Environmental Review for Activity/Project that is Categorically Excluded Subject to Section 58.5
Pursuant to 24 CFR 58.35(a)

Project Information

Project Name:
Rotonda Ave. Sabana Seca int. Calle Rufino Ramírez, Levittown (PR-CRP-000948);
Rotonda Ave. Sabana Seca int. Ave. Dr. Diego Alvarez Chanca, Levittown (PR-CRP-000964);
Rotonda Ave. Sabana Seca int. Calle Dr. Villalobos, Levittown (PR-CRP-000973)

Responsible Entity: Puerto Rico Department of Housing (PRDOH)

Grant Recipient (if different than Responsible Entity): Municipality of Toa Baja

State/Local Identifier: Puerto Rico / Municipality of Toa Baja

Preparer: Tanner Melendez, Environmental Planner, ICF

Certifying Officer Name and Title:
Aldo A. Rivera Vázquez - Director, Permits and Environmental Compliance Division
Angel G. López Guzmán - Deputy Director, Permits and Environmental Compliance Division
Maria T. Torres-Bregón - Permits and Environmental Compliance Manager
Sally Z. Acevedo-Cosme - Permits and Environmental Compliance Specialist
Limary Vélez Marrero - Permits and Environmental Compliance Specialist
Ivelisse Lorenzo Torres - Permits and Environmental Compliance Specialist
Mónica Machuca Rios - Permits and Environmental Compliance Specialist
Janette I. Cambrelén - Permits and Environmental Compliance Specialist
Santa Ramírez Lebrón - Permits and Environmental Compliance Specialist
Abdul Feliciano Plaza - Permits and Environmental Compliance Specialist
Pedro A. De León Rodríguez - Permits and Environmental Compliance Specialist
Javier Mercado Barrera - Permits and Environmental Compliance Specialist
Priscilla Toro Rivera - Permits and Environmental Compliance Specialist

Consultant (if applicable): ICF

Direct Comments to: Puerto Rico Department of Housing at environmentcdbg@vivienda.pr.gov

Project Location (refer to Appendix A for project location maps):
- PR-CRP-000948: Juan "Picolino" Hernández Ferrer Avenue (Sábana Seca Avenue) intersection with Llorens Torres Street (north) and Rufino Martínez Street (south) (18.437412°, -66.167189°)
- PR-CRP-000964: Juan "Picolino" Hernández Ferrer Avenue (Sábana Seca Avenue) intersection with Dr. Álvarez Chanca Avenue (18.437677°, -66.180319°)
- PR-CRP-000973: Juan "Picolino" Hernández Ferrer Avenue (Sábana Seca Avenue) intersection with Dr. Villalobos Street and Del Carmen Street (18.437799˚, -66.185903˚)

The sites do not have formal cadaster numbers because these are normally not assigned for streets. The following cadaster numbers have been issued for the purpose of processing permits and were provided by the project's designer:

PR-CRP-000948: EXC-TMP-156-00
PR-CRP-000964: EXC-TMP-157-00
PR-CRP-000964: EXC-TMP-158-00

Description of the Proposed Project [24 CFR 50.12 & 58.32; 40 CFR 1508.25]**:** The aggregated projects identified as PR-CRP-000948 / PR-CRP-000964 / PR-CRP-000973 involve improvements to three intersections along Juan "Picolino" Hernández Ferrer Avenue (also known as Sábana Seca Avenue) in Levittown area of the municipality of Toa Baja. It is important to note that Sábana Seca Avenue and Juan "Picolino" Hernández Ferrer Avenue are two names that refer to the same avenue.

The proposed activity will modify three existing intersections to establish roundabouts. The project will include safety improvements such as signage, rumble strips before pedestrian crossings, new pedestrian and vehicle lighting, a raised speed table, and pavement markings; new planting areas in the roundabouts' inner circles, islands, and strips with rain gardens; sidewalk preservation/construction; and relocation of electrical/telecommunication posts. The proposed modification of the intersections to roundabouts will be constructed within the existing road footprint. Consequently, there will be no increase in impervious surfaces and minimal ground disturbance during the construction. The project area is already owned and maintained by the municipality, so there will be no costs or complications associated with the acquisition of additional property.

The conversion of traditional intersections to roundabouts in the project area will provide numerous benefits, including a reduction in crashes and fatalities, slower vehicle speed, more efficient traffic flow, reduced fuel consumption and pollution, financial savings, and a more aesthetic landscape.

Individual project descriptions are provided below.

PR-CPR-000948:

At present, the Juan "Picolino" Hernández Ferrer Avenue (Sábana Seca Avenue) intersection with Llorens Torres Street (north) and Rufino Martínez Street (south) has three westbound and eastbound lanes with lefthand turns turning on the north and south roads. The proposed roundabout will ease traffic coming from adjacent streets and businesses such as McDonald's, Texaco Gas Station, Mobil Gas Station and Burger King. It will also ease traffic coming from Road #167, located approximately 492.12 feet east of the center of the proposed roundabout, which leads north to PR #165 (also known as El Caño Avenue) and south towards PR#22 Highway. This roundabout will reduce the Juan "Picolino" Hernández Ferrer Avenue (Sábana Seca Avenue) to a two-lanes road in both directions. In addition, Llorens Torres and Rufino Martínez Streets will be reduced to one lane roads in both directions. Re-greening of the intersection areas is planned.

The Luis Palés Matos Avenue is the project's north limit while the south one is a small cluster of commercial buildings and individual houses. Minimal excavation of a depth not exceeding four (4) feet is required. Since the project construction area does not extend beyond the limits of existing roads and sidewalks, there will be no earth movement and/or excavations outside the area already impacted when the two avenues were constructed years ago. This intervention will not affect access to neighboring businesses and neighborhoods.

The project will have the same footprint as the existing roadway. This footprint is 92,957.13 square feet and includes the intersections of Juan “Picolino” Hernández Ferrer Avenue (Sábana Seca Avenue) and Rufino Ramírez Street. The project covers a maximum length of 629.29 feet (east-to-west) and 465.88 feet (north-to-south).

Figure 1 - Top view of proposed design for PR-CRP-000948

PR-CRP-000964:
The intersection of the Juan “Picolino” Hernández Ferrer Avenue (Sábana Seca Avenue) and the Dr Álvarez Chanca Avenue roundabout will solve vehicle congestion and will increase pedestrian safety. Additionally, the number of lanes will be reduced from the current three (3) lanes down to two (2), both at the entrance and exit of the proposed roundabout. The culvert located in the center of the roundabout will not rise more than three (3) feet above the finished grade of the road.

The following activities are part of this project:

1. Insertion of pavement markings, known as “rumble strips,” along the Juan “Picolino” Hernández Ferrer Avenue. The aim of this treatment is to reduce vehicular speed.
2. Addition of a new pedestrian crossing with elevated crossings at sidewalk levels, known as “speed table,” at the Dr Álvarez Chanca Avenue.

3. Insertion of an exclusive lane north of the intersection that with no access from the roundabout to reduce vehicular congestion and still provide access to existing businesses at this intersection.

Minimal excavation of a depth not exceeding four (4) feet is required. Project construction does not extend beyond the limits of the existing roads and sidewalks. Therefore, there will be no land movement or excavations outside the area impacted when the two avenues forming the intersection were constructed years ago.

The Emidgio d'Antique Street borders the project's north limit while a small cluster of individual houses marks the southern one.

The project will have the same footprint as the existing roadway. This footprint is 92,720.32 square feet and includes the intersections of Juan "Picolino" Hernández Ferrer Avenue (Sábana Seca Avenue) and Dr Álvarez Chanca Avenue. This area covers a maximum length of 688.98 feet (east-to-west) and 321.52 feet (north to south).

Figure 2 - Top view of proposed design for PR-CRP-000964

PR-CRP-000973:

The roundabout will be constructed at the intersection of Juan "Picolino" Hernández Ferrer Avenue (Sábana Seca Avenue) and Dr Villalobos Street and Del Carmen Street intersection. The number of lanes will be reduced from the current three (3) down to two (2), both at the entrance and exit of the proposed roundabout. On the north, a series of paved markings will be included, as well as pedestrian crossing areas. The signage and pedestrian pavement markings will comply with Americans with Disabilities Act (ADA) guidelines.

New green areas and "rain gardens" cover an area of approximately 8,557.31 square feet.

Minimal excavation not exceeding four (4) feet is required. Project construction will not extend beyond the limits of the existing roads and sidewalks. Therefore, there will be no land movement or excavations outside the area already impacted by the two avenues when they were constructed.

The project north limit is formed by the Emidgio d'Antique Street while the south one is related to the Marginal Este Street.

The project will have the same footprint as the existing roadway. This footprint is 88,371.7 square feet and includes the intersections of Juan "Picolino" Hernández Ferrer Avenue (Sábana Seca Avenue) and Dr Villalobos Street. This area covers a maximum length of 623.36 feet (east-to-west) and 567.59 feet (north to south).

Figure 3 - Top view of proposed design for PR-CRP-000964

Funding Information

Grant Number	HUD Program	Funding Amount
B-17-DM-72-0001; B-18-DP-72-0001; B-19-DP-78-0002; B-18-DE-72-0001	Community Development Block Grant – Disaster Recovery (CDBG-DR)	$11,938,162,230

Estimated Total HUD Funded Amount: $1,845,663.68
PR-CRP-000948: $604,107.57
PR-CRP-000964: $658,491.84
PR-CRP-000973: $583,064.27

Estimated Total Project Cost (HUD and non-HUD funds) [24 CFR 58.32(d)]: $1,845,663.68
PR-CRP-000948: $604,107.57
PR-CRP-000964: $658,491.84
PR-CRP-000973: $583,064.27

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
STATUTES, EXECUTIVE ORDERS, AND REGULATIONS LISTED AT 24 CFR 50.4 and 58.6		
Airport Hazards 24 CFR Part 51 Subpart D	Yes ☐ No ☒	The nearest civil airport, Fernando Luis Ribas Dominicci (SIG), is approximately 4.96 mi (26,188 feet) away and the nearest military airport, Luis Muñoz Marín (SJU), is approximately 12.25 mi (64,680 feet) away from the proposed project location. The centerpoint of the intersection at Juan “Picolino” Hernández Ferrer Ave. and Rufino Ramirez St. (PR-CRP-000948) (18.437412°, -66.167189°) was used for this analysis, because it is the closest of the three intersections to the nearest civil airport and the nearest military airport. The project location is outside the Accident Potential Zone (APZ) and Runway Protection Zone/Clear Zone (RPZ/CZ). Thus, the

		proposed action is in compliance with Airport Hazards requirements. Refer to: **Appendix B: Airport Hazard Maps**
Coastal Barrier Resources Coastal Barrier Resources Act, as amended by the Coastal Barrier Improvement Act of 1990 [16 USC 3501]	Yes ☐ No ☒	The closest Coastal Barrier Resource unit is The Punta Salinas Unit PR-86P, identified as an "Otherwise Protected Area", located 1.53 miles (approximately 8,087 feet) north of the PR-CR-000973 project area. The intersection at Juan "Picolino" Hernández Ferrer Ave. and Del Carmen St. (PR-CRP-000973) (18.437799, -66.185903) was used for this analysis, because it is the closest of the three intersections to the nearest Coastal Barrier Resource unit. The proposed project is not located within a Coastal Barrier Resources Unit. Therefore, this project has no potential to impact a CBRS Unit and is in compliance with the Coastal Barrier Resources Act. Refer to: **Appendix C: Coastal Barrier Resources System Map**
Flood Insurance Flood Disaster Protection Act of 1973 and National Flood Insurance Reform Act of 1994 [42 USC 4001-4128 and 42 USC 5154a]	Yes ☐ No ☒	According to the Federal Emergency Management Agency's (FEMA) Flood Insurance Rate Map (FIRM), (panels 72000C0345J and 72000C0335J, effective 11/18/2009), the projects are located partially in Zone X and within the 0.2% Annual Chance Flood Zone (500-year floodplain). The intersections at Rufino Ramirez St. and Dr. Álvarez Chanca Ave. are located entirely within the 500-year floodplain, while the intersection at Del Carmen St. is located only partially within the 500-year floodplain. The remainder of the project area at the Del Carmen St. intersection is located in Flood Zone X in the Area of Minimal Flood Hazard. The project site is located entirely outside of the FEMA 100-year floodplain. Furthermore, the project does not involve activities that will modify the flood zone. The project will help alleviate local flooding through the creation of new green spaces and the installation of rain gardens. The project is in compliance with flood insurance requirements, as it does not include any structures that require flood insurance. Refer to: **Appendix D: Flood Insurance Rate Maps**

STATUTES, EXECUTIVE ORDERS, AND REGULATIONS LISTED AT 24 CFR 50.4 & 58.5		
Clean Air Clean Air Act, as amended, particularly section 176(c) & (d); 40 CFR Parts 6, 51, 93	Yes ☒ No ☐	According to the U.S. Environmental Protection Agency's (USEPA) Online Green Book, Toa Baja has been designated as "Non-attainment for Sulfur Dioxide (2010)" for 1-hour SO2. All three intersections within the project area are located within the nonattainment zone. The sources of these emissions are: PREPA: 1) San Juan and 2) Palo Seco. This coincides with information from the US Environmental Protection Agency (EPA) that indicates that the largest source of sulfur dioxide comes fuel use from power plants and other industrial sources (https://www.epa.gov/so2-pollution/sulfur-dioxide-basics). Sulfur emissions may also be produced by heavy equipment in the road, or other vehicles that burn fuel with high sulfur content, which is not the case for individually owned cars or vehicles which mostly use low sulfur gasoline. Emissions associated with the proposed project are estimated to be well below the threshold when compared to the federal General Conformity Rule de minimis thresholds. Construction activities such as cleaning, grubbing, earth movement and the demolition of road structures produce particulates and conditions in which soil could be exposed to wind erosion and airborne particulates. During construction, the proposed action could generate emissions (particulate material, hydrocarbons, nitrogen oxide, sulfur dioxide, among others) in addition to those produced during the use of the existing roads of the area. For the most part, those emissions would be produced by the operation of the heavy equipment and machinery used during the construction process. Potential air quality impacts would be minor and incidental to the construction period. Implementation of construction related air pollution controls (fugitive dust control and heavy equipment emissions controls) would reduce potential impacts. This temporary effect is not significant and will not have an adverse impact on the residential, institutional, and commercial properties located near the project area. The proposed project is not expected to have an adverse impact on air quality and is not expected to result in non-attainment levels. In terms of vehicle emissions, the Department of Transportation indicates that, in general, roundabouts experience lower emission from

		vehicles due to less stop-and-go traffic patterns (https://safety.fhwa.dot.gov/intersection/roundabouts/fhwasa15071.pdf), which leads to the conclusion that the proposed roundabout will not adversely impact the air quality in the area, but could improve it. The project is in compliance with the Clean Air Act. Refer to: **Appendix E: EPA Green Book and Clean Air Act Map**
Coastal Zone Management Coastal Zone Management Act, sections 307(c) & (d)	Yes ☐ No ☒	The project that has the nearest location to the coastal zone delineation is project PR-CRP-000948 (18.437412°, -66.167189°), whose location is approximately 1,478 feet outside the Coastal Zone boundary. The proposed project does not affect a coastal zone as defined in the Coastal Zone Management Document. Therefore, this project complies with the Coastal Zone Management Act without further evaluation. Refer to: **Appendix F: Coastal Zone Management Act Map**
Contamination and Toxic Substances 24 CFR Part 50.3(i) & 58.5(i)(2)	Yes ☐ No ☒	There are 15 EPA-regulated facilities located within the buffer zone (3000-ft) of the proposed project. The EPA-regulated facilities are: 1. Vista Del Morro STP (RCRA) 2. Remolques De Puerto Rico Inc (RCRA) 3. Ensco Caribe Inc (RCRA) 4. Esso Standard Oil Co - PR Co-043 (RCRA) 5. Gulf Levittown (RCRA) 6. SHELL CO PR LTD LEVITTOWN LAKES SS 3247 (RCRA) 7. Exclusive Cleaners (ICIS-AIR) 8. Lamp Recycling Co Inc (RCRA) 9. Pep Boys The 913 (RCRA) 10. AMIGO SUPERMARKET #3670 (RCRA) 11. TOTAL PETROLEUM PUERTO RICO CORP-SERVICE STATION 104108 (RCRA) 12. WALGREENS #82 (RCRA) 13. Prtc - Levittown Central Office (RCRA) 14. Sabana Seca Ss 3620 (RCRA) 15. Cvs Pharmacy #2247 (RCRA) None of the facilities listed above have an identified compliance violation. Additionally, there will be no ground disturbance outside of existing roadways during the construction of the proposed project.

		Therefore, none of the facilities listed above will be impacted, nor will the project development and intended use of these sites. The project consists of improvements to a roadway that will not result in permanent occupation of the project site. Therefore, an analysis of previous uses of the project site is not required, according to 24 CFR 50.3 (i)(2). Additionally, the proposed project does not involve any structure that will be occupied or is intended to be occupied for more than four (4) hours a day, as defined in HUD Notice CPD-23-103. Therefore, radon requirements are not applicable. The project is in compliance with contamination and toxic substance requirements and no further analysis is required. Refer to: **Appendix G: EPA Facilities Map and ECHO Reports**
Endangered Species Endangered Species Act of 1973, particularly section 7; 50 CFR Part 402	Yes ☒ No ☐	According to the US Fish and Wildlife Service's (USFWS) Information for Planning and Consulting (IPaC) tool, the following listed species may occur within or near the proposed project site: <u>Endangered:</u> • Puerto Rican Boa (*Chilabothrus inornatus*) <u>Threatened:</u> • Roseate Tern (*Sterna dougallii dougallii*) • Palo De Rosa (*Ottoschulzia rhodoxylon*) Considered to be a habitat generalist, the Puerto Rican Boa (*Chilabothrus inornatus*) tolerates a wide variety of terrestrial and arboreal habitats, including rocky areas, haystack hill, trees and branches, rotting stumps, caves, plantations, various types of forested areas such as karst and mangrove forests, forested urban and rural areas, and along streams and road edges. If a Puerto Rican Boa is found on the project site, work shall cease until the Boa moves off on its own. If the Boa does not move off, the contractor shall contact the Puerto Rico Department of Natural and Environmental Resources and ask for them to relocate the Boa. According to the USFWS's Caribbean Roseate Tern (*Sterna dougallii dougalii*) Status Review 2022, the Roseate Tern tends to nest on small islands, such as barrier islands and near sea level. Additionally, "The Caribbean population breeds from Florida through the

		West Indies, to islands off Central America and northern South America". According to the National Audubon Society, the Roseate Tern's habitat includes coastal areas such as salt bays, estuaries, and the ocean. They typically nest on sandy or rocky islands with low plant cover near shallow waters such as in bays or estuaries. If a Roseate Tern is found in the project activity site, work shall cease until the Tern moves off on its own. If the Tern does not move off, the Construction Manager shall contact the Puerto Rico Department of Natural and Environmental Resources and ask for them to relocate the Tern. According to the USFWS, the Palo De Rosa (*Ottoschulzia rhodoxylon*) is a flowering tree that can reach up to 49 feet in height, generally limited to rocky alkaline soils and serpentine derivatives along the southwestern coast of Puerto Rico. However, Palo De Rosa can also be found in the northern limestone belt in the karst regions of Puerto Rico. The species was downlisted from Endangered to Threatened on 11/4/2022. While some trees will be removed as a part of the project scope, no Palo De Rosa was identified as part of the tree inventory. A tree mitigation plan will be implemented as part of the project and following local regulations and requirements. The nearest critical habitat to the project is located 2,340 feet to the south of the site for project PR-CRP-000973 (18.437799˚, -66.185903˚) and it will not be impacted. A determination of No Effect (NE) was made for the Roseate tern and the Palo de Rosa, while a Not likely to adversely affect (NLAA) determination was made for the Puerto Rican boa. These determinations were submitted to the USFWS on 2/25/2025 as part of an informal documentation package. On response signed on 3/24/2025, that agency agrees on the determination for all species and goes on to state: *We have reviewed the information provided in your letter and our files, and concur with your determination that the proposed project may affect, but is not likely to adversely affect the Puerto Rican boa with the implementation of the conservation measures.* *In view of this, we believe that requirements of section 7 of the Endangered Species Act (Act) have been*

		satisfied. However, obligations under section 7 of the Act must be reconsidered if: (1) new information reveals impacts of this identified action that may affect listed species or critical habitat in a manner that was not previously considered; (2) this action is subsequently modified in a manner not previously considered in this assessment; or, (3) a new species is listed, or critical habitat determined that may be affected by the identified action. *With regards to the Fish and Wildlife Coordination Act, these projects may impact or are close to wetland areas, any impacts to wetlands caused by the expansion (temporary or permanent), outside of the existing roadway footprint may require a US Army Corps of Engineers permit. We recommend that the wetland boundary be clearly marked in the field and that the contractor maintain a 30 meter vegetated buffer between any construction work and the wetlands. The contractor should be made aware that any impacts to wetlands could result in violations to federal laws and regulations.* The project is in compliance with Section 7 of the ESA and mitigation measures will be implemented. Refer to: **Appendix H for Endangered Species documents.**
Explosive and Flammable Hazards 24 CFR Part 51 Subpart C	Yes ☐ No ☒	The project does not involve development, construction, or rehabilitation that will increase residential density or conversion. Examination of aerial views and street views show no above ground storage tanks within the acceptable separation distance that would not be blocked by intervening public infrastructure. Thus, the project is in compliance with explosive and flammable hazard requirements. It is important to note that the project would involve temporary tasks during construction that possibly require the use of a power generator, heavy machinery, and diesel tanks. During construction, the project shall meet requirements for fuel management and spill containment. The project is in compliance with Explosive and Flammable Hazards requirements.
Farmlands Protection	Yes ☐ No ☒	The project does not involve any activities that could convert farmland to non-farmland use, such as new construction, acquisition of undeveloped land, or land conversion. According to data from the National

Farmland Protection Policy Act of 1981, particularly sections 1504(b) and 1541; 7 CFR Part 658		Resources Conservation Service's Web Soil Survey, none of the project area is classified as Prime Farmland or Farmland of Statewide Importance. Additionally, according to the definitions at 7 CFR Part 658.2(a), "farmland" does not include land already in urban development (all such land with a density of 30 structures per 40-acre area). The site is already developed and is situated within an urban area consisting of existing roads, homes, and commercial sites. Therefore, there will be no impacts on prime farmlands, as the proposed project will remain within the existing footprint. Since the area is already being used as a roadway and not as farmland, no farmland impacts will occur and the project complies with the Farmland Protection Policy Act. Refer to: **Appendix I: Farmland Protection Policy Maps**
Floodplain Management Executive Order 11988, particularly section 2(a); 24 CFR Part 55	Yes No ☒ ☐	PRDOH will apply the 0.2-Percent- Annual-Chance Flood Approach (0.2 PFA) to identify the floodplain and will use the best available information including the Flood Insurance Rate Map (FIRM), Preliminary Flood Insurance Rate Map (PFIRM), or Advisory Base Flood Elevation (ABFE) maps, whichever is most protective. The horizontal extent of the floodplain includes the 100-year floodplain (1 % annual chance) and 500-year floodplain (0.2% annual chance) based on FEMA maps. There are no PFIRMS for the project site area. According to the Federal Emergency Management Agency's (FEMA) Advisory Base Flood Elevation (ABFE) map, the project areas are within the 1% Annual Chance of Flood (Zone A). According to the updated 24 CFR Part 55, the federal agency has determined that a 5-step process is the appropriate approach for evaluation under Part 55 for certain activities, including "actions under any HUD program involving the repair, rehabilitation, or replacement of existing nonstructural improvements including streets, curbs, and gutters, where any increase of the total impervious surface area of the facility is de minimis". Therefore, the Modified 5-Step Decision-Making Process to analyze the direct and indirect impacts associated with the construction, occupancy, and modification of the floodplain was performed. The analysis found that the proposed

		project would not result in adverse impacts to lives, property, and natural values of the floodplain. Therefore, no mitigation measures are required. While the proposed action may not restore floodplain values, the design is intended to preserve them. This preservation will be partly achieved through the renovation and utilization of existing facilities such as roads, sidewalks, and green areas, which will reduce the creation of new impermeable surfaces. The design does not include new structures that might impede floodwater movement. Furthermore, the design aims to maximize water percolation by incorporating permeable surfaces and enhancing existing vegetation with new landscaping and installing rain gardens to capture and infiltrate runoff. The project will not modify the current floodplain footprint or adversely impact the base flood elevation, and it will not alter the area's hydraulic characteristics. Therefore, while the relocation and no-action alternatives are impracticable, the proposed project supports the municipality's efforts to create a more resilient and safer community without negative impacts to floodplain management. The project is in compliance with Executive Order 11988 and all applicable floodplain management regulations. Refer to: **Appendix J**
Historic Preservation National Historic Preservation Act of 1966, particularly sections 106 and 110; 36 CFR Part 800	Yes ☐ No ☒	Consultation with the Puerto Rico State Historic Preservation Office (SHPO) was submitted on September 10, 2024. As per the letter dated September 25, 2024, SHPO supported the finding of "no historic properties affected" within the project's area of potential effects. Therefore, the proposed action is in compliance with Section 106 of the NHPA and no further action needs to be performed, unless project conditions change. The project complies with the National Historic Preservation Act of 1966, particularly sections 106 and 110; 36 CFR Part 800. Refer to: **Appendix K: Cultural Resources Documentation**
Noise Abatement and Control	Yes ☐ No ☒	The proposed actions are not expected to result in a permanent increase in the noise level of the area. During construction, temporary increases in noise

Noise Control Act of 1972, as amended by the Quiet Communities Act of 1978; 24 CFR Part 51 Subpart B		levels may occur due to the use of heavy machinery. However, these noise levels are not anticipated to be excessive or significantly disturb the surrounding environment. Noise levels will be incidental to construction and levels in the nearby residential neighborhood are not expected to increase following the construction of the project, because there will be no anticipated increase of traffic density or other noise contributors. Noise assessment is required only if the project is for new construction or rehabilitation for residential use. The project does not involve the development of noise-sensitive uses. Thus, no noise assessment is required for this project. The project is in compliance with the Noise Control Act.
Sole Source Aquifers Safe Drinking Water Act of 1974, as amended, particularly section 1424(e); 40 CFR Part 149	Yes ☐ No ☒	There are no EPA Sole Source Aquifers in Puerto Rico. The nearest Sole Source Aquifer is located 1,023.12 miles (approximately 5,402,073.6 feet) away in Cross Key, Florida. Furthermore, the project consists of activities that are unlikely to have an adverse impact on groundwater resources. The project is in compliance with the Safe Drinking Water Act and Sole Source Aquifer requirements. Refer to: **Appendix L: Sole Source Aquifer Map**
Wetlands Protection Executive Order 11990, particularly sections 2 and 5	Yes ☒ No ☐	According to the USFWS National Wetlands Inventory mapper, a very small portion of the PR-CRP-000948 footprint is located within an Estuarine and Marine Deepwater wetland (E1UBLx). This area is identified as a retaining pond in construction drawings. However, this area is already developed with sidewalks, curbs, and an asphalt road. The project will not expand beyond the footprint of the existing intersection further into the wetland and therefore, there will be no direct or indirect impacts as a result of the project activities. The PR-CRP-000964 and PR-CRP-000973 project areas are located more than 100 feet from any wetlands identified in the National Wetlands Inventory mapper. Consequently, the proposed actions are not expected to have any adverse impacts on nearby wetlands. Erosion and sediment control measures will be implemented to mitigate any potential adverse effects from stormwater. According to the updated 24 CFR Part 55, the federal agency has determined that a 5-step process is the

		appropriate approach for evaluation under Part 55 for certain activities, including "actions under any HUD program involving the repair, rehabilitation, or replacement of existing nonstructural improvements including streets, curbs, and gutters, where any increase of the total impervious surface area of the facility is de minimis". Therefore, the Modified 5-Step Decision-Making Process to analyze the direct and indirect impacts associated with the construction, occupancy, and modification of the wetland was performed. The analysis found that the proposed project would not result in adverse impacts to lives, property, and natural values of the wetland. Therefore, no mitigation measures are required. While the proposed action may not restore wetland values, the design is intended to preserve them. This preservation will be partly achieved through the renovation and utilization of existing facilities such as roads, sidewalks, and green areas, which will reduce the creation of impermeable surfaces and help capture and infiltrate stormwater. This project complies with Executive Order 11990 and all applicable wetland protection requirements. Refer to: **Appendix M: Wetland Maps** **Appendix J.2: 5-Step Documentation**
Wild and Scenic Rivers Wild and Scenic Rivers Act of 1968, particularly section 7(b) and (c)	Yes No ☐ ☒	The project is not located within or near any designated Wild and Scenic Rivers in Puerto Rico. Notably, Puerto Rico has only three designated Wild and Scenic Rivers—Río de la Mina, Río Icacos, and Río Mameyes—situated about 27.91 miles (147,364.8 feet) east of the project site. While Puerto Rico has approximately 5,385 miles of rivers, only 8.9 miles are classified as wild and scenic, representing less than 0.2% of the island's river miles. Consequently, this project will not impact any designated Wild and Scenic Rivers. The proejct is in compliance with the Wild and Scenic Rivers Act. Refer to: **Appendix N:** Wild and Scenic River Map
ENVIRONMENTAL JUSTICE		

Environmental Justice Executive Order 12898	Yes No ☐ ☒	On January 21, 2025, President Donald Trump issued the Executive Order 14173 titled "Ending Illegal Discrimination and Restoring Merit-Based Opportunity", which revoked Executive Order 12898 and eliminated federal mandates requiring agencies to assess environmental justice impacts. Consequently, there is no longer a federal requirement to address environmental justice concerns in the environmental compliance review process.

Field Inspection: See the Site Inspection Report included in **Appendix O**.

Summary of Findings and Conclusions:
The proposed project involves road improvements in Toa Baja, Puerto Rico, and has been evaluated for compliance with relevant statutes, executive orders, and regulations. The project is expected to yield several beneficial impacts, including improved traffic flow, enhanced safety, reduced vehicle emissions due to the implementation of a roundabout, and better stormwater management. However, there will be minor, temporary impacts during construction, such as increased emissions from heavy machinery, fugitive dust, and a rise in noise levels. These impacts will be mitigated through best management practices such as dust, emissions and erosion and sedimentation control.

Mitigation measures will be needed to comply with regulations for the Puerto Rican Boa, floodplain management, wetlands protection, and the Clean Air Act. If a Puerto Rican Boa or Caribbean Roseate Tern is found on-site, work will cease until the Boa or Tern moves off on its own, or the Puerto Rico Department of Natural and Environmental Resources will be contacted for relocation. Post-construction monitoring will assess ongoing impacts, and standard construction best management practices (BMPs) will control erosion and runoff as well as potential impacts related to air pollution.

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.

Law, Authority, or Factor	Mitigation Measure
Clean Air	Contractors will be required to implement best management practices (BMPs) during construction to reduce potential impacts related to air pollution from sources such as fugitive dust and heavy equipment/power generator emissions.
Endangered Species	• If a Puerto Rican Boa or Caribbean Roseate Tern is found on-site, work will cease until the Boa or Tern moves off on its own, or the Puerto Rico Department of Natural and

	Environmental Resources will be contacted by the Construction Manager for relocation. • Puerto Rican boa with the implementation of the USFWS's conservation measures for the Puerto Rican boa. • USFWS stated: These projects may impact or are close to wetland areas, any impacts to wetlands caused by the expansion (temporary or permanent), outside of the existing roadway footprint may require a US Army Corps of Engineers permit. We recommend that the wetland boundary be clearly marked in the field and that the contractor maintain a 30 meter vegetated buffer between any construction work and the wetlands. The contractor should be made aware that any impacts to wetlands could result in violations to federal laws and regulations.
Floodplain Management	Standard Construction BMPs would be used to control erosion, sedimentation, and runoff during construction. New green spaces and rain gardens will be installed to allow stormwater to be captured and percolate naturally, which will help alleviate local flooding. The Modified 5-Step Decision-Making Process to analyze the direct and indirect impacts associated with the construction, occupancy, and modification of the floodplain was performed. The analysis found that the proposed project would not result in adverse impacts to lives, property, and natural values of the floodplain.
Wetland Protection	Standard Construction BMPs would be used to control erosion, sedimentation, and runoff during construction. The Modified 5-Step Decision-Making Process to analyze the direct and indirect impacts associated with the construction, occupancy, and modification of the wetland was performed. The analysis found that the proposed project would not result in adverse impacts to lives, property, and natural values of the wetland.

Determination:

☐ This categorically excluded activity/project converts to Exempt, per 58.34(a)(12) because there are no circumstances which require compliance with any of the federal laws and authorities cited at §58.5. **Funds may be committed and drawn down after certification of this part** for this (now) EXEMPT project; OR

☒ This categorically excluded activity/project cannot convert to Exempt because there are circumstances which require compliance with one or more federal laws and authorities cited at §58.5. Complete consultation/mitigation protocol requirements, **publish NOI/RROF and obtain "Authority to Use Grant Funds"** (HUD 7015.16) per Section 58.70 and 58.71 before committing or drawing down any funds; OR

☐ This project is now subject to a full Environmental Assessment according to Part 58 Subpart E due to extraordinary circumstances (Section 58.35(c)).

Preparer Signature: Tanner Melendez Date: 5/15/2025

Name/Title/Organization: Tanner Melendez / Environmental Planner / ICF

Certifying Officer Signature: Janette I. Cambrelén Digitally signed by Janette I. Cambrelén Date: 2025.05.19 12:11:40 -04'00' Date:

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).

List of attachments

Appendix A	Project Location Maps
Appendix B	Airport Hazard Maps
Appendix C	Coastal Barrier Resources System Map
Appendix D	Flood Insurance Rate Maps
Appendix E	EPA Green Book and Clean Air Act Map
Appendix F	Coastal Zone Management Act Map
Appendix G	EPA Facilities Map and ECHO Reports
Appendix H	1. Documents of Informal consultation with USFWS 2. Critical Habitat Maps 3. Tree Inventory and Mitigation Plans
Appendix I	Farmland Protection Policy Maps
Appendix J	1. ABFE Maps 2. 5-Step Documentation
Appendix K	Cultural Resources Documentation
Appendix L	Sole Source Aquifer Map
Appendix M	Wetland Maps
Appendix N	Wild and Scenic River Map
Appendix O	Site Inspection Report

Appendix A:
Project Location Maps

Geographic Proximity Map:

PR-CRP-000948 / PR-CRP-000964 / PR-CRP-000978

Address: PR-CRP-000948: Juan “Picolino” Hernández Ferrer Avenue (Sábana Seca Avenue) intersection with Llorens Torres Street and Rufino Martínez Street / PR-CRP-000964: Juan “Picolino” Hernández Ferrer Avenue intersection with Dr Álvarez Chanca Avenue / PR-CRP-000973: Juan “Picolino” Hernández Ferrer Avenue intersection with Dr Villalobos Street and Del Carmen Street

Coordinates: PR-CRP-000948: 18.437412°, -66.167189° / PR-CRP-000964: 18.437677°, -66.180319° / PR-CRP-000973: 18.437799˚, -66.185903˚

Source: Google Earth (Spatial Reference: WGS84), accessed June 6, 2024 at URL https://earth.google.com/

Prepared by ICF

PR-CRP-000948 Project Location Map

Address: Intersection of Juan "Picolino" Hernández Ferrer Ave. and Rufino Ramirez St., Toa Baja PR

Coordinates: 18.437412°, -66.167189°

Prepared by ICF

PR-CRP-000964 Project Location Map

Address: Intersection of Juan "Picolino" Hernández Ferrer Ave. and Dr. Álvarez Chanca Ave., Toa Baja PR

Coordinates: 18.437677̊, -66.180319°

Prepared by ICF

PR-CRP-000973 Project Location Map

Address: Intersection of Juan “Picolino” Hernández Ferrer Ave. and Del Carmen St., Toa Baja PR
Coordinates: 18.437799°, -66.185903°

Prepared by ICF

Appendix B:
Airport Hazard Maps

PR-CRP-000948 Civil Airport Hazards Map

Address: Intersection of Juan “Picolino” Hernández Ferrer Ave. and Rufino Ramirez St., Toa Baja PR
Coordinates: 18.437412°, -66.167189°

October 1, 2024

Project 1

Airport Points

1:36,112

0 0.28 0.55 1.1 mi

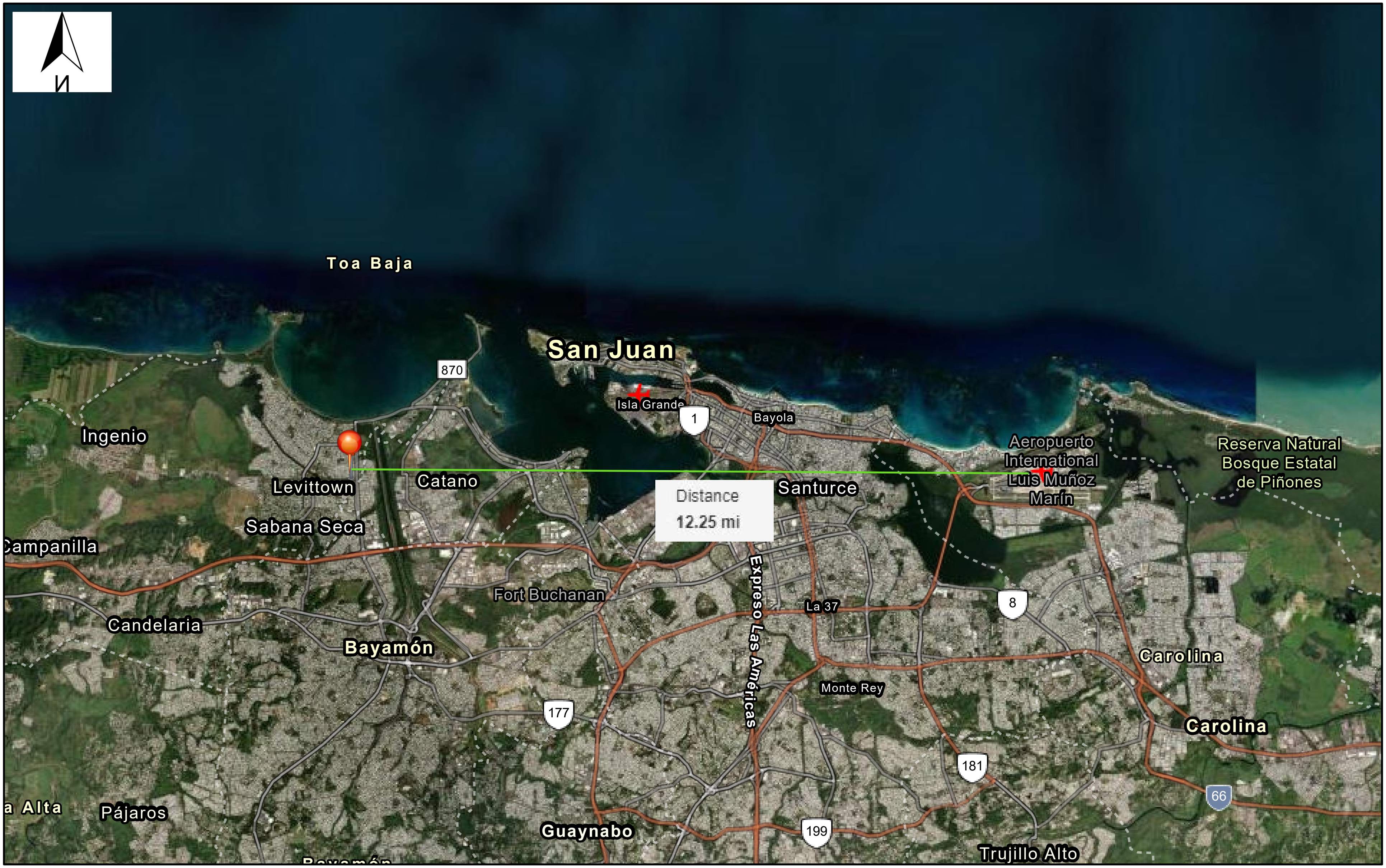
0 0.45 0.9 1.8 km

Esri, TomTom, Garmin, Foursquare, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, NPS, US Census Bureau, USFWS, Maxar, EPA OEI

Prepared by ICF

PR-CRP-000948 Military Airport Hazards Map

Address: Intersection of Juan "Picolino" Hernández Ferrer Ave. and Rufino Ramirez St., Toa Baja PR
Coordinates: 18.437412°, -66.167189°



October 1, 2024

Project 1

Airport Points

1:144,448

0 1 2 4 mi

0 1.75 3.5 7 km

Earthstar Geographics, Esri, TomTom, Garmin, Foursquare, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, NPS, USFWS, EPA OEI

Prepared by ICF

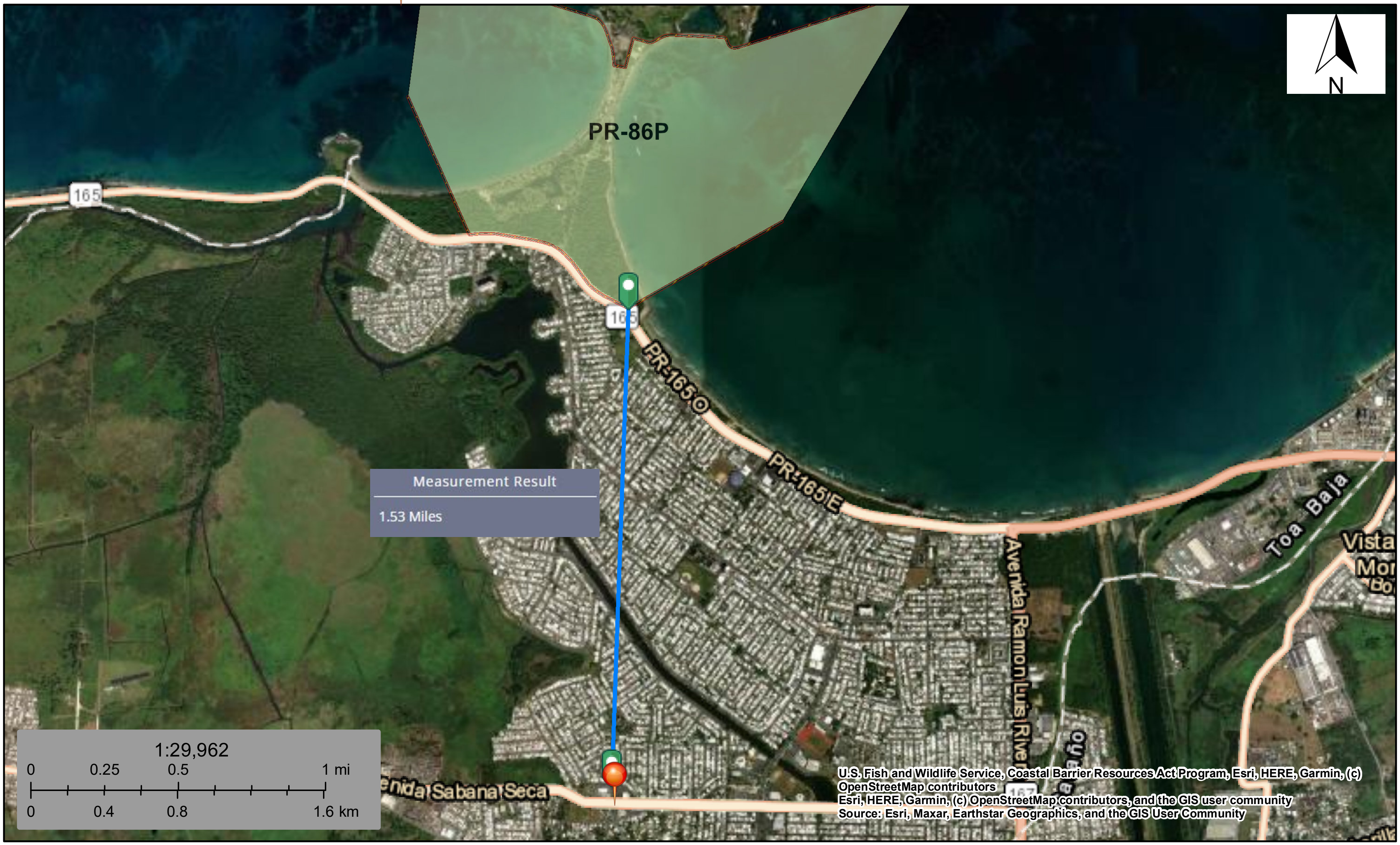
Appendix C:
Coastal Barrier
Resource System Map

PR-CRP-000973 Coastal Barrier Resources System Map

Address: Intersection of Juan “Picolino” Hernández Ferrer Ave. and Del Carmen St., Toa Baja PR

Coordinates: 18.437799°, -66.185903°

U.S. Fish and Wildlife Service
Coastal Barrier Resources System



October 1, 2024

Prepared by ICF

CBRS Buffer Zone

CBRS Units

Otherwise Protected Area

System Unit

This map is for general reference only. The Coastal Barrier Resources System (CBRS) boundaries depicted on this map are representations of the controlling CBRS boundaries, which are shown on the official maps, accessible at https://www.fws.gov/library/collections/official-coastal-barrier-resources-system-maps. All CBRS related data should be used in accordance with the layer metadata found on the CBRS Mapper website.

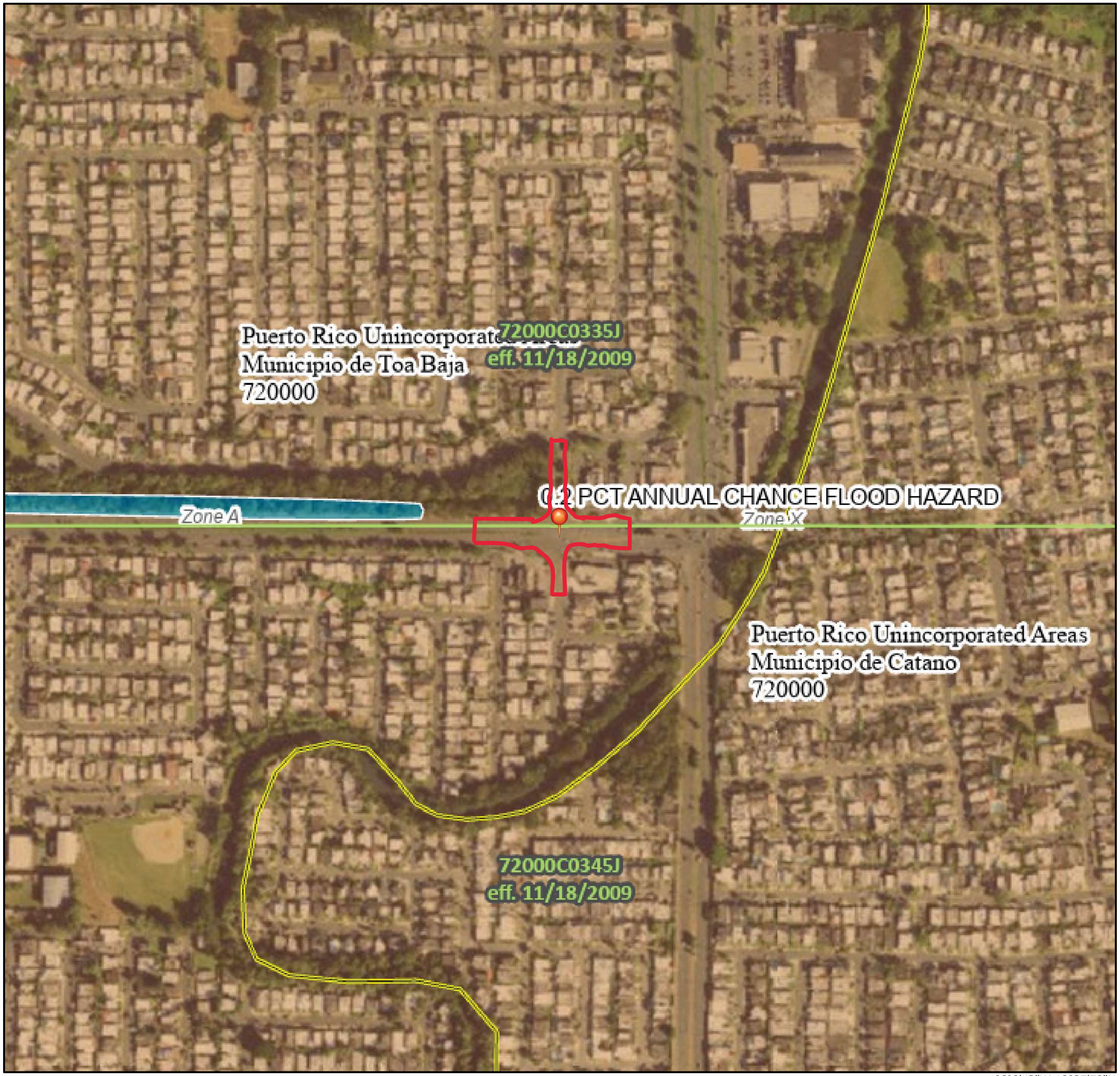
The CBRS Buffer Zone represents the area immediately adjacent to the CBRS boundary where users are advised to contact the Service for an official determination (https://www.fws.gov/service/coastal-barrier-resources-system-property-documentation) as to whether the property or project site is located "in" or "out" of the CBRS.

CBRS Units normally extend seaward out to the 20- or 30-foot bathymetric contour (depending on the location of the unit). The true seaward

Appendix D:
Flood Insurance Rate Maps

PR-CRP-000948 FEMA National Flood Hazard Layer FIRMette

Address: Intersection of Juan "Picolino" Hernández Ferrer Ave. and Rufino Ramirez St., Toa Baja PR
Coordinates: 18.437412°, -66.167189°



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

1:6,000

66°9'43"W 18°25'58"N

Basemap Imagery Source: USGS National Map 2023

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	B 20.2 17.5 Cross Sections with 1% Annual Chance Water Surface Elevation
	8 Coastal Transect
	513 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 9/25/2024 at 12:22 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.

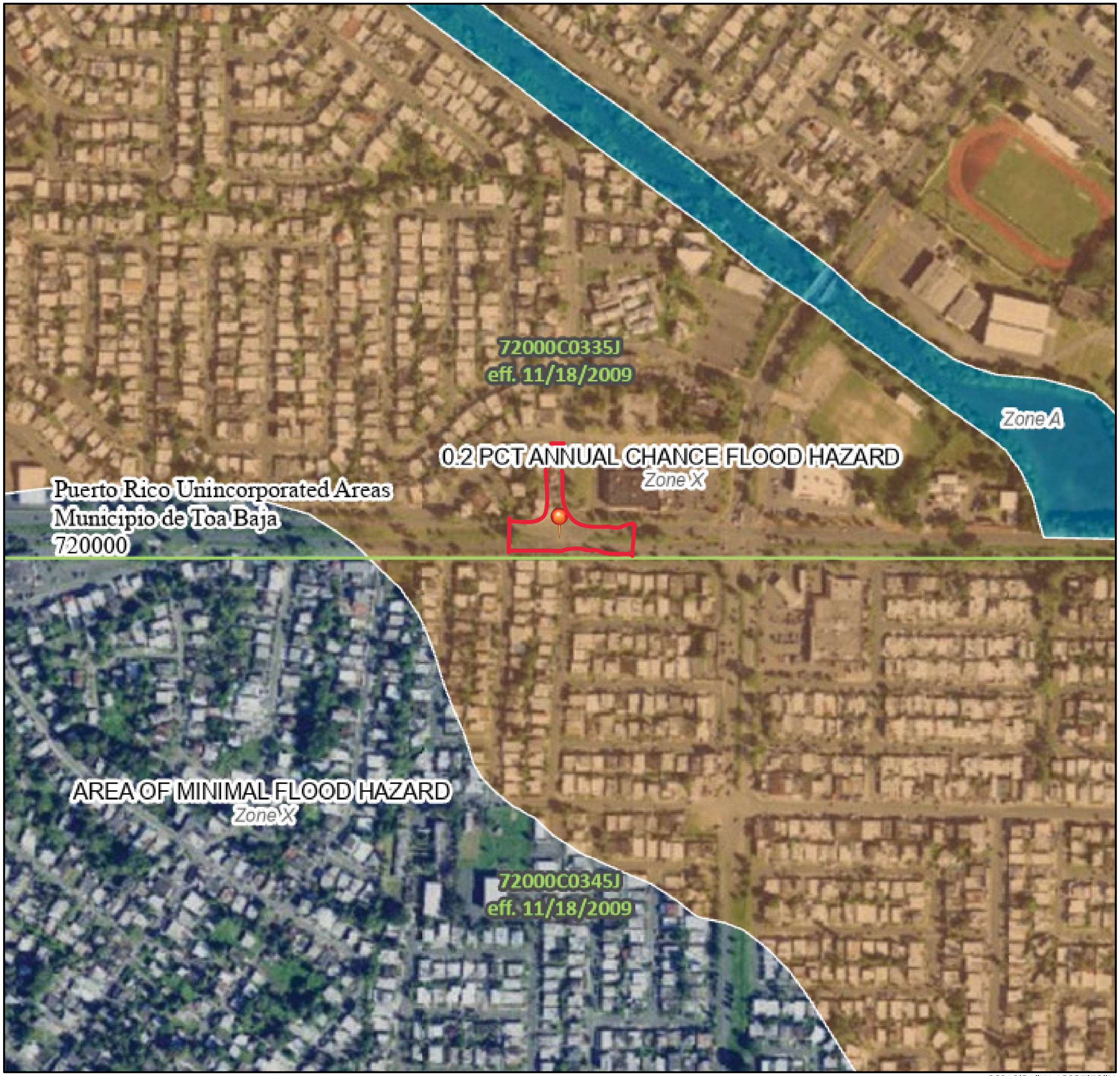
This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory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

Prepared by ICF

PR-CRP-000964 FEMA National Flood Hazard Layer FIRMette

Address: Intersection of Juan "Picolino" Hernández Ferrer Ave. and Dr. Álvarez Chanca Ave., Toa Baja PR
Coordinates: 18.437677°, -66.180319°

FEMA



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

1:6,000

66°10'31"W 18°25'59"N

Basemap Imagery Source: USGS National Map 2023

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
- B 20.2 17.5 Cross Sections with 1% Annual Chance Water Surface Elevation
- 8 Coastal Transect
- 513 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 9/25/2024 at 12:25 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.

Prepared by ICF

PR-CRP-000973 Project Location Map

Address: Intersection of Juan "Picolino" Hernández Ferrer Ave. and Del Carmen St., Toa Baja PR
Coordinates: 18.437799°, -66.185903°

FEMA

1:6,000

66°10'51"W 18°25'59"N

Basemap Imagery Source: USGS National Map 2023

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
- B 20.2 / 17.5 Cross Sections with 1% Annual Chance Water Surface Elevation
- 8 Coastal Transect
- 513 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 9/25/2024 at 12:27 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.

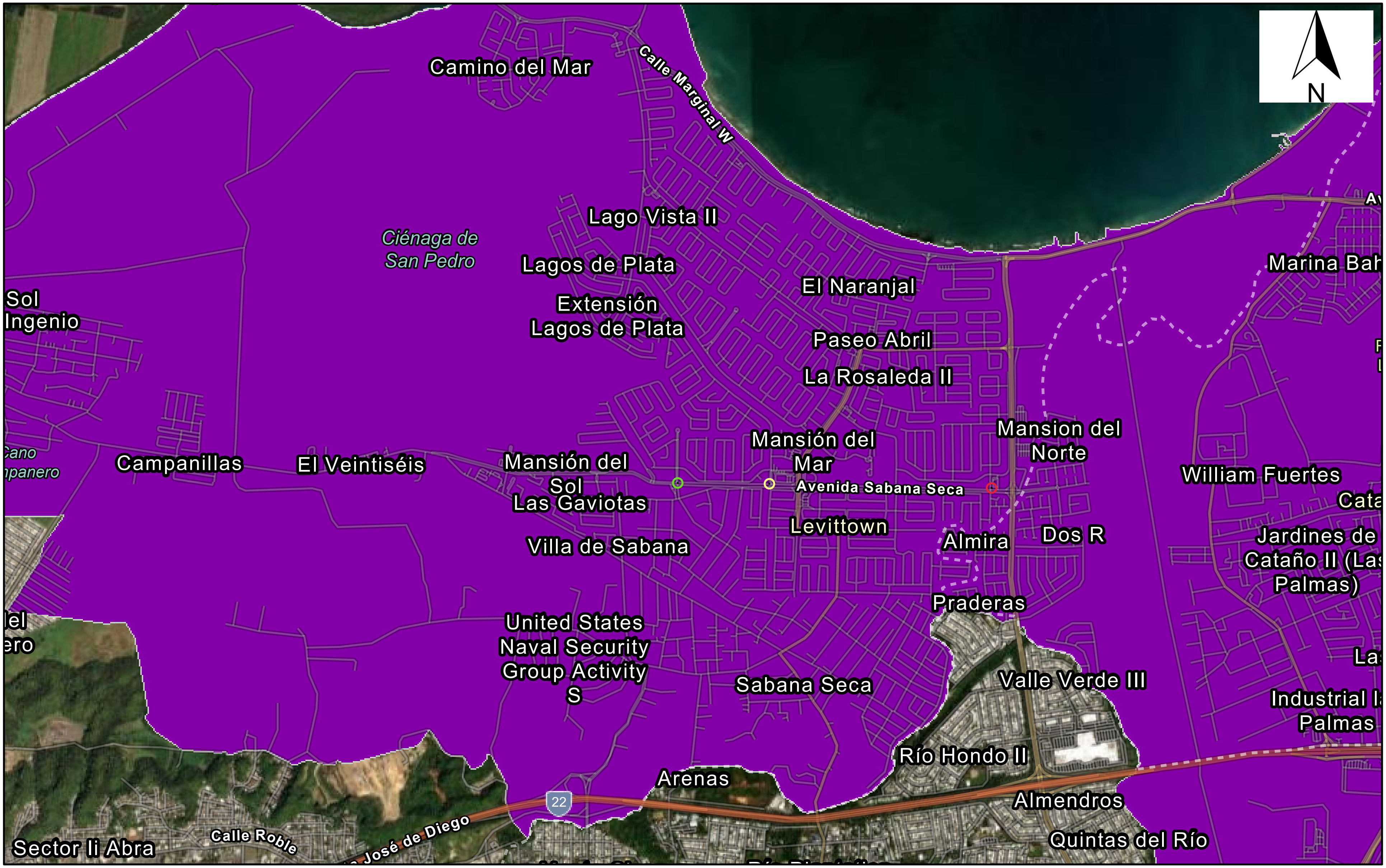
This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory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

Prepared by ICF

Appendix E:
EPA Green Book and Clean Air Act Map

Clean Air Act Map

Site locations:
- PR-CRP-000948: Intersection of Juan îPicolinoòHern§ndez Ferrer Ave. and Rufino Ramirez St., Toa Baja PR (18.437412Á -66.167189Á)
- PR-CRP-000964: Intersection of Juan îPicolinoòHern§ndez Ferrer Ave. and Dr. Ćlvarez Chanca Ave., Toa Baja PR (18.437677ę -66.180319ę)
- PR-CRP-000973: Intersection of Juan îPicolinoòHern§ndez Ferrer Ave. and Del Carmen St., Toa Baja PR (18.437799Á -66.185903Á)



October 1, 2024

SO2 1-hr (2010 standard)

Nonattainment

1:36,112

0 0.28 0.55 1.1 mi

0 0.45 0.9 1.8 km

Esri, TomTom, Garmin, Foursquare, SafeGraph, GeoTechnologies, Inc, METI/ NASA, USGS, NPS, US Census Bureau, USFWS, Maxar, U.S. EPA Office of

Prepared by ICF

Puerto Rico Nonattainment/Maintenance Status for Each County by Year for All Criteria Pollutants

Data is current as of September 30, 2024

Listed by County, NAAQS, Area. The 8-hour Ozone (1997) standard was revoked on April 6, 2015 and the 1-hour Ozone (1979) standard was revoked on June 15, 2005.

