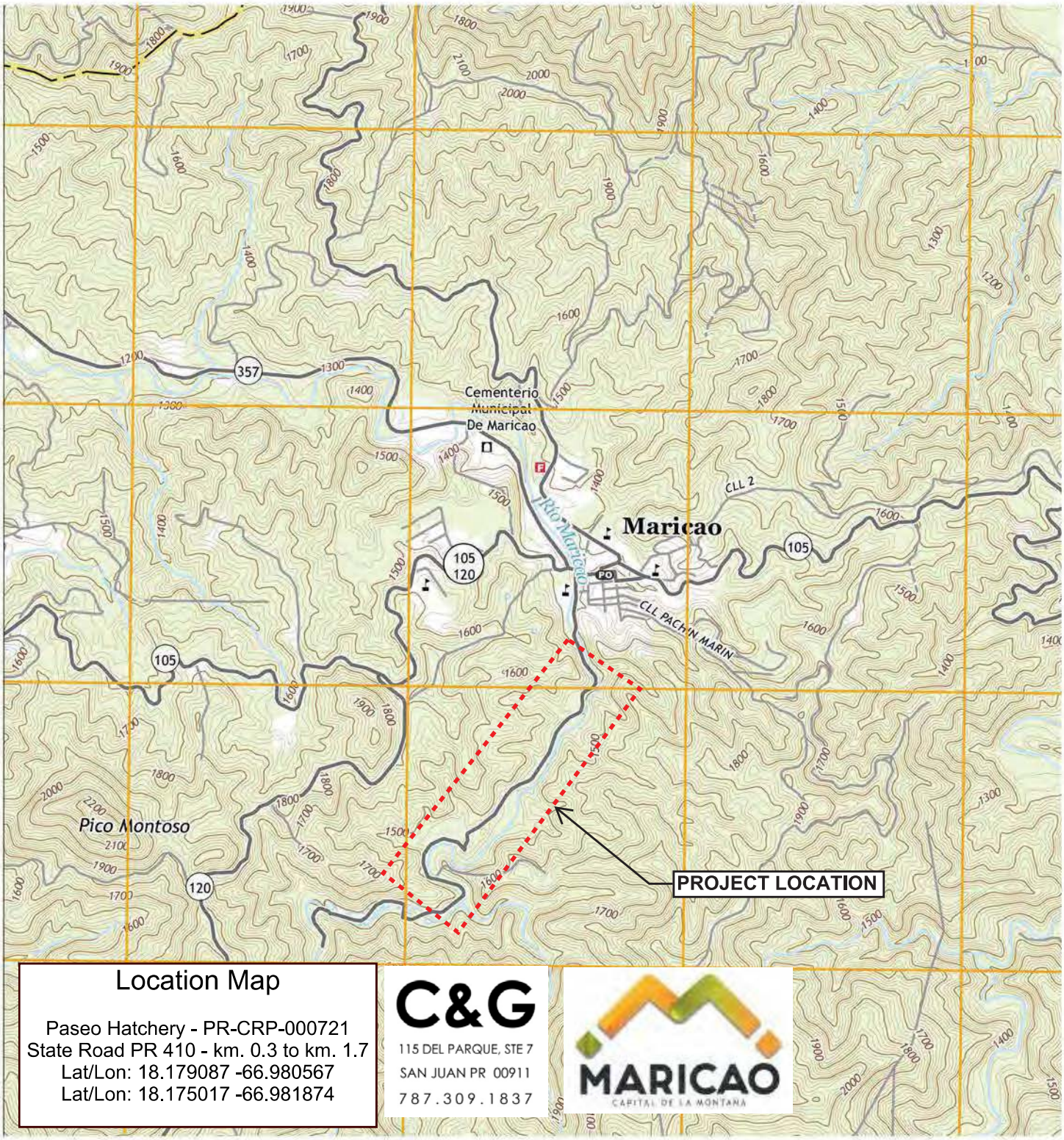
## U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT:

### COMMUNITY DEVELOPMENT BLOCK GRANT – DISASTER RELIEF (CDBG-DR) PROGRAM

**Paseo Hatchery _ Project PR-CRP-000721**

# APPENDIX

01 Location Map




## Location Map

Paseo Hatchery - PR-CRP-000721
State Road PR 410 - km. 0.3 to km. 1.7
Lat/Lon: 18.179087 -66.980567
Lat/Lon: 18.175017 -66.981874

C&G
115 DEL PARQUE, STE 7
SAN JUAN PR 00911
787.309.1837

MARICAO
CAPITAL DE LA MONTAÑA

SCALE 1:20 000

1 0.5 0 KILOMETERS 1 2
1000 500 0 METERS 1000 2000
1 0.5 0 1
MILES
1000 500 0 1000 2000 3000 4000 5000 6000 7000 8000
FEET

PUERTO RICO
QUADRANGLE LOCATION

USGS
science for a changing world

U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

**MARICAO QUADRANGLE**
PUERTO RICO
7.5-MINUTE SERIES
MARICAO, PR
2018

# 8-STEP PROCESS

## U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT:

### COMMUNITY DEVELOPMENT BLOCK GRANT – DISASTER RELIEF (CDBG-DR) PROGRAM

**Paseo Hatchery _ Project PR-CRP-000721**

# APPENDIX

02 Flood Zone Notification Letter

# PUERTO RICO DEPARTMENT OF HOUSING
# CDBG-DR PROGRAM
# CITY REVITALIZATION PROGRAM

**Flood Zone Evaluation**

Date: March 29, 2023
POC Name: Ovidio González Feliciano
Subrecipient: Maricao
Address: PO BOX 835
Title: Director de Obras Publicas
Email: director.opmaricao@gmail.com

Re: **Flood Zone Evaluation**
City Revitalization Program
Community Development Block Grant for Disaster Recovery (CDBG-DR)

Project Number: **PR-CRP-000721**
Project Name: **Paseo Hatchery**
Location: **18.174231°, -66.982605°**
Map Source: **FEMA Flood Insurance Rate Maps (FIRMs)**
Panel Number: **72000C1040H**
Panel Date: **04/19/2005**

Dear Mr./Mrs. Ovidio González Feliciano,

The Puerto Rico Department of Housing (PRDOH) completed the Flood Zone Evaluation of the Paseo Hatchery project submitted to the City Revitalization Program. Below is the result of the evaluation.

- [ ] **1.** The project location provided by the Subrecipient **is not within a flood prone area** based on the current FEMA flood maps and is not required to meet HUD elevation and flood insurance requirements detailed below.
- [x] **2.** The project location provided by the Subrecipient **is in a flood prone area** based on the current FEMA flood maps. The project must meet the following conditions:
  - [ ] **2.1** Per HUD's Floodplain Management and Protection of Wetlands regulation, (24 CFR Part 55 ("Part 55"), no HUD financial assistance may be approved after May 23, 1994 with respect to any action other than a functionally dependent use or floodplain function restoration activity located in a floodway unless an exception excludes the action from Part 55 compliance. HUD permits only three categories of activities in a floodway: functionally dependent uses, floodplain restoration activities, and activities listed in Part 55.12(c).

- [ ] **2.1.1** The project does not comply with the exceptions for activities in the floodway and HUD financial assistance may not be used. The project is no longer eligible for the City Revitalization Program.
- [ ] **2.1.2** The project complies with the following exception for activity in the floodway:
  - [ ] **2.1.2.1** Functionally Dependent Uses
  - [ ] **2.1.2.2** Floodplain Restoration Activities
  - [ ] **2.1.2.3** Activities listed in section 55.12(c)
    Refer to the section Additional Project Evaluation in the CRP portal at https://horne2.outsystemsenterprise.com/CRP_Layout/NoPermission.aspx the justification memorandum provided by the Subrecipient.
  - [ ] **2.1.2.4** Project is in the floodway but consist of repairs to existing construction (including improvements) or reconstruction following destruction caused by a disaster [24 Part 55.1 (c)(3)].
- [ ] **2.2** The project must be elevated or floodproofed, in accordance with FEMA floodproofing standards at 44 C.F.R. § 60.3(c)(3)(ii) or successor standard, up to at least two feet (2′) above the 100-year (or one percent (1%) annual chance) floodplain.
- [ ] **2.3** Due to the important nature of the proposed project, PRDOH considers the project a Critical Action project. Per 24 C.F.R. § 55.2(b)(3), all Critical Actions within the 500-year (or 0.2 percent annual chance) floodplain must be elevated or floodproofed (in accordance with the FEMA standards) to the higher of the 500-year floodplain elevation or three feet (3′) above the 100-year floodplain elevation. If the 500-year floodplain is unavailable, and the Critical Action is in the 100-year floodplain, then the structure must be elevated or floodproofed at least three feet (3′) above the 100-year floodplain elevation.
- [x] **2.4** Subrecipients of Federal funding must ensure that procedures and mechanisms are put into place to monitor compliance with all flood insurance requirements as found in the Flood Disaster Protection Act of 1973, 24 C.F.R. § 570.605- National Flood Insurance Program and 24 C.F.R. § 570.202- Eligible Rehabilitation and Preservation Activities. These regulations, along with alternative requirements provided in 83 FR 5844.
- [x] **2.5** The action is in a floodplain but does not require to be elevated above the floodplain, or floodproofed or insured because it consists of civil works (roadway, parking, street repairs, sidewalk repairs, building façade repairs).
- [x] **2.6** The project must comply with the procedures of Making Determinations of Floodplain Management at 24 CFR 55.20 and the 8-step decision making process of Executive Order 11988.

In addition to HUD requirements above, the project must adhere to any applicable State, local, and tribal codes and standards for floodplain management that exceeds these requirements, including elevation, setbacks, and cumulative substantial damage requirements.
Adherence to flood-related requirements is critical. Failure to meet elevation, floodproofing, and insurance requirements will result in the project being found non-compliant and may result in a repayment of funds to

PRDOH.

If you have any questions, comments or need additional information regarding the decision, feel free to send your request by email to cityrevcdbg@vivienda.pr.gov.

Sincerely,

City Revitalization Program - CDBG-DR
Department of Housing

# 8-STEP PROCESS

## U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT:

### COMMUNITY DEVELOPMENT BLOCK GRANT – DISASTER RELIEF (CDBG-DR) PROGRAM

**Paseo Hatchery _ Project PR-CRP-000721**

# APPENDIX

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03 First Notification

# aviso público

## Aviso Preliminar y Revisión Pública de una Actividad Propuesta en la Llanura Aluvial de 100 años

### Paseo Hatchery
### PR-CRP-000721

Para: Todas las partes interesadas, grupos e individuos

Este aviso notifica que el Departamento de la Vivienda de Puerto Rico (Vivienda, en adelante) ha determinado que la siguiente acción propuesta bajo el Programa de Revitalización de la Ciudad de la Subvención en Bloque para el Desarrollo Comunitario – Recuperación de Desastres (CDBG-DR), número de subvención B-17-DM-72-0001 y B-18-DP-72-0001, se encuentra en una llanura de inundación de 100 años. Vivienda está evaluando e identificando alternativas prácticas para realizar la acción propuesta y el impacto potencial en la llanura de inundación debido a la acción propuesta, según establecido por la Orden Ejecutiva 11988, de acuerdo con las regulaciones de HUD en 24 CFR 55.20 Subparte C - Procedimientos para tomar determinaciones sobre el manejo de llanuras aluviales y la protección de humedales. El proyecto propuesto, **PR-CRP-000721**, se encuentra dentro de un municipio que sufrió daños debido a los huracanes Irma y María, y está localizado en la carretera PR-410 desde km. 0.2 hasta el km. 1.5, Maricao, PR 00606; desde la coordenada 18.179253, -66.980708 hasta la coordenada 18.170269, -66.985604. La actividad propuesta está situada en zonas de inundación A con cabida de 2.25 acres. El área del proyecto se encuentra en el Flood Insurance Rate Map (FIRM) 72000C0104H, revisado el 19 de abril de 2005, como se indica en el Centro de Servicios de Mapas de Inundaciones de FEMA en **https://msc.fema.gov/portal/home**.

El objetivo del proyecto consiste en el desarrollo de un concepto de "carretera compartida" con un sendero recreacional para peatones y bicicletas paralelo al río Maricao a lo largo de la carretera PR-410. La ruta actual es una calle sin salida a lo largo del borde del río que conduce a un criadero de peces ubicado dentro de la Reserva Forestal de Maricao. La ubicación vial genera poco tráfico vehicular, y sus estrechas y sinuosas curvas logran controlar los límites de velocidad. Por lo tanto, la ubicación contextual y la alineación del camino caracterizan la ruta del "Paseo Hatchery," como un camino rural local de bajo volumen y baja velocidad. El pavimento del "paseo" a lo largo de los arcenes de césped existentes será preferiblemente permeable, con anchos variables entre 0.762 (2'-6") y 1.25 (4'-1") metros a lo largo de aproximadamente 1.4 km. El programa de diseño propuesto incluye una secuencia de "tablas de velocidad" destinadas a controlar las velocidades vehiculares a 15 mph, nueva señalización y demarcación del pavimento, luminarias LED, reemplazo de barandas, mejora visual de la plantación del paisaje y medidas de control de erosión cuando corresponda. El proyecto también incluye un área de descanso e información ubicada al inicio del paseo, donde se encuentra la Gruta de San Juan Bautista y otra al final del paseo en la puerta de entrada del criadero de peces. Una tabla de velocidad facilita el cruce peatonal a la plaza adyacente Gruta de San Juan Bautista que será renovada. Las renovaciones incluyen una rampa ADA para brindar acceso a la planta baja de la plaza, se restaurarán los extensos escalones de la escalera, se reemplazarán los ladrillos de arcilla roja que faltan, también se reemplazarán las barandas existentes, se restaurarán los dos tanques de retención, se reemplazarán las luminarias de postes de luz con bombillas LED, se instalarán dos nuevos recipientes de desechos, y se instalarán medidas de control de erosión de terraplenes y plantación de paisajes. La energía para alimentar las nuevas luminarias y la iluminación de acento será proporcionada por una microred de energía solar.

Este aviso tiene tres propósitos principales. En primer lugar, las personas que puedan verse afectadas por las actividades en las llanuras aluviales y las que tengan interés en la protección del ambiente natural deben tener la oportunidad de expresar sus inquietudes y proveer información sobre estas áreas. Se exhorta a la comunidad a ofrecer ubicaciones alternas fuera de las llanuras aluviales, métodos alternos para cumplir el mismo propósito del proyecto y métodos para minimizar y mitigar los impactos. Segundo, un programa adecuado de avisos públicos puede ser un mecanismo importante para la educación pública. La divulgación de información sobre las llanuras aluviales puede facilitar y mejorar los esfuerzos federales para reducir los riesgos e impactos asociados con la ocupación y alteración de estas áreas especiales. Tercero, como materia de justicia, cuando el gobierno federal determine participar en acciones ubicadas en las llanuras aluviales, debe informarse a quienes puedan ser expuestos a un riesgo mayor o similar al presente.

Vivienda considerará todos los comentarios recibidos en o antes de agosto 10, 2023 **(un periodo mínimo de comentarios de 15 días calendario comenzará al día después de la publicación y finalizará el día 16 después de la publicación)**. Pueden enviar los comentarios de forma impresa a la siguiente dirección: Departamento de la Vivienda de Puerto Rico, edificio Juan C. Cordero, 606 avenida Barbosa, Río Piedras, PR 00918-8461, Atención: Janette Cambrelén, Especialista en Permisos y Cumplimiento Ambiental. Una descripción completa del proyecto está disponible al público para revisión de 8:30 a.m. a 4:00 p.m. en el Departamento de la Vivienda de Puerto Rico, edificio Juan C. Cordero, 606 avenida Barbosa, Río Piedras, PR 00918. El número para obtener información es (787)274-2527 ext. 6654. Como alternativa, también pueden enviar los comentarios a Vivienda por medio electrónico a **environmentcdbg@vivienda.pr.gov**.

Fecha: 25 de julio de 2023

MARICAO

DEPARTAMENTO DE LA VIVIENDA

# public notice

## Early Notice and Public Review of a Proposed Activity in the 100-Year Floodplain

### Hatchery Path
### PR-CRP-000721

To: All Interested Parties, Groups & Individuals

This is to give notice that the Puerto Rico Department of Housing (PRDOH) has determined that the following proposed action under the PRDOH Community Development Block Grant – Disaster Recovery (CDBG-DR), City Revitalization Program, Grant number B-17-DM-72-0001& B-18-DP-72-0001, is located in the 100-year floodplain. PRDOH will be identifying and evaluating practicable alternatives to locate the action in the floodplain and the potential impacts on the floodplain from the proposed action, as required by the Executive Order 11988, in accordance with HUD regulations at 24 CFR 55.20 Subpart C - Procedures for Making Determinations on Floodplain Management and Protection of Wetlands. The proposed project, **PR-CRP-000721**, is within a municipality that suffered damages due to Hurricanes Irma and Maria, and it is located by PR-410 Road from Km. 0.2 to Km. 1.5, Maricao, PR 00606; from coordinates 18.179253, -66.980708 to coordinates 18.170269, -66.985604. The proposed activity is situated in a flood zone A with dimensions of 2.25 acres. The floodplains in the project area can be found at the Flood Insurance Rate Map (FIRM) Panel 72000C0104H, revised on April 19, 2005, as shown in the FEMA Flood Map Service Center at **https://msc.fema.gov/portal/home**.

The objective of the project consists in the development of a "shared road" concept with a pedestrian and bicycle recreation path parallel to the Maricao River along the PR-410 Road. The actual route is a dead-end street along the river edge which leads to a fish hatchery located within the Maricao Forest Reserve. The road location generates little vehicular traffic, and its narrow travel path and winding road curves manage to control speed limits. Therefore, the contextual location and roadway alignment characterize the "Hatchery Path" route as a low volume, low speed, local rural road. The path pavement along the existing grass shoulders will preferably be permeable, with variable widths between 0.762 (2'-6") and 1.25 (4'-1") meters along a length of approximately 1.4 km. The proposed design program includes a sequence of "speed tables" intended to control vehicular speeds at 15 mph, new signage and pavement marking, led luminaires, replacement of guardrails, visual enhancement landscape planting, and erosion control measures when applicable. The project also includes a rest and information area located at the start of the path where the Grotto of Saint John the Baptist is located and another at the end of the path at the entrance gate to the fish hatchery. A speed table facilitates pedestrian crossing to the adjacent Grotto of Saint John the Baptist plaza which will be renovated. Renovations include an ADA ramp to provide access to the ground floor plaza, the extensive staircase steps will be restored, missing red clay bricks will be replaced, existing railings will also be replaced, the two retention tanks will be restored, light poles luminaires will be replaced with efficient led bulb fixtures, two new waste receptacles will be installed, and landscape accent planting and embankment erosion control measures will also be installed. The power to feed the new luminaires and accent lighting will be provided by a solar energy micro-grid.

There are three primary purposes for this notice. First, people who may be affected by activities in floodplains and those who have an interest in the protection of the natural environment should be given an opportunity to express their concerns and provide information about these areas. Commenters are encouraged to offer alternative sites outside of the floodplains, alternative methods to serve the same project purpose, and methods to minimize and mitigate impacts. Second, an adequate public notice program can be an important public education tool. The dissemination of information and request for public comment about floodplains can facilitate and enhance federal efforts to reduce the risks and impacts associated with the occupancy and modification of these special areas. Third, as a matter of fairness, when the Federal government determines it will participate in actions taking place in floodplains, it must inform those who may be put at greater or continued risk.

PRDOH will consider all comments received on or before (August 10 2023) **(a minimum 15 calendar day comment period will begin the day after the publication and end on the 16th day after the publication)**. Written comments can be sent to the following address: Puerto Rico Department of Housing, 606 Barbosa Avenue, Juan C. Cordero Building, Río Piedras, PR 00918-8461, Attention: Janette Cambrelén, Permits and Environmental Compliance Specialist. A complete description of the project is available to the public for review from 8:30 AM to 4:00 PM at the Puerto Rico Department of Housing, 606 Barbosa Avenue, Juan C. Cordero Building, Río Piedras, PR 00918. The number to get information is (787)274-2527 ext. 6654. In the alternative, comments may also be sent to PRDOH by email at **environmentcdbg@vivienda.pr.gov**.

Date: July 25, 2023

MARICAO

DEPARTMENT OF HOUSING

pressreader

# Aviso Publicado en Primera Hora - Proyecto PR-CRP-000721- Municipio de Maricao

Robert Rodriguez <cdbgmaricao@gmail.com>

Tue 7/25/2023 10:41 AM

To:Caribbean_es@fws.gov <Caribbean_es@fws.gov>;edwin_muniz@fws.gov <edwin_muniz@fws.gov>;guerrero.carmen@epa.gov <guerrero.carmen@epa.gov>;PublicMail.CESAJ-CC@usace.army.mil <PublicMail.CESAJ-CC@usace.army.mil>;Sindulfo.Castillo@usace.army.mil <Sindulfo.Castillo@usace.army.mil>;nmfs.ser.esa.consultations@noaa.gov <nmfs.ser.esa.consultations@noaa.gov>;alejandro.de-la-campa@fema.dhs.gov <alejandro.de-la-campa@fema.dhs.gov>;jcampos@agricultura.pr.gov <jcampos@agricultura.pr.gov>;rcabrera@agricultura.pr.gov <rcabrera@agricultura.pr.gov>;secretario@ddec.pr.gov <secretario@ddec.pr.gov>;jannira.colon@ddec.pr.gov <jannira.colon@ddec.pr.gov>;comentariosjp@jp.pr.gov <comentariosjp@jp.pr.gov>;anais.rodriguez@drna.pr.gov <anais.rodriguez@drna.pr.gov>;ayudaciudadano@drna.pr.gov <ayudaciudadano@drna.pr.gov>

Cc:AlbaladejoTorres, Luis <Luis.AlbaladejoTorres@tetratech.com>;Ovidio Gonzalez-Feliciano <director.opmaricao@gmail.com>;PROGRAMAS FEDERALES MUNICIPIO MARICAO <rickyfc10@gmail.com>;Municipio Maricao <alcaldiamaricao.pr@gmail.com>

1 attachments (1 MB)

Aviso Preliminar - Proyecto 720 - Maricao - Primera Hora.pdf;

⚠ **CAUTION:** This email originated from an external sender. Verify the source before opening links or attachments. ⚠

Saludos Cordiales:

Acompañamos el aviso publicado en el día de hoy para la revisión pública preliminar de una propuesta para apoyar actividades realizadas en terrenos inundables de 100 años.

Cordialmente,

**Robert Rodríguez Vega** | Project Specialist - Maricao

Mobile **(787) 245-1931** | **cdbgmaricao@gmail.com**

# 8-STEP PROCESS

## U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT:

### COMMUNITY DEVELOPMENT BLOCK GRANT – DISASTER RELIEF (CDBG-DR) PROGRAM

**Paseo Hatchery _ Project PR-CRP-000721**

# APPENDIX

04 FIRMETTE

## NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The **community map repository** should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations** (BFEs) and/or **floodways** have been determined, users are encouraged to consult the Flood Profiles, Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent elevations rounded to the nearest 0.1 meter intervals. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

**Coastal Base Flood Elevations** shown on this map apply only landward of 0.0m Mean Sea Level (MSL). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations table in the Flood Insurance Study report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations table should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The **projection** used in the preparation of this map was Universal Transverse Mercator (UTM) zone 19. The **horizontal datum** was NAD 83, GRS80 spheroid. Differences in datum, spheroid, projection or UTM zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to Mean Sea Level. These flood elevations must be compared to structure and ground elevations referenced to the same **vertical datum**. For information regarding vertical datums, visit the National Geodetic Survey website at http://www.ngs.noaa.gov or contact the National Geodetic Survey at the following address:

NGS Information Services
NOAA, N/NGS12
National Geodetic Survey
SSMC-3, #9202
1315 East-West Highway
Silver Spring, MD 20910-3282
(301) 713-3242

To obtain current elevation, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at **(301) 713-3242**, or visit their website at http://www.ngs.noaa.gov.

**Base map** information shown on this FIRM was derived from: U.S. Geological Survey Digital Orthophoto Quadrangles (DOQs) produced at a scale of 1:5,000 from photography dated 1993 or later.

This map reflects more detailed and up-to-date **stream channel and shoreline configurations** than those shown on the previous FIRM for this jurisdiction. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to conform to these new stream channel and shoreline configurations. As a result, the Flood Profiles and Floodway Data tables in the Flood Insurance Study report (which contains authoritative hydraulic data) may reflect stream channel distances that differ from what is shown on this map.

**Corporate limits** shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed **Map Index** for an overview map of the Commonwealth of Puerto Rico showing the layout of map panels; community map repository addresses; and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

Contact the **FIRM Map Service Center** at 1-800-358-9616 for information on available products associated with this FIRM. Available products may include previously issued Letters of Map Change, a Flood Insurance Study report, and/or digital versions of this map. The FEMA Map Service Center may also be reached by Fax at 1-800-358-9620 and its website at http://www.msc.fema.gov.

If you have **questions about this map** or questions concerning the National Flood Insurance Program in general, please call **1-877-FEMA MAP** (1-877-336-2627) or visit the FEMA website at http://www.fema.gov.