* The 1997 Primary Annual PM-2.5 NAAQS (level of 15 µg/m^3) is revoked in attainment and maintenance areas for that NAAQS. For additional information see the PM-2.5 NAAQS SIP Requirements Final Rule, effective October 24, 2016. (81 FR 58009)

Change the State:
PUERTO RICO GO

Important Notes

Download National Dataset: dbf | xls | Data dictionary (PDF)

County	NAAQS	Area Name	Nonattainment in Year	Redesignation to Maintenance	Classification	Whole or/ Part County	Population (2010)	State/ County FIPS Codes
PUERTO RICO								
Arecibo Municipio	Lead (2008)	Arecibo, PR	11 12 13 14 15 16 17 18 19 20 21 22 23 24	/ /		Part	32,185	72/013
Bayamon Municipio	Sulfur Dioxide (2010)	San Juan, PR	18 19 20 21 22 23 24	/ /		Part	22,921	72/021
Catano Municipio	Sulfur Dioxide (2010)	San Juan, PR	18 19 20 21 22 23 24	/ /		Whole	28,140	72/033
Guaynabo Municipio	PM-10 (1987)	Mun. of Guaynabo, PR	92 93 94 95 96 97 98 99 00 01 02 03 04 05 06 07 08 09	02/11/2010	Moderate	Part	90,470	72/061
Guaynabo Municipio	Sulfur Dioxide (2010)	San Juan, PR	18 19 20 21 22 23 24	/ /		Part	23,802	72/061
Salinas Municipio	Sulfur Dioxide (2010)	Guayama-Salinas, PR	18 19 20 21 22 23 24	/ /		Part	23,401	72/123
San Juan Municipio	Sulfur Dioxide (2010)	San Juan, PR	18 19 20 21 22 23 24	/ /		Part	147,963	72/127
Toa Baja Municipio	Sulfur Dioxide (2010)	San Juan, PR	18 19 20 21 22 23 24	/ /		Part	52,441	72/137

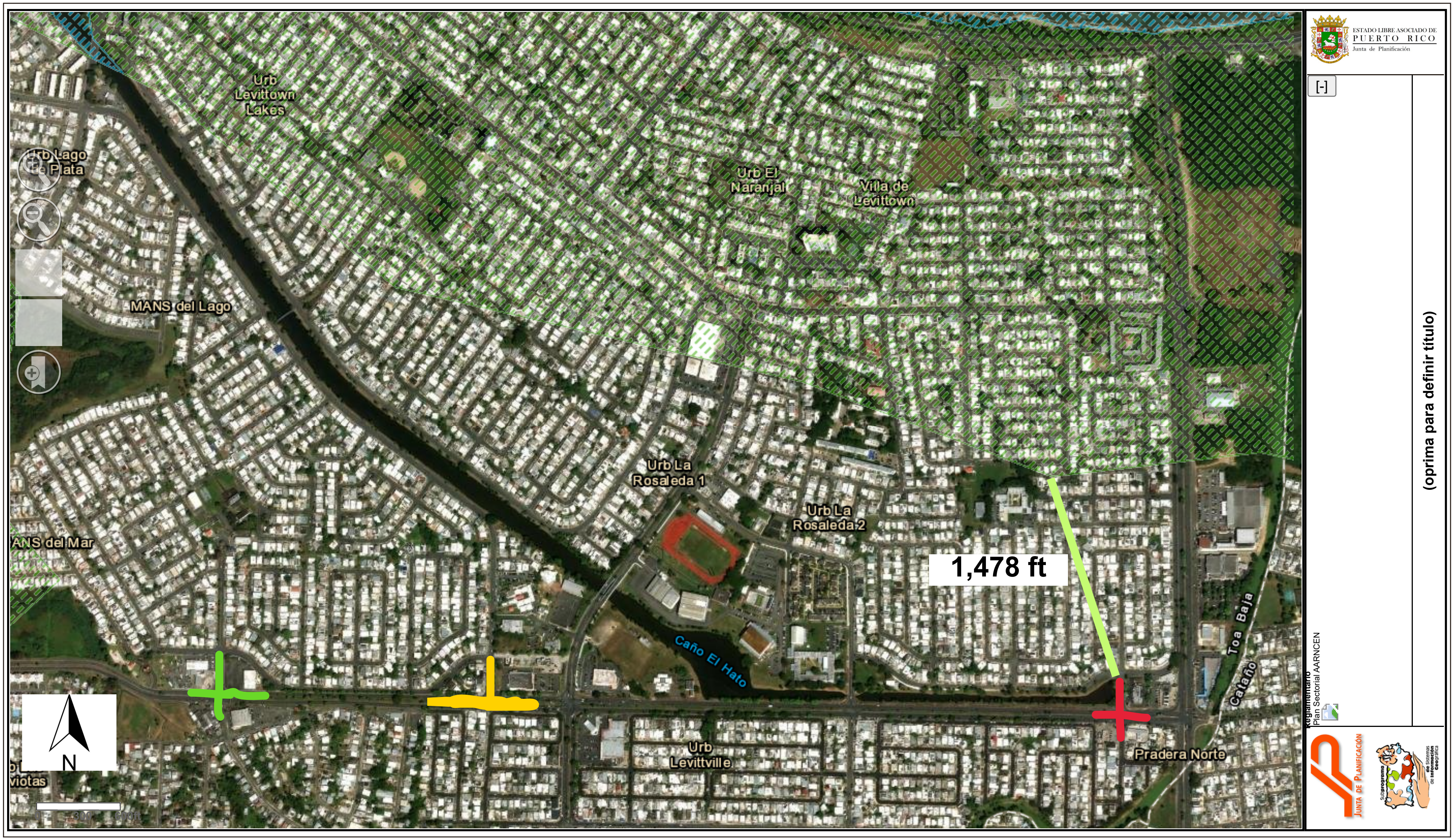
Important Notes

Appendix F:
Coastal Zone
Management Act Map

Coastal Zone Management Act Map

Site locations:

- PR-CRP-000948: Intersection of Juan ñPicolinoòHern§ndez Ferrer Ave. and Rufino Ramirez St., Toa Baja PR (18.437412Á -66.167189Á)
- PR-CRP-000964: Intersection of Juan ñPicolinoòHern§ndez Ferrer Ave. and Dr. Ćlvarez Chanca Ave., Toa Baja PR (18.437677ę -66.180319ę)
- PR-CRP-000973: Intersection of Juan ñPicolinoòHern§ndez Ferrer Ave. and Del Carmen St., Toa Baja PR (18.437799Á -66.185903Á)



Coastal Zone

Prepared by ICF

Source: Puerto Rico Planning Board, https://gis.jp.pr.gov/mipr/

Appendix G:
EPA Facilities Map
and ECHO Reports

Contamination and Toxic Substances Map

Site locations:

PR-CRP-000948: Intersection of Juan “Picolino” Hernández Ferrer Ave. and Rufino Ramirez St., Toa Baja PR (18.437412°, -66.167189°)

PR-CRP-000964: Intersection of Juan “Picolino” Hernández Ferrer Ave. and Dr. Álvarez Chanca Ave., Toa Baja PR (18.437677˚, -66.180319˚)

PR-CRP-000973: Intersection of Juan “Picolino” Hernández Ferrer Ave. and Del Carmen St., Toa Baja PR (18.437799°, -66.185903°)

October 2, 2024

Hazardous Waste (RCRAInfo)
Hazardous Waste (RCRAInfo)
Air Pollution (ICIS-AIR)
Water Dischargers (NPDES)
Water Dischargers (NPDES)
Project Buffer
Project Corridor

1:18,056

0 0.13 0.25 0.5 mi

0 0.23 0.45 0.9 km

Maxar

Prepared by ICF

Contamination and Toxic Substances

PR-CRP-000948, PR-CRP-000964, PR-CRP-000973

	Description of Facility	EPA Facility Type
1	Vista Del Morro Stp PR-869 CATANO, PR 00632	Hazardous Waste (RCRAInfo)
2	Remolques De Puerto Rico Inc PR-167 KM 26.3 BAYAMON, PR 00960	Hazardous Waste (RCRAInfo)
3	Ensco Caribe Inc PR-869 STREET 2 CATANO, PR 00962ESSO STANDARD OIL CO	Hazardous Waste (RCRAInfo)
4	Esso Standard Oil Co - Pr Co-043 SABANA SECA AVE TOA BAJA, PR 00759	Hazardous Waste (RCRAInfo)
5	Gulf Levittown 600 COMERIO AVE TOA BAJA, PR 00950	Hazardous Waste (RCRAInfo)
6	SHELL CO PR LTD LEVITTOWN LAKES SS 3247 LEVITTOWN BLVD TOA BAJA, PR 00962	Hazardous Waste (RCRAInfo)
7	Exclusive Cleaners AVE. BOULEVARD W-8 LEVITTOWN, PR 00949	Air Pollution (ICIS-AIR)
8	Lamp Recycling Co Inc SABANA SECA CARR 866 KM 4.8 TOA BAJA, PR 00949	Hazardous Waste (RCRAInfo)
9	Pep Boys The 913 STATE RD 866 LEVITTOWN, PR 00949	Hazardous Waste (RCRAInfo)
10	AMIGO SUPERMARKET #3670 AVE LOS DOMINICOS & SABANA SECA CENTRO COM LEVITTV LEVITTOWN, PR 00950	Hazardous Waste (RCRAInfo)
11	TOTAL PETROLEUM PUERTO RICO CORP-SERVICE STATION 104108 AVE LOS DOMINICOS & TOA BAJA, PR 00949	Hazardous Waste (RCRAInfo)

12	WALGREENS #82 35 AVE LOS DOMINICOS TOA BAJA, PR 00949	Hazardous Waste (RCRAInfo)
13	Prtc - Levittown Central Office AVE DR ALVAREZ CHANCA TOA BAJA, PR 00949	Hazardous Waste (RCRAInfo)
14	Sabana Seca Ss 3620 SABANA SECA AVE INT RUFINO TOA BAJA, PR 00949	Hazardous Waste (RCRAInfo)
15	Cvs Pharmacy #2247 60 AVE LOS DOMINICO TOA BAJA, PR 00949	Hazardous Waste (RCRAInfo)

Detailed Facility Report

Facility Summary

VISTA DEL MORRO STP

PR-869, CATANO, PR 00632

FRS (Facility Registry Service) ID: 110007804974

EPA Region: 02

Latitude: 18.442778

Longitude: -66.160278

Locational Data Source: RCRAINFO

Industries: Utilities

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): Inactive Other, (PRD000691675)

Safe Drinking Water Act (SDWA): No Information

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

Go To Enforcement/Compliance Details
Known Data Problems <https://epa.gov/resources/echo-data/known-data-problems>

Facility/System Characteristics

Facility/System Characteristics

System	Statute	Identifier	Universe	Status	Areas	Permit Expiration Date	Indian Country	Latitude	Longitude
FRS		110007804974					N	18.442778	-66.160278

System	Statute	Identifier	Universe	Status	Areas	Permit Expiration Date	Indian Country	Latitude	Longitude
RCRAInfo	RCRA	PRD000691675	Other	Inactive ( )			N		

Facility Address

System	Statute	Identifier	Facility Name	Facility Address	Facility County
FRS		110007804974	VISTA DEL MORRO STP	PR-869, CATANO, PR 00632	Cataño Municipio
RCRAInfo	RCRA	PRD000691675	VISTA DEL MORRO STP	STATE RD 869, CATANO, PR 00632	Cataño 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	PRD000691675	22132	Sewage Treatment Facilities

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 included in ECHO's Compliance Monitoring Activity counts because they are not compliance monitoring strategy <https://www.epa.gov/compliance/compliance-monitoring-programs> *activities or because they are not counted as inspections within EPA's Annual Results* <https://www.epa.gov/enforcement/enforcement-data-and-results>.

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	PRD000691675	No	09/28/2024	0	09/27/2024

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: PRD000691675)			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	10/01-12/31/23	01/01-03/31/24	04/01-06/30/24	07/01-09/30/24
	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)
Ozone	No	--	No	--
Lead	No	--	No	--

Pollutant	Within Nonattainment Status Area?	Nonattainment Status Applicable Standard(s)	Within Maintenance Status Area?	Maintenance Status Applicable Standard(s)
Particulate Matter	No	--	No	--
Carbon Monoxide	No	--	No	--
Sulfur Dioxide	Yes	Sulfur Dioxide (2010)	No	--

Pollutants

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

TRI Facility ID	Year	Air Emissions	Surface Water Discharges	Off-Site Transfers to POTWs (Publicly Owned Treatment Works)	Underground Injections	Disposal 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

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.

Potential Environmental Justice Concerns

US Territory

Supplemental/EJ index percentiles >= 90 (1-mile average)

EJScreen Indexes Shown

Index Type: Supplemental (default)

Related Reports

EJScreen Community Report

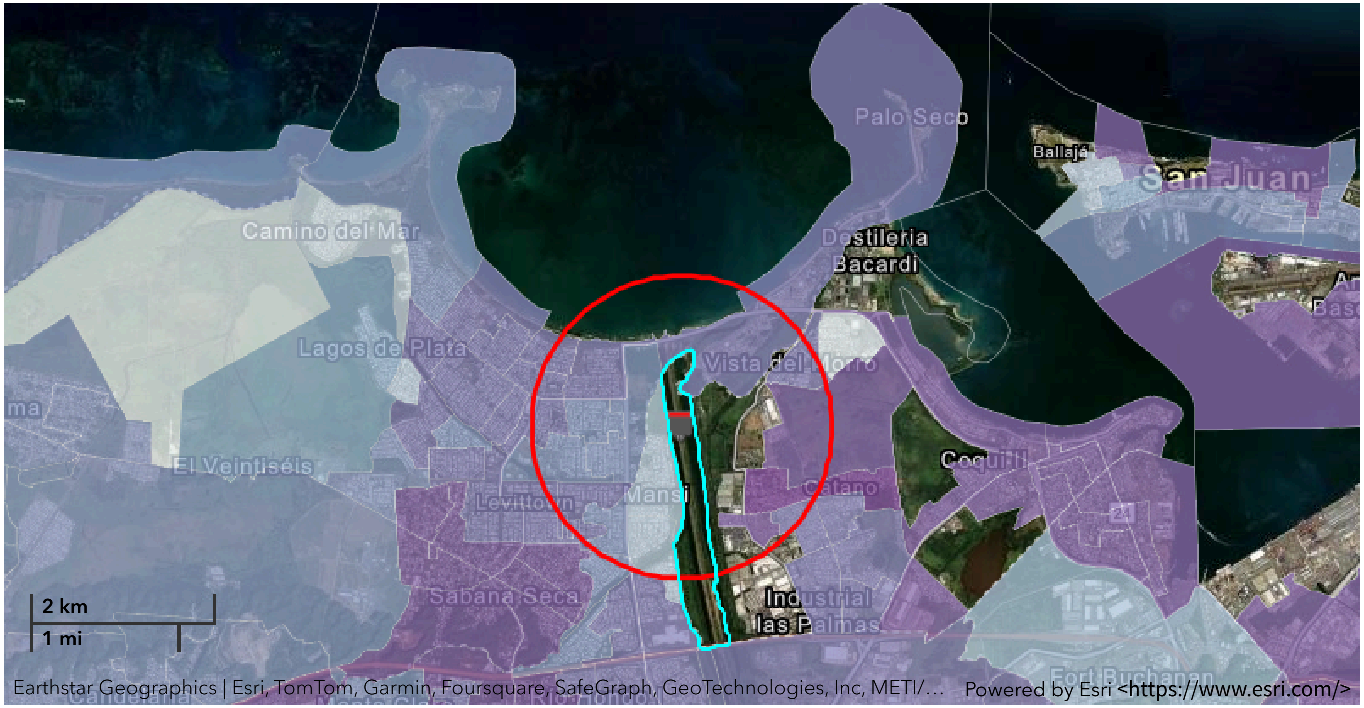
Download Data

Census Block Group ID: 720339800021	US (Percentile)			State (Percentile)		
Supplemental Indexes	**Facility Census Block Group**	**1-mile Avg**	**1-mile Max**	**Facility Census Block Group**	**1-mile Avg**	**1-mile Max**
Count of Indexes At or Above 90th Percentile	**0**	**6**	**7**	**0**	**0**	**5**
Particulate Matter 2.5	--	N/A	--	--	N/A	--
Ozone	--	N/A	--	--	N/A	--
Diesel Particulate Matter	--	76	! 94	--	75	! 96
Air Toxics Cancer Risk	--	33	55	--	0	86
Air Toxics Respiratory Hazard Index	--	31	38	--	33	85
Toxic Releases to Air	0	! 96	! 99	0	59	! 92
Traffic Proximity	--	! 93	! 99	--	52	78
Lead Paint	0	68	! 99	0	33	! 94
Risk Management Plan (RMP) Facility Proximity	--	! 99	! 99	--	80	! 98
Hazardous Waste Proximity	--	! 98	! 99	--	81	! 98
Superfund Proximity	--	! 97	! 99	--	54	79
Underground Storage Tanks (UST)	0	0	--	0	0	--
Wastewater Discharge	--	! 94	! 99	--	44	83

Map Display Based on: ◉ US ○ State

Display Map Layer: Summary - Number of Indexes

○ Facility 1-mile Radius ☐ Facility Census Block Group



Demographic Profile of Surrounding Area (1-Mile Radius)

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. Census boundaries and demographic data for U.S. Territories are based on the "2020 Island Areas Demographic Profiles" from the U.S. Census Bureau. 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 <https://epa.gov/help/reports/dfr-data-dictionary#demographic>.

General Statistics (U.S. Census)	
Total Persons	17,085
Population Density	6,611/sq.mi.
Housing Units in Area	6,949

General Statistics (ACS (American Community Survey))	
Total Persons	13,122
Percent People of Color	99%

Age Breakdown (U.S. Census) - Persons (%)	
Children 5 years and younger	932 (5%)
Minors 17 years and younger	3,895 (23%)
Adults 18 years and older	13,190 (77%)
Seniors 65 years and older	2,204 (13%)

Race Breakdown (U.S. Census) - Persons (%)	
White	12,886 (75%)

General Statistics (ACS (American Community Survey))	
Households in Area	4,899
Households on Public Assistance	304
Persons With Low Income	7,051
Percent With Low Income	54%

Geography	
Radius of Selected Area	1 mi.
Center Latitude	18.442778
Center Longitude	-66.160278
Land Area	83%
Water Area	17%

Income Breakdown (ACS (American Community Survey)) - Households (%)	
Less than $15,000	1,227 (25.07%)
$15,000 - $25,000	696 (14.22%)
$25,000 - $50,000	1,300 (26.56%)
$50,000 - $75,000	786 (16.06%)
Greater than $75,000	885 (18.08%)

Race Breakdown (U.S. Census) - Persons (%)	
African-American	2,166 (13%)
Hispanic-Origin	16,866 (99%)
Asian/Pacific Islander	75 (0%)
American Indian	102 (1%)
Other/Multiracial	1,856 (11%)

Education Level (Persons 25 & older) (ACS (American Community Survey)) - Persons (%)	
Less than 9th Grade	898 (9.21%)
9th through 12th Grade	584 (5.99%)
High School Diploma	2,526 (25.92%)
Some College/2-year	1,521 (15.6%)
B.S./B.A. (Bachelor of Science/Bachelor of Arts) or More	3,079 (31.59%)

Detailed Facility Report

Facility Summary

REMOLQUES DE PUERTO RICO INC

PR-167 KM 26.3, BAYAMON, PR 00960

FRS (Facility Registry Service) ID: 110007808168

EPA Region: 02

Latitude: 18.430308

Longitude: -66.165342

Locational Data Source: RCRAINFO

Industries: --

Indian Country: N

Enforcement and Compliance Summary

Statute	RCRA
Compliance Monitoring Activities (5 years)	--
Date of Last Compliance Monitoring Activity	06/24/1985
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): Inactive Other, (PRD980526073)

Safe Drinking Water Act (SDWA): No Information

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

Go To Enforcement/Compliance Details

Known Data Problems <https://epa.gov/resources/echo-data/known-data-problems>

Facility/System Characteristics

Facility/System Characteristics

System	Statute	Identifier	Universe	Status	Areas	Permit Expiration Date	Indian Country	Latitude	Longitude
FRS		110007808168					N	18.430308	-66.165342

System	Statute	Identifier	Universe	Status	Areas	Permit Expiration Date	Indian Country	Latitude	Longitude
RCRAInfo	RCRA	PRD980526073	Other	Inactive ( )			N	18.430308	-66.165342

Facility Address

System	Statute	Identifier	Facility Name	Facility Address	Facility County
FRS		110007808168	REMOLQUES DE PUERTO RICO INC	PR-167 KM 26.3, BAYAMON, PR 00960	Bayamón Municipio
RCRAInfo	RCRA	PRD980526073	REMOLQUES DE PUERTO RICO INC	CARR 167 KM 26.3, BAYAMON, PR 00619	Bayamón 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

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 included in ECHO's Compliance Monitoring Activity counts because they are not compliance monitoring strategy <https://www.epa.gov/compliance/compliance-monitoring-programs> *activities or because they are not counted as inspections within EPA's Annual Results* <https://www.epa.gov/enforcement/enforcement-data-and-results>.

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	PRD980526073	No	09/28/2024	0	09/27/2024

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: PRD980526073)			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	10/01-12/31/23	01/01-03/31/24	04/01-06/30/24	07/01-09/30/24
	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)
Ozone	No	--	No	--
Lead	No	--	No	--

Pollutant	Within Nonattainment Status Area?	Nonattainment Status Applicable Standard(s)	Within Maintenance Status Area?	Maintenance Status Applicable Standard(s)
Particulate Matter	No	--	No	--
Carbon Monoxide	No	--	No	--
Sulfur Dioxide	Yes	Sulfur Dioxide (2010)	No	--

Pollutants

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

TRI Facility ID	Year	Air Emissions	Surface Water Discharges	Off-Site Transfers to POTWs (Publicly Owned Treatment Works)	Underground Injections	Disposal 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

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.

Potential Environmental Justice Concerns

US Territory

Supplemental/EJ index percentiles >= 90 (1-mile average)

EJScreen Indexes Shown

Index Type: Supplemental (default)

Related Reports

EJScreen Community Report

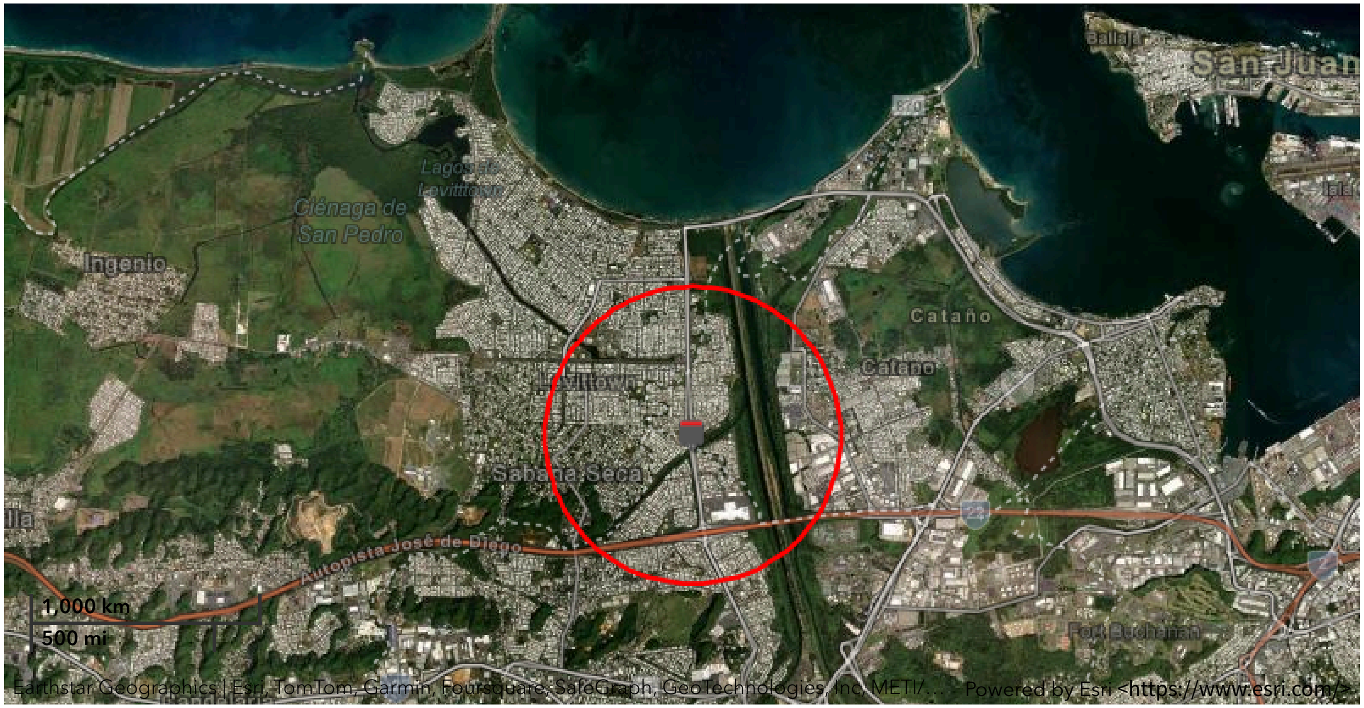
Download Data

Census Block Group ID: 720330205002	US (Percentile)			State (Percentile)		
Supplemental Indexes	**Facility Census Block Group**	**1-mile Avg**	**1-mile Max**	**Facility Census Block Group**	**1-mile Avg**	**1-mile Max**
Count of Indexes At or Above 90th Percentile	**0**	**5**	**8**	**0**	**0**	**9**
Particulate Matter 2.5	--	N/A	--	--	N/A	--
Ozone	--	N/A	--	--	N/A	--
Diesel Particulate Matter	40	61	89	31	64	98
Air Toxics Cancer Risk	37	33	56	17	0	95
Air Toxics Respiratory Hazard Index	23	31	42	18	29	94
Toxic Releases to Air	80	96	99	35	60	99
Traffic Proximity	56	92	99	17	51	95
Lead Paint	0	64	99	0	31	94
Risk Management Plan (RMP) Facility Proximity	86	98	99	40	75	99
Hazardous Waste Proximity	82	97	99	39	76	99
Superfund Proximity	81	96	99	30	54	93
Underground Storage Tanks (UST)	0	0	99	0	0	94
Wastewater Discharge	69	89	99	18	30	76

Map Display Based on: US State

Display Map Layer: Summary - Number of Indexes

Facility 1-mile Radius   Facility Census Block Group



Demographic Profile of Surrounding Area (1-Mile Radius)

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. Census boundaries and demographic data for U.S. Territories are based on the "2020 Island Areas Demographic Profiles" from the U.S. Census Bureau. 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 <https://epa.gov/help/reports/dfr-data-dictionary#demographic>.

General Statistics (U.S. Census)	
Total Persons	25,119
Population Density	8,558/sq.mi.
Housing Units in Area	10,001

General Statistics (ACS (American Community Survey))	
Total Persons	20,908
Percent People of Color	99%

Age Breakdown (U.S. Census) - Persons (%)	
Children 5 years and younger	1,266 (5%)
Minors 17 years and younger	5,500 (22%)
Adults 18 years and older	19,619 (78%)
Seniors 65 years and older	3,410 (14%)

Race Breakdown (U.S. Census) - Persons (%)	
White	19,156 (76%)

General Statistics (ACS (American Community Survey))	
Households in Area	7,619
Households on Public Assistance	242
Persons With Low Income	10,929
Percent With Low Income	53%
Geography	
Radius of Selected Area	1 mi.
Center Latitude	18.430308
Center Longitude	-66.165342
Land Area	95%
Water Area	5%

Income Breakdown (ACS (American Community Survey)) - Households (%)	
Less than $15,000	1,640 (21.54%)
$15,000 - $25,000	1,215 (15.96%)
$25,000 - $50,000	2,037 (26.75%)
$50,000 - $75,000	1,181 (15.51%)
Greater than $75,000	1,542 (20.25%)

Race Breakdown (U.S. Census) - Persons (%)	
African-American	3,227 (13%)
Hispanic-Origin	24,841 (99%)
Asian/Pacific Islander	78 (0%)
American Indian	121 (0%)
Other/Multiracial	2,538 (10%)
Education Level (Persons 25 & older) (ACS (American Community Survey)) - Persons (%)	
Less than 9th Grade	1,392 (8.85%)
9th through 12th Grade	744 (4.73%)
High School Diploma	3,695 (23.5%)
Some College/2-year	2,686 (17.08%)
B.S./B.A. (Bachelor of Science/Bachelor of Arts) or More	5,338 (33.95%)

Detailed Facility Report

Facility Summary

ENSCO CARIBE INC

PR-869 STREET 2, CATANO, PR 00962

FRS (Facility Registry Service) ID: 110007904740

EPA Region: 02

Latitude: 18.436391

Longitude: -66.164684

Locational Data Source: RCRAINFO

Industries: Waste Management and Remediation Services

Indian Country: N

Enforcement and Compliance Summary

Statute	RCRA
Compliance Monitoring Activities (5 years)	--
Date of Last Compliance Monitoring Activity	01/22/2013
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, (PRR000013664)

Safe Drinking Water Act (SDWA): No Information

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

Go To Enforcement/Compliance Details
Known Data Problems <https://epa.gov/resources/echo-data/known-data-problems>

Facility/System Characteristics

Facility/System Characteristics

System	Statute	Identifier	Universe	Status	Areas	Permit Expiration Date	Indian Country	Latitude	Longitude
FRS		110007904740					N	18.436391	-66.164684

System	Statute	Identifier	Universe	Status	Areas	Permit Expiration Date	Indian Country	Latitude	Longitude
RCRAInfo	RCRA	PRR000013664	VSQG	Active (H)			N	18.436391	-66.164684

Facility Address

System	Statute	Identifier	Facility Name	Facility Address	Facility County
FRS		110007904740	ENSCO CARIBE INC	PR-869 STREET 2, CATANO, PR 00962	Cataño Municipio
RCRAInfo	RCRA	PRR000013664	CLEAN HARBORS CARIBE INC	RD #869 STREET 2, CATANO, PR 00962	Cataño 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	PRR000013664	562112	Hazardous Waste Collection
RCRAInfo	PRR000013664	56291	Remediation Services

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 included in ECHO's Compliance Monitoring Activity counts because they are not compliance monitoring strategy <https://www.epa.gov/compliance/compliance-monitoring-programs> *activities or because they are not counted as inspections within EPA's Annual Results* <https://www.epa.gov/enforcement/enforcement-data-and-results>.

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	PRR000013664	No	09/28/2024	0	09/27/2024

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: PRR000013664)			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	10/01-12/31/23	01/01-03/31/24	04/01-06/30/24	07/01-09/30/24
	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)
Ozone	No	--	No	--
Lead	No	--	No	--

Pollutant	Within Nonattainment Status Area?	Nonattainment Status Applicable Standard(s)	Within Maintenance Status Area?	Maintenance Status Applicable Standard(s)
Particulate Matter	No	--	No	--
Carbon Monoxide	No	--	No	--
Sulfur Dioxide	Yes	Sulfur Dioxide (2010)	No	--

Pollutants

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

TRI Facility ID	Year	Air Emissions	Surface Water Discharges	Off-Site Transfers to POTWs (Publicly Owned Treatment Works)	Underground Injections	Disposal 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

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.

Potential Environmental Justice Concerns

US Territory

Supplemental/EJ index percentiles >= 90 (Census block group)

Supplemental/EJ index percentiles >= 90 (1-mile average)

EJScreen Indexes Shown

Index Type: Supplemental (default)

Related Reports

EJScreen Community Report

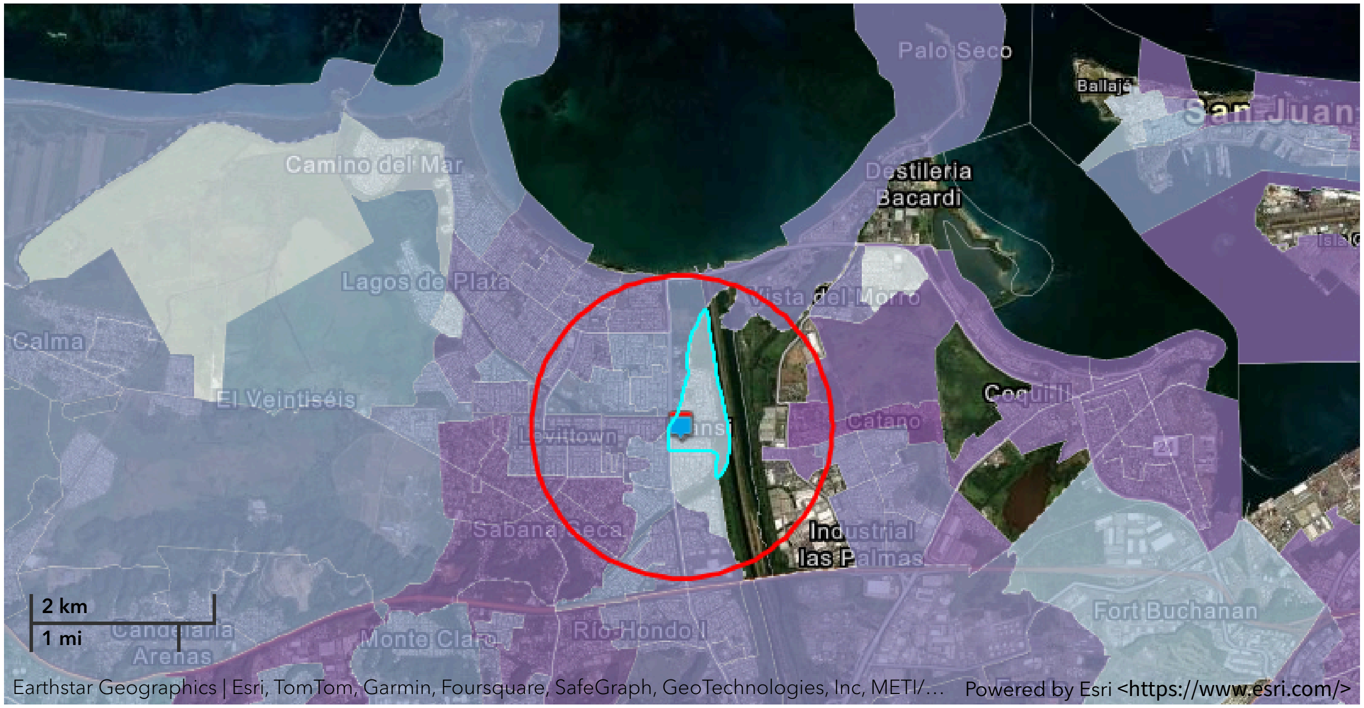
Download Data

Census Block Group ID: 720330205001	US (Percentile)			State (Percentile)		
Supplemental Indexes	**Facility Census Block Group**	**1-mile Avg**	**1-mile Max**	**Facility Census Block Group**	**1-mile Avg**	**1-mile Max**
Count of Indexes At or Above 90th Percentile	**1**	**6**	**7**	**0**	**0**	**6**
Particulate Matter 2.5	--	N/A	--	--	N/A	--
Ozone	--	N/A	--	--	N/A	--
Diesel Particulate Matter	47	69	88	39	72	96
Air Toxics Cancer Risk	42	33	55	18	0	88
Air Toxics Respiratory Hazard Index	26	31	39	20	32	88
Toxic Releases to Air	84	96	99	38	61	96
Traffic Proximity	57	93	99	18	52	90
Lead Paint	0	70	99	0	35	94
Risk Management Plan (RMP) Facility Proximity	91	99	99	49	80	98
Hazardous Waste Proximity	87	98	99	48	80	98
Superfund Proximity	85	97	99	35	56	93
Underground Storage Tanks (UST)	0	0	--	0	0	--
Wastewater Discharge	78	92	99	25	37	79

Map Display Based on: US State

Display Map Layer: Summary - Number of Indexes

Facility 1-mile Radius   Facility Census Block Group



Demographic Profile of Surrounding Area (1-Mile Radius)

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. Census boundaries and demographic data for U.S. Territories are based on the "2020 Island Areas Demographic Profiles" from the U.S. Census Bureau. 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 <https://epa.gov/help/reports/dfr-data-dictionary#demographic>.

General Statistics (U.S. Census)	
Total Persons	24,928
Population Density	8,492/sq.mi.
Housing Units in Area	10,161

General Statistics (ACS (American Community Survey))	
Total Persons	19,048
Percent People of Color	99%

Age Breakdown (U.S. Census) - Persons (%)	
Children 5 years and younger	1,327 (5%)
Minors 17 years and younger	5,587 (22%)
Adults 18 years and older	19,341 (78%)
Seniors 65 years and older	3,351 (13%)

Race Breakdown (U.S. Census) - Persons (%)	
White	18,773 (75%)

General Statistics (ACS (American Community Survey))	
Households in Area	7,239
Households on Public Assistance	272
Persons With Low Income	10,382
Percent With Low Income	55%

Geography	
Radius of Selected Area	1 mi.
Center Latitude	18.436391
Center Longitude	-66.164684
Land Area	93%
Water Area	7%

Income Breakdown (ACS (American Community Survey)) - Households (%)	
Less than $15,000	1,632 (22.53%)
$15,000 - $25,000	1,165 (16.08%)
$25,000 - $50,000	2,072 (28.6%)
$50,000 - $75,000	1,130 (15.6%)
Greater than $75,000	1,245 (17.19%)

Race Breakdown (U.S. Census) - Persons (%)	
African-American	3,322 (13%)
Hispanic-Origin	24,603 (99%)
Asian/Pacific Islander	93 (0%)
American Indian	134 (1%)
Other/Multiracial	2,607 (10%)

Education Level (Persons 25 & older) (ACS (American Community Survey)) - Persons (%)	
Less than 9th Grade	1,368 (9.43%)
9th through 12th Grade	760 (5.24%)
High School Diploma	3,478 (23.96%)
Some College/2-year	2,472 (17.03%)
B.S./B.A. (Bachelor of Science/Bachelor of Arts) or More	4,661 (32.12%)

Detailed Facility Report

Facility Summary

ESSO STANDARD OIL CO - PR CO-043

SABANA SECA AVE, TOA BAJA, PR 00759

FRS (Facility Registry Service) ID: 110007816934

EPA Region: 02

Latitude: 18.437382

Longitude: -66.165792

Locational Data Source: RCRAINFO

Industries: --

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, (PRR000002139)

Safe Drinking Water Act (SDWA): No Information

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

Go To Enforcement/Compliance Details
Known Data Problems <https://epa.gov/resources/echo-data/known-data-problems>

Facility/System Characteristics

Facility/System Characteristics

System	Statute	Identifier	Universe	Status	Areas	Permit Expiration Date	Indian Country	Latitude	Longitude
FRS		110007816934					N	18.437382	-66.165792

System	Statute	Identifier	Universe	Status	Areas	Permit Expiration Date	Indian Country	Latitude	Longitude
RCRAInfo	RCRA	PRR000002139	VSQG	Active (H)			N	18.437382	-66.165792

Facility Address

System	Statute	Identifier	Facility Name	Facility Address	Facility County
FRS		110007816934	ESSO STANDARD OIL CO - PR CO-043	SABANA SECA AVE, TOA BAJA, PR 00759	Toa Baja Municipio
RCRAInfo	RCRA	PRR000002139	ESSO STANDARD OIL CO - PR CO-043	SABANA SECA AVE, TOA BAJA, PR 00759	Toa Baja 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

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 included in ECHO's Compliance Monitoring Activity counts because they are not compliance monitoring strategy <https://www.epa.gov/compliance/compliance-monitoring-programs> *activities or because they are not counted as inspections within EPA's Annual Results* <https://www.epa.gov/enforcement/enforcement-data-and-results>.

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	PRR000002139	No	09/28/2024	0	09/27/2024

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: PRR000002139)			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	10/01-12/31/23	01/01-03/31/24	04/01-06/30/24	07/01-09/30/24
	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)
Ozone	No	--	No	--
Lead	No	--	No	--

Pollutant	Within Nonattainment Status Area?	Nonattainment Status Applicable Standard(s)	Within Maintenance Status Area?	Maintenance Status Applicable Standard(s)
Particulate Matter	No	--	No	--
Carbon Monoxide	No	--	No	--
Sulfur Dioxide	Yes	Sulfur Dioxide (2010)	No	--

Pollutants

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

TRI Facility ID	Year	Air Emissions	Surface Water Discharges	Off-Site Transfers to POTWs (Publicly Owned Treatment Works)	Underground Injections	Disposal 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

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.

Potential Environmental Justice Concerns

US Territory

Supplemental/EJ index percentiles >= 90 (Census block group)

Supplemental/EJ index percentiles >= 90 (1-mile average)

EJScreen Indexes Shown

Index Type

Supplemental (default)

Related Reports

EJScreen Community Report

Download Data

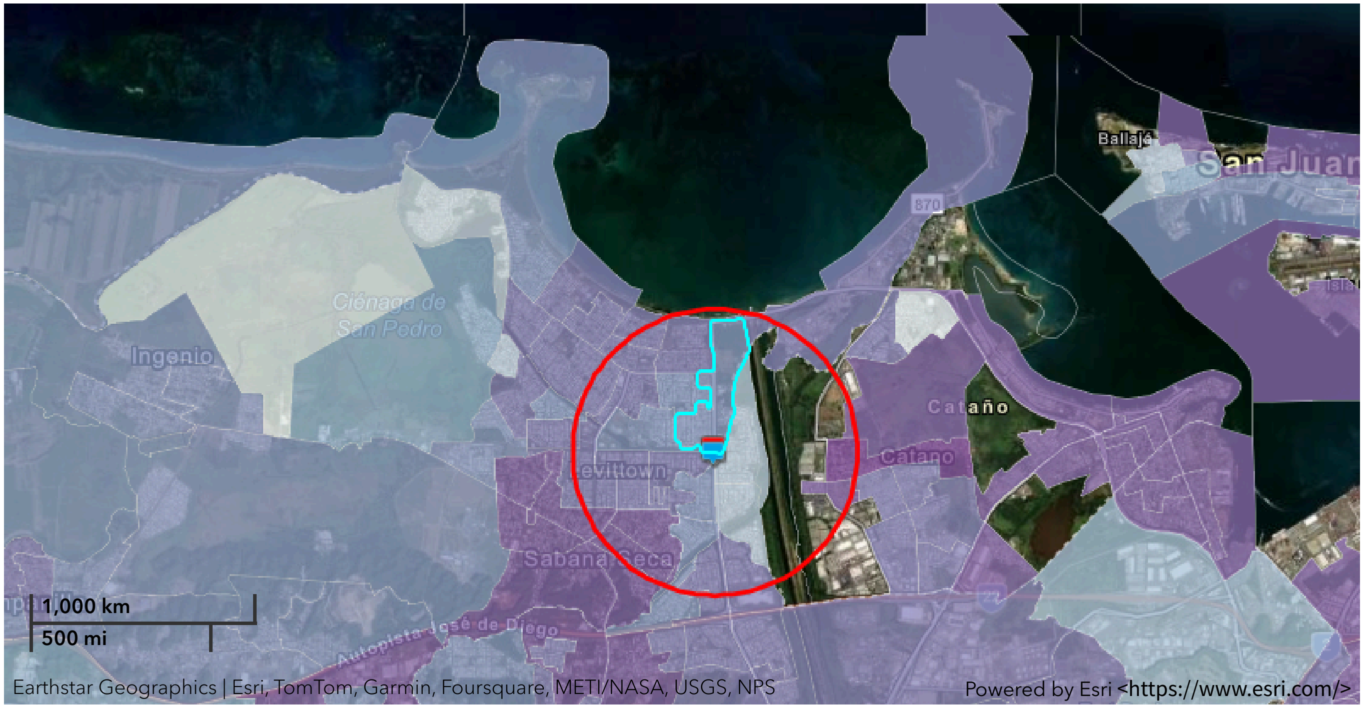
Census Block Group ID: 721371225002	US (Percentile)			State (Percentile)		
Supplemental Indexes	**Facility Census Block Group**	**1-mile Avg**	**1-mile Max**	**Facility Census Block Group**	**1-mile Avg**	**1-mile Max**
Count of Indexes At or Above 90th Percentile	**6**	**6**	**7**	**0**	**0**	**6**
Particulate Matter 2.5	--	N/A	--	--	N/A	--
Ozone	--	N/A	--	--	N/A	--
Diesel Particulate Matter	70	70	88	69	72	! 96
Air Toxics Cancer Risk	50	51	55	28	31	88
Air Toxics Respiratory Hazard Index	31	31	39	30	32	88
Toxic Releases to Air	! 94	! 96	! 99	53	60	! 96
Traffic Proximity	! 94	! 93	! 99	52	53	! 90
Lead Paint	0	66	! 99	0	32	! 94
Risk Management Plan (RMP) Facility Proximity	! 98	! 99	! 99	76	79	! 98
Hazardous Waste Proximity	! 97	! 98	! 99	76	80	! 98
Superfund Proximity	! 96	! 97	! 99	52	56	! 93
Underground Storage Tanks (UST)	0	0	--	0	0	--
Wastewater Discharge	! 90	! 92	! 99	34	37	79

Map Display Based on: ◉ US ○ State

Display Map Layer

Summary - Number of Indexes

○ Facility 1-mile Radius ☐ Facility Census Block Group



Demographic Profile of Surrounding Area (1-Mile Radius)

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. Census boundaries and demographic data for U.S. Territories are based on the "2020 Island Areas Demographic Profiles" from the U.S. Census Bureau. 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 <https://epa.gov/help/reports/dfr-data-dictionary#demographic>.

General Statistics (U.S. Census)	
Total Persons	25,526
Population Density	8,863/sq.mi.
Housing Units in Area	10,505

General Statistics (ACS (American Community Survey))	
Total Persons	19,791
Percent People of Color	99%

Age Breakdown (U.S. Census) - Persons (%)	
Children 5 years and younger	1,345 (5%)
Minors 17 years and younger	5,655 (22%)
Adults 18 years and older	19,871 (78%)
Seniors 65 years and older	3,521 (14%)

Race Breakdown (U.S. Census) - Persons (%)	
White	19,228 (75%)

General Statistics (ACS (American Community Survey))	
Households in Area	7,586
Households on Public Assistance	269
Persons With Low Income	10,743
Percent With Low Income	55%

Geography	
Radius of Selected Area	1 mi.
Center Latitude	18.437382
Center Longitude	-66.165792
Land Area	93%
Water Area	7%

Income Breakdown (ACS (American Community Survey)) - Households (%)	
Less than $15,000	1,657 (21.85%)
$15,000 - $25,000	1,226 (16.17%)
$25,000 - $50,000	2,228 (29.38%)
$50,000 - $75,000	1,220 (16.09%)
Greater than $75,000	1,252 (16.51%)

Race Breakdown (U.S. Census) - Persons (%)	
African-American	3,391 (13%)
Hispanic-Origin	25,186 (99%)
Asian/Pacific Islander	95 (0%)
American Indian	142 (1%)
Other/Multiracial	2,669 (10%)

Education Level (Persons 25 & older) (ACS (American Community Survey)) - Persons (%)	
Less than 9th Grade	1,389 (9.19%)
9th through 12th Grade	784 (5.19%)
High School Diploma	3,620 (23.94%)
Some College/2-year	2,570 (17%)
B.S./B.A. (Bachelor of Science/Bachelor of Arts) or More	4,899 (32.4%)

Detailed Facility Report

Facility Summary

GULF LEVITTOWN

600 COMERIO AVE, TOA BAJA, PR 00950

FRS (Facility Registry Service) ID: 110004893688

EPA Region: 02

Latitude: 18.44205

Longitude: -66.1657

Locational Data Source: FRS

Industries: --

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): Inactive Other, (PRR000008086)

Safe Drinking Water Act (SDWA): No Information

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

Go To Enforcement/Compliance Details
Known Data Problems <https://epa.gov/resources/echo-data/known-data-problems>

Facility/System Characteristics

Facility/System Characteristics

System	Statute	Identifier	Universe	Status	Areas	Permit Expiration Date	Indian Country	Latitude	Longitude
FRS		110004893688					N	18.44205	-66.1657

System	Statute	Identifier	Universe	Status	Areas	Permit Expiration Date	Indian Country	Latitude	Longitude
RCRAInfo	RCRA	PRR000008086	Other	Inactive ( )			N		

Facility Address

System	Statute	Identifier	Facility Name	Facility Address	Facility County
FRS		110004893688	GULF LEVITTOWN	600 COMERIO AVE, TOA BAJA, PR 00950	Toa Baja Municipio
RCRAInfo	RCRA	PRR000008086	GULF LEVITTOWN	600 COMERIO AVE, TOA BAJA, PR 00950	Toa Baja 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

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 included in ECHO's Compliance Monitoring Activity counts because they are not compliance monitoring strategy <https://www.epa.gov/compliance/compliance-monitoring-programs> *activities or because they are not counted as inspections within EPA's Annual Results* <https://www.epa.gov/enforcement/enforcement-data-and-results>.

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	PRR000008086	No	09/28/2024	0	09/27/2024

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: PRR000008086)			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	10/01-12/31/23	01/01-03/31/24	04/01-06/30/24	07/01-09/30/24
	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)
Ozone	No	--	No	--
Lead	No	--	No	--

Pollutant	Within Nonattainment Status Area?	Nonattainment Status Applicable Standard(s)	Within Maintenance Status Area?	Maintenance Status Applicable Standard(s)
Particulate Matter	No	--	No	--
Carbon Monoxide	No	--	No	--
Sulfur Dioxide	Yes	Sulfur Dioxide (2010)	No	--

Pollutants

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

TRI Facility ID	Year	Air Emissions	Surface Water Discharges	Off-Site Transfers to POTWs (Publicly Owned Treatment Works)	Underground Injections	Disposal 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

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.

Potential Environmental Justice Concerns

US Territory

Supplemental/EJ index percentiles >= 90 (Census block group)

Supplemental/EJ index percentiles >= 90 (1-mile average)

EJScreen Indexes Shown

Index Type: Supplemental (default)

Related Reports

EJScreen Community Report

Download Data

Census Block Group ID: 721371225002	US (Percentile)			State (Percentile)		
Supplemental Indexes	**Facility Census Block Group**	**1-mile Avg**	**1-mile Max**	**Facility Census Block Group**	**1-mile Avg**	**1-mile Max**
Count of Indexes At or Above 90th Percentile	**6**	**6**	**7**	**0**	**0**	**5**
Particulate Matter 2.5	--	N/A	--	--	N/A	--
Ozone	--	N/A	--	--	N/A	--
Diesel Particulate Matter	70	69	! 94	69	67	! 96
Air Toxics Cancer Risk	50	50	55	28	27	86
Air Toxics Respiratory Hazard Index	31	30	38	30	28	85
Toxic Releases to Air	! 94	! 94	! 99	53	54	! 92
Traffic Proximity	! 94	! 92	! 99	52	50	78
Lead Paint	0	46	! 99	0	22	! 94
Risk Management Plan (RMP) Facility Proximity	! 98	! 98	! 99	76	74	! 98
Hazardous Waste Proximity	! 97	! 97	! 99	76	75	! 98
Superfund Proximity	! 96	! 96	! 99	52	52	88
Underground Storage Tanks (UST)	0	0	--	0	0	--
Wastewater Discharge	! 90	! 90	! 99	34	34	83

Map Display Based on: ◉ US ○ State

Display Map Layer: Summary - Number of Indexes

○ Facility 1-mile Radius ☐ Facility Census Block Group

Demographic Profile of Surrounding Area (1-Mile Radius)

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. Census boundaries and demographic data for U.S. Territories are based on the "2020 Island Areas Demographic Profiles" from the U.S. Census Bureau. 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 <https://epa.gov/help/reports/dfr-data-dictionary#demographic>.

General Statistics (U.S. Census)	
Total Persons	21,416
Population Density	8,272/sq.mi.
Housing Units in Area	8,966

General Statistics (ACS (American Community Survey))	
Total Persons	17,022
Percent People of Color	99%

Age Breakdown (U.S. Census) - Persons (%)	
Children 5 years and younger	1,121 (5%)
Minors 17 years and younger	4,596 (21%)
Adults 18 years and older	16,820 (79%)
Seniors 65 years and older	3,017 (14%)

Race Breakdown (U.S. Census) - Persons (%)	
White	16,236 (76%)

General Statistics (ACS (American Community Survey))	
Households in Area	6,572
Households on Public Assistance	189
Persons With Low Income	8,933
Percent With Low Income	53%

Geography	
Radius of Selected Area	1 mi.
Center Latitude	18.44205
Center Longitude	-66.1657
Land Area	83%
Water Area	17%

Income Breakdown (ACS (American Community Survey)) - Households (%)	
Less than $15,000	1,322 (20.12%)
$15,000 - $25,000	1,053 (16.03%)
$25,000 - $50,000	1,973 (30.03%)
$50,000 - $75,000	1,142 (17.38%)
Greater than $75,000	1,080 (16.44%)

Race Breakdown (U.S. Census) - Persons (%)	
African-American	2,729 (13%)
Hispanic-Origin	21,127 (99%)
Asian/Pacific Islander	97 (0%)
American Indian	115 (1%)
Other/Multiracial	2,239 (10%)

Education Level (Persons 25 & older) (ACS (American Community Survey)) - Persons (%)	
Less than 9th Grade	1,019 (7.87%)
9th through 12th Grade	644 (4.97%)
High School Diploma	3,192 (24.65%)
Some College/2-year	2,189 (16.91%)
B.S./B.A. (Bachelor of Science/Bachelor of Arts) or More	4,349 (33.59%)

ECHO

Detailed Facility Report

Facility Summary

SHELL CO PR LTD LEVITTOWN LAKES SS 3247

LEVITTOWN BLVD, TOA BAJA, PR 00962

FRS (Facility Registry Service) ID: 110007818255

EPA Region: 02

Latitude: 18.44539

Longitude: -66.17046

Locational Data Source: FRS

Industries: --

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): Inactive Other, (PRR000004325)

Safe Drinking Water Act (SDWA): No Information

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

Go To Enforcement/Compliance Details
Known Data Problems <https://epa.gov/resources/echo-data/known-data-problems>

Facility/System Characteristics

Facility/System Characteristics

System	Statute	Identifier	Universe	Status	Areas	Permit Expiration Date	Indian Country	Latitude	Longitude
FRS		110007818255					N	18.44539	-66.17046

System	Statute	Identifier	Universe	Status	Areas	Permit Expiration Date	Indian Country	Latitude	Longitude
ICIS		3400024692					N	18.45457	-66.18758
RCRAInfo	RCRA	PRR000004325	Other	Inactive ( )			N	18.449376	-66.180746

Facility Address

System	Statute	Identifier	Facility Name	Facility Address	Facility County
FRS		110007818255	SHELL CO PR LTD LEVITTOWN LAKES SS 3247	LEVITTOWN BLVD, TOA BAJA, PR 00962	Toa Baja Municipio
ICIS		3400024692	SHELL S/S # 003247	AVE BOULEVARD CENTRO COMEROIAL LAGO VISTA, TOA BAJO, PR 00949	Toa Baja Municipio
RCRAInfo	RCRA	PRR000004325	SHELL CO PR LTD LEVITTOWN LAKES SS 3247	LEVITTOWN BLVD, TOA BAJA, PR 00962	Toa Baja 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

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 included in ECHO's Compliance Monitoring Activity counts because they are not compliance monitoring strategy <https://www.epa.gov/compliance/compliance-monitoring-programs> *activities or because they are not counted as inspections within EPA's Annual Results* <https://www.epa.gov/enforcement/enforcement-data-and-results>.

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	PRR000004325	No	10/05/2024	0	10/04/2024

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: PRR000004325)			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	10/01-12/31/23	01/01-03/31/24	04/01-06/30/24	07/01-09/30/24
	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)
Ozone	No	--	No	--
Lead	No	--	No	--

Pollutant	Within Nonattainment Status Area?	Nonattainment Status Applicable Standard(s)	Within Maintenance Status Area?	Maintenance Status Applicable Standard(s)
Particulate Matter	No	--	No	--
Carbon Monoxide	No	--	No	--
Sulfur Dioxide	Yes	Sulfur Dioxide (2010)	No	--

Pollutants

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

TRI Facility ID	Year	Air Emissions	Surface Water Discharges	Off-Site Transfers to POTWs (Publicly Owned Treatment Works)	Underground Injections	Disposal 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

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.

Potential Environmental Justice Concerns

US Territory

Supplemental/EJ index percentiles >= 90 (Census block group)

Supplemental/EJ index percentiles >= 90 (1-mile average)

EJScreen Indexes Shown

Index Type: Supplemental (default)

Related Reports

EJScreen Community Report

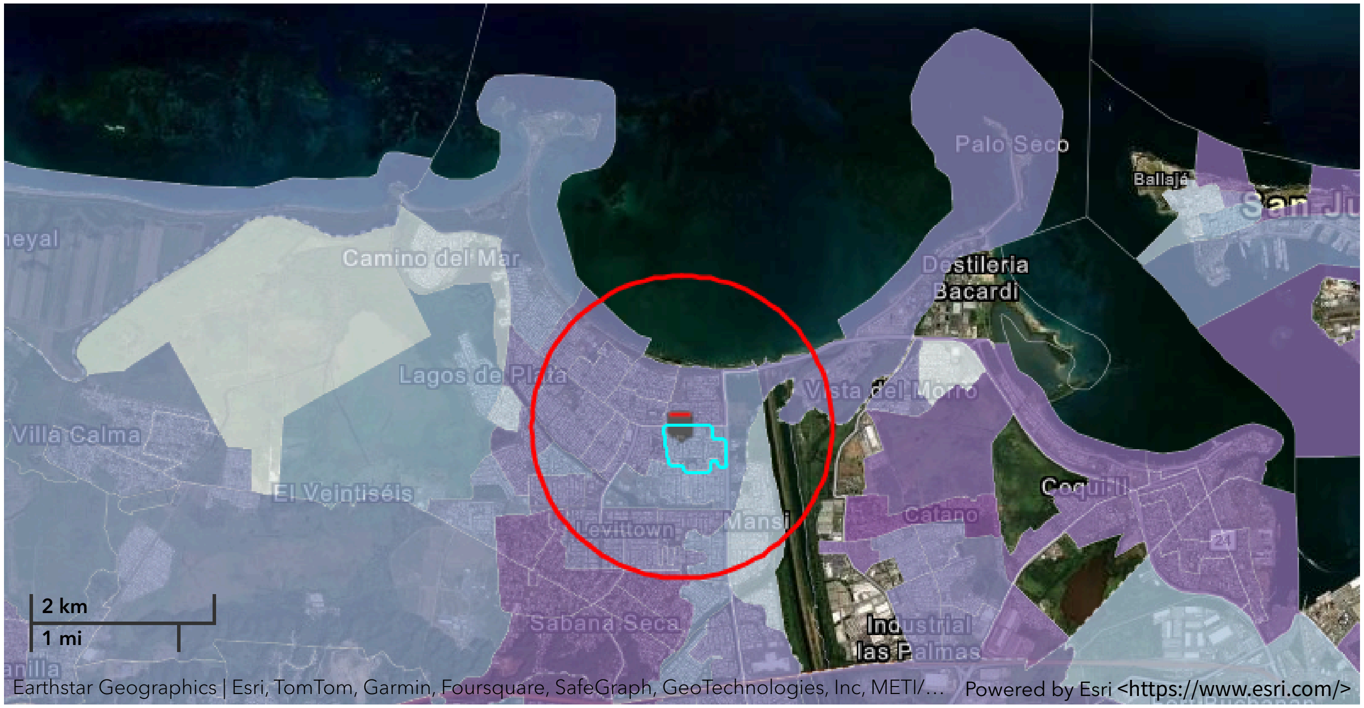
Download Data

Census Block Group ID: 721371225001	US (Percentile)			State (Percentile)		
Supplemental Indexes	**Facility Census Block Group**	**1-mile Avg**	**1-mile Max**	**Facility Census Block Group**	**1-mile Avg**	**1-mile Max**
Count of Indexes At or Above 90th Percentile	**5**	**6**	**7**	**0**	**0**	**4**
Particulate Matter 2.5	--	N/A	--	--	N/A	--
Ozone	--	N/A	--	--	N/A	--
Diesel Particulate Matter	68	69	87	65	68	93
Air Toxics Cancer Risk	50	33	54	25	0	81
Air Toxics Respiratory Hazard Index	30	31	38	27	29	81
Toxic Releases to Air	93	94	99	50	53	92
Traffic Proximity	95	93	99	54	51	77
Lead Paint	0	51	96	0	23	80
Risk Management Plan (RMP) Facility Proximity	98	98	99	72	74	97
Hazardous Waste Proximity	97	97	99	72	75	98
Superfund Proximity	95	96	99	49	54	88
Underground Storage Tanks (UST)	0	0	--	0	0	--
Wastewater Discharge	88	90	99	30	31	79

Map Display Based on: ◉ US ○ State

Display Map Layer: Summary - Number of Indexes

○ Facility 1-mile Radius ☐ Facility Census Block Group



Demographic Profile of Surrounding Area (1-Mile Radius)

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 2021 American Community Survey (ACS) 5-year Summary and are accurate to the extent that the facility latitude and longitude listed below are correct. Census boundaries and demographic data for U.S. Territories are based on the "2020 Island Areas Demographic Profiles" from the U.S. Census Bureau. EPA's spatial processing methodology considers the overlap between the selected radii and ACS census block groups in determining the demographics surrounding the facility. For more detail about this methodology, see the DFR Data Dictionary <https://epa.gov/help/reports/dfr-data-dictionary#demographic>.

General Statistics (ACS (American Community Survey))	
Total Persons	19,140
Population Density	8,556/sq.mi.
Housing Units in Area	9,296
Percent People of Color	99%
Households in Area	7,449
Households on Public Assistance	144

Age Breakdown (ACS (American Community Survey)) - Persons (%)	
Children 5 years and younger	529 (3%)
Minors 17 years and younger	2,619 (14%)
Adults 18 years and older	16,525 (86%)
Seniors 65 years and older	5,126 (27%)

Race Breakdown (ACS (American Community Survey)) - Persons (%)	
White	10,469 (55%)

General Statistics (ACS (American Community Survey))	
Persons With Low Income	10,025
Percent With Low Income	53%
Geography	
Radius of Selected Area	1 mi.
Center Latitude	18.44539
Center Longitude	-66.17046
Land Area	72%
Water Area	28%

Income Breakdown (ACS (American Community Survey)) - Households (%)	
Less than $15,000	1,481 (19.88%)
$15,000 - $25,000	1,227 (16.47%)
$25,000 - $50,000	2,380 (31.94%)
$50,000 - $75,000	1,175 (15.77%)
Greater than $75,000	1,188 (15.94%)

Race Breakdown (ACS (American Community Survey)) - Persons (%)	
African-American	0 (0%)
Hispanic-Origin	18,933 (99%)
Asian	10 (0%)
Hawaiian/Pacific Islander	0 (0%)
American Indian	168 (1%)
Other/Multiracial	3,390 (18%)
Education Level (Persons 25 & older) (ACS (American Community Survey)) - Persons (%)	
Less than 9th Grade	1,080 (7.35%)
9th through 12th Grade	689 (4.69%)
High School Diploma	3,633 (24.73%)
Some College/2-year	2,475 (16.85%)
B.S./B.A. (Bachelor of Science/Bachelor of Arts) or More	4,984 (33.93%)

Detailed Facility Report

Facility Summary

EXCLUSIVE CLEANERS

AVE. BOULEVARD W-8, LEVITTOWN, PR 00949

FRS (Facility Registry Service) ID: 110007215799

EPA Region: 02

Latitude: 18.44539

Longitude: -66.17046

Locational Data Source: FRS

Industries: Personal and Laundry Services

Indian Country: N

Enforcement and Compliance Summary

Statute	CAA
Compliance Monitoring Activities (5 years)	--
Date of Last Compliance Monitoring Activity	06/28/2012
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): Permanently Closed Minor (PR0000007213700021)

Clean Water Act (CWA): No Information

Resource Conservation and Recovery Act (RCRA): No Information

Safe Drinking Water Act (SDWA): No Information

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

Go To Enforcement/Compliance Details
Known Data Problems <https://epa.gov/resources/echo-data/known-data-problems>

Facility/System Characteristics

Facility/System Characteristics

System	Statute	Identifier	Universe	Status	Areas	Permit Expiration Date	Indian Country	Latitude	Longitude
FRS		110007215799					N	18.44539	-66.17046
ICIS-Air	CAA	PR0000007213700021	Minor Emissions	Permanently Closed			N	18.44539	-66.17046

Facility Address

System	Statute	Identifier	Facility Name	Facility Address	Facility County
FRS		110007215799	EXCLUSIVE CLEANERS	AVE. BOULEVARD W-8, LEVITTOWN, PR 00949	Toa Baja Municipio
ICIS-Air	CAA	PR0000007213700021	EXCLUSIVE CLEANERS	AVE. BOULEVARD W-8, LEVITTOWN, PR 00949	Toa Baja Municipio

Facility SIC (Standard Industrial Classification) Codes

System	Identifier	SIC Code	SIC Description
ICIS-Air	PR0000007213700021	7216	Drycleaning Plants, Except Rug

Facility NAICS (North American Industry Classification System) Codes

System	Identifier	NAICS Code	NAICS Description
ICIS-Air	PR0000007213700021	812320	Drycleaning and Laundry Services (except Coin-Operated)

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 included in ECHO's Compliance Monitoring Activity counts because they are not compliance monitoring strategy <https://www.epa.gov/compliance/compliance-monitoring-programs> *activities or because they are not counted as inspections within EPA's Annual Results* <https://www.epa.gov/enforcement/enforcement-data-and-results>.

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
CAA	PR0000007213700021	No	09/28/2024	0	09/27/2024

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+
CAA (Source ID: PR0000007213700021)		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	10/01-12/31/23	01/01-03/31/24	04/01-06/30/24	07/01-09/30/24
	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
	HPV History												

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+
	Violation Type	Agency	Programs	Pollutants												

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)
Ozone	No	--	No	--
Lead	No	--	No	--
Particulate Matter	No	--	No	--
Carbon Monoxide	No	--	No	--
Sulfur Dioxide	Yes	Sulfur Dioxide (2010)	No	--

Pollutants

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

TRI Facility ID	Year	Air Emissions	Surface Water Discharges	Off-Site Transfers to POTWs (Publicly Owned Treatment Works)	Underground Injections	Disposal 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

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.

Potential Environmental Justice Concerns

US Territory

Supplemental/EJ index percentiles >= 90 (Census block group)

Supplemental/EJ index percentiles >= 90 (1-mile average)

EJScreen Indexes Shown

Index Type: Supplemental (default)

Related Reports

EJScreen Community Report

Download Data

Census Block Group ID: 721371225001	US (Percentile)			State (Percentile)		
Supplemental Indexes	Facility Census Block Group	1-mile Avg	1-mile Max	Facility Census Block Group	1-mile Avg	1-mile Max
Count of Indexes At or Above 90th Percentile	5	6	7	0	0	4

Census Block Group ID: 721371225001	US (Percentile)			State (Percentile)		
Supplemental Indexes	**Facility Census Block Group**	**1-mile Avg**	**1-mile Max**	**Facility Census Block Group**	**1-mile Avg**	**1-mile Max**
Particulate Matter 2.5	--	N/A	--	--	N/A	--
Ozone	--	N/A	--	--	N/A	--
Diesel Particulate Matter	68	69	87	65	68	93
Air Toxics Cancer Risk	50	33	54	25	0	81
Air Toxics Respiratory Hazard Index	30	31	38	27	29	81
Toxic Releases to Air	93	94	99	50	53	92
Traffic Proximity	95	93	99	54	51	77
Lead Paint	0	51	96	0	23	80
Risk Management Plan (RMP) Facility Proximity	98	98	99	72	74	97
Hazardous Waste Proximity	97	97	99	72	75	98
Superfund Proximity	95	96	99	49	54	88
Underground Storage Tanks (UST)	0	0	--	0	0	--
Wastewater Discharge	88	90	99	30	31	79

Map Display Based on: US State

Display Map Layer Summary - Number of Indexes

Facility 1-mile Radius Facility Census Block Group

Demographic Profile of Surrounding Area (1-Mile Radius)

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. Census boundaries and demographic data for U.S. Territories are based on the "2020 Island Areas Demographic Profiles" from the U.S. Census Bureau. 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 <https://epa.gov/help/reports/dfr-data-dictionary#demographic>.