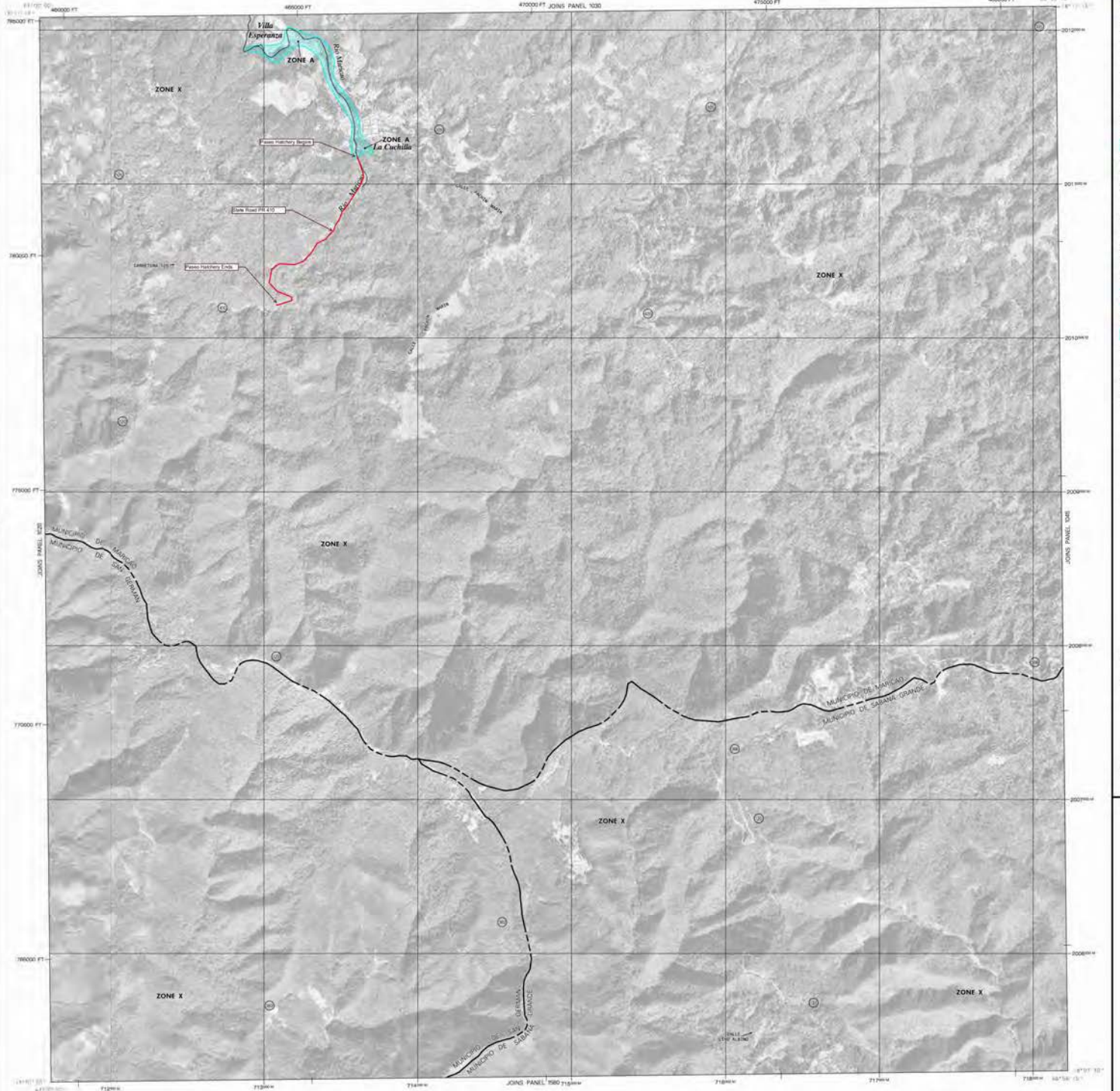
This digital Flood Insurance Rate Map (FIRM) was produced with the assistance of the Puerto Rico Planning Board (PRPB, Junta de Planificacion), the National Flood Insurance Program, administrator for the Commonwealth of Puerto Rico. As a part of this effort, PRPB, a Federal Emergency Management Agency Cooperating Technical Partner, will adopt this FIRM, once finalized, as the official flood map for the Commonwealth.


C&G
115 DEL PARQUE, STE 7
SAN JUAN PR 00911
787.309.1837


MARICAO
CAPITAL DE LA MONTAÑA

**FIRM - Flood Insurance Rate Map**

Paseo Hatchery - PR-CRP-000721
State Road PR 410 - km. 0.3 to km. 1.7
Lat/Lon: 18.179087 -66.980567
Lat/Lon: 18.175017 -66.981874
Source of Data: FEMA




## LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

**ZONE A** No Base Flood Elevations determined.

**ZONE AE** Base Flood Elevations determined.

**ZONE AH** Flood depths of 0.3 to 0.9 meter (usually areas of ponding); Base Flood Elevations determined.

**ZONE AO** Flood depths of 0.3 to 0.9 meter (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.

**ZONE AR** Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.

**ZONE A99** Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.

**ZONE V** Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.

**ZONE VE** Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

**ZONE X** Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 0.3 meter or with drainage areas less than 2.6 square kilometers; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

**ZONE X** Areas determined to be outside the 0.2% annual chance floodplain.

**ZONE D** Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

1% annual chance floodplain boundary

0.2% annual chance floodplain boundary

Floodway boundary

Zone D boundary

CBRS and OPA boundary

Boundary dividing Special Flood Hazard Area Zones and boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.

513 Base Flood Elevation line and value; elevation in meters*

(EL 987) Base Flood Elevation value where uniform within zone; elevation in meters*

*Referenced to Mean Sea Level

A — A Cross section line

23 — 23 Transect line

97°07'30.0", 32°22'30.0" Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western Hemisphere

4278000 mN 1000-meter Universal Transverse Mercator grid values, zone 19

600000 FT 5000-foot grid values: Puerto Rico State Plane coordinate system of 1983 (PRSPCS83) Lambert Conformal Conic projection

DX5510 X Bench mark (see explanation in Notes to Users section of this FIRM panel)

MAP REPOSITORY
Refer to listing of Map Repositories on Map Index

EFFECTIVE DATE OF COMMONWEALTH OF PUERTO RICO AND MUNICIPALITIES FLOOD INSURANCE RATE MAP
April 19, 2005

EFFECTIVE DATES OF REVISION(S) TO THIS PANEL

For community map revision history prior to Commonwealth of Puerto Rico and Municipalities mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1:10,000

.5 0 .25 0 .5 Kilometers

500 0 500 1000 1500 2000 2500 3000 3500 Feet

1/4 0 1/4 Miles

NFIP NATIONAL FLOOD INSURANCE PROGRAM

PANEL 1040H

# FIRM
## FLOOD INSURANCE RATE MAP

COMMONWEALTH OF PUERTO RICO
AND MUNICIPALITIES

**PANEL 1040 OF 2160**

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

| CONTAINS: | | | |
|---|---|---|---|
| COMMUNITY | NUMBER | PANEL | SUFFIX |
| PUERTO RICO | 720000 | 1040 | H |

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

**MAP NUMBER 72000C1040H**

**EFFECTIVE DATE APRIL 19, 2005**

Federal Emergency Management Agency

# 8-STEP PROCESS

## U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT:

### COMMUNITY DEVELOPMENT BLOCK GRANT – DISASTER RELIEF (CDBG-DR) PROGRAM

**Paseo Hatchery _ Project PR-CRP-000721**

# APPENDIX

05 FIRMETTE Overlays

C&G
115 DEL PARQUE, STE 7
SAN JUAN PR 00911
787.309.1837

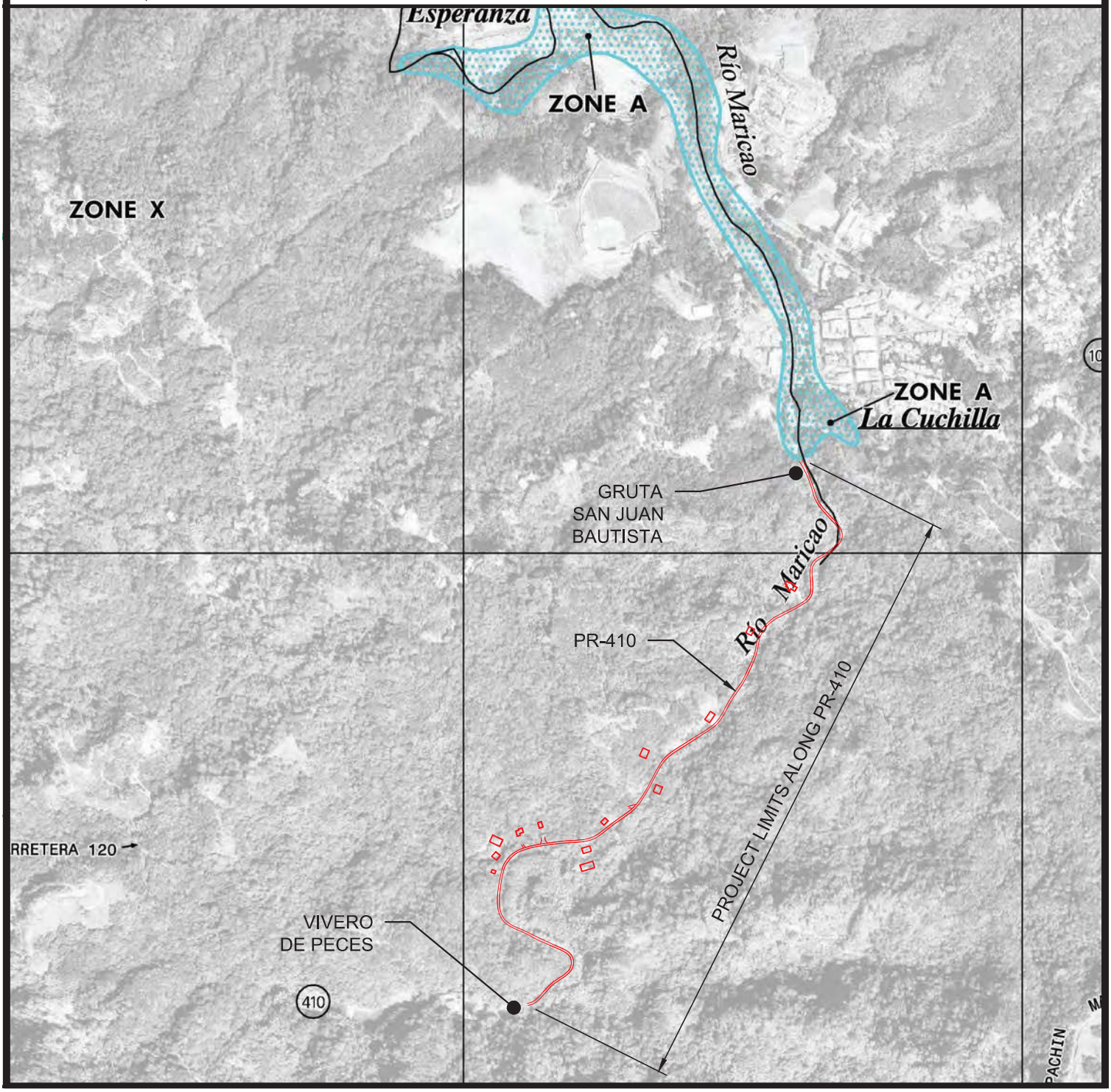
MARICAO
CAPITAL DE LA MONTAÑA

Flood Map
Paseo Hatchery - PR-CRP-000721
State Road PR 410 - km. 0.3 to km. 1.7
Lat/Lon: 18.179087 -66.980567
Lat/Lon: 18.175017 -66.981874
Source of Data: FEMA-FIRM

# FLOOD MAP

SCALE: 1:10,000

PANEL 72000C1040H
REV. 04/19/2005




**Overlay of Project Limits over FEMA Panel 72000C1040H.**
Please refer to the attached FIRMettes generated at the beginning and at the end of the project extents.

# 8-STEP PROCESS

## U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT:

### COMMUNITY DEVELOPMENT BLOCK GRANT – DISASTER RELIEF (CDBG-DR) PROGRAM

**Paseo Hatchery _ Project PR-CRP-000721**

# APPENDIX

06 FIRMETTE Limits

# National Flood Hazard Layer FIRMette

FEMA

66°59'8"W 18°10'58"N




66°58'31"W 18°10'23"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

*Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020*

## Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

**SPECIAL FLOOD HAZARD AREAS**
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

**OTHER AREAS OF FLOOD HAZARD**
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

**OTHER AREAS**
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

**GENERAL STRUCTURES**
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

**OTHER FEATURES**
- 20.2 / 17.5 Cross Sections with 1% Annual Chance Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

**MAP PANELS**
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

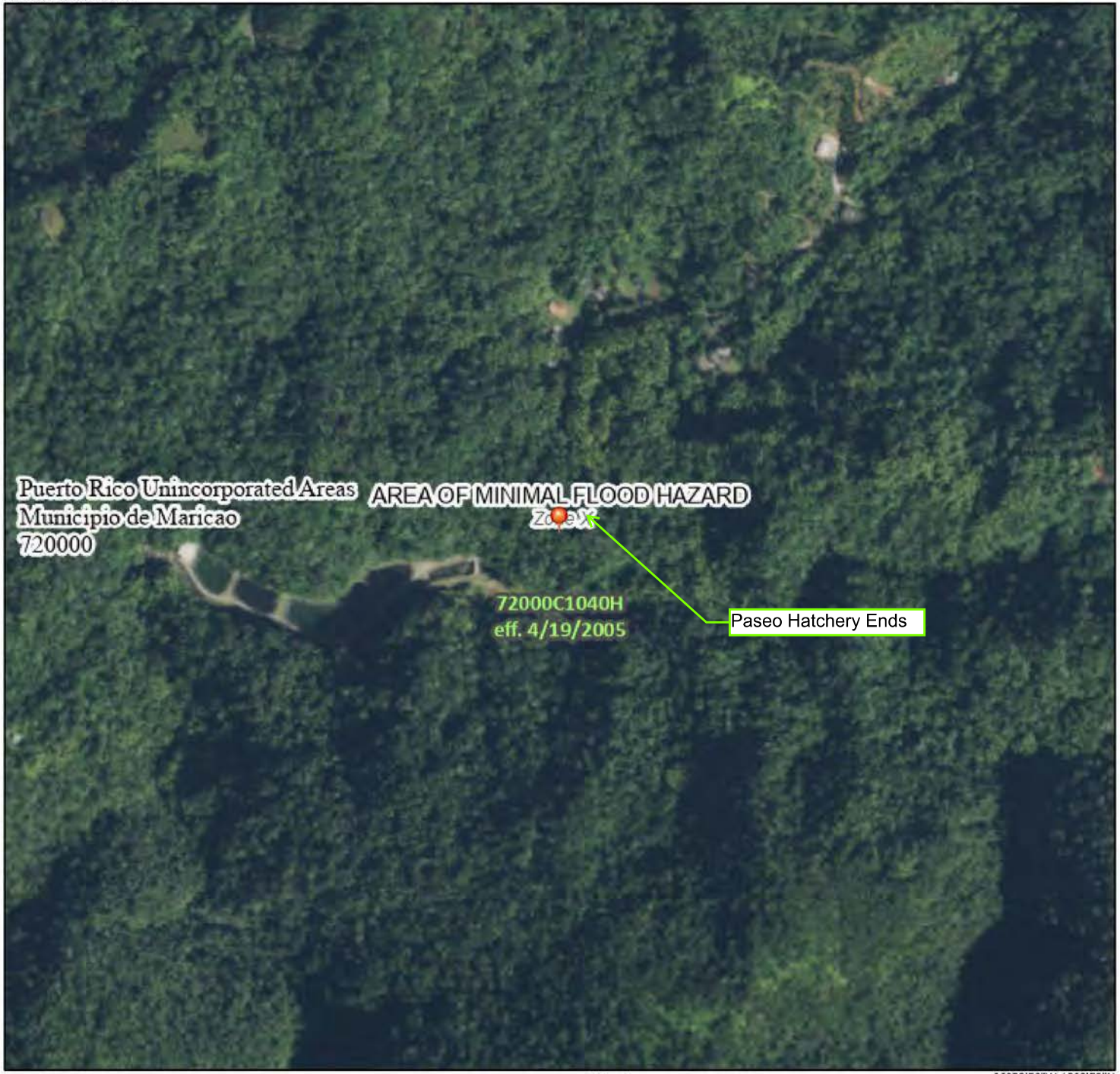
The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 5/3/2023 at 1:39 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

# National Flood Hazard Layer FIRMette

FEMA

66°59'27"W 18°10'32"N




66°58'50"W 18°9'58"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

*Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020*

## Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

**SPECIAL FLOOD HAZARD AREAS**
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

**OTHER AREAS OF FLOOD HAZARD**
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

**OTHER AREAS**
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

**GENERAL STRUCTURES**
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

**OTHER FEATURES**
- 20.2 / 17.5 Cross Sections with 1% Annual Chance Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

**MAP PANELS**
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 5/3/2023 at 1:35 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.


Paseo Hatchery
Flood Hazard
Zone
Legend
eature 1
eature 2
ruta de San Juan Bautista
RUTA DE SAN JUAN BAUTISTA
glesia
laza Pública de Maricao Luis Muñoz Rivera
Las Tablas
Maricao fried chicken
El Buen Cafe
Plaza Pública de Maricao Luis Muñoz Rivera
Zona A
ativa Alfonso Costa Fornes
Tavitos Place
Paseo Hatchery Begins
GRUTA DE SAN JUAN BAUTISTA
Gruta de San Juan Bautista
Gruta de San Juan Bautista
C&G
115 DEL PARQUE, STE 7
SAN JUAN PR 00911
787.309.1837
MARICAO
CAPITAL DE LA MONTAÑA
FIRM - 100 yr Flood Limits
Paseo Hatchery - PR-CRP-000721
State Road PR 410 - km. 0.3 to km. 1.7
Lat/Lon: 18.179087 -66.980567
Lat/Lon: 18.175017 -66.981874
Source of Data: FIRM
N
100 m
Google Earth

# 8-STEP PROCESS

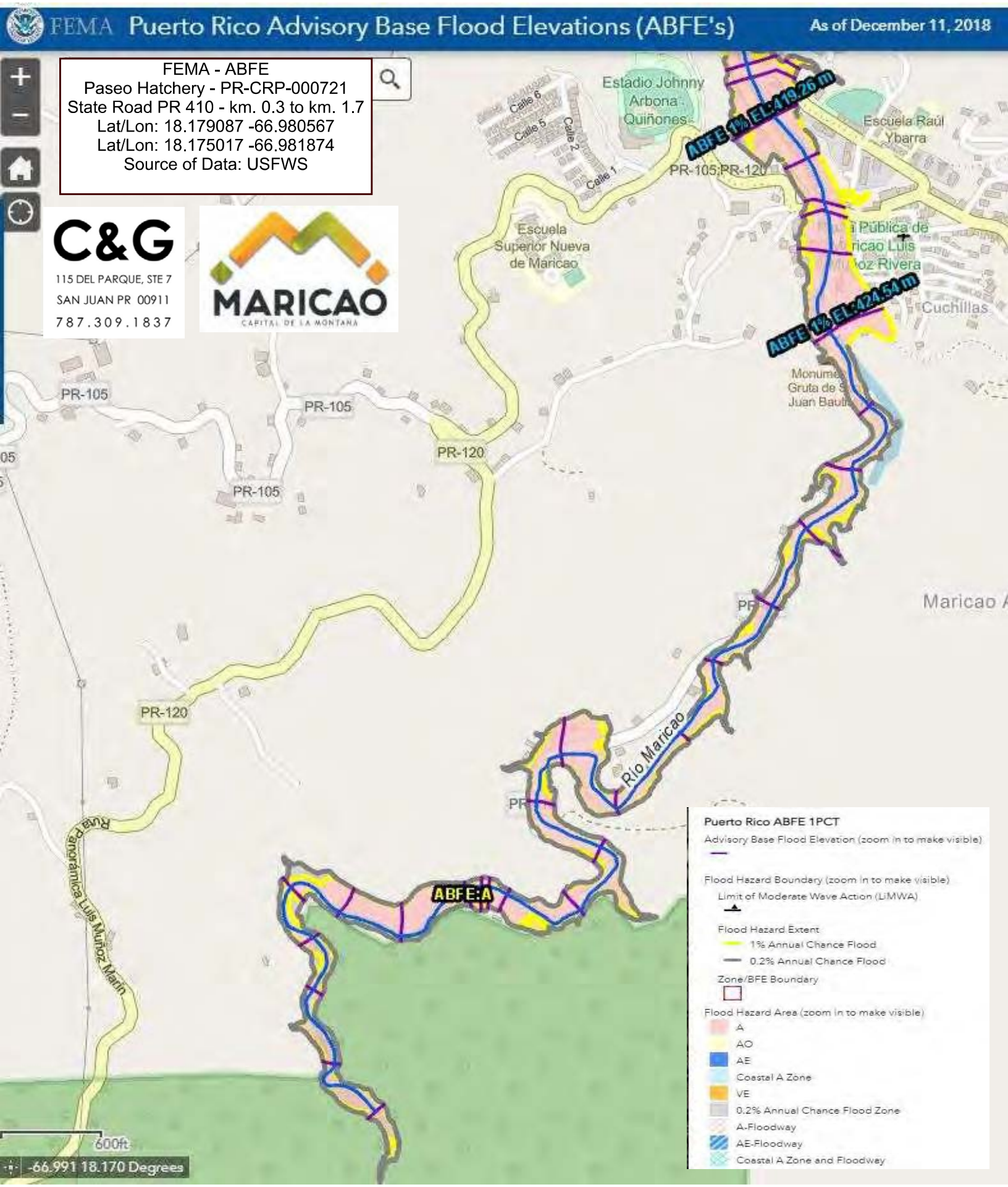
## U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT:

### COMMUNITY DEVELOPMENT BLOCK GRANT – DISASTER RELIEF (CDBG-DR) PROGRAM

**Paseo Hatchery _ Project PR-CRP-000721**

# APPENDIX

07 ABFE – Street Map


FEMA Puerto Rico Advisory Base Flood Elevations (ABFE's)
As of December 11, 2018
FEMA - ABFE
Paseo Hatchery - PR-CRP-000721
State Road PR 410 - km. 0.3 to km. 1.7
Lat/Lon: 18.179087 -66.980567
Lat/Lon: 18.175017 -66.981874
Source of Data: USFWS
C&G
115 DEL PARQUE, STE 7
SAN JUAN PR 00911
787.309.1837
MARICAO
CAPITAL DE LA MONTAÑA
ABFE 1% EL:419.26 m
ABFE 1% EL:424.54 m
ABFE:A
Río Maricao
PR-105;PR-120
PR-105
PR-120
Estadio Johnny Arbona Quiñones
Escuela Superior Nueva de Maricao
Escuela Raúl Ybarra
Cuchillas
Maricao
Calle 1
Calle 2
Calle 5
Calle 6
Puerto Rico ABFE 1PCT
Advisory Base Flood Elevation (zoom in to make visible)
Flood Hazard Boundary (zoom in to make visible)
Limit of Moderate Wave Action (LiMWA)
Flood Hazard Extent
1% Annual Chance Flood
0.2% Annual Chance Flood
Zone/BFE Boundary
Flood Hazard Area (zoom in to make visible)
A
AO
AE
Coastal A Zone
VE
0.2% Annual Chance Flood Zone
A-Floodway
AE-Floodway
Coastal A Zone and Floodway
600ft
-66.991 18.170 Degrees

# 8-STEP PROCESS

## U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT:

### COMMUNITY DEVELOPMENT BLOCK GRANT – DISASTER RELIEF (CDBG-DR) PROGRAM

**Paseo Hatchery _ Project PR-CRP-000721**

# APPENDIX

08 ABFE – Image Map


FEMA Puerto Rico Advisory Base Flood Elevations (ABFE's)
As of December 11, 20
FEMA - ABFE
Paseo Hatchery - PR-CRP-000721
State Road PR 410 - km. 0.3 to km. 1.7
Lat/Lon: 18.179087 -66.980567
Lat/Lon: 18.175017 -66.981874
Source of Data: USFWS
C&G
115 DEL PARQUE, STE 7
SAN JUAN PR 00911
787.309.1837
MARICAO
CAPITAL DE LA MONTAÑA
Puerto Rico ABFE 1PCT
Advisory Base Flood Elevation (zoom in to make visible)
Flood Hazard Boundary (zoom in to make visible)
Limit of Moderate Wave Action (LiMWA)
Flood Hazard Extent
1% Annual Chance Flood
0.2% Annual Chance Flood
Zone/BFE Boundary
Flood Hazard Area (zoom in to make visible)
A
AO
AE
Coastal A Zone
VE
0.2% Annual Chance Flood Zone
A-Floodway
AE-Floodway
Coastal A Zone and Floodway
ABFE 1% EL:419.26 m
ABFE 1% EL:424.54 m
Paseo Hatchery Begins
Rio Maricao
ABFE:A
Paseo Hatchery Ends
600ft
-66.992 18.167 Degrees