General Statistics (U.S. Census)	
Total Persons	23,894
Population Density	10,079/sq.mi.
Housing Units in Area	10,194

General Statistics (ACS (American Community Survey))	
Total Persons	19,140
Percent People of Color	99%
Households in Area	7,449
Households on Public Assistance	144
Persons With Low Income	10,025
Percent With Low Income	53%

Geography	
Radius of Selected Area	1 mi.
Center Latitude	18.44539
Center Longitude	-66.17046
Land Area	77%
Water Area	23%

Income Breakdown (ACS (American Community Survey)) - Households (%)	
Less than $15,000	1,481 (19.88%)

Age Breakdown (U.S. Census) - Persons (%)	
Children 5 years and younger	1,259 (5%)
Minors 17 years and younger	5,112 (21%)
Adults 18 years and older	18,782 (79%)
Seniors 65 years and older	3,724 (16%)

Race Breakdown (U.S. Census) - Persons (%)	
White	17,947 (75%)
African-American	3,090 (13%)
Hispanic-Origin	23,563 (99%)
Asian/Pacific Islander	105 (0%)
American Indian	127 (1%)
Other/Multiracial	2,625 (11%)

Education Level (Persons 25 & older) (ACS (American Community Survey)) - Persons (%)	
Less than 9th Grade	1,080 (7.35%)
9th through 12th Grade	689 (4.69%)
High School Diploma	3,633 (24.73%)
Some College/2-year	2,475 (16.85%)
B.S./B.A. (Bachelor of Science/Bachelor of Arts) or More	4,984 (33.93%)

Income Breakdown (ACS (American Community Survey)) - Households (%)	
$15,000 - $25,000	1,227 (16.47%)
$25,000 - $50,000	2,380 (31.94%)
$50,000 - $75,000	1,175 (15.77%)
Greater than $75,000	1,188 (15.94%)

Detailed Facility Report

Facility Summary

LAMP RECYCLING CO INC

SABANA SECA CARR 866 KM 4.8, TOA BAJA, PR 00949

FRS (Facility Registry Service) ID: 110066978337

EPA Region: 02

Latitude: 18.43158

Longitude: -66.176386

Locational Data Source: RCRAINFO

Industries: Truck Transportation

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 LQG, (PRR000025585)

Safe Drinking Water Act (SDWA): No Information

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

Go To Enforcement/Compliance Details
Known Data Problems <https://epa.gov/resources/echo-data/known-data-problems>

Facility/System Characteristics

Facility/System Characteristics

System	Statute	Identifier	Universe	Status	Areas	Permit Expiration Date	Indian Country	Latitude	Longitude
FRS		110066978337					N	18.43158	-66.176386

System	Statute	Identifier	Universe	Status	Areas	Permit Expiration Date	Indian Country	Latitude	Longitude
RCRAInfo	RCRA	PRR000025585	LQG	Active (H)			N	18.43158	-66.176386

Facility Address

System	Statute	Identifier	Facility Name	Facility Address	Facility County
FRS		110066978337	LAMP RECYCLING CO INC	SABANA SECA CARR 866 KM 4.8, TOA BAJA, PR 00949	Toa Baja Municipio
RCRAInfo	RCRA	PRR000025585	LAMP RECYCLING CO INC	SABANA SECA CARR 866 KM 4.8, TOA BAJA, PR 00949	Toa Baja 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	PRR000025585	484230	Specialized Freight (except Used Goods) Trucking, Long-Distance
RCRAInfo	PRR000025585	562111	Solid Waste Collection
RCRAInfo	PRR000025585	562920	Materials Recovery Facilities

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 included in ECHO's Compliance Monitoring Activity counts because they are not compliance monitoring strategy <https://www.epa.gov/compliance/compliance-monitoring-programs> *activities or because they are not counted as inspections within EPA's Annual Results* <https://www.epa.gov/enforcement/enforcement-data-and-results>.

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	PRR000025585	No	09/28/2024	0	09/27/2024

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: PRR000025585)			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	10/01-12/31/23	01/01-03/31/24	04/01-06/30/24	07/01-09/30/24
	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)
Ozone	No	--	No	--
Lead	No	--	No	--

Pollutant	Within Nonattainment Status Area?	Nonattainment Status Applicable Standard(s)	Within Maintenance Status Area?	Maintenance Status Applicable Standard(s)
Particulate Matter	No	--	No	--
Carbon Monoxide	No	--	No	--
Sulfur Dioxide	Yes	Sulfur Dioxide (2010)	No	--

Pollutants

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

TRI Facility ID	Year	Air Emissions	Surface Water Discharges	Off-Site Transfers to POTWs (Publicly Owned Treatment Works)	Underground Injections	Disposal 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

e-Manifest Hazardous Waste History (Public)

Hazardous Waste Shipped in Kilograms by Year (Through 6/29/2024)

Source ID	Waste Description	2021	2022	2023	2024
PRR000025585	Hazardous Waste	11,660	14,410	--	--
PRR000025585	Acute Hazardous Waste	0	0	--	--
PRR000025585	Pharmaceutical Hazardous Waste	0	0	--	--

“Pharmaceutical Hazardous Waste” refers to quantities managed under 40 CFR part 266 subpart P and thus excluded from the Hazardous and Acute Hazardous Waste quantities shown above.

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.

Potential Environmental Justice Concerns

US Territory

Supplemental/EJ index percentiles >= 90 (Census block group)

Supplemental/EJ index percentiles >= 90 (1-mile average)

EJScreen Indexes Shown

Index Type: Supplemental (default)

Related Reports

EJScreen Community Report

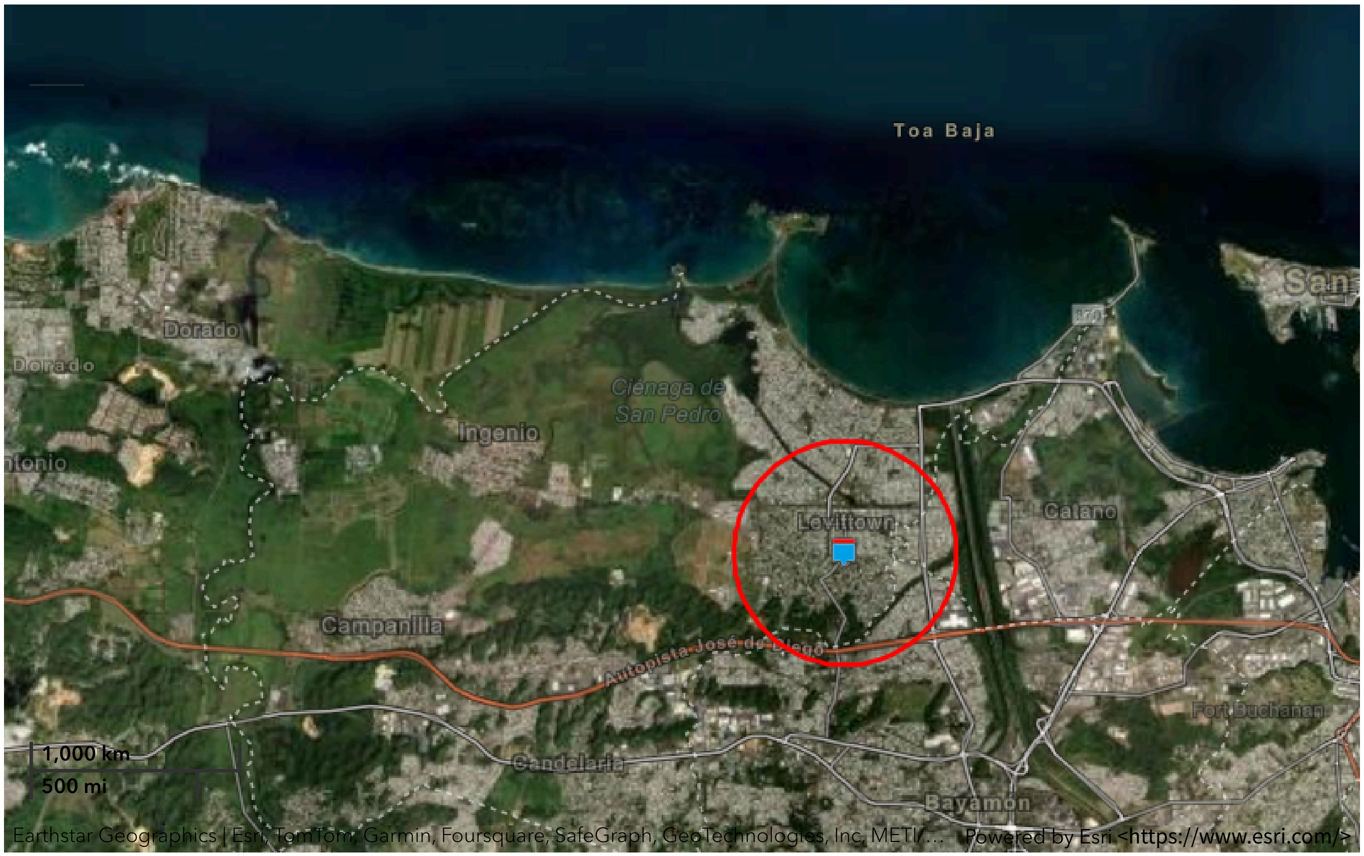
Download Data

Census Block Group ID: 721371226003	US (Percentile)			State (Percentile)		
Supplemental Indexes	**Facility Census Block Group**	**1-mile Avg**	**1-mile Max**	**Facility Census Block Group**	**1-mile Avg**	**1-mile Max**
Count of Indexes At or Above 90th Percentile	**7**	**5**	**8**	**2**	**0**	**6**
Particulate Matter 2.5	--	N/A	--	--	N/A	--
Ozone	--	N/A	--	--	N/A	--
Diesel Particulate Matter	66	63	87	84	71	! 94
Air Toxics Cancer Risk	53	51	55	58	32	88
Air Toxics Respiratory Hazard Index	35	31	39	59	34	88
Toxic Releases to Air	! 99	! 97	! 99	80	64	! 96
Traffic Proximity	! 98	! 95	! 99	72	58	! 93
Lead Paint	! 90	73	! 99	61	38	89
Risk Management Plan (RMP) Facility Proximity	! 99	! 99	! 99	! 90	79	! 98
Hazardous Waste Proximity	! 99	! 98	! 99	! 95	81	! 98
Superfund Proximity	! 99	! 98	! 99	81	62	! 94
Underground Storage Tanks (UST)	0	0	! 96	0	0	77
Wastewater Discharge	! 94	89	! 99	33	28	79

Map Display Based on: ◉ US ○ State

Display Map Layer | Summary - Number of Indexes

○ Facility 1-mile Radius ☐ Facility Census Block Group



Demographic Profile of Surrounding Area (1-Mile Radius)

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. Census boundaries and demographic data for U.S. Territories are based on the "2020 Island Areas Demographic Profiles" from the U.S. Census Bureau. 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 <https://epa.gov/help/reports/dfr-data-dictionary#demographic>.

General Statistics (U.S. Census)	
Total Persons	31,895
Population Density	10,325/sq.mi.
Housing Units in Area	13,064

General Statistics (ACS (American Community Survey))	
Total Persons	26,256
Percent People of Color	100%
Households in Area	9,794
Households on Public Assistance	273
Persons With Low Income	15,071
Percent With Low Income	58%

Geography	
Radius of Selected Area	1 mi.
Center Latitude	18.43158
Center Longitude	-66.176386
Land Area	99%
Water Area	1%

Income Breakdown (ACS (American Community Survey)) - Households (%)	
Less than $15,000	2,262 (23.08%)
$15,000 - $25,000	1,764 (18%)
$25,000 - $50,000	2,828 (28.86%)
$50,000 - $75,000	1,404 (14.33%)
Greater than $75,000	1,542 (15.73%)

Age Breakdown (U.S. Census) - Persons (%)	
Children 5 years and younger	1,615 (5%)
Minors 17 years and younger	6,839 (21%)
Adults 18 years and older	25,057 (79%)
Seniors 65 years and older	4,895 (15%)

Race Breakdown (U.S. Census) - Persons (%)	
White	22,976 (72%)
African-American	5,161 (16%)
Hispanic-Origin	31,555 (99%)
Asian/Pacific Islander	89 (0%)
American Indian	178 (1%)
Other/Multiracial	3,492 (11%)

Education Level (Persons 25 & older) (ACS (American Community Survey)) - Persons (%)	
Less than 9th Grade	2,105 (10.51%)
9th through 12th Grade	1,152 (5.75%)
High School Diploma	4,663 (23.29%)
Some College/2-year	3,571 (17.84%)
B.S./B.A. (Bachelor of Science/Bachelor of Arts) or More	5,948 (29.71%)

Detailed Facility Report

Facility Summary

PEP BOYS THE 913

STATE RD 866, LEVITTOWN, PR 00949

FRS (Facility Registry Service) ID: 110007818317

EPA Region: 02

Latitude: 18.44109

Longitude: -66.17688

Locational Data Source: RCRAINFO

Industries: --

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): Inactive Other, (PRR000004416)

Safe Drinking Water Act (SDWA): No Information

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

Go To Enforcement/Compliance Details
Known Data Problems <https://epa.gov/resources/echo-data/known-data-problems>

Facility/System Characteristics

Facility/System Characteristics

System	Statute	Identifier	Universe	Status	Areas	Permit Expiration Date	Indian Country	Latitude	Longitude
FRS		110007818317					N	18.44109	-66.17688

System	Statute	Identifier	Universe	Status	Areas	Permit Expiration Date	Indian Country	Latitude	Longitude
RCRAInfo	RCRA	PRR000004416	Other	Inactive ( )			N	18.44109	-66.17688

Facility Address

System	Statute	Identifier	Facility Name	Facility Address	Facility County
FRS		110007818317	PEP BOYS THE 913	STATE RD 866, LEVITTOWN, PR 00949	Toa Baja Municipio
RCRAInfo	RCRA	PRR000004416	PEP BOYS THE 913	STATE RD 866, LEVITTOWN, PR 00949	Toa Baja 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

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 included in ECHO's Compliance Monitoring Activity counts because they are not compliance monitoring strategy <https://www.epa.gov/compliance/compliance-monitoring-programs> *activities or because they are not counted as inspections within EPA's Annual Results* <https://www.epa.gov/enforcement/enforcement-data-and-results>.

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	PRR000004416	No	09/28/2024	0	09/27/2024

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: PRR000004416)			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	10/01-12/31/23	01/01-03/31/24	04/01-06/30/24	07/01-09/30/24
	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)
Ozone	No	--	No	--
Lead	No	--	No	--

Pollutant	Within Nonattainment Status Area?	Nonattainment Status Applicable Standard(s)	Within Maintenance Status Area?	Maintenance Status Applicable Standard(s)
Particulate Matter	No	--	No	--
Carbon Monoxide	No	--	No	--
Sulfur Dioxide	Yes	Sulfur Dioxide (2010)	No	--

Pollutants

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

TRI Facility ID	Year	Air Emissions	Surface Water Discharges	Off-Site Transfers to POTWs (Publicly Owned Treatment Works)	Underground Injections	Disposal 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

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.

Potential Environmental Justice Concerns

US Territory

Supplemental/EJ index percentiles >= 90 (Census block group)

Supplemental/EJ index percentiles >= 90 (1-mile average)

EJScreen Indexes Shown

Index Type: Supplemental (default)

Related Reports

EJScreen Community Report

Download Data

Census Block Group ID: 721371225003	US (Percentile)			State (Percentile)		
Supplemental Indexes	**Facility Census Block Group**	**1-mile Avg**	**1-mile Max**	**Facility Census Block Group**	**1-mile Avg**	**1-mile Max**
Count of Indexes At or Above 90th Percentile	**4**	**6**	**7**	**0**	**0**	**6**
Particulate Matter 2.5	--	N/A	--	--	N/A	--
Ozone	--	N/A	--	--	N/A	--
Diesel Particulate Matter	69	68	87	68	73	94
Air Toxics Cancer Risk	50	33	55	27	0	88
Air Toxics Respiratory Hazard Index	30	32	39	28	35	88
Toxic Releases to Air	95	96	99	54	61	96
Traffic Proximity	88	95	99	42	56	93
Lead Paint	84	68	99	50	33	89
Risk Management Plan (RMP) Facility Proximity	98	99	99	74	80	98
Hazardous Waste Proximity	97	98	99	75	81	98
Superfund Proximity	96	98	99	53	62	94
Underground Storage Tanks (UST)	0	0	--	0	0	--
Wastewater Discharge	87	91	99	27	31	79

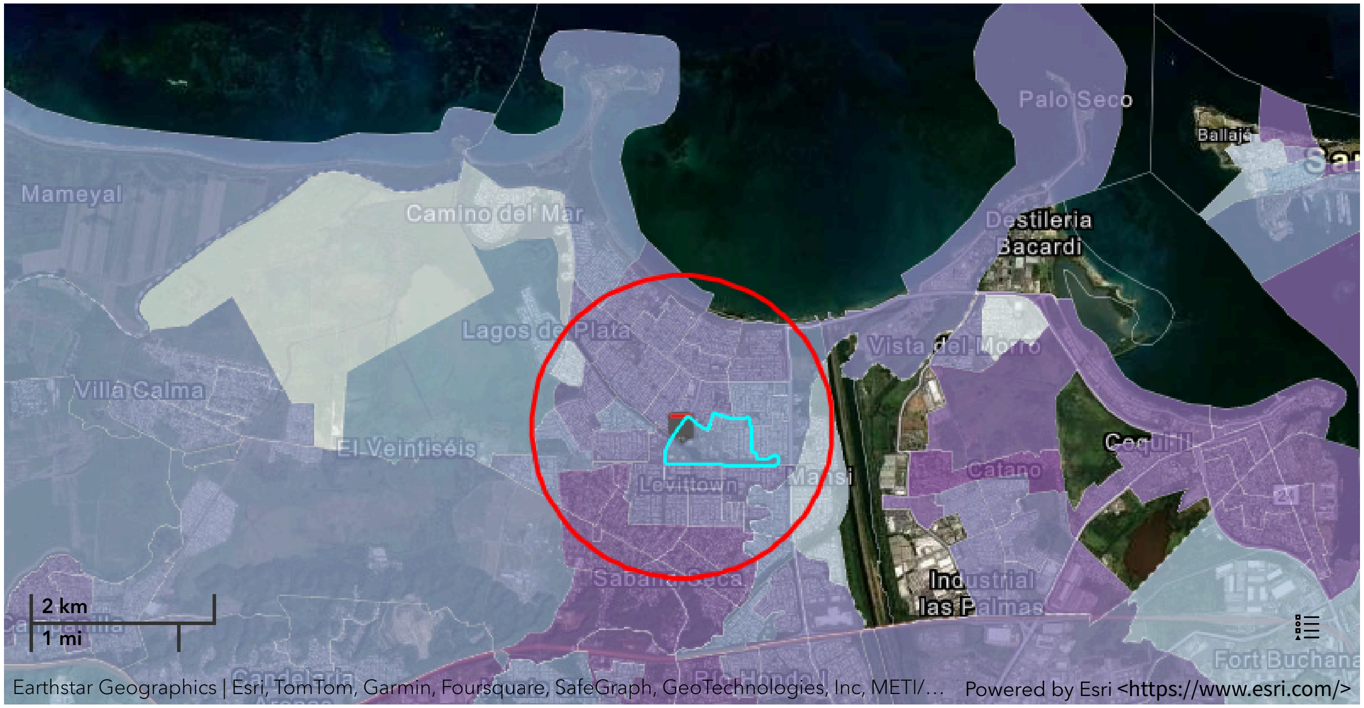
Map Display Based on: ◉ US ○ State

Display Map Layer: Summary - Number of Indexes

○ Facility 1-mile Radius ☐ Facility Census Block Group

+

–



Demographic Profile of Surrounding Area (1-Mile Radius)

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. Census boundaries and demographic data for U.S. Territories are based on the "2020 Island Areas Demographic Profiles" from the U.S. Census Bureau. 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 <https://epa.gov/help/reports/dfr-data-dictionary#demographic>.

General Statistics (U.S. Census)	
Total Persons	34,968
Population Density	11,833/sq.mi.
Housing Units in Area	14,699

General Statistics (ACS (American Community Survey))	
Total Persons	28,614
Percent People of Color	99%

Age Breakdown (U.S. Census) - Persons (%)	
Children 5 years and younger	1,900 (5%)
Minors 17 years and younger	7,792 (22%)
Adults 18 years and older	27,176 (78%)
Seniors 65 years and older	5,385 (15%)

Race Breakdown (U.S. Census) - Persons (%)	
White	25,257 (72%)

General Statistics (ACS (American Community Survey))	
Households in Area	10,905
Households on Public Assistance	290
Persons With Low Income	16,697
Percent With Low Income	59%

Geography	
Radius of Selected Area	1 mi.
Center Latitude	18.44109
Center Longitude	-66.17688
Land Area	96%
Water Area	4%

Income Breakdown (ACS (American Community Survey)) - Households (%)	
Less than $15,000	2,495 (22.88%)
$15,000 - $25,000	1,860 (17.06%)
$25,000 - $50,000	3,375 (30.95%)
$50,000 - $75,000	1,658 (15.2%)
Greater than $75,000	1,517 (13.91%)

Race Breakdown (U.S. Census) - Persons (%)	
African-American	5,394 (15%)
Hispanic-Origin	34,540 (99%)
Asian/Pacific Islander	122 (0%)
American Indian	205 (1%)
Other/Multiracial	3,990 (11%)

Education Level (Persons 25 & older) (ACS (American Community Survey)) - Persons (%)	
Less than 9th Grade	2,110 (9.84%)
9th through 12th Grade	1,104 (5.15%)
High School Diploma	5,246 (24.47%)
Some College/2-year	3,563 (16.62%)
B.S./B.A. (Bachelor of Science/Bachelor of Arts) or More	6,613 (30.84%)

Detailed Facility Report

Facility Summary

AMIGO SUPERMARKET #3670

AVE LOS DOMINICOS ESQ SABANA, LEVITTOWN, PR 00949

FRS (Facility Registry Service) ID: 110031375107

EPA Region: 02

Latitude: 18.437589

Longitude: -66.178571

Locational Data Source: RCRAINFO

Industries: --

Indian Country: N

Enforcement and Compliance Summary

Statute	RCRA
Compliance Monitoring Activities (5 years)	--
Date of Last Compliance Monitoring Activity	09/11/2014
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): Inactive Other, (PRR000019877)

Safe Drinking Water Act (SDWA): No Information

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

Go To Enforcement/Compliance Details
Known Data Problems <https://epa.gov/resources/echo-data/known-data-problems>

Facility/System Characteristics

Facility/System Characteristics

System	Statute	Identifier	Universe	Status	Areas	Permit Expiration Date	Indian Country	Latitude	Longitude
FRS		110031375107					N	18.437589	-66.178571

System	Statute	Identifier	Universe	Status	Areas	Permit Expiration Date	Indian Country	Latitude	Longitude
ICIS		1400002254					N	18.437589	-66.178571
RCRAInfo	RCRA	PRR000019877	Other	Inactive ( )			N	18.437589	-66.178571

Facility Address

System	Statute	Identifier	Facility Name	Facility Address	Facility County
FRS		110031375107	AMIGO SUPERMARKET #3670	AVE LOS DOMINICOS ESQ SABANA, LEVITTOWN, PR 00949	Toa Baja Municipio
ICIS		1400002254	AMIGO SUPERMARKET #3670	AVE LOS DOMINICOS ESQ SABANA, LEVITTOWN, PR 00949	Toa Baja Municipio
RCRAInfo	RCRA	PRR000019877	AMIGO SUPERMARKET #3670	AVE LOS DOMINICOS & SABANA SECA CENTRO COM LEVITTV, LEVITTOWN, PR 00950	Toa Baja 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

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 included in ECHO's Compliance Monitoring Activity counts because they are not compliance monitoring strategy <https://www.epa.gov/compliance/compliance-monitoring-programs> *activities or because they are not counted as inspections within EPA's Annual Results* <https://www.epa.gov/enforcement/enforcement-data-and-results>.

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	PRR000019877	No	10/05/2024	0	10/04/2024

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: PRR000019877)			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	10/01-12/31/23	01/01-03/31/24	04/01-06/30/24	07/01-09/30/24
	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)
Ozone	No	--	No	--
Lead	No	--	No	--

Pollutant	Within Nonattainment Status Area?	Nonattainment Status Applicable Standard(s)	Within Maintenance Status Area?	Maintenance Status Applicable Standard(s)
Particulate Matter	No	--	No	--
Carbon Monoxide	No	--	No	--
Sulfur Dioxide	Yes	Sulfur Dioxide (2010)	No	--

Pollutants

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

TRI Facility ID	Year	Air Emissions	Surface Water Discharges	Off-Site Transfers to POTWs (Publicly Owned Treatment Works)	Underground Injections	Disposal 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

e-Manifest Hazardous Waste History (Public)

Hazardous Waste Shipped in Kilograms by Year (Through 7/6/2024)

Source ID	Waste Description	2021	2022	2023	2024
PRR000019877	Hazardous Waste	0 - 7	0 - 7	--	--
PRR000019877	Acute Hazardous Waste	0 - 4	0 - 6	--	--
PRR000019877	Pharmaceutical Hazardous Waste	0 - 7	0 - 7	--	--

“Pharmaceutical Hazardous Waste” refers to quantities managed under 40 CFR part 266 subpart P and thus excluded from the Hazardous and Acute Hazardous Waste quantities shown above.

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.

Potential Environmental Justice Concerns

US Territory

Supplemental/EJ index percentiles >= 90 (Census block group)

Supplemental/EJ index percentiles >= 90 (1-mile average)

EJScreen Indexes Shown

Index Type: Supplemental (default)

Related Reports

EJScreen Community Report

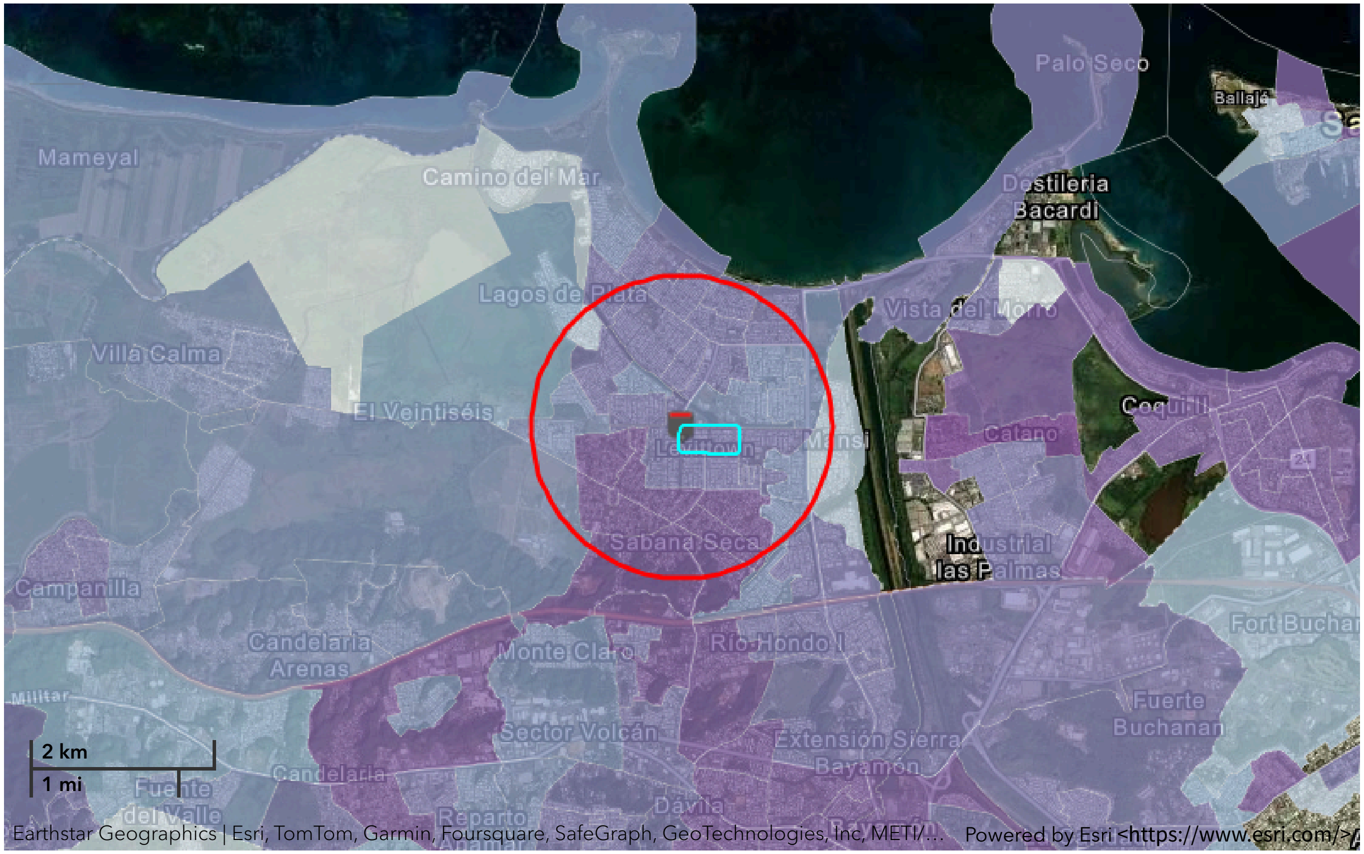
Download Data

Census Block Group ID: 721371209003	US (Percentile)			State (Percentile)		
Supplemental Indexes	**Facility Census Block Group**	**1-mile Avg**	**1-mile Max**	**Facility Census Block Group**	**1-mile Avg**	**1-mile Max**
Count of Indexes At or Above 90th Percentile	**5**	**6**	**7**	**0**	**0**	**6**
Particulate Matter 2.5	--	N/A	--	--	N/A	--
Ozone	--	N/A	--	--	N/A	--
Diesel Particulate Matter	60	68	87	59	76	94
Air Toxics Cancer Risk	49	34	55	24	0	88
Air Toxics Respiratory Hazard Index	30	32	39	25	37	88
Toxic Releases to Air	93	97	99	51	64	96
Traffic Proximity	95	96	99	59	59	93
Lead Paint	0	74	99	0	38	89
Risk Management Plan (RMP) Facility Proximity	97	99	99	69	81	98
Hazardous Waste Proximity	96	98	99	69	83	98
Superfund Proximity	95	98	99	50	65	94
Underground Storage Tanks (UST)	0	0	--	0	0	--
Wastewater Discharge	83	91	99	22	31	79

Map Display Based on: US State

Display Map Layer: Summary - Number of Indexes

Facility 1-mile Radius Facility Census Block Group



Demographic Profile of Surrounding Area (1-Mile Radius)

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 2021 American Community Survey (ACS) 5-year Summary and are accurate to the extent that the facility latitude and longitude listed below are correct. Census boundaries and demographic data for U.S. Territories are based on the "2020 Island Areas Demographic Profiles" from the U.S. Census Bureau. EPA's spatial processing methodology considers the overlap between the selected radii and ACS census block groups in determining the demographics surrounding the facility. For more detail about this methodology, see the DFR Data Dictionary <https://epa.gov/help/reports/dfr-data-dictionary#demographic>.

General Statistics (ACS (American Community Survey))	
Total Persons	29,425
Population Density	9,676/sq.mi.
Housing Units in Area	13,654
Percent People of Color	99%
Households in Area	10,990
Households on Public Assistance	314
Persons With Low Income	17,811
Percent With Low Income	61%

Geography	
Radius of Selected Area	1 mi.
Center Latitude	18.437589
Center Longitude	-66.178571
Land Area	97%
Water Area	3%

Income Breakdown (ACS (American Community Survey)) - Households (%)	
Less than $15,000	2,610 (23.74%)
$15,000 - $25,000	1,987 (18.08%)
$25,000 - $50,000	3,308 (30.09%)
$50,000 - $75,000	1,638 (14.9%)
Greater than $75,000	1,449 (13.18%)

Age Breakdown (ACS (American Community Survey)) - Persons (%)	
Children 5 years and younger	889 (3%)
Minors 17 years and younger	4,691 (16%)
Adults 18 years and older	24,734 (84%)
Seniors 65 years and older	7,126 (24%)

Race Breakdown (ACS (American Community Survey)) - Persons (%)	
White	15,654 (53%)
African-American	0 (0%)
Hispanic-Origin	29,202 (99%)
Asian	7 (0%)
Hawaiian/Pacific Islander	0 (0%)
American Indian	164 (1%)
Other/Multiracial	5,638 (19%)

Education Level (Persons 25 & older) (ACS (American Community Survey)) - Persons (%)	
Less than 9th Grade	2,282 (10.47%)
9th through 12th Grade	1,219 (5.6%)
High School Diploma	5,379 (24.69%)
Some College/2-year	3,703 (17%)
B.S./B.A. (Bachelor of Science/Bachelor of Arts) or More	6,372 (29.25%)

Detailed Facility Report

Facility Summary

TOTAL PETROLEUM PUERTO RICO CORP-SERVICE STATION 104108

AVE LOS DOMINICOS &, TOA BAJA, PR 00949

FRS (Facility Registry Service) ID: 110007817096

EPA Region: 02

Latitude: 18.439224

Longitude: -66.178261

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, (PRR000002568)

Safe Drinking Water Act (SDWA): No Information

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

Go To Enforcement/Compliance Details
Known Data Problems <https://epa.gov/resources/echo-data/known-data-problems>

Facility/System Characteristics

Facility/System Characteristics

System	Statute	Identifier	Universe	Status	Areas	Permit Expiration Date	Indian Country	Latitude	Longitude
FRS		110007817096					N	18.439224	-66.178261

System	Statute	Identifier	Universe	Status	Areas	Permit Expiration Date	Indian Country	Latitude	Longitude
RCRAInfo	RCRA	PRR000002568	VSQG	Active (H)			N	18.439224	-66.178261

Facility Address

System	Statute	Identifier	Facility Name	Facility Address	Facility County
FRS		110007817096	TOTAL PETROLEUM PUERTO RICO CORP-SERVICE STATION 104108	AVE LOS DOMINICOS &, TOA BAJA, PR 00949	Toa Baja Municipio
RCRAInfo	RCRA	PRR000002568	TOTAL PETROLEUM PUERTO RICO CORP-SERVICE STATION 104108	AVE LOS DOMINICOS &, TOA BAJA, PR 00949	Toa Baja 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	PRR000002568	44711	Gasoline Stations with Convenience Stores
RCRAInfo	PRR000002568	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 included in ECHO's Compliance Monitoring Activity counts because they are not compliance monitoring strategy <https://www.epa.gov/compliance/compliance-monitoring-programs> *activities or because they are not counted as inspections within EPA's Annual Results* <https://www.epa.gov/enforcement/enforcement-data-and-results>.

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	PRR000002568	No	10/05/2024	0	10/04/2024

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: PRR000002568)			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	10/01-12/31/23	01/01-03/31/24	04/01-06/30/24	07/01-09/30/24
	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)
Ozone	No	--	No	--
Lead	No	--	No	--

Pollutant	Within Nonattainment Status Area?	Nonattainment Status Applicable Standard(s)	Within Maintenance Status Area?	Maintenance Status Applicable Standard(s)
Particulate Matter	No	--	No	--
Carbon Monoxide	No	--	No	--
Sulfur Dioxide	Yes	Sulfur Dioxide (2010)	No	--

Pollutants

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

TRI Facility ID	Year	Air Emissions	Surface Water Discharges	Off-Site Transfers to POTWs (Publicly Owned Treatment Works)	Underground Injections	Disposal 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

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.

Potential Environmental Justice Concerns

US Territory

Supplemental/EJ index percentiles >= 90 (Census block group)

Supplemental/EJ index percentiles >= 90 (1-mile average)

EJScreen Indexes Shown

Index Type: Supplemental (default)

Related Reports

EJScreen Community Report

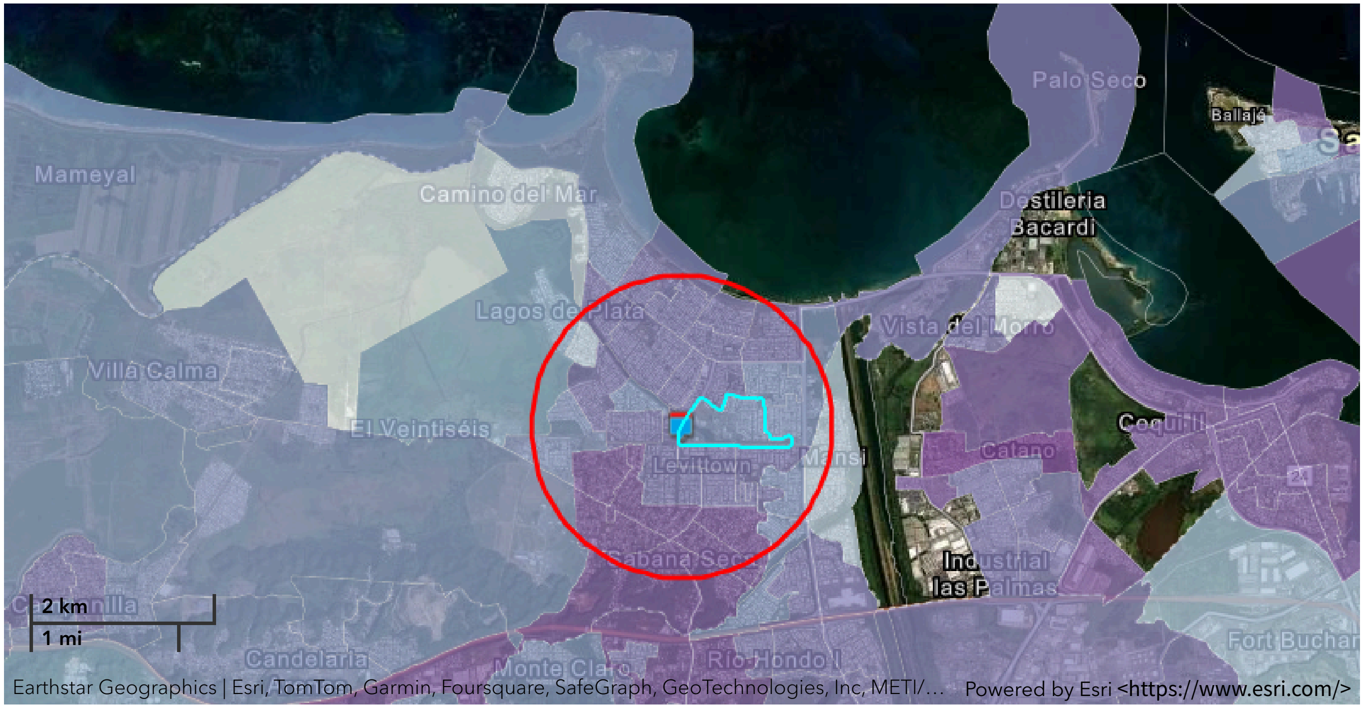
Download Data

Census Block Group ID: 721371225003	US (Percentile)			State (Percentile)		
Supplemental Indexes	**Facility Census Block Group**	**1-mile Avg**	**1-mile Max**	**Facility Census Block Group**	**1-mile Avg**	**1-mile Max**
Count of Indexes At or Above 90th Percentile	**4**	**6**	**7**	**0**	**0**	**6**
Particulate Matter 2.5	--	N/A	--	--	N/A	--
Ozone	--	N/A	--	--	N/A	--
Diesel Particulate Matter	69	68	87	68	75	! 94
Air Toxics Cancer Risk	50	34	55	27	0	88
Air Toxics Respiratory Hazard Index	30	32	39	28	36	88
Toxic Releases to Air	! 95	! 97	! 99	54	63	! 96
Traffic Proximity	88	! 95	! 99	42	57	! 93
Lead Paint	84	71	! 99	50	35	89
Risk Management Plan (RMP) Facility Proximity	! 98	! 99	! 99	74	81	! 98
Hazardous Waste Proximity	! 97	! 98	! 99	75	82	! 98
Superfund Proximity	! 96	! 98	! 99	53	64	! 94
Underground Storage Tanks (UST)	0	0	--	0	0	--
Wastewater Discharge	87	! 91	! 99	27	31	79

Map Display Based on: ◉ US ○ State

Display Map Layer: Summary - Number of Indexes

○ Facility 1-mile Radius ☐ Facility Census Block Group



Demographic Profile of Surrounding Area (1-Mile Radius)

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 2021 American Community Survey (ACS) 5-year Summary and are accurate to the extent that the facility latitude and longitude listed below are correct. Census boundaries and demographic data for U.S. Territories are based on the "2020 Island Areas Demographic Profiles" from the U.S. Census Bureau. EPA's spatial processing methodology considers the overlap between the selected radii and ACS census block groups in determining the demographics surrounding the facility. For more detail about this methodology, see the DFR Data Dictionary <https://epa.gov/help/reports/dfr-data-dictionary#demographic>.

General Statistics (ACS (American Community Survey))	
Total Persons	29,444
Population Density	9,888/sq.mi.
Housing Units in Area	13,827
Percent People of Color	99%
Households in Area	11,078
Households on Public Assistance	311

Age Breakdown (ACS (American Community Survey)) - Persons (%)	
Children 5 years and younger	904 (3%)
Minors 17 years and younger	4,658 (16%)
Adults 18 years and older	24,784 (84%)
Seniors 65 years and older	7,131 (24%)

Race Breakdown (ACS (American Community Survey)) - Persons (%)	
White	15,761 (54%)

General Statistics (ACS (American Community Survey))	
Persons With Low Income	17,656
Percent With Low Income	60%
Geography	
Radius of Selected Area	1 mi.
Center Latitude	18.439224
Center Longitude	-66.178261
Land Area	95%
Water Area	5%

Income Breakdown (ACS (American Community Survey)) - Households (%)	
Less than $15,000	2,603 (23.5%)
$15,000 - $25,000	1,964 (17.73%)
$25,000 - $50,000	3,388 (30.58%)
$50,000 - $75,000	1,648 (14.88%)
Greater than $75,000	1,475 (13.31%)

Race Breakdown (ACS (American Community Survey)) - Persons (%)	
African-American	0 (0%)
Hispanic-Origin	29,213 (99%)
Asian	5 (0%)
Hawaiian/Pacific Islander	0 (0%)
American Indian	164 (1%)
Other/Multiracial	5,612 (19%)
Education Level (Persons 25 & older) (ACS (American Community Survey)) - Persons (%)	
Less than 9th Grade	2,225 (10.18%)
9th through 12th Grade	1,196 (5.47%)
High School Diploma	5,374 (24.6%)
Some College/2-year	3,678 (16.83%)
B.S./B.A. (Bachelor of Science/Bachelor of Arts) or More	6,509 (29.79%)

Detailed Facility Report

Facility Summary

WALGREENS #82

35 AVE LOS DOMINICOS, TOA BAJA, PR 00949

FRS (Facility Registry Service) ID: 110066978523

EPA Region: 02

Latitude: 18.43796

Longitude: -66.17856

Locational Data Source: FRS

Industries: Health and Personal Care Retailers

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, (PRR000012369)

Safe Drinking Water Act (SDWA): No Information

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

Go To Enforcement/Compliance Details
Known Data Problems <https://epa.gov/resources/echo-data/known-data-problems>

Facility/System Characteristics

Facility/System Characteristics

System	Statute	Identifier	Universe	Status	Areas	Permit Expiration Date	Indian Country	Latitude	Longitude
FRS		110066978523					N	18.43796	-66.17856

System	Statute	Identifier	Universe	Status	Areas	Permit Expiration Date	Indian Country	Latitude	Longitude
RCRAInfo	RCRA	PRR000012369	VSQG	Active (H)			N	18.438574	-66.178507

Facility Address

System	Statute	Identifier	Facility Name	Facility Address	Facility County
FRS		110066978523	WALGREENS #82	35 AVE LOS DOMINICOS, TOA BAJA, PR 00949	Toa Baja Municipio
RCRAInfo	RCRA	PRR000012369	WALGREENS #82	35 AVE LOS DOMINICOS, TOA BAJA, PR 00949	Toa Baja 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	PRR000012369	456110	Pharmacies and Drug Retailers

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 included in ECHO's Compliance Monitoring Activity counts because they are not compliance monitoring strategy <https://www.epa.gov/compliance/compliance-monitoring-programs> *activities or because they are not counted as inspections within EPA's Annual Results* <https://www.epa.gov/enforcement/enforcement-data-and-results>.

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	PRR000012369	No	10/05/2024	0	10/04/2024

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: PRR000012369)			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	10/01-12/31/23	01/01-03/31/24	04/01-06/30/24	07/01-09/30/24
	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)
Ozone	No	--	No	--
Lead	No	--	No	--

Pollutant	Within Nonattainment Status Area?	Nonattainment Status Applicable Standard(s)	Within Maintenance Status Area?	Maintenance Status Applicable Standard(s)
Particulate Matter	No	--	No	--
Carbon Monoxide	No	--	No	--
Sulfur Dioxide	Yes	Sulfur Dioxide (2010)	No	--

Pollutants

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

TRI Facility ID	Year	Air Emissions	Surface Water Discharges	Off-Site Transfers to POTWs (Publicly Owned Treatment Works)	Underground Injections	Disposal 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

e-Manifest Hazardous Waste History (Public)

Hazardous Waste Shipped in Kilograms by Year (Through 7/6/2024)

Source ID	Waste Description	2021	2022	2023	2024
PRR000012369	Hazardous Waste	46 - 49	35 - 36	85 - 86	26
PRR000012369	Acute Hazardous Waste	0 - 2	0 - 1	0 - 1	0
PRR000012369	Pharmaceutical Hazardous Waste	0 - 2	0 - 1	0 - 1	0

“Pharmaceutical Hazardous Waste” refers to quantities managed under 40 CFR part 266 subpart P and thus excluded from the Hazardous and Acute Hazardous Waste quantities shown above.

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.

Potential Environmental Justice Concerns

US Territory

Supplemental/EJ index percentiles >= 90 (Census block group)

Supplemental/EJ index percentiles >= 90 (1-mile average)

EJScreen Indexes Shown

Index Type: Supplemental (default)

Related Reports

EJScreen Community Report

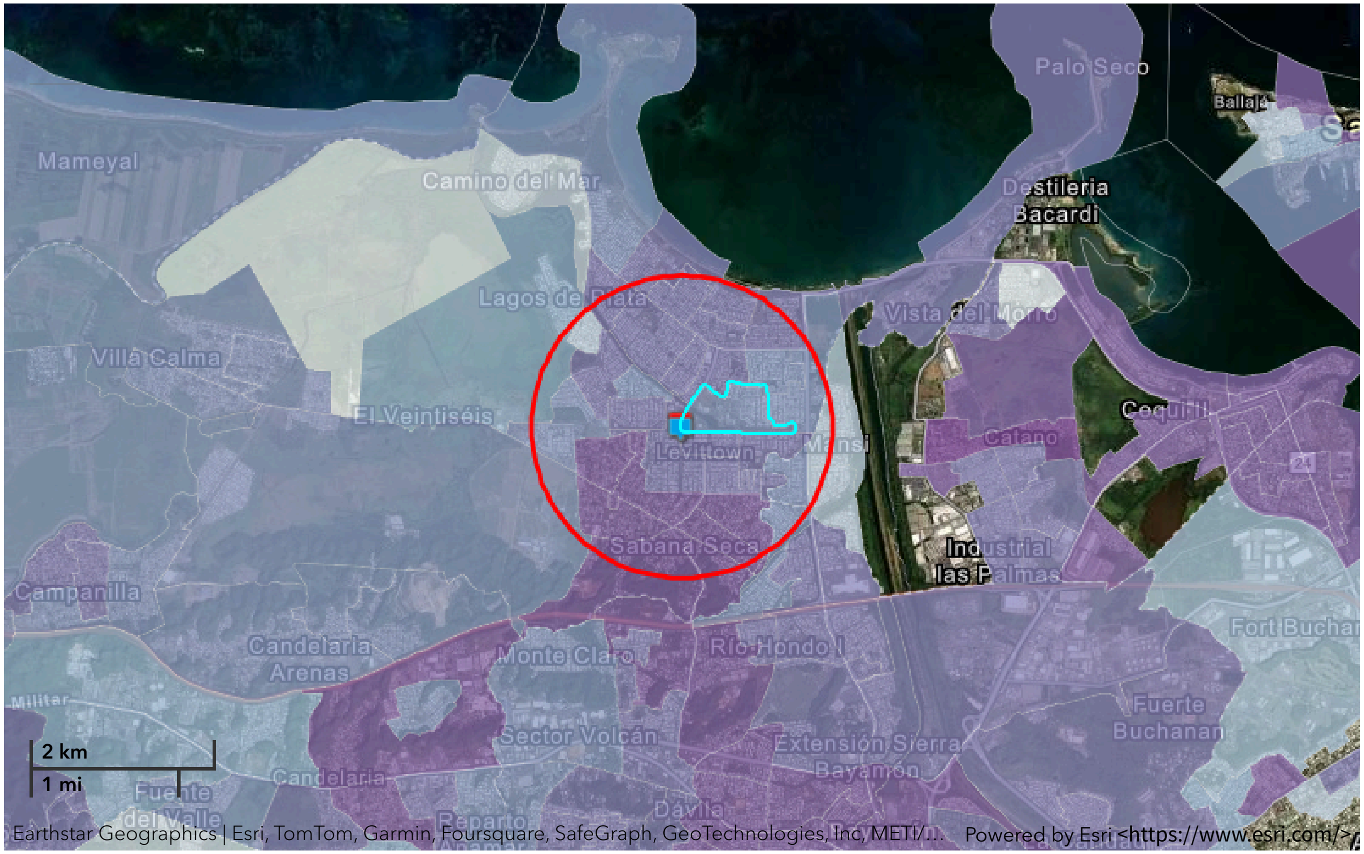
Download Data

Census Block Group ID: 721371225003	US (Percentile)			State (Percentile)		
Supplemental Indexes	**Facility Census Block Group**	**1-mile Avg**	**1-mile Max**	**Facility Census Block Group**	**1-mile Avg**	**1-mile Max**
Count of Indexes At or Above 90th Percentile	**4**	**6**	**7**	**0**	**0**	**6**
Particulate Matter 2.5	--	N/A	--	--	N/A	--
Ozone	--	N/A	--	--	N/A	--
Diesel Particulate Matter	69	68	87	68	75	! 94
Air Toxics Cancer Risk	50	34	55	27	0	88
Air Toxics Respiratory Hazard Index	30	32	39	28	36	88
Toxic Releases to Air	! 95	! 97	! 99	54	63	! 96
Traffic Proximity	88	! 95	! 99	42	58	! 93
Lead Paint	84	72	! 99	50	36	89
Risk Management Plan (RMP) Facility Proximity	! 98	! 99	! 99	74	81	! 98
Hazardous Waste Proximity	! 97	! 98	! 99	75	82	! 98
Superfund Proximity	! 96	! 98	! 99	53	65	! 94
Underground Storage Tanks (UST)	0	0	--	0	0	--
Wastewater Discharge	87	! 91	! 99	27	31	79

Map Display Based on: US State

Display Map Layer: Summary - Number of Indexes

Facility 1-mile Radius Facility Census Block Group



Demographic Profile of Surrounding Area (1-Mile Radius)

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 2021 American Community Survey (ACS) 5-year Summary and are accurate to the extent that the facility latitude and longitude listed below are correct. Census boundaries and demographic data for U.S. Territories are based on the "2020 Island Areas Demographic Profiles" from the U.S. Census Bureau. EPA's spatial processing methodology considers the overlap between the selected radii and ACS census block groups in determining the demographics surrounding the facility. For more detail about this methodology, see the DFR Data Dictionary <https://epa.gov/help/reports/dfr-data-dictionary#demographic>.

General Statistics (ACS (American Community Survey))	
Total Persons	29,501
Population Density	9,730/sq.mi.
Housing Units in Area	13,722
Percent People of Color	99%
Households in Area	11,030
Households on Public Assistance	313
Persons With Low Income	17,828
Percent With Low Income	61%

Geography	
Radius of Selected Area	1 mi.
Center Latitude	18.43796
Center Longitude	-66.17856
Land Area	97%
Water Area	3%

Income Breakdown (ACS (American Community Survey)) - Households (%)	
Less than $15,000	2,615 (23.7%)
$15,000 - $25,000	1,987 (18.01%)
$25,000 - $50,000	3,331 (30.19%)
$50,000 - $75,000	1,644 (14.9%)
Greater than $75,000	1,455 (13.19%)

Age Breakdown (ACS (American Community Survey)) - Persons (%)	
Children 5 years and younger	897 (3%)
Minors 17 years and younger	4,701 (16%)
Adults 18 years and older	24,802 (84%)
Seniors 65 years and older	7,137 (24%)

Race Breakdown (ACS (American Community Survey)) - Persons (%)	
White	15,727 (53%)
African-American	0 (0%)
Hispanic-Origin	29,276 (99%)
Asian	6 (0%)
Hawaiian/Pacific Islander	0 (0%)
American Indian	165 (1%)
Other/Multiracial	5,645 (19%)

Education Level (Persons 25 & older) (ACS (American Community Survey)) - Persons (%)	
Less than 9th Grade	2,273 (10.41%)
9th through 12th Grade	1,220 (5.59%)
High School Diploma	5,384 (24.65%)
Some College/2-year	3,705 (16.97%)
B.S./B.A. (Bachelor of Science/Bachelor of Arts) or More	6,413 (29.37%)

Detailed Facility Report

Facility Summary

PRTC - LEVITTOWN CENTRAL OFFICE

AVE DR ALVAREZ CHANCA, TOA BAJA, PR 00949

FRS (Facility Registry Service) ID: 110007803261

EPA Region: 02

Latitude: 18.443981

Longitude: -66.183899

Locational Data Source: RCRAINFO

Industries: --

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): Inactive Other, (PR0000628578)

Safe Drinking Water Act (SDWA): No Information

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

Go To Enforcement/Compliance Details
Known Data Problems <https://epa.gov/resources/echo-data/known-data-problems>

Facility/System Characteristics

Facility/System Characteristics

System	Statute	Identifier	Universe	Status	Areas	Permit Expiration Date	Indian Country	Latitude	Longitude
FRS		110007803261					N	18.443981	-66.183899

System	Statute	Identifier	Universe	Status	Areas	Permit Expiration Date	Indian Country	Latitude	Longitude
RCRAInfo	RCRA	PR0000628578	Other	Inactive ( )			N	18.443981	-66.183899

Facility Address

System	Statute	Identifier	Facility Name	Facility Address	Facility County
FRS		110007803261	PRTC - LEVITTOWN CENTRAL OFFICE	AVE DR ALVAREZ CHANCA, TOA BAJA, PR 00949	Toa Baja Municipio
RCRAInfo	RCRA	PR0000628578	PRTC - LEVITTOWN CENTRAL OFFICE	AVE DR ALVAREZ CHANCA, TOA BAJA, PR 00949	Toa Baja 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

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 included in ECHO's Compliance Monitoring Activity counts because they are not compliance monitoring strategy <https://www.epa.gov/compliance/compliance-monitoring-programs> *activities or because they are not counted as inspections within EPA's Annual Results* <https://www.epa.gov/enforcement/enforcement-data-and-results>.

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	PR0000628578	No	09/28/2024	0	09/27/2024

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: PR0000628578)			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	10/01-12/31/23	01/01-03/31/24	04/01-06/30/24	07/01-09/30/24
	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)
Ozone	No	--	No	--
Lead	No	--	No	--

Pollutant	Within Nonattainment Status Area?	Nonattainment Status Applicable Standard(s)	Within Maintenance Status Area?	Maintenance Status Applicable Standard(s)
Particulate Matter	No	--	No	--
Carbon Monoxide	No	--	No	--
Sulfur Dioxide	Yes	Sulfur Dioxide (2010)	No	--

Pollutants

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

TRI Facility ID	Year	Air Emissions	Surface Water Discharges	Off-Site Transfers to POTWs (Publicly Owned Treatment Works)	Underground Injections	Disposal 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

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.

Potential Environmental Justice Concerns

US Territory

Supplemental/EJ index percentiles >= 90 (Census block group)

Supplemental/EJ index percentiles >= 90 (1-mile average)

EJScreen Indexes Shown

Index Type: Supplemental (default)

Related Reports

EJScreen Community Report

Download Data

Census Block Group ID: 721371210011	US (Percentile)			State (Percentile)		
Supplemental Indexes	**Facility Census Block Group**	**1-mile Avg**	**1-mile Max**	**Facility Census Block Group**	**1-mile Avg**	**1-mile Max**
Count of Indexes At or Above 90th Percentile	**4**	**5**	**7**	**0**	**0**	**6**
Particulate Matter 2.5	--	N/A	--	--	N/A	--
Ozone	--	N/A	--	--	N/A	--
Diesel Particulate Matter	61	65	87	76	71	94
Air Toxics Cancer Risk	51	33	55	39	0	88
Air Toxics Respiratory Hazard Index	32	31	39	40	34	88
Toxic Releases to Air	97	96	99	63	58	92
Traffic Proximity	87	95	99	42	56	93
Lead Paint	68	64	98	29	30	89
Risk Management Plan (RMP) Facility Proximity	99	98	99	80	77	97
Hazardous Waste Proximity	98	97	99	82	78	98
Superfund Proximity	99	98	99	70	62	94
Underground Storage Tanks (UST)	0	0	--	0	0	--
Wastewater Discharge	89	89	99	25	26	79

Map Display Based on: ◉ US ○ State

Display Map Layer: Summary - Number of Indexes

○ Facility 1-mile Radius ☐ Facility Census Block Group

Demographic Profile of Surrounding Area (1-Mile Radius)

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. Census boundaries and demographic data for U.S. Territories are based on the "2020 Island Areas Demographic Profiles" from the U.S. Census Bureau. 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 <https://epa.gov/help/reports/dfr-data-dictionary#demographic>.

General Statistics (U.S. Census)	
Total Persons	29,969
Population Density	10,202/sq.mi.
Housing Units in Area	12,701

General Statistics (ACS (American Community Survey))	
Total Persons	24,648
Percent People of Color	99%

Age Breakdown (U.S. Census) - Persons (%)	
Children 5 years and younger	1,695 (6%)
Minors 17 years and younger	6,809 (23%)
Adults 18 years and older	23,160 (77%)
Seniors 65 years and older	4,682 (16%)

Race Breakdown (U.S. Census) - Persons (%)	
White	21,577 (72%)

General Statistics (ACS (American Community Survey))	
Households in Area	9,375
Households on Public Assistance	251
Persons With Low Income	14,283
Percent With Low Income	58%

Geography	
Radius of Selected Area	1 mi.
Center Latitude	18.443981
Center Longitude	-66.183899
Land Area	95%
Water Area	5%

Income Breakdown (ACS (American Community Survey)) - Households (%)	
Less than $15,000	2,123 (22.65%)
$15,000 - $25,000	1,593 (17%)
$25,000 - $50,000	3,013 (32.15%)
$50,000 - $75,000	1,390 (14.83%)
Greater than $75,000	1,254 (13.38%)

Race Breakdown (U.S. Census) - Persons (%)	
African-American	4,645 (16%)
Hispanic-Origin	29,587 (99%)
Asian/Pacific Islander	110 (0%)
American Indian	189 (1%)
Other/Multiracial	3,448 (12%)

Education Level (Persons 25 & older) (ACS (American Community Survey)) - Persons (%)	
Less than 9th Grade	1,614 (8.91%)
9th through 12th Grade	841 (4.64%)
High School Diploma	4,533 (25.02%)
Some College/2-year	2,991 (16.51%)
B.S./B.A. (Bachelor of Science/Bachelor of Arts) or More	5,700 (31.47%)

Detailed Facility Report

Facility Summary

SABANA SECA SS 3620

SABANA SECA AVE INT RUFINO, TOA BAJA, PR 00949

FRS (Facility Registry Service) ID: 110043582842

EPA Region: 02

Latitude: 18.437636

Longitude: -66.181174

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, (PRR000004143)

Safe Drinking Water Act (SDWA): No Information

Go To Enforcement/Compliance Details
Known Data Problems <https://epa.gov/resources/echo-data/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		110043582842					N	18.437636	-66.181174

System	Statute	Identifier	Universe	Status	Areas	Permit Expiration Date	Indian Country	Latitude	Longitude
RCRAInfo	RCRA	PRR000004143	VSQG	Active (H)			N	18.437636	-66.181174

Facility Address

System	Statute	Identifier	Facility Name	Facility Address	Facility County
FRS		110043582842	SABANA SECA SS 3620	SABANA SECA AVE INT RUFINO, TOA BAJA, PR 00949	Toa Baja Municipio
RCRAInfo	RCRA	PRR000004143	SABANA SECA SS 3620	SABANA SECA AVE INT RUFINO, TOA BAJA, PR 00949	Toa Baja 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	PRR000004143	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 included in ECHO's Compliance Monitoring Activity counts because they are not compliance monitoring strategy <https://www.epa.gov/compliance/compliance-monitoring-programs> *activities or because they are not counted as inspections within EPA's Annual Results* <https://www.epa.gov/enforcement/enforcement-data-and-results>.

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	PRR000004143	No	09/28/2024	0	09/27/2024

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: PRR000004143)		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	10/01-12/31/23	01/01-03/31/24	04/01-06/30/24	07/01-09/30/24
	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)
Ozone	No	--	No	--
Lead	No	--	No	--

Pollutant	Within Nonattainment Status Area?	Nonattainment Status Applicable Standard(s)	Within Maintenance Status Area?	Maintenance Status Applicable Standard(s)
Particulate Matter	No	--	No	--
Carbon Monoxide	No	--	No	--
Sulfur Dioxide	Yes	Sulfur Dioxide (2010)	No	--

Pollutants

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

TRI Facility ID	Year	Air Emissions	Surface Water Discharges	Off-Site Transfers to POTWs (Publicly Owned Treatment Works)	Underground Injections	Disposal 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

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.

Potential Environmental Justice Concerns

US Territory

Supplemental/EJ index percentiles >= 90 (Census block group)

Supplemental/EJ index percentiles >= 90 (1-mile average)

EJScreen Indexes Shown

Index Type

Supplemental (default)

Related Reports

EJScreen Community Report

Download Data

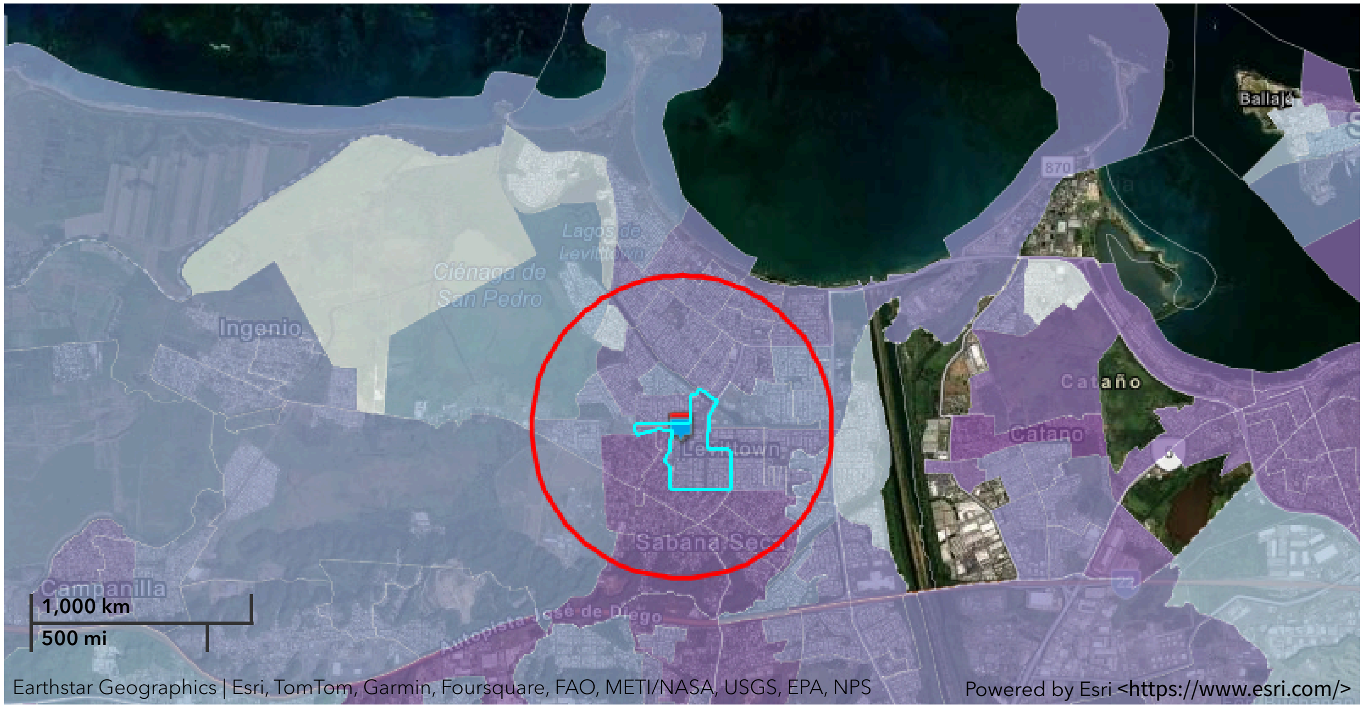
Census Block Group ID: 721371210021	US (Percentile)			State (Percentile)		
Supplemental Indexes	Facility Census Block Group	1-mile Avg	1-mile Max	Facility Census Block Group	1-mile Avg	1-mile Max
Count of Indexes At or Above 90th Percentile	**5**	**6**	**7**	**0**	**0**	**6**
Particulate Matter 2.5	--	N/A	--	--	N/A	--
Ozone	--	N/A	--	--	N/A	--
Diesel Particulate Matter	67	66	87	73	75	94
Air Toxics Cancer Risk	51	34	55	33	0	88
Air Toxics Respiratory Hazard Index	32	32	39	35	37	88
Toxic Releases to Air	97	97	99	64	63	96
Traffic Proximity	98	95	99	69	58	93
Lead Paint	75	73	99	38	37	89
Risk Management Plan (RMP) Facility Proximity	99	99	99	80	81	98
Hazardous Waste Proximity	99	98	99	83	82	98
Superfund Proximity	98	98	99	64	65	94
Underground Storage Tanks (UST)	0	0	--	0	0	--
Wastewater Discharge	89	90	99	26	28	79

Map Display Based on: US State

Display Map Layer

Summary - Number of Indexes

Facility 1-mile Radius Facility Census Block Group



Demographic Profile of Surrounding Area (1-Mile Radius)

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. Census boundaries and demographic data for U.S. Territories are based on the "2020 Island Areas Demographic Profiles" from the U.S. Census Bureau. 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 <https://epa.gov/help/reports/dfr-data-dictionary#demographic>.