# Mapa Niveles de Inundación Base Recomendados




11/1/2023, 5:03:55 PM

Municipios Limite

1 PCT Cauce Mayor

Cuerpos de Agua

Zona Inundable

A

AE

AO

A Costera

VE

1:9,028

0 0.05 0.1 0.2 mi

0 0.1 0.2 0.4 km

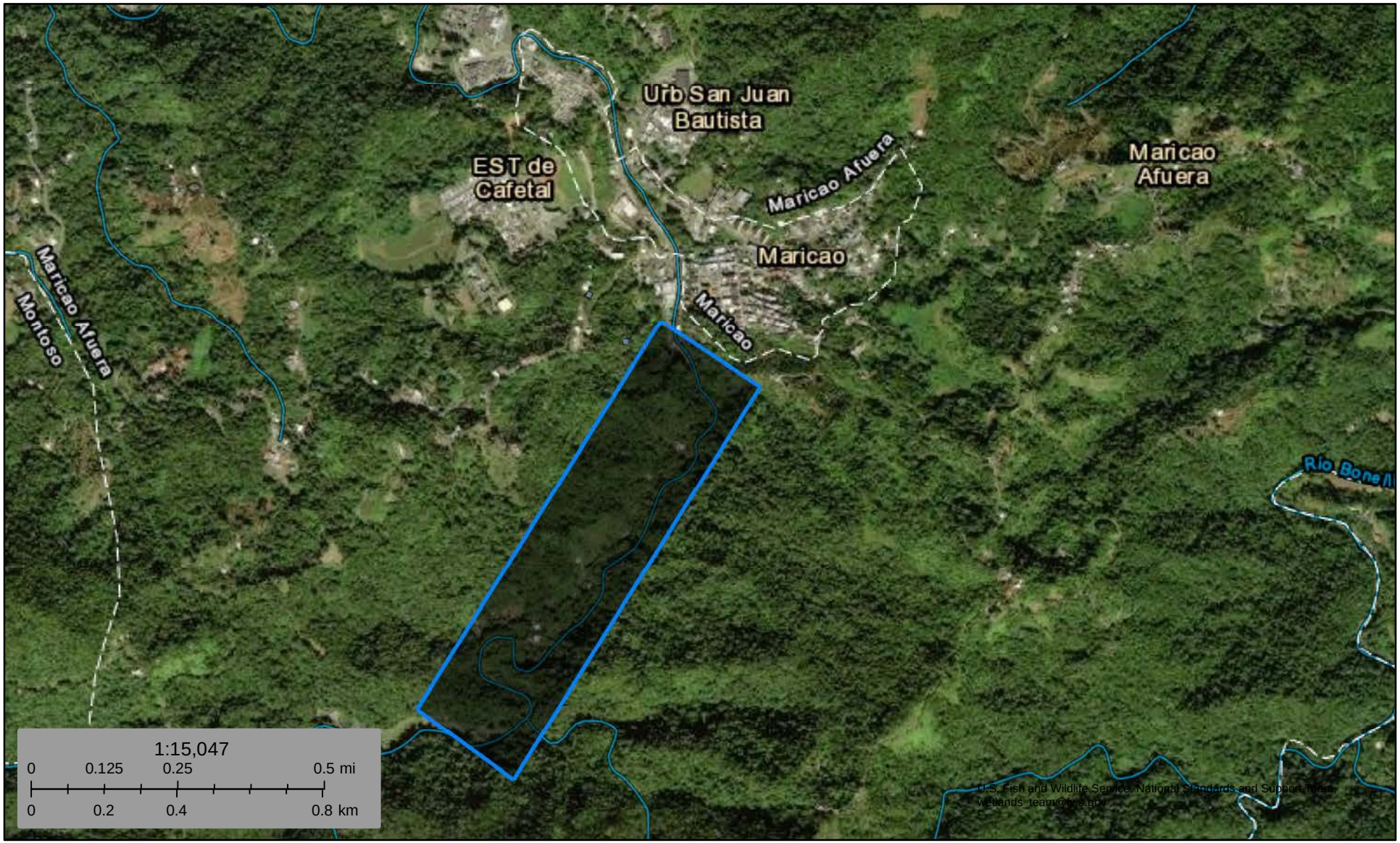
PRPB; FEMA, Maxar

Junta de Planificación, FEMA

Maxar | PRPB; FEMA | Junta de Planificación. Programa de Sistema de Información Geográfica |

U.S. Fish and Wildlife Service
National Wetlands Inventory

PR-CRP-000721




November 1, 2023

**Wetlands**

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

# 8-STEP PROCESS

## U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT:

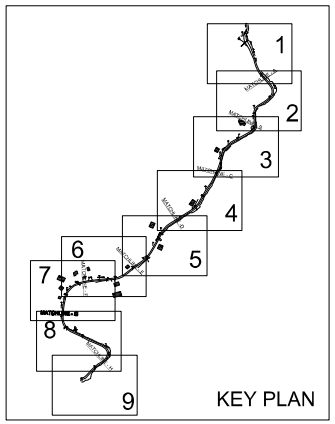
### COMMUNITY DEVELOPMENT BLOCK GRANT – DISASTER RELIEF (CDBG-DR) PROGRAM

**Paseo Hatchery _ Project PR-CRP-000721**

# APPENDIX

09 General Site Plan

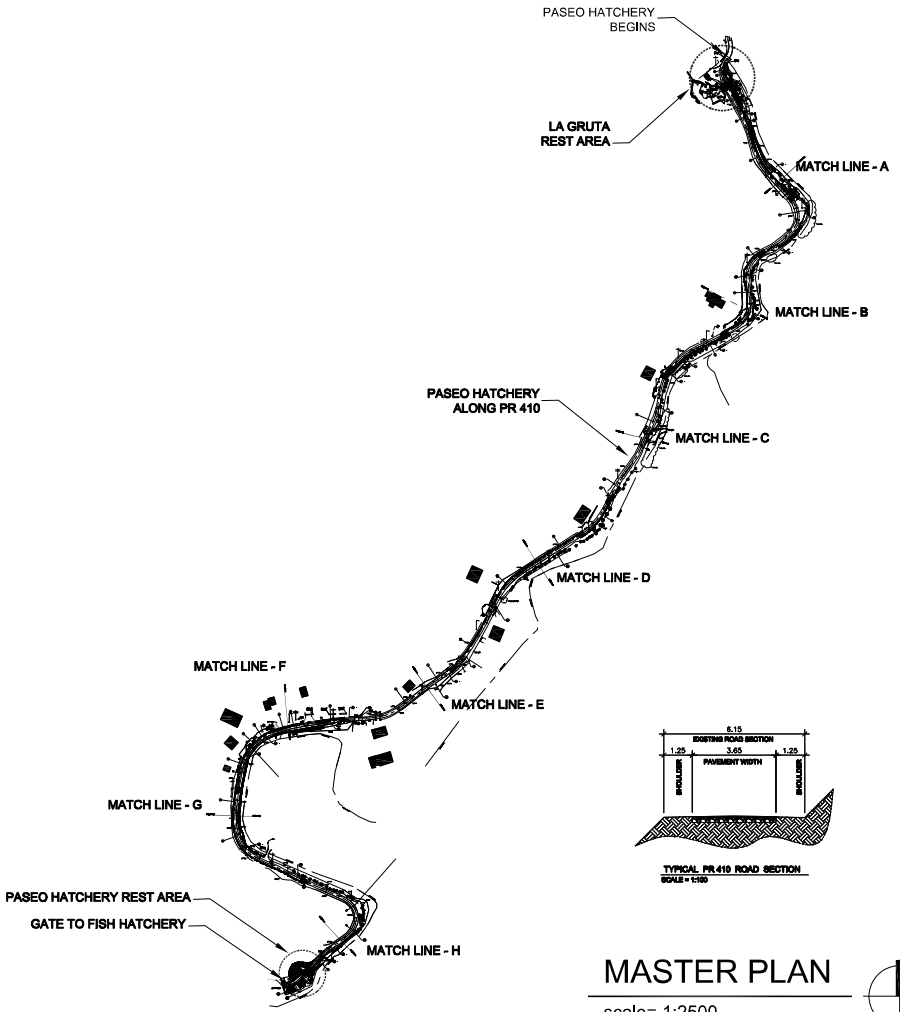
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## EXISTING CONDITIONS LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

0 5 10 30
SCALE = 1:300




# MASTER PLAN

scale= 1:2500

C&G
JMCP + JLGARCHITECTS
115 DEL PARQUE STREET SUITE 1
SAN JUAN, PR 00912
787.268.1837

BARGES GEOTECHNICAL ENGINEERS, LLC
PASEO DE LA ALHAMBRA 208 TORRE PR CARIBE PR 00918
PHONE 787.622.0000 EMAIL COMPANY@EMAIL.COM

90% DESIGN SET
NOT FOR CONSTRUCTION

PROJECT: PR-CRP-000721
**PASEO LA GRUTA-VIVERO DE PECES**
CARRETERA ESTATAL PR-410 KM3.0--KM 4.5

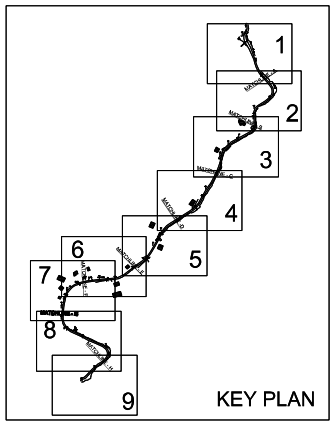
GOBIERNO MUNICIPAL DE MARICAO
PASEO HATCHERY [PR-CRP-000721]

| NO. | DATE | DRAWING ISSUE | BY | APP. |
|---|---|---|---|---|
| | | | | |

DRAWN BY:
REVIEWED BY:
DATE: 05/23

SHEET TITLE: MASTER PLAN
DRAWING NO.: G-100

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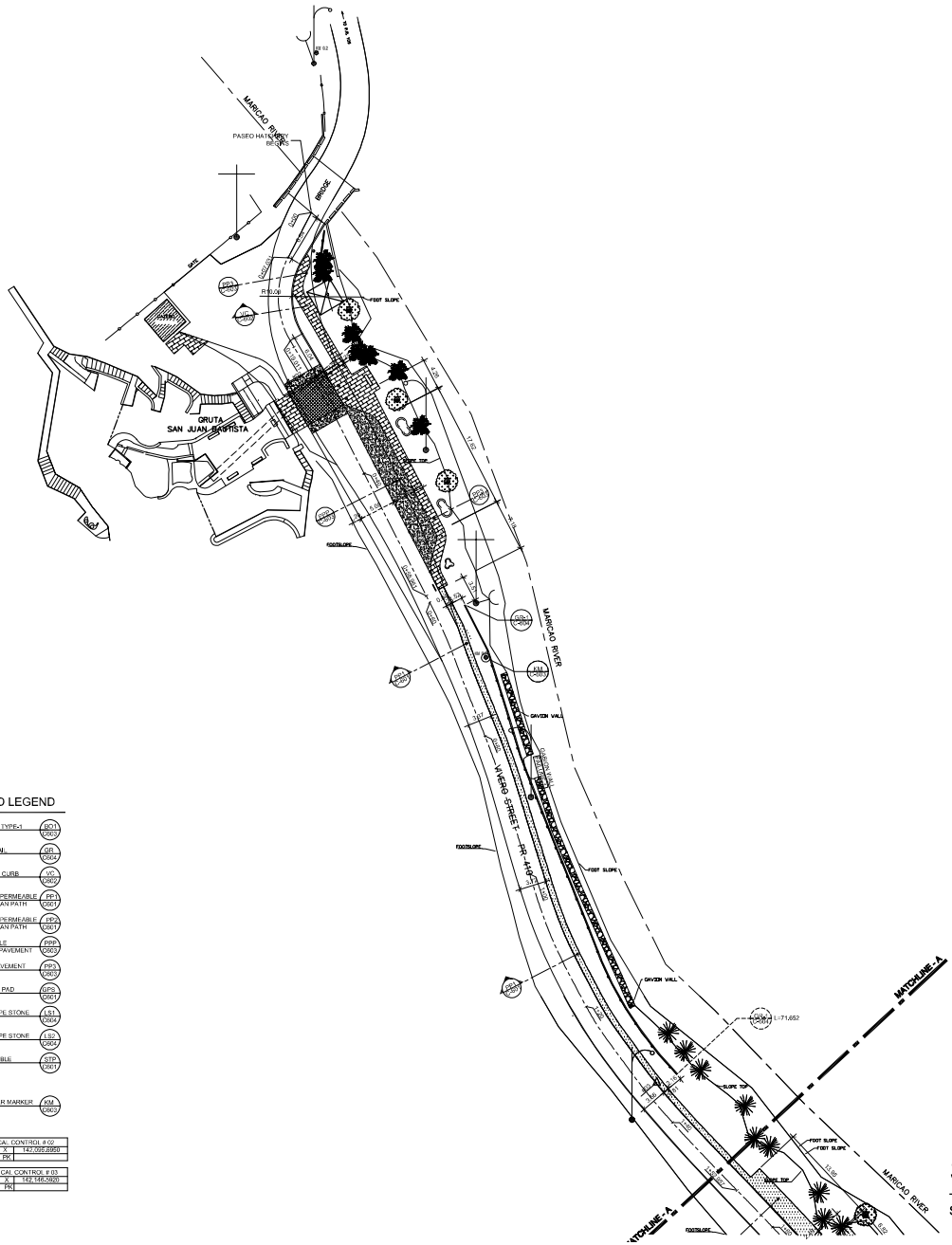



## EXISTING CONDITIONS LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

0 5 10 30

SCALE = 1:300




## PROPOSED LEGEND

| | | |
|---|---|---|
| | BOLLARD TYPE-1 | BO1 C901 |
| | GUARD RAIL | GR C902 |
| | VERTICAL CURB TYPE E | VC C903 |
| | 0.61 (32") PERMEABLE PEDESTRIAN PATH | PP1 C901 |
| | 0.60 (24") PERMEABLE PEDESTRIAN PATH | PP2 C901 |
| | PERMEABLE PARKING PAVEMENT | PPP C902 |
| | PAVER PAVEMENT | PP1 C901 |
| | GARBAGE PAD SCREEN | GPS C901 |
| | LANDSCAPE STONE TYPE 1 | LS1 C901 |
| | LANDSCAPE STONE TYPE 2 | LS2 C902 |
| | SPEED TABLE | STP C901 |
| | KILOMETER MARKER | KM C902 |

| HORIZONTAL VERTICAL CONTROL # 02 | | | |
|---|---|---|---|
| Y | 238,385.4430 | X | 142,095.2950 |
| EL. | 423.510 | PK | |

| HORIZONTAL VERTICAL CONTROL # 03 | | | |
|---|---|---|---|
| Y | 235,258.9163 | X | 142,146.5920 |
| EL. | 425.080 | PK | |

# SITE PLAN-1

scale= 1:300

C&G
JMCP + JLGARCHITECTS
115 DE DIEGO STREET SUITE 1
SAN JUAN, PR 00911
787.268.1837

BARGES GEOTECHNICAL ENGINEERS, LLC
PASEO DE LA ALAMEDA, 208 TORRE DEL CARMELO, P.R. 00744
JMARGES@GMAIL.COM • (787) 599-0071

90% DESIGN SET
NOT FOR CONSTRUCTION

PROJECT: PR-CRP-000721
**PASEO LA GRUTA-VIVERO DE PECES**
CARRETERA ESTATAL PR 410 KM 3.0 - KM 4.5

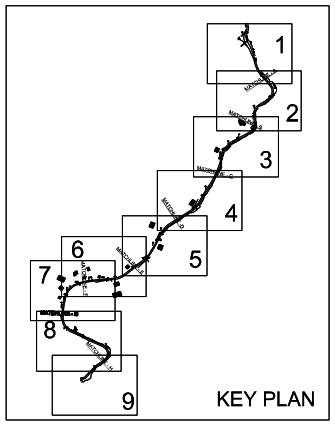
GOBIERNO MUNICIPAL DE MARICAO
PASEO HATCHERY [PR-CRP-000721]

| NO. | DATE | DRAWING ISSUE | BY | APP. |
|---|---|---|---|---|
| | | | | |

DRAWN BY:
REVIEWED BY:
DATE: 05/23

SHEET TITLE: LAYOUT SITE PLAN
DRAWING NO.: C-101

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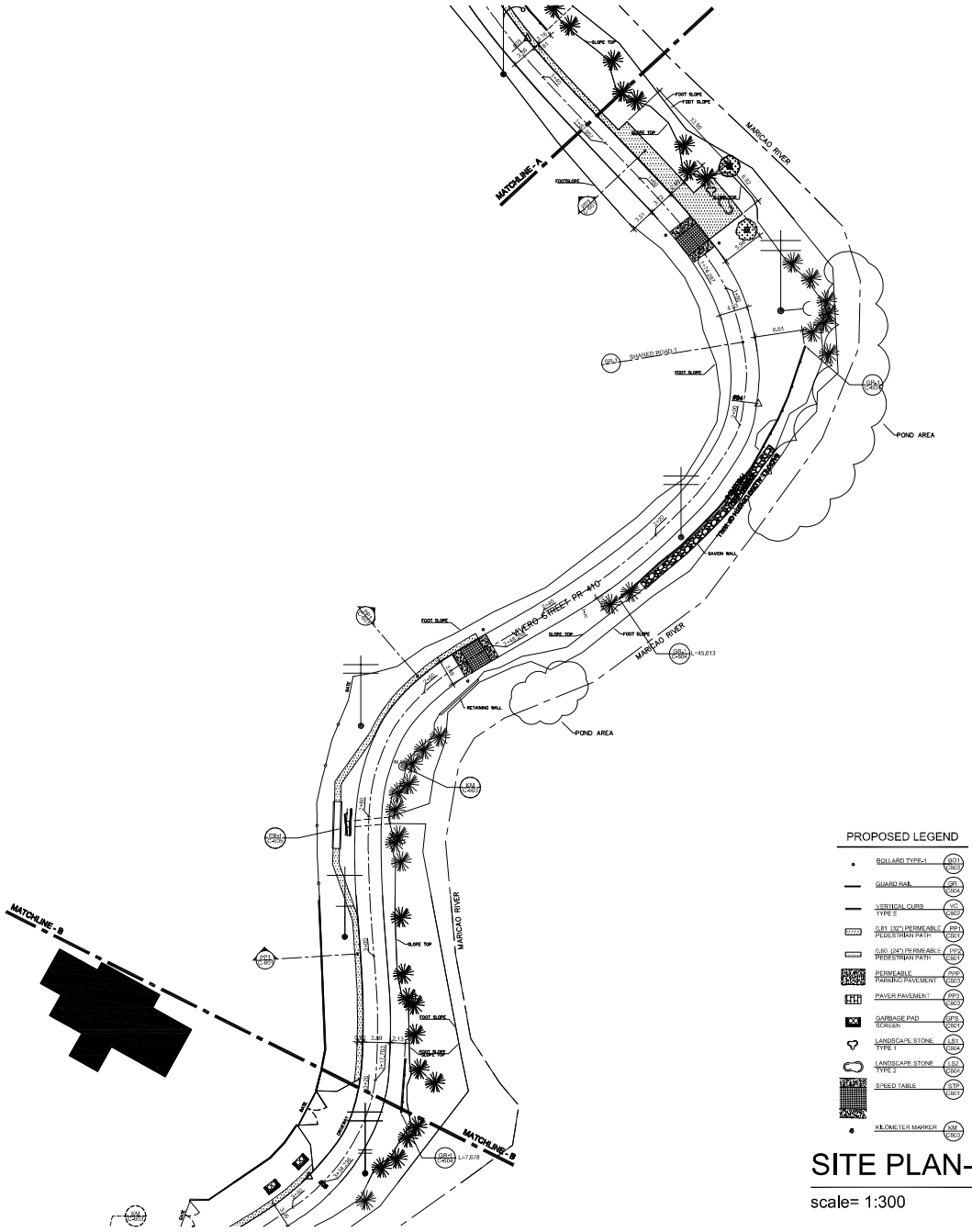

## EXISTING CONDITIONS LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

0 5 10 30
SCALE = 1:300

| HORIZONTAL VERTICAL CONTROL # 04 | | | |
|---|---|---|---|
| Y: | 238,205.7660 | X: | 142,175.5660 |
| EL: | 426.230 | PK: | |

| HORIZONTAL VERTICAL CONTROL # 06 | | | |
|---|---|---|---|
| Y: | 238,095.5160 | X: | 142115.3990 |
| EL: | 428.493 | PK: | |




## PROPOSED LEGEND

| | |
|---|---|
| BOLLARD TYPE-1 | BO1 (DRD) |
| GUARD RAIL | GR (DRD) |
| VERTICAL CURB TYPE II | VC (DRD) |
| 0.81 (32") PERMEABLE PEDESTRIAN PATH | PP1 (DRD) |
| 0.60 (24") PERMEABLE PEDESTRIAN PATH | PP2 (DRD) |
| PERMEABLE PARKING PAVEMENT | PPP (DRD) |
| PAVER PAVEMENT | PPO (DRD) |
| GARBAGE PAD SCREEN | GPS (DRD) |
| LANDSCAPE STONE TYPE 1 | LS1 (DRD) |
| LANDSCAPE STONE TYPE 2 | LS2 (DRD) |
| SPEED TABLE | STP (DRD) |
| KILOMETER MARKER | KM (DRD) |

# SITE PLAN-2

scale= 1:300

C&G
JMCP + JLGARCHITECTS
115 DE PASEO DIEGO (UR.)
SAN JUAN, PR 00911
787.268.1837

BARGES GEOTECHNICAL ENGINEERS, LLC
PASEO DE LA ALAMEDA, 208 TORRE DEL CARMEN, P.R. 00744
BARGES.GEO@GMAIL.COM • (787) 599-0071

90% DESIGN SET
NOT FOR CONSTRUCTION

PROJECT: PR-CRP-000721
**PASEO LA GRUTA-VIVERO DE PECES**
CARRETERA ESTATAL PR-410 KM 3.0 - KM 4.5

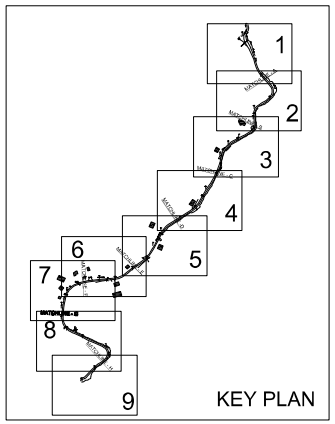
GOBIERNO MUNICIPAL DE MARICAO
PASEO HATCHERY [PR-CRP-000721]

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SHEET TITLE: LAYOUT SITE PLAN
DRAWING NO.: C-102

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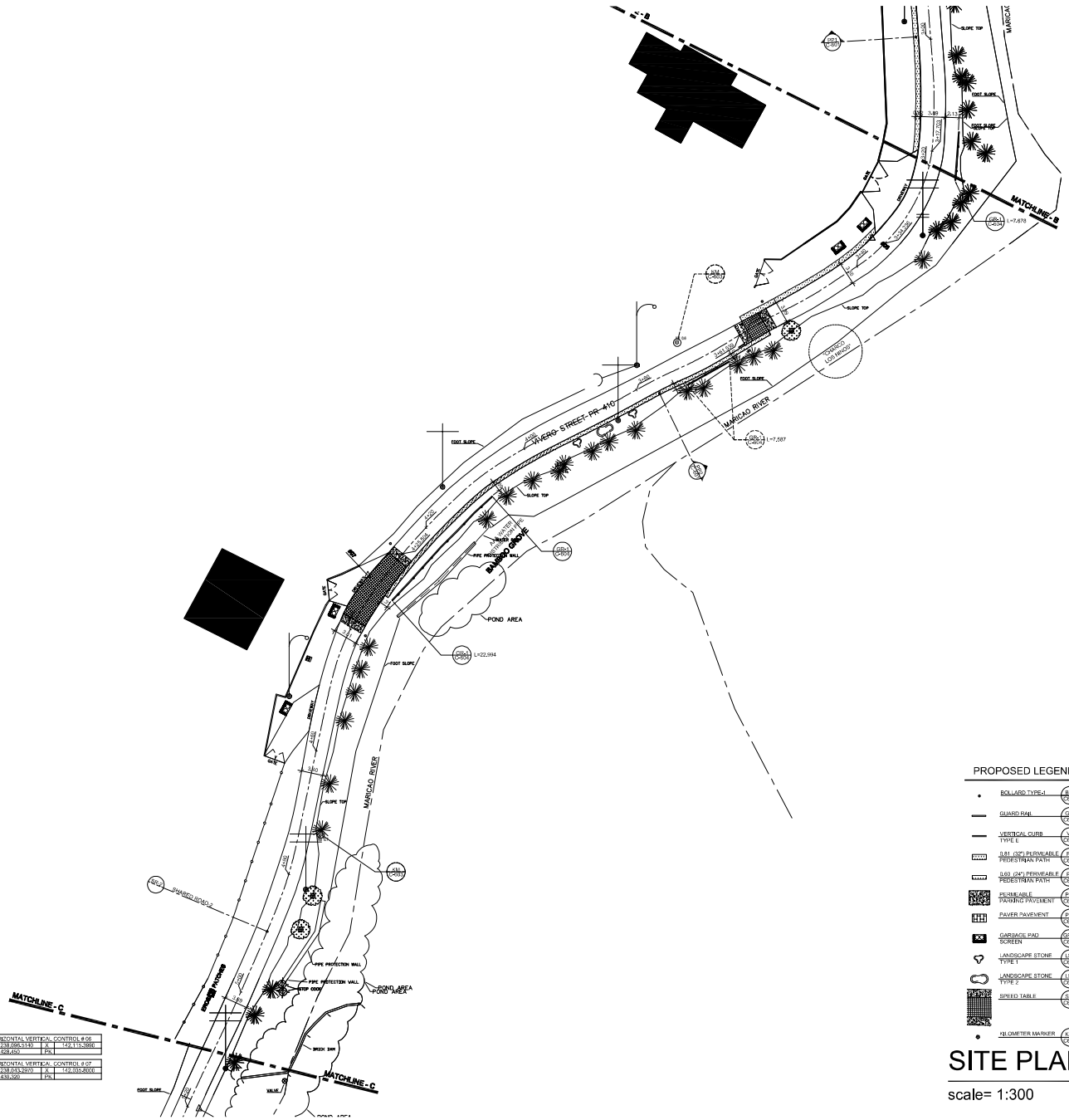

## EXISTING CONDITIONS LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

SCALE = 1:300

| HORIZONTAL VERTICAL CONTROL # 06 | | | |
|---|---|---|---|
| Y | 238,895.5140 | X | 142,115.3860 |
| EL. | 428.450 | PK | |

| HORIZONTAL VERTICAL CONTROL # 07 | | | |
|---|---|---|---|
| Y | 238,043.2970 | X | 142,035.8000 |
| EL. | 430.500 | PK | |




## PROPOSED LEGEND

| | | |
|---|---|---|
| | BOLLARD TYPE-I | BOT-001 |
| | GUARD RAIL | GR-001 |
| | VERTICAL CURB TYPE E | VC-002 |
| | 0.81 (32") PERMEABLE PEDESTRIAN PATH | PP1-001 |
| | 0.60 (24") PERMEABLE PEDESTRIAN PATH | PP2-001 |
| | PERMEABLE PARKING PAVEMENT | PPP-001 |
| | PAVER PAVEMENT | PP3-001 |
| | GARBAGE PAD SCREEN | GPS-001 |
| | LANDSCAPE STONE TYPE I | LS-I-001 |
| | LANDSCAPE STONE TYPE 2 | LS-II-001 |
| | SPEED TABLE | STP-001 |
| | KILOMETER MARKER | KM-001 |

# SITE PLAN-3

scale= 1:300

**C&G**
JMCP + JLGARCHITECTS
115 DE DIEGO STREET SUITE 1
SAN JUAN, PR 00911
787.289.1837

BARGES GEOTECHNICAL ENGINEERS, LLC
PASEO DE LA ALAMEDA 208 TORRE DEL CONVENTO, P.R. 00744
BARGESGEOTECHNICAL@COMCAST.NET

90% DESIGN SET
NOT FOR CONSTRUCTION

PROJECT: PR-CRP-000721
**PASEO LA GRUTA-VIVERO DE PECES**
CARRETERA ESTATAL PR 410 KM 3.0 - KM 4.5

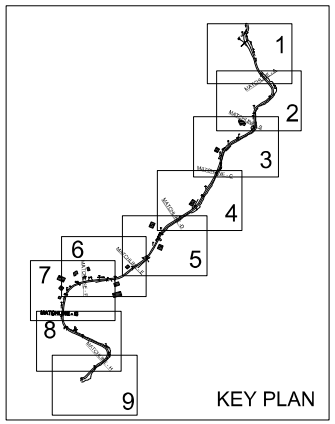
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PASEO HATCHERY [PR-CRP-000721]

| NO. | DATE | DRAWING ISSUE | BY | APP. |
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SHEET TITLE: LAYOUT SITE PLAN
DRAWING NO.: C-103

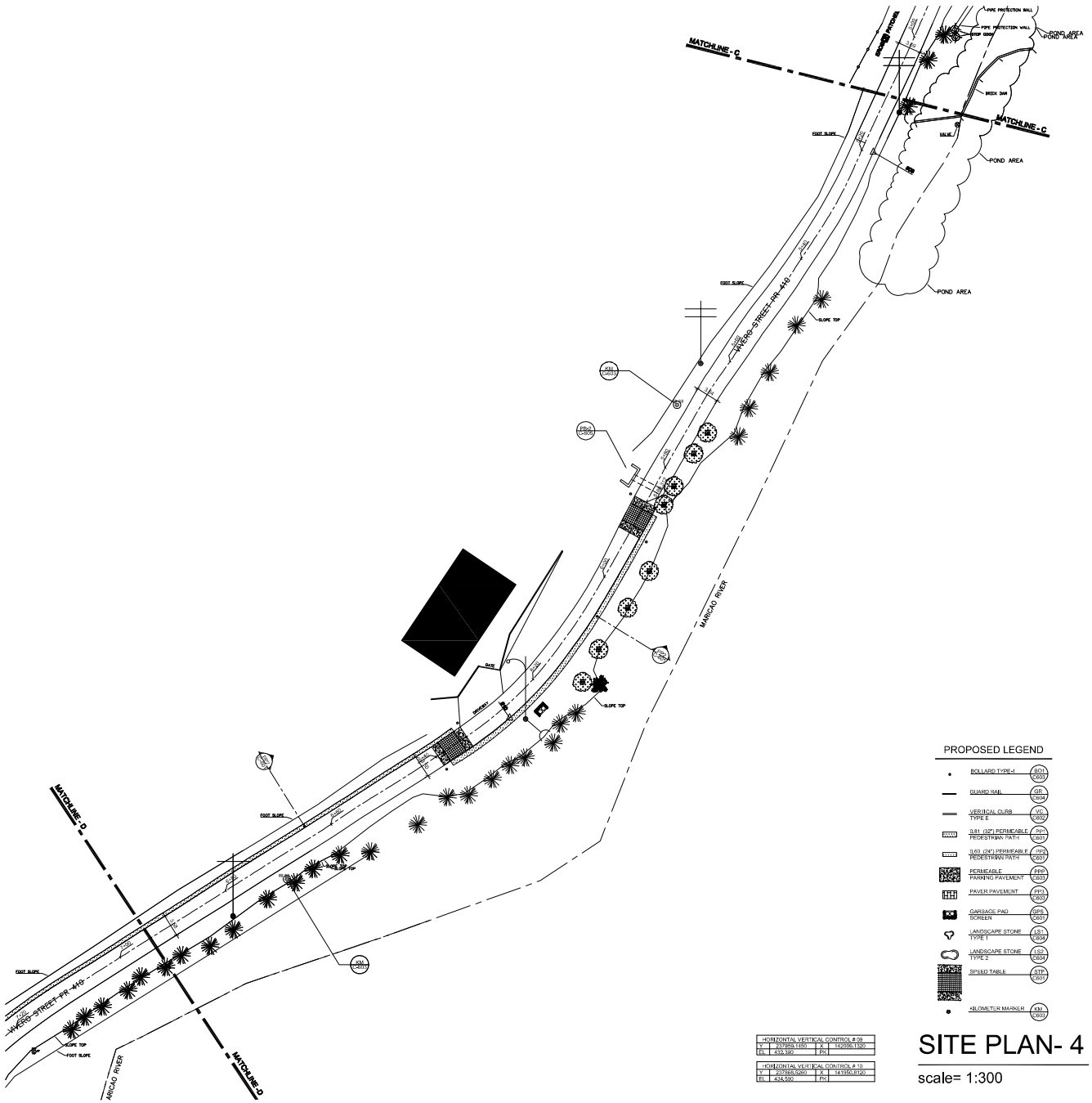
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## EXISTING CONDITIONS LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

0 5 10 30
SCALE = 1:300




## PROPOSED LEGEND

| | |
|---|---|
| | BOLLARD TYPE-1 (BO1 / A03) |
| | GUARD RAIL (GR / A04) |
| | VERTICAL CURB TYPE E (VC / A06) |
| | 0.61 (32") PERMEABLE PEDESTRIAN PATH (PP1 / A01) |
| | 0.60 (24") PERMEABLE PEDESTRIAN PATH (PP2 / A01) |
| | PERMEABLE PARKING PAVEMENT (PPP / A07) |
| | PAVER PAVEMENT (PP1 / A01) |
| | GARBAGE PAD SCREEN (GPS / A01) |
| | LANDSCAPE STONE TYPE 1 (LS1 / A04) |
| | LANDSCAPE STONE TYPE 2 (LS2 / A04) |
| | SPEED TABLE (STB / A01) |
| | KILOMETER MARKER (KM / A02) |

# SITE PLAN- 4

scale= 1:300

C&G
JMCP + JLGARCHITECTS
115 DEL PARQUE STREET SUITE 1
SAN JUAN, PR 00912
787.268.1837

BARGES GEOTECHNICAL ENGINEERS, LLC
PASEO DE LA ALAMEDA, 205 TORRE DEL CAMINO, P.R. 00744
BARGESGEOTECHNICAL.COM (787) 379-0021

90% DESIGN SET
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PROJECT: PR-CRP-000721
**PASEO LA GRUTA-VIVERO DE PECES**
CARRETERA ESTATAL PR 410 KM 3.0 - KM 4.5

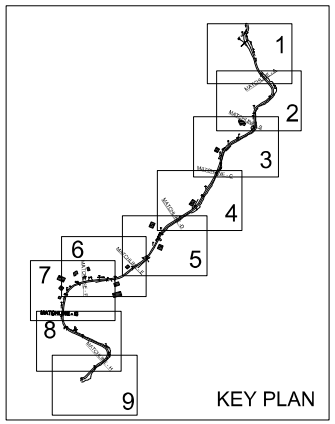
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PASEO HATCHERY [PR-CRP-000721]

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DRAWING NO.: C-104

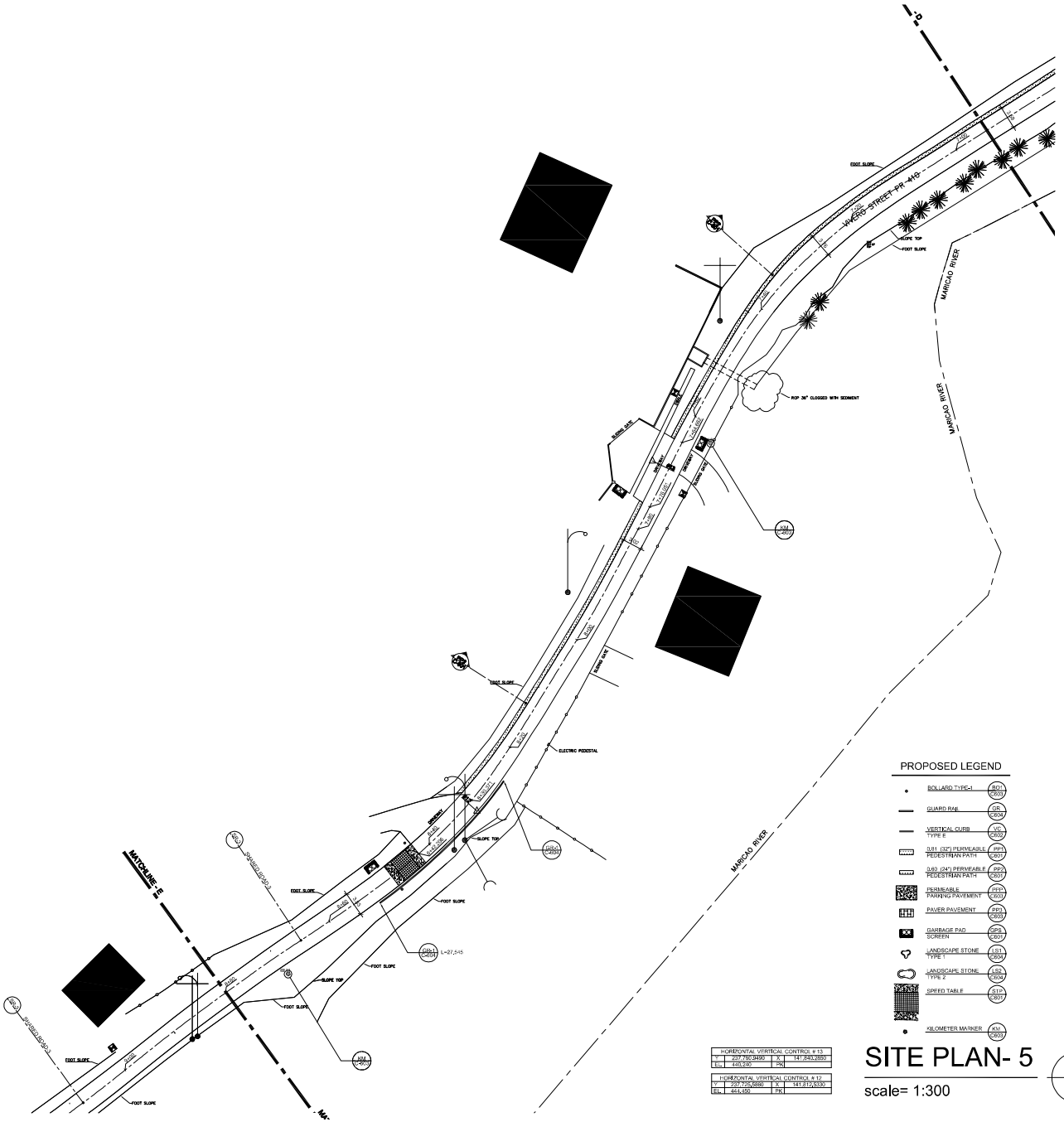
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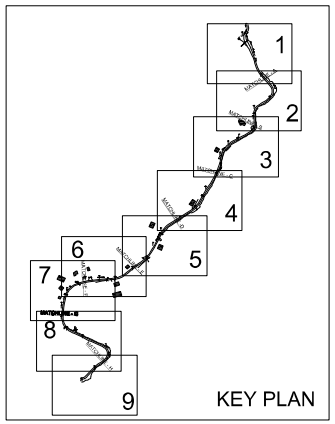

## EXISTING CONDITIONS LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

0 5 10 30
SCALE = 1:300



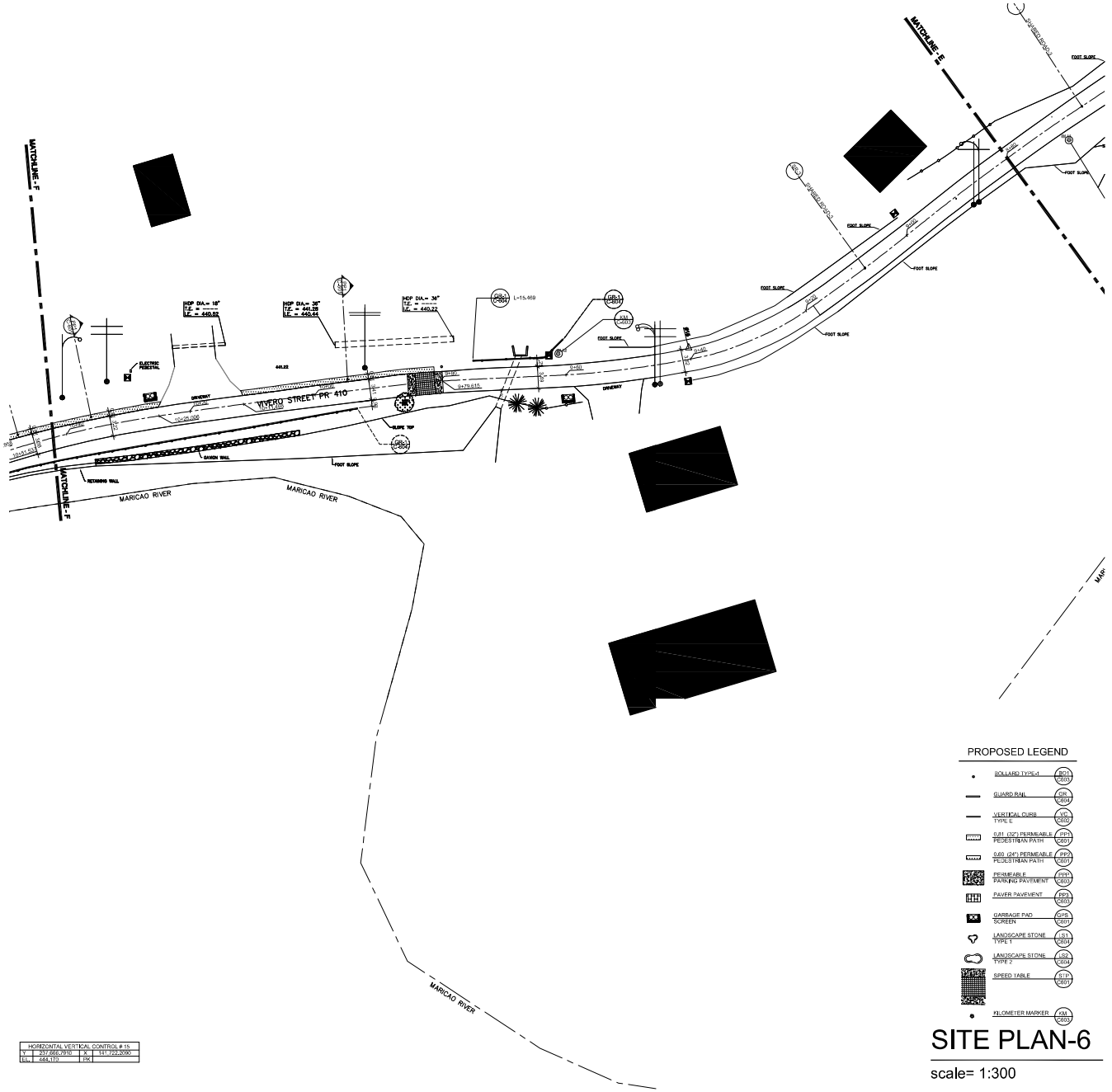
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## EXISTING CONDITIONS LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

0 5 10 30
SCALE = 1:300




| HORIZONTAL VERTICAL CONTROL # 15 | | | |
|---|---|---|---|
| Y | 237,666.7910 | X | 141,722.2090 |
| EL. | 444.170 | PK | |

## PROPOSED LEGEND

| | |
|---|---|
| | BOLLARD TYPE-1 (BO-1 2601) |
| | GUARD RAIL (GR 2604) |
| | VERTICAL CURB TYPE E (VC 2606) |
| | 1.81 (32") PERMEABLE PEDESTRIAN PATH (PP1 2607) |
| | 0.60 (24") PERMEABLE PEDESTRIAN PATH (PP2 2607) |
| | PERMEABLE PARKING PAVEMENT (PPA 2608) |
| | PAVER PAVEMENT (PPA 2608) |
| | GARBAGE PAD SCREEN (GPS 2601) |
| | LANDSCAPE STONE TYPE 1 (LS1 2609) |
| | LANDSCAPE STONE TYPE 2 (LS2 2609) |
| | SPEED TABLE (STP 2601) |
| | KILOMETER MARKER (KM 2610) |

# SITE PLAN-6

scale= 1:300

C&G
JMCP + JLGARCHITECTS
115 DE DIEGO STREET SUITE 1
SAN JUAN, PR 00917
787.200.1837

BARGES GEOTECHNICAL ENGINEERS, LLC
PASEO DE LA ALAMEDA, 200 TORRE DEL CONVENTO, P.R. 00754
BARGESGEOTECHNICAL.COM (787) 379-0021

90% DESIGN SET
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PROJECT: PR-CRP-000721
**PASEO LA GRUTA-VIVERO DE PECES**
CARRETERA ESTATAL PR 410 KM 3.0 - KM 4.5

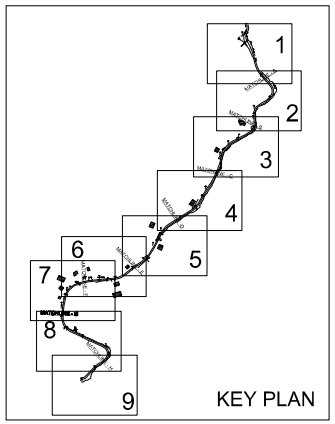
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PASEO HATCHERY [PR-CRP-000721]

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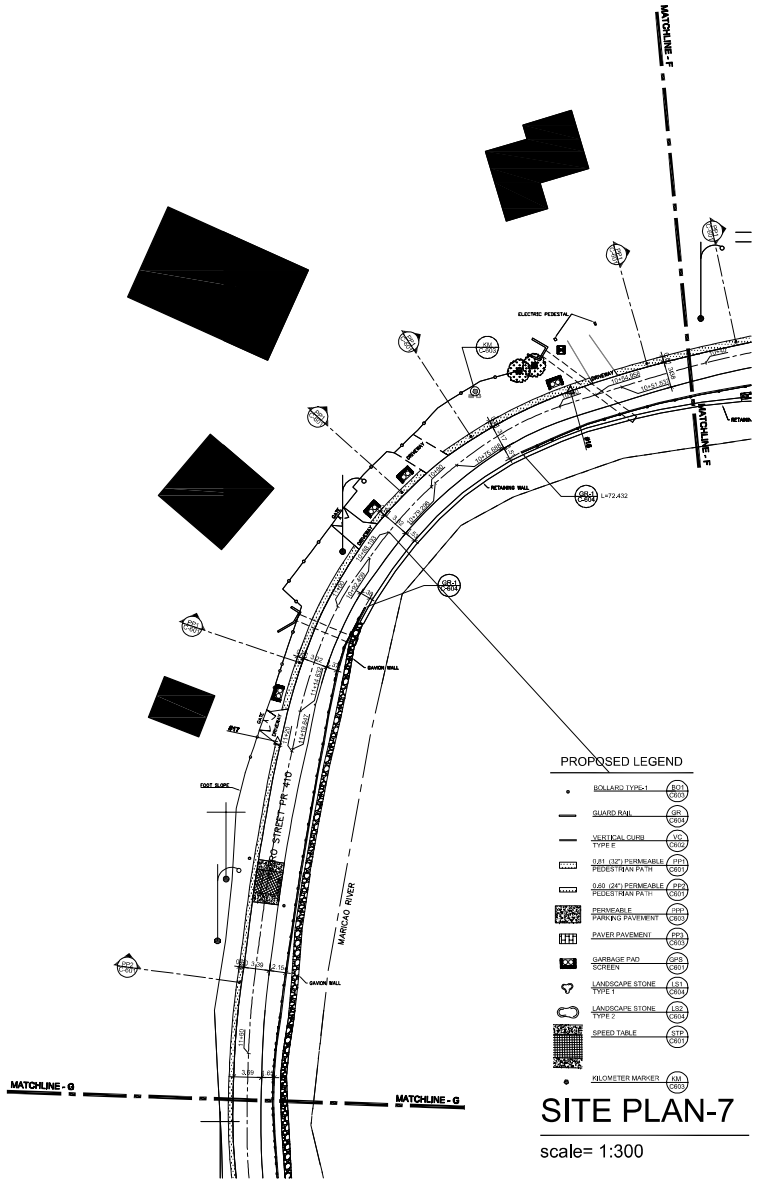

## EXISTING CONDITIONS LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

0 5 10 30
SCALE = 1:300

| HORIZONTAL VERTICAL CONTROL # 16 | | | |
|---|---|---|---|
| Y | 237,645.4570 | X | 141,005.9650 |
| EL. | 442.240 | PK | |

| HORIZONTAL VERTICAL CONTROL # 17 | | | |
|---|---|---|---|
| Y | 237,603.4640 | X | 141,567.1870 |
| EL. | 443.049 | PK | |




## PROPOSED LEGEND

| | | |
|---|---|---|
| | BOLLARD TYPE-1 | BO1 (2603) |
| | GUARD RAIL | GR (2604) |
| | VERTICAL CURB TYPE E | VC (2602) |
| | 0.61 (32") PERMEABLE PEDESTRIAN PATH | PP1 (2601) |
| | 0.60 (24") PERMEABLE PEDESTRIAN PATH | PP2 (2601) |
| | PERMEABLE PARKING PAVEMENT | PPP (2601) |
| | PAVER PAVEMENT | PP1 (2601) |
| | GARBAGE PAD SCREEN | GPS (2601) |
| | LANDSCAPE STONE TYPE 1 | LS1 (2604) |
| | LANDSCAPE STONE TYPE 2 | LS2 (2604) |
| | SPEED TABLE | STP (2601) |
| | KILOMETER MARKER | KM (2603) |

# SITE PLAN-7

scale= 1:300

C&G
JMCP + JLGARCHITECTS
115 DE DIEGO STREET SUITE 1
SAN JUAN, PR 00917
787.296.1837

BARGES GEOTECHNICAL ENGINEERS, LLC
PASEO DE LA ALAMEDA, 205 TORRE DEL CARMEN, P.R. 00744
BARGESGEOTECHNICAL@YAHOO.COM

90% DESIGN SET
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PROJECT: PR-CRP-000721
**PASEO LA GRUTA-VIVERO DE PECES**
CARRETERA ESTATAL PR 410 KM 3.0 - KM 4.5

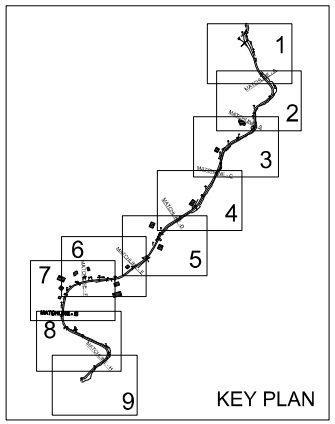
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PASEO HATCHERY [PR-CRP-000721]

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## EXISTING CONDITIONS LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