General Statistics (U.S. Census)	
Total Persons	33,644
Population Density	10,689/sq.mi.
Housing Units in Area	13,970

General Statistics (ACS (American Community Survey))	
Total Persons	28,113
Percent People of Color	99%

Age Breakdown (U.S. Census) - Persons (%)	
Children 5 years and younger	1,864 (6%)
Minors 17 years and younger	7,666 (23%)
Adults 18 years and older	25,978 (77%)
Seniors 65 years and older	5,157 (15%)

Race Breakdown (U.S. Census) - Persons (%)	
White	23,942 (71%)

General Statistics (ACS (American Community Survey))	
Households in Area	10,531
Households on Public Assistance	308
Persons With Low Income	17,142
Percent With Low Income	61%
Geography	
Radius of Selected Area	1 mi.
Center Latitude	18.437636
Center Longitude	-66.181174
Land Area	99%
Water Area	1%

Income Breakdown (ACS (American Community Survey)) - Households (%)	
Less than $15,000	2,543 (24.14%)
$15,000 - $25,000	1,912 (18.15%)
$25,000 - $50,000	3,241 (30.76%)
$50,000 - $75,000	1,524 (14.47%)
Greater than $75,000	1,315 (12.48%)

Race Breakdown (U.S. Census) - Persons (%)	
African-American	5,577 (17%)
Hispanic-Origin	33,268 (99%)
Asian/Pacific Islander	91 (0%)
American Indian	203 (1%)
Other/Multiracial	3,832 (11%)
Education Level (Persons 25 & older) (ACS (American Community Survey)) - Persons (%)	
Less than 9th Grade	2,156 (10.41%)
9th through 12th Grade	1,139 (5.5%)
High School Diploma	5,120 (24.73%)
Some College/2-year	3,541 (17.11%)
B.S./B.A. (Bachelor of Science/Bachelor of Arts) or More	6,002 (28.99%)

Detailed Facility Report

Facility Summary

CVS PHARMACY #2247

60 AVE LOS DOMINICO, TOA BAJA, PR 00949

FRS (Facility Registry Service) ID: 110056334934

EPA Region: 02

Latitude: 18.44442

Longitude: -66.175264

Locational Data Source: FRS

Industries: Health and Personal Care Retailers

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)	1
Penalties from EPA Cases (5 years)	$60,000

Regulatory Information

Clean Air Act (CAA): No Information

Clean Water Act (CWA): No Information

Resource Conservation and Recovery Act (RCRA): Inactive Other, (PRR000024695)

Safe Drinking Water Act (SDWA): No Information

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

Go To Enforcement/Compliance Details
Known Data Problems <https://epa.gov/resources/echo-data/known-data-problems>

Facility/System Characteristics

Facility/System Characteristics

System	Statute	Identifier	Universe	Status	Areas	Permit Expiration Date	Indian Country	Latitude	Longitude
FRS		110056334934					N	18.44442	-66.175264

System	Statute	Identifier	Universe	Status	Areas	Permit Expiration Date	Indian Country	Latitude	Longitude
ICIS		3400106698					N	18.44442	-66.175264
RCRAInfo	RCRA	PRR000024695	Other	Inactive ( )			N	18.439224	-66.178261

Facility Address

System	Statute	Identifier	Facility Name	Facility Address	Facility County
FRS		110056334934	CVS PHARMACY #2247	60 AVE LOS DOMINICO, TOA BAJA, PR 00949	Toa Baja Municipio
ICIS		3400106698	CVS PHARMACY #2247	60 AVE LOS DOMINICO, TOA BAJA, PR 00949	Toa Baja Municipio
RCRAInfo	RCRA	PRR000024695	CVS PHARMACY #2247	60 AVE LOS DOMINICO, TOA BAJA, PR 00949	Toa Baja 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	PRR000024695	45611	Pharmacies and Drug Retailers

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 included in ECHO's Compliance Monitoring Activity counts because they are not compliance monitoring strategy <https://www.epa.gov/compliance/compliance-monitoring-programs> *activities or because they are not counted as inspections within EPA's Annual Results* <https://www.epa.gov/enforcement/enforcement-data-and-results>.

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	PRR000024695	No	09/28/2024	0	09/27/2024

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: PRR000024695)			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	10/01-12/31/23	01/01-03/31/24	04/01-06/30/24	07/01-09/30/24
	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
RCRA	ICIS	3002	RCRAINFO/PRR000024695	Judicial	02-2014-0024	EPA	Puerto Rico CVS Pharmacy, LLC	11/19/2019	1	01/09/2020	$60,000	$0	--	$0	$3,500

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)
Ozone	No	--	No	--

Pollutant	Within Nonattainment Status Area?	Nonattainment Status Applicable Standard(s)	Within Maintenance Status Area?	Maintenance Status Applicable Standard(s)
Lead	No	--	No	--
Particulate Matter	No	--	No	--
Carbon Monoxide	No	--	No	--
Sulfur Dioxide	Yes	Sulfur Dioxide (2010)	No	--

Pollutants

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

TRI Facility ID	Year	Air Emissions	Surface Water Discharges	Off-Site Transfers to POTWs (Publicly Owned Treatment Works)	Underground Injections	Disposal 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

e-Manifest Hazardous Waste History (Public)

Hazardous Waste Shipped in Kilograms by Year (Through 6/29/2024)

Source ID	Waste Description	2021	2022	2023	2024
PRR000024695	Hazardous Waste	34 - 43	49 - 61	35 - 47	12 - 18
PRR000024695	Acute Hazardous Waste	0 - 4	0 - 7	0 - 0	0 - 1
PRR000024695	Pharmaceutical Hazardous Waste	0 - 9	0 - 12	0 - 11	0 - 6

“Pharmaceutical Hazardous Waste” refers to quantities managed under 40 CFR part 266 subpart P and thus excluded from the Hazardous and Acute Hazardous Waste quantities shown above.

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.

Potential Environmental Justice Concerns

US Territory

Supplemental/EJ index percentiles >= 90 (Census block group)

Supplemental/EJ index percentiles >= 90 (1-mile average)

EJScreen Indexes Shown

Index Type: Supplemental (default)

Related Reports

EJScreen Community Report

Download Data

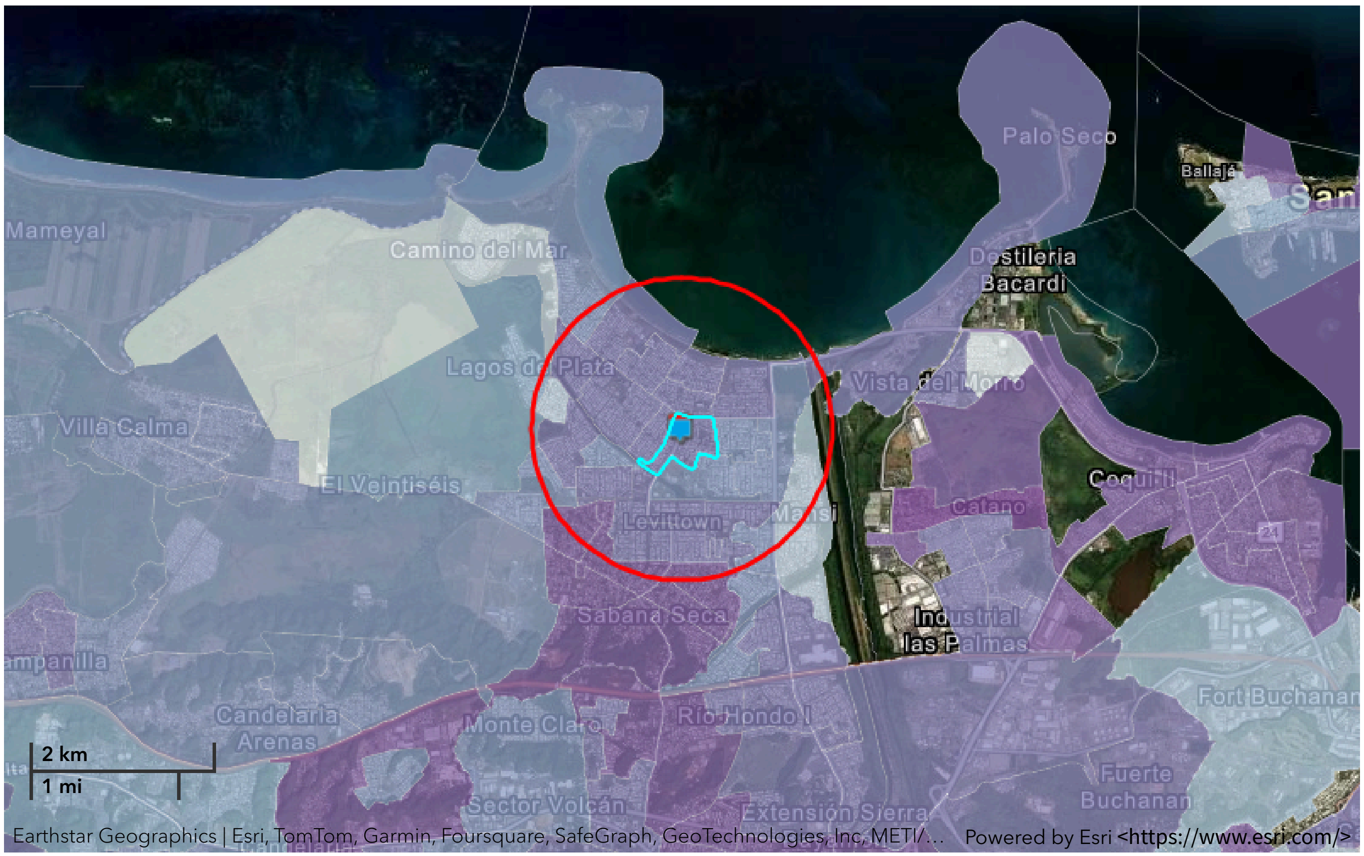
Census Block Group ID: 721371225004	US (Percentile)			State (Percentile)		
Supplemental Indexes	**Facility Census Block Group**	**1-mile Avg**	**1-mile Max**	**Facility Census Block Group**	**1-mile Avg**	**1-mile Max**
Count of Indexes At or Above 90th Percentile	**6**	**6**	**7**	**0**	**0**	**6**
Particulate Matter 2.5	--	N/A	--	--	N/A	--
Ozone	--	N/A	--	--	N/A	--
Diesel Particulate Matter	74	68	87	78	72	! 94
Air Toxics Cancer Risk	51	51	55	34	31	88
Air Toxics Respiratory Hazard Index	32	31	39	35	33	88
Toxic Releases to Air	! 96	! 96	! 99	59	57	! 92
Traffic Proximity	! 98	! 94	! 99	75	53	! 93
Lead Paint	0	63	! 98	0	29	89
Risk Management Plan (RMP) Facility Proximity	! 99	! 98	! 99	81	78	! 97
Hazardous Waste Proximity	! 99	! 97	! 99	84	78	! 98
Superfund Proximity	! 98	! 97	! 99	61	60	! 94
Underground Storage Tanks (UST)	0	0	--	0	0	--

Census Block Group ID: 721371225004	US (Percentile)			State (Percentile)		
Supplemental Indexes	Facility Census Block Group	1-mile Avg	1-mile Max	Facility Census Block Group	1-mile Avg	1-mile Max
Wastewater Discharge	! 90	! 90	! 99	31	30	79

Map Display Based on: US State

Display Map Layer: Summary - Number of Indexes

Facility 1-mile Radius   Facility Census Block Group



Demographic Profile of Surrounding Area (1-Mile Radius)

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. Census boundaries and demographic data for U.S. Territories are based on the "2020 Island Areas Demographic Profiles" from the U.S. Census Bureau. 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 <https://epa.gov/help/reports/dfr-data-dictionary#demographic>.

General Statistics (U.S. Census)	
Total Persons	30,534
Population Density	11,570/sq.mi.
Housing Units in Area	12,959

General Statistics (ACS (American Community Survey))	
Total Persons	24,892
Percent People of Color	99%
Households in Area	9,614
Households on Public Assistance	219
Persons With Low Income	13,899
Percent With Low Income	56%

Geography	
Radius of Selected Area	1 mi.
Center Latitude	18.44442
Center Longitude	-66.175264
Land Area	86%
Water Area	14%

Income Breakdown (ACS (American Community Survey)) - Households (%)	
Less than $15,000	2,061 (21.44%)
$15,000 - $25,000	1,524 (15.85%)
$25,000 - $50,000	3,139 (32.65%)
$50,000 - $75,000	1,523 (15.84%)
Greater than $75,000	1,367 (14.22%)

Age Breakdown (U.S. Census) - Persons (%)	
Children 5 years and younger	1,655 (5%)
Minors 17 years and younger	6,674 (22%)
Adults 18 years and older	23,860 (78%)
Seniors 65 years and older	4,815 (16%)

Race Breakdown (U.S. Census) - Persons (%)	
White	22,350 (73%)
African-American	4,395 (14%)
Hispanic-Origin	30,138 (99%)
Asian/Pacific Islander	120 (0%)
American Indian	170 (1%)
Other/Multiracial	3,499 (11%)

Education Level (Persons 25 & older) (ACS (American Community Survey)) - Persons (%)	
Less than 9th Grade	1,645 (8.76%)
9th through 12th Grade	864 (4.6%)
High School Diploma	4,677 (24.91%)
Some College/2-year	3,133 (16.68%)
B.S./B.A. (Bachelor of Science/Bachelor of Arts) or More	6,043 (32.18%)

Appendix H:

1. Documents of Informal Consultation with USFWS
2. Critical Habitat Maps
3. Tree Inventory and Mitigation Plans

Clarification notes:

The aggregated projects identified as PR-CRP-000948 / PR-CRP-000964 / PR-CRP-000973 involve improvements to three intersections along Juan “Picolino” Hernández Ferrer Avenue in the Levittown area of the municipality of Toa Baja.

The Juan “Picolino” Hernández Ferrer Avenue is also known as the Sábana Seca Avenue. Thus both of these names refer to the same strip of road.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Caribbean Ecological Services Field Office
Bayamón | Mayagüez | Maricao | Río Grande | St Croix
P.O. Box 491
Boquerón, Puerto Rico 00622

In Reply Refer to:
FWS/R4/CESFO/72137-Gen

Submitted Via Electronic Mail: jcperez@vivienda.pr.gov

Juan Carlos Pérez-Bofill, PE, MEng.
Director – Disaster Recovery CDBG-DR Program
Puerto Rico Department of Housing
P.O. Box 21365
San Juan, P.R 00928-1365

Re**:** PR-CRP-000948, PR-CRP-000964 and PR-CRP-000973, Toa Baja, Puerto Rico

Dear Mr. Pérez-Bofill

Thank you for your letter dated February 25, 2024, requesting informal consultation on the above referenced project. As per your request, our comments are provided under the Endangered Species Act (Act) (87 Stat. 884, as amended; 16 United States Code 1531 et seq.), and the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.).

The Puerto Rico Department of Housing (PRDOH) proposes the removal of existing asphalt surfaces, curbs, sidewalks, planters, lighting poles, trees and the installation of roundabouts at each of the following existing intersections, safety improvements (signage and pavement markings), and new planting areas (in the roundabouts' inner circles, islands, and strips with rain garden):

- **PR-CRP-000948**: Intersections of Juan “Picolino” Hernández Ferrer Ave. and Rufino Ramirez St. (18°26'14.7"N 66°10'01.9"W)
- **PR-CRP-000964**: Juan “Picolino” Hernández Ferrer Ave. and Dr. Álvarez Chanca Ave. (18°26'15.6"N 66°10'49.2"W)
- **PR-CRP-000973**: Juan “Picolino” Hernández Ferrer Ave. and Del Carmen St. (18°26'16.1"N 66°11'09.3"W)

The USFWS National Wetlands Inventory mapper identified a very small portion of the **PR-CRP-000948** footprint is located adjacent to an Estuarine and Marine Deepwater wetland identified as a retaining pond. According to PRDOH, this area is already developed with sidewalks, curbs, and an asphalt road. The project will not expand the existing footprint into the wetland areas, thus there will be no direct impact to the wetlands from the project activities. However, to minimize the risk of indirect impact on wetlands, best management practices, including erosion and sedimentation controls, will be implemented during the construction phase of the project. Also, projects **PR-CRP-000964 and PR-CRP-000973** are located more than 100 feet from any wetlands.

Using the U.S. Fish and Wildlife Service's (Service) Information for Planning and Consultation (IPaC) system, PRDOH has determined that the proposed project sites lies within the range of the following species:

Specie	Project Site
Puerto Rican Boa *(Chilabothrus inornatus*)	**PR-CRP-000948, PR-CRP-000964 & PR-CRP-000973**
roseate tern (*Sterna dougallii dougallii)*	**PR-CRP-000973**
palo de rosa (*Ottoschulzia rhodoxylon*).	**PR-CRP-000973**

Since the majority of the project will be conducted within the existing right of ways (ROWs), the PRDOH has determined that the proposed actions will have no effect (NE) on the roseate tern due to the lack of suitable habitat. As for palo de rosa, PRDOH has also made a NE determination since this species was not identified during the tree survey.

The Service acknowledges receipt of PRDOH's NE determination for the roseate tern and palo de rosa. Currently, we do not have information to refute that determination. Because the PRDOH made a NE determination, the PRDOH is not required to conduct formal or informal section 7 consultation with the Service, and the Service is not required to concur with PRDOH's NE determination.

As for the Puerto Rican boa, PRDOH has determined the proposed project actions may affect but is not likely to adversely affect this species. Conservation measures developed by the Service will be implemented.

We have reviewed the information provided in your letter and our files, and concur with your determination that the proposed project may affect, but is not likely to adversely affect the Puerto Rican boa with the implementation of the conservation measures.

In view of this, we believe that requirements of section 7 of the Endangered Species Act (Act) have been satisfied. However, obligations under section 7 of the Act must be reconsidered if: (1) new information reveals impacts of this identified action that may affect listed species or critical habitat in a manner that was not previously considered; (2) this action is subsequently modified in a manner not previously considered in this assessment; or, (3) a new species is listed, or critical habitat determined that may be affected by the identified action.

With regards to the Fish and Wildlife Coordination Act, these projects may impact or are close to wetland areas, any impacts to wetlands caused by the expansion (temporary or permanent), outside of the existing roadway footprint may require a US Army Corps of Engineers permit. We recommend that the wetland boundary be clearly marked in the field and that the contractor maintain a 30 meter vegetated buffer between any construction work and the wetlands. The contractor should be made aware that any impacts to wetlands could result in violations to federal laws and regulations.

Thank you for the opportunity to comment on this project. If you have any questions or require additional information, please contact us via email at caribbean_es@fws.gov or by phone at (786) 244-0081.

Sincerely,

LOURDES MENA

Digitally signed by LOURDES MENA
Date: 2025.03.24 10:31:33 -04'00'

Lourdes Mena
Field Supervisor

drr

cc:
DNER
HUD
PRHTA
COE

DIATOM
ENVIRONMENTAL SERVICES, LLC

Date: 1/7/2025

Applicant ID: PR-CRP-000948; PR-CRP-000964; PR-CRP-000973

Street Address: Intersections of Juan "Picolino" Hernández Ferrer Ave. and Rufino Ramirez St (PR-CRP-000948).; Juan "Picolino" Hernández Ferrer Ave. and Dr. Álvarez Chanca Ave. (PR-CRP-000964); and Juan "Picolino" Hernández Ferrer Ave. and Del Carmen St. (PR-CRP-000973)
Municipality: Toa Baja, Puerto Rico 00951

RE: Not Likely to Adversely Affect (NLAA) Determination for PR-CRP-000948, PR-CRP-000964, & PR-CRP-000973

EXECUTIVE SUMMARY

Section 7 of the Endangered Species Act (ESA) mandates that federal agencies ensure the actions that they authorize, fund, or carry out shall not jeopardize the continued existence of federally listed plants and animals or result in the adverse modification or destruction of designated critical habitat. Where their actions may affect resources protected by the ESA, agencies must consult with the Fish and Wildlife Service and/or the National Marine Fisheries Service ("FWS" and "NMFS" or "the Services").

This memo serves to document that the proposed project, PR-CRP-000948; PR-CRP-000964; PR-CRP-000973, located at the intersections of Juan "Picolino" Hernández Ferrer Ave. and Rufino Ramirez St.; Juan "Picolino" Hernández Ferrer Ave. and Dr. Álvarez Chanca Ave.; and Juan "Picolino" Hernández Ferrer Ave. and Del Carmen St. in Toa Baja, PR was reviewed in accordance with Section 7 of the Endangered Species Act of 1973 (16 USC 1536) as well as the Fish and Wildlife Coordination Act (47 Stat. 401, as amended; 16 U.S.C. 661 et seq.) by a qualified Biologist, resulting in a "Not Likely to Adversely Affect" (NLAA) determination.

The goal of the City Revitalization Program is to help shape and implement the future vision of communities that were affected by Hurricanes Irma and María and will support the municipal governments and other eligible organizations to undertake a variety of recovery activities aimed at reinvigorating downtown areas, urban centers, and key community corridors.

Project Description

The project consists of three existing intersections along Juan "Picolino" Hernández Ferrer Avenue (also known as Sabana Seca Avenue) in the municipality of Toa Baja. The project scope includes installation of roundabouts at each of these existing intersections, safety improvements such as signage and pavement markings, and new planting areas in the roundabouts' inner circles, islands, and strips with rain gardens (see project descriptions in **Appendix A**). The projects will be built at

41 Fernando Ribas Avenue PO Box 2364 Utuado, Puerto Rico 00641 | (787) 467-8887 | www.diatomenvironmental.com

approximately 18.437412, -66.167189 (PR-CRP-000948), 18.437677, -66.180319 (PR-CRP-000964), and 18.437799, -66.185903 (PR-CRP-000973) (see Project Location Maps in **Appendix B**). The projects include the removal of existing asphalt surfaces, curbs, sidewalks, planters, lighting poles, and trees. The proposed project designs can be seen in the project descriptions in **Appendix A**. None of the trees planned for removal are listed species, and the tree mitigation plan will provide more trees than are removed. Therefore, the project will have no impact on protected flora. Tree inventories and mitigation plans are included in **Appendix C**.

As indicated by the Official Species Lists obtained from the Information for Planning and Consultation (IPaC) system (**Appendix D**) and USFWS Critical Habitat data (**Appendix E**), the proposed project at each of the three proposed roundabouts lies within the ranges of the following federally listed species and critical habitats:

Table 1: PR-CRP-000948 Endangered Species

Species	Status
Puerto Rican Boa (*Chilabothrus inornatus*)	Endangered

Critical Habitat
None

Table 2: PR-CRP-000964 Endangered Species

Species	Status
Puerto Rican Boa (*Chilabothrus inornatus*)	Endangered

Critical Habitat
None

Table 3: PR-CRP-000973 Endangered Species

Species	Status
Puerto Rican Boa (*Chilabothrus inornatus*)	Endangered
Roseate Tern (*Sterna dougallii dougallii*)	Threatened
Palo De Rosa (*Ottoschulzia rhodoxylon*)	Threatened

Critical Habitat
None

Existing Conditions:

The project areas where activities will be taking place consists of approximately 2.17 acres of land located at the intersection of Juan "Picolino" Hernández Ferrer Ave. and Rufino Ramirez St. (PR-CRP-000948), 1.65 acres of land at the intersection of Juan "Picolino" Hernández Ferrer Ave. and Dr. Álvarez Chanca Ave. (PR-CRP-000964), and 2.03 acres of land at the intersection of Juan "Picolino" Hernández Ferrer Avenue, Llorens Torres St., and Rufino Ramirez St. in Toa Baja, PR (PR-CRP-000973). The total project area across the three intersections is approximately 5.85 acres. Site photos (see **Appendix G**) and topographic maps are included (see **Appendix H**) for reference.

The project areas are located outside of the 100-year floodplain but are all located partially or entirely within the 500-year floodplain. The sites related to projects PR-CRP-000948 and PR-CRP-000964 are located entirely within the 500-year floodplain according to the FEMA National Flood Hazard Layer (panel 72000C0335J, effective 11/18/2009). PR-CRP-000973 is located partially within the 500-year floodplain according to the FEMA National Flood Hazard Layer (panel 72000C0335J, effective 11/18/2009) (see FEMA FIRMettes in **Appendix I**). Preliminary FIRMs have not been developed for this area.

All three project areas are located within Flood Zone A according to the Advisory Base Flood Elevation (ABFE) maps (effective 12/11/2018) (see ABFE maps in **Appendix J**).

According to the USFWS National Wetlands Inventory mapper, a very small portion of the PR-CRP-000948 footprint is located adjacent to an Estuarine and Marine Deepwater wetland (E1UBLx) identified as a retaining pond. However, this area is already developed with sidewalks, curbs, and an asphalt road. The project will not expand the existing footprint into the wetland areas, thus there will be no direct impact to the wetlands from the project activities. To minimize the risk of indirect impact on wetlands, best management practices, including erosion and sedimentation controls, will be implemented during the construction phase of the project. The PR-CRP-000964 and PR-CRP-000973 project areas are located more than 100 feet from any wetlands identified in the National Wetlands Inventory mapper (see wetlands maps in **Appendix K**).

Effect Determination:

Having carefully analyzed the project site and the information available, including available Dkey(s), critical habitat data, previous site disturbance, and scope of project activities, effect determinations have been made for each of the species identified in the IPaC Official Species Lists. Despite each species having an effect determination of "No Effect", a determination of "Not Likely to Adversely Affect" (NLAA) was made for the project as a whole due to the tree removal proposed as part of the scope of work. The effect determination of each listed species can be found below:

Species	Effect Determination	Conservation Measures to be Implemented (if needed)
Puerto Rican Boa (*Chilabothrus inornatus*)	Not Likely to Adversely Affect	If a Puerto Rican Boa is found on the project site, work shall cease until the Boa moves off on its own. If the Boa does not move off, the contractor shall contact the Puerto Rico Department of Natural and Environmental Resources and ask for them to relocate the Boa. Additional conservation measures for the Puerto Rican Boa will be implemented (see **Appendix F**).
Roseate Tern (*Sterna dougallii dougallii*)	No Effect	None required. The Roseate Tern's habitat includes coastal areas such as salt bays, estuaries, and the ocean. They typically nest on sandy or rocky islands with low plant cover near shallow waters such as in bays or estuaries. No Roseate Tern habitat is found at the project site.
Palo De Rosa (*Ottoschulzia rhodoxylon*)	No Effect	None required. No Palo De Rosa will be affected by the proposed activities, none were identified during the tree survey.

SPECIES ANALYSIS

Puerto Rican Boa *(Chilabothrus inornatus)*

Considered to be a habitat generalist, the Puerto Rican Boa tolerates a wide variety of terrestrial and arboreal habitats, including rocky areas, haystack hill, trees and branches, rotting stumps, caves, plantations, various types of forested areas such as karst and mangrove forests, forested urban and rural areas, and along streams and road edges. The IPaC Determination Key (Dkey) for the Puerto Rican Boa, dated 4/2/2024 was used to evaluate the potential impacts to federally listed species from this project. Based on the Dkey responses and other project information, it was determined that the proposed project is "Not Likely to Adversely Impact" the Puerto Rican Boa (**Appendix D**).

If a Puerto Rican Boa is found in the project activity site, work shall cease until the Boa moves off on its own. If the Boa does not move off, the Construction Manager shall contact the Puerto Rico Department of Natural and Environmental Resources and ask them to relocate the Boa. Additional conservation measures for the Puerto Rican Boa can be found in **Appendix F**.

Roseate Tern (Sterna dougallii dougallii)

According to the USFWS's Caribbean Roseate Tern (Sterna dougallii dougalii) Status Review 2022 (see **Appendix F**), "many of the natural nesting sites for the roseate terns have been on small islands like barrier islands and near sea level." Additionally, "The Caribbean population breeds from Florida through the West Indies to islands off Central America and northern South America". According to the National Audubon Society, the Roseate Tern's habitat includes coastal areas such as salt bays, estuaries, and the ocean. They typically nest on sandy or rocky islands with low plant cover near shallow waters such as in bays or estuaries (see **Appendix F**). The nest surveys documented in the USFWS Status Review 2022 conducted in Puerto Rico were in cays off the main island.

The Roseate Tern was only identified in the Official Species List (see **Appendix D**) for one of the three project sites: PR-CRP-000973. No tree removal is proposed at this intersection, as illustrated in the PR-CRP-000973 Tree Inventory sheet in **Appendix C.** The map shown in **Figure 1** below obtained from the USFWS Environmental Conservation Online System (ECOS) shows how the range of the Roseate Tern overlaps with the PR-CRP-000973 intersection. However, based on information published by the National Audubon society, the USFWS and on existing site conditions observed during the site inspection (see photos included in **Appendix G),** it was determined that there is no suitable Roseate Tern habitat in the project area. Therefore, the project will have "No Effect" on the Roseate Tern.

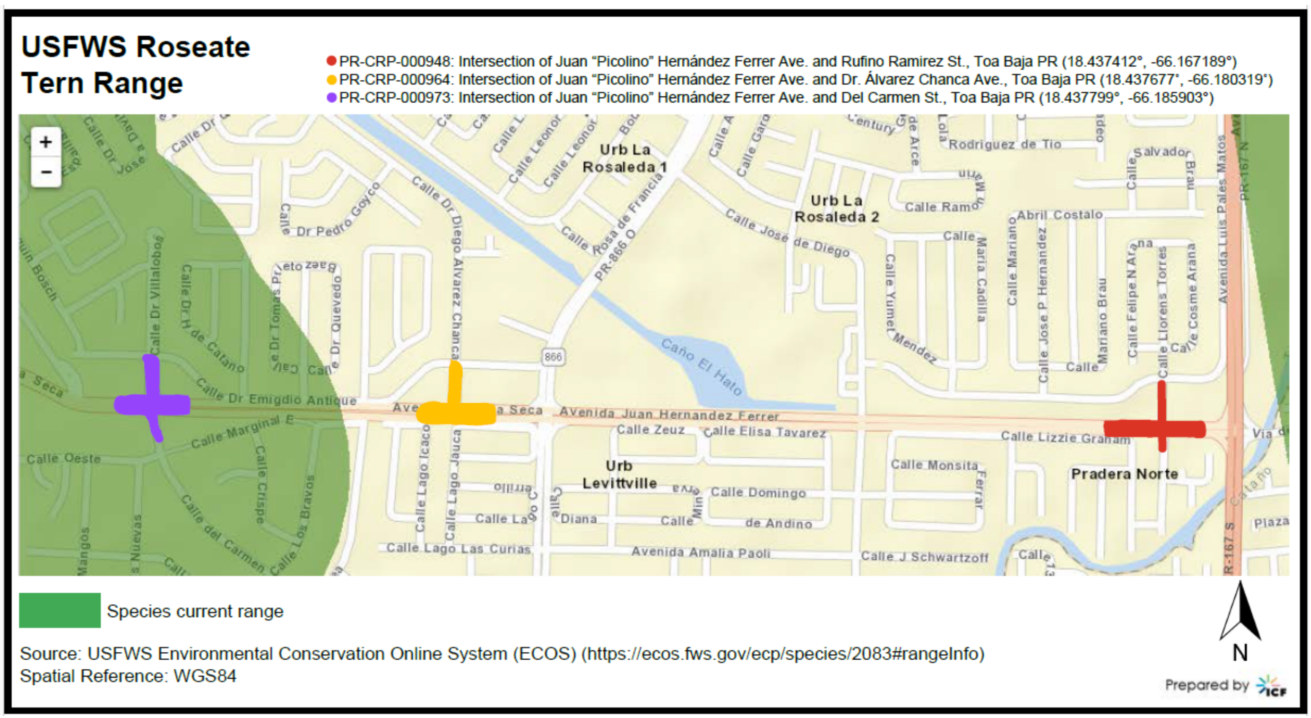


Figure 1: Extent of the Roseate Tern within the Proposed Project Area

Palo De Rosa (Ottoschulzia rhodoxylon)

According to the USFWS data, the Palo De Rosa is a flowering tree that can reach up to 49 feet in height, generally limited to rocky alkaline soils and serpentine derivatives along the southwestern coast of Puerto Rico. This species can also be found in the northern limestone belt in the karst regions of Puerto Rico. The species was downlisted from Endangered to Threatened on 11/4/2022 (see **Appendix F**). The Palo De Rosa was only identified in the PR-CRP-000973 Official Species List (see **Appendix D**). However, this species was not physically identified in the PR-CRP-000973 project area and no tree removal is proposed at this intersection, as is shown in the project's Tree Inventory sheet in **Appendix C**. Based on information published by the USFWS, the existing project site conditions, and the results of the tree inventory surveys, it was determined that the proposed project will have "No Effect" on the Palo De Rosa.

	1/07/2025
Senior Biologist	Date

Appendix A:
Project Descriptions

Project Description Checklist for Environmental Review Records
Puerto Rico Department of Housing CDBG-DR

Mandatory Information (include multiple parcels, where applicable)
Application ID: PR-CRP 000948
Project Name: Juan “Picolino” Hernández Ferrer Avenue, Dr. Villalobos Avenue, and Del Carmen Street, Levittown, Toa Baja
Address: Intersection of Juan “Picolino” Hernández Ferrer Ave. and Rufino Ramirez St. in Toa Baja PR.
Coordinates: Lat: 18.437412°, Lon: -66.167189°
Project Funding Amount: $574,861.47

General Information:
This two-lane roundabout project occurs at the intersection of Juan “Picolino” Hernández Ferrer Avenue (also known as Sabana Seca Avenue), which runs east-west with Llorens Torres Street to the north and Rufino Ramírez Street to the south. This is the first intersection encountered when turning toward the west from PR-167 road. restaurant with a drive-thru is located to the northeast, a detention pond that connects to El Hato channel to the northwest, another restaurant with a drive-thru to the southwest, and a gas station to the southeast. The proximity of road PR-167 and other businesses (a bank branch and another gas station) with vehicle driveways adjacent to those mentioned complicates the project’s context since access to these driveways is challenging to reach for cars turning from PR-167 road facing north due to their short distance from this road. The new design had to acknowledge this difficulty by creating an islet and additional pavement markings. The distance between the center of the project’s intersection and the center of PR-167 is approximately 150 meters.

From PR-167, facing north, Hérnandez Ferrer Avenue has two westbound lanes. Facing south, it has a dedicated turn curve divided by an island from other four lanes, adding an additional lane in a short distance of approximately 90 meters (the Avenue has three lanes after the project’s intersection). Two more lanes are added at the intersection, exclusively for turning to the south to Rufino Ramírez Street. Hérnandez Ferrer Avenue has four lanes in its easterly direction, one exclusive for turning to the north to Llorens Torres Street, while the other three continue after the intersection toward PR-167 road. Llorens Torres and Rufino Ramirez streets have two lanes, one in each direction.

The intersection lacks traffic lights, signage, pedestrian crossings, and has faded pavement markings. Serviceability levels fluctuate between A and F during peak hours on a scale where A represents a good rating, and F is very bad. The traffic study showed that if the intersection is converted into a roundabout, the existing serviceability levels would significantly improve to A and B, and car collisions would be reduced by 38%. The new design reduces the number of lanes to two when approaching the roundabout, but all other lanes remain the same in Hernández Ferrer Avenue except those exclusive for turns at the project’s intersection. Thus, the traffic flow of the Avenue will not be affected.

Safety concerns will be addressed by adding signage, pavement markings, and rumble strips before pedestrian crossings, and one when approaching the roundabout from the east. These crossings will occur on Llorens Torres and Rufino Ramírez streets and on Hernández Ferrer Avenue facing east.

The sanitary sewer and potable water systems will not be affected by the new design and the electrical and telecommunications poles will be relocated. The roundabout's inner circle will contain vegetation. New planting areas at the intersection’s corners will have rain gardens to collect stormwater, alleviate local flooding, and provide additional green areas for the CDBG-DR City Revitalization program's regreening initiative.

The total impacted area is 8,800m2, with an impermeable area of 6,683m2 consisting of road scarification, re-pavement, and sidewalks. New planting areas, including the roundabout’s inner circle, islands, and strips with rain gardens, will cover an area of 900m2.

Figure 2. PR-CRP 000948 Top-View Proposed Design

Project Description Checklist for Environmental Review Records
Puerto Rico Department of Housing CDBG-DR

Mandatory Information (include multiple parcels, where applicable)
Application ID: PR-CRP 000964
Project Name: Juan "Picolino" Hernández Ferrer Avenue, Llorens Torres Street, and Dr. Diego Álvarez Chanca Avenue, Levittown, Toa Baja. Project
Address: Intersection of Juan "Picolino" Hernández Ferrer Ave. and Dr. Álvarez Chanca Ave. in Toa Baja PR.
Coordinates: Lat. 18.437677˚, Long. -66.180319˚
Project Funding Amount: $465,678.89

General Information:
This two-lane roundabout project is "T" shaped. It does not have a connection to the south. Dr. Álvarez Chanca Avenue meets Hernández Ferrer Avenue from the north, which runs in an east-west direction. A drugstore (Walgreens) is located to the northeast, and a restaurant is located to the northwest.

The Hernández Ferrer Avenue has three lanes in its westerly direction, one exclusively for turns toward the north. At the same time, it has three lanes toward the east, with one exclusively for turns toward the north. Dr Álvarez Chanca Avenue has four lanes, two in each direction, separated by a planted median. However, some business establishments to the west use the sidewalk for parking, blocking pedestrian access. The intersection has traffic lights.

With the new design, the lanes of Dr. Álvarez Chanca Avenue will be reduced to three, divided by a median, one of which will be directed toward the north and the other two directions toward the south. One of the southerly lanes will be dedicated for turns toward the west, divided by street markings, and will contain rumble strips to lower speed to provide safe access to the existing business parking spaces in the portion of this avenue between Hernández Ferrer Avenue and Dr. Emigdio Antique Street to the north.

Safety concerns will be addressed by adding signage, pavement markings, and rumble strips, two before a pedestrian crossing on Hernández Ferrer Avenue (one for each direction) and a raised speed table crossing on Dr. Álvarez Chanca Street.

The potable water system will not be affected, but the sanitary sewer manhole at the roundabout's center will be raised no more than 3' above grade. The electrical and communications system components will be relocated, and new vehicular and pedestrian lighting will be installed. The roundabout's inner circle will contain vegetation. New planting areas at the intersection's corners will have rain gardens to collect stormwater, alleviate local flooding, and provide additional green areas for the CDBG-DR City Revitalization program's regreening initiative.

The total impacted area is 6,683m2, with an impermeable area of 3,026m2 consisting of road scarification, re-pavement, and sidewalks. New planting areas, including the roundabout's inner circle, islands, and strips with rain gardens, will cover an area of 902m2.

Figure 3. PR-CRP 000964 Top-View Proposed Design

Project Description Checklist for Environmental Review Records
Puerto Rico Department of Housing CDBG-DR

Mandatory Information (include multiple parcels, where applicable)
Application ID: PR-CRP 000973
Project Name: Juan "Picolino" Hernández Ferrer Avenue, Llorens Torres Street, and Rufino Ramirez Street, Levittown, Toa Baja.
Address: Intersection of Juan "Picolino" Hernández Ferrer Ave. and Del Carmen St. in Toa Baja PR.
Coordinates: Lat: 18.437799°, Lon: -66.185903°
Project Funding Amount: $393,170.59

General Information:

This two-lane roundabout project occurs at the intersection of Juan "Picolino" Hernández Ferrer Avenue (also known as Sabana Seca Avenue), which runs east-west with Villalobos Street to the north and Del Carmen Street to the south. A Christian Church ("Amor y Verdad") is located in the northeast quadrant, a gas station to the northwest, the Municipality's Emergency Management Offices to the southwest, and a drugstore to the southeast.

The intersection has traffic lights, and Avenue Hernández Ferrer has three lanes in its westerly direction, one exclusively for turns toward the south. At the same time, it has four lanes toward the east, with two of them exclusively for turns toward the north and toward the south. Dr. Villalobos Street has four lanes, two in each direction, separated by an island, and Del Carmen Street is a two-lane, two-way street. This number of lanes on the three roads makes for a very busy intersection with serious safety concerns, including safe pedestrian crossings, adequate signage, and accumulation of traffic at peak hours. Its serviceability ranges from levels B to D on a scale where A represents a good rating, and F is very bad. When a roundabout alternative was studied, the condition improved with A and B ratings.

The improvements of the new project include better traffic flow and safety considerations for pedestrians, such as rumble strips to reduce speeds before crossings, and signage.

The lanes on Hérnandez Ferrer Avenue will be reduced to two at each roundabout approach. However, this lane reduction only occurs at the roundabout approximation and will not affect the roads' vehicular capacity. New pavement markings will be added to Dr. Villalobos and Del Carmen streets, and crossings will comply with the Americans with Disabilities Act (ADA). The project considers lighting for vehicles and pedestrians.

The new design will not affect the existing sanitary sewer and potable water distribution systems, but electrical and telecommunications posts will have to be removed and relocated. A manhole access at the roundabout's center will be raised no more than 3' above grade. The inner circle of the roundabout will contain vegetation. The roundabout will also contain new and more ample planting strips and areas at the intersection's corners, which will have rain gardens to collect stormwater, alleviate local flooding, and provide additional green areas for the CDBG-DR City Revitalization program's regreening initiative.

The total project area is 8,210m2, with an impermeable area of 7,415m2 consisting of surface scarification and re-pavement. New green areas of planting strips and rain gardens amount to 795m2.

Figure 1. PR-CRP 000973 Top-View Proposed Design

Appendix B:
Project Location Maps

Geographic Proximity Map:

PR-CRP-000948 / PR-CRP-000964 / PR-CRP-000978

Address: PR-CRP-000948: Juan “Picolino” Hernández Ferrer Avenue (Sábana Seca Avenue) intersection with Llorens Torres Street and Rufino Martínez Street / PR-CRP-000964: Juan “Picolino” Hernández Ferrer Avenue intersection with Dr Álvarez Chanca Avenue / PR-CRP-000973: Juan “Picolino” Hernández Ferrer Avenue intersection with Dr Villalobos Street and Del Carmen Street

Coordinates: PR-CRP-000948: 18.437412°, -66.167189° / PR-CRP-000964: 18.437677°, -66.180319° / PR-CRP-000973: 18.437799˚, -66.185903˚

Source: Google Earth (Spatial Reference: WGS84), accessed June 6, 2024 at URL https://earth.google.com/

Prepared by ICF

PR-CRP-000948 Project Location Map

Address: Intersection of Juan "Picolino" Hernández Ferrer Ave. and Rufino Ramirez St., Toa Baja PR

Coordinates: 18.437412°, -66.167189°

Prepared by ICF

PR-CRP-000964 Project Location Map

Address: Intersection of Juan “Picolino” Hernández Ferrer Ave. and Dr. Álvarez Chanca Ave., Toa Baja PR

Coordinates: 18.437677, -66.180319°

Prepared by ICF

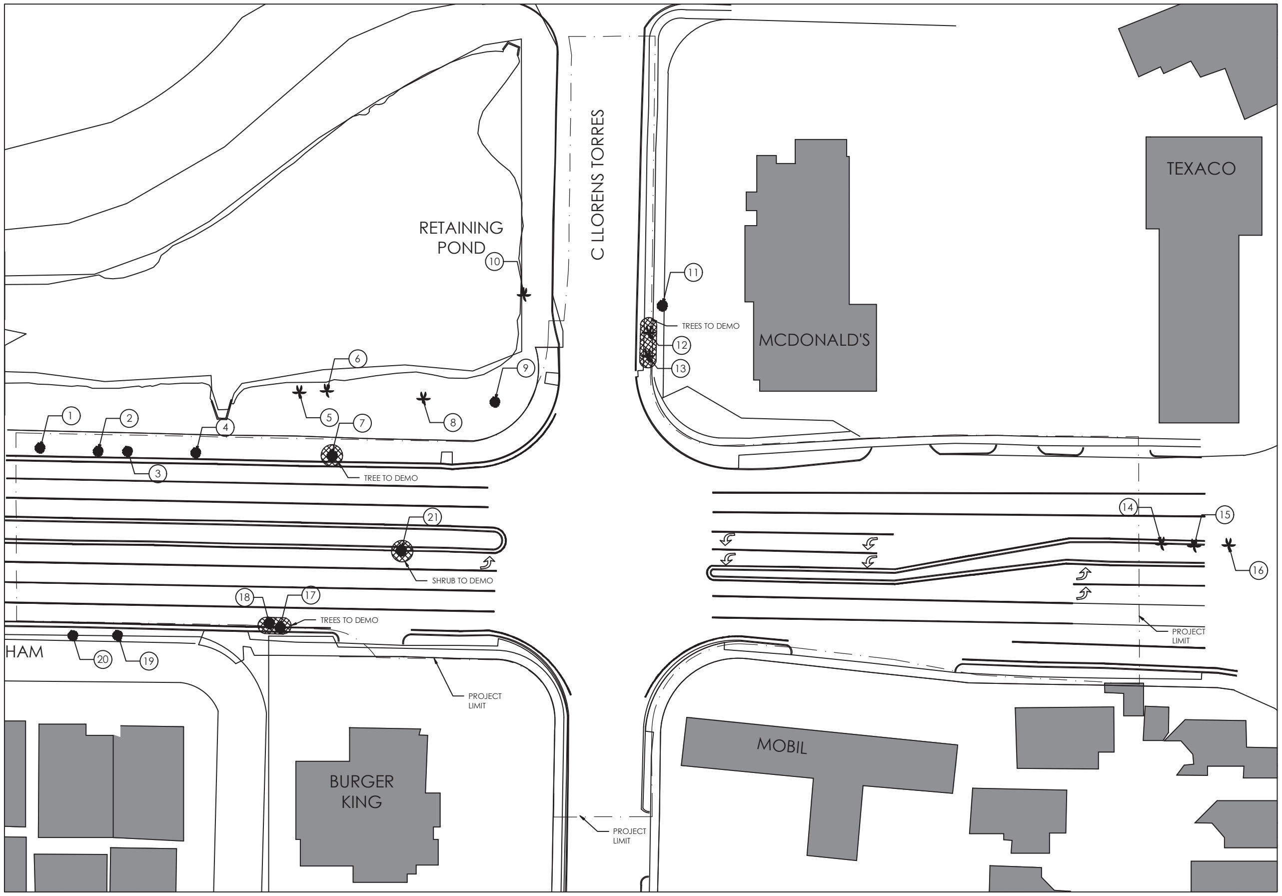
PR-CRP-000973 Project Location Map

Address: Intersection of Juan “Picolino” Hernández Ferrer Ave. and Del Carmen St., Toa Baja PR

Coordinates: 18.437799°, -66.185903°

Prepared by ICF

Appendix C:
Tree Inventory and
Mitigation Plans



1 Existing Tree Inventory & Removal Plan
SCALE: 1'-0"=1/32"

N

TREE INVENTORY

REF	Common Name	Latin Name	Height	DBH	Action	Note	Req. Replacement
1	Ucarillo	Bucida spinosa	20	10	Conserve	Interfering wit	--
2	Ucarillo	Bucida spinosa	20	10	Conserve	Interfering wit	--
3	Ucarillo	Bucida spinosa	20	10	Conserve	Interfering wit	--
4	Ucarillo	Bucida spinosa	12	9	Conserve	Interfering wit	--
5	Palma Real	Roystonea regia	22	16	Conserve		--
6	Palma Real	Roystonea regia	22	16	Conserve		--
7	Ucar	Bucida buceras	25	14	Remove		3
8	Palma Real	Roystonea regia	18	18	Conserve		--
9	Ceiba	Ceiba pentandra	30	36	Conserve		--
10	Palma Real	Roystonea regia	20	16	Conserve		--
11	Ucar	Bucida buceras	25	14	Conserve		--
12	Queen Palm	Syagrus romanzoffiana	4	6	Remove	Stunted	3
13	Queen Palm	Syagrus romanzoffiana	4	6	Remove	Stunted	3
14	Bismarckia Palma	Bismarckia nobilis	20	16	Conserve		--
15	Bismarckia Palma	Bismarckia nobilis	20	16	Conserve		--
16	Bismarckia Palma	Bismarckia nobilis	20	16	Conserve		--
17	Maleleuca	Melaleuca quinquenerv	12	9	Remove	Invasive spec	3
18	Maleleuca	Melaleuca quinquenerv	12	8	Remove	Invasive spec	3
19	Palma de Coco	Cocos nucifera	20	12	Conserve		--
20	Ucar	Bucida buceras	18	12	Conserve		--
21	Hibiscus	Hibiscus rosa-sinsensis	4	2	Remove		--

TREE INVENTORY SUMMARY

Common Name	Latin Name	Quantity	Remove	Conserve	Req. Replacement
Ucarillo	Bucida spinosa	4		4	0
Palma Real	Roystonea regia	4		4	0
Ucar	Bucida buceras	3	1	2	3
Ceiba	Ceiba pentandrc	1		1	0
Queen Palm	Syagrus romanzoffiana	2	2	0	6
Bismarckia Palma	Bismarckia nobilis	3		3	0
Hibiscus	Hibiscus rosa-sinsensis	1	1		0
Maleleuca	Melaleuca quinquenervia	2	2		6
Palma de Coco	Cocos nucifera	1		1	0

General Notes

IMPORTANT INFORMATION FOR THE CONTRACTOR

Contractor shall verify al dimensions, levels and condition on-site before commencing any and all work. Any discrepancy, error or omission in these plans shall be notified to the Architect, Landscape Architect or Engineer who stamps and signs these drawings so that proper corrections to the documents can be made.

Do not take any measurements from the physical drawings.

All drawings, specifications and other documents are property of ECo and can solely be used as an instrument of the Architect, Landscape Architect or Engineers' service as reference for this project.

ECo, the signing Architect, Landscape Architect or Engineer, and Eco's Consultants shall be deemed the author(s) of these documents and shall retain all common and statutory laws, including reserved and copyright(s). The full and/or partial reproduction of these drawings may only be done with the express written consent of the Architect, Landscape Architect or Engineer.

Only use documents with a "FOR CONSTRUCTION ONLY" stamp and sealed and signed by the designer.

Yo, Edmundo Colon Arizmendi PE, con licencia número 7812, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

No.	Description	Date

ECo
LANDSCAPE + ARCHITECTURE + ENGINEERING

103 Calle Isabel Andreu Aguilar, 4to Piso, San Juan,PR 00918
787-764-0610 eco-designstudio.com

Existing Tree Inventory and Removal Plan

T.B.Roundabout P.R. - CRP: 000948

Ave. Sabana Seca Int., Calle Rufino Ramírez, Levittown, Toa Baja, PR

Autonomous Municipality of Toa Baja

Seal:

SIGNING ARCH
License #

Yo, Edmundo Colón Izquierdo, con licencia número 19992, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

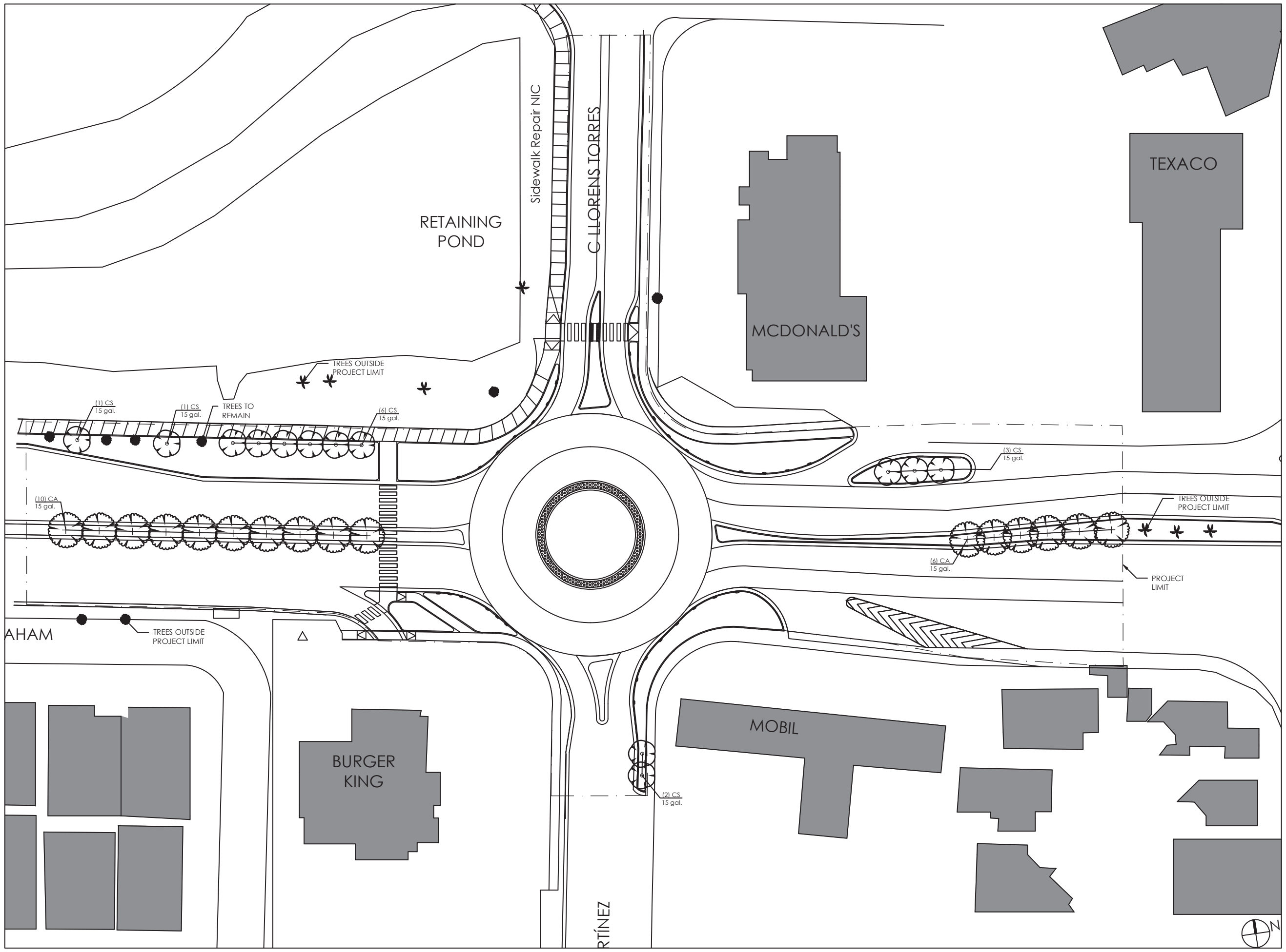
File Name: 2022.04-Rotondas Toa Baja

Date	Scale
09-19-2023	Scale:1'-0"=1/32"

Sheet

LA-200

Project #	2022.04
Drawn by	MEG
Checked by	ERCI



1 Tree Mitigation Plan
SCALE: 1'-0"=1/32"

2023-10-18 16:08

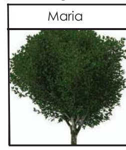
PLANT SCHEDULE

TREES	CODE	BOTANICAL / COMMON NAME	SIZE	CONTAINER	QTY
	CA	Calophyllum antillanum / Maria	15 gal.	Pot	16
	CS	Cordia sebestena / Orange Geiger Tree	15 gal.	Pot	13

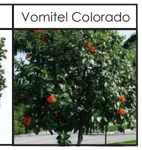
NOTE TO CONTRACTOR:
-15 trees are requiried for mitigation compliance.
-35 trees are proposed for roundabout design.

TREES

Maria



Vomitel Colorado



General Notes

IMPORTANT INFORMATION FOR THE CONTRACTOR

Contractor shall verify al dimensions, levels and condition on-site before commencing any and all work. Any discrepancy, error or omission in these plans shall be notified to the Architect, Landscape Architect or Engineer who stamps and signs these drawings so that proper corrections to the documents can be made.

Do not take any measurements from the physical drawings.

Only use documents with a "FOR CONSTRUCTION ONLY" stamp and sealed and signed by the designer.

Yo, Edmundo Colon Arizmendi PE, con licencia número 7812, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

No.	Description	Date

ECo
LANDSCAPE + ARCHITECTURE + ENGINEERING

103 Calle Isabel Andreu Aguilar, 4to Piso, San Juan,PR 00918
787-764-0610 eco-designstudio.com

Tree Mitigation Plan

T.B.Roundabout P.R. - CRP: 000948

Ave. Sabana Seca Int., Calle Rufino Ramírez, Levittown, Toa Baja, PR

Autonomous Municipality of Toa Baja

Seal:

SIGNING ARCH License #

Yo, Edmundo Colón Izquierdo, con licencia número 19992, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

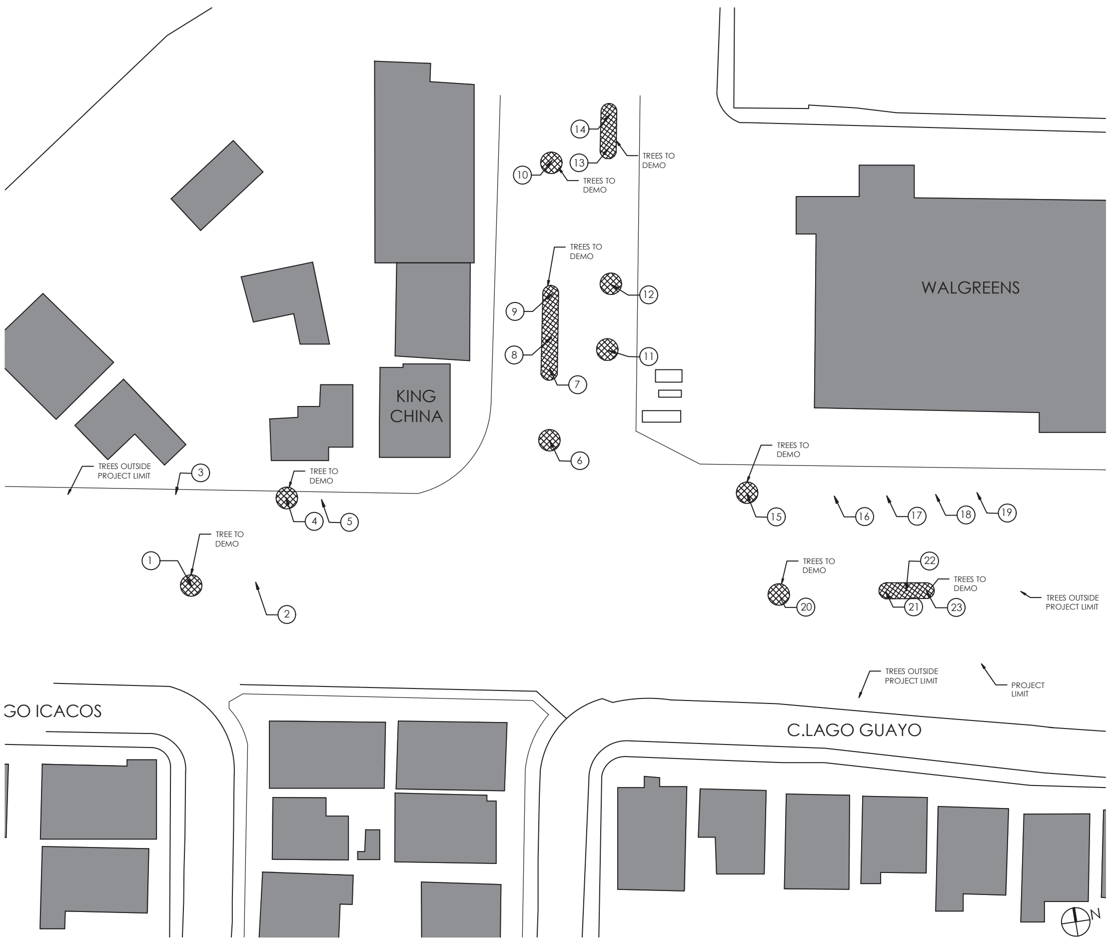
File Name: 2022.04 Rotondas Toa Baja

Date: 09-19-2023
Scale: Scale:1'-0"=1/32"

Sheet

LA-201

Project #	2022.04
Drawn by	MEG
Checked by	ERCI



1 Existing Tree Inventory and Removal Plan
SCALE: 1'-0"=1/32"

TREE INVENTORY

REF	Common Name	Latin Name	Height	DBH	Action	Note	Req. Replacement
1	Ixora	Ixora spp	5	2	Remove	Shrub	--
2	Acacia	Acacia	50	28	Conserve	Multitrunk (2)	--
3	Ucar	Bucida buceras	43	15	Conserve		--
4	Ucar	Bucida buceras	26	5	Remove	Bad	--
5	Ucar	Bucida buceras	32	25	Conserve		--
6	Teca	Tectona grandis	25	11	Remove		3
7	Pink Trumpet Tree	Tabebuia rosea	15	8	Remove		3
8	Rainbow Eucalyptu	Ecualyptus deglupta	25	11	Remove		3
9	Manila Palm	Adonidia merrillii	15	6	Remove		3
10	Manila Palm	Adonidia merrillii	15	6	Remove		3
11	Ucar	Bucida buceras	32	11	Remove		3
12	Ucar	Bucida buceras	43	13	Remove		3
13	Ucar	Bucida buceras	33	13	Remove		3
14	Ucar	Bucida buceras	26	13	Remove		3
15	Ucar	Bucida buceras	25	17	Remove		3
16	Ucar	Bucida buceras	25	17	Conserve		--
17	Ucar	Bucida buceras	20	8	Conserve		--
18	Ucar	Bucida buceras	20	15	Conserve		--
19	Ucar	Bucida buceras	35	17	Conserve		--
20	Fiji Fan Palm	Pritchardia pacifica	18	9	Remove		3
21	Manila Palm	Adonidia merrillii	18	8	Remove		3
22	Manila Palm	Adonidia merrillii	18	8	Remove		3
23	Manila Palm	Adonidia merrillii	18	8	Remove		3

TREE INVENTORY SUMMARY

Common Name	Latin Name	Quantity	Remove	Conserve	Req. Replacement
Ucar	Bucida buceras	12	6	6	18
Ixora	Ixora spp	1	1		0
Acacia	Acacia	1		1	0
Manila Palm	Adonidia merrillii	5	5	0	15
Teca	Tectona grandis	1	1		3
Pink Trumpet Tree	Tabebuia rosea	1	1		3
Rainbow Eucalyptu	Ecualyptus deglupta	1	1		3
Fiji Fan Palm	Pritchardia pacifica	1	1		3

General Notes

IMPORTANT INFORMATION FOR THE CONTRACTOR

Contractor shall verify al dimensions, levels and condition on-site before commencing any and all work. Any discrepancy, error or omission in these plans shall be notified to the Architect, Landscape Architect or Engineer who stamps and signs these drawings so that proper corrections to the documents can be made.

Do not take any measurements from the physical drawings.

Only use documents with a "FOR CONSTRUCTION ONLY" stamp and sealed and signed by the designer.

Yo, Edmundo Colon Izquierdo, con licencia número 19992, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

No.	Description	Date

ECo
LANDSCAPE + ARCHITECTURE + ENGINEERING
103 Calle Isabel Andreu Aguilar, 4to Piso, San Juan,PR 00918
787-764-0610 eco-designstudio.com

Existing Tree Inventory andn Removal Plan

T.B. Roundabout P.R.-CRP-000964

Ave. Sabana Seca Int., Ave. Diego Alvarez Chanca, Levittown, Toa Baja, P.R.