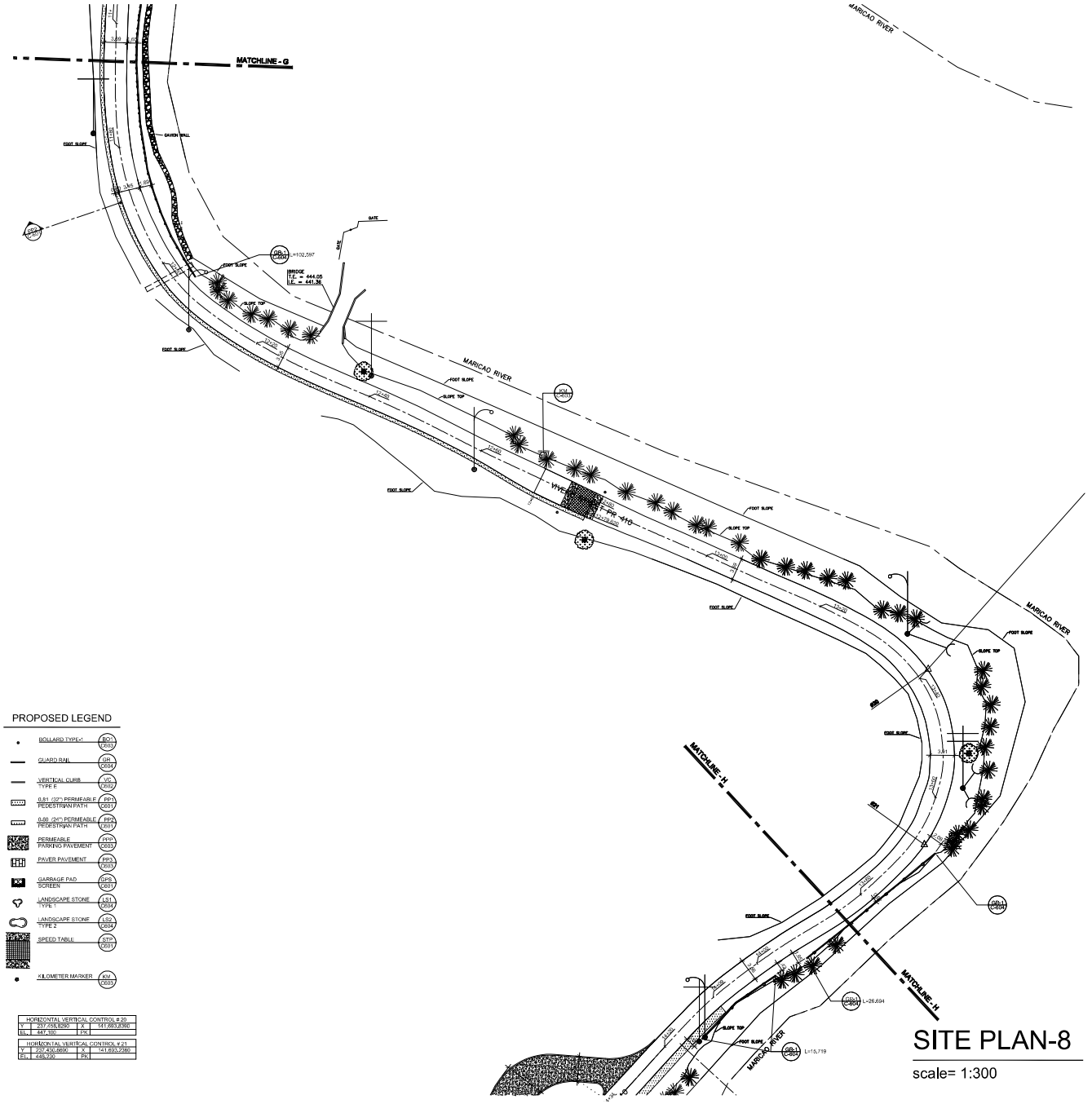
0 5 10 30
SCALE = 1:300

## PROPOSED LEGEND

| | | |
|---|---|---|
| | BOLLARD TYPE-1 | BO1 2605 |
| | GUARD RAIL | GR 2604 |
| | VERTICAL CURB TYPE E | VC 2602 |
| | 0.81 (32") PERMEABLE PEDESTRIAN PATH | PP1 2601 |
| | 0.60 (24") PERMEABLE PEDESTRIAN PATH | PP2 2601 |
| | PERMEABLE PARKING PAVEMENT | PPP 2605 |
| | PAVER PAVEMENT | PPA 2605 |
| | GARBAGE PAD SCREEN | GPS 2607 |
| | LANDSCAPE STONE TYPE 1 | LS1 2604 |
| | LANDSCAPE STONE TYPE 2 | LS2 2604 |
| | SPEED TABLE | STP 2601 |
| | KILOMETER MARKER | KM 2605 |

| HORIZONTAL VERTICAL CONTROL # 20 | | | |
|---|---|---|---|
| N | 237,456.8280 | X | 141,663.2380 |
| EL. | 447.100 | PK | |

| HORIZONTAL VERTICAL CONTROL # 21 | | | |
|---|---|---|---|
| N | 237,430.6690 | X | 141,623.7260 |
| EL. | 448.220 | PK | |




# SITE PLAN-8

scale= 1:300

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JMCP + JLGARCHITECTS
115 DE DIEGO STREET SUITE 1
SAN JUAN, PR 00917
787.250.1837

BARGES GEOTECHNICAL ENGINEERS, LLC
PASEO DE LA ALAMEDA, 205 TORRE DEL CAMINO, P.R. 00744
BARGESGEOTECHNICAL@HOTMAIL.COM

90% DESIGN SET
NOT FOR CONSTRUCTION

PROJECT: PR-CRP-000721
**PASEO LA GRUTA-VIVERO DE PECES**
CARRETERA ESTATAL PR 410 KM 3.0 - KM 4.5

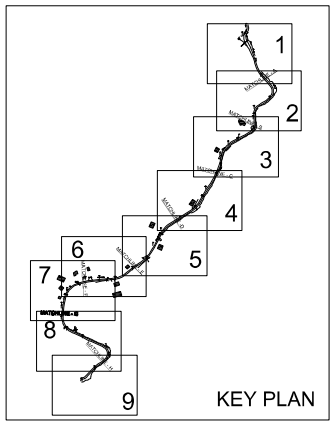
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PASEO HATCHERY [PR-CRP-000721]

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## EXISTING CONDITIONS LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

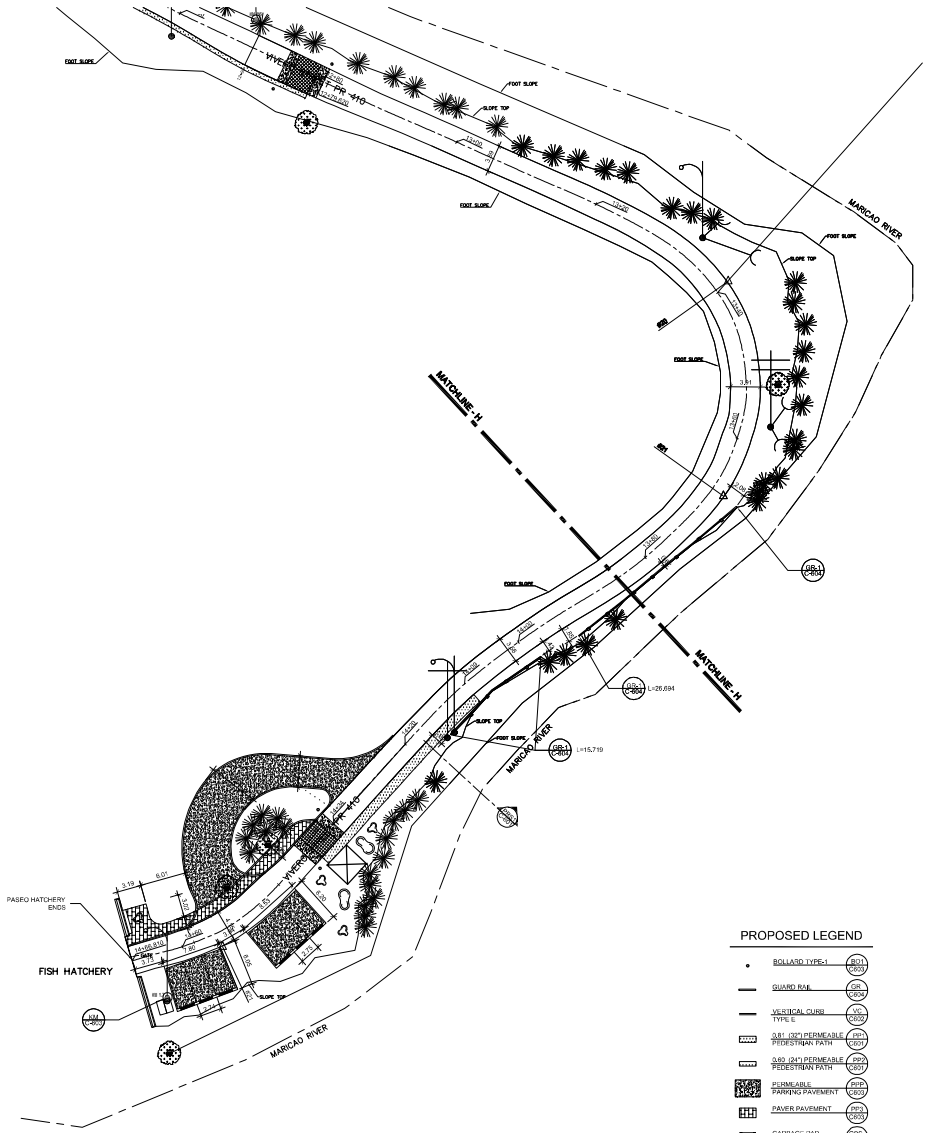
0 5 10 30

SCALE = 1:300

| HORIZONTAL VERTICAL CONTROL # 20 | | | |
|---|---|---|---|
| Y | 237,455.8390 | X | 141,693.8360 |
| EL. | 447.100 | PK | |

| HORIZONTAL VERTICAL CONTROL # 21 | | | |
|---|---|---|---|
| Y | 237,430.9690 | X | 141,693.2360 |
| EL. | 445.230 | PK | |

| HORIZONTAL VERTICAL CONTROL # 22 | | | |
|---|---|---|---|
| Y | 237,311.6570 | X | 141,621.5680 |
| EL. | 450.080 | PK | |




## PROPOSED LEGEND

| | | |
|---|---|---|
| | BOLLARD TYPE-1 | BU1 (400) |
| | GUARD RAIL | GR (404) |
| | VERTICAL CURB TYPE 6 | VC (402) |
| | 0.61 (20") PERMEABLE PEDESTRIAN PATH | PPP (401) |
| | 0.60 (24") PERMEABLE PEDESTRIAN PATH | PPP (401) |
| | PERMEABLE PARKING PAVEMENT | PPP (403) |
| | PAVER PAVEMENT | PPV (405) |
| | GARBAGE PAD SCREEN | GPS (501) |
| | LANDSCAPE STONE TYPE 1 | LS1 (504) |
| | LANDSCAPE STONE TYPE 2 | LS2 (504) |
| | SPEED TABLE | STR (407) |
| | KILOMETER MARKER | KM (503) |

# SITE PLAN-9

scale= 1:300

C&G
JMCP + JLGARCHITECTS
115 DE PASEO DIEGO LUIS J.
SAN JUAN, PR 00917
787.200.1837

BARGES GEOTECHNICAL ENGINEERS, LLC
PASEO DE LA ALAMEDA, 200 TORRE DEL CARIBARO, P.R. 00744
BARGESGEOTECHNICAL.COM (787) 379-0021

90% DESIGN SET
NOT FOR CONSTRUCTION

PROJECT: PR-CRP-000721
**PASEO LA GRUTA-VIVERO DE PECES**
CARRETERA ESTATAL PR 410 KM 3.0 - KM 4.5

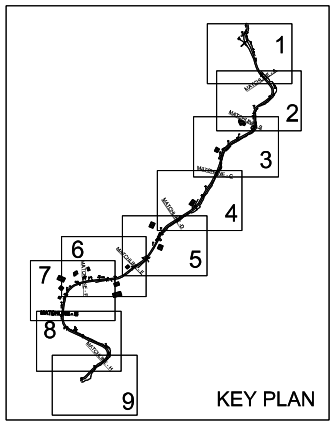
GOBIERNO MUNICIPAL DE MARICAO
PASEO HATCHERY [PR-CRP-000721]

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REVIEWED BY:
DATE: 05/23

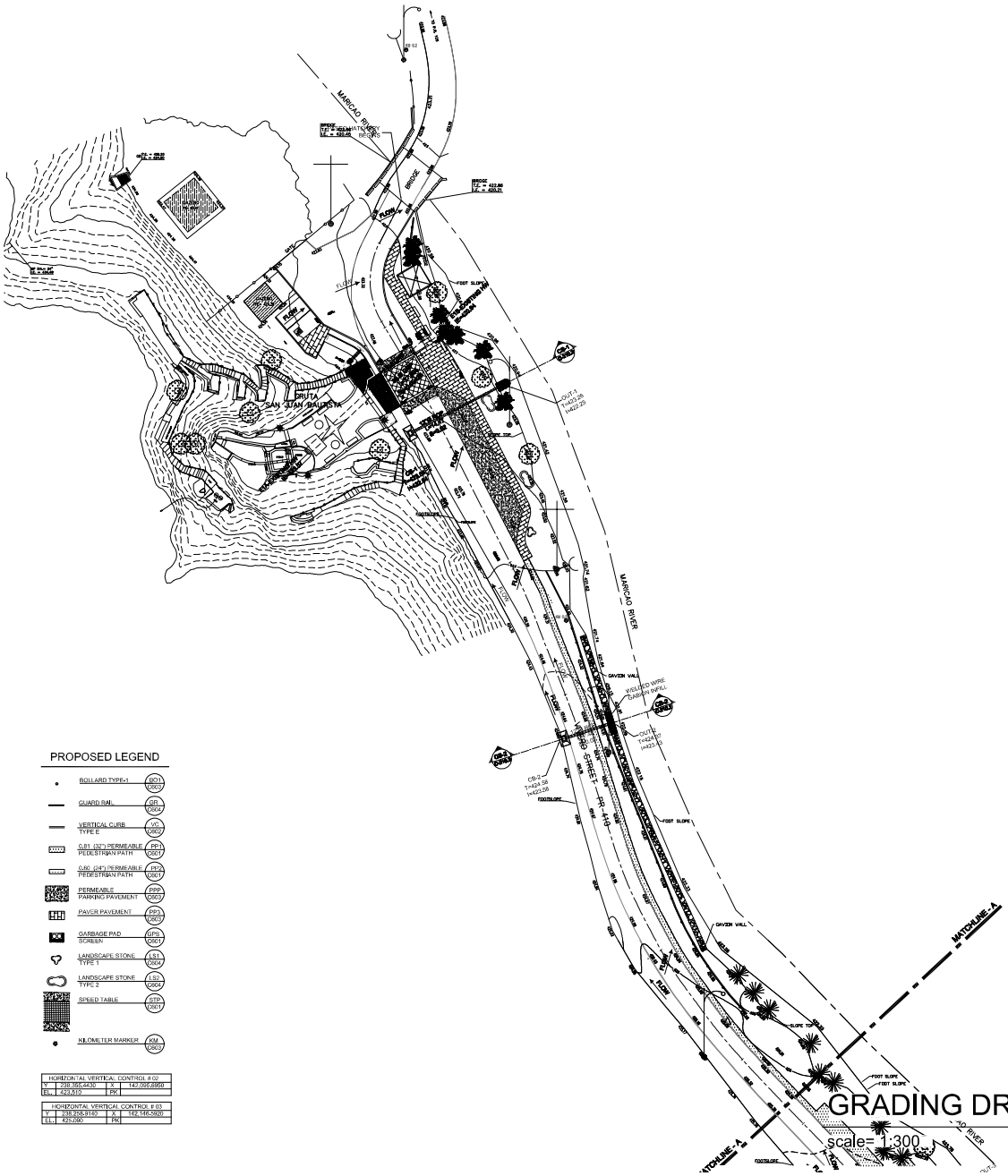
SHEET TITLE: LAYOUT SITE PLAN
DRAWING NO.: C-109

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## EXISTING CONDITIONS LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |




## PROPOSED LEGEND

| | | |
|---|---|---|
| | BOLLARD TYPE-1 | BO1 C601 |
| | GUARD RAIL | GR C602 |
| | VERTICAL CURB TYPE E | VC C601 |
| | 0.61 (32") PERMEABLE PEDESTRIAN PATH | PP1 C601 |
| | 0.60 (24") PERMEABLE PEDESTRIAN PATH | PP2 C601 |
| | PERMEABLE PARKING PAVEMENT | PPP C601 |
| | PAVER PAVEMENT | PP1 C601 |
| | GARBAGE PAD SCREEN | GPS C601 |
| | LANDSCAPE STONE TYPE 1 | LS1 C601 |
| | LANDSCAPE STONE TYPE 2 | LS2 C601 |
| | SPEED TABLE | STP C601 |
| | KILOMETER MARKER | KM C602 |

| HORIZONTAL VERTICAL CONTROL # 02 | | | |
|---|---|---|---|
| Y | 238,385.4430 | X | 142,095.2950 |
| EL. | 423.510 | PK | |

| HORIZONTAL VERTICAL CONTROL # 03 | | | |
|---|---|---|---|
| Y | 238,258.9163 | X | 142,146.5920 |
| EL. | 425.080 | PK | |

# GRADING DRAINAGE-1.1

scale= 1:300

C&G
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115 DE PASEO DIEGO LEE 1
SAN JUAN, PR 00911
787.264.1837

BARGES GEOTECHNICAL ENGINEERS, LLC
84 PASEO DE LA ALAMEDA, 339 TORRIMAR, GUAYNABO, P.R. 00966
JAIMEJBARGES@GMAIL.COM • (787) 599-0071

100% DESIGN SET
NOT FOR CONSTRUCTION

PROJECT: PR-CRP-000721
**PASEO LA GRUTA-VIVERO DE PECES**
CARRETERA ESTATAL PR 410 KM 3.0 - KM 4.5

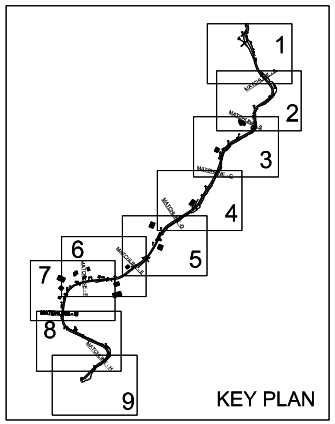
GOBIERNO MUNICIPAL DE MARICAO
PASEO HATCHERY [PR-CRP-000721]

| NO. | DATE | DRAWING ISSUE | BY | APP. |
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SHEET TITLE: GRADING DRAINAGE PLAN
DRAWING NO.: C-201.1

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## EXISTING CONDITIONS LEGEND

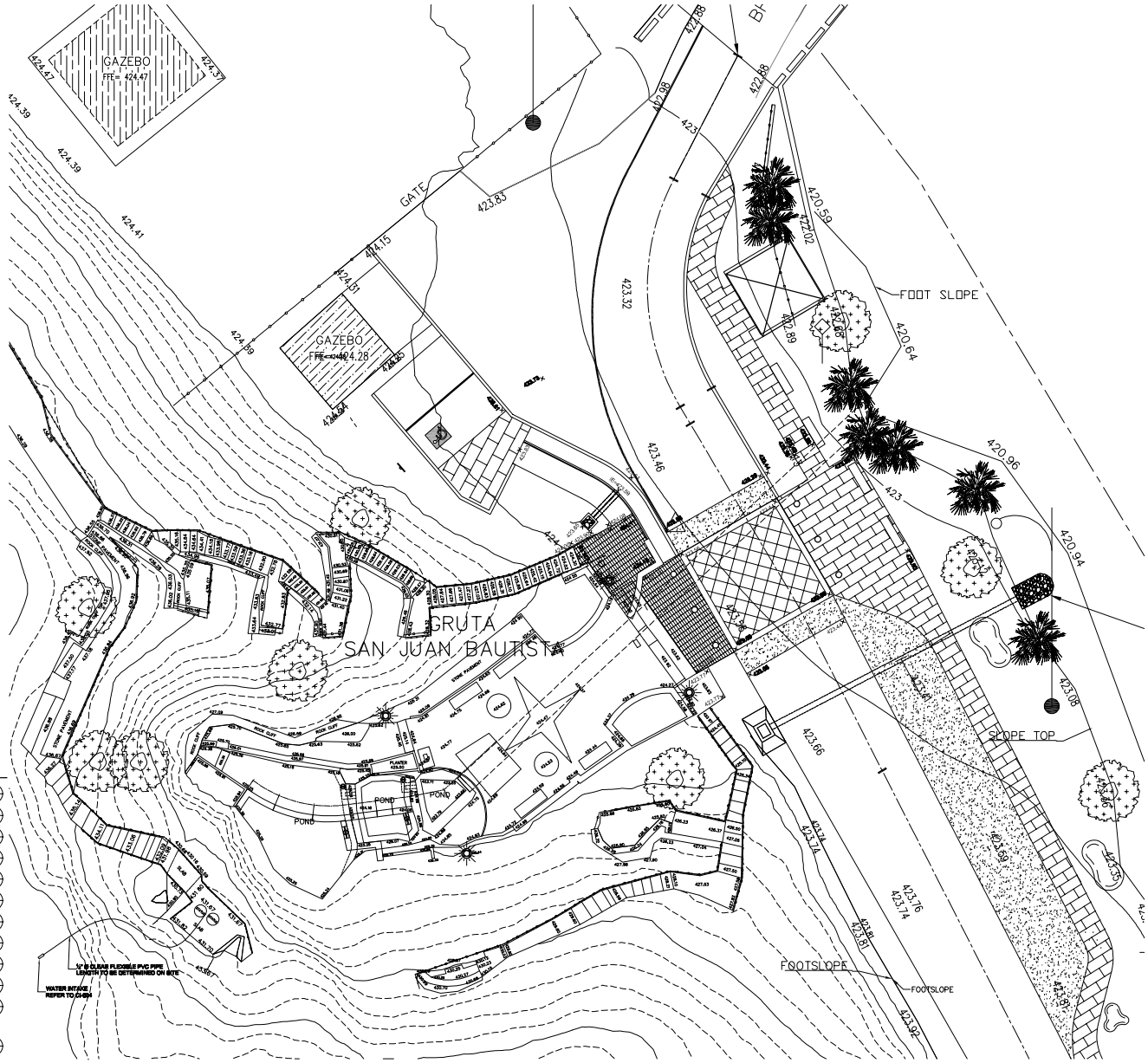
| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

## PROPOSED LEGEND

| | | |
|---|---|---|
| | BOLLARD TYPE-1 | (BO-1) |
| | GUARD RAIL | (GR-1) |
| | VERTICAL CURB TYPE E | (VC-1) |
| | 0.61 (32") PERMEABLE PEDESTRIAN PATH | (PP-1) |
| | 0.60 (24") PERMEABLE PEDESTRIAN PATH | (PP-2) |
| | PERMEABLE PARKING PAVEMENT | (PPP-1) |
| | PAVER PAVEMENT | (PP-1) |
| | GARBAGE PAD SCREEN | (GPS-1) |
| | LANDSCAPE STONE TYPE I | (LS1-1) |
| | LANDSCAPE STONE TYPE I | (LS2-1) |
| | SPEED TABLE | (STP-1) |
| | KILOMETER MARKER | (KM-1) |

| HORIZONTAL VERTICAL CONTROL # 02 | | | |
|---|---|---|---|
| Y | 238,355.4431 | X | 142,055.6950 |
| EL. | 423.510 | PK | |

| HORIZONTAL VERTICAL CONTROL # 03 | | | |
|---|---|---|---|
| Y | 238,258.9140 | X | 142,1552820 |
| EL. | 425.090 | PK | |




**GRADING LEGEND**

423.66 PROPOSED SPOT ELEVATION

423.66 EXISTING SPOT ELEVATION

428.66 EXISTING SPOT ELEVATION

# GRADING DRAINAGE-1.2

scale= 1:300

**C&G**
JMCP + JLGARCHITECTS
115 DE PASEO DIEGO (URB.)
SAN JUAN, PR 00911
787.268.1837

BARGES GEOTECHNICAL ENGINEERS, LLC
84 PASEO DE LA ALAMEDA, 339 TORRE DEL CARMELO, P.R. 00744
JAIME.BARGES@GMAIL.COM • (787) 599-0071

**100% DESIGN SET**
**NOT FOR CONSTRUCTION**

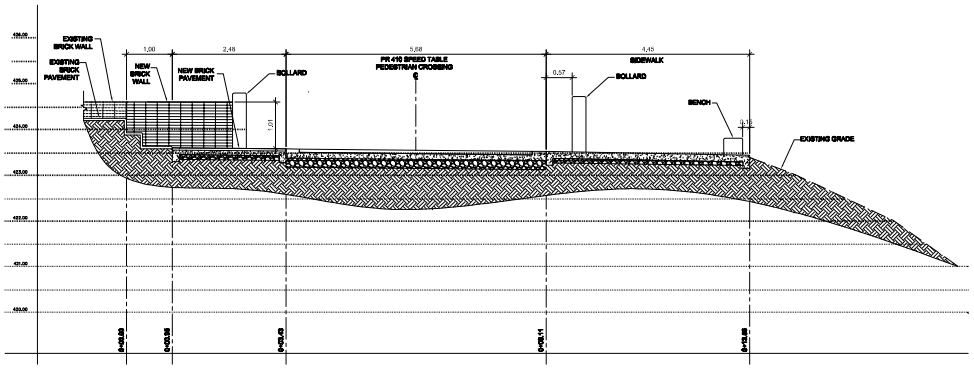
PROJECT: PR-CRP-000721
**PASEO LA GRUTA-VIVERO DE PECES**
CARRETERA ESTATAL PR 410 KM 3.0 - KM 4.5