Autonomous Municipality of Toa Baja

Seal:

SIGNING ARCH
License #

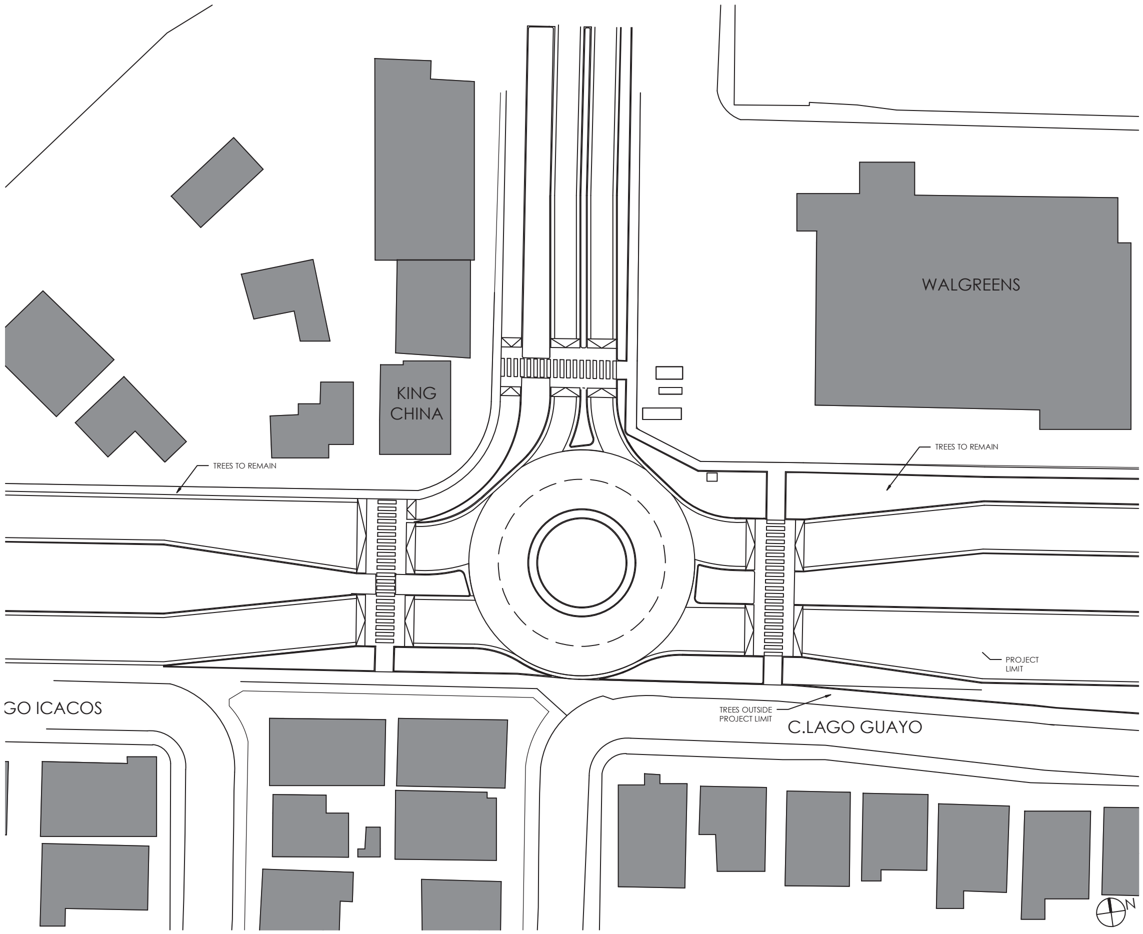
File Name: 2022.04-Rotondas Toa Baja

Date	Scale
09-19-2023	Scale:1'-0"=1/32"

Sheet

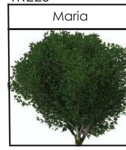
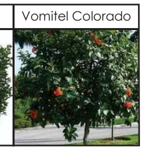
LA-200

Project # 2022.04
Drawn by MEG
Checked by ERCI



1 Tree Mitigation Plan
SCALE: 1'-0"=1/32"

TREES

Maria	Vomitel Colorado
	

NOTE TO CONTRACTOR:
-45 trees are required for mitigation compliance.
-46 trees are proposed for roundabout design.

General Notes

IMPORTANT INFORMATION FOR THE CONTRACTOR

Contractor shall verify al dimensions, levels and condition on-site before commencing any and all work. Any discrepancy, error or omission in these plans shall be notified to the Architect, Landscape Architect or Engineer who stamps and signs these drawings so that proper corrections to the documents can be made.

Do not take any measurements from the physical drawings.

All drawings, specifications and other documents are property of ECo and can solely be used as an instrument of the Architect, Landscape Architect or Engineers' service as reference for this project.

Only use documents with a "FOR CONSTRUCTION ONLY" stamp and sealed and signed by the designer.

Yo, Edmundo Colon Izquierdo, con licencia número 19992, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

No.	Description	Date

ECo
Landscape + Architecture + Engineering
103 Calle Isabel Andreu Aguilar, 4to
Piso, San Juan,PR 00918
787-764-0610 eco-designstudio.com

Tree Mitigation Plan

T.B. Roundabout P.R.-CRP-000964

Ave. Sabana Seca Int., Ave. Diego Alvarez Chanca,
Levittown, Toa Baja, P.R.

Autonomous Municipality of Toa Baja

Seal:

SIGNING ARCH
License #

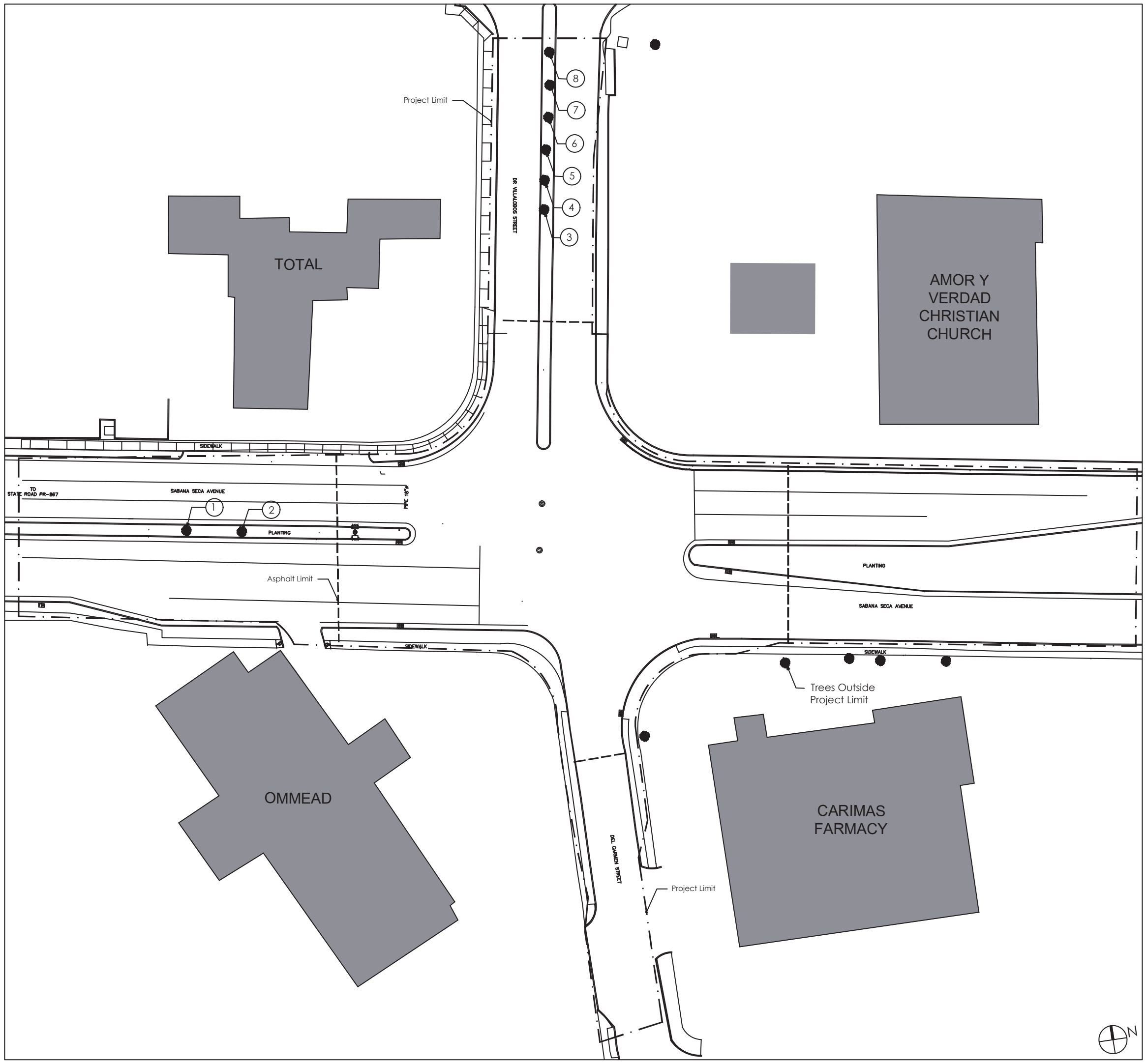
File Name: 2022.04-Rotondas Toa Baja

Date	Scale
09-19-2023	Scale:1'-0"=1/32"

Sheet

LA-201

Project #	2022.04
Drawn by	MEG
Checked by	ERCI



1 Existing Tree Inventory and Removal Plan
SCALE: 1'-0"=1/32"

TREE INVENTORY

REF	Common Name	Latin Name	Height	DBH	Action	Note	Req. Replacement
1	Roble Nativo	Tabebuia heterophylla	14	8	Conserve		--
2	Reina de Flores	Lagerstroemia speciosa	20	14	Conserve		--
3	Ucar	Bucida buceras	20	14	Conserve		--
4	Ucar	Bucida buceras	20	14	Conserve		--
5	Ucar	Bucida buceras	20	14	Conserve		--
6	Ucar	Bucida buceras	20	14	Conserve		--
7	Ucar	Bucida buceras	20	14	Conserve		--
8	Ucar	Bucida buceras	20	14	Conserve		--

TREE INVENTORY SUMMARY

Common Name	Latin Name	Quantity	Remove	Conserve	Req. Replacement
Roble Nativo	Tabebuia heterophylla	1		1	0
Reina de Flores	Lagerstroemia speciosa	1		1	0
Ucar	Bucida buceras	6		6	0

General Notes

IMPORTANT INFORMATION FOR THE CONTRACTOR

Contractor shall verify al dimensions, levels and condition on-site before commencing any and all work. Any discrepancy, error or omission in these plans shall be notified to the Architect, Landscape Architect or Engineer who stamps and signs these drawings so that proper corrections to the documents can be made.

Do not take any measurements from the physical drawings.

Only use documents with a "FOR CONSTRUCTION ONLY" stamp and sealed and signed by the designer.

Yo, Edmundo Colon Izquierdo, con licencia número 19992, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

No.	Description	Date

ECo
LANDSCAPE + ARCHITECTURE + ENGINEERING

103 Calle Isabel Andreu Aguilar, 4to Piso, San Juan,PR 00918
787-764-0610 eco-designstudio.com

Existing Tree Inventory and Removal Plan

T.B. Roundabout PR-CRP-000973

Ave. Sabana Seca Int. Dr. Villalobos, Levittown, Toa Baja, P.R.

Autonomous Municipio de Toa Baja

Seal:

SIGNING ARCH
License #

Yo, Edmundo Colón Izquierdo, con licencia número 19992, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

File Name: 2022.04-Rotondas Toa Baja

Date 09/19/2023

Scale Scale:1'-0"=1/32"

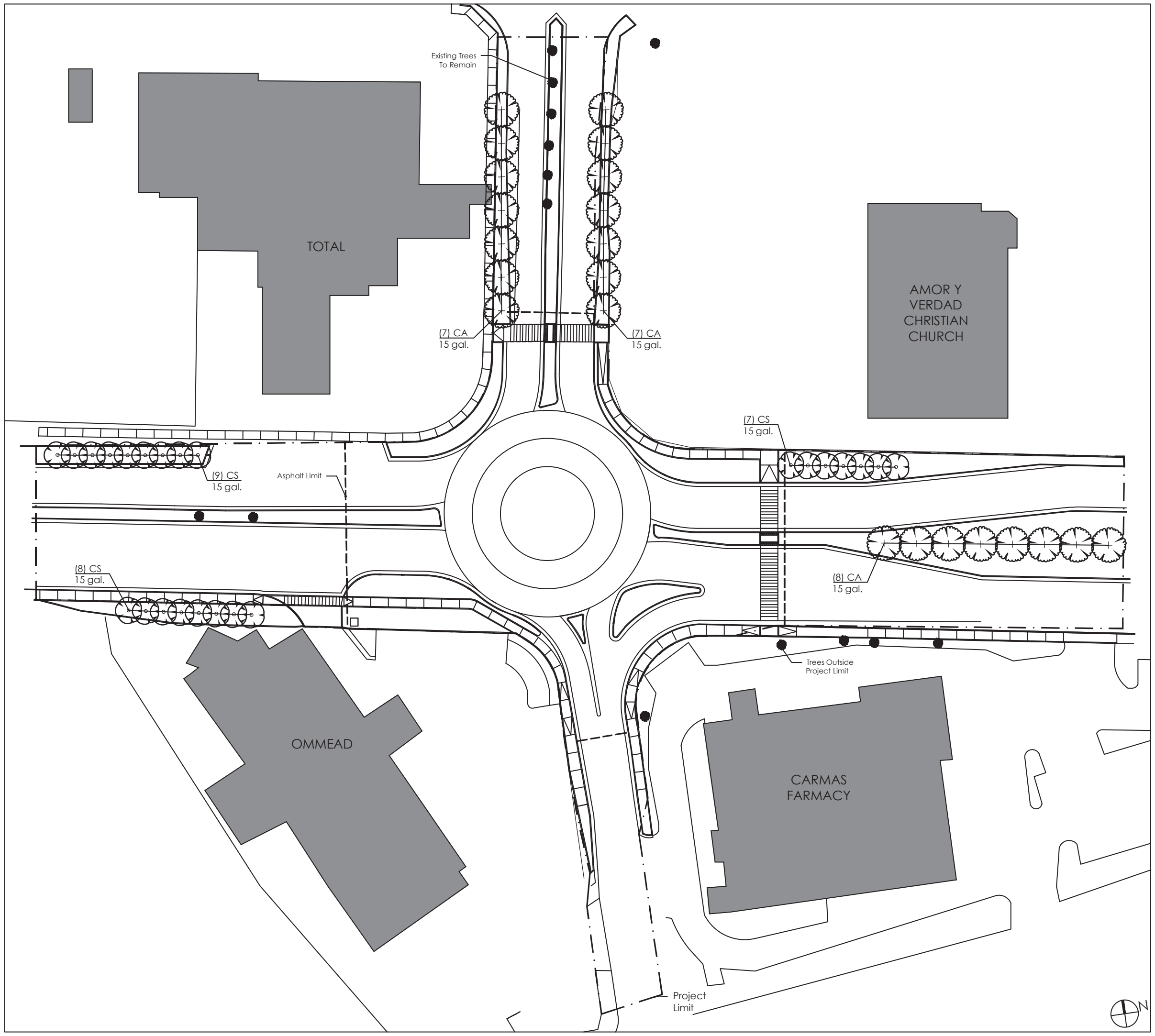
Sheet

LA-200

Project # 2022.04

Drawn by MEG

Checked by ERCI



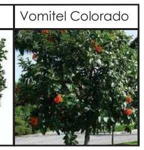
1 Tree Mitigation Plan
SCALE: 1'-0"=1/32"

PLANT SCHEDULE

TREES	CODE	BOTANICAL / COMMON NAME	SIZE	CONTAINER	QTY
	CA	Calophyllum antillanum / Maria	15 gal.	Pot	22
	CS	Cordia sebestena / Orange Geiger Tree	15 gal.	Pot	24

NOTE TO CONTRACTOR:
-41 trees are requiried for mitigation compliance.
-13 trees are proposed for roundabout design.

TREES

Maria	Vomitel Colorado
	

General Notes

IMPORTANT INFORMATION FOR THE CONTRACTOR

Contractor shall verify al dimensions, levels and condition on-site before commencing any and all work. Any discrepancy, error or omission in these plans shall be notified to the Architect, Landscape Architect or Engineer who stamps and signs these drawings so that proper corrections to the documents can be made.

Do not take any measurements from the physical drawings.

All drawings, specifications and other documents are property of ECo and can solely be used as an instrument of the Architect, Landscape Architect or Engineers' service as reference for this project.

Only use documents with a "FOR CONSTRUCTION ONLY" stamp and sealed and signed by the designer.

Yo, Edmundo Colon Izquierdo, con licencia número 19992, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

No.	Description	Date

ECo
Landscape + Architecture + Engineering
103 Calle Isabel Andreu Aguilar, 4to
Piso, San Juan,PR 00918
787-764-0610 eco-designstudio.com

Tree Mitigation Plan
T.B. Roundabout PR-CRP-000973
Ave. Sabana Seca Int. Dr. Villalobos, Levittown, Toa Baja, P.R.
Autonomous Municipio de Toa Baja

Seal:

SIGNING ARCH
License #

Yo, Edmundo Colon Izquierdo, con licencia número 19992, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

File Name:	2022.04-Rotondas Toa Baja
Date 09/19/2023	Scale Scale:1'-0"=1/32"
Sheet	LA-201
Project #	2022.04
Drawn by	MEG
Checked by	ERCI

Appendix D:
IPaC Official Species Lists and Consistency Letters

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Caribbean Ecological Services Field Office
Post Office Box 491
Boqueron, PR 00622-0491
Phone: (939) 320-3135 Fax: (787) 851-7440
Email Address: CARIBBEAN_ES@FWS.GOV

In Reply Refer To: 09/25/2024 19:22:58 UTC
Project Code: 2024-0149387
Project Name: PR-CRP-000948

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:

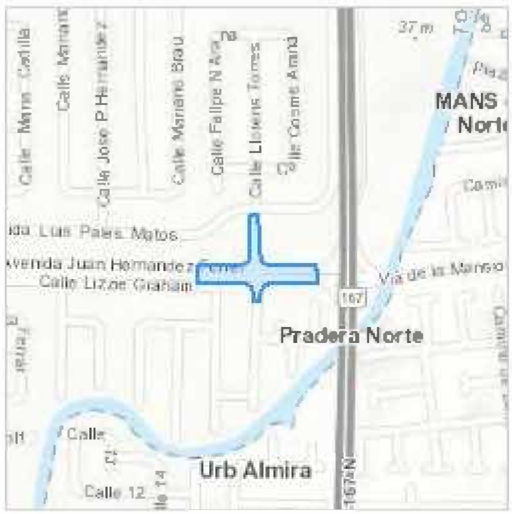
Caribbean Ecological Services Field Office
Post Office Box 491
Boqueron, PR 00622-0491
(939) 320-3135

PROJECT SUMMARY

Project Code: 2024-0149387
Project Name: PR-CRP-000948
Project Type: Road/Hwy - Maintenance/Modification
Project Description: The project scope includes installation of a roundabout at an existing intersection, safety improvements such as signage and pavement markings, and new planting areas in the roundabout's inner circle, islands, and strips with rain gardens at the intersection of Juan “Picolino” Hernández Ferrer Ave. and Rufino Ramirez St. in Toa Baja, PR. The project includes the removal of existing asphalt surfaces, curbs, sidewalks, planters, lighting poles, and trees. The project area measures approximately 1.65 acres.

Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@18.437606600000002,-66.16721468713494,14z



Counties: Toa Baja County, Puerto Rico

ENDANGERED SPECIES ACT SPECIES

There is a total of 1 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.

REPTILES

NAME	STATUS
Puerto Rican Boa *Chilabothrus inornatus* 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/7ZWFJ5UFHJE6ZHUGK5OAMO6IXU/documents/generated/7159.pdf	Endangered

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

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 in the links below. Specifically, please review the "Supplemental Information on Migratory Birds and Eagles".

---

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 in the links below. Specifically, please review the "Supplemental Information on Migratory Birds and Eagles".

---

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.

ESTUARINE AND MARINE DEEPWATER

- E1UBLx

IPAC USER CONTACT INFORMATION

Agency: Private Entity
Name: Tanner Melendez
Address: 630 3rd Ave
City: New York
State: NY
Zip: 10017
Email tanner.melendez@icf.com
Phone: 9739511787

LEAD AGENCY CONTACT INFORMATION

Lead Agency: Puerto Rico Department of Housing

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Caribbean Ecological Services Field Office
Post Office Box 491
Boqueron, PR 00622-0491
Phone: (939) 320-3135 Fax: (787) 851-7440
Email Address: CARIBBEAN_ES@FWS.GOV

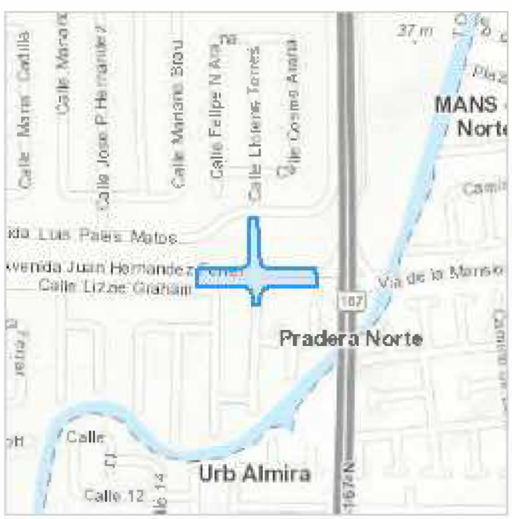
In Reply Refer To: 09/25/2024 19:24:25 UTC
Project code: 2024-0149387
Project Name: PR-CRP-000948

Subject: Consistency letter for the project named 'PR-CRP-000948' for specified threatened and endangered species, that may occur in your proposed project location, pursuant to the IPaC determination key titled Caribbean Determination Key (DKey).

Dear Applicant:

Thank you for using the assisted evaluation keys in IPaC. This letter is provided pursuant to the Service’s authority under the Endangered Species Act of 1973, as amended (ESA) (87 Stat. 884; 16 U.S.C. 1531et seq.). On September 25, 2024, Tanner Melendez used the Caribbean DKey; dated April 03, 2024, in the U.S. Fish and Wildlife Service's online IPaC application to evaluate potential impacts to federally listed species, from a project named 'PR-CRP-000948’. The project is located in Toa Baja County, Puerto Rico (shown below).

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@18.437606600000002,-66.16721468713494,14z



The following description was provided for the project 'PR-CRP-000948':

> The project scope includes installation of a roundabout at an existing intersection, safety improvements such as signage and pavement markings, and new planting areas in the roundabout's inner circle, islands, and strips with rain gardens at the intersection of Juan "Picolino" Hernández Ferrer Ave. and Rufino Ramirez St. in Toa Baja, PR. The project includes the removal of existing asphalt surfaces, curbs, sidewalks, planters, lighting poles, and trees. The project area measures approximately 1.65 acres.

Based on your answers and the assistance of the Service's Caribbean DKey, you determined the proposed Action will have "No Effect" on the following species:

Species	**Listing Status**	**Determination**
Puerto Rican Boa (*Chilabothrus inornatus*)	Endangered	No effect

Thank you for informing the Service of your "No Effect" determination(s) for this project. No further consultation/coordination for this project is required for these species. However, be aware that reinitiation of consultation may be necessary if later modifications are made to the project so that it no longer meets the criteria or outcome described above, or if new information reveals effects of the action that could affect listed species or critical habitat in a manner or to an extent not previously considered, or if a new species is listed.

This letter serves as documentation of your consideration of the federally listed species as required under section 7 of the ESA. However, effects to the other federally listed species or critical habitat as listed below from the "IPaC print-out for the project" (see below) should be considered as part of your ESA review for the project.

The Service will notify you within 30 calendar days if we determine that this proposed Action does not meet the criteria for a "No Effect" (NE) determination for Federally listed species in the Caribbean. If we do not notify you within that timeframe, you may proceed with the Action under the terms of the NE concurrence provided here. This verification period allows the Caribbean Ecological Services Field Office to apply local knowledge to evaluate the Action, as we may identify a small subset of actions having unanticipated impacts. In such instances, the Caribbean Ecological Services Field Office may request additional information to verify the effects determination reached through the DKey.

Note: Projects located within the range of the Puerto Rican boa or the Virgin Islands tree boa might encounter these species during project activities. **This letter does not provide take to handle or move these species**. If relocation of the species is needed, please contact either the Puerto Rico Department of Natural Resources (DNER) at 787-724-5700, 787-230-5550, or 787-771-1124 for projects in Puerto Rico, or the Virgin Islands Department of Planning and Natural Resources, Division of Fish and Wildlife (DFW) at 340-775-6762 for projects in the Virgin Islands. Otherwise, contact the Caribbean Ecological Services Field Office (caribbean_es@fws.gov) to determine whether the consultation needs to be reinitiated.

If the proposed project is located within species range where a DKey has not been developed for those species, please follow the established guidance for initiating section 7 consultation Caribbean Ecological Services Field Office.

We appreciate your interest in protecting endangered species and their habitats. It is the Service's mission to work with others to conserve, protect, and enhance fish, wildlife, and plants and their habitats for the continuing benefit of our people. If you have any questions or require additional information, please contact our office at Caribbean_es@fws.gov.

Action Description

You provided to IPaC the following name and description for the subject Action.

1. Name

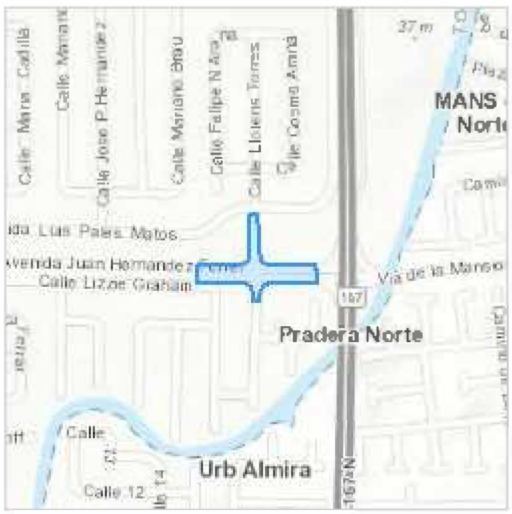
PR-CRP-000948

2. Description

The following description was provided for the project 'PR-CRP-000948':

> The project scope includes installation of a roundabout at an existing intersection, safety improvements such as signage and pavement markings, and new planting areas in the roundabout's inner circle, islands, and strips with rain gardens at the intersection of Juan “Picolino” Hernández Ferrer Ave. and Rufino Ramirez St. in Toa Baja, PR. The project includes the removal of existing asphalt surfaces, curbs, sidewalks, planters, lighting poles, and trees. The project area measures approximately 1.65 acres.

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@18.437606600000002,-66.16721468713494,14z



QUALIFICATION INTERVIEW

1. Is the proposed project an EPA Multi-Sector General Permit (MSGP) renewal for an existing project? (MSGP Fact Sheet)

   No

2. Is the proposed project within an urban developed area? (i.e., cities, downtowns, shopping malls etc.)

   Note: Urban and developed areas has one or more of the following characteristics: Presence of existing buildings, residential areas, and commercial establishments. Well-established infrastructure including roads, utilities, and urban facilities. High population density. Established neighborhoods and urban amenities ("urbanizaciones"). Developed landscape with paved surfaces, parking lots, and industrial areas. Signs of human activity and urbanization, such as shopping centers and recreational facilities. Location within the boundaries of a city or town ("casco urbano"). High concentration of built-up structures and limited open spaces. Aerial imagery might be requested to the applicant. .

   Yes

3. [Hidden Semantic] Does the proposed project intersect the Puerto Rican boa area of influence?

   Automatically answered
   Yes

IPAC USER CONTACT INFORMATION

Agency: Private Entity
Name: Tanner Melendez
Address: 630 3rd Ave
City: New York
State: NY
Zip: 10017
Email tanner.melendez@icf.com
Phone: 9739511787

LEAD AGENCY CONTACT INFORMATION

Lead Agency: Puerto Rico Department of Housing

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Caribbean Ecological Services Field Office
Post Office Box 491
Boqueron, PR 00622-0491
Phone: (939) 320-3135 Fax: (787) 851-7440
Email Address: CARIBBEAN_ES@FWS.GOV

In Reply Refer To: 09/25/2024 19:34:36 UTC
Project Code: 2024-0149415
Project Name: PR-CRP-000964

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:

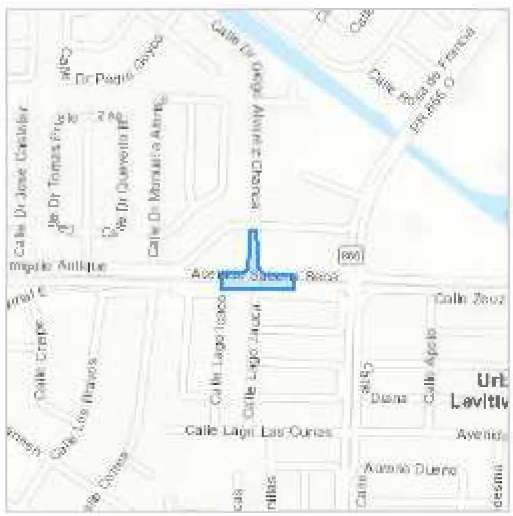
Caribbean Ecological Services Field Office
Post Office Box 491
Boqueron, PR 00622-0491
(939) 320-3135

PROJECT SUMMARY

Project Code: 2024-0149415
Project Name: PR-CRP-000964
Project Type: Road/Hwy - Maintenance/Modification
Project Description: The project scope includes installation of a roundabout at an existing intersection, safety improvements such as signage and pavement markings, and new planting areas in the roundabout's inner circle, islands, and strips with rain gardens. The project includes the removal of existing asphalt surfaces, curbs, sidewalks, planters, lighting poles, and trees. The project area consists of 1.65 acres of land at the intersection of Juan “Picolino” Hernández Ferrer Ave. and Dr. Álvarez Chanca Ave in Toa Baja, Puerto Rico.

Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@18.4381944,-66.18033104860024,14z



Counties: Toa Baja County, Puerto Rico

ENDANGERED SPECIES ACT SPECIES

There is a total of 1 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.

REPTILES

NAME	STATUS
Puerto Rican Boa *Chilabothrus inornatus* 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/UHI3QH3O5NGODDXTSDJPU6FXNY/documents/generated/7159.pdf	Endangered

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

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 in the links below. Specifically, please review the "Supplemental Information on Migratory Birds and Eagles".

---

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 in the links below. Specifically, please review the "Supplemental Information on Migratory Birds and Eagles".

---

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.

THERE ARE NO WETLANDS WITHIN YOUR PROJECT AREA.

IPAC USER CONTACT INFORMATION

Agency: Private Entity
Name: Tanner Melendez
Address: 630 3rd Ave
City: New York
State: NY
Zip: 10017
Email tanner.melendez@icf.com
Phone: 9739511787

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Caribbean Ecological Services Field Office
Post Office Box 491
Boqueron, PR 00622-0491
Phone: (939) 320-3135 Fax: (787) 851-7440
Email Address: CARIBBEAN_ES@FWS.GOV

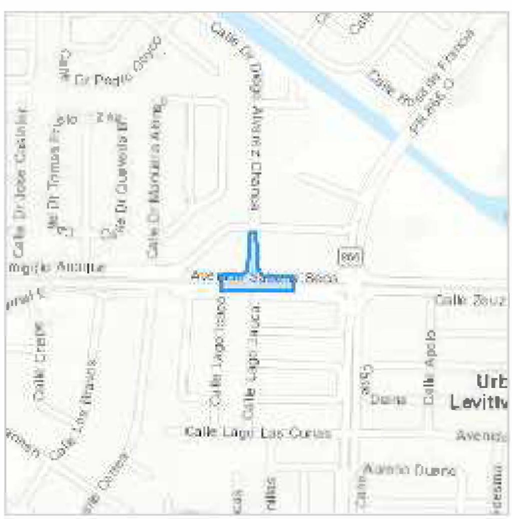
In Reply Refer To: 09/25/2024 19:35:25 UTC
Project code: 2024-0149415
Project Name: PR-CRP-000964

Subject: Consistency letter for the project named 'PR-CRP-000964' for specified threatened and endangered species, that may occur in your proposed project location, pursuant to the IPaC determination key titled Caribbean Determination Key (DKey).

Dear Applicant:

Thank you for using the assisted evaluation keys in IPaC. This letter is provided pursuant to the Service's authority under the Endangered Species Act of 1973, as amended (ESA) (87 Stat. 884; 16 U.S.C. 1531et seq.). On September 25, 2024, Tanner Melendez used the Caribbean DKey; dated April 03, 2024, in the U.S. Fish and Wildlife Service's online IPaC application to evaluate potential impacts to federally listed species, from a project named 'PR-CRP-000964'. The project is located in Toa Baja County, Puerto Rico (shown below).

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@18.4381944,-66.18033104860024,14z



The following description was provided for the project 'PR-CRP-000964':

> The project scope includes installation of a roundabout at an existing intersection, safety improvements such as signage and pavement markings, and new planting areas in the roundabout's inner circle, islands, and strips with rain gardens. The project includes the removal of existing asphalt surfaces, curbs, sidewalks, planters, lighting poles, and trees. The project area consists of 1.65 acres of land at the intersection of Juan “Picolino” Hernández Ferrer Ave. and Dr. Álvarez Chanca Ave in Toa Baja, Puerto Rico.

Based on your answers and the assistance of the Service’s Caribbean DKey, you determined the proposed Action will have “No Effect” on the following species:

Species	**Listing Status**	**Determination**
Puerto Rican Boa (*Chilabothrus inornatus*)	Endangered	No effect

Thank you for informing the Service of your “No Effect” determination(s) for this project. No further consultation/coordination for this project is required for these species. However, be aware that reinitiation of consultation may be necessary if later modifications are made to the project so that it no longer meets the criteria or outcome described above, or if new information reveals effects of the action that could affect listed species or critical habitat in a manner or to an extent not previously considered, or if a new species is listed.

This letter serves as documentation of your consideration of the federally listed species as required under section 7 of the ESA. However, effects to the other federally listed species or critical habitat as listed below from the “IPaC print-out for the project” (see below) should be considered as part of your ESA review for the project.

The Service will notify you within 30 calendar days if we determine that this proposed Action does not meet the criteria for a “No Effect” (NE) determination for Federally listed species in the Caribbean. If we do not notify you within that timeframe, you may proceed with the Action under the terms of the NE concurrence provided here. This verification period allows the Caribbean Ecological Services Field Office to apply local knowledge to evaluate the Action, as we may identify a small subset of actions having unanticipated impacts. In such instances, the Caribbean Ecological Services Field Office may request additional information to verify the effects determination reached through the DKey.

Note: Projects located within the range of the Puerto Rican boa or the Virgin Islands tree boa might encounter these species during project activities. **This letter does not provide take to handle or move these species**. If relocation of the species is needed, please contact either the Puerto Rico Department of Natural Resources (DNER) at 787-724-5700, 787-230-5550, or 787-771-1124 for projects in Puerto Rico, or the Virgin Islands Department of Planning and Natural Resources, Division of Fish and Wildlife (DFW) at 340-775-6762 for projects in the Virgin Islands. Otherwise, contact the Caribbean Ecological Services Field Office (caribbean_es@fws.gov) to determine whether the consultation needs to be reinitiated.

If the proposed project is located within species range where a DKey has not been developed for those species, please follow the established guidance for initiating section 7 consultation Caribbean Ecological Services Field Office.

We appreciate your interest in protecting endangered species and their habitats. It is the Service’s mission to work with others to conserve, protect, and enhance fish, wildlife, and plants and their habitats for the continuing benefit of our people. If you have any questions or require additional information, please contact our office at Caribbean_es@fws.gov.

Action Description
You provided to IPaC the following name and description for the subject Action.

1. Name

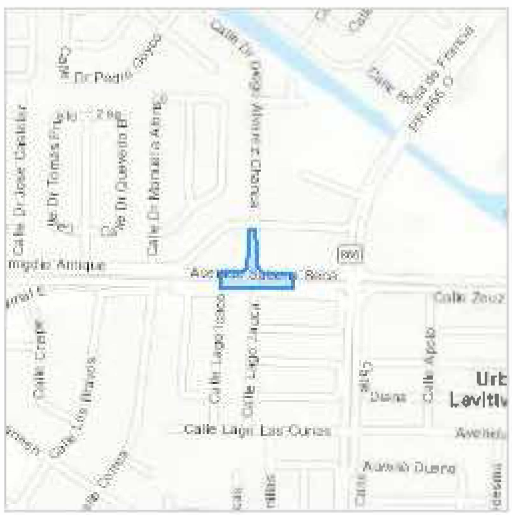
PR-CRP-000964

2. Description

The following description was provided for the project 'PR-CRP-000964':

> The project scope includes installation of a roundabout at an existing intersection, safety improvements such as signage and pavement markings, and new planting areas in the roundabout's inner circle, islands, and strips with rain gardens. The project includes the removal of existing asphalt surfaces, curbs, sidewalks, planters, lighting poles, and trees. The project area consists of 1.65 acres of land at the intersection of Juan “Picolino” Hernández Ferrer Ave. and Dr. Álvarez Chanca Ave in Toa Baja, Puerto Rico.

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@18.4381944,-66.18033104860024,14z



QUALIFICATION INTERVIEW

1. Is the proposed project an EPA Multi-Sector General Permit (MSGP) renewal for an existing project? (MSGP Fact Sheet)

   No

2. Is the proposed project within an urban developed area? (i.e., cities, downtowns, shopping malls etc.)

   Note: Urban and developed areas has one or more of the following characteristics: Presence of existing buildings, residential areas, and commercial establishments. Well-established infrastructure including roads, utilities, and urban facilities. High population density. Established neighborhoods and urban amenities ("urbanizaciones"). Developed landscape with paved surfaces, parking lots, and industrial areas. Signs of human activity and urbanization, such as shopping centers and recreational facilities. Location within the boundaries of a city or town ("casco urbano"). High concentration of built-up structures and limited open spaces. Aerial imagery might be requested to the applicant. .

   Yes

3. [Hidden Semantic] Does the proposed project intersect the Puerto Rican boa area of influence?

   Automatically answered
   Yes

IPAC USER CONTACT INFORMATION

Agency: Private Entity
Name: Tanner Melendez
Address: 630 3rd Ave
City: New York
State: NY
Zip: 10017
Email tanner.melendez@icf.com
Phone: 9739511787

LEAD AGENCY CONTACT INFORMATION

Lead Agency: Puerto Rico Department of Housing

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Caribbean Ecological Services Field Office
Post Office Box 491
Boqueron, PR 00622-0491
Phone: (939) 320-3135 Fax: (787) 851-7440
Email Address: CARIBBEAN_ES@FWS.GOV

In Reply Refer To: 09/25/2024 19:45:16 UTC
Project Code: 2024-0149424
Project Name: PR-CRP-000973

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
(939) 320-3135

PROJECT SUMMARY

Project Code: 2024-0149424
Project Name: PR-CRP-000973
Project Type: Road/Hwy - Maintenance/Modification
Project Description: The project scope includes installation of a roundabout at an existing intersection, safety improvements such as signage and pavement markings, and new planting areas in the roundabout's inner circle, islands, and strips with rain gardens. The project includes the removal of existing asphalt surfaces, curbs, sidewalks, planters, lighting poles, and trees. The project area consists of 2.03 acres of land at the intersection of Juan “Picolino” Hernández Ferrer Avenue, Llorens Torres St., and Rufino Ramirez St. in Toa Baja, PR.

Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@18.4379183,-66.1860773678281,14z

Counties: Toa Baja County, Puerto Rico

ENDANGERED SPECIES ACT SPECIES

There is a total of 3 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
Roseate Tern *Sterna dougallii dougallii* Population: Western Hemisphere except NE U.S. No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/2083	Threatened

REPTILES

NAME	STATUS
Puerto Rican Boa *Chilabothrus inornatus* 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/T6DXGOQW75HADBBXA77KIQBSZQ/documents/generated/7159.pdf	Endangered

FLOWERING PLANTS

NAME	STATUS
Palo De Rosa *Ottoschulzia rhodoxylon* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/5741	Threatened

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

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 in the links below. Specifically, please review the "Supplemental Information on Migratory Birds and Eagles".

---

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 in the links below. Specifically, please review the "Supplemental Information on Migratory Birds and Eagles".

---

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.

THERE ARE NO WETLANDS WITHIN YOUR PROJECT AREA.

IPAC USER CONTACT INFORMATION

Agency: Private Entity
Name: Tanner Melendez
Address: 630 3rd Ave
City: New York
State: NY
Zip: 10017
Email tanner.melendez@icf.com
Phone: 9739511787

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Caribbean Ecological Services Field Office
Post Office Box 491
Boqueron, PR 00622-0491
Phone: (939) 320-3135 Fax: (787) 851-7440
Email Address: CARIBBEAN_ES@FWS.GOV

In Reply Refer To: 09/25/2024 19:46:20 UTC
Project code: 2024-0149424
Project Name: PR-CRP-000973

Subject: Consistency letter for the project named 'PR-CRP-000973' for specified threatened and endangered species, that may occur in your proposed project location, pursuant to the IPaC determination key titled Caribbean Determination Key (DKey).

Dear Applicant:

Thank you for using the assisted evaluation keys in IPaC. This letter is provided pursuant to the Service's authority under the Endangered Species Act of 1973, as amended (ESA) (87 Stat. 884; 16 U.S.C. 1531et seq.). On September 25, 2024, Tanner Melendez used the Caribbean DKey; dated April 03, 2024, in the U.S. Fish and Wildlife Service's online IPaC application to evaluate potential impacts to federally listed species, from a project named 'PR-CRP-000973'. The project is located in Toa Baja County, Puerto Rico (shown below).

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@18.4379183,-66.1860773678281,14z

The following description was provided for the project 'PR-CRP-000973':

> The project scope includes installation of a roundabout at an existing intersection, safety improvements such as signage and pavement markings, and new planting areas in the roundabout's inner circle, islands, and strips with rain gardens. The project includes the removal of existing asphalt surfaces, curbs, sidewalks, planters, lighting poles, and trees. The project area consists of 2.03 acres of land at the intersection of Juan “Picolino” Hernández Ferrer Avenue, Llorens Torres St., and Rufino Ramirez St. in Toa Baja, PR.

Based on your answers and the assistance of the Service’s Caribbean DKey, you determined the proposed Action will have “No Effect” on the following species:

Species	**Listing Status**	**Determination**
Puerto Rican Boa (*Chilabothrus inornatus*)	Endangered	No effect

Thank you for informing the Service of your “No Effect” determination(s) for this project. No further consultation/coordination for this project is required for these species. However, be aware that reinitiation of consultation may be necessary if later modifications are made to the project so that it no longer meets the criteria or outcome described above, or if new information reveals effects of the action that could affect listed species or critical habitat in a manner or to an extent not previously considered, or if a new species is listed.

This letter serves as documentation of your consideration of the federally listed species as required under section 7 of the ESA. However, effects to the other federally listed species or critical habitat as listed below from the “IPaC print-out for the project” (see below) should be considered as part of your ESA review for the project.

The Service will notify you within 30 calendar days if we determine that this proposed Action does not meet the criteria for a “No Effect” (NE) determination for Federally listed species in the Caribbean. If we do not notify you within that timeframe, you may proceed with the Action under the terms of the NE concurrence provided here. This verification period allows the Caribbean Ecological Services Field Office to apply local knowledge to evaluate the Action, as we may identify a small subset of actions having unanticipated impacts. In such instances, the Caribbean Ecological Services Field Office may request additional information to verify the effects determination reached through the DKey.

Note: Projects located within the range of the Puerto Rican boa or the Virgin Islands tree boa might encounter these species during project activities. **This letter does not provide take to handle or move these species**. If relocation of the species is needed, please contact either the Puerto Rico Department of Natural Resources (DNER) at 787-724-5700, 787-230-5550, or 787-771-1124 for projects in Puerto Rico, or the Virgin Islands Department of Planning and Natural Resources, Division of Fish and Wildlife (DFW) at 340-775-6762 for projects in the Virgin Islands. Otherwise, contact the Caribbean Ecological Services Field Office (caribbean_es@fws.gov) to determine whether the consultation needs to be reinitiated.

In addition to the species listed above, the following species and/or critical habitats may also occur in your project area and **are not** covered by this conclusion. Effects to the other federally listed species or critical habitat as listed below should be considered as part of your ESA review for the project.

- Palo De Rosa *Ottoschulzia rhodoxylon* Threatened
- Roseate Tern *Sterna dougallii dougallii* Threatened

If the proposed project is located within species range where a DKey has not been developed for those species, please follow the established guidance for initiating section 7 consultation Caribbean Ecological Services Field Office.

We appreciate your interest in protecting endangered species and their habitats. It is the Service's mission to work with others to conserve, protect, and enhance fish, wildlife, and plants and their habitats for the continuing benefit of our people. If you have any questions or require additional information, please contact our office at Caribbean_es@fws.gov.

Action Description

You provided to IPaC the following name and description for the subject Action.

1. Name

PR-CRP-000973

2. Description

The following description was provided for the project 'PR-CRP-000973':

> The project scope includes installation of a roundabout at an existing intersection, safety improvements such as signage and pavement markings, and new planting areas in the roundabout's inner circle, islands, and strips with rain gardens. The project includes the removal of existing asphalt surfaces, curbs, sidewalks, planters, lighting poles, and trees. The project area consists of 2.03 acres of land at the intersection of Juan "Picolino" Hernández Ferrer Avenue, Llorens Torres St., and Rufino Ramirez St. in Toa Baja, PR.

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@18.4379183,-66.1860773678281,14z

QUALIFICATION INTERVIEW

1. Is the proposed project an EPA Multi-Sector General Permit (MSGP) renewal for an existing project? (MSGP Fact Sheet)

   No

2. Is the proposed project within an urban developed area? (i.e., cities, downtowns, shopping malls etc.)

   Note: Urban and developed areas has one or more of the following characteristics: Presence of existing buildings, residential areas, and commercial establishments. Well-established infrastructure including roads, utilities, and urban facilities. High population density. Established neighborhoods and urban amenities ("urbanizaciones"). Developed landscape with paved surfaces, parking lots, and industrial areas. Signs of human activity and urbanization, such as shopping centers and recreational facilities. Location within the boundaries of a city or town ("casco urbano"). High concentration of built-up structures and limited open spaces. Aerial imagery might be requested to the applicant. .

   Yes

3. [Hidden Semantic] Does the proposed project intersect the Puerto Rican boa area of influence?

   Automatically answered
   Yes

IPAC USER CONTACT INFORMATION

Agency: Private Entity
Name: Tanner Melendez
Address: 630 3rd Ave
City: New York
State: NY
Zip: 10017
Email tanner.melendez@icf.com
Phone: 9739511787

LEAD AGENCY CONTACT INFORMATION

Lead Agency: Puerto Rico Department of Housing

Appendix E:
Critical Habitat
Maps

PR-CRP-000948 Critical Habitat Map

Address: Intersection of Juan “Picolino” Hernández Ferrer Ave. and Rufino Ramirez St., Toa Baja PR

Coordinates: 18.437412°, -66.167189°

9/24/2024

1:2,962

0 0.02 0.04 0.09 mi

0 0.04 0.07 0.15 km

Prepared by ICF

Source: https://nepassisttool.epa.gov/nepassist/nepamap.aspx
Spatial Reference: WGS84

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community, Esri Community Maps Contributors, Esri, TomTom, Garmin, Foursquare,

PR-CRP-000964 Critical Habitat Map

Address: Intersection of Juan "Picolino" Hernández Ferrer Ave. and Dr. Álvarez Chanca Ave., Toa Baja PR
Coordinates: 18.437677˚, -66.180319˚

9/24/2024

1:2,962

0 0.02 0.04 0.09 mi

0 0.04 0.07 0.15 km

Prepared by ICF

Source: https://nepassisttool.epa.gov/nepassist/nepamap.aspx
Spatial Reference: WGS84

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community, Esri Community Maps Contributors, Esri, TomTom, Garmin, Foursquare,

PR-CRP-000973 Critical Habitat Map

Address: Intersection of Juan "Picolino" Hernández Ferrer Ave. and Del Carmen St., Toa Baja PR
Coordinates: 18.437799°, -66.185903°

9/24/2024

Prepared by ICF

Source: https://nepassisttool.epa.gov/nepassist/nepamap.aspx
Spatial Reference: WGS84

1:2,962

0 0.02 0.04 0.09 mi

0 0.04 0.07 0.15 km

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community, Esri Community Maps Contributors, Esri, TomTom, Garmin, Foursquare,

Appendix F:
Threatened & Endangered Species Supplemental Information

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 federally 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

The PR 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 such as roadsides or houses, especially if near their habitat in rural areas. The PR 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 project 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. If a PR boa is found within any of the working or construction areas, activities should stop at that area and information recorded (see #5). **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 that 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.

5. 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.

6. If a PR boa is captured by PRDNER personnel, record the name of that person and information on where the PR boa will be taken. This information should be reported to the Service.

7. 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 #4). If not possible, the animal should be left alone until it leaves the vehicle on its own.

8. 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.

9. If a dead PR boa is found, immediately cease all work in that area and record the information accordingly (see #5). 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 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.

10. 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:

- José Cruz-Burgos, Endangered Species Program Coordinator
  - Email: jose_cruz-burgos@fws.gov
  - Office phone (305) 304-1386
- Jan Zegarra, Fish and Wildlife Biologist
  - Email: jan_zegarra@fws.gov
  - Office phone (786) 933-1451

Roseate Tern Caribbean Population
(*Sterna dougallii dougalii*)

Status Review:
Summary and Evaluation

Photo credit: Jan Zegarra, Service

U.S. Fish and Wildlife Service
Southeast Region
Caribbean Ecological Services Field Office
Boquerón, Puerto Rico

August 2022

STATUS REVIEW
Caribbean Roseate Tern
(*Sterna dougallii dougallii*)

GENERAL INFORMATION

Current Classification: Threatened

Lead Field Office: Caribbean Ecological Services Field Office (CESFO), Boquerón, Puerto Rico, Maritza Vargas, Maritza_vargas@fws.gov, (786)-244-0081

Reviewers:
Lead Regional Office: Atlanta Regional Office, Carrie Straight, (404) 679-7226

Date of original listing: November 2, 1987 (52 FR 42064).

Methodology used to complete the review:

In accordance with section 4(c)(2) of the Endangered Species Act of 1973, as amended (Act), the purpose of a status review is to assess each threatened species or endangered species to determine whether its status has changed and if it should be classified differently or removed from the Lists of Threatened and Endangered Wildlife and Plants (50 CFR 424.11). The U.S. Fish and Wildlife Service (Service) evaluated the biology, habitat, and threats of the Caribbean roseate tern[1] to inform this status review. We announced initiation of this review in the Federal Register on June 23, 2021 (86 FR 32965) with a 60-day comment period, and received no public comments during the open comment period. We used a variety of information resources, including monitoring reports, surveys, and other scientific and management information. Specific sources included the final rule listing this species under the Act, peer reviewed scientific publications, unpublished field observations by Federal, State, and other experienced biologists, unpublished studies and survey reports, and notes and communications from other qualified individuals.

FR Notice citation announcing the species is under active review:
June 23, 2021 (86 FR 32965)

Species' Recovery Priority Number at start of 5-year review (48 FR 43098): 3. This number indicates an entity listed at the subspecies level with a high degree of threat and a high recovery potential.

Review History: A previous 5-year review recommending no change in status was published on September 30, 2010 (Service 2010).

[1] This population will be addressed as the Caribbean roseate tern (e.g., Western Hemisphere and adjacent oceans, incl. U.S.A. (FL, PR, VI)) to distinguish it from other populations of the roseate tern (e.g., those in the Atlantic Coast in the northeastern United States (south to North Carolina), Canada, Bermuda, and those in Europe).

REVIEW ANALYSIS

Listed Entity

Taxonomy and nomenclature
We are not aware of any changes to the taxonomy of this entity, and it is still considered a valid subspecies by the Service.

Distinct Population Segment (DPS) (61 FR 4722)
The roseate tern was listed as two different populations in a final rule in 1987 (52 FR 42064). This final rule listed the northeastern North American population as endangered and the Caribbean population as threatened. The roseate tern was reviewed under the DPS policy in the 2010 5-Year Review (Service 2010). For a more in-depth discussion on the application of the 1996 DPS policy to the roseate tern and description of the two listable roseate tern entities as the Caribbean DPS and Northeast DPS, see section 2.1.2 of the previous 2010 5-year status review.

There is no new information relative to the discreteness of the two populations that would indicate the status of the Caribbean DPS and Northeast DPS should be changed. Although the two populations intermix during migration and on the wintering grounds, there is still no concrete evidence for interchange of birds breeding (Service 2020).

Recovery Criteria

Recovery Plan or Outline
Recovery Plan for the Caribbean Roseate Tern (*Sterna dougallii*), September 24, 1993

Recovery plans are not regulatory documents and intended to provide guidance to the Service, States, and other partners on methods of minimizing threats to listed species and on criteria that may be used to determine when recovery is achieved. If the recovery criteria defined in the plan are still valid, meeting recovery criteria can indicate that the species no longer requires protections under the Act. However, when recommending whether a listed species should be delisted, the Service must apply the factors in section 4(a) of the Act (84 FR 45020).

The Caribbean roseate tern may be considered for delisting when:

1. Conservation programs to maintain, protect, and enhance populations of this species have been implemented in coordination with countries in the Caribbean where roseate tern populations occur.

2. Populations of roseate terns in the Caribbean remain stable (i.e., without significant decrease in number of breeding birds) or increasing for at least 5 consecutive years.

The Service believes these criteria are still appropriate and relevant; however, the criteria have not been met.

Biology and Habitat Summary

A detailed review of the species' biology and habitat information can be found in the previous 5-year status review of this species (Service 2010). The Caribbean roseate tern range remains as shown in Figure 1 (Service 2010).

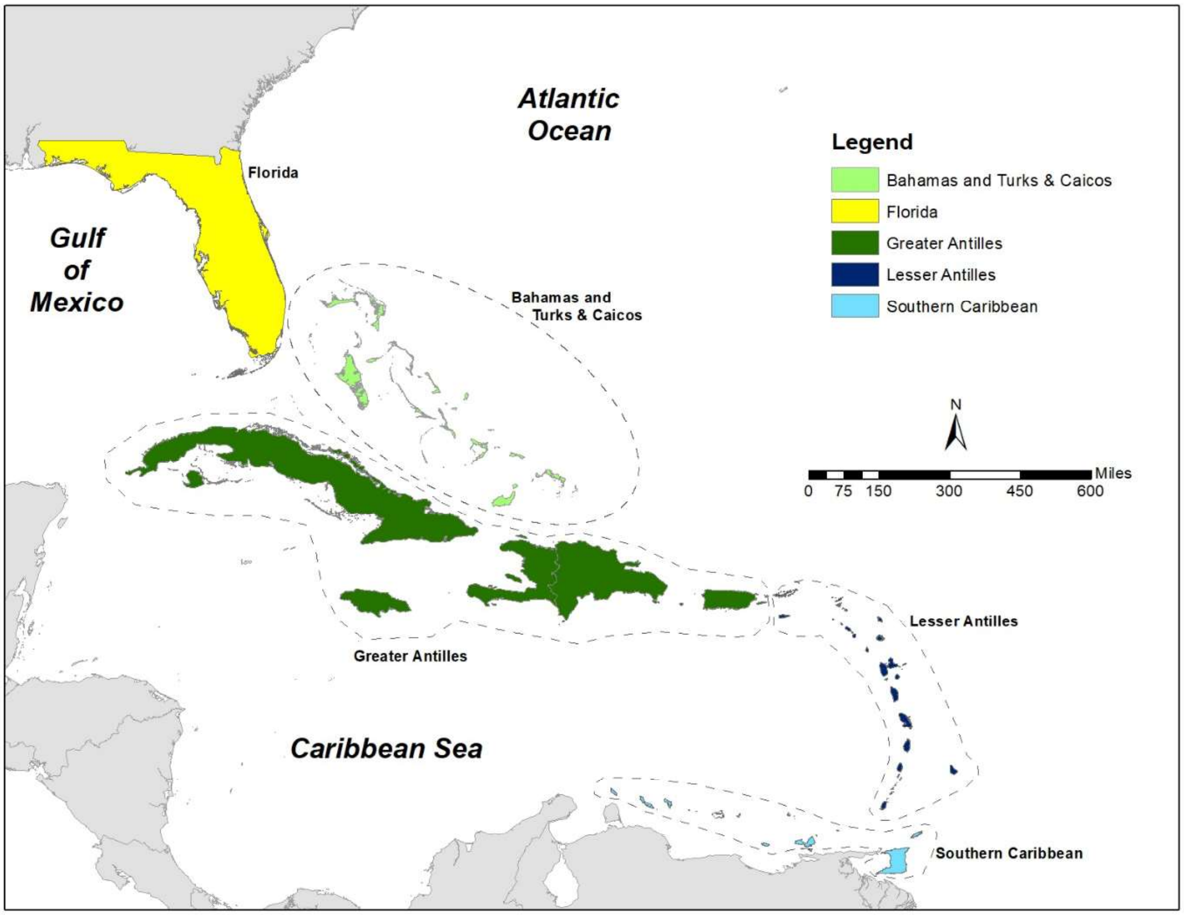


Figure 1. Range of the Caribbean roseate tern (dashed polygons).

During 2017 and 2018, the reproductive success of 118 roseate tern nests were assessed at 6 locations in the Virgin Islands, 4 in U.S. Virgin Islands (USVI): Shark, Leduck, Flat and Congo Islands, and 2 in British Virgin Islands (BVI): Guana and Cockroach Islands (Byerly et al. 2019 and 2021). Results showed nests had a 53% chance of hatching and 44% chance of being depredated during the 28 day period from egg laying to the fourth day post hatch. Chicks had a 70% chance of surviving to the fourth day post hatch, and overall productivity was estimated at 0.46 chicks per nest (Byerly et al. 2019 and 2021). These results showed relatively low reproductive success, which is comparable to other nest survival estimates from the Puerto Rican bank (Service 2010). This low reproductive success likely occurs throughout the range of the Caribbean roseate tern. Byerly et al. (2021) suggested that management efforts should be focused on larger colonies since colony size was the stronger predictor of eggs and chick survival.

Predation was the most common cause of nest mortality followed by abandonment (Byerly et al. 2021). Most predation occurred after dark. Predator types varied across islands and included hermit crabs, laughing gulls, great egret, red tailed hawk, yellow crown night heron, and rats (Byerly et al. 2021).

Caribbean roseate tern surveys have not been consistent throughout its range for the past decade (Table 1). The nest counts reported during these years (2010 – 2021) have fluctuated between 660-1,030 in Puerto Rico, 308-1,325 in USVI, 125-440 in BVI, and 6-233 in Florida, presenting an overall decrease (Table 1 and Figure 2; Zambrano 2018 and 2019; Service unpubl. data 2020; Byerly et al. 2021; Byerly pers. comm. 2022; and Angeli pers.com., 2022). Nest counts in the past decade suggest a downward trend in the Caribbean roseate tern breeding populations (Table 1, Figures 2 and 3; Zaluski et al. 2018; Zambrano 2018 and 2019; Soanes et al. 2020; Byerly 2021).

The ephemeral nature of habitats used by terns for nesting leaves the terns vulnerable to drastic loss of reproductive success if storms hit those habitats during nesting season or while young are flightless and can reduce available habitat. Pelican Shoal, an island in Florida that had once supported the largest breeding colony of roseate terns, was destroyed by multiple hurricanes in the past and has since reemerged. In 2017, Hurricane Irma is believed to have help rebuild this island. By 2019 the shoal had expanded and about 50 roseate terns pairs were recorded nesting once again in Pelican Shoal, yet by 2020, another storm washed over the island, leaving it low and narrow and not suitable for nesting. (Zambrano 2019 and 2022) Artificial nesting platforms were installed, but roseate terns were not attracted by them (Zambrano 2019).

No additional information regarding nesting individuals of roseate terns in foreign countries (excluding BVI) is currently available to the Service.

Table 1: Caribbean Roseate Tern nest counts from 2010 to 2021. Nest surveys were conducted in different Caribbean islands or cays: Puerto Rico (PR)-southwest cays - Cayo Media Luna East and West, Cayo Turrumote I and II, Cayo San Cristobal, Cayo El Palo, and on east PR cays - Culebra Island - Cayo Matojo; USVI - Kalkun, Shark, Pelican, Flat, Booby Rock, Saba, Cricket, Dog, LeDuck, Carval Rock, Flanagan Rocks, Little Flat, and Congo Islands; BVI - Sandy Cay, Green, Watson Rock, Cooper-Cistern Pt., Cockroach, Seal Dogs, Broken Jerusalem, and Guana Islands; Florida - Dry Tortugas National Park, Pelican Shoal, on rooftops (e.g., Vaca Key and Marathon Government Center Bahia), and bridges (e.g., Bahia Honda Bridge) (Zambrano 2018, 2019 and 2022; Angeli, pers.com., 2022; Service unpubl. data 2020; Byerly et al. 2021; and Byerly, pers. comm., 2022)

Year	Territory[a]	Survey Date	Nest Count[b]	Comments
2010	PR	6/1	1,007	
	USVI	-	1325	
	BVI	-	440	
	FL	-	209	
2011	PR	5/27	805	
	USVI	-	-	Not surveyed
	BVI	-	-	Not surveyed
	FL	-	183	
2012	PR	5/25	937	

Year	Territory[a]	Survey Date	Nest Count[b]	Comments
	USVI	-	-	Not surveyed
	BVI	-	-	Not surveyed
	FL	-	260	
2013	PR	5/29	870	
	USVI	-	-	Not surveyed
	BVI	-	-	Not surveyed
	FL	-	253	
2014	PR	5/27	1,030	
	USVI	-	308	
	BVI	-	305	
	FL	-	183	
2015	PR	-	-	Not surveyed
	USVI	-	-	Not surveyed
	BVI	-	250	
	FL	-	165	
2016	PR	5/24, 5/20*	1,044	*Includes 32 nests from Cayo Matojo, Culebra Island
	USVI	6/1-6/2	1071	
	BVI	6/5	125	
	FL	-	126	
2017	PR	6/1	773	
	USVI	5/17-6/1	729	
	BVI	6/6	126	
	FL	-	6	
2018	PR	6/7	802	
	USVI	5/29-5/30	836	
	BVI	6/2	227	
	FL	-	30	
2019	PR	5/29	660	
	USVI	6/5-6/6	462	
	BVI	6/9	130	
	FL	-	50	Based on adult counts and no roseate terns were observed nesting in historic rooftops and or bridges
2020	PR		-	Not surveyed
	USVI		-	Not surveyed
	BVI		N/A	N/A
	FL		102	
2021	PR		-	Not surveyed
	USVI	6/1-6/2	439	
	BVI		N/A	N/A
	FL		58	

[a]Nest counts data for Puerto Rico is from cays south of La Parguera in the southwest of the Island unless otherwise noted in comments.
[b]Nest data was summed across cays and presented as Puerto Rico, U.S. Virgin Islands, British Virgin Islands, and Florida.

Figure 2. Caribbean roseate tern nest counts during the past 10 years in Puerto Rico, U.S. Virgin Islands, British Virgin Islands, and Florida. Not all breeding sites were consecutively monitored between 2010 and 2016. Note: Graphs constructed by the Service for this review using data reported in Table 1.

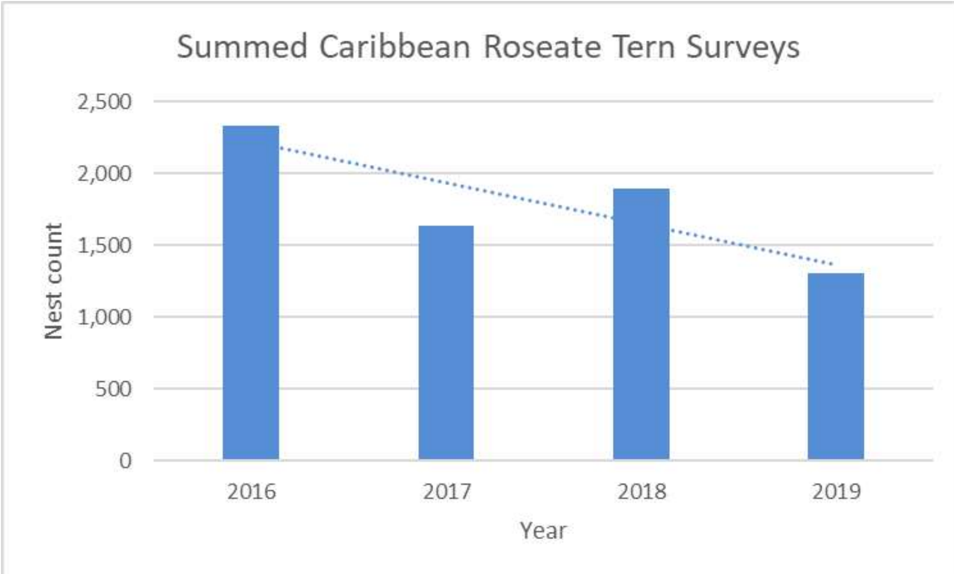


Figure 3. Caribbean roseate tern nest counts data collected during four consecutive years (2016-2019) in Puerto Rico, U.S. Virgin Islands, British Virgin Islands, and Florida. Note: Surveys may have not followed the same protocols throughout the countries.

Threats (Five-Factor Analysis) Summary

A detailed review of the species' threats can be found in the 2010 roseate tern 5-year status review (Service 2010). The status of a species is determined from an assessment of factors specified in section 4 (a)(1) of the Act, including:

> Factor A (the present or threatened destruction, modification, or curtailment of its habitat or range).
> Factor B (overutilization for commercial, recreational, scientific, or educational purposes).
> Factor C (disease or predation).
> Factor D (the inadequacy of existing regulatory mechanisms).
> Factor E (other natural or manmade factors affecting its continued existence).

This section will focus on the threats within United States jurisdiction (i.e., FL, PR and USVI), however, many of these threats are likely to occur throughout the range of the Caribbean roseate tern. During this review, we found no new information indicating significant changes on how the above-mentioned factors are affecting the overall status of the Caribbean roseate tern from the previous roseate tern 2010 5-year status review (Service 2010).