GOBIERNO MUNICIPAL DE MARICAO
PASEO HATCHERY [PR-CRP-000721]

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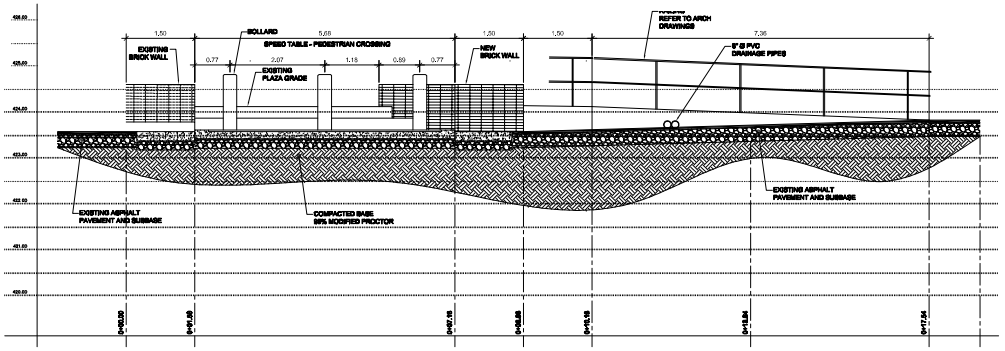
SHEET TITLE: GRADING DRAINAGE PLAN
DRAWING NO.: C-201.2




CROSS SECTION R1

SCALE = 1:50

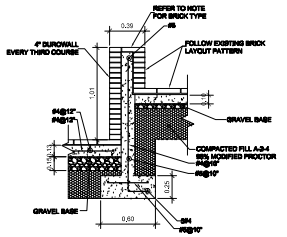
R1 C211.1




ELEVATION R2

SCALE = 1:50

R2 C211.1

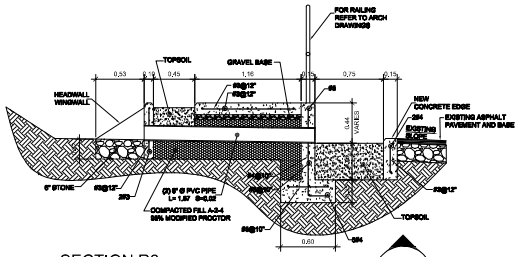



SECTION R5

SCALE = 1:25

NOTE:
FOR CONCRETE REINFORCEMENT REFER TO R5

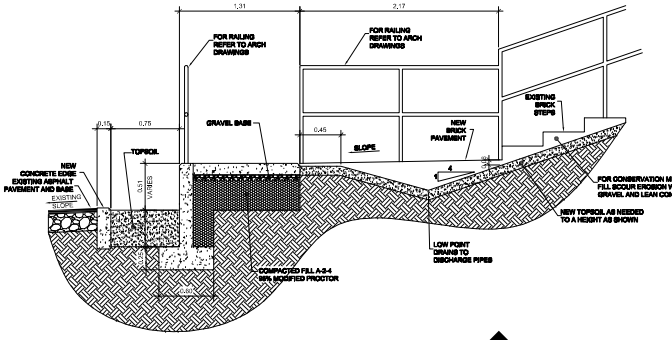
R5 C211.1




SECTION R3

SCALE = 1:25

R3 C211.1




SECTION R4

SCALE = 1:25

NOTE:
FOR CONCRETE REINFORCEMENT REFER TO R5

R4 C211.1

# SECTIONS AND ELEVATIONS-1.3

scale= 1:300

BARGES GEOTECHNICAL ENGINEERS, LLC

90% DESIGN SET
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PROJECT: PR-CRP-000721

**PASEO LA GRUTA-VIVERO DE PECES**

CARRETERA ESTATAL PR 410 KM 3.0 - KM 4.5

GOBIERNO MUNICIPAL DE MARICAO

PASEO HATCHERY [PR-CRP-000721]

| NO. | DATE | DRAWING ISSUE | BY | APP. |
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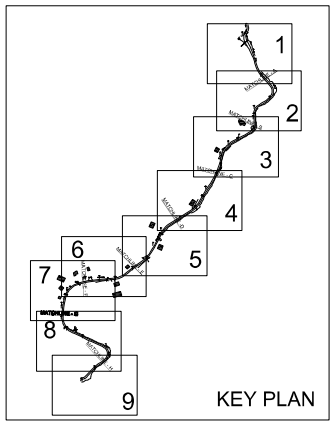
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DATE: 05/23

SHEET TITLE: SECTIONS AND ELEVATIONS

DRAWING NO.: C-201.3

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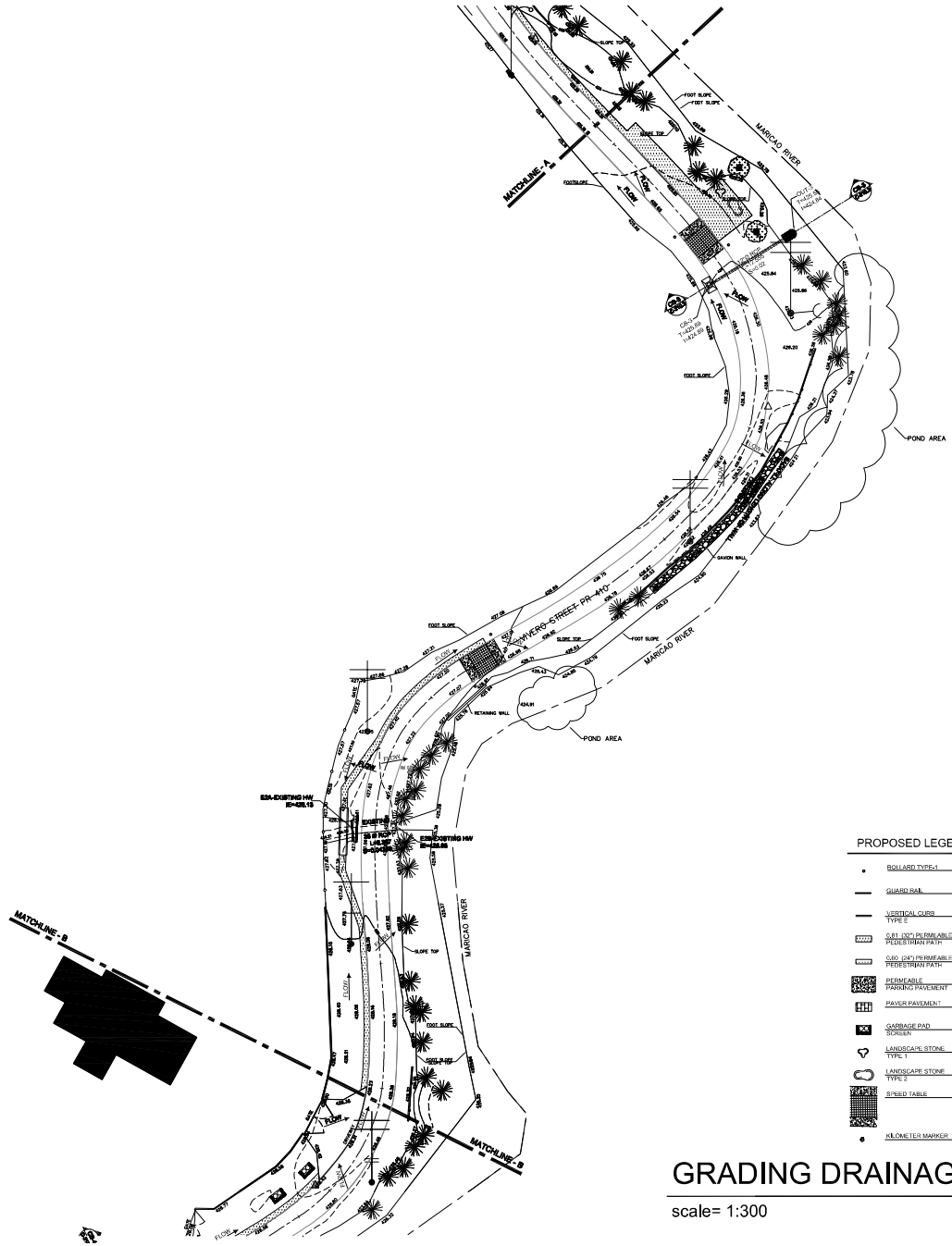

## EXISTING CONDITIONS LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

0 5 10 30
SCALE = 1:300

| HORIZONTAL VERTICAL CONTROL # 04 | | | |
|---|---|---|---|
| Y: | 238,205.7660 | X: | 142,175.5660 |
| EL.: | 426.230 | PK: | |

| HORIZONTAL VERTICAL CONTROL # 06 | | | |
|---|---|---|---|
| Y: | 238,095.5140 | X: | 142115.3990 |
| EL.: | 428.490 | PK: | |




## PROPOSED LEGEND

| | |
|---|---|
| BOLLARD TYPE-1 | BO1 (DET) |
| GUARD RAIL | GR (DET) |
| VERTICAL CURB TYPE II | VC (DET) |
| 0.81 (32") PERMEABLE PEDESTRIAN PATH | PP1 (DET) |
| 0.60 (24") PERMEABLE PEDESTRIAN PATH | PP2 (DET) |
| PERMEABLE PARKING PAVEMENT | PPP (DET) |
| PAVER PAVEMENT | PP3 (DET) |
| GARBAGE PAD SCREEN | GPS (DET) |
| LANDSCAPE STONE TYPE 1 | LS1 (DET) |
| LANDSCAPE STONE TYPE 2 | LS2 (DET) |
| SPEED TABLE | STP (DET) |
| KILOMETER MARKER | KM (DET) |

# GRADING DRAINAGE-2

scale= 1:300

**C&G**
JMCP + JLGARCHITECTS
115 DE DIEGO STREET SUITE 1
SAN JUAN, PR 00911
787.289.1837

BARGES GEOTECHNICAL ENGINEERS, LLC
PASEO DE LA ALAMEDA, 205 TORRE DEL CARIBARO, P.R. 00744
BARGESGEOTECHNICAL@COMCAST.NET

90% DESIGN SET
NOT FOR CONSTRUCTION

PROJECT: PR-CRP-000721
**PASEO LA GRUTA-VIVERO DE PECES**
CARRETERA ESTATAL PR 410 KM 3.0 - KM 4.5

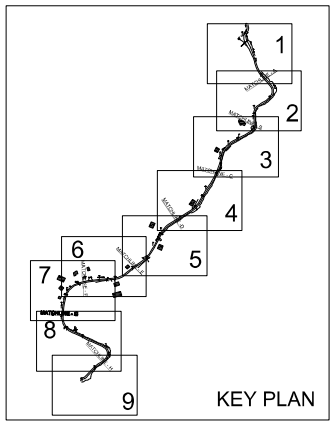
GOBIERNO MUNICIPAL DE MARICAO
PASEO HATCHERY [PR-CRP-000721]

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SHEET TITLE: GRADING DRAINAGE PLAN
DRAWING NO.: C-202

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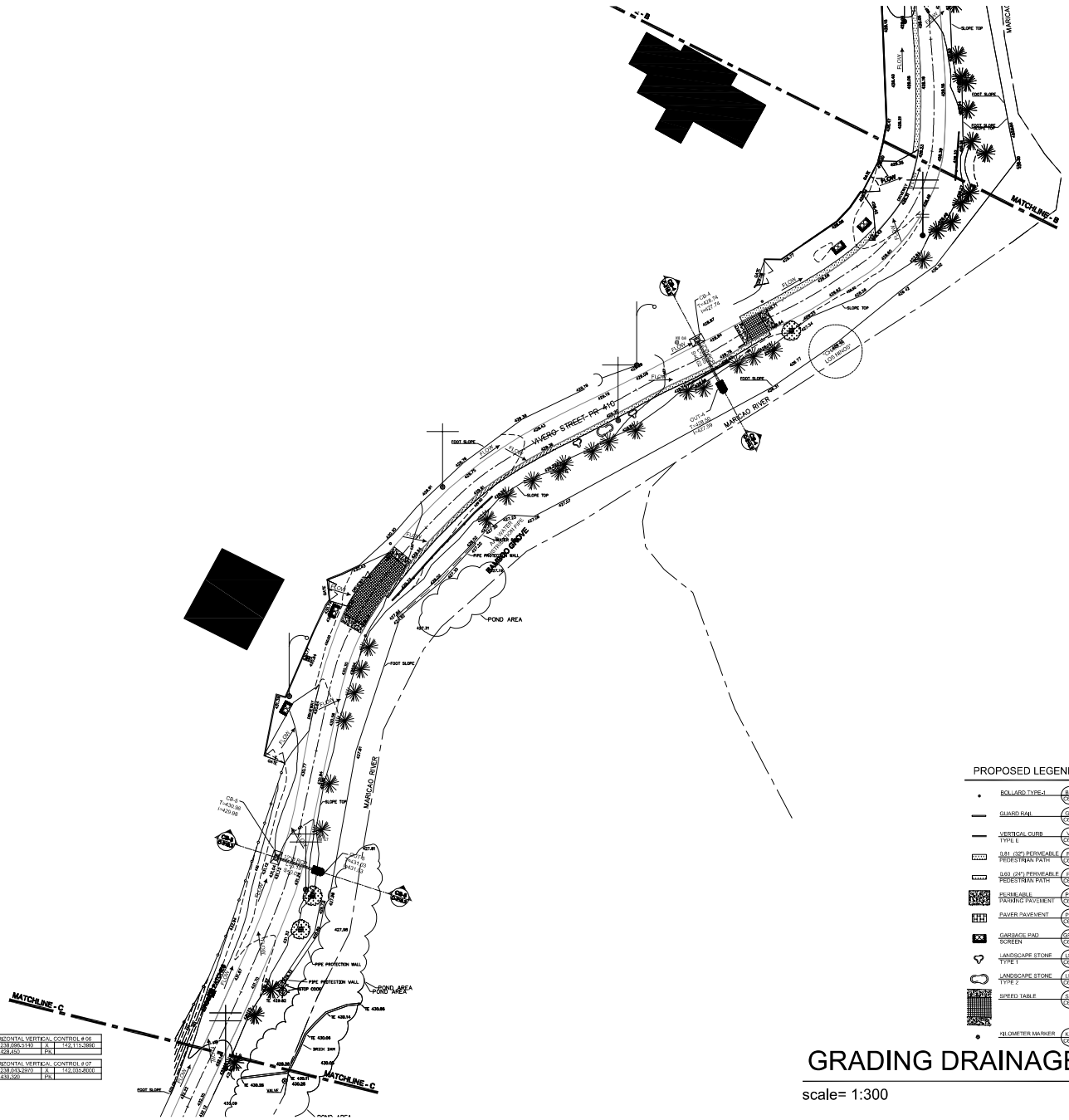

## EXISTING CONDITIONS LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

SCALE = 1:300

| HORIZONTAL VERTICAL CONTROL # 06 | | | |
|---|---|---|---|
| Y | 238,895.5140 | X | 142,115.3860 |
| Elv. | 428.450 | PK | |

| HORIZONTAL VERTICAL CONTROL # 07 | | | |
|---|---|---|---|
| Y | 238,043.2970 | X | 142,035.8000 |
| Elv. | 430.500 | PK | |




## PROPOSED LEGEND

| | | |
|---|---|---|
| | BOLLARD TYPE-I | BOT (302) |
| | GUARD RAIL | GR (304) |
| | VERTICAL CURB TYPE E | VC (302) |
| | 0.81 (32") PERMEABLE PEDESTRIAN PATH | PP1 (301) |
| | 0.60 (24") PERMEABLE PEDESTRIAN PATH | PP2 (301) |
| | PERMEABLE PARKING PAVEMENT | PPP (301) |
| | PAVER PAVEMENT | PPA (303) |
| | GARBAGE PAD SCREEN | GPS (301) |
| | LANDSCAPE STONE TYPE I | LS1 (309) |
| | LANDSCAPE STONE TYPE 2 | LS2 (309) |
| | SPEED TABLE | STP (301) |
| | KILOMETER MARKER | KM (304) |

# GRADING DRAINAGE-3

scale= 1:300

C&G
JMCP + JLGARCHITECTS
115 DE DIEGO STREET SUITE 1
SAN JUAN, PR 00911
787.268.1837

BARGES GEOTECHNICAL ENGINEERS, LLC
PASEO DE LA ALAMEDA 208 TORRE DEL CONVENTO, P.R. 00744
BARGESGEOTECNICAL@COMCAST.NET

**90% DESIGN SET**
**NOT FOR CONSTRUCTION**

PROJECT: PR-CRP-000721

**PASEO LA GRUTA-VIVERO DE PECES**

CARRETERA ESTATAL PR 410 KM 3.0 - KM 4.5

GOBIERNO MUNICIPAL DE MARICAO

PASEO HATCHERY [PR-CRP-000721]

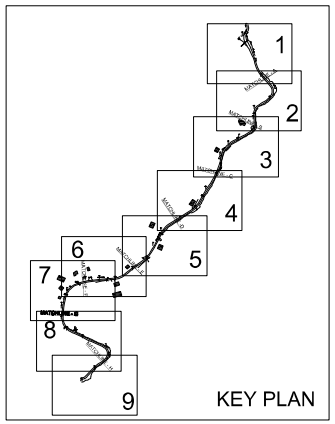
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DATE: 05/23

SHEET TITLE: GRADING DRAINAGE PLAN

DRAWING NO.: C-203

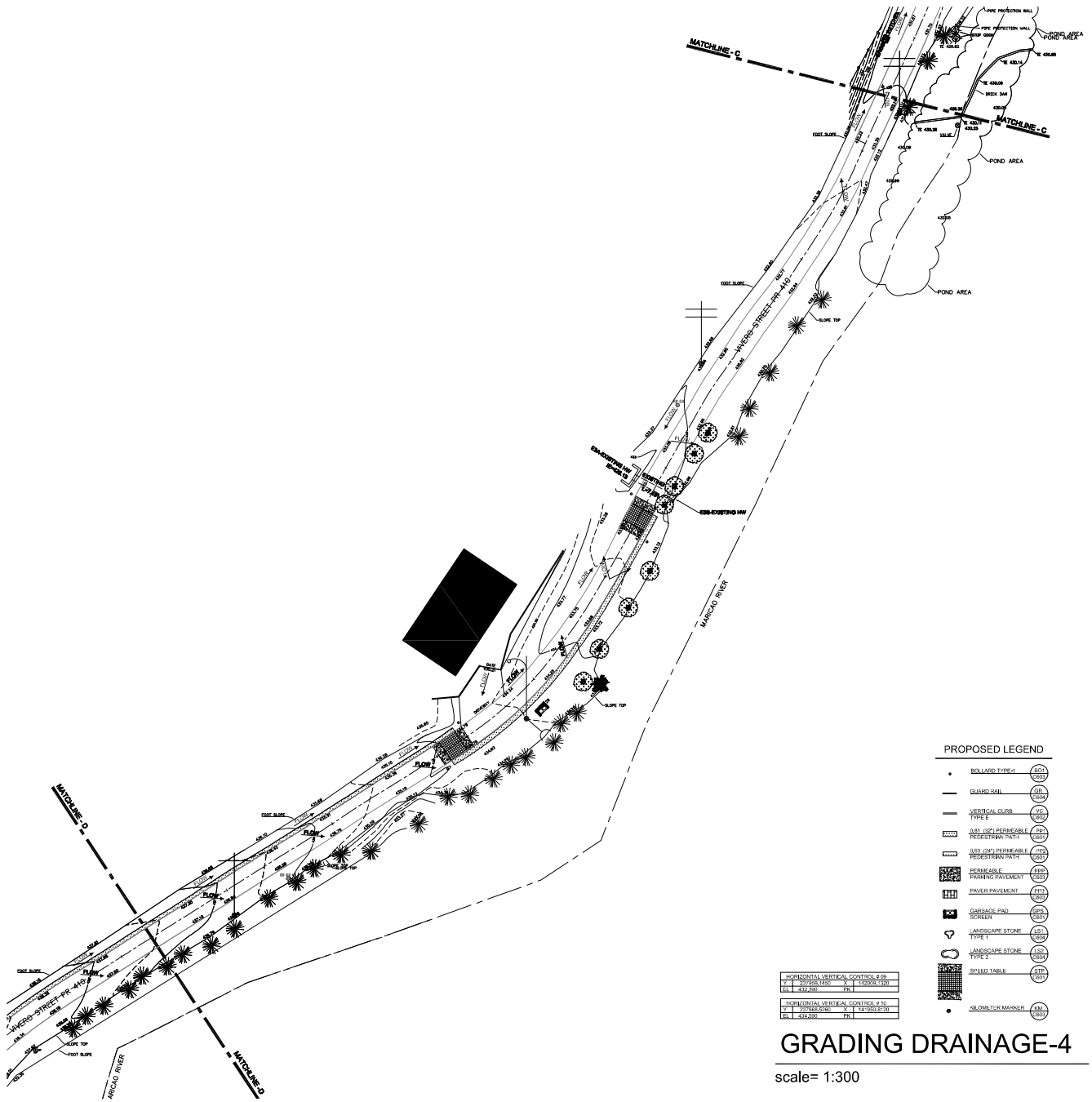
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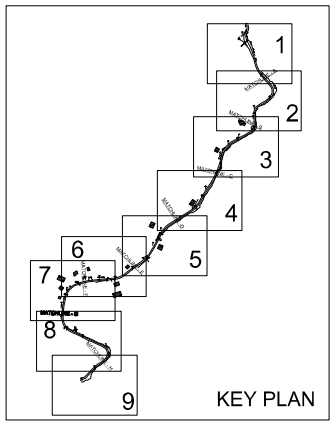

## EXISTING CONDITIONS LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

SCALE = 1:300


MATCHLINE - C
MATCHLINE - D
MATCHLINE - C
MATCHLINE - D
PR-410
PR-410
MARICAO RIVER
ARICAO RIVER
POND AREA
POND AREA
POND AREA
PIPE PROTECTION WALL
PIPE PROTECTION WALL
BRIDGE
BRICK DAM
FOOT SLOPE
SLOPE TOP
FLOW
DITCH
ESA-EXISTING HW
ESA-EXISTING HW
ESA-EXISTING HW

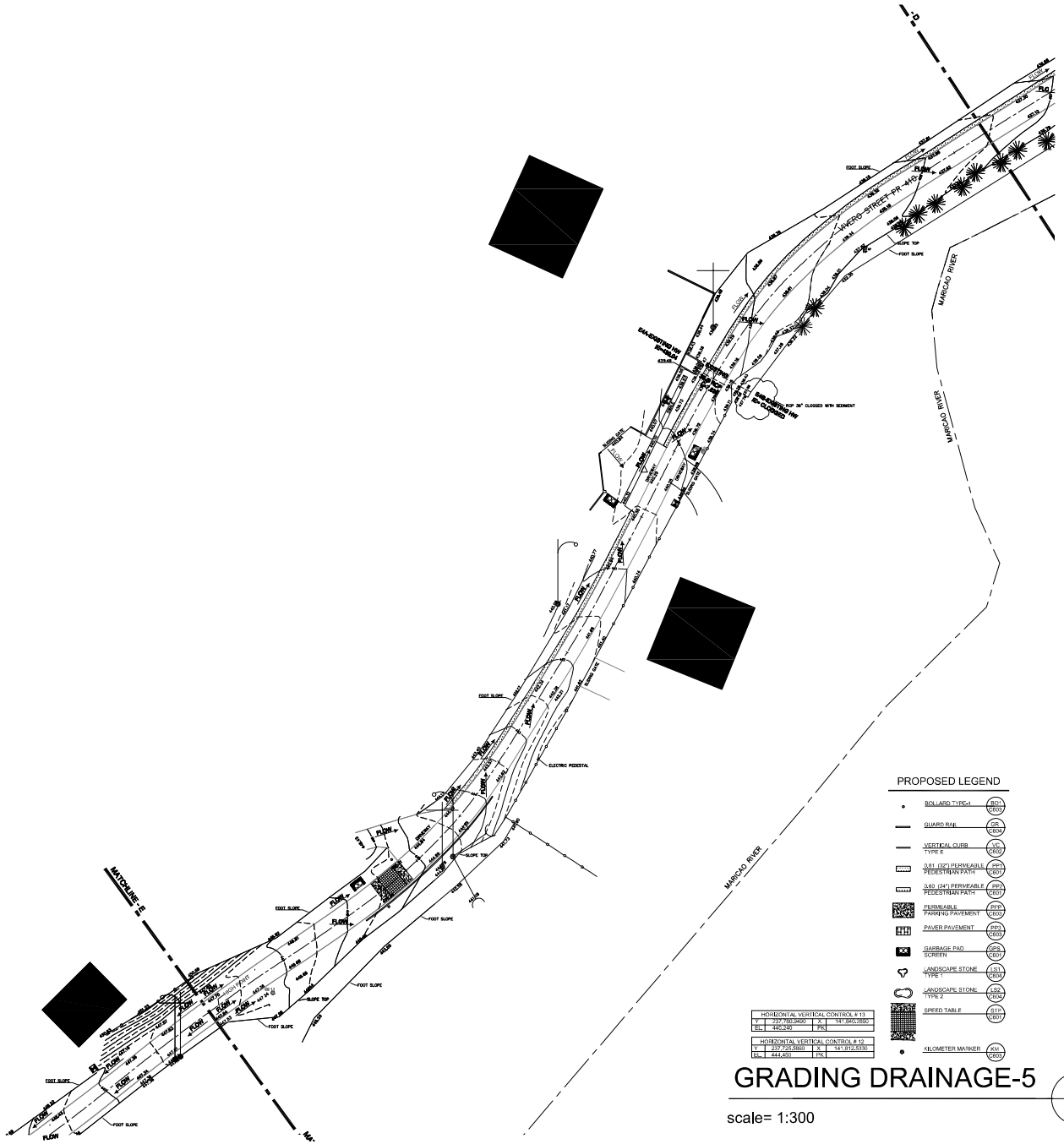
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## EXISTING CONDITIONS LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