Many of the natural nesting sites for roseate terns have been on small islands like barrier islands and near sea level. These habitats are subject to modification and alteration (Factor A) caused by storms as described above for Pelican Shoal. Details of how climate change (e.g., sea level rise and hurricanes) impact the species is described below under Factor E. Presently, predation (Factor C) is known to be a major stressor affecting reproductive success of roseate terns. The most recent study in nest survival in the U.S. and British Virgin Islands recorded a 44% chance of nest predation during the 28-day period from laying the egg to the fourth day post-hatch (Byerly et al. 2021). The study also documented no incubation after partial predation, and nests were completely abandoned after predation. Although predation varied across islands, camera recordings continue to document mammals (e.g., rats, *Rattus rattus*) crustaceans (e.g., hermit crabs (order Decapoda)), and birds (e.g., great egret (*Ardea alba*), laughing gulls (*Leucophaeus atricilla*), red tailed hawks (*Buteo jamaicensis*), yellow-crowned night heron (*Nyctanassa violacea*), fish crows (*Corvus ossifragus*) as egg and chick predators (Zambrano 2019; Byerly et al. 2021). This information shows that this threat remains affecting the species throughout the Caribbean as most of these islands share similar biogeography and predator types (Zaluski et al. 2018; Byerly et al. 2021). Based on high nest (eggs and chick) mortality caused by predators and exacerbated by nest abandonment, the Service continue to consider the magnitude of threat from predation (Factor C) to the Caribbean roseate tern high and imminent.

Other natural or manmade factors (Factor E) also are considered major stressors affecting the Caribbean roseate tern and is associated to climatic factors (e.g., hurricanes, storms, climate change), food availability, and disturbance. Factor E is detailed below.

Climate: Caribbean islands and small cays are dynamic in terms of erosion and sand accretion, particularly after storms and hurricanes and are vulnerable to habitat loss through sea level rise. For example, tropical storms and hurricanes may alter available roseate tern breeding habitat by reducing the islands' surface area, thus becoming a suitable nesting habitat into unsuitable nesting habitat as documented in Pelican Shoal in the Florida Keys (Service 2010; Zambrano 2019). This island, previously used by the roseate tern for nesting, was impacted by tropical storm Arlene and Hurricanes Dennis, Rita and Wilma in 2005 and as a result it was submerged for 14 years, which eliminated an important nesting site for the species (Service 2010; Zambrano 2019). Although Pelican Shoal reemerged by 2019, presumably with the help of the 2017 Hurricane Irma, since 2020, other storms washed it over again leaving the island again not suitable for roseate tern nesting (Zambrano 2019 and 2022). In addition, heavy rains, particularly during tropical storms and hurricanes affect the roseate tern colonies that nest in rooftops (e.g., some terns nesting in the Florida Keys). Eggs and chicks in rooftops are directly affected by strong rains in poorly drained roofs as nests get flooded, resulting in spoiled eggs and adult terns abandoning nests (Zambrano 2019).

Food: The previous 5-year status review (Service 2010) mentioned the natural stressor of competitive interactions between roseate terns and other seabird species foraging upon the same food resource as the expected sea level rise and temperature increase resulting from climate changes is likely to change fish abundance affecting chick and adult food provisioning (Shealer and Burger 1993; Ramos 2000). Currently, there is a research gap in fish abundance and distribution to perceive how the Caribbean roseate tern population is currently impacted (Byerly et al. 2021). Although not yet documented, limited food availability would affect the survival of the population (e.g., resulting in poor chick body condition and exertion of adults due to the need to travel further distances for food Byerly et al. 2021).

Human Disturbance: Most of the breeding cays in the Caribbean may be affected intentionally or unintentionally by human recreational activities since these breeding sites are located near tourist areas. Disturbance near and at roseate tern colonies can keep adults off their nests allowing predators to steal eggs or expose eggs to high temperatures resulting in overheating eggs and or small chicks in addition to sometimes causing abandonment of nests by adults (Service 2010). In addition, as reported in the previous 5-year status review (Service 2010) egg harvesting for human consumption was believed to be a mayor stressor in the past. However, Byerly et al. (2021) found no evidence of egg collection occurring during their two breeding seasons study in Virgin Islands (USVI and BVI), and suggested that seabird egg harvesting is no longer practiced at least in the Virgin Islands. Overall, we believe that the magnitude of threat from other natural or manmade factors (Factor E) to the Caribbean roseate tern is high, and imminent.

We have no information indicating that overutilization for commercial, recreational, scientific, or educational purposes (Factor B), and inadequacy of existing regulatory mechanisms (Factor D) pose a significant threat for the species. Therefore, during this review, we are not considering these stressors as factors that may affect the continuing existences of the Caribbean roseate terns.

Synthesis

The Caribbean roseate tern is medium-sized, primarily white tern with a black crown, black bill, and a very long, deeply forked tail. The basal three-quarters of the bill in Caribbean roseate terns gradually becomes reddish orange during the breeding season. The Caribbean population breeds from Florida through the West Indies, to islands off Central America and northern South America. The actual number of Caribbean roseate tern breeding pairs are not known. Available data on the Caribbean roseate tern suggests that most breeding pairs in experienced an overall decline between 2010 and 2021, but Puerto Rico has shown less fluctuation throughout the years (based on available surveys) than the other surveyed locations (i.e., U.S. and British Virgin Islands and Florida). The breeding pairs reported during the last decade fluctuated between 660-1,030 in PR, 308-1,325 in USVI, 125-440 in BVI, and 6-233 in FL. Presently, the Caribbean roseate tern population continues to be threatened by predation from several species (e.g., rats, other birds, crustacean), and other natural and manmade factors (e.g., tropical storms and hurricanes, provisioning (food availability), and human disturbance). Because of these ongoing threats, the overall unknown abundance estimate of the species, and the current decrease in breeding pairs, we believe the Caribbean roseate tern population continues to meet the definition of a threatened species.

RECOMMENDED FUTURE ACTIVITIES

A detailed discussion of recovery actions and criteria are presented in the Recovery Plan (Service 1993) with additional information in the previous 5-year status review (Service 2010) are still relevant. New and/or targeted potential recovery activities are included below.

1. Consistent cross territorial surveys are needed to allow for better understanding of population trends and status of the Caribbean roseate tern, and to inform additional conservation measures for the recovery of the species.

2. Implement a predator control in breeding areas to increase Caribbean roseate tern egg and chick survival

RESULTS / SIGNATURES

U.S. Fish and Wildlife Service
Status Review of Roseate Tern Caribbean Population

Status Recommendation:

On the basis of this review, we recommend the following status for this species. A 5-year review presents a recommendation of the species status. Any change to the status requires a separate rulemaking process that includes public review and comment, as defined in the Act.

____ Uplist to Endangered
____ Delist:
  ____ *The species is extinct*
  ____ *The species does not meet the definition of an endangered or threatened species*
  ____ *The listed entity does not meet the statutory definition of a species*
_X___ No change needed

FIELD OFFICE APPROVAL*:

Field Supervisor, Caribbean Ecological Services Field Office, Fish and Wildlife Service

Approve ____

*In 2014, Southeast Region Field Supervisors have been delegated authority to approve 5-year reviews that do not recommend a status change.

REFERENCES

Angeli, N. F. 2022. Personal Communication regarding the Roseate Tern in the U.S. Virgin Islands. Email with submitted newsletter piece with roseate tern data through 2021 to theRoseate Tern Working Group. May 25, 2022.

Byerly, P.A. 2022. Personal communication. Postdoctoral Researcher Fellow at the Smithsonian Center for Conservation Genomics. Electronic mail correspondence between Byerly to Vargas, Caribbean Ecological Services Field Office, with spreadsheet of roseate terns colony counts for U.S. Virgin Islands, British Virgin Islands and Puerto Rico. May 25, 2022

Byerly, P.A., S. Zaluski, D. Nellis, and P.L. Leberg. 2019. Report: Colony and nest site characteristics influence reproductive success of Roseate Terns (*Sterna dougallii*) in the Virgin Islands. Appendix 1: Roseate Tern mid-season colony counts 2019 and total population estimates 2016-2019, Virgin Islands. pp. 14

Byerly, P.A., S. Zaluski, D. Nellis, and P.L. Leberg. 2021. Colony characteristics influence nest survival of Caribbean Roseate Terns. Ornithological Applications 123:1-15

Ramos, J.A. 2000. Characteristics of foraging habitats and chick food provisioning by tropical roseate terns. Condor 102:795-803.

Shealer, D.A., and J. Burger. 1993. Effects of interference competition on the foraging activity of tropical roseate terns. Condor 95:322-329.

Soanes, L.M., J. Pierce, D. Nellis, S. Saluski, and L.G. Halsey. 2020. Abundance and distribution of Roseate Terns (*Sterna dougallii*) in the Virgin Islands. Journal of Caribbean Ornithology 33:43-48.

U.S. Fish and Wildlife Service (Service). 1993. Caribbean roseate tern (*Sterna dougallii*) recovery plan. U.S. Fish and Wildlife Service, Atlanta, Georgia. 40 pp

U.S. Fish and Wildlife Service (Service). 2010. Caribbean roseate tern and North Atlantic roseate tern (*Sterna dougallii dougallii*) 5-Year Review: summary and evaluation. New England Field Office, Concord, New Hampshire and the Caribbean Ecological Services Field Office, Boquerón, Puerto Rico. pp. 148

U.S. Fish and Wildlife Service (Service). 2020. Roseate tern Northeastern North American Population (*Sterna dougallii dougallii*) 5-Year Review: summary and evaluation. New England Field Office, North Atlantic-Appalachian Region. Concord, New Hampshire. pp. 55

U.S. Fish and Wildlife Service (Service). 2020. Unpublished data. Summary of field visits and roseate tern nest counts in the southwest Puerto Rico: Years 2010-2019 Caribbean Ecological Services Field Office, Boquerón, Puerto Rico.

Zaluski, S., A. George, C. Petrivic, J. Pierce, N. Woodfield-Pascoe, and L. Soanes. 2018. Seabird Surveys of globally important populations in the British Virgin Islands. Journal of Caribbean Ornithology 31:51-56

Zambrano, R. 2018. Caribbean Roseate Tern population: Florida U.S. in Annual Roseate Tern Newsletter. Royal Society for the Protection of Birds, Nature Recovery Unit No.12 (March 2019). pp. 47-49

Zambrano, R. 2019. Florida, U.S. Roseate Tern in Annual Roseate Tern Newsletter. Royal Society for the Protection of Birds, Nature Recovery Unit No.13 (April 2020). pp. 49-52

Zambrano, R. 2022. Personal Communication regarding the Roseate Terns nest counts in Florida and the nesting sites. Florida Fish and Wildlife Conservation Commission. Electronic email between Zambrano to Vargas, Caribbean Ecological Services Field Office, with information on roseate terns nest counts for Florida. June 29, 2022.

Audubon

Roseate Tern

Juvenile and breeding adult. Photo: Agami Photo Agency/Shutterstock

Roseate Tern

Sterna dougallii

At a Glance

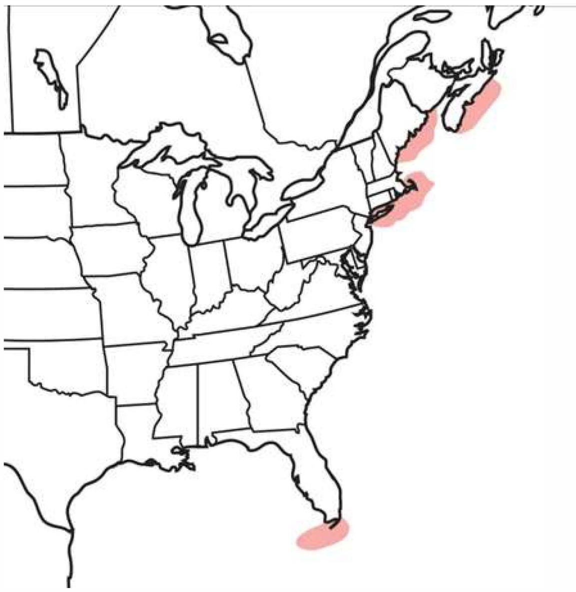
Widespread but very local on the coasts of six continents. In North America, only on Atlantic seaboard, mainly in northeast and Florida. More strictly coastal and oceanic than most similar terns. Has a very light and buoyant flight, with relatively fast and shallow wingbeats, and often gives a musical callnote in flight. Its numbers on this continent are in a long-term decline, probably owing to a combination of reasons, and it is now considered an endangered species.

CATEGORY Gull-like Birds, Gulls and Terns	CONSERVATION Low Concern
HABITAT Coasts and Shorelines, Open Ocean, Saltwater Wetlands	REGION Eastern Canada, Florida, Mid Atlantic, New England, Southeast
BEHAVIOR Direct Flight, Rapid Wingbeats	POPULATION 160.000

Range & Identification

Migration & Range Maps

Leaves North America entirely in winter, to winter in Caribbean and along northern coast of South America. Migrates along coast or well out to sea. Birds younger than 3 years old may remain all year on wintering grounds.



All Seasons - Common	Winter - Common
All Seasons - Uncommon	Winter - Uncommon
Breeding - Common	Migration - Common
Breeding - Uncommon	Migration - Uncommon

Description

14-17" (36-43 cm). W. 29 (74 cm). Noticeably long bill is usually mostly black, even in summer; develops obvious red at base during peak of breeding season. Very long tail streamers in summer; wings very pale above.

:E	About the size of a Crow, About the size of a Mallard or Herring Gull
LOR	Black, Gray, Orange, Pink, Red, White
NG SHAPE	Narrow, Pointed, Tapered
IL SHAPE	Forked, Long, Notched

Songs and Calls

Loud, harsh zaap, likened to sound of tearing cloth. Also a softer chew-wick.

LL PATTERN	Flat, Rising
LL TYPE	Chirp/Chip, Raucous, Whistle

Habitat

Coastal; salt bays, estuaries, ocean. Nests on sandy or rocky islands with some low plant cover, close to shallow waters for feeding, especially in protected bays and estuaries. Forages in coastal waters and sometimes well offshore, with a seeming preference for warmer waters.

Behavior

Eggs

1-2, sometimes 3. Cream to pale olive, blotched with blackish brown. Incubation is by both sexes (female may do more), 21-26 days.

Young

Are fed by both parents; may move away from nest to better shelter a few days after hatching. Age at first flight usually 27-30 days, but remain with parents at least 2 more months.

Feeding Behavior

Forages mostly by patrolling in flight above water and then plunging to catch fish below surface. Sometimes dips down in flight to take prey from surface of water. May hover less than most terns.

Diet

Mostly fish. Feeds mainly on small fish, including many sand lance and herring off eastern North America; also a few crustaceans, mollusks, rarely insects.

Nesting

Usually first breeds at age of 3 years. Nests in colonies, associated with Common Terns in northeast. Early in breeding season, groups fly high, glide down. On ground, birds display with tail raised, neck arched. Male may feed female. Nest site on ground under cover such as grass, shrubs, or rock ledge, sometimes in abandoned burrow or in open on bare sand. In Florida, some nest on gravel roofs. Nest (built by both sexes) is shallow scrape, usually lined with bits of debris.

Climate Vulnerability

Conservation Status

Now considered an endangered species in the northeast. Apparently was once far more numerous along much of Atlantic Coast, but today nests at only a few sites. Initial decline may have been caused by hunting for plume trade in late 1800s. After partial recovery, some colonies disappeared after 1930s when islands were overrun by expanding populations of Herring

Gulls in northeast. Continuing decline may involve hunting of terns on wintering grounds in northeastern South America.

IUCN Red List Status: Low Concern

EX	EW	CR	EN	VU	NT	LC

Extinct — Threatened — Low concern

Image Details

Palo De Rosa

FWS Focus

Overview

Status: Threatened (reclassified on 11/4/2022)

Ottoschulzia rhodoxylon, commonly known as "palo de rosa" due to its pink colored wood, reaches up to approximately 49 feet in height. Its trunk can reach 16 inches in diameter. The leaves are alternate, elliptical or ovate, coriaceous and glossy with a slightly white margin. The flowers of this genus are small and composed of five sepals united at the base, and a corolla with a short tube in the shape of a cup and five lobes. The fruit is about 0.98 inches long and 0.86 inches wide, smooth and with a thin cover that turns dark purple when ripe.

Threats

Although limited species distribution is no longer considered an imminent threat, the species still faces threats related to habitat destruction and modification in privately-owned lands (particularly along the northern coast of Puerto Rico), and other natural or manmade factors such as hurricanes, climate change , and habitat encroachment by invasive plant species. Furthermore, there are biological and ecological limiting factors for the species, such as populations consisting of isolated trees and the requirement of cross-pollination (transfer of pollen from the flowers of one individual to neighboring trees) to maintain viable populations. This is exacerbated by slow growth of the species seedlings, and the species' sporadic flowering and fruit production, which results in a low recruitment rate. Nonetheless, the slow growth of this tree and its reproductive biology suggest that palo de rosa is a late successional species, whose saplings stage might be prolonged under closed canopy conditions until a natural disturbance induces favorable conditions for their development to adulthood.

Conservation measures

The Service, in collaboration with several partners, is implementing recovery actions for palo de rosa. Among these conservation efforts are the propagation of the species in nurseries, the protection of the species in private lands, and the incorporation of protective measures for the species in public forests.

Nevertheless, to recover palo de rosa from a landscape perspective, we will need to increase our collaboration and partnership efforts with private landowners through outreach, and work with Puerto Rico Department of Natural and Environmental Resources in developing conservation strategies and recommendations when evaluating urban and infrastructure development projects that could affect these subpopulations. Such conservation measures should include the maintenance and enhancement of effective forested buffer areas and corridors to provide connectivity between subpopulations and to secure the microhabitat conditions necessary to sustain a viable population (e.g., maintaining recruitment).

Scientific Name

Ottoschulzia rhodoxylon

Common Name

Palo de rosa

FWS Category

Flowering Plants

Kingdom

Plantae

Location in Taxonomic Tree ()

Genus

Ottoschulzia

Species

Ottoschulzia rhodoxylon

Identification Numbers

TSN: ()

195963

Characteristics

LIFE CYCLE

HABITAT

Habitat

The habitat of the palo de rosa along the south coast of Puerto Rico includes moist drainages and rivers on serpentine soils within the Susúa Commonwealth Forest (SCF). In addition, the palo de rosa subpopulations found within the dry limestone forests along the southern coast of Puerto Rico occur at the bottom of forested ravines (areas that provide enough moisture for seedling recruitment). The species also occurs in the northern limestone belt in the karst region of Puerto Rico. Despite deforestation for agriculture in the 1930s, a west-to-east band of continuous forested landscape extends from Aguadilla to San Juan, and additional limestone outcrops extend to the northeast corner of Puerto Rico in the municipalities of Loíza and Fajardo providing habitat for palo de rosa. The southern and northern limestone belts differ in climate, with wet and moist life zones characterizing the environmental conditions along the north coast of Puerto Rico. The karst area is characterized by a steep topography and a dense concentration of haystack hills or mogotes, with valleys and sinkholes between the hills. The steep topography and low agricultural value provide refugia and serve as a seed source for natural regeneration on adjacent forested lands following the abandonment of agricultural lands.

Forest

A dense growth of trees and underbrush covering a large tract.

Coastal

The land near a shore.

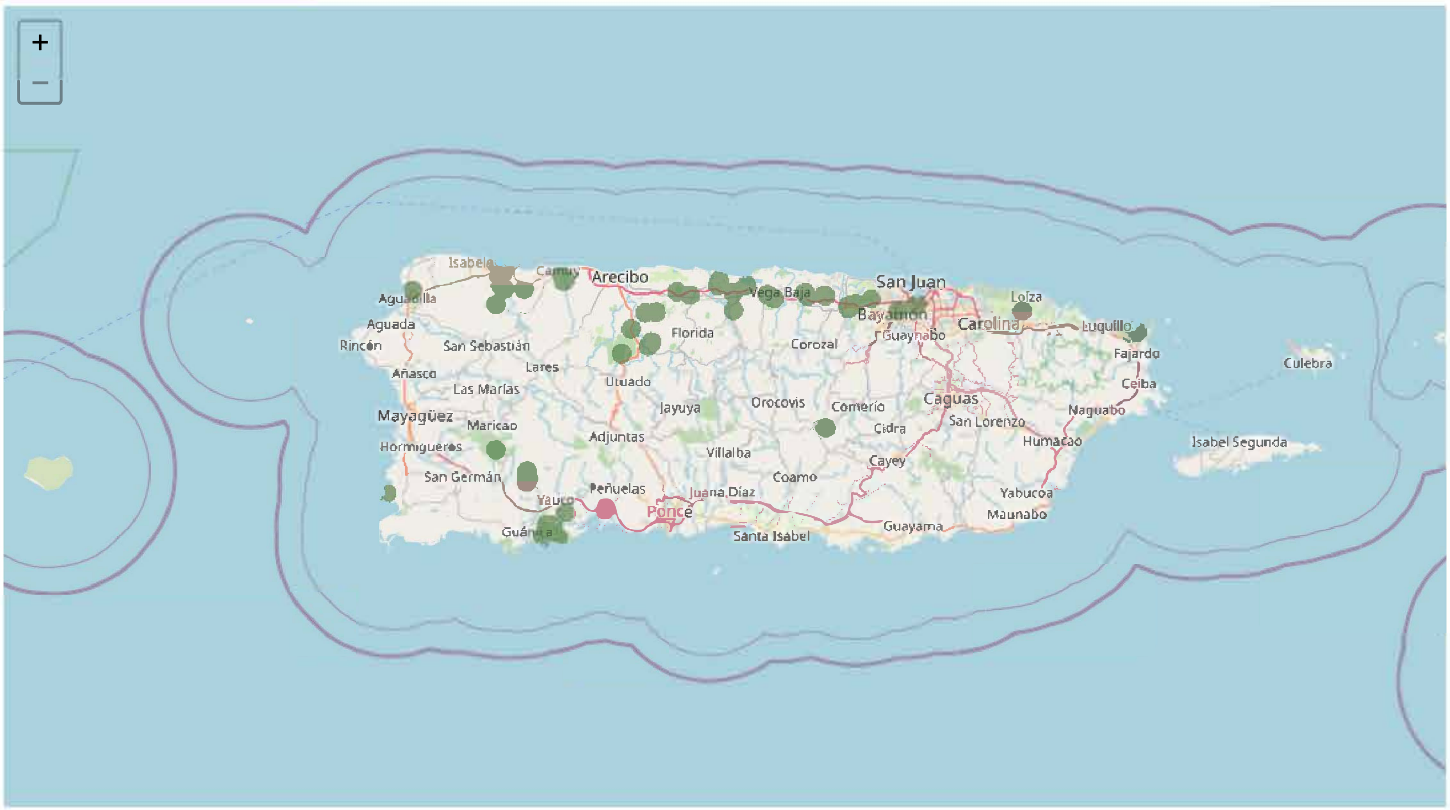
River or Stream
A natural body of running water.

Geography

Range

When listed in 1990 only 10 individuals were known from a few localities in Puerto Rico. However, currently about 1,144 individuals are known from 66 subpopulations on the island. In general, "palo de rosa" trees are limited to rocky, alkaline soils and serpentine derivatives along the southwestern coast of Puerto Rico, from the municipality of Cabo Rojo to the municipality of Guayanilla; and along the northern coast of Puerto Rico, from the municipality of Aguadilla to the municipality of Fajardo. In Hispaniola, there is little information of the population's current status and location(s).

LAUNCH INTERACTIVE MAP



Timeline

Explore the information available for this taxon's timeline. You can select an event on the timeline to view more information, or cycle through the content available in the carousel below.

6 ITEMS

Sep 21, 2007

Five Year Review (Information Solicitation)

5-Year Review of 18 Caribbean Species

Publication type: Notice

Population:

VIEW FEDERAL REGISTER DOCUMENT

ITEM 3

Key:

Event Regulatory Status Change

Refine Your Search

Content Type

- [ ] 4d
- [ ] Biological Opinion
- [ ] Downlisting
- [ ] Five Year Review
- [ ] Image
- [ ] Listing
- [ ] Press Release
- [ ] Recovery Plan
- [ ] Story

Filter By Publish Date

Start Date

End Date

Information & Media

Below is a list of additional information and media on this taxon. You can further refine your results, or enter a search term below.

Enter Search Term

Sort by
Relevance

Showing 1-10 of 27

Palo de rosa 5-year review: summary and evaluation

Ottoschulzia rhodoxylon (Palo de rosa) 5-year review: summary and evaluation

Five Year Review

Aug 9, 2017

Final

Palo de rosa(Ottoschulzia rhodoxylon) 5-Year Review

Five Year Review

Aug 9, 2017

Final

Biological Opinion Rendered (Final) 04EC1000-2019-E-00167

Biological Opinion

Oct 21, 2016

Final

Biological Opinion Rendered (Final) 04EC1000-2019-E-00204

Biological Opinion

Feb 26, 2019

Final

Biological Opinion Rendered (Final) 04EC1000-2019-E-00603

Biological Opinion

Apr 24, 2019

Final

Biological Opinion Rendered (Final) 04EC1000-1999-E-00002

Biological Opinion

Mar 29, 1999

Final

Recovery Plan Palo de Rosa (Ottoschulzia rhodoxylon)

Recovery Plan

Sep 20, 1994

Final

Palo de rosa

NCTC:http://digitalmedia.fws.gov/cdm/ref/collection/natdiglib/id/18305

Image

Mar 24, 2010

Final

5-Year Review of 18 Caribbean Species

Five Year Review

Sep 21, 2007

Notice

ETWP; Determination of Endangered Status for Ottoschulzia rhodoxylon (Palo de Rosa); 55 FR 13488 13491

Listing

Apr 10, 1990

Final

Appendix G:
Site Photos

PR-CRP-000948

PR-CRP-000948

PR-CRP-000948

PR-CRP-000964

PR-CRP-000964

PR-CRP-000964

PR-CRP-000973

PR-CRP-000973

PR-CRP-000973

PR-CRP-000973

Appendix H:
Topographic Maps

PR-CRP-000948 Topographic Map
Address: Intersection of Juan "Picolino" Hernández Ferrer Ave. and Rufino Ramirez St., Toa Baja
PR **Coordinates:** 18.437412°, -66.167189°

PR-CRP-000964 Topographic Map

Address: Intersection of Juan "Picolino" Hernández Ferrer Ave. and Dr. Álvarez Chanca Ave., Toa Baja PR

Coordinates: 18.437677°, -66.180319°

U.S. DEPARTMENT OF THE INTERIOR
U. S. GEOLOGICAL SURVEY

BAYAMÓN QUADRANGLE
PUERTO RICO
7.5-MINUTE SERIES

Produced by the United States Geological Survey
North American Datum of 1983 (NAD83)
World Geodetic System of 1984 (WGS84). Projection and
1 000-meter grid: Universal Transverse Mercator, Zone 19Q

Imagery..........................U.S. Army Corps of Engineers, 2011
Roads...©2006-2012 TomTom
Names...GNIS, 2013
Hydrography...................National Hydrography Dataset, 2011
Contours...........................National Elevation Dataset, 2010
Boundaries.............Census, IBWC, IBC, USGS, 1972 - 2012
Public Land Survey System.......................BLM, 2006 - 2008

12° 53′ 229 MILS
0° 53′ 16 MILS
UTM GRID AND 2013 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

U.S. National Grid
100,000-m Square ID
GA HA
Grid Zone Designation
19Q

SCALE 1:20 000

CONTOUR INTERVAL 20 FEET
DATUM IS LOCAL MEAN SEA LEVEL

This map was produced to conform with the National Geospatial Program US Topo Product Standard, 2011.
A metadata file associated with this product is draft version 0.6.13

PUERTO RICO and the U.S. VIRGIN ISLANDS QUADRANGLE LOCATION

1	2	3
4		5
6	7	8

ADJOINING QUADRANGLES

1
2
3
4 Vega Alta
5 San Juan
6 Corozal
7 Naranjito
8 Aguas Buenas

ROAD CLASSIFICATION
Expressway — Local Connector
Secondary Hwy — Local Road
Ramp — 4WD
Interstate Route — US Route — State Route

BAYAMÓN, PR
2013

NSN. 7643016391971
NGA REF NO. USGSX20K2723

PR-CRP-000973 Topographic Map

Address: Intersection of Juan "Picolino" Hernández Ferrer Ave. and Del Carmen St., Toa Baja PR

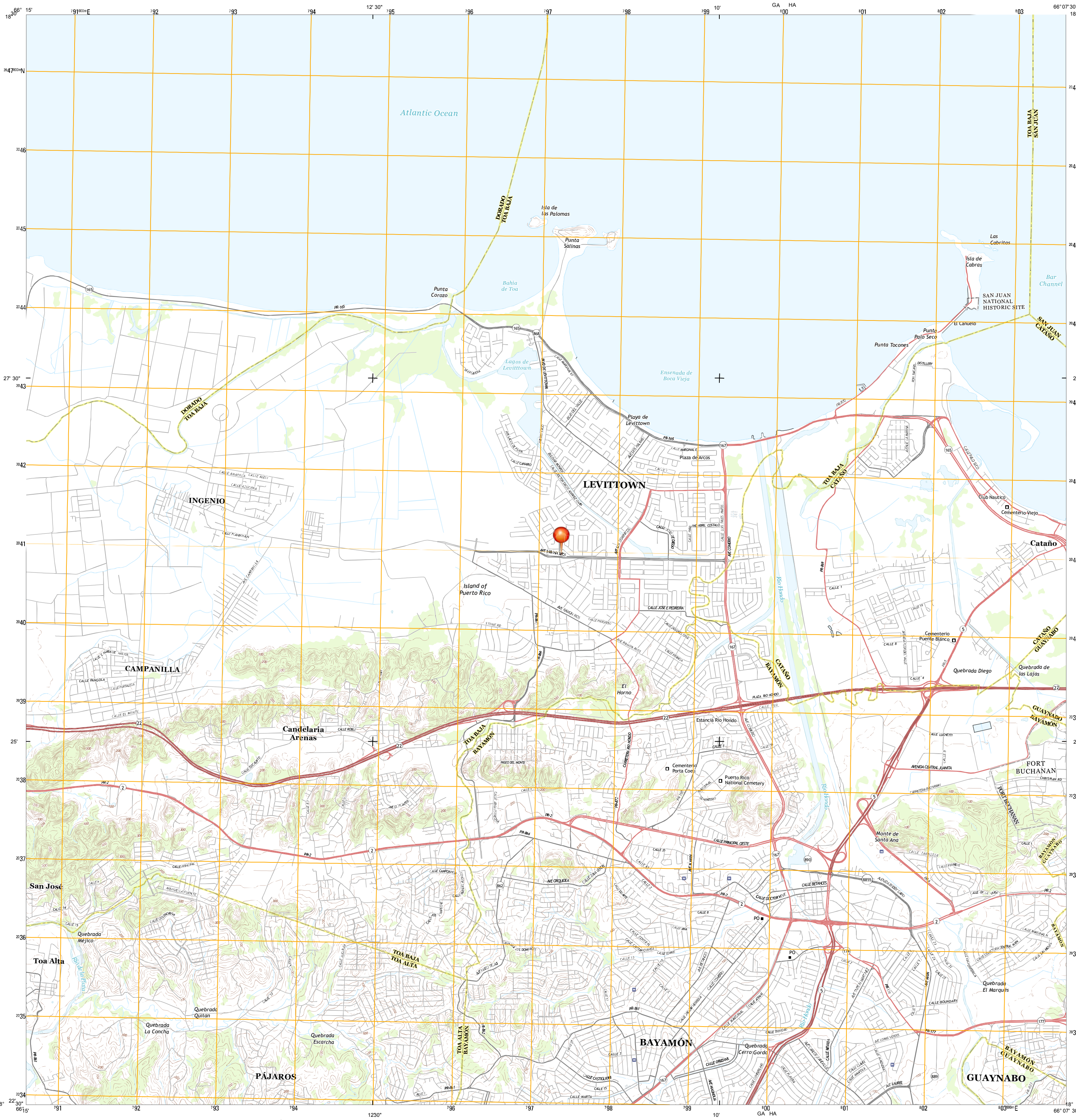
Coordinates: 18.437799°, -66.185903°

USGS science for a changing world

U.S. DEPARTMENT OF THE INTERIOR
U. S. GEOLOGICAL SURVEY

The National Map US Topo

BAYAMÓN QUADRANGLE
PUERTO RICO
7.5-MINUTE SERIES



Produced by the United States Geological Survey

SCALE 1:20 000

CONTOUR INTERVAL 20 FEET
DATUM IS LOCAL MEAN SEA LEVEL

ROAD CLASSIFICATION

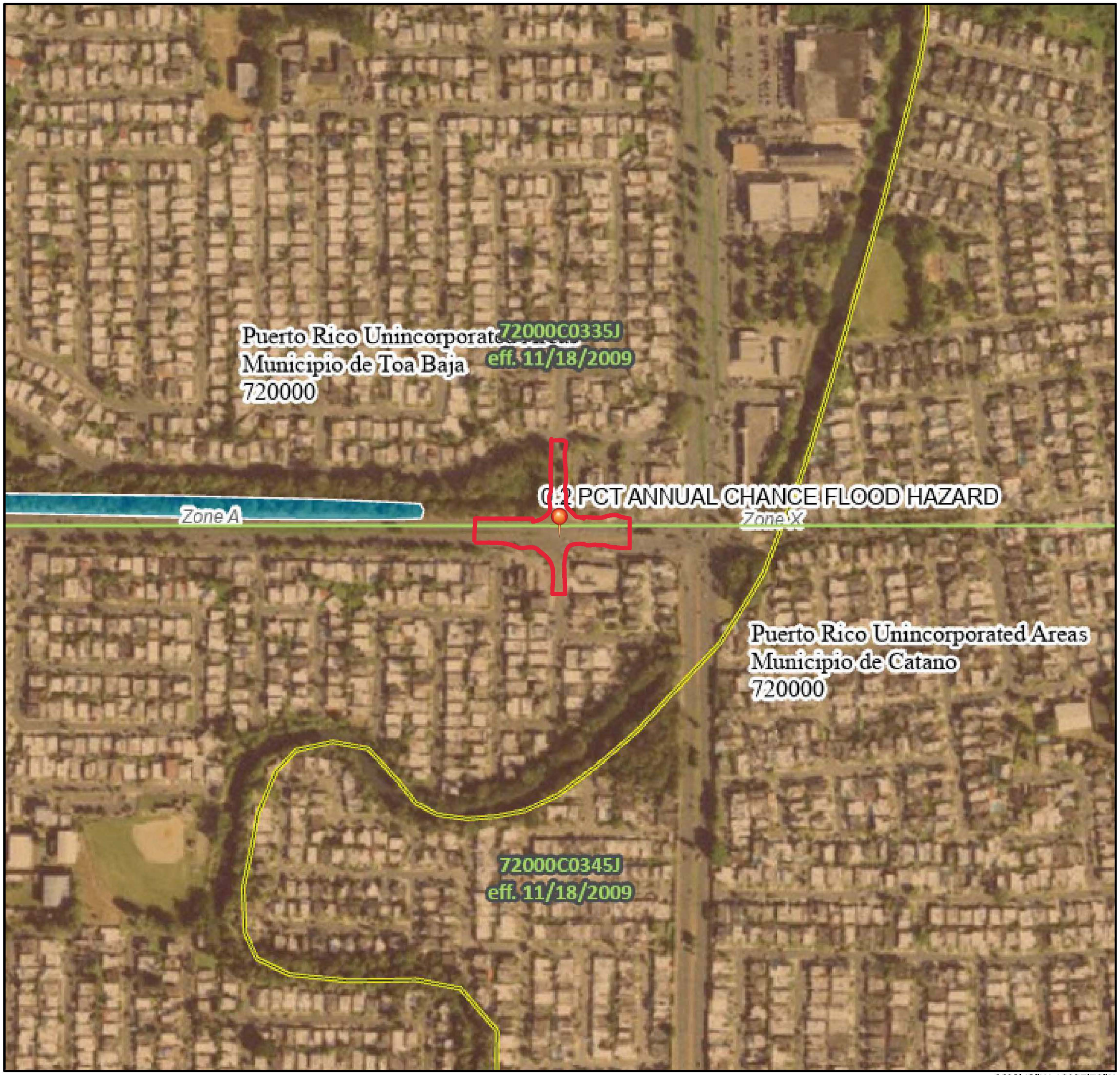
BAYAMÓN, PR
2013

Appendix I:
FEMA National Flood Hazard Layer FIRMettes

PR-CRP-000948 FEMA National Flood Hazard Layer FIRMette

Address: Intersection of Juan "Picolino" Hernández Ferrer Ave. and Rufino Ramirez St., Toa Baja PR
Coordinates: 18.437412°, -66.167189°

FEMA



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

1:6,000

66°9'43"W 18°25'58"N

Basemap Imagery Source: USGS National Map 2023

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
- B 20.2 / 17.5 Cross Sections with 1% Annual Chance Water Surface Elevation
- 8 Coastal Transect
- 513 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 9/25/2024 at 12:22 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.

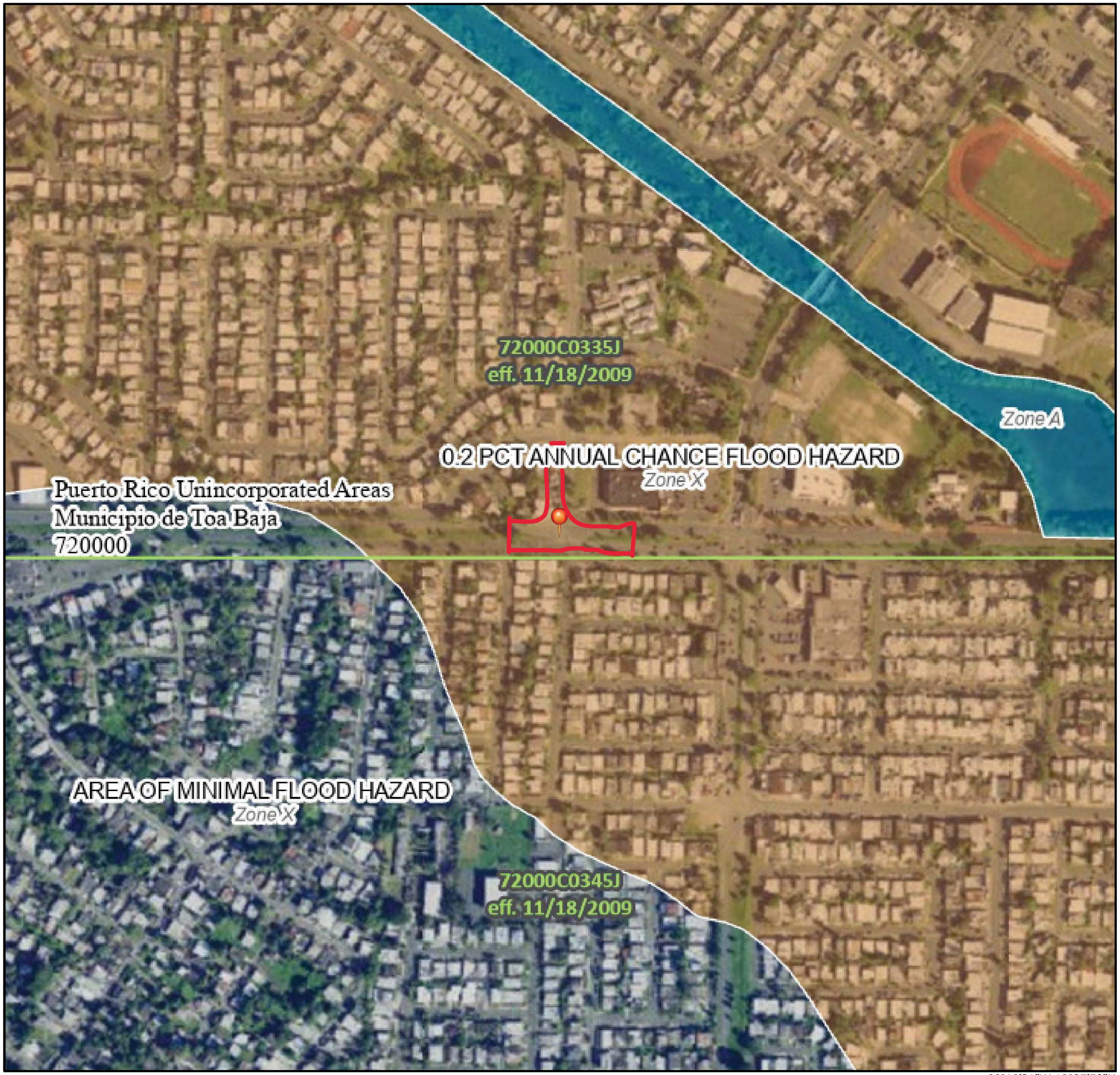
This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory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

Prepared by ICF

PR-CRP-000964 FEMA National Flood Hazard Layer FIRMette

Address: Intersection of Juan "Picolino" Hernández Ferrer Ave. and Dr. Álvarez Chanca Ave., Toa Baja PR
Coordinates: 18.437677°, -66.180319°

FEMA



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

1:6,000

66°10'31"W 18°25'59"N

Basemap Imagery Source: USGS National Map 2023

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
- B 20.2 17.5 Cross Sections with 1% Annual Chance Water Surface Elevation
- 8 Coastal Transect
- 513 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 9/25/2024 at 12:25 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.

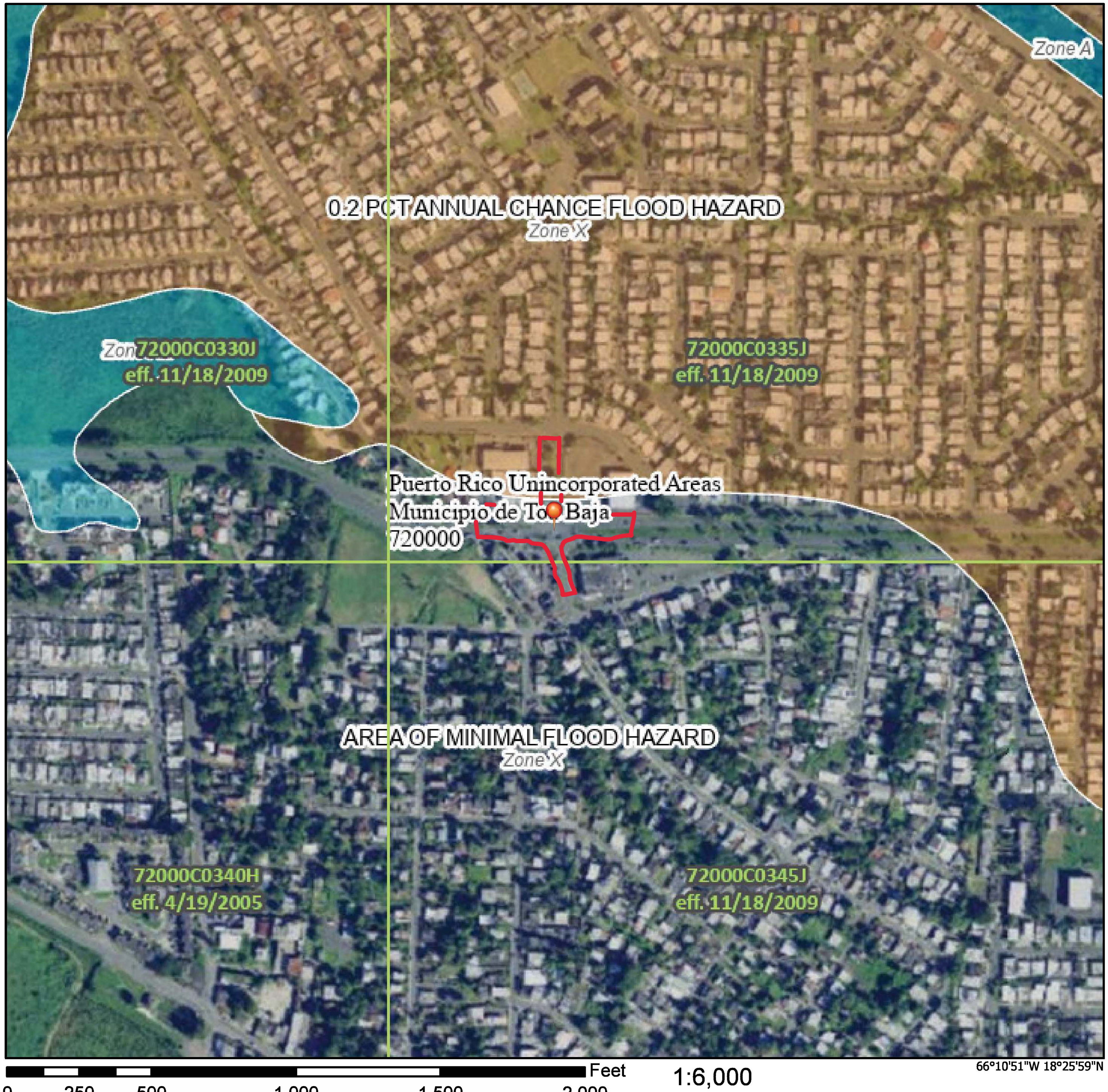
Prepared by ICF

PR-CRP-000973 Project Location Map

Address: Intersection of Juan "Picolino" Hernández Ferrer Ave. and Del Carmen St., Toa Baja PR

Coordinates: 18.437799°, -66.185903°

FEMA



1:6,000

Basemap Imagery Source: USGS National Map 2023

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	B 20.2 17.5	Cross Sections with 1% Annual Chance Water Surface Elevation
	8	Coastal Transect
	513	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 9/25/2024 at 12:27 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.

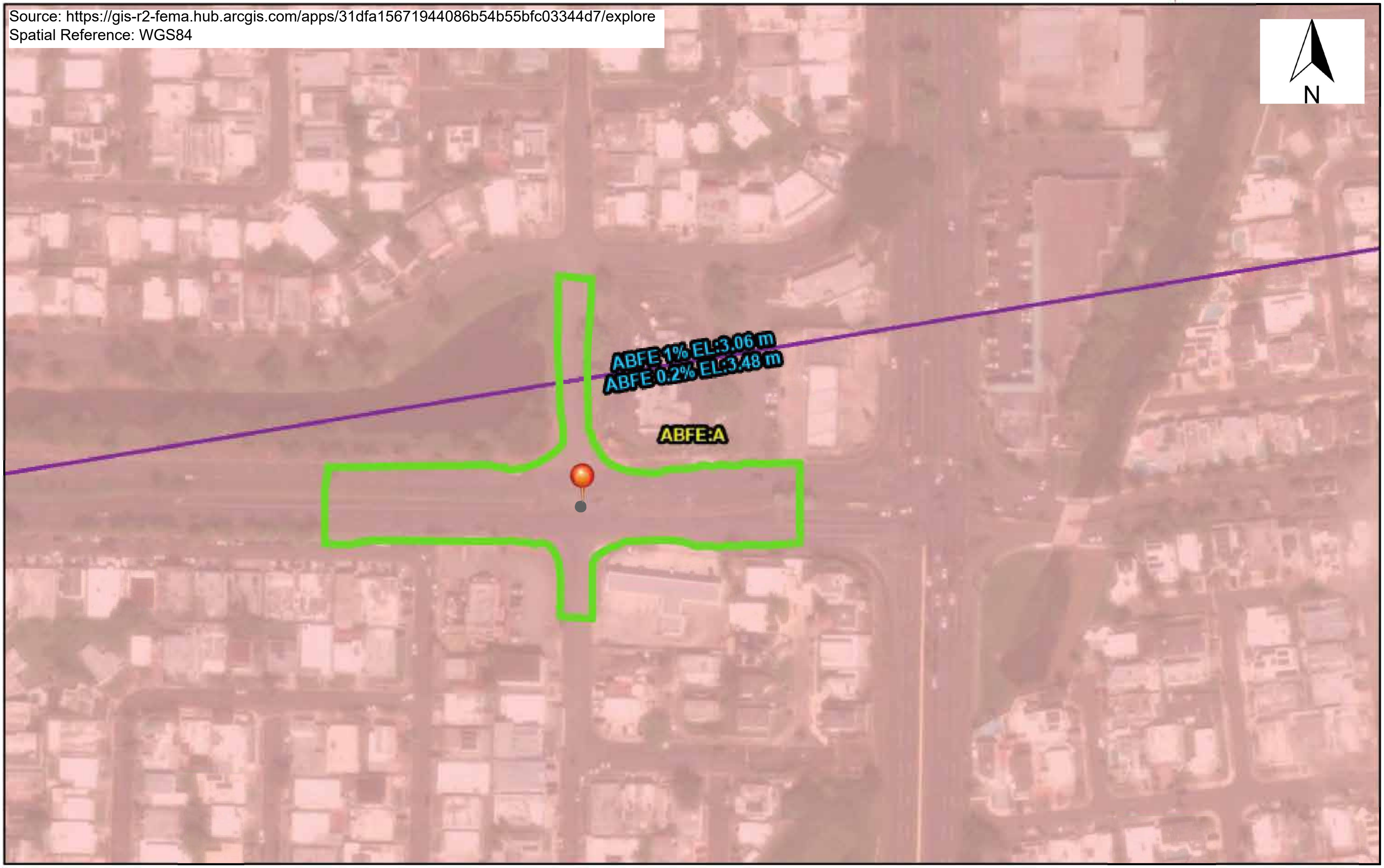
This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory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

Prepared by ICF

Appendix J:
Advisory Base Flood Elevation (ABFE) Maps

PR-CRP-000948 ABFE Map

Address: Intersection of Juan “Picolino” Hernández Ferrer Ave. and Rufino Ramirez St., Toa Baja PR
Coordinates: 18.437412°, -66.167189°



7/30/2024, 9:10:12 PM

Flood Hazard Area (zoom in to make visible)

A

Zone/BFE Boundary

Advisory Base Flood Elevation (zoom in to make visible)

1:2,257

0 0.02 0.04 0.07 mi

0 0.03 0.06 0.11 km

FEMA, Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

ArcGIS Web AppBuilder
FEMA |

PR-CRP-000964 ABFE Map

Address: Intersection of Juan "Picolino" Hernández Ferrer Ave. and Dr. Álvarez Chanca Ave., Toa Baja PR
Coordinates: 18.437677˚, -66.180319˚

7/30/2024, 9:15:07 PM

Flood Hazard Area (zoom in to make visible)
- A
- 0.2% Annual Chance Flood Zone
- Zone/BFE Boundary

Flood Hazard Extent
- 1% Annual Chance Flood
- 0.2% Annual Chance Flood

1:2,257

0 0.02 0.04 0.07 mi

0 0.03 0.06 0.11 km

FEMA, Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

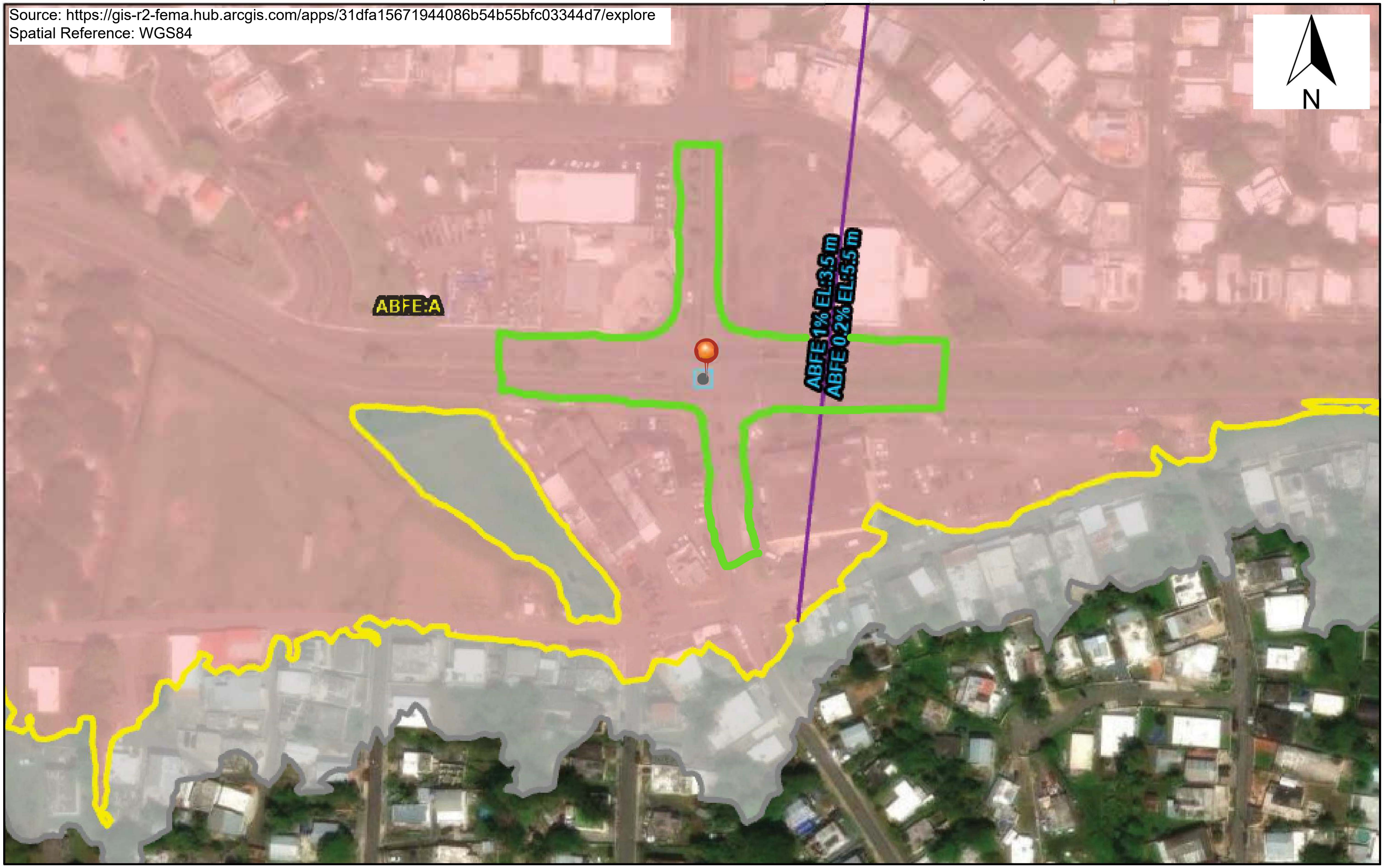
ArcGIS Web AppBuilder

FEMA |

PR-CRP-000973 ABFE Map

Address: Intersection of Juan “Picolino” Hernández Ferrer Ave. and Del Carmen St., Toa Baja PR
Coordinates: 18.437799°, -66.185903°

Source: https://gis-r2-fema.hub.arcgis.com/apps/31dfa15671944086b54b55bfc03344d7/explore
Spatial Reference: WGS84



7/30/2024, 9:16:38 PM

Flood Hazard Area (zoom in to make visible)
- A
- 0.2% Annual Chance Flood Zone
- Zone/BFE Boundary

Flood Hazard Extent
- 1% Annual Chance Flood
- 0.2% Annual Chance Flood
- Advisory Base Flood Elevation (zoom in to make visible)

1:2,257

0 0.02 0.04 0.07 mi

0 0.03 0.06 0.11 km

FEMA, Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

ArcGIS Web AppBuilder

FEMA |

Appendix K:
Wetland Maps

PR-CRP-000948 Wetland Map

Address: Intersection of Juan "Picolino" Hernández Ferrer Ave. and Rufino Ramirez St., Toa Baja PR
Coordinates: 18.437412°, -66.167189°

U.S. Fish and Wildlife Service
National Wetlands Inventory

July 30, 2024

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.

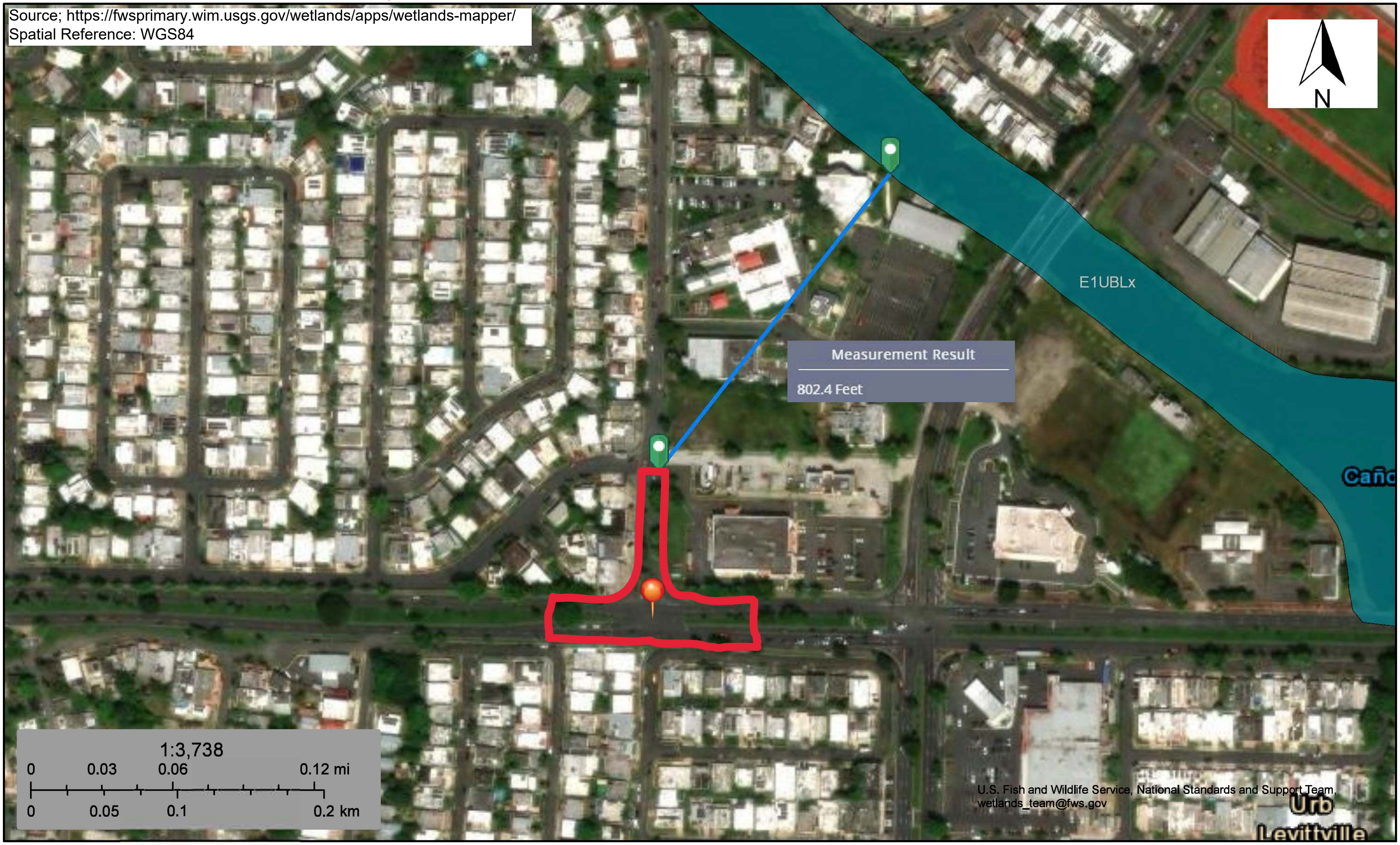
Prepared by ICF

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

PR-CRP-000964 Wetland Map

Address: Intersection of Juan "Picolino" Hernández Ferrer Ave. and Dr. Álvarez Chanca Ave., Toa Baja PR
Coordinates: 18.437677˚, -66.180319˚

U.S. Fish and Wildlife Service
National Wetlands Inventory



July 30, 2024

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.

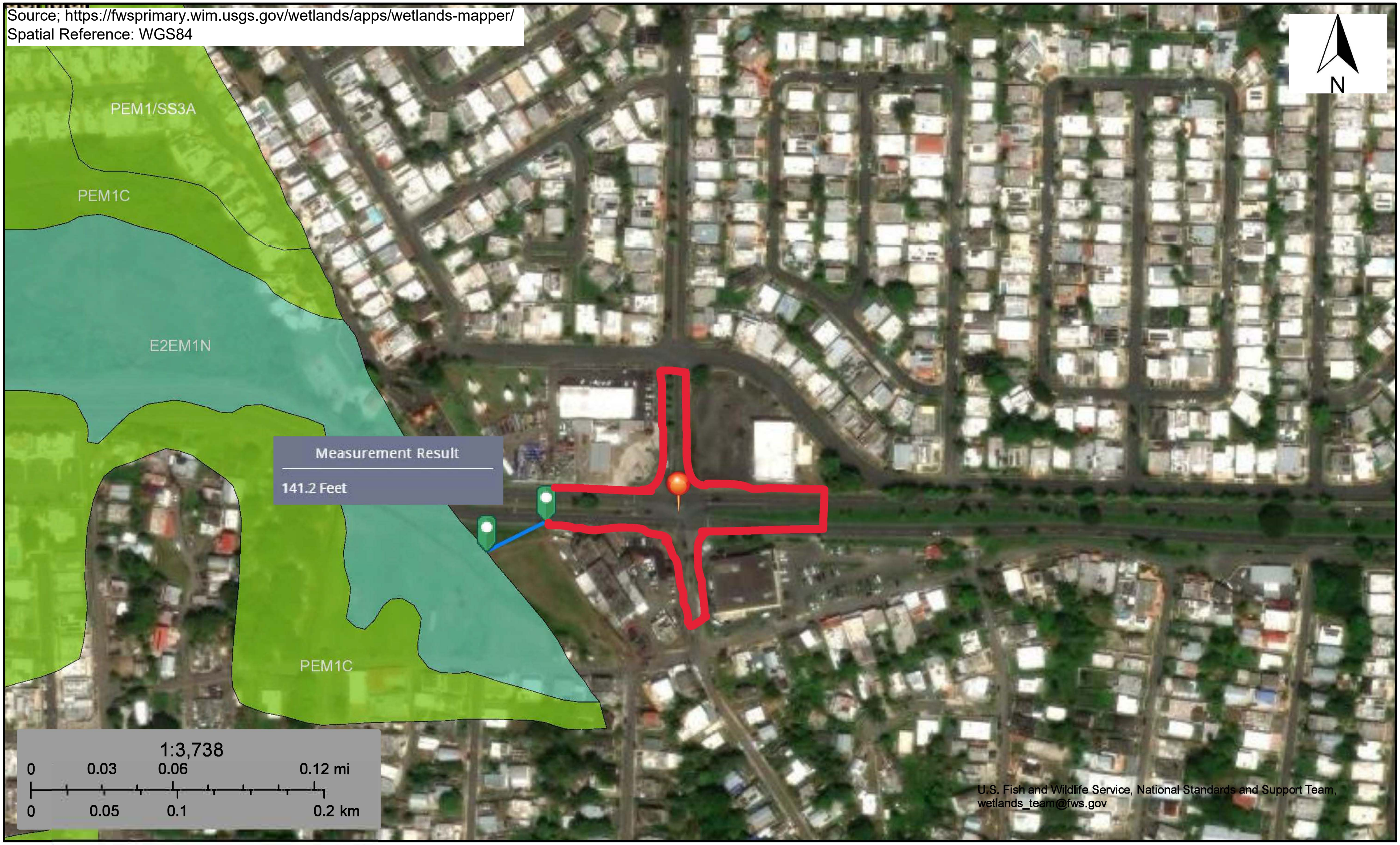
Prepared by ICF

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

PR-CRP-000973 Wetland Map

Address: Intersection of Juan "Picolino" Hernández Ferrer Ave. and Del Carmen St., Toa Baja PR
Coordinates: 18.437799°, -66.185903°

U.S. Fish and Wildlife Service
National Wetlands Inventory



July 30, 2024

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.

Prepared by ICF

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

PR-CRP-000948 Critical Habitat Map

Appendix H.2

Address: Intersection of Juan “Picolino” Hernández Ferrer Ave. and Rufino Ramirez St., Toa Baja PR

Coordinates: 18.437412°, -66.167189°

9/24/2024

Prepared by ICF

1:2,962

0 0.02 0.04 0.09 mi

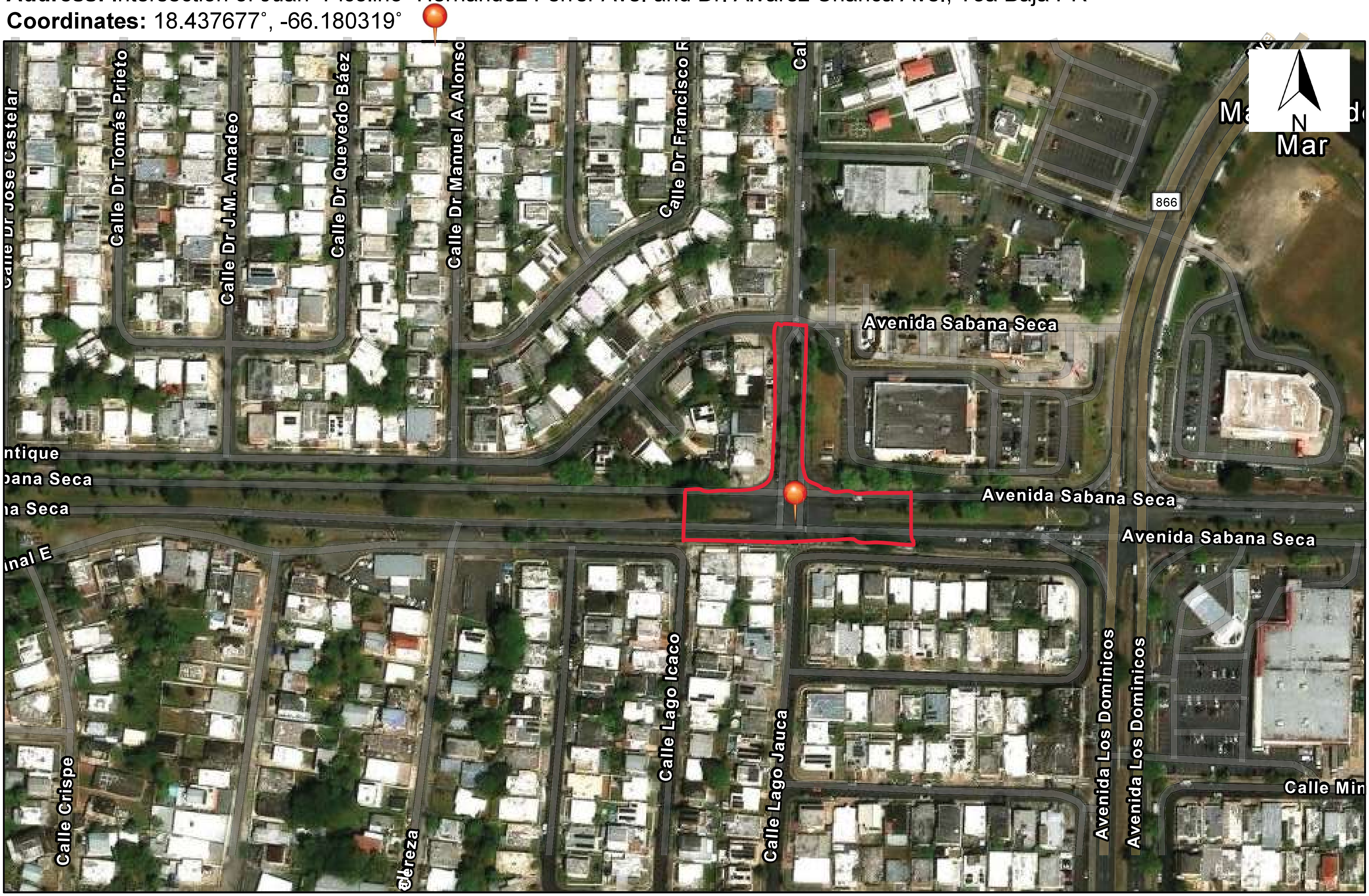
0 0.04 0.07 0.15 km

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community, Esri Community Maps Contributors, Esri, TomTom, Garmin, Foursquare,

PR-CRP-000964 Critical Habitat Map

Address: Intersection of Juan “Picolino” Hernández Ferrer Ave. and Dr. Álvarez Chanca Ave., Toa Baja PR

Coordinates: 18.437677˚, -66.180319˚



9/24/2024

Prepared by ICF

1:2,962

0 0.02 0.04 0.09 mi

0 0.04 0.07 0.15 km

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community, Esri Community Maps Contributors, Esri, TomTom, Garmin, Foursquare,

PR-CRP-000973 Critical Habitat Map

Address: Intersection of Juan “Picolino” Hernández Ferrer Ave. and Del Carmen St., Toa Baja PR
Coordinates: 18.437799°, -66.185903°

9/24/2024

Prepared by ICF

1:2,962

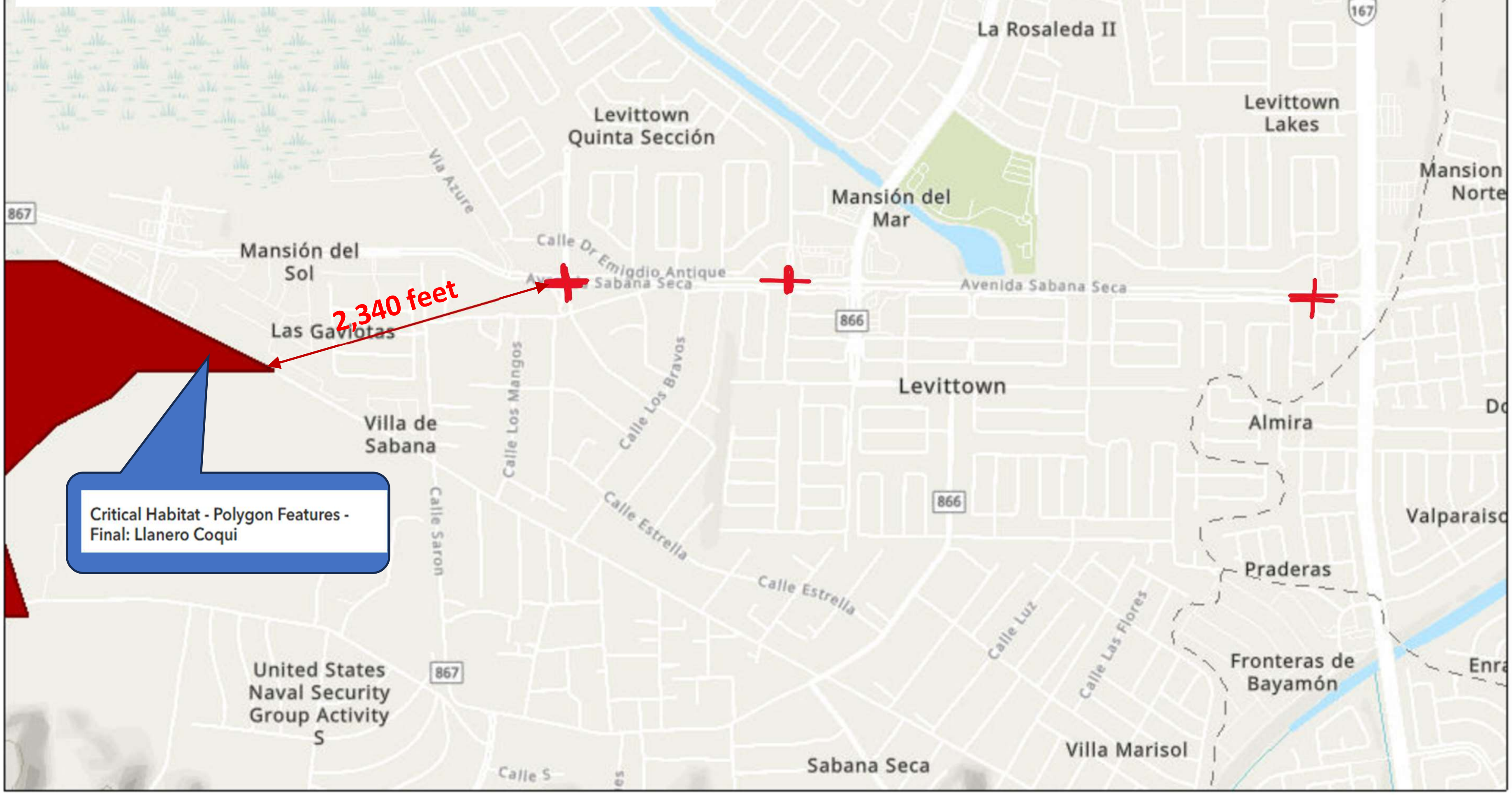
0 0.02 0.04 0.09 mi

0 0.04 0.07 0.15 km

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community, Esri Community Maps Contributors, Esri, TomTom, Garmin, Foursquare,

Critical Habitat for Threatened & Endangered Species [USFWS]]

Address: PR-CRP-000948: Juan "Picolino" Hernández Ferrer Avenue (Sábana Seca Avenue) intersection with Llorens Torres Street and Rufino Martínez Street / PR-CRP-000964: Juan "Picolino" Hernández Ferrer Avenue intersection with Dr Álvarez Chanca Avenue / PR-CRP-000973: Juan "Picolino" Hernández Ferrer Avenue intersection with Dr Villalobos Street and Del Carmen Street
Coordinates: PR-CRP-000948: 18.437412°, -66.167189° / PR-CRP-000964: 18.437677°, -66.180319° / PR-CRP-000973: 18.437799˚, -66.185903˚



3/26/2025

Final Polygon Features

1:16,454

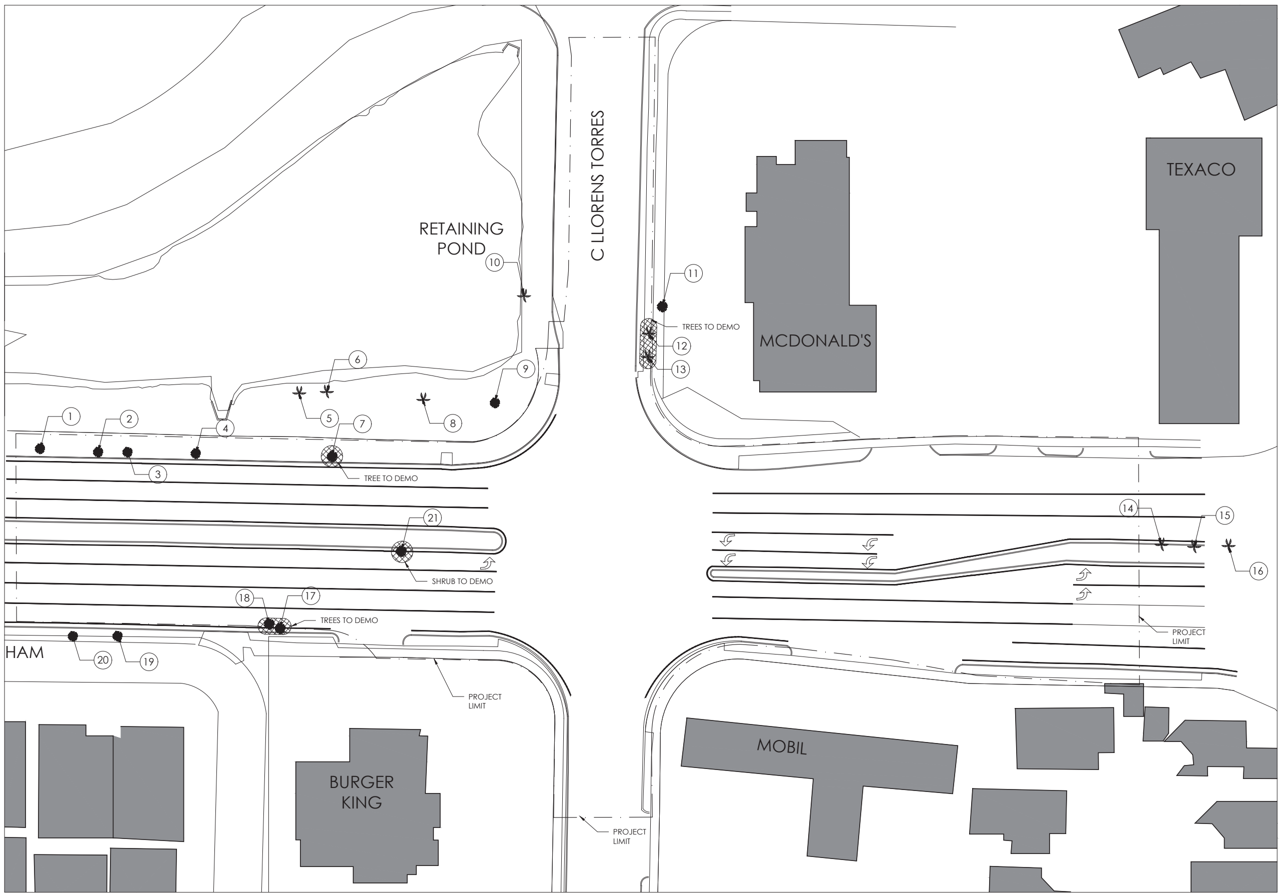
0 0.13 0.25 0.5 mi
0 0.2 0.4 0.8 km

Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

Source: US Fish and Wildlife Service (USFWS), Environmental Conservation Online System, accessed on 3/26/2025 at URL https://ecos.fws.gov/ecp/report/table/critical-habitat.html

Prepared by ICF

Appendix H.3



1 Existing Tree Inventory & Removal Plan
SCALE: 1'-0"=1/32"
N

TREE INVENTORY

REF	Common Name	Latin Name	Height	DBH	Action	Note	Req. Replacement
1	Ucarillo	Bucida spinosa	20	10	Conserve	Interfering wit	--
2	Ucarillo	Bucida spinosa	20	10	Conserve	Interfering wit	--
3	Ucarillo	Bucida spinosa	20	10	Conserve	Interfering wit	--
4	Ucarillo	Bucida spinosa	12	9	Conserve	Interfering wit	--
5	Palma Real	Roystonea regia	22	16	Conserve		--
6	Palma Real	Roystonea regia	22	16	Conserve		--
7	Ucar	Bucida buceras	25	14	Remove		3
8	Palma Real	Roystonea regia	18	18	Conserve		--
9	Ceiba	Ceiba pentandra	30	36	Conserve		--
10	Palma Real	Roystonea regia	20	16	Conserve		--
11	Ucar	Bucida buceras	25	14	Conserve		--
12	Queen Palm	Syagrus romanzoffiana	4	6	Remove	Stunted	3
13	Queen Palm	Syagrus romanzoffiana	4	6	Remove	Stunted	3
14	Bismarckia Palma	Bismarckia nobilis	20	16	Conserve		--
15	Bismarckia Palma	Bismarckia nobilis	20	16	Conserve		--
16	Bismarckia Palma	Bismarckia nobilis	20	16	Conserve		--
17	Maleleuca	Melaleuca quinquenerv	12	9	Remove	Invasive spec	3
18	Maleleuca	Melaleuca quinquenerv	12	8	Remove	Invasive spec	3
19	Palma de Coco	Cocos nucifera	20	12	Conserve		--
20	Ucar	Bucida buceras	18	12	Conserve		--
21	Hibiscus	Hibiscus rosa-sinsensis	4	2	Remove		--

TREE INVENTORY SUMMARY

Common Name	Latin Name	Quantity	Remove	Conserve	Req. Replacement
Ucarillo	Bucida spinosa	4		4	0
Palma Real	Roystonea regia	4		4	0
Ucar	Bucida buceras	3	1	2	3
Ceiba	Ceiba pentandra	1		1	0
Queen Palm	Syagrus romanzoffiana	2	2	0	6
Bismarckia Palma	Bismarckia nobilis	3		3	0
Hibiscus	Hibiscus rosa-sinsensis	1	1		0
Maleleuca	Melaleuca quinquenervia	2	2		6
Palma de Coco	Cocos nucifera	1		1	0

General Notes

IMPORTANT INFORMATION FOR THE CONTRACTOR

Contractor shall verify al dimensions, levels and condition on-site before commencing any and all work. Any discrepancy, error or omission in these plans shall be notified to the Architect, Landscape Architect or Engineer who stamps and signs these drawings so that proper corrections to the documents can be made.

Do not take any measurements from the physical drawings.

Only use documents with a "FOR CONSTRUCTION ONLY" stamp and sealed and signed by the designer.

Yo, Edmundo Colon Arizmendi PE, con licencia número 7812, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

No.	Description	Date

ECo
LANDSCAPE + ARCHITECTURE + ENGINEERING

103 Calle Isabel Andreu Aguilar, 4to Piso, San Juan,PR 00918
787-764-0610 eco-designstudio.com

Existing Tree Inventory and Removal Plan

T.B.Roundabout P.R. - CRP: 000948

Ave. Sabana Seca Int., Calle Rufino Ramírez, Levittown, Toa Baja, PR

Autonomous Municipality of Toa Baja

Seal:

SIGNING ARCH
License #

Yo, Edmundo Colón Izquierdo, con licencia número 19992, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

File Name: 2022.04-Rotondas Toa Baja

Date: 09-19-2023

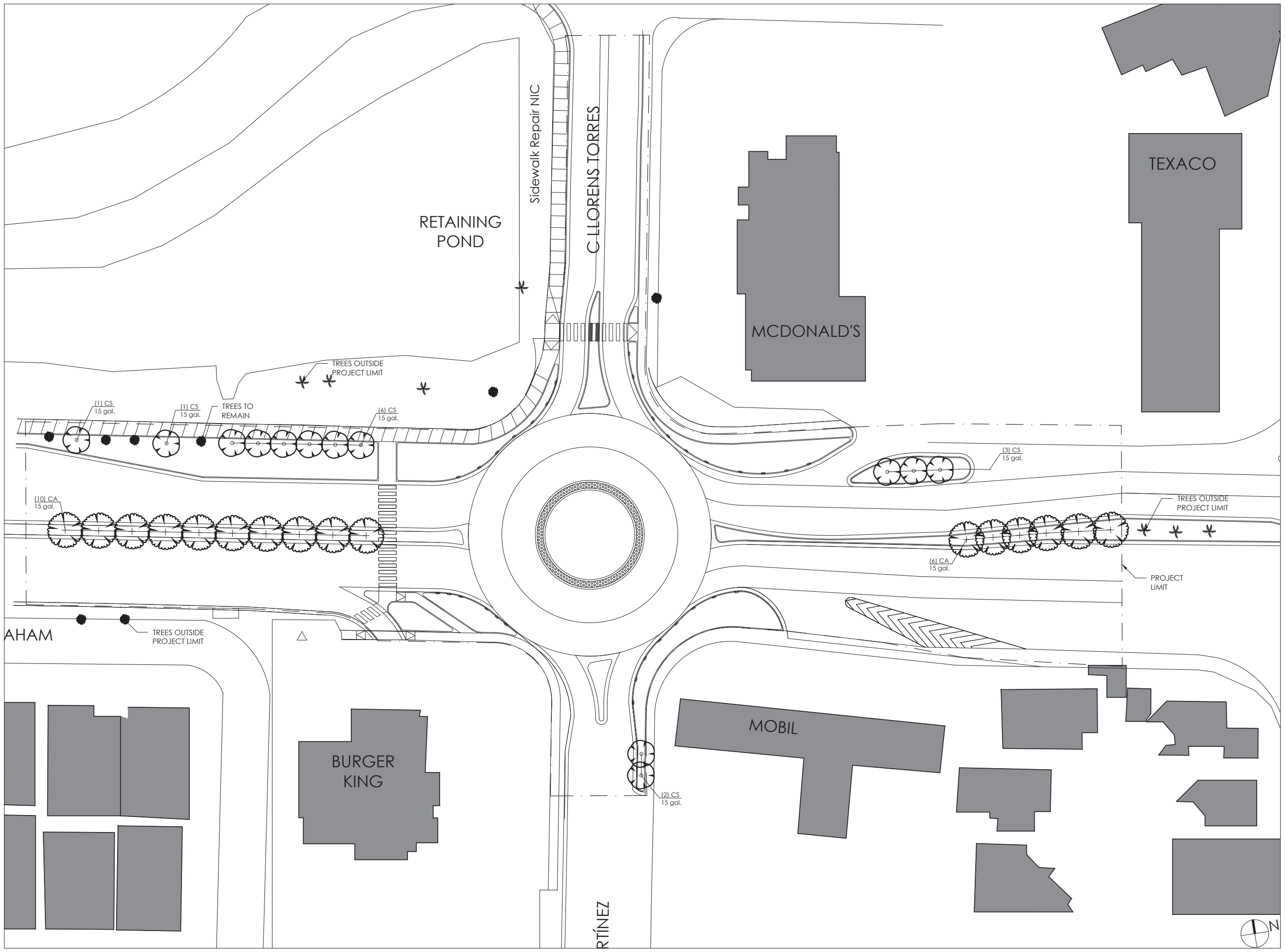
Scale: Scale:1'-0"=1/32"

Sheet: LA-200

Project #: 2022.04

Drawn by: MEG

Checked by: ERCI



1 Tree Mitigation Plan
SCALE: 1'-0"=1/32"

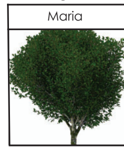
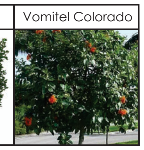
2023-10-18 16:08

PLANT SCHEDULE

TREES	CODE	BOTANICAL / COMMON NAME	SIZE	CONTAINER	QTY
	CA	Calophyllum antillanum / Maria	15 gal.	Pot	16
	CS	Cordia sebestena / Orange Geiger Tree	15 gal.	Pot	13

NOTE TO CONTRACTOR:
-15 trees are requiried for mitigation compliance.
-35 trees are proposed for roundabout design.

TREES

Maria	Vomitel Colorado
	

General Notes

IMPORTANT INFORMATION FOR THE CONTRACTOR

Contractor shall verify al dimensions, levels and condition on-site before commencing any and all work. Any discrepancy, error or omission in these plans shall be notified to the Architect, Landscape Architect or Engineer who stamps and signs these drawings so that proper corrections to the documents can be made.

Do not take any measurements from the physical drawings.

All drawings, specifications and other documents are property of ECo and can solely be used as an instrument of the Architect, Landscape Architect or Engineers' service as reference for this project.

Only use documents with a "FOR CONSTRUCTION ONLY" stamp and sealed and signed by the designer.

Yo, Edmundo Colon Arizmendi PE, con licencia número 7812, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

No.	Description	Date

ECo
Landscape + Architecture + Engineering
103 Calle Isabel Andreu Aguilar, 4to
Piso, San Juan,PR 00918
787-764-0610 eco-designstudio.com

Tree Mitigation Plan

T.B.Roundabout P.R. - CRP: 000948

Ave. Sabana Seca Int., Calle Rufino Ramírez, Levittown, Toa Baja, PR

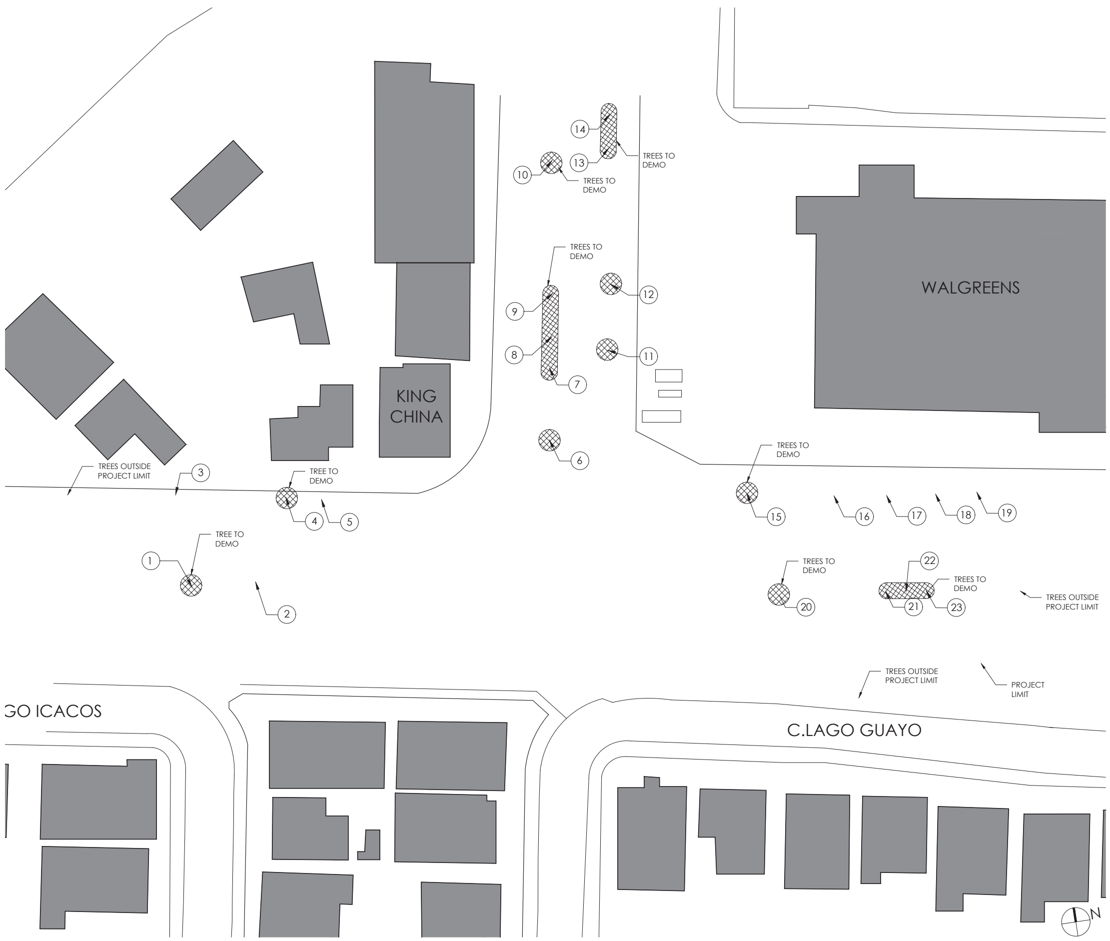
Autonomous Municipality of Toa Baja

Seal:

SIGNING ARCH
License #

Yo, Edmundo Colón Izquierdo, con licencia número 19992, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

File Name:	2022.04-Rotondas Toa Baja
Date	09-19-2023
Scale	Scale:1'-0"=1/32"
Sheet	LA-201
Project #	2022.04
Drawn by	MEG
Checked by	ERCI



1 Existing Tree Inventory and Removal Plan
SCALE: 1'-0"=1/32"

TREE INVENTORY

REF	Common Name	Latin Name	Height	DBH	Action	Note	Req. Replacement
1	Ixora	Ixora spp	5	2	Remove	Shrub	--
2	Acacia	Acacia	50	28	Conserve	Multitrunk (2)	--
3	Ucar	Bucida buceras	43	15	Conserve		--
4	Ucar	Bucida buceras	26	5	Remove	Bad	--
5	Ucar	Bucida buceras	32	25	Conserve		--
6	Teca	Tectona grandis	25	11	Remove		3
7	Pink Trumpet Tree	Tabebuia rosea	15	8	Remove		3
8	Rainbow Eucalyptu	Ecualyptus deglupta	25	11	Remove		3
9	Manila Palm	Adonidia merrillii	15	6	Remove		3
10	Manila Palm	Adonidia merrillii	15	6	Remove		3
11	Ucar	Bucida buceras	32	11	Remove		3
12	Ucar	Bucida buceras	43	13	Remove		3
13	Ucar	Bucida buceras	33	13	Remove		3
14	Ucar	Bucida buceras	26	13	Remove		3
15	Ucar	Bucida buceras	25	17	Remove		3
16	Ucar	Bucida buceras	25	17	Conserve		--
17	Ucar	Bucida buceras	20	8	Conserve		--
18	Ucar	Bucida buceras	20	15	Conserve		--
19	Ucar	Bucida buceras	35	17	Conserve		--
20	Fiji Fan Palm	Pritchardia pacifica	18	9	Remove		3
21	Manila Palm	Adonidia merrillii	18	8	Remove		3
22	Manila Palm	Adonidia merrillii	18	8	Remove		3
23	Manila Palm	Adonidia merrillii	18	8	Remove		3

TREE INVENTORY SUMMARY

Common Name	Latin Name	Quantity	Remove	Conserve	Req. Replacement
Ucar	Bucida buceras	12	6	6	18
Ixora	Ixora spp	1	1		0
Acacia	Acacia	1		1	0
Manila Palm	Adonidia merrillii	5	5	0	15
Teca	Tectona grandis	1	1		3
Pink Trumpet Tree	Tabebuia rosea	1	1		3
Rainbow Eucalyptu	Ecualyptus deglupta	1	1		3
Fiji Fan Palm	Pritchardia pacifica	1	1		3

General Notes

IMPORTANT INFORMATION FOR THE CONTRACTOR

Contractor shall verify al dimensions, levels and condition on-site before commencing any and all work. Any discrepancy, error or omission in these plans shall be notified to the Architect, Landscape Architect or Engineer who stamps and signs these drawings so that proper corrections to the documents can be made.

Do not take any measurements from the physical drawings.

Only use documents with a "FOR CONSTRUCTION ONLY" stamp and sealed and signed by the designer.

Yo, Edmundo Colon Izquierdo, con licencia número 19992, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

No.	Description	Date

ECo
LANDSCAPE + ARCHITECTURE + ENGINEERING
103 Calle Isabel Andreu Aguilar, 4to Piso, San Juan,PR 00918
787-764-0610 eco-designstudio.com

Existing Tree Inventory andn Removal Plan

T.B. Roundabout P.R.-CRP-000964

Ave. Sabana Seca Int., Ave. Diego Alvarez Chanca, Levittown, Toa Baja, P.R.

Autonomous Municipality of Toa Baja

Seal:

SIGNING ARCH
License #

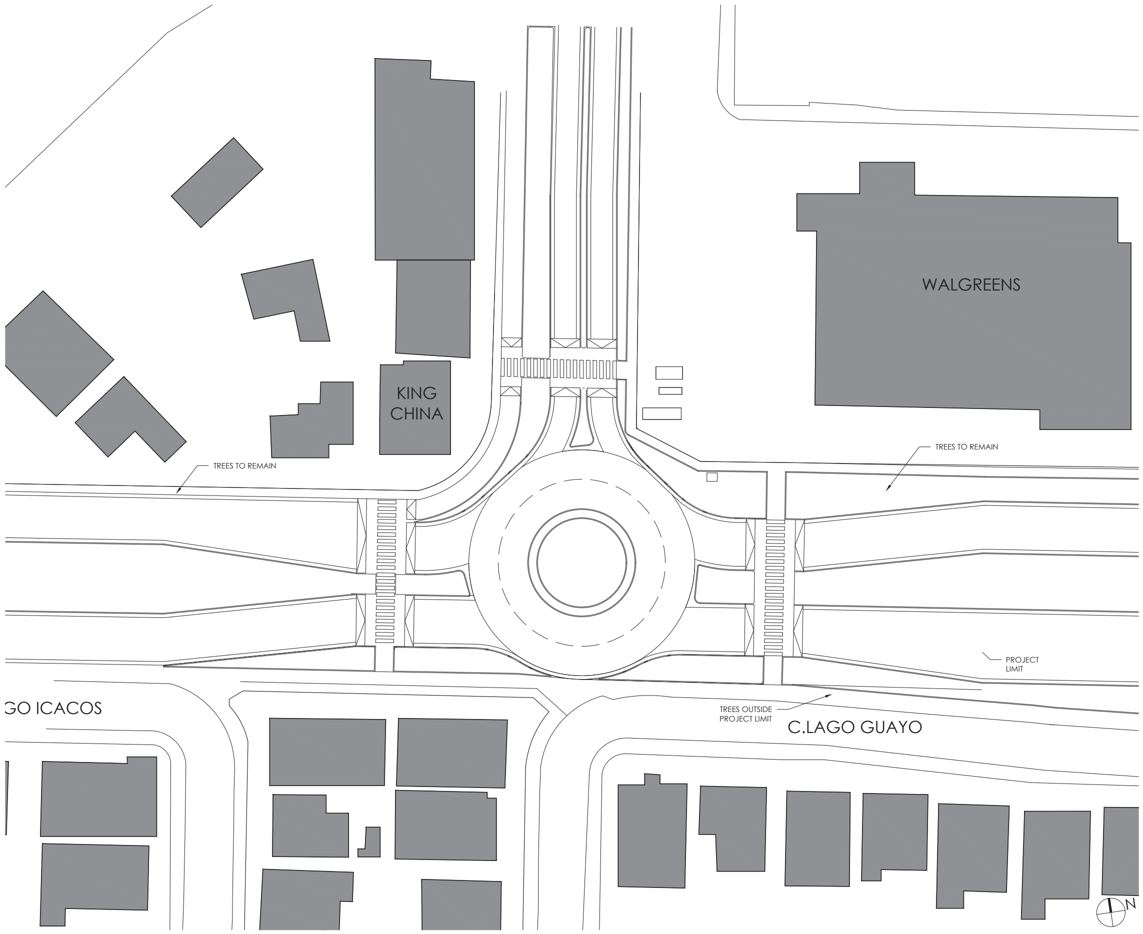
File Name: 2022.04 Rotondas Toa Baja

Date: 09-19-2023
Scale: Scale:1'-0"=1/32"

Sheet

LA-200

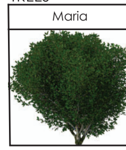
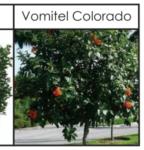
Project #: 2022.04
Drawn by: MEG
Checked by: ERCI



1 Tree Mitigation Plan
SCALE: 1'-0"=1/32"

NOTE TO CONTRACTOR:
-45 trees are required for mitigation compliance.
-46 trees are proposed for roundabout design.

TREES

Maria	Vomitel Colorado
	

General Notes

IMPORTANT INFORMATION FOR THE CONTRACTOR

Contractor shall verify al dimensions, levels and condition on-site before commencing any and all work. Any discrepancy, error or omission in these plans shall be notified to the Architect, Landscape Architect or Engineer who stamps and signs these drawings so that proper corrections to the documents can be made.

Do not take any measurements from the physical drawings.

All drawings, specifications and other documents are property of ECo and can solely be used as an instrument of the Architect, Landscape Architect or Engineers' service as reference for this project.

Only use documents with a "FOR CONSTRUCTION ONLY" stamp and sealed and signed by the designer.

Yo, Edmundo Colon Izquierdo, con licencia número 19992, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

No.	Description	Date

ECo
Landscape + Architecture + Engineering

103 Calle Isabel Andreu Aguilar, 4to Piso, San Juan,PR 00918
787-764-0610 eco-designstudio.com

Tree Mitigation Plan

T.B. Roundabout P.R.-CRP-000964

Ave. Sabana Seca Int., Ave. Diego Alvarez Chanca, Levittown, Toa Baja, P.R.

Autonomous Municipality of Toa Baja

Seal:

SIGNING ARCH
License #

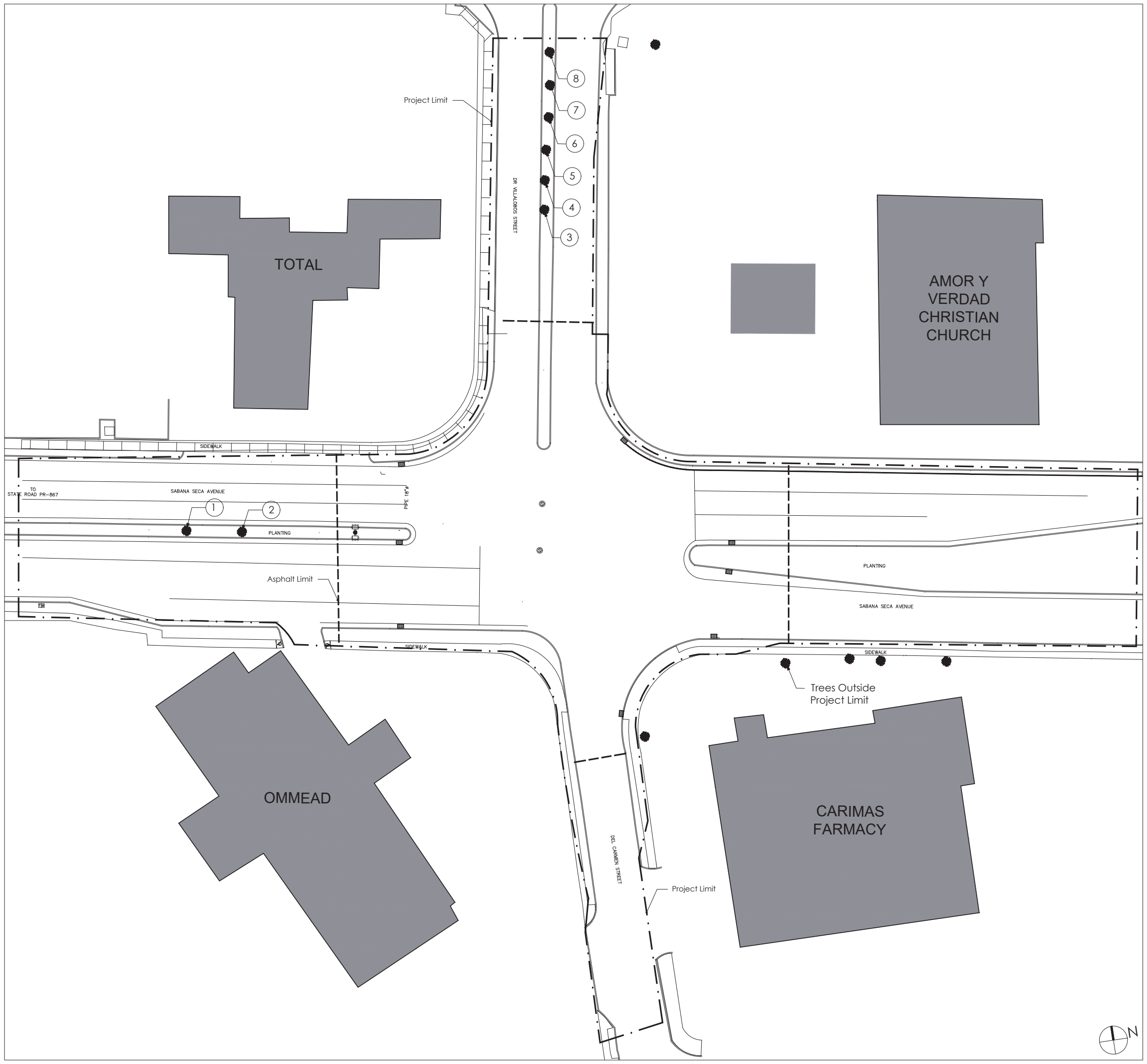
File Name: 2022.04-Rotondas Toa Baja

Date	Scale
09-19-2023	Scale:1'-0"=1/32"

Sheet

LA-201

Project # 2022.04
Drawn by MEG
Checked by ERCI



1 Existing Tree Inventory and Removal Plan
SCALE: 1'-0"=1/32"

TREE INVENTORY

REF	Common Name	Latin Name	Height	DBH	Action	Note	Req. Replacement
1	Roble Nativo	Tabebuia heterophylla	14	8	Conserve		--
2	Reina de Flores	Lagerstroemia speciosa	20	14	Conserve		--
3	Ucar	Bucida buceras	20	14	Conserve		--
4	Ucar	Bucida buceras	20	14	Conserve		--
5	Ucar	Bucida buceras	20	14	Conserve		--
6	Ucar	Bucida buceras	20	14	Conserve		--
7	Ucar	Bucida buceras	20	14	Conserve		--
8	Ucar	Bucida buceras	20	14	Conserve		--

TREE INVENTORY SUMMARY

Common Name	Latin Name	Quantity	Remove	Conserve	Req. Replacement
Roble Nativo	Tabebuia heterophylla	1		1	0
Reina de Flores	Lagerstroemia speciosa	1		1	0
Ucar	Bucida buceras	6		6	0

General Notes

IMPORTANT INFORMATION FOR THE CONTRACTOR

Contractor shall verify al dimensions, levels and condition on-site before commencing any and all work. Any discrepancy, error or omission in these plans shall be notified to the Architect, Landscape Architect or Engineer who stamps and signs these drawings so that proper corrections to the documents can be made.

Do not take any measurements from the physical drawings.

Only use documents with a "FOR CONSTRUCTION ONLY" stamp and sealed and signed by the designer.

Yo, Edmundo Colon Izquierdo, con licencia número 19992, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

No.	Description	Date

ECo
LANDSCAPE + ARCHITECTURE + ENGINEERING

103 Calle Isabel Andreu Aguilar, 4to Piso, San Juan, PR 00918
787-764-0610 eco-designstudio.com

Existing Tree Inventory and Removal Plan

T.B. Roundabout PR-CRP-000973

Ave. Sabana Seca Int. Dr. Villalobos, Levittown, Toa Baja, P.R.

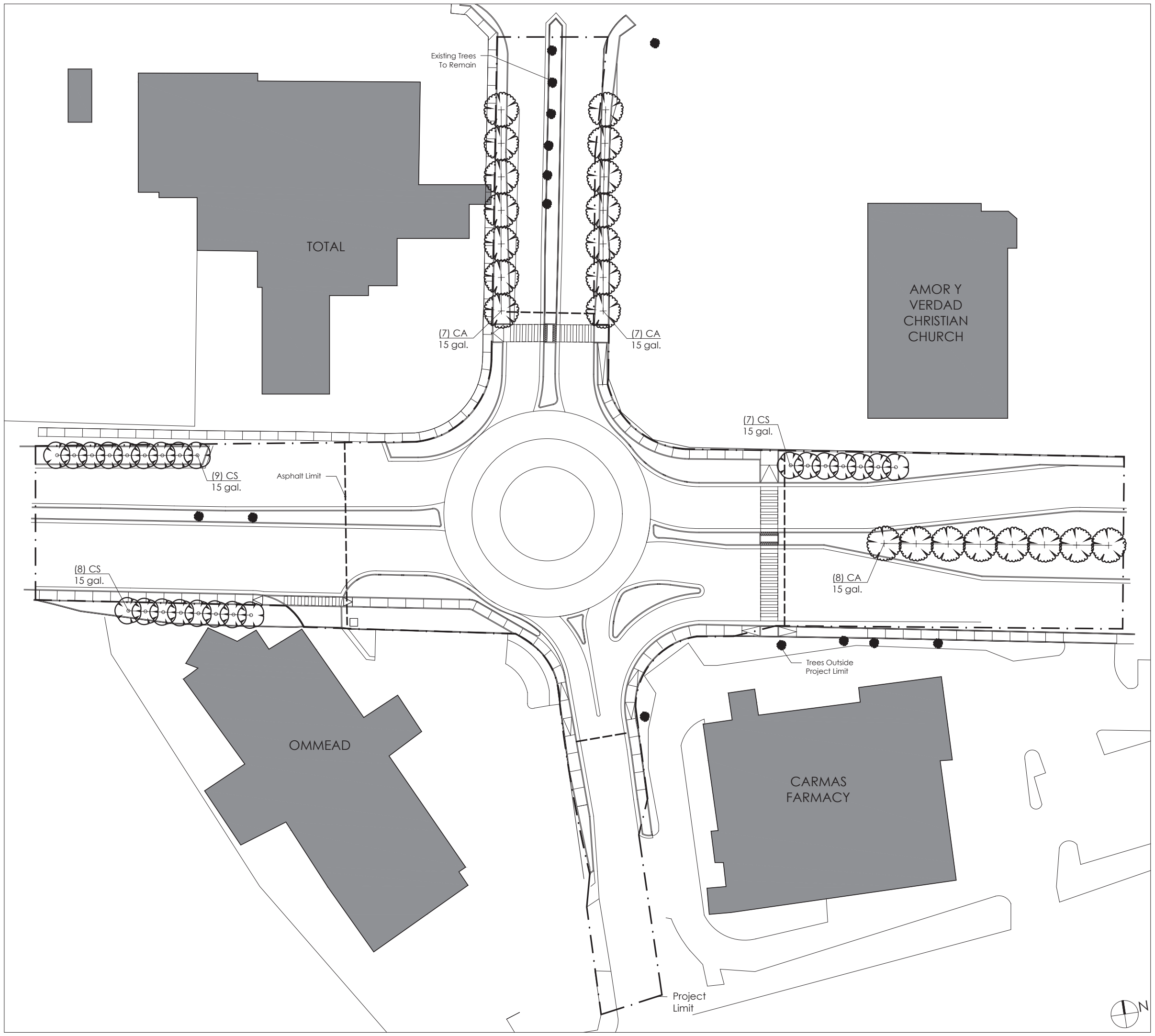
Autonomous Municipio de Toa Baja

Seal:

SIGNING ARCH
License #

Yo, Edmundo Colón Izquierdo, con licencia número 19992, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

File Name:	2022.04-Rotondas Toa Baja
Date 09/19/2023	Scale Scale:1'-0"=1/32"
Sheet	LA-200
Project #	2022.04
Drawn by	MEG
Checked by	ERCI



1 Tree Mitigation Plan

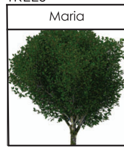
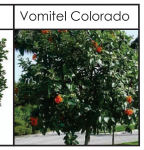
SCALE: 1'-0"=1/32"

PLANT SCHEDULE

TREES	CODE	BOTANICAL / COMMON NAME	SIZE	CONTAINER	QTY
	CA	Calophyllum antillanum / Maria	15 gal.	Pot	22
	CS	Cordia sebestena / Orange Geiger Tree	15 gal.	Pot	24

NOTE TO CONTRACTOR:
-41 trees are requiried for mitigation compliance.
-13 trees are proposed for roundabout design.

TREES

Maria	Vomitel Colorado
	

General Notes

IMPORTANT INFORMATION FOR THE CONTRACTOR

Contractor shall verify al dimensions, levels and condition on-site before commencing any and all work. Any discrepancy, error or omission in these plans shall be notified to the Architect, Landscape Architect or Engineer who stamps and signs these drawings so that proper corrections to the documents can be made.

Do not take any measurements from the physical drawings.

All drawings, specifications and other documents are property of ECo and can solely be used as an instrument of the Architect, Landscape Architect or Engineers' service as reference for this project.

Only use documents with a "FOR CONSTRUCTION ONLY" stamp and sealed and signed by the designer.

Yo, Edmundo Colon Izquierdo, con licencia número 19992, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

No.	Description	Date

ECo
Landscape + Architecture + Engineering

103 Calle Isabel Andreu Aguilar, 4to Piso, San Juan,PR 00918
787-764-0610 eco-designstudio.com

Tree Mitigation Plan

T.B. Roundabout PR-CRP-000973

Ave. Sabana Seca Int. Dr. Villalobos, Levittown, Toa Baja, P.R.

Autonomous Municipio de Toa Baja

Seal:

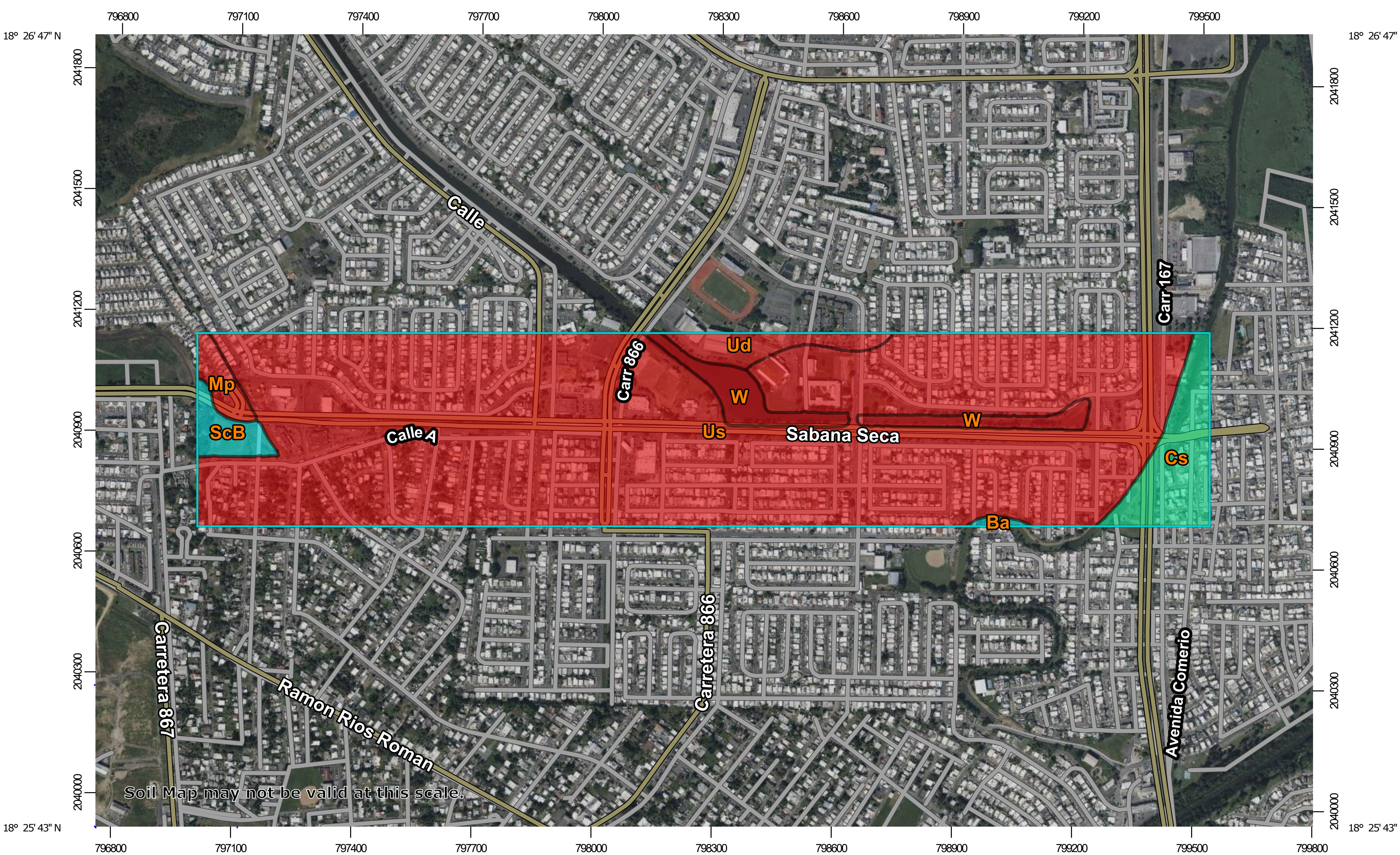
SIGNING ARCH
License #

Yo, Edmundo Colón Izquierdo, con licencia número 19992, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

File Name:	2022.04-Rotondas Toa Baja
Date 09/19/2023	Scale Scale:1'-0"=1/32"
Sheet	LA-201
Project #	2022.04
Drawn by	MEG
Checked by	ERCI

Appendix I:
Farmland Protection
Policy Maps

Farmland Classification—San Juan Area, Puerto Rico
(PR-CRP-000948, PR-CRP-000964, PR-CRP-000973)



Map Scale: 1:13,900 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0, 200, 400, 800, 1200

Feet: 0, 500, 1000, 2000, 3000

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: San Juan Area, Puerto Rico
Survey Area Data: Version 18, Sep 10, 2024

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.

Farmland Classification

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
Ba	Bajura clay, 0 to 2 percent slopes, frequently flooded	Farmland of statewide importance	0.7	0.2%
Cs	Coloso silty clay loam, 0 to 2 percent slopes, occasionally flooded	Prime farmland if drained	15.7	5.2%
Mp	Martin Pena muck	Not prime farmland	3.9	1.3%
ScB	Sabana Seca clay, 2 to 8 percent slopes	Farmland of statewide importance	4.9	1.6%
Ud	Urban land-Durados complex	Not prime farmland	7.0	2.3%
Us	Urban land-Sabana Seca complex	Not prime farmland	256.2	85.3%
W	Water	Not prime farmland	11.9	4.0%
Totals for Area of Interest			**300.4**	**100.0%**

Description

Farmland classification identifies map units as prime farmland, farmland of statewide importance, farmland of local importance, or unique farmland. It identifies the location and extent of the soils that are best suited to food, feed, fiber, forage, and oilseed crops. NRCS policy and procedures on prime and unique farmlands are published in the "Federal Register," Vol. 43, No. 21, January 31, 1978.

Rating Options

Aggregation Method: No Aggregation Necessary

Tie-break Rule: Lower

PR-CRP-000948 Farmland Classification Map

Address: Intersection of Juan "Picolino" Hernández Ferrer Ave. and Rufino Ramirez St., Toa Baja PR
Coordinates: 18.437412°, -66.167189°

Map Scale: 1:1,190 if printed on A landscape (11" x 8.5") sheet.

Meters: 0, 15, 30, 60, 90

Feet: 0, 50, 100, 200, 300

N

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 19N WGS84

Prepared by ICF

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: San Juan Area, Puerto Rico
Survey Area Data: Version 18, Sep 10, 2024

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.

Farmland Classification

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
Us	Urban land-Sabana Seca complex	Not prime farmland	1.8	99.3%
W	Water	Not prime farmland	0.0	0.7%
Totals for Area of Interest			**1.8**	**100.0%**

Description

Farmland classification identifies map units as prime farmland, farmland of statewide importance, farmland of local importance, or unique farmland. It identifies the location and extent of the soils that are best suited to food, feed, fiber, forage, and oilseed crops. NRCS policy and procedures on prime and unique farmlands are published in the "Federal Register," Vol. 43, No. 21, January 31, 1978.

Rating Options

Aggregation Method: No Aggregation Necessary

Tie-break Rule: Lower

PR-CRP-000964 Farmland Classification Map

Address: Intersection of Juan “Picolino” Hernández Ferrer Ave. and Dr. Álvarez Chanca Ave., Toa Baja PR
Coordinates: 18.437677˚, -66.180319˚

Map Scale: 1:942 if printed on A landscape (11" x 8.5") sheet.

Meters: 0, 10, 20, 40, 60

Feet: 0, 45, 90, 180, 270

N

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 19N WGS84

Prepared by ICF

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: San Juan Area, Puerto Rico
Survey Area Data: Version 18, Sep 10, 2024

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.

Farmland Classification

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
Us	Urban land-Sabana Seca complex	Not prime farmland	1.3	100.0%
Totals for Area of Interest			**1.3**	**100.0%**

Description

Farmland classification identifies map units as prime farmland, farmland of statewide importance, farmland of local importance, or unique farmland. It identifies the location and extent of the soils that are best suited to food, feed, fiber, forage, and oilseed crops. NRCS policy and procedures on prime and unique farmlands are published in the "Federal Register," Vol. 43, No. 21, January 31, 1978.

Rating Options

Aggregation Method: No Aggregation Necessary

Tie-break Rule: Lower

PR-CRP-000973 Farmland Classification Map

Address: Intersection of Juan “Picolino” Hernández Ferrer Ave. and Del Carmen St., Toa Baja PR

Coordinates: 18.437799°, -66.185903°

Map Scale: 1:1,220 if printed on A portrait (8.5" x 11") sheet.

0 15 30 60 90 Meters

0 50 100 200 300 Feet

N

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 19N WGS84

Prepared by ICF

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: San Juan Area, Puerto Rico
Survey Area Data: Version 18, Sep 10, 2024

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.

Farmland Classification

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
Us	Urban land-Sabana Seca complex	Not prime farmland	1.5	100.0%
Totals for Area of Interest			**1.5**	**100.0%**

Description

Farmland classification identifies map units as prime farmland, farmland of statewide importance, farmland of local importance, or unique farmland. It identifies the location and extent of the soils that are best suited to food, feed, fiber, forage, and oilseed crops. NRCS policy and procedures on prime and unique farmlands are published in the "Federal Register," Vol. 43, No. 21, January 31, 1978.

Rating Options

Aggregation Method: No Aggregation Necessary

Tie-break Rule: Lower

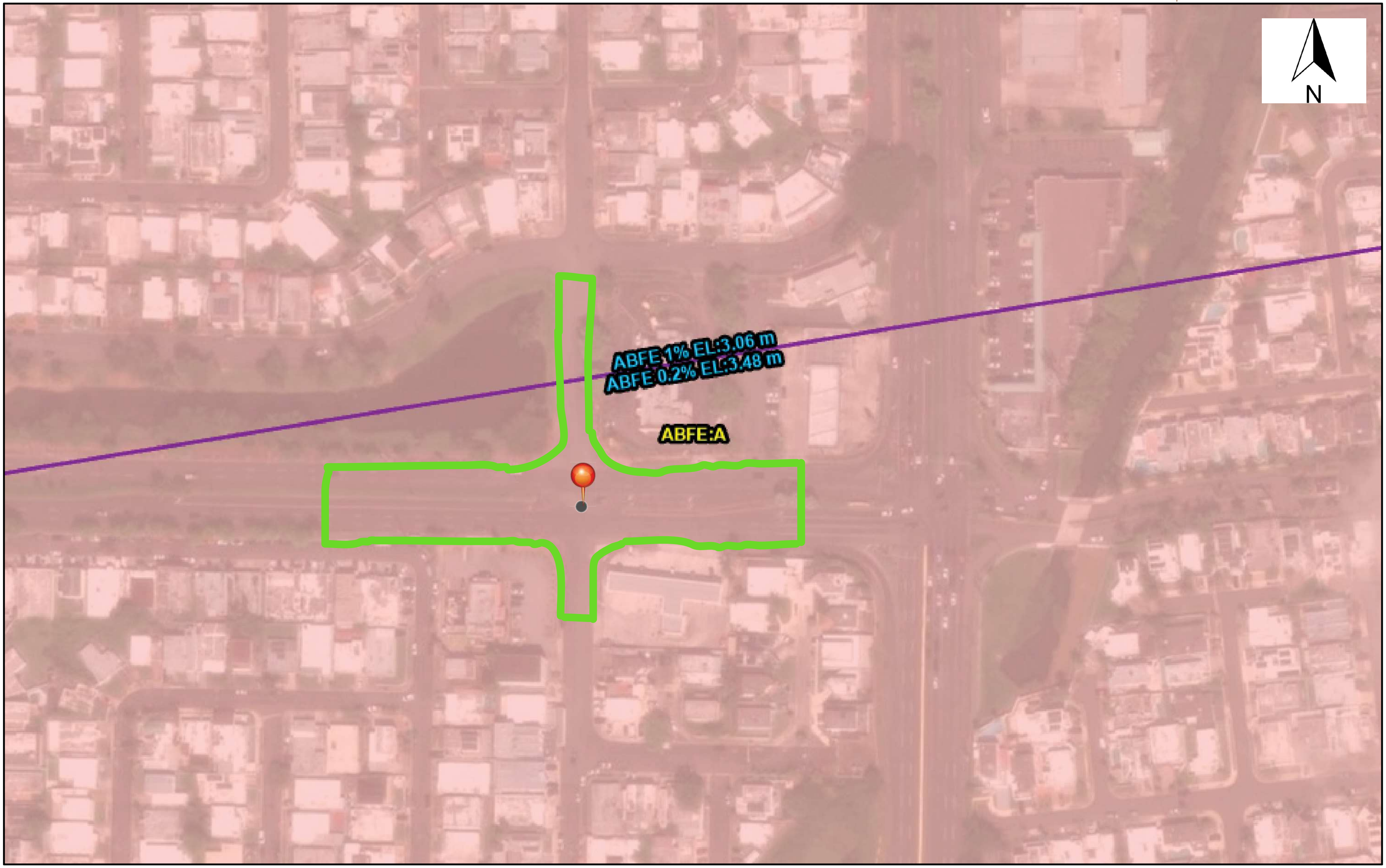
Appendix J:

1. ABFE Maps
2. 5-Step Documentation

PR-CRP-000948 ABFE Map

Appendix J.1

Address: Intersection of Juan "Picolino" Hernández Ferrer Ave. and Rufino Ramirez St., Toa Baja PR
Coordinates: 18.437412°, -66.167189°



7/30/2024, 9:10:12 PM

Flood Hazard Area (zoom in to make visible)

A

Zone/BFE Boundary

Advisory Base Flood Elevation (zoom in to make visible)

1:2,257

0 0.02 0.04 0.07 mi

0 0.03 0.06 0.11 km

FEMA, Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

ArcGIS Web AppBuilder

FEMA |

PR-CRP-000964 ABFE Map

Address: Intersection of Juan "Picolino" Hernández Ferrer Ave. and Dr. Álvarez Chanca Ave., Toa Baja PR
Coordinates: 18.437677˚, -66.180319˚

7/30/2024, 9:15:07 PM

Flood Hazard Area (zoom in to make visible)
- A
- 0.2% Annual Chance Flood Zone
- Zone/BFE Boundary

Flood Hazard Extent
- 1% Annual Chance Flood
- 0.2% Annual Chance Flood

1:2,257

0 0.02 0.04 0.07 mi

0 0.03 0.06 0.11 km

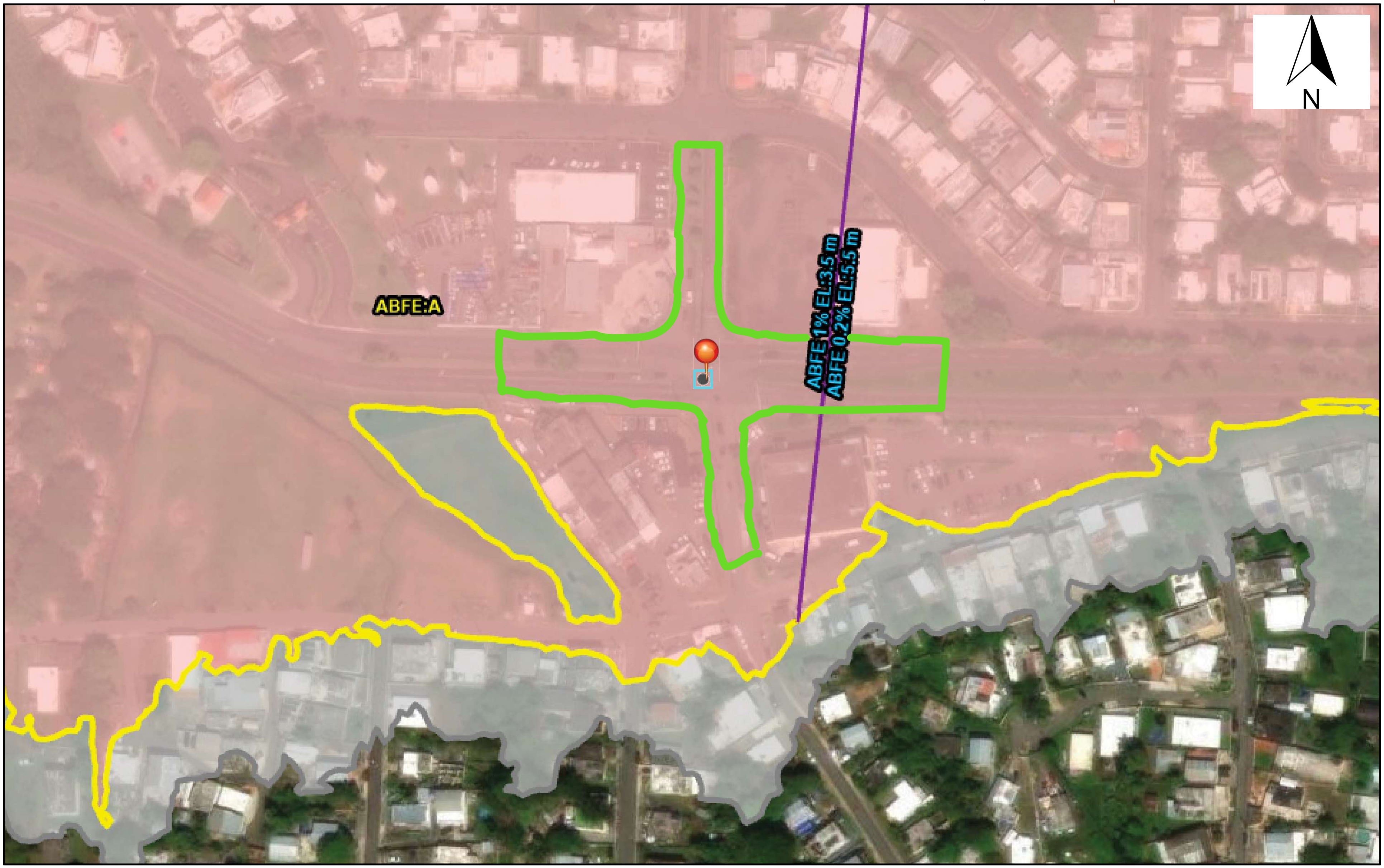
FEMA, Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

ArcGIS Web AppBuilder

FEMA |

PR-CRP-000973 ABFE Map

Address: Intersection of Juan "Picolino" Hernández Ferrer Ave. and Del Carmen St., Toa Baja PR
Coordinates: 18.437799°, -66.185903°



7/30/2024, 9:16:38 PM

Flood Hazard Area (zoom in to make visible)
- A
- 0.2% Annual Chance Flood Zone
- Zone/BFE Boundary

Flood Hazard Extent
- 1% Annual Chance Flood
- 0.2% Annual Chance Flood
- Advisory Base Flood Elevation (zoom in to make visible)

1:2,257

0 0.02 0.04 0.07 mi
0 0.03 0.06 0.11 km

FEMA, Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

ArcGIS Web AppBuilder
FEMA |

Modified 5-Step Decision-Making Process

CDBG-DR PROGRAM

City Revitalization Program

Aggregation of Toa Baja Projects per 24 CFR 58.32

PR-CRP-000948: Rotonda Ave. Sabana Seca int. Llorens Torres Street and Calle Rufino Ramírez, Levittown

PR-CRP-000964: Rotonda Ave. Sabana Seca int. Ave. Dr. Diego Alvarez Chanca, Levittown

PR-CRP-000973: Rotonda Ave. Sabana Seca int. Calle Dr. Villalobos and Del Carmen Street, Levittown

Project Location: PR-CRP-000948, Juan “Picolino” Hernández Ferrer Avenue (Sábana Seca Avenue) intersection with Llorens Torres Street and Rufino Martínez Street (18.437412°, -66.167189°) / PR-CRP-000964, Juan “Picolino” Hernández Ferrer Avenue (Sábana Seca Avenue) intersection with Dr Álvarez Chanca Avenue (18.437677°, -66.180319°) / PR-CRP-000973 Juan “Picolino” Hernández Ferrer Avenue (Sábana Seca Avenue) intersection with Dr Villalobos Street and Del Carmen Street (18.437799˚, -66.185903˚) (see **Appendix A** for project location maps)

Introduction:

As the Responsible Entity (RE), the Puerto Rico Department of Housing (PRDOH) is proposing road improvement of multiple roads and intersections through the City Revitalization Program (CRP) that will reinvigorate, connect, and integrate communities with each other. The proposed actions will dynamically integrate vehicle users with pedestrians by reconstructing intersections and making them safer and users friendly to the nearby communities. As part of the federal funded project, these proposed actions are required to comply with all environmental and historic preservation laws. In this case, we will be evaluating the Executive Orders 11988 which is directed to Floodplain Management through the U.S. Department of Housing and Urban Development (HUD).