0 5 10 30
SCALE = 1:300




## PROPOSED LEGEND

| | | |
|---|---|---|
| | BOLLARD TYPE-1 | BO-1 (900) |
| | GUARD RAIL | GR-1 (904) |
| | VERTICAL CURB TYPE E | VC-1 (900) |
| | 0.61 (32") PERMEABLE PEDESTRIAN PATH | PP1 (901) |
| | 0.60 (24") PERMEABLE PEDESTRIAN PATH | PP2 (907) |
| | PERMEABLE PARKING PAVEMENT | PPP (905) |
| | PAVER PAVEMENT | PP3 (903) |
| | GARBAGE PAD SCREEN | GPS (900) |
| | LANDSCAPE STONE TYPE 1 | LS1 (909) |
| | LANDSCAPE STONE TYPE 2 | LS2 (904) |
| | SPEED TABLE | STP (907) |
| | KILOMETER MARKER | KM (905) |

# GRADING DRAINAGE-5

scale= 1:300

**C&G**
JMCP + JLGARCHITECTS
115 DE DIEGO STREET, SUITE 1
SAN JUAN, PR 00911
787.268.1837

BARGES GEOTECHNICAL ENGINEERS, LLC
PASEO DE LA ALAMEDA, 205 TORRE DEL CARIBARO, P.R. 00744
BARGESGEOTECHNICAL@YAHOO.COM

90% DESIGN SET
NOT FOR CONSTRUCTION

PROJECT: PR-CRP-000721
**PASEO LA GRUTA-VIVERO DE PECES**
CARRETERA ESTATAL PR 410 KM 3.0 - KM 4.5

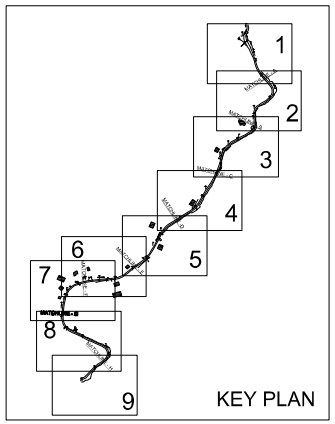
GOBIERNO MUNICIPAL DE MARICAO
PASEO HATCHERY [PR-CRP-000721]

| NO. | DATE | DRAWING ISSUE | BY | APP. |
|---|---|---|---|---|
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REVIEWED BY:
DATE: 05/23

SHEET TITLE: GRADING DRAINAGE PLAN
DRAWING NO.: C-205

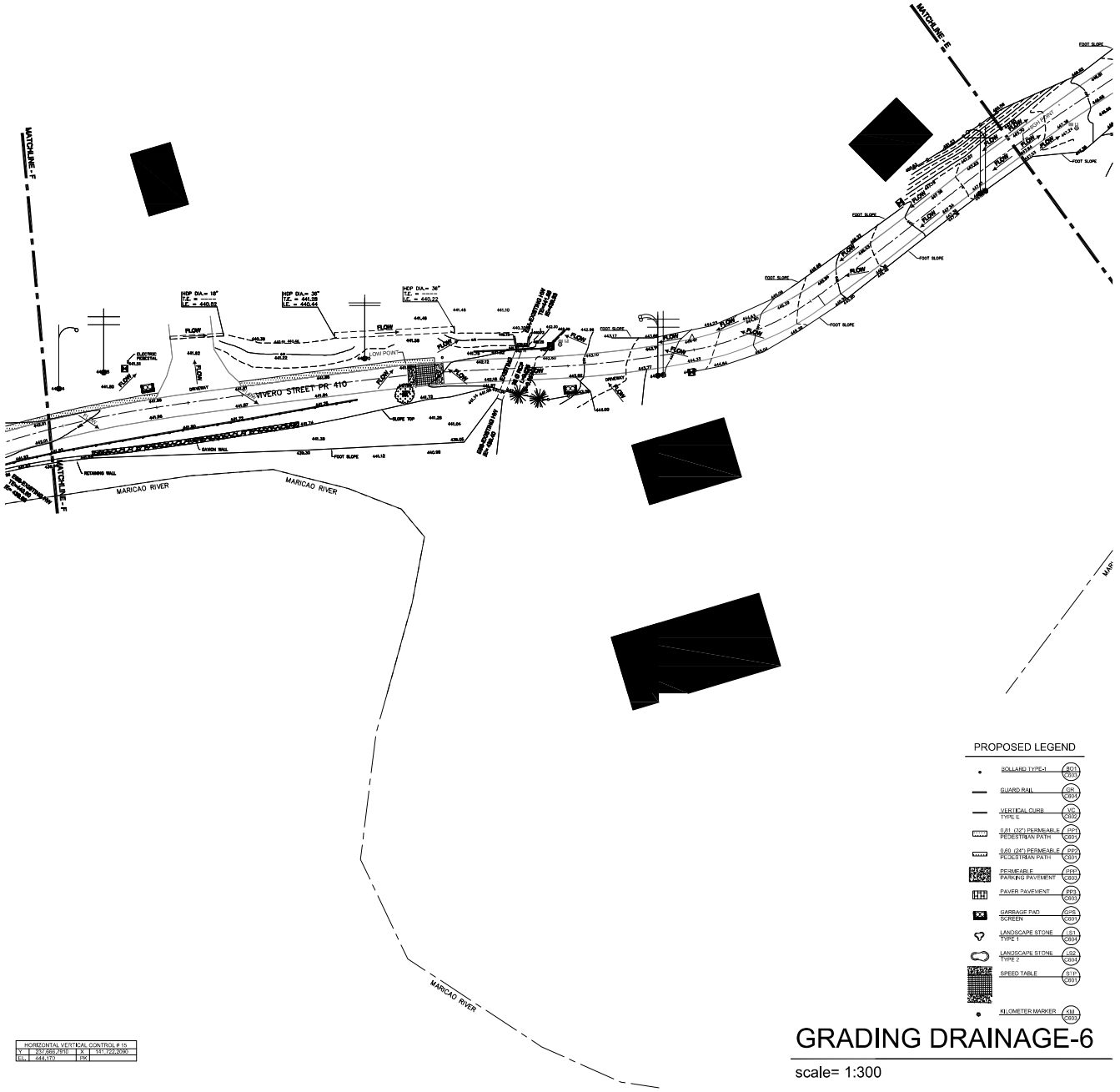
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## EXISTING CONDITIONS LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

0 5 10 30
SCALE = 1:300




| HORIZONTAL VERTICAL CONTROL # 15 | | | |
|---|---|---|---|
| Y | 237,666.7910 | X | 141,722.2090 |
| EL. | 444.170 | PK | |

## PROPOSED LEGEND

| | | |
|---|---|---|
| | BOLLARD TYPE-1 | BO-1 (300) |
| | GUARD RAIL | GR (300) |
| | VERTICAL CURB TYPE E | VC (300) |
| | 1.81 (32") PERMEABLE PEDESTRIAN PATH | PP1 (300) |
| | 0.60 (24") PERMEABLE PEDESTRIAN PATH | PP2 (300) |
| | PERMEABLE PARKING PAVEMENT | PPA (300) |
| | PAVER PAVEMENT | PPA (300) |
| | GARBAGE PAD SCREEN | GPS (300) |
| | LANDSCAPE STONE TYPE 1 | LS1 (300) |
| | LANDSCAPE STONE TYPE 2 | LS2 (300) |
| | SPEED TABLE | STP (300) |
| | KILOMETER MARKER | KM (300) |

# GRADING DRAINAGE-6

scale= 1:300

C&G
JMCP + JLGARCHITECTS
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787.268.1837

BARGES GEOTECHNICAL ENGINEERS, LLC
PASEO DE LA ALAMEDA, 205 TORRE DEL CONVENTO, P.R. 00754
BARGESGEOTECHNICAL@COMCAST.NET

90% DESIGN SET
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PROJECT: PR-CRP-000721
**PASEO LA GRUTA-VIVERO DE PECES**
CARRETERA ESTATAL PR 410 KM 3.0 - KM 4.5

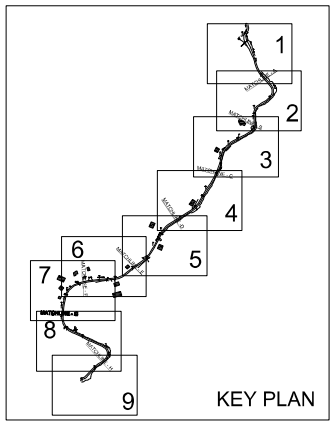
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PASEO HATCHERY [PR-CRP-000721]

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SHEET TITLE: GRADING DRAINAGE PLAN
DRAWING NO.: C-206

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## EXISTING CONDITIONS LEGEND

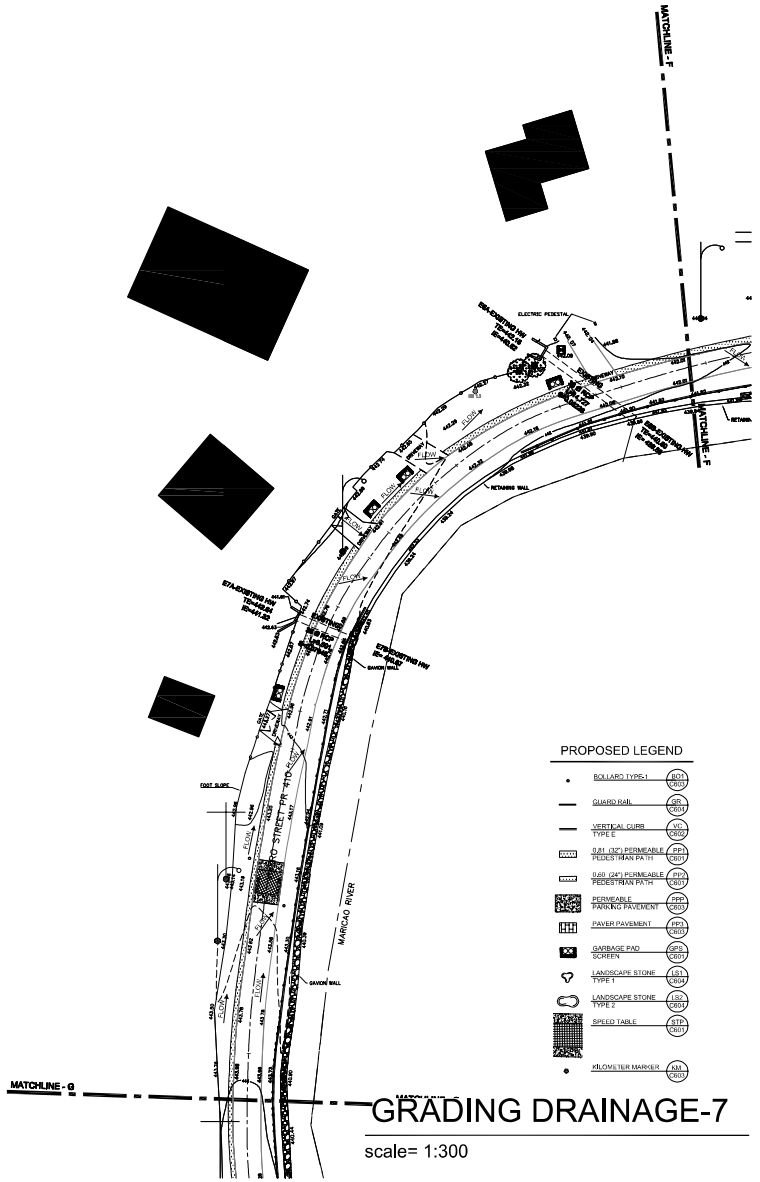
| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

0 5 10 30

SCALE = 1:300

| HORIZONTAL VERTICAL CONTROL # 16 | | | |
|---|---|---|---|
| Y | 237,645.4570 | X | 141,005.9650 |
| EL. | 442.240 | PK | |

| HORIZONTAL VERTICAL CONTROL # 17 | | | |
|---|---|---|---|
| Y | 237,603.4640 | X | 141,567.1870 |
| EL. | 443.049 | PK | |




# GRADING DRAINAGE-7

scale= 1:300

**C&G**

JMCP + JLGARCHITECTS

115 DE DIEGO STREET SUITE 1
SAN JUAN, PR 00911
787.268.1837

BARGES GEOTECHNICAL ENGINEERS, LLC

90% DESIGN SET
NOT FOR CONSTRUCTION

PROJECT: PR-CRP-000721

**PASEO LA GRUTA-VIVERO DE PECES**

CARRETERA ESTATAL PR 410 KM 3.0 - KM 4.5

GOBIERNO MUNICIPAL DE MARICAO

PASEO HATCHERY [PR-CRP-000721]

| NO. | DATE | DRAWING ISSUE | BY | APP. |
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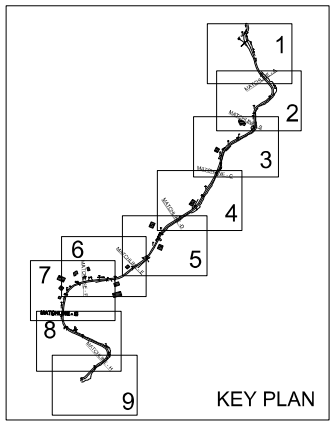
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SHEET TITLE: GRADING DRAINAGE PLAN

DRAWING NO.: C-207

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## EXISTING CONDITIONS LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

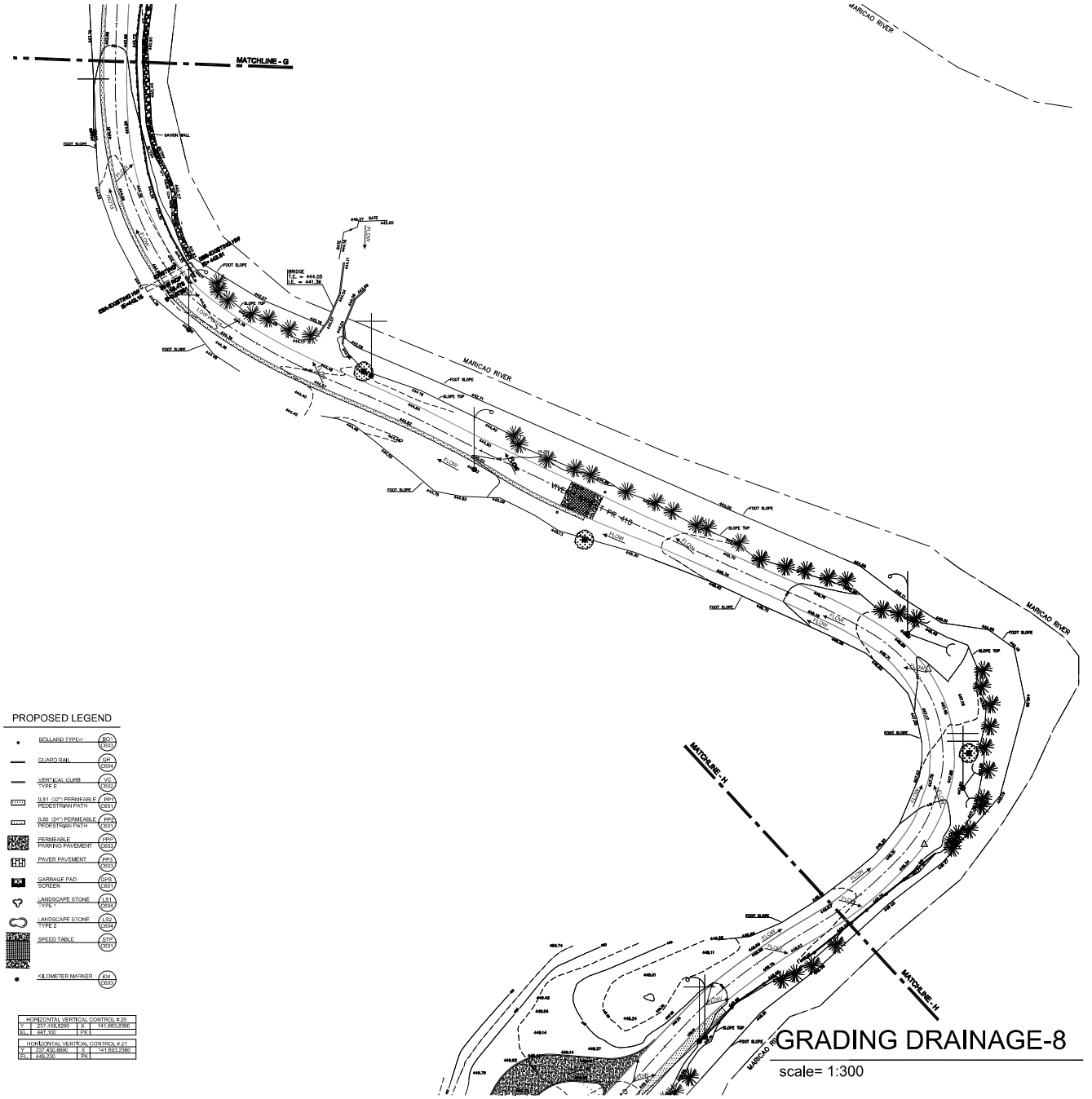
0 5 10 30
SCALE = 1:300

## PROPOSED LEGEND

| | | |
|---|---|---|
| | BOLLARD TYPE-1 | BO1 (R05) |
| | GUARD RAIL | GR (R04) |
| | VERTICAL CURB TYPE E | VC (R02) |
| | 0.81 /27" PERMEABLE PEDESTRIAN PATH | PP1 (R07) |
| | 0.60 /24" PERMEABLE PEDESTRIAN PATH | PP2 (R07) |
| | PERMEABLE PARKING PAVEMENT | PPA (R05) |
| | PAVER PAVEMENT | PPA (R05) |
| | GARBAGE PAD SCREEN | GPS (R07) |
| | LANDSCAPE STONE TYPE 1 | LS1 (R04) |
| | LANDSCAPE STONE TYPE 2 | LS2 (R04) |
| | SPEED TABLE | STP (R01) |
| | KILOMETER MARKER | KM (R05) |

| HORIZONTAL VERTICAL CONTROL # 20 | | | |
|---|---|---|---|
| N | 227,458.8280 | X | 141,663.2380 |
| EL. | 447.100 | PK | |

| HORIZONTAL VERTICAL CONTROL # 21 | | | |
|---|---|---|---|
| Y | 227,430.6690 | X | 141,623.2380 |
| EL. | 445.200 | PK | |




# GRADING DRAINAGE-8

scale= 1:300

C&G
JMCP + JLGARCHITECTS
115 DE PASEO DEL A, SUITE 1
SAN JUAN, PR 00917
787.200.1337

BARGES GEOTECHNICAL ENGINEERS, LLC
PASEO DE LA ALAMEDA, 200 TORRE DEL CONVENTO, P.R. 00744
787.200.1337

90% DESIGN SET
NOT FOR CONSTRUCTION

PROJECT: PR-CRP-000721
**PASEO LA GRUTA-VIVERO DE PECES**
CARRETERA ESTATAL PR 410 KM 3.0 - KM 4.5

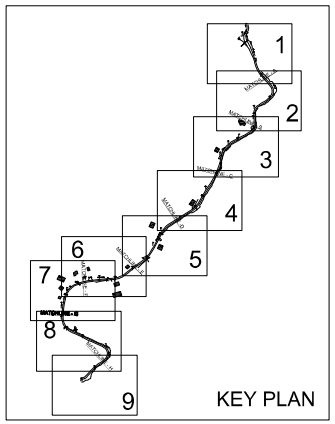
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PASEO HATCHERY [PR-CRP-000721]

| NO. | DATE | DRAWING ISSUE | BY | APP. |
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REVIEWED BY:
DATE: 05/23

SHEET TITLE: GRADING DRAINAGE PLAN
DRAWING NO.: C-208

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## EXISTING CONDITIONS LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PROPERTY POINT AND LINE. |
| | 0.50 MT. CONTOUR INTERVALS |
| | 1.00 MT. CONTOUR INTERVALS |
| | 5.00 MT. CONTOUR INTERVALS |
| | CONCRETE FENCE |
| | GUARD RAIL |
| | CHAIN LINK FENCE |
| | CONCRETE POWER TRANSMISSION POLE |
| | CONCRETE POWER TRANSMISSION POLE |
| | POWER WOODEN POLE |
| | PRTC. POLE |
| | LIGHTING POLE |
| | GUY |
| | ORNAMENTAL POLE |
| | SIGN |
| | HIDRANT |
| | SANITARY MANHOLE |
| | STORM SEWER CATCH BASIN |
| | VALVE |
| | CLEAN OUT |
| | WATER METER |
| KM 1.7 | KILOMETER MILESTONE |
| | HORIZONTAL AND VERTICAL CONTROL. |
| | BAMBU |
| | TREE |
| | PALM |

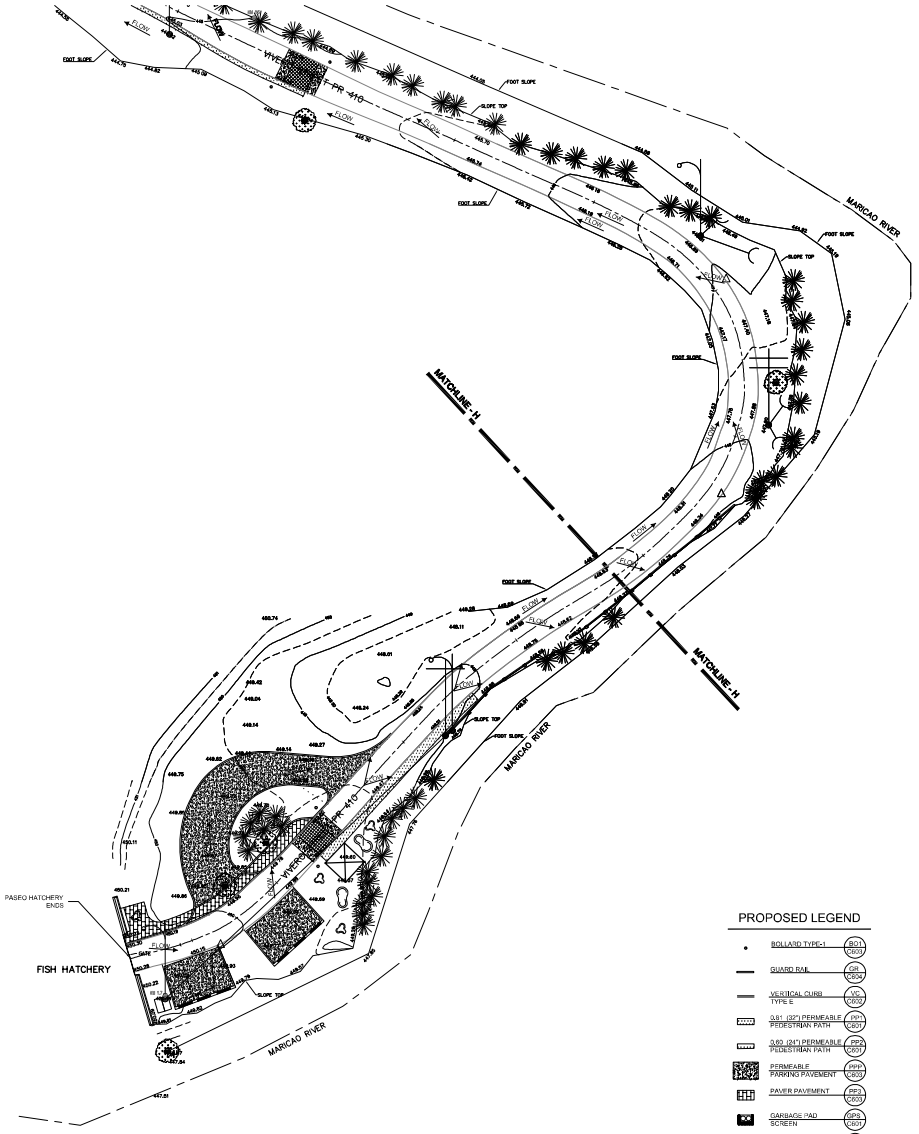
0 5 10 30

SCALE = 1:300

| HORIZONTAL VERTICAL CONTROL # 20 | | | |
|---|---|---|---|
| Y | 237,455.8390 | X | 141,893.8360 |
| EL. | 447.100 | PK | |

| HORIZONTAL VERTICAL CONTROL # 21 | | | |
|---|---|---|---|
| Y | 237,430.9890 | X | 141,893.2360 |
| EL. | 445.230 | PK | |

| HORIZONTAL VERTICAL CONTROL # 22 | | | |
|---|---|---|---|
| Y | 237,311.6570 | X | 141,821.5080 |
| EL. | 450.080 | PK | |




PROPOSED LEGEND

| | | |
|---|---|---|
| | BOLLARD TYPE-1 | BO1 (200) |
| | GUARD RAIL | GR (200) |
| | VERTICAL CURB TYPE E | VC (200) |
| | 0.61 (32") PERMEABLE PEDESTRIAN PATH | PP1 (200) |
| | 0.80 (24") PERMEABLE PEDESTRIAN PATH | PP2 (200) |
| | PERMEABLE PARKING PAVEMENT | PPP (200) |
| | PAVER PAVEMENT | PEP (200) |
| | GARBAGE PAD SCREEN | GPS (200) |
| | LANDSCAPE STONE TYPE 1 | LS1 (200) |
| | LANDSCAPE STONE TYPE 2 | LS2 (200) |
| | SPEED TABLE | STP (200) |
| | KILOMETER MARKER | KM (200) |

# GRADING DRAINAGE-9

scale= 1:300

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JMCP + JLGARCHITECTS
115 DE PASEO STREET SUITE 1
SAN JUAN, PR 00917
787.200.1837

BARGES GEOTECHNICAL ENGINEERS, LLC
PASEO DE LA ALAMEDA, 205 TORRE DEL CONVENTO, P.R. 00744
BARGESGEOTECHNICAL@COMCAST.NET

90% DESIGN SET
NOT FOR CONSTRUCTION

PROJECT: PR-CRP-000721
**PASEO LA GRUTA-VIVERO DE PECES**
CARRETERA ESTATAL PR 410 KM 3.0 - KM 4.5

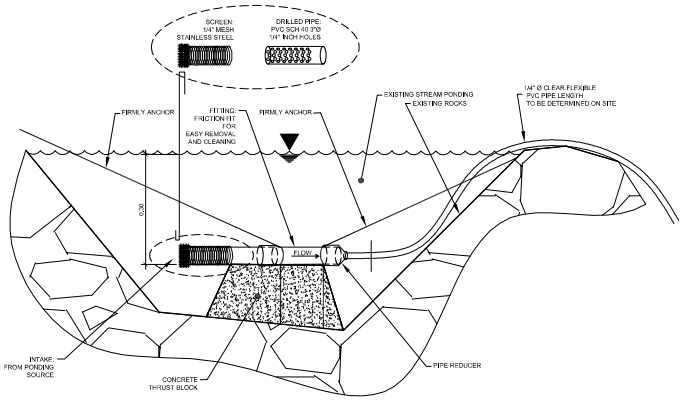
GOBIERNO MUNICIPAL DE MARICAO
PASEO HATCHERY [PR-CRP-000721]

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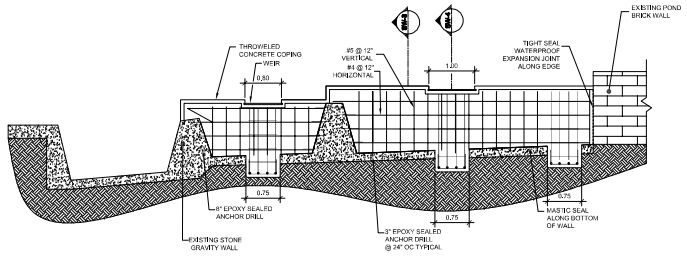
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DATE: 05/23

SHEET TITLE: GRADING DRAINAGE PLAN
DRAWING NO.: C-209

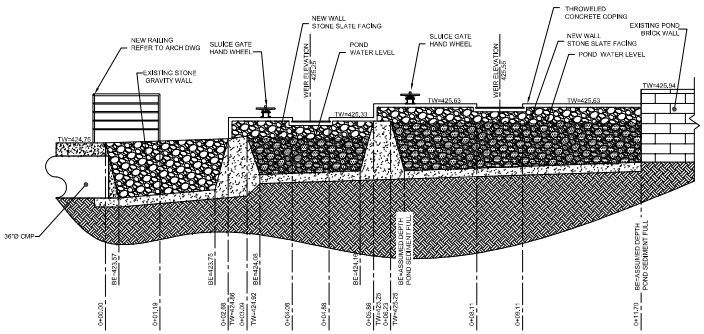
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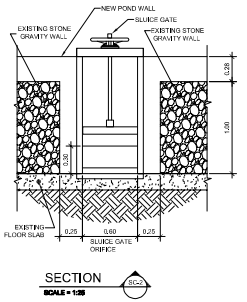

WATER INTAKE DETAIL
SCALE: NTS



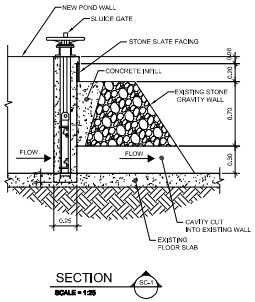

**WALL STRUCTURAL ELEVATION** SW-2
SCALE = 1:25
NOTE: PROVIDE 3" COVER FOR ALL REBARS.



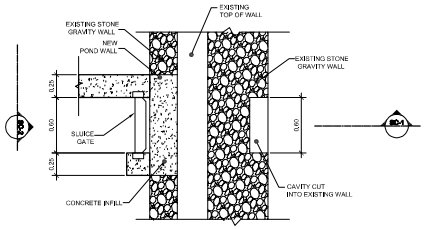

**EXISTING PONDS SEGMENTAL WALL ELEVATION** SW-1
SCALE = 1:25




SECTION SC-2
SCALE = 1:25



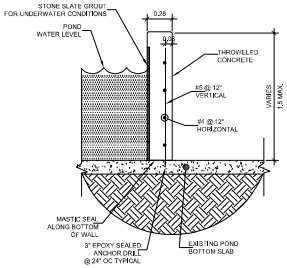

SECTION SC-1
SCALE = 1:25



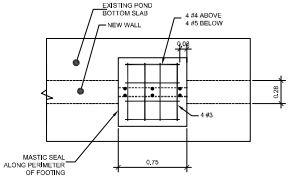

PLAN VIEW
SCALE = 1:25

SLUICE GATE NOTES:
1. USE CAST IRON SLUICE GATES
2. COMPLY WITH AWWA C501
3. STAINLESS STEEL: ASTM-A240/TYPE 304L OR 316L
4. GUIDES AND SEALS: THE GUIDES SHALL BE MADE OF UHMWPE (ULTRA HIGH MOLECULAR WEIGHT POLYETHYLENE).
5. SIDE AND TOP SEAL SHALL BE MADE OF RESILIENT EPDM (ETHYLENE PROPYLENE DIENE MONOMER)
6. GATE LIFTS SHALL BE HANDWHEEL
7. IN THE "GATE SCHEDULE" LIFTS SHALL OPERATE THE GATE WITH A MAXIMUM PULL OF 40 LB ON THE HANDWHEEL
8. SUBMIT SHOP DRAWINGS FOR APPROVAL.

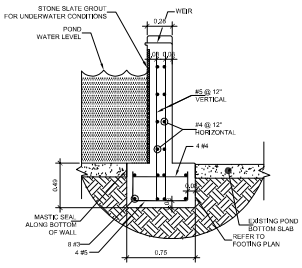
SLUICE GATES DETAILS
SCALE = 1:25



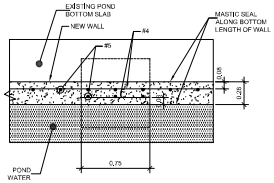

SECTION SW-2
SCALE = 1:25




FOOTING PLAN - A
SCALE = 1:25




SECTION SW-3
SCALE = 1:25




FOOTING PLAN - B
SCALE = 1:25

# POND DETAILS

SCALE = AS SHOWN

C&G
JMCP + JLGARCHITECTS
115 DE DIEGO EDIFICIO 115 SUITE 1
SAN JUAN, PR 00911
787.294.1837

BAIGES GEOTECHNICAL ENGINEERS, LLC
#4 PASEO DE LA ALAMEDA, 3RD TORRIMAR, GUAYNABO, P.R. 00966
JAIME.BAIGES@GMAIL.COM • (787) 599-0057

**90% DESIGN SET**
**NOT FOR CONSTRUCTION**

PROJECT: PR-CRP-000721
**PASEO LA GRUTA-VIVERO DE PECES**
CARRETERA ESTATAL PR 410 KM 3.0 - KM 4.5

GOBIERNO MUNICIPAL DE MARICAO
PASEO HATCHERY [PR-CRP-000721]

| NO. | DATE | DRAWING ISSUE | BY | APP. |
|---|---|---|---|---|
| 1 | | | | |

DRAWN BY:
REVIEWED BY:
DATE: 05/23
SHEET TITLE: POND DETAILS
DRAWING NO.: C-604

# 8-STEP PROCESS

## U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT:

### COMMUNITY DEVELOPMENT BLOCK GRANT – DISASTER RELIEF (CDBG-DR) PROGRAM

**Paseo Hatchery _ Project PR-CRP-000721**

# APPENDIX

10 Final Notice

GOBIERNO DE PUERTO RICO
JUNTA DE LIBERTAD BAJO PALABRA

## NOTIFICACIÓN A VÍCTIMAS

La Ley Núm. 118 del 22 de julio de 1974, según enmendada, conocida como "Junta de Libertad Bajo Palabra" concede a la víctima del delito y/o Secretario de Justicia, el derecho de notificación, asistencia y participación en procedimientos posteriores a la sentencia. Esto incluye los procedimientos relacionados con la libertad bajo palabra.

Con miras a salvaguardar la política pública dirigida a garantizar a toda víctima el derecho de notificación, asistencia y participación sobre la celebración de la vista en la cual se considere la concesión, modificación, reconsideración, seguimiento e investigación del privilegio de libertad bajo palabra, la Junta notifica que las siguientes personas comparecerán ante dicho organismo para su consideración.

**VISTA DE CONSIDERACIÓN**

Adorno Cintrón, Jesús M. - 60146
Atilano Ramos, Carlos R. - 148233
Burgos Tañón, Eduardo - 66251
Calderón, Jadiel M. - 133048
Candelario Hernández, Alejandro - 148142
Cardona De León - Jonathan A. - 147928
Collazo Ortiz, Yadiel - 147835
Colón Acevedo, Christopher - 148241
Colón Martínez, Edwin - 51622
Cotto Díaz, Félix A. - 148309
De León Ayala, Cirilo - 148468
Delgado Merced, Juan - 93281
Díaz Aguilar, Luis - 148359
Díaz Figueroa, José M. - 148405
Domínguez Cordero, Albert J. - 147697
Feliciano Bracero, Daniel - 141955
Fernández Malavé, Ramón- 61206
González Santiago, Julio - 59043
Hevia Ortega, Wilfredo - 75349
Ilimenez Rivera, Juan C. - 145320
Justiniano Maytín, José A. - 100384
Morales Maisonet, Mizael - 148214
Muñoz Barrientos, Jean C. - 148313
Nuñez Pastrana, Jeancarlos - 144085
Ortiz Rivera, José - 148311
Ortiz Serrano, Daniel - 95585
Pagán Resto, Enneth - 148256
Pérez Castro, Luis A. - 148224
Pérez Feliciano, Osvaldo - 136061
Pérez Gómez, Nehemías - 147642

**VISTA DE CONSIDERACIÓN**

Rivera Marquez, Alex M. - 147689
Rivera, Mario A. - 148338
Robles Monje, Eliseo - 50118
Robles Rosa, Richard - 100132
Rodríguez Otero, Juan W. - 130554
Rodríguez Pérez, Alexander - 127899
Román Rodríguez, Javier - 148256
Romero Figueroa, Celso - 51064
Rosario Solís, Carlos - 123467
Ruiz Albes, Ricky - 61053
Sánchez Martínez, Freddy - 148395
Santa Ocasio, Gerardo - 148321
Serrano Feliciano, Edgar - 107804
Serrano Martínez, Pedro - 62556
Sierra Placeres, Samuel - 78852
Silva Tolentino, Fernando - 147638
Solano Figueroa, Jay - 148329
Toledo Candelaria, Francisco - 58258
Torres Mora, Aaarón - 148328
Torres Rodríguez, Javier - 147651
Torres Vargas, José A. - 127451
Valentín Ayala, Gustavo - 148451
Vargas Cruz, John - 148413
Vargas Maldonado, Eduardo - 53738
Vázquez Carrasco, José - 148339
Vélez Caraballo, Joel - 148305

**ETAPA FINAL**

Corsino Bernabé, Efraín - 16000
Pastrana Quiles, Aníbal - 124478

Toda víctima con interés en el proceso deberá comunicarse a la Junta dentro del término de quince (15) días laborables contados a partir de la fecha de publicación de este edicto, al (787) 754-8115, Extensión 4205, para informarle el día, hora y lugar donde se celebrará la referida vista. **Para información adicional, el horario laboral es; lunes a viernes de 8:00 a.m. a 4:30 p.m. (12:00 m. - 1:00 p.m. cerrado).**

De no tener interés en comparecer y participar de la vista, deberá consignarlo por escrito en el documento provisto por la Junta o en su defecto testificar en la vista en ausencia del peticionario previa solicitud a esos efectos. Toda comunicación deberá ser enviada a la dirección postal: P.O. Box 192294 San Juan, P.R. 00919-2294, vía facsímil al (787) 754-4034, o al correo electrónico: **victimas2@jlbp.pr.gov**. En ausencia de respuesta de parte de la víctima, si esta opta por no comparecer a la vista o probada la incapacidad de la Junta de localizarla se continuarán los procedimientos sin su participación.

"Autorizado por la Oficina del Contralor Electoral OCE-SA-2024-00173"

En San Juan, Puerto Rico a, 19 de enero de 2024.

**Luz S. Feliciano Pérez**
**Secretaria de la Junta**

**Lcda. Aixa S. Pérez Mink**
**Presidenta**

Ave. Teniente César González, Esq. Calaf #34, Piso 9, Urb. Ind. Tres Monjitas, Hato Rey, PR 00919-0759
PO Box 192294, San Juan, PR 00919-2294
**Tel. 787-754-8115 / jlbpcorreo@jlp.pr.gov / www.jlpr.pr.gov**

## aviso público

**Aviso Final y Explicación Pública de una Actividad Propuesta en un valle inundable de 100 años y humedal**

Paseo Hatchery
PR-CRP-000721

Para: Todas las partes interesadas, grupos e individuos

Este aviso notifica que el Departamento de la Vivienda de Puerto Rico (Vivienda) completó una evaluación según establece la Orden Ejecutiva 11988, de acuerdo con los reglamentos de HUD en 24 CFR 55.20 Subparte C – Procedimientos para hacer determinaciones sobre el manejo del valle inundable y la protección de humedales. La actividad está subvencionada con fondos del Programa de Revitalización de la Ciudad, Subvención en Bloque para el Desarrollo Comunitario – Recuperación ante Desastres (CDBG-DR), número de subvención B-17-DM-72-0001 y B-18-DP-72-0001. El proyecto propuesto, **PR-CRP-000721**, está localizado en la carretera PR-410 del km 0.2 al km 1.5, Maricao, PR 00606; desde las coordenadas 18.179253, -66.980708 hasta las coordenadas 18.170269, -66.985604. El objetivo del proyecto consiste en el desarrollo de un concepto de "vía compartida" con un paseo recreativo para peatones y bicicletas paralelo al Río Maricao por la Ruta PR-410, también conocida como "Calle del Vivero". El programa de diseño propuesto incluye una secuencia de tablas de velocidad, nueva señalización y marcas en el pavimento, luminarias LED, reemplazo de barandillas, plantación para mejora visual del paisaje, medidas de control de la erosión cuando corresponda, y dos áreas de descanso e información. Las renovaciones incluyen una rampa, en conformidad con los códigos de construcción de la Ley de Estadounidenses con Discapacidades (ADA, por sus siglas en inglés), para brindar acceso a la plaza en la planta baja, se restaurarán los extensos escalones de la escalera y dos tanques de retención, se reemplazarán los ladrillos de arcilla roja que faltan y las barandillas existentes, se reemplazarán las luminarias de los postes de luz con bombillas LED eficientes, se instalarán dos nuevos recipientes para desechos, elementos paisajísticos y medidas de control de la erosión de los terraplenes. La actividad propuesta está situada en una zona de inundación A con dimensiones de 2.25 acres. El valle inundable se puede encontrar en el mapa de niveles de inundación base (ABFE, por sus siglas en inglés), como se indica en el Nivel de Inundación Base Recomendado de FEMA para Puerto Rico en Puerto Rico Advisory Base Flood Elevations (ABFEs) | FEMA Region II Hub (arcgis.com). El proyecto está ubicado adyacente a un humedal ribereño. El área de humedal se encuentra en la página de Inventario Nacional de Humedales en https://fwsprimary.wim.usgs.gov/wetlands/apps/wetlands-mapper/.

Vivienda ha considerado las siguientes alternativas y medidas de mitigación a tomar para minimizar los impactos adversos y restaurar y preservar los valores naturales y beneficiosos: (1) ubicar el proyecto dentro del valle inundable, (2) ubicar el proyecto fuera del valle inundable, y (3) no tomar ninguna acción. Aunque el sitio se encuentra en un valle inundable, no tiene ningún impacto en los valores naturales del valle inundable. El método de construcción se modificó para incluir módulos de pavimento permeable para el camino peatonal que proporcionará permeabilidad del suelo a los arcenes de la carretera previamente compactados y minimizarán el uso de maquinaria grande, lo que minimiza el impacto potencial de la construcción. Además, el diseño incorpora información en las zonas de descanso que proporcionan información y avisos a los usuarios con el fin de minimizar los riesgos para la vida humana. Las mejoras propuestas a caminos o calles no tendrán ningún impacto en los valores del valle inundable y generarán beneficios a largo plazo. Ubicar el proyecto fuera del valle inundable es una opción imprácticа porque no cumple con los criterios y objetivos de ubicación del Gobierno Municipal de Maricao, su enorme costo, disminución del valor recreativo, posibles impactos ambientales, costo de adquisición de tierras y posible desplazamiento. No tomar ninguna acción no es una opción porque la alternativa prefenda que ubica el proyecto dentro del valle inundable no ejerce impactos negativos sobre las condiciones existentes, entonces no hay razón para no tomar ninguna acción y privar a la comunidad de Maricao de sus beneficios a largo plazo.

Vivienda reevaluó las alternativas para construir en el valle inundable y humedal, y determinó que no cuenta con alternativas prácticas. La documentación ambiental que evidencie el cumplimiento de los pasos 3 a 6 de la Orden Ejecutiva 11988, está disponible para inspección, revisión y reproducción de parte del público, de ser solicitado, en el horario y lugar indicado en el último párrafo sobre recibo de comentarios de este aviso.

Este aviso tiene tres propósitos principales. Primero, las personas que pueden verse afectadas por actividades en el valle inundable/humedal y aquellos que tengan interés en la protección del ambiente natural deben recibir la oportunidad de expresar sus inquietudes y proveer información sobre estas áreas. Segundo, un programa adecuado de avisos públicos puede ser una importante herramienta de educación pública. La divulgación de información y solicitud de comentarios sobre el valle inundable/humedal puede facilitar y mejorar los esfuerzos federales para reducir los riesgos e impactos asociados con la ocupación y alteración de estas áreas especiales. Tercero, como materia de justicia, cuando el gobierno federal determine participar en acciones ubicadas en el valle inundable/humedal, debe informárselo a quienes puedan ser expuestos a un riesgo mayor o similar al presente.

Vivienda considerará todos los comentarios recibidos en o antes del 27 de enero de 2024. Pueden enviar los comentarios de forma impresa a la siguiente dirección: Departamento de la Vivienda de Puerto Rico, edificio Juan C. Cordero Dávila, 606 avenida Barbosa, Río Piedras, PR 00918-8461, Atención: Janette Cambrelén, Especialista en Permisos y Cumplimiento Ambiental. Una descripción completa del proyecto está disponible al público para revisión de 8:30 a.m. a 4:00 p.m. en el Departamento de la Vivienda de Puerto Rico, edificio Juan C. Cordero Dávila, 606 avenida Barbosa, Río Piedras, PR 00918. El número para obtener información es (787)274-2527 ext. 4320. Como alternativa, también pueden enviar los comentarios a Vivienda por medio electrónico a environmentcdbg@vivienda.pr.gov.

Fecha: 19 de enero de 2024

Lcdo. William O. Rodríguez Rodríguez
Secretario del Departamento de la Vivienda

Autorizado por la Oficina del Contralor Electoral OCE-SA-2023-00076

## public notice

**Final Notice and Public Explanation of a Proposed Activity in a 100-Year Floodplain and Wetland**

Hatchery Path
PR-CRP-000721

To: All Interested Parties, Groups & Individuals

This is to give notice that the Puerto Rico Department of Housing (PRDOH) has conducted an evaluation as required by the Executive Order 11988/11990, in accordance with HUD regulations at 24 CFR 55.20 Subpart C – Procedures for Making Determinations on Floodplain Management and Wetlands Protection. The activity is funded under the Community Development Block Grant – Disaster Recovery (CDBG-DR), City Revitalization Program, Grant number B-17-DM-72-0001 and B-18-DP-72-0001. The proposed project, **PR-CRP-000721**, is located at PR-410 Road from Km 0.2 to Km 1.5, Maricao, PR 00606; from coordinates 18.179253, -66.980708 to coordinates 18.170269, -66.985604. The objective of the project consists in the development of a "shared road" concept with a pedestrian and bicycle recreation path parallel to Río Maricao along the PR-410 Road, also known as Calle del Vivero. The proposed design program includes a sequence of "speed tables", new signage and pavement marking, led luminaires, replacement of guardrails, visual enhancement landscape planting, erosion control measures when applicable, and two rest and information areas. Renovations include a ramp, in compliance with the Americans with Disabilities Act (ADA) building codes, to provide access to the ground floor plaza, the extensive staircase steps and two retention tanks will be restored, missing red clay bricks and existing railings will be replaced, light pole luminaires will be replaced with efficient led bulb fixtures, two new waste receptacles, landscape accent planting and embankment erosion control measures will be installed. The proposed activity is situated in a flood zone A with dimensions of 2.25 acres. The floodplain in the project area can be found at the Advisory Base Flood Elevation Map (ABFE), as indicated on the FEMA Advisory Base Flood Elevation for Puerto Rico at Puerto Rico Advisory Base Flood Elevations (ABFEs) | FEMA Region II Hub (arcgis.com). The project is located adjacent to a riverine wetland. The wetland in the project area can be found at National Wetlands Inventory at https://fwsprimary.wim.usgs.gov/wetlands/apps/wetlands-mapper/.

PRDOH has considered the following alternatives and mitigation measures to be taken to minimize adverse impacts and to restore and preserve natural and beneficial values: (1) locate the project within the floodplain, (2) locate the project outside of the floodplain, and (3) take no action. Although the site is in a floodplain, it has no impact on floodplain's natural values. The construction method was modified to include permeable pavement modules for the pedestrian path which will provide soil perviousness to the previously compacted road shoulders and minimize the use of large machinery which minimizes potential construction impact. Additionally, the design incorporates information in the rest areas which provide information and warnings to users in order to minimize risks to human life. The proposed road or street improvements will result in no impact to the floodplain values and will result in long term benefits. Locating the project outside of the floodplain is an impracticable option because it doesn't comply with the Maricao Municipal Government location criteria and objectives, its enormous cost, diminished recreational value, potential environmental impacts, land acquisition cost and potential displacement. Taking a no action alternative is not an option because the preferred alternative to locating the project within the floodplain exerts no negative impacts upon the existing conditions, then there is no reason why to take no action and deprive the Maricao community of its long-term benefits.

PRDOH has reevaluated the alternatives to building in the floodplain and wetland, and has determined that it has no practicable alternative. Environmental files that document compliance with steps 3 through 6 of 24 Executive Order 11988/11990 are available for public inspection, review and copying upon request at the times and location delineated in the last paragraph of this notice for receipt of comments.

There are three primary purposes for this notice: First, people who may be affected by activities in the floodplain/wetland and those who have an interest in the protection of the natural environment should be given an opportunity to express their concerns and provide information about these areas. Second, an adequate public notice program can be an important public education tool. The dissemination of information and request for public comment about the floodplain/wetland can facilitate and enhance Federal efforts to reduce the risks and impacts associated with the occupancy and modification of these special areas. Third, as a matter of fairness, when the Federal government determines it will participate in actions taking place in the floodplain/wetland, it must inform those who may be put at greater or continued risk.

PRDOH will consider all comments received on or before January 27, 2024. Written comments can be sent to the following address: Puerto Rico Department of Housing, 606 Barbosa Avenue, Juan C. Cordero Dávila Building, Río Piedras, PR 00918-8461, Attention: Janette Cambrelén, Permits and Environmental Compliance Specialist. A complete description of the project is available to the public for review from 8:30 am to 4:00 pm at the Puerto Rico Department of Housing, 606 Barbosa Avenue, Juan C. Cordero Dávila Building, Río Piedras, PR 00918. The number to get information is (787)274-2527 ext. 4320. In the alternative, comments may also be sent to PRDOH by email at environmentcdbg@vivienda.pr.gov.

Date: January 19, 2024

William O. Rodríguez Rodríguez, Esq.
Secretary of the Department of Housing

Authorized by the Office of the Electoral Comptroller OCE-SA-2023-00076

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