This report will initiate the Modified 5-Step Decision-Making Process as a consequence of the possible long and short-term adverse impact with the floodplain in Toa Baja. According to the updated 24 CFR Part 55, Section 55.14(e), a 5-Step Process is the appropriate approach for certain activities, including “actions under any HUD program involving the repair, rehabilitation, or replacement of existing nonstructural improvements including streets, curbs, and gutters, where any increase of the total impervious surface area of the facility is de minimis”.

Project Description:

The projects, identified as PR-CRP-000948 / PR-CRP-000964 / PR-CRP-000973, includes improvements at three intersections along Juan “Picolino” Hernández Ferrer Avenue (also known as Sábana Seca Avenue) in Levittown sector of the Toa Baja municipality. The project proposes the installation of roundabouts at these three existing intersections, safety improvements such as signage and pavement markings, and new planting areas in the roundabouts' inner circles, islands, and strips with rain gardens. These three intersections are within less than a mile of each other and have the same designer. These projects fit both functional and geographic aggregation criteria as they involve constructing roundabouts (similar activity) in a concentrated geographic area (along the same avenue). Aggregation allows for the evaluation of alternative courses of action for the entire avenue, facilitating holistic planning and conflict resolution to optimize traffic management and safety and enables better scheduling to resolve conflicts and mitigate effects more effectively. By aggregating these projects, coordinated mitigation measures and safeguards can be prescribed, and a combined review process will also streamline the process, reducing redundancy and leading to cost savings and more efficient resource use. The roundabouts will improve traffic flow and pedestrian safety in the project area. Roundabouts provide numerous benefits including reducing crashes, reducing deaths due to crash, reducing conflict points, reducing vehicle speed, increasing the efficiency of traffic flow, reducing pollution and fuel consumption, and improving the aesthetics of the landscape.

All three construction areas include the following activities:

1) Scarification of existing asphalt surfaces;
2) Reconstruction of existing sidewalks;
3) Transformation of geometry of existing intersection;
4) Inclusion of catch basins for stormwater management;
5) Creation of rain gardens on new sidewalks.

In all three construction areas of the roundabouts, the existing sanitary sewer and potable water distribution systems will not be impacted. Electrical and telecommunications posts will be removed and relocated. The culvert located in the center of the roundabout will not rise more than three (3) feet above the finished grade of the road. The inner circle of the roundabout will be planted, adding to the regreening efforts along the planting strips along the sidewalks.

Detailed project descriptions and proposed project designs at the three intersections and the staging area can be found below.

PR-CPR-000948:

At present, the Juan "Picolino" Hernández Ferrer Avenue (Sábana Seca Avenue) intersection with Llorens Torres Street (north) and Rufino Martínez Street (south) has three westbound and eastbound lanes with lefthand turns turning on the north and south roads. The proposed roundabout will ease traffic coming from adjacent streets and businesses such as McDonald's, Texaco Gas Station, Mobil Gas Station and Burger King. It will also ease traffic coming from Road #167, located approximately 492.12 feet east of the center of the proposed roundabout, which leads north to PR #165 (also known as El Caño Avenue) and south towards PR#22 Highway. This roundabout will reduce the Juan "Picolino" Hernández Ferrer Avenue (Sábana Seca Avenue) to a two-lanes road in both directions. In addition, Llorens Torres and Rufino Martínez Streets will be reduced to one lane roads in both directions. Re-greening of the intersection areas is planned.

The Luis Palés Matos Avenue is the project's north limit while the south one is a small cluster of commercial buildings and individual houses. Minimal excavation of a depth not exceeding four (4) feet is required. Since the project construction area does not extend beyond the limits of existing roads and sidewalks, there will be no earth movement and/or excavations outside the area already impacted when the two avenues were constructed years ago. This intervention will not affect access to neighboring businesses and neighborhoods.

The design will occupy the same footprint as the existing roadway. This footprint is 92,957.13 square feet and includes the intersections of Juan "Picolino" Hernández Ferrer Avenue (Sábana Seca Avenue) and Rufino Ramírez Street. The project covers a maximum length of 629.92 feet (east-to-west) and 465.88 feet (north-to-south).

Figure 1 - PR-CRP-000948 Top-View of Proposed Design

PR-CRP-000964:

The intersection of the Juan "Picolino" Hernández Ferrer Avenue (Sábana Seca Avenue) and the Dr Álvarez Chanca Avenue roundabout will solve vehicle congestion and will increase pedestrian safety. Additionally, the number of lanes will be reduced from the current three (3) lanes down to two (2), both at the entrance and exit of the proposed roundabout. The culvert located in the center of the roundabout will not rise more than three (3) feet above the finished grade of the road.

The following activities are part of this project:

1) Insertion of pavement markings, known as "rumble strips," along the Juan "Picolino" Hernández Ferrer Avenue. The aim of this treatment is to reduce vehicular speed.
2) Addition of a new pedestrian crossing with elevated crossings at sidewalk levels, known as "speed table," at the Dr Álvarez Chanca Avenue.
3) Insertion of an exclusive lane north of the intersection that with no access from the roundabout to reduce vehicular congestion and still provide access to existing businesses at this intersection.

Minimal excavation of a depth not exceeding four (4) feet is required. Project construction does not extend beyond the limits of the existing roads and sidewalks, therefore, there will be no land movement or excavations outside the existing road area.

The Emidgio d'Antique Street borders the project's north limit while a small cluster of individual houses marks the southern one.

The design will occupy the same footprint as the existing roadway. This footprint is 92,720.32 square feet and includes the intersections of Juan "Picolino" Hernández Ferrer Avenue (Sábana Seca Avenue) and Dr Álvarez Chanca Avenue. This area covers a maximum length of 688.98 feet (east-to-west) and 321.52 feet (north to south).

Figure 2 - PR-CRP-000964 Top-View of Proposed Design

PR-CRP-000973:

The roundabout is to be constructed at the intersection of Juan "Picolino" Hernández Ferrer Avenue (Sábana Seca Avenue) and Dr Villalobos Street and Del Carmen Street intersection. The number of lanes will be reduced from the current three (3) down to two (2), both at the entrance and exit of the proposed roundabout. On the north, a series of paved markings will be included, as well as pedestrian crossing areas. The signage and pedestrian pavement markings will comply with Americans with Disabilities Act (ADA) guidelines.

New green areas and "rain gardens" cover an area of approximately 8,557.31 square feet.

Minimal excavation not exceeding four (4) feet is required. Project construction will not extend beyond the limits of the existing roads and sidewalks. Therefore, there will be no land movement or excavations outside the area already impacted by the two avenues when they were constructed.

The project north limit is formed by the Emidgio d'Antique Street while the south one is related to the Marginal Este Street.

The design will occupy the same footprint as the existing roadway. This footprint is 88,371.7 square feet and includes the intersections of Juan "Picolino" Hernández Ferrer Avenue (Sábana Seca Avenue) and Dr Villalobos Street. This area covers a maximum length of 623.36 feet (east-to-west) and 567.59 feet (north to south).

Figure 3 - PR-CRP-000973 Top-View of Proposed Design

Construction Staging Area:

The construction staging area will be in a lot close to the intersection where the PR-CPR-000964 project will be constructed. It is located on an area occupied by a parking lot and a soccer field at approximately 18.438665, -66.177388. A short road, the C P Juan Manuel Berastain Street, provides access to the area which is listed on maps as Parque Anexo CVS (the Carimas Pharmacy next to the park was previously a CVS). The site is bounded on the north by the Caño El Hato (waterway) and on the south by the Carimas Pharmacy which, in turn, faces the Juan "Picolino" Hernández Ferrer Avenue (Sábana Seca Avenue). On the west side one finds Los Dominicos Avenue (PR-866) while on the east is the building where the Toa Baja train is kept, as well as other commercial buildings. The staging area will have no subsurface impact.

Step 1: Determine whether the action is located in a floodplain or Impacts an onsite wetland.

The Municipality of Toa Baja is known as "La Ciudad Bajo Agua" (the city under waters[1]). Toa Baja is a low coastal plain town between the two river mouths: Rio Bayamón and Rio Grande de la Plata, which is the longest river in Puerto Rico, born 60.5 miles in the Municipality of Guayama. The coastal zone, low plain, and the river mouths made Toa Baja high risk flood-prone area. However, according to the FEMA National Flood Hazard Layer (panels 72000C0335J and 72000C0345J, effective 11/18/2009) the projects are all located outside of the 100-year floodplain but are all located partially or entirely within the 500-year floodplain. Specifically, PR-CRP-000948 and PR-CRP-000964 are located entirely within the 500-year floodplain, and PR-CRP-000973 is located partially within the 500-year floodplain (see **Appendix B**). Preliminary FIRMs have not been developed for this area.

All three project areas are located within Flood Zone A according to the Advisory Base Flood Elevation (ABFE) maps (effective 12/11/2018) (see **Appendix C**).

The portions of the project area that are subject to flood risk as defined by the floodplain were determined through mapping using the 0.2-Percent-Annual-Chance Flood Approach (0.2 PFA). Based on the extent of the 0.2 Percent Annual Chance (500-year) floodplain shown in the FIRMs in **Appendix B**, all three of the proposed roundabout project areas are located entirely or partially within the floodplain.

According to the USFWS National Wetlands Inventory mapper, a very small portion of the PR-CRP-000948 footprint is located directly adjacent to an Estuarine and Marine Deepwater wetland (E1UBLx) identified as a retaining pond. However, this area is already developed with sidewalks, curbs, and an asphalt road. The project will not expand the existing footprint further into the wetland and therefore there will be no direct or indirect impacts as a result of the project activities. The PR-CRP-000964 and PR-CRP-000973 project areas are located more than 100 feet from any wetlands identified in the National Wetlands Inventory mapper (see wetlands maps in **Appendix D**).

Floodplain Determination:

According to the FEMA National Flood Hazard Layer (panels 72000C0335J and 72000C0345J, effective 11/18/2009) the projects are all partially or entirely within the 500-year floodplain

All three project areas are located within Flood Zone A according to the ABFE maps.

Based on the extent of the 0.2 Percent Annual Chance (500-year) floodplain shown in the FIRMs, all of the project locations are entirely or partially located in floodplain. Therefore, the project is subject to the Modified 5-Step Decision Making Process, as the proposed actions meet the category of "actions under any HUD program involving the repair, rehabilitation, or replacement of existing nonstructural improvements including streets, curbs, and gutters, where any increase of the total impervious surface area of the facility is de minimis", as defined by 24 CFR 55.14(e).

[1] NASA funded research (https://develop.larc.nasa.gov/2020/spring/ToaBajaDiasters.html)

Step 2: Involve the public in the decision-making process (Early Notice).

This step is not required for the 5-Step Process.

Step 3: Identify and evaluate practicable alternatives.

This step is not required for the 5-Step Process.

Step 4: Identify adverse and beneficial impacts associated with the floodplain.

PRDOH has conducted a thorough evaluation of essential criteria for the development of this project, encompassing road improvements and the construction of a roundabout in a flood-prone area. An integral aspect of this project in the floodplain involves assessing both the adverse and beneficial effects of the chosen alternative in the floodplain. The analysis of beneficial impacts will center on improved traffic flow, reduced emissions, and enhanced safety for pedestrians and bicyclists. The HUD-funded CRP program is for projects that contribute to economic revitalization throughout Puerto Rico. PRDOH's regulations limit what actions can be considered under the CRP program, including prohibition of any construction in the floodway.

The portions of the project area that are subject to flood risk as defined by the floodplain were determined through mapping using the 0.2-Percent-Annual-Chance Flood Approach (0.2 PFA). The 0.2 PFA approach revealed that all three of the proposed roundabout project areas are located entirely or partially within the floodplain. There are no dams, levees, or other flood protection infrastructure in proximity to the project area.

The proposed modification of the intersections to roundabouts will be constructed within the existing road footprint. Consequently, there will be no increase in impervious surfaces. Additionally, the project will introduce new green areas and rain gardens that aid in managing low-frequency rainfall, which will help alleviate local flooding and provide additional green areas for the CDBG-DR City Revitalization program's regreening initiative. The construction of a roundabout may necessitate terrain modifications, such as leveling or grading the land to accommodate the circular layout. However, it is important to note that in this project, there are no planned changes in elevation or land alterations that could potentially impact water drainage patterns or soil stability.

The proposed project will not result in any potential loss of life, negative health impacts, or injury during a flood event. The proposed improvements are limited to the modification of three existing intersections and would not create new habitable structures or increase the population density of the surrounding community. The project would likely improve the efficiency of an evacuation if necessary, during a flooding event, potentially saving lives.

There would be no additional potential damage to the subject property or surrounding properties due to increased runoff or reduction in floodplain function during a flood event as a result of the proposed actions. The installation of new green spaces and rain gardens is expected to help alleviate local flooding. There will be no potential damage to the community in the case of project failure.

The project would preserve the natural and beneficial values of the floodplain such as the natural moderation of floods, water quality maintenance, and groundwater recharge. The project would provide rainwater gardens that will capture and infiltrate stormwater, which will help reduce local flooding. Additionally, erosion and sedimentation controls and best management practices will be used to maintain soil and water quality.

Living resources such as flora and fauna would not be negatively impacted by the proposed actions. The project location is an urban area, and the project activities are limited to the footprint of the existing intersections and will not encroach on natural land. There will be some tree removal as part of the project scope, but some of the trees that will be removed are invasive species and a tree mitigation plan is in place that will replace those that have been removed (see **Appendix E** for tree inventories and tree mitigation plans).

Cultural, historic, and recreational resources would not be impacted. The intersection is not in a historically or culturally significant area, and the existing intersections to roundabouts will not impact the character of the surroundings. Additionally, the project may improve the aesthetic value of the area. The roundabouts will include new green spaces and rain gardens that will make the intersections more aesthetically pleasing compared to traditional intersections. The project will not impact agriculture, forestry, or aquaculture, as all improvements will take place within the footprint of existing intersections in an urbanized area.

The project may also provide economic benefits. Roundabouts have the potential to reshape land use patterns by modifying traffic flow and enhancing accessibility. This redesigned infrastructure, along with surrounding development, is poised to stimulate diverse forms of development and enhance property values along these road corridors, thereby attracting economic growth to the area. Also, roundabouts generally demand less maintenance compared to traditional intersections with traffic lights or stop signs, though ongoing upkeep remains necessary, particularly concerning landscaping, signage, and occasional repairs.

Roundabouts offer numerous advantages, primarily centered around safety and efficiency. The slower speeds and one-way travel within roundabouts, especially when accompanied by speed reductions features such as rumble strips and speed tables, create a safer environment for pedestrians and cyclists, reducing the likelihood of severe accidents. They also continue to perform effectively during power outages without requiring police direction. Roundabouts can improve traffic flow and reduce congestion compared to traditional intersections. This can result in economic benefits such as reduced travel time for users, lower fuel consumption, and decreased vehicle emissions.

The proposed project will occur entirely within the footprint of the current intersections and does not encroach upon any additional land, which will simplify the legal considerations related to deeds and leases. All land within the project area is already owned and maintained by the municipality. The project will follow any requirements for obtaining permits or approvals from local authorities. Compliance with zoning laws, transportation regulations, and any other relevant regulations shall be confirmed.

While the physical footprint of the construction may not extend beyond the existing intersection, stakeholders such as nearby residents, businesses, and community organizations may still have concerns or interests that need to be addressed. The Modified 5-Step Process ensures that the stakeholder stays informed about the scope of the project, environmental, social, and economic concerns.

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) **Elevation:** The proposed actions do not entail new construction or substantial improvement of any residential structures. The project entails installation of roundabouts at three existing intersections, safety improvements such as signage and pavement markings, and new planting areas in the roundabouts' inner circles, islands, and strips with rain gardens. The project will not include the construction of any occupied structure or infrastructure, and the project will take place within existing intersections located along a state road. Therefore, floodproofing, elevation, and obtaining insurance are not required.

(b) **Minimization:** Potential harm to and within the floodplain will be reduced to the smallest extent possible. The proposed modification of the intersections to roundabouts will be constructed within the existing road footprint. Consequently, there will be no increase in impervious surfaces. Additionally, the project will introduce new green areas and rain gardens that aid in managing low-frequency rainfall, which will help alleviate local flooding and provide additional green areas for the CDBG-DR City Revitalization program's regreening initiative. These green infrastructure improvements will improve the natural moderation of floods, water quality maintenance, and groundwater recharge. Additionally, erosion and sedimentation controls and best management practices will be used to maintain soil and water quality, minimizing harm to the floodplain.

The slower speeds and one-way travel within roundabouts, especially when accompanied by speed reductions features such as rumble strips and speed tables, create a safer environment for pedestrians and cyclists, reducing the likelihood of severe accidents. One of the primary objectives of the project is to enhance safety at the intersections for both residents and visitors. Additionally, the project will not result in an increase in population density, and therefore will not result in an increased risk of harm to human life.

(c) **Restoration and Preservation:** While the proposed action may not restore floodplain values, the design is intended to preserve them. This preservation will be partly achieved through the renovation and utilization of existing facilities such as roads, sidewalks, and green areas, which will reduce the creation of impermeable surfaces. The design does not include new structures that might impede floodwater movement. Furthermore, the design aims to maximize water percolation by incorporating permeable surfaces and enhancing existing vegetation with new landscaping and installing rain gardens to capture and infiltrate runoff. The area's topography will remain unchanged. Additionally, erosion and sedimentation controls and best management practices will be used to maintain soil and water quality.

(d) **Planning for Residents' and Occupants' Safety:** One of the primary objectives of the project is to enhance safety at the intersections for both residents and visitors of the community, and anyone else travelling along the project corridor. The slower speeds and one-way travel within roundabouts, especially when accompanied by speed reductions features such as rumble strips and speed tables, create a safer environment for pedestrians and cyclists, reducing the likelihood of severe accidents. They also continue to perform effectively during power outages without requiring police direction. The project would likely improve the efficiency of an evacuation if necessary, during a flooding event, potentially saving lives. The proposed improvements are limited to the modification of three existing intersections and would not create new habitable structures or increase the population density of the surrounding community. Therefore, the project would not present an increased risk to the safety of the residents of the community or other motorists using the intersections.

Step 6: Consider the totality of the previous steps and the criteria to make a decision as to whether to approve, approve with modifications, or reject the proposed action.

Despite the proposed alternative being in a floodplain, measures will be taken to preserve the floodplain values, protect residents' and occupants' safety, and minimize adverse impacts to property. There will be no increase in impervious surfaces, as the project will be limited to the footprint of the existing intersections. New green areas and rain gardens will help manage low-frequency rainfall and alleviate local flooding, and erosion and sedimentation controls and best management practices will be used to maintain soil and water quality. The project would preserve the natural and beneficial values of the floodplain such as the natural moderation of floods, water quality maintenance, and groundwater recharge.

The project does not pose an additional risk to human life as it does not involve an increase in population density. The roundabouts are expected to improve safety for vehicle passengers and pedestrians alike. Safety improvements such as rumble strips, a speed table, and lighting are included in the project design. The project would not present an increased risk to the safety of the residents of the community or other motorists using the intersections.

The project will not include the construction of any occupied structure or infrastructure. Additionally, the improvements are anticipated to help reduce local flooding, potentially reducing damage to nearby structure as a result of flooding events.

The proposed project will also provide economic benefits. Roundabouts generally demand less maintenance compared to traditional intersections with traffic lights or stop signs, though ongoing upkeep remains necessary, particularly concerning landscaping, signage, and occasional repairs. Additionally, the project will not include the construction of any occupied structure or infrastructure, and the project will take place within existing intersections located along a state road. Therefore, there will be no costs associated with floodproofing, elevation, and obtaining insurance.

There are no practicable alternatives to develop the proposed project outside the floodplain.

Step 7: Determination of no practicable alternative and Final Notice.

This step is not required for the 5-Step Process.

Step 8. Implement the proposed action.

The municipality and PRODH are committed to implementing the plan outlined above to manage and mitigate impacts on the floodplain to the greatest extent possible. These activities will be carried out as described, and the necessary language will be included in all agreements with participating parties. Additionally, the city will take an active role in monitoring the construction process to prevent any unnecessary impacts and avoid taking unnecessary risks. This proactive approach will ensure that the project is executed in a manner that safeguards the floodplain while achieving its intended objectives.

There is a continuing responsibility on HUD (or on the responsible entity authorized by 24 CFR Part 58) and the recipient (if other than the responsible entity) to ensure that the mitigating measures identified in the steps above are implemented.

Appendix A:
Project Location Maps

Geographic Proximity Map:

PR-CRP-000948 / PR-CRP-000964 / PR-CRP-000978

Address: PR-CRP-000948: Juan "Picolino" Hernández Ferrer Avenue (Sábana Seca Avenue) intersection with Llorens Torres Street and Rufino Martínez Street / PR-CRP-000964: Juan "Picolino" Hernández Ferrer Avenue intersection with Dr Álvarez Chanca Avenue / PR-CRP-000973: Juan "Picolino" Hernández Ferrer Avenue intersection with Dr Villalobos Street and Del Carmen Street

Coordinates: PR-CRP-000948: 18.437412°, -66.167189° / PR-CRP-000964: 18.437677°, -66.180319° / PR-CRP-000973: 18.437799˚, -66.185903˚

Source: Google Earth (Spatial Reference: WGS84), accessed June 6, 2024 at URL https://earth.google.com/

Prepared by ICF

PR-CRP-000948 Project Location Map

Source: https://www.google.com/maps
Spatial Reference: WGS84

Address: Intersection of Juan "Picolino" Hernández Ferrer Ave. and Rufino Ramirez St., Toa Baja PR

Coordinates: 18.437412°, -66.167189°

Prepared by ICF

PR-CRP-000964 Project Location Map

Source: https://www.google.com/maps
Spatial Reference: WGS84

Address: Intersection of Juan "Picolino" Hernández Ferrer Ave. and Dr. Álvarez Chanca Ave., Toa Baja PR

Coordinates: 18.437677, -66.180319°

Prepared by ICF

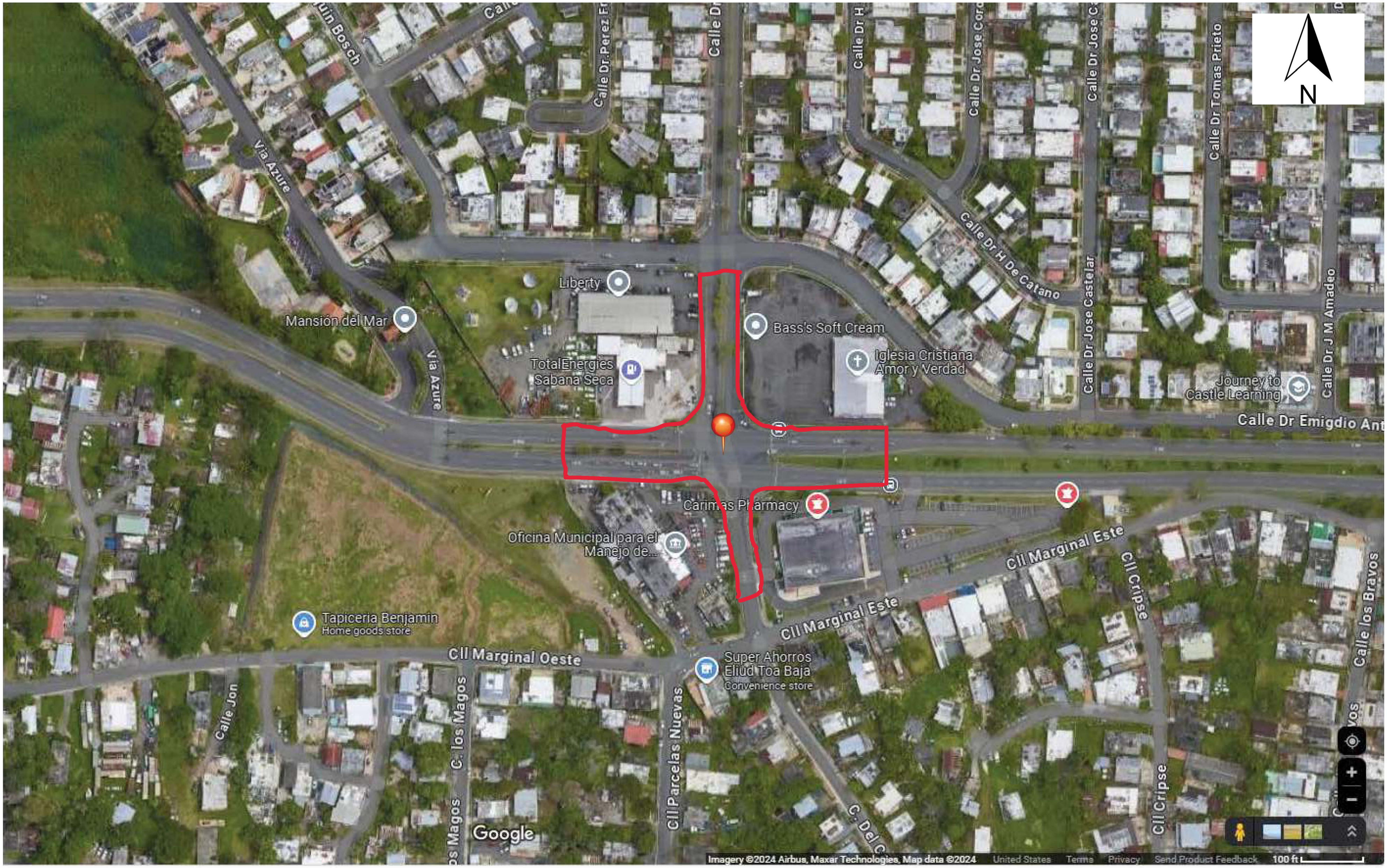
PR-CRP-000973 Project Location Map

Source: https://www.google.com/maps
Spatial Reference: WGS84

Address: Intersection of Juan "Picolino" Hernández Ferrer Ave. and Del Carmen St., Toa Baja PR

Coordinates: 18.437799°, -66.185903°

Prepared by ICF

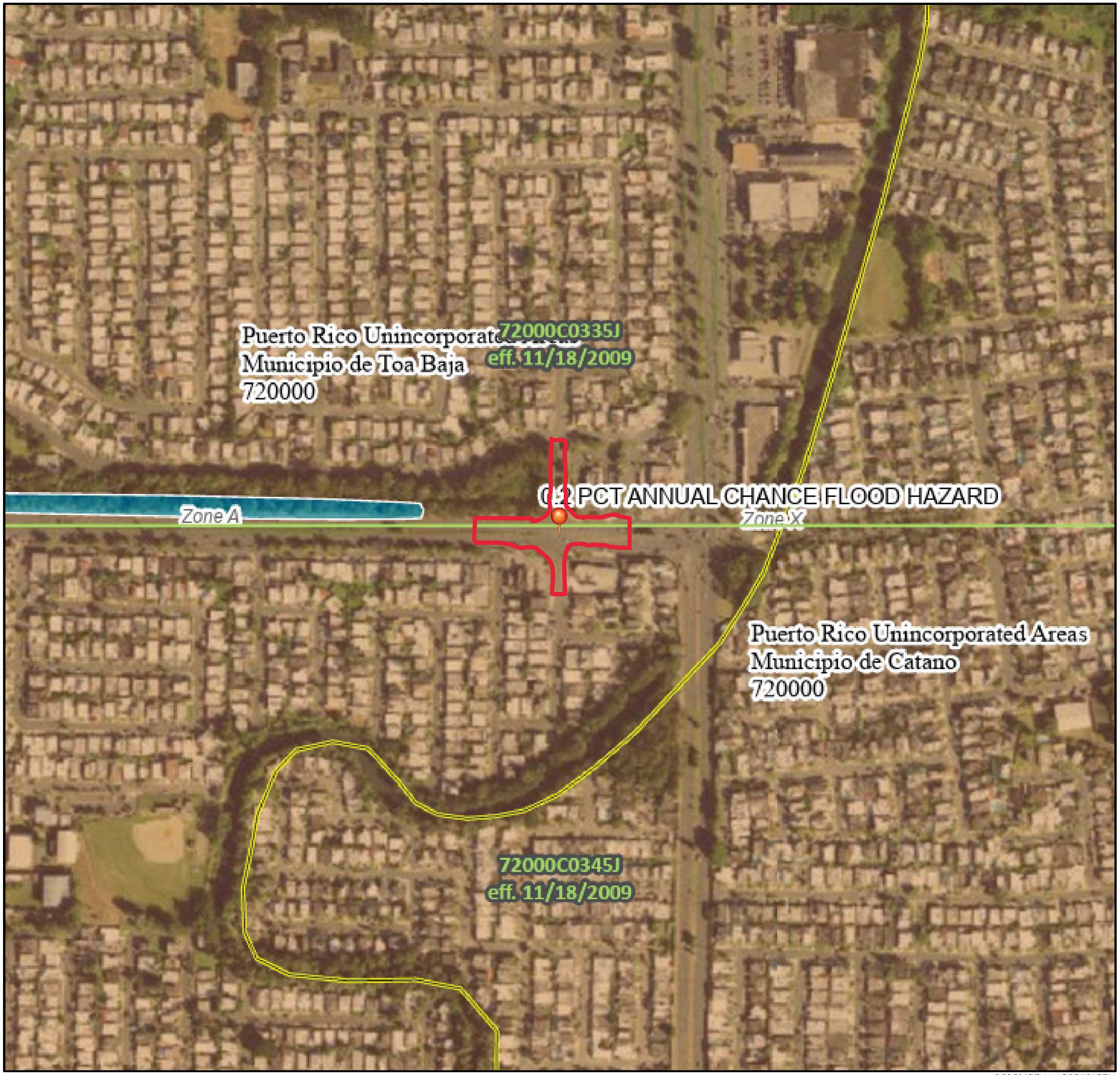


Appendix B:
FEMA FIRMettes

PR-CRP-000948 FEMA National Flood Hazard Layer FIRMette

Address: Intersection of Juan "Picolino" Hernández Ferrer Ave. and Rufino Ramirez St., Toa Baja PR
Coordinates: 18.437412°, -66.167189°

FEMA



1:6,000

Basemap Imagery Source: USGS National Map 2023

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
- 8 Coastal Transect
- 513 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 9/25/2024 at 12:22 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.

Prepared by ICF

PR-CRP-000964 FEMA National Flood Hazard Layer FIRMette

Address: Intersection of Juan "Picolino" Hernández Ferrer Ave. and Dr. Álvarez Chanca Ave., Toa Baja PR
Coordinates: 18.437677°, -66.180319°

FEMA

Basemap Imagery Source: USGS National Map 2023

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
- 513 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 9/25/2024 at 12:25 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.

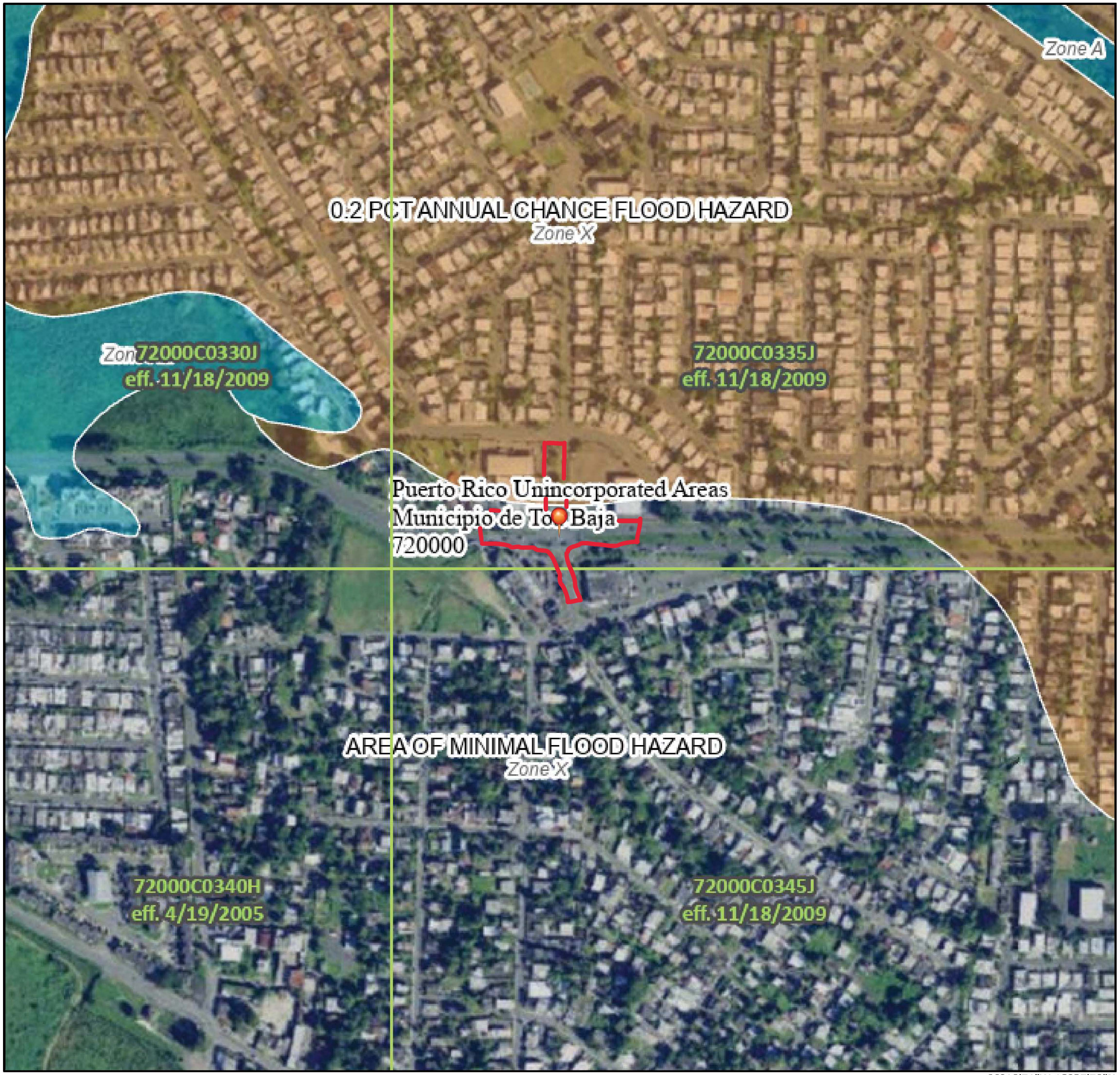
This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory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

Prepared by ICF

PR-CRP-000973 Project Location Map

Address: Intersection of Juan "Picolino" Hernández Ferrer Ave. and Del Carmen St., Toa Baja PR
Coordinates: 18.437799°, -66.185903°

FEMA



Feet

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

1:6,000

66°10'51"W 18°25'59"N

Basemap Imagery Source: USGS National Map 2023

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	B 20.2 17.5 Cross Sections with 1% Annual Chance Water Surface Elevation 8 Coastal Transect 513 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 9/25/2024 at 12:27 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.

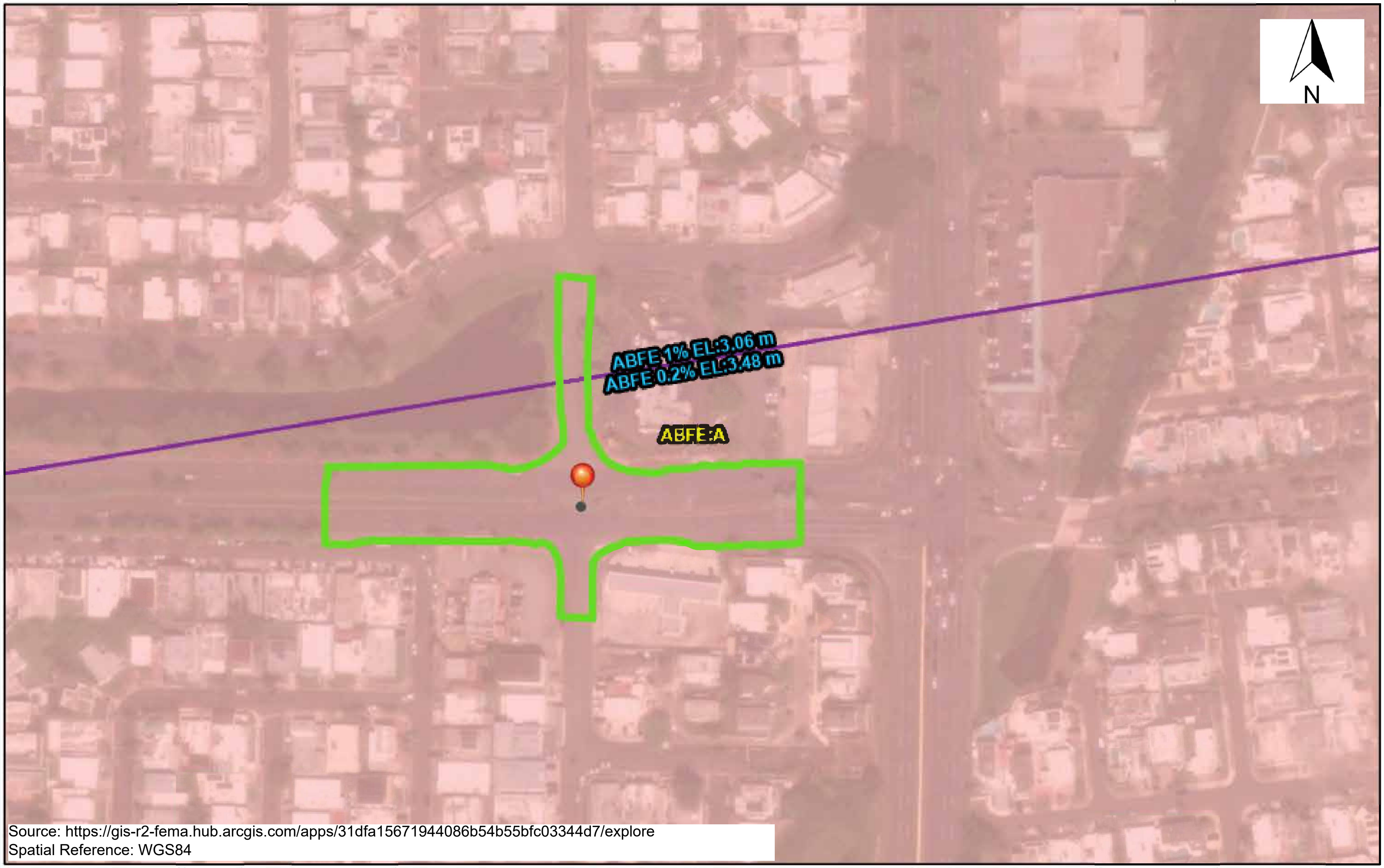
This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory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

Prepared by ICF

Appendix C:
Advisory Base Flood Elevation (ABFE) Maps

PR-CRP-000948 ABFE Map

Address: Intersection of Juan "Picolino" Hernández Ferrer Ave. and Rufino Ramirez St., Toa Baja PR
Coordinates: 18.437412°, -66.167189°



Source: https://gis-r2-fema.hub.arcgis.com/apps/31dfa15671944086b54b55bfc03344d7/explore
Spatial Reference: WGS84

7/30/2024, 9:10:12 PM

Flood Hazard Area (zoom in to make visible)

A

Zone/BFE Boundary

Advisory Base Flood Elevation (zoom in to make visible)

1:2,257

0 0.02 0.04 0.07 mi

0 0.03 0.06 0.11 km

FEMA, Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

ArcGIS Web AppBuilder
FEMA |

PR-CRP-000964 ABFE Map

Address: Intersection of Juan "Picolino" Hernández Ferrer Ave. and Dr. Álvarez Chanca Ave., Toa Baja PR
Coordinates: 18.437677˚, -66.180319˚

7/30/2024, 9:15:07 PM

Flood Hazard Area (zoom in to make visible)
- A
- 0.2% Annual Chance Flood Zone
- Zone/BFE Boundary

Flood Hazard Extent
- 1% Annual Chance Flood
- 0.2% Annual Chance Flood

1:2,257

0 0.02 0.04 0.07 mi

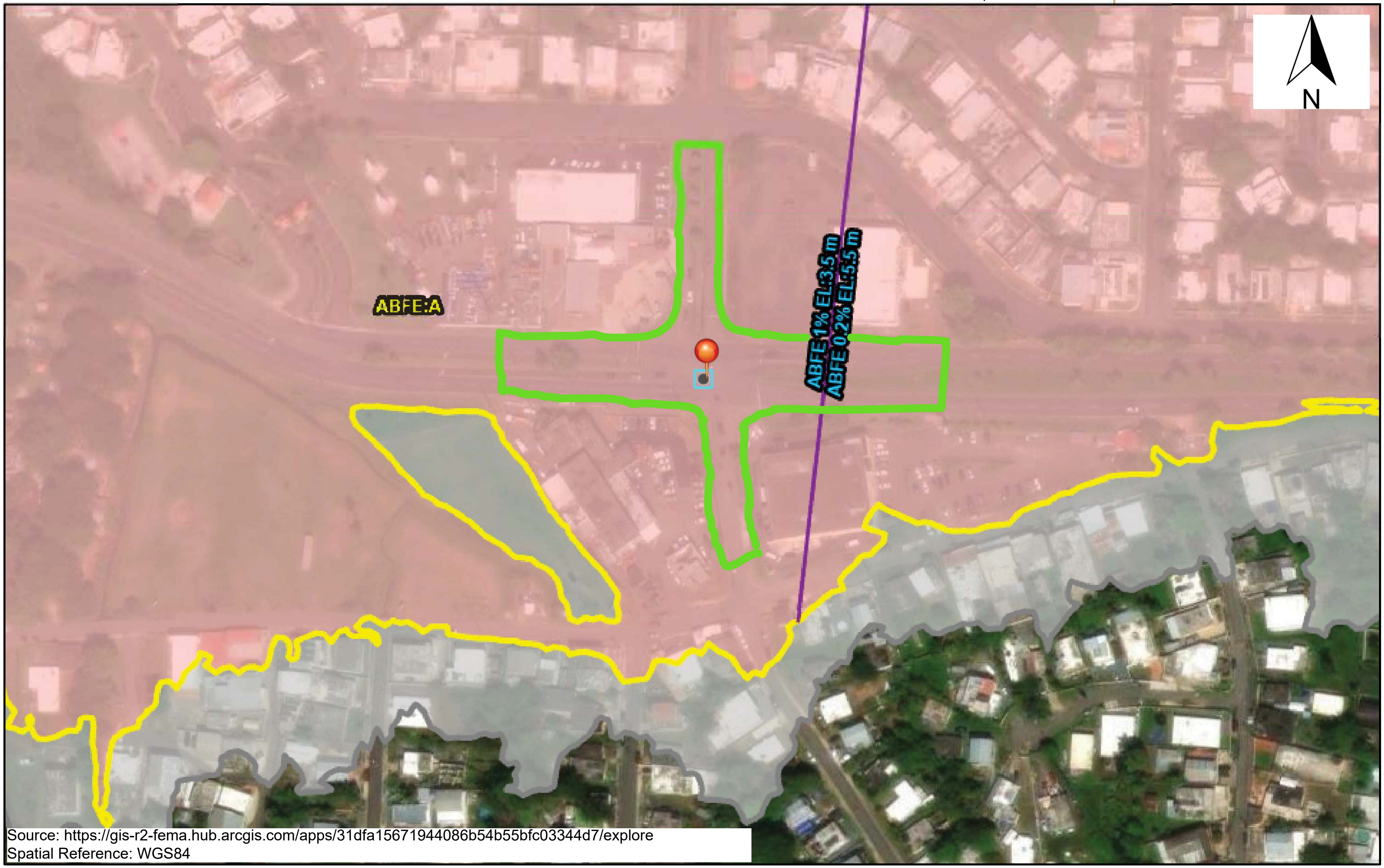
0 0.03 0.06 0.11 km

FEMA, Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

ArcGIS Web AppBuilder
FEMA |

PR-CRP-000973 ABFE Map

Address: Intersection of Juan "Picolino" Hernández Ferrer Ave. and Del Carmen St., Toa Baja PR
Coordinates: 18.437799°, -66.185903°



Source: https://gis-r2-fema.hub.arcgis.com/apps/31dfa15671944086b54b55bfc03344d7/explore
Spatial Reference: WGS84

7/30/2024, 9:16:38 PM

Flood Hazard Area (zoom in to make visible)
- A
- 0.2% Annual Chance Flood Zone
- Zone/BFE Boundary

Flood Hazard Extent
- 1% Annual Chance Flood
- 0.2% Annual Chance Flood
- Advisory Base Flood Elevation (zoom in to make visible)

1:2,257

0 0.02 0.04 0.07 mi
0 0.03 0.06 0.11 km

FEMA, Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

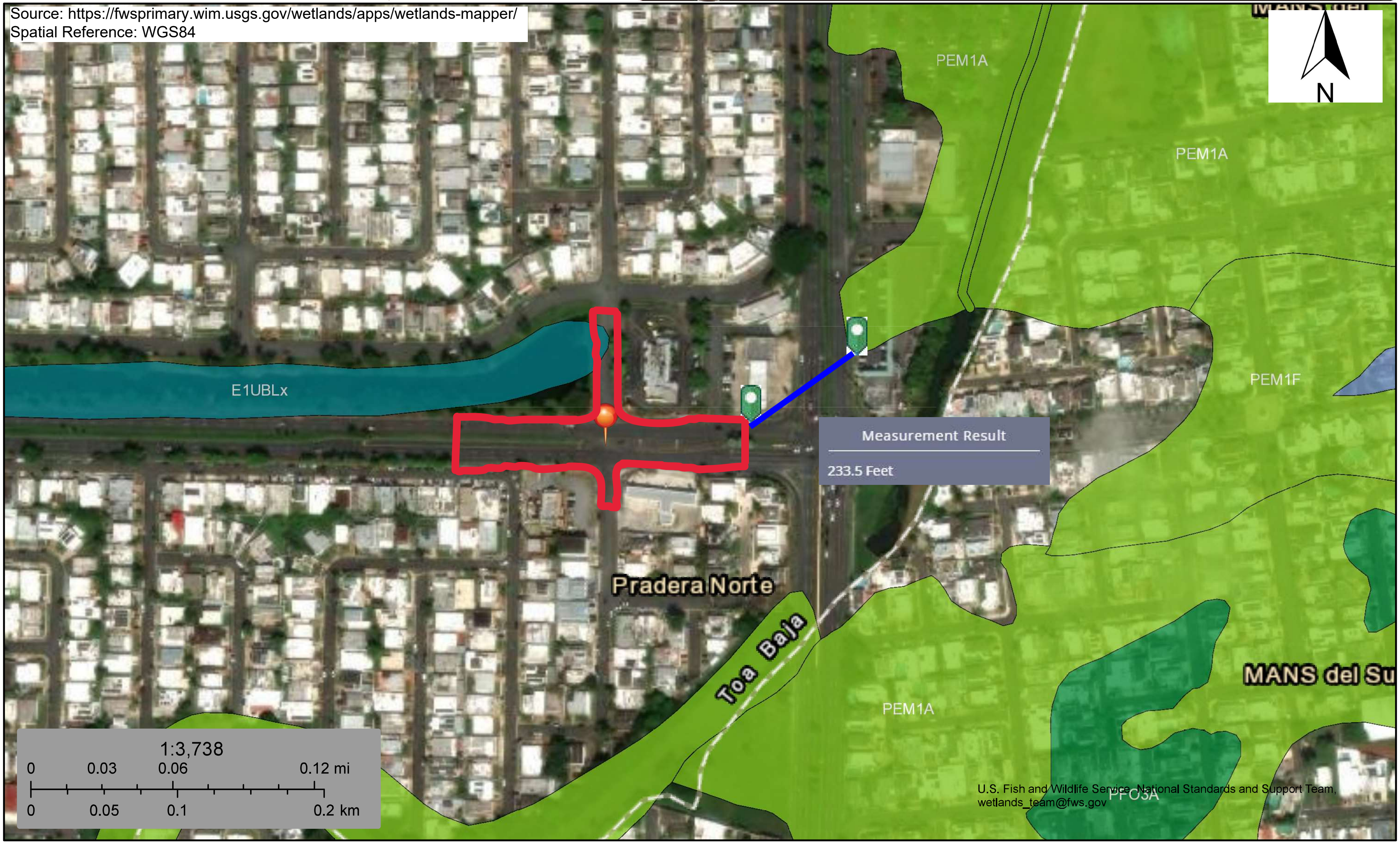
ArcGIS Web AppBuilder
FEMA |

Appendix D:
Wetland Maps

PR-CRP-000948 Wetland Map

Address: Intersection of Juan "Picolino" Hernández Ferrer Ave. and Rufino Ramirez St., Toa Baja PR
Coordinates: 18.437412°, -66.167189°

U.S. Fish and Wildlife Service
National Wetlands Inventory



July 30, 2024

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.

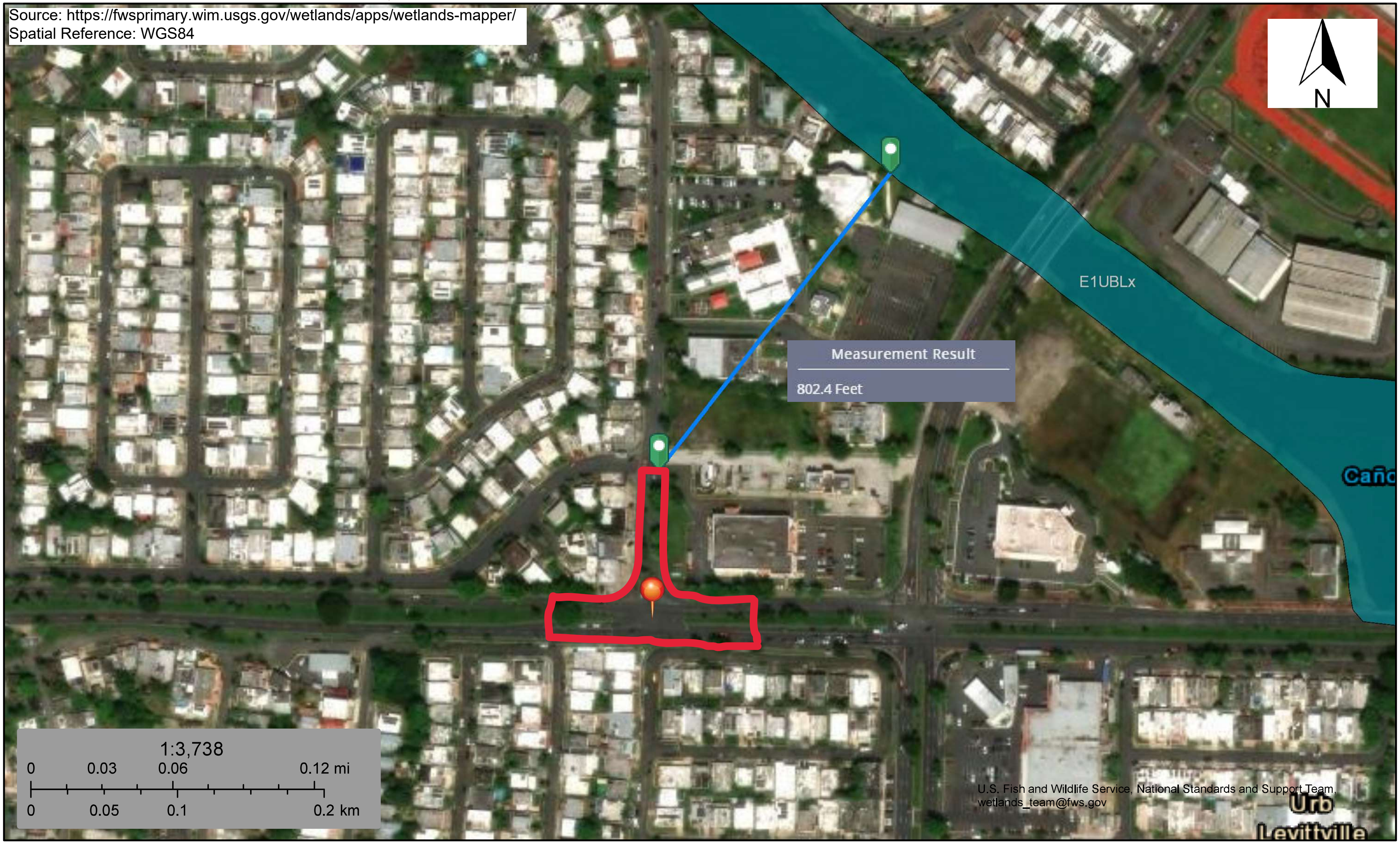
Prepared by ICF

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

PR-CRP-000964 Wetland Map

Address: Intersection of Juan "Picolino" Hernández Ferrer Ave. and Dr. Álvarez Chanca Ave., Toa Baja PR
Coordinates: 18.437677˚, -66.180319˚

U.S. Fish and Wildlife Service
National Wetlands Inventory



July 30, 2024

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.

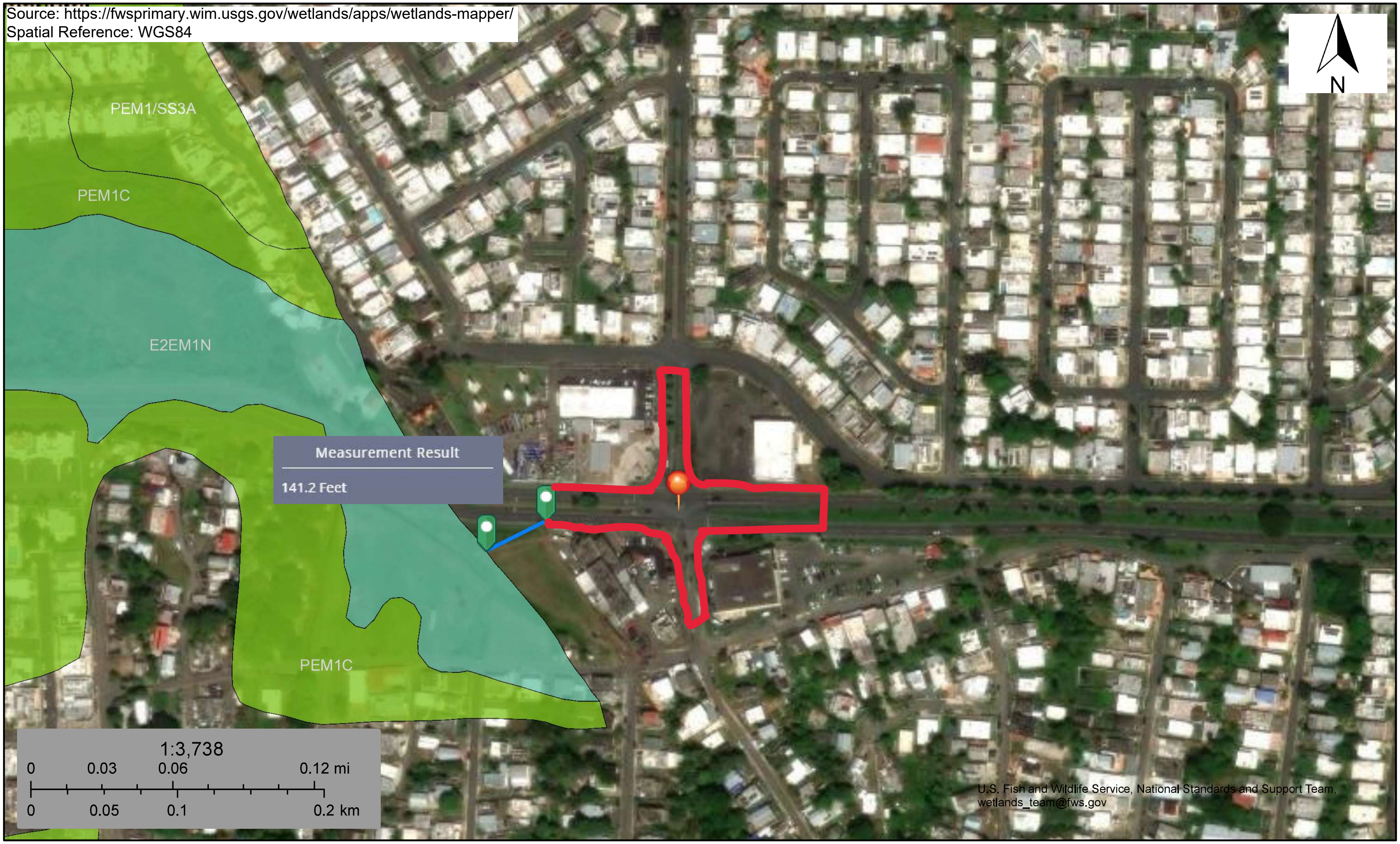
Prepared by ICF

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

PR-CRP-000973 Wetland Map

Address: Intersection of Juan "Picolino" Hernández Ferrer Ave. and Del Carmen St., Toa Baja PR
Coordinates: 18.437799°, -66.185903°

U.S. Fish and Wildlife Service
National Wetlands Inventory



July 30, 2024

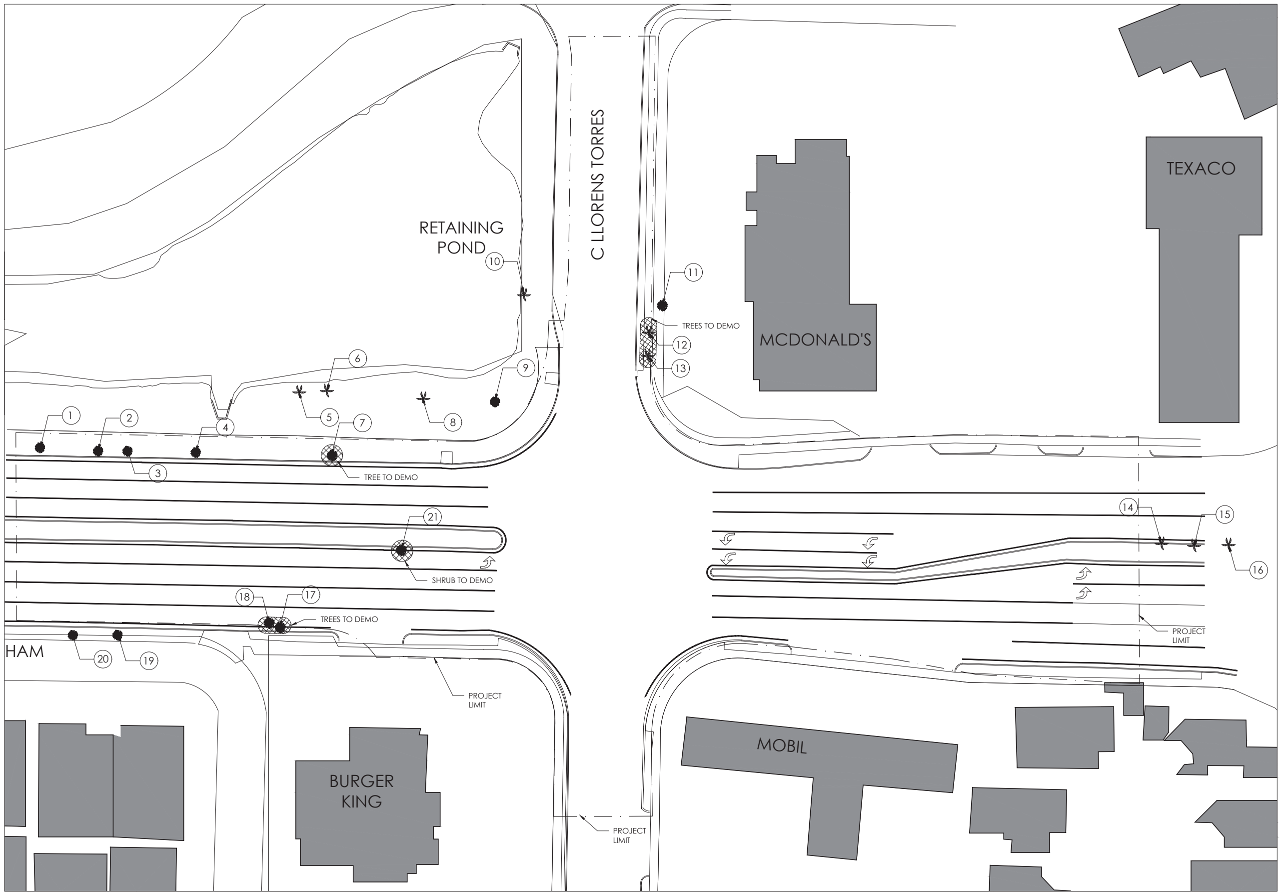
Wetlands

- 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.

Prepared by ICF

Appendix E:
Tree Inventory and Tree Mitigation Plans



1 Existing Tree Inventory & Removal Plan
SCALE: 1'-0"=1/32"
N

TREE INVENTORY

REF	Common Name	Latin Name	Height	DBH	Action	Note	Req. Replacement
1	Ucarillo	Bucida spinosa	20	10	Conserve	Interfering wit	--
2	Ucarillo	Bucida spinosa	20	10	Conserve	Interfering wit	--
3	Ucarillo	Bucida spinosa	20	10	Conserve	Interfering wit	--
4	Ucarillo	Bucida spinosa	12	9	Conserve	Interfering wit	--
5	Palma Real	Roystonea regia	22	16	Conserve		--
6	Palma Real	Roystonea regia	22	16	Conserve		--
7	Ucar	Bucida buceras	25	14	Remove		3
8	Palma Real	Roystonea regia	18	18	Conserve		--
9	Ceiba	Ceiba pentandra	30	36	Conserve		--
10	Palma Real	Roystonea regia	20	16	Conserve		--
11	Ucar	Bucida buceras	25	14	Conserve		--
12	Queen Palm	Syagrus romanzoffiana	4	6	Remove	Stunted	3
13	Queen Palm	Syagrus romanzoffiana	4	6	Remove	Stunted	3
14	Bismarckia Palma	Bismarckia nobilis	20	16	Conserve		--
15	Bismarckia Palma	Bismarckia nobilis	20	16	Conserve		--
16	Bismarckia Palma	Bismarckia nobilis	20	16	Conserve		--
17	Maleleuca	Melaleuca quinquenerv	12	9	Remove	Invasive spec	3
18	Maleleuca	Melaleuca quinquenerv	12	8	Remove	Invasive spec	3
19	Palma de Coco	Cocos nucifera	20	12	Conserve		--
20	Ucar	Bucida buceras	18	12	Conserve		--
21	Hibiscus	Hibiscus rosa-sinsensis	4	2	Remove		--

TREE INVENTORY SUMMARY

Common Name	Latin Name	Quantity	Remove	Conserve	Req. Replacement
Ucarillo	Bucida spinosa	4		4	0
Palma Real	Roystonea regia	4		4	0
Ucar	Bucida buceras	3	1	2	3
Ceiba	Ceiba pentandra	1		1	0
Queen Palm	Syagrus romanzoffiana	2	2	0	6
Bismarckia Palma	Bismarckia nobilis	3		3	0
Hibiscus	Hibiscus rosa-sinsensis	1	1		0
Maleleuca	Melaleuca quinquenervia	2	2		6
Palma de Coco	Cocos nucifera	1		1	0

General Notes

IMPORTANT INFORMATION FOR THE CONTRACTOR

Contractor shall verify al dimensions, levels and condition on-site before commencing any and all work. Any discrepancy, error or omission in these plans shall be notified to the Architect, Landscape Architect or Engineer who stamps and signs these drawings so that proper corrections to the documents can be made.

Do not take any measurements from the physical drawings.

Only use documents with a "FOR CONSTRUCTION ONLY" stamp and sealed and signed by the designer.

Yo, Edmundo Colon Arizmendi PE, con licencia número 7812, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

No. Description Date

ECo
Landscape + Architecture + Engineering

103 Calle Isabel Andreu Aguilar, 4to Piso, San Juan, PR 00918
787-764-0610 eco-designstudio.com

Existing Tree Inventory and Removal Plan

T.B.Roundabout P.R. - CRP: 000948

Ave. Sabana Seca Int., Calle Rufino Ramírez, Levittown, Toa Baja, PR

Autonomous Municipality of Toa Baja

Seal:

SIGNING ARCH
License #

Yo, Edmundo Colón Izquierdo, con licencia número 19992, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

File Name: 2022.04-Rotondas Toa Baja

Date: 09-19-2023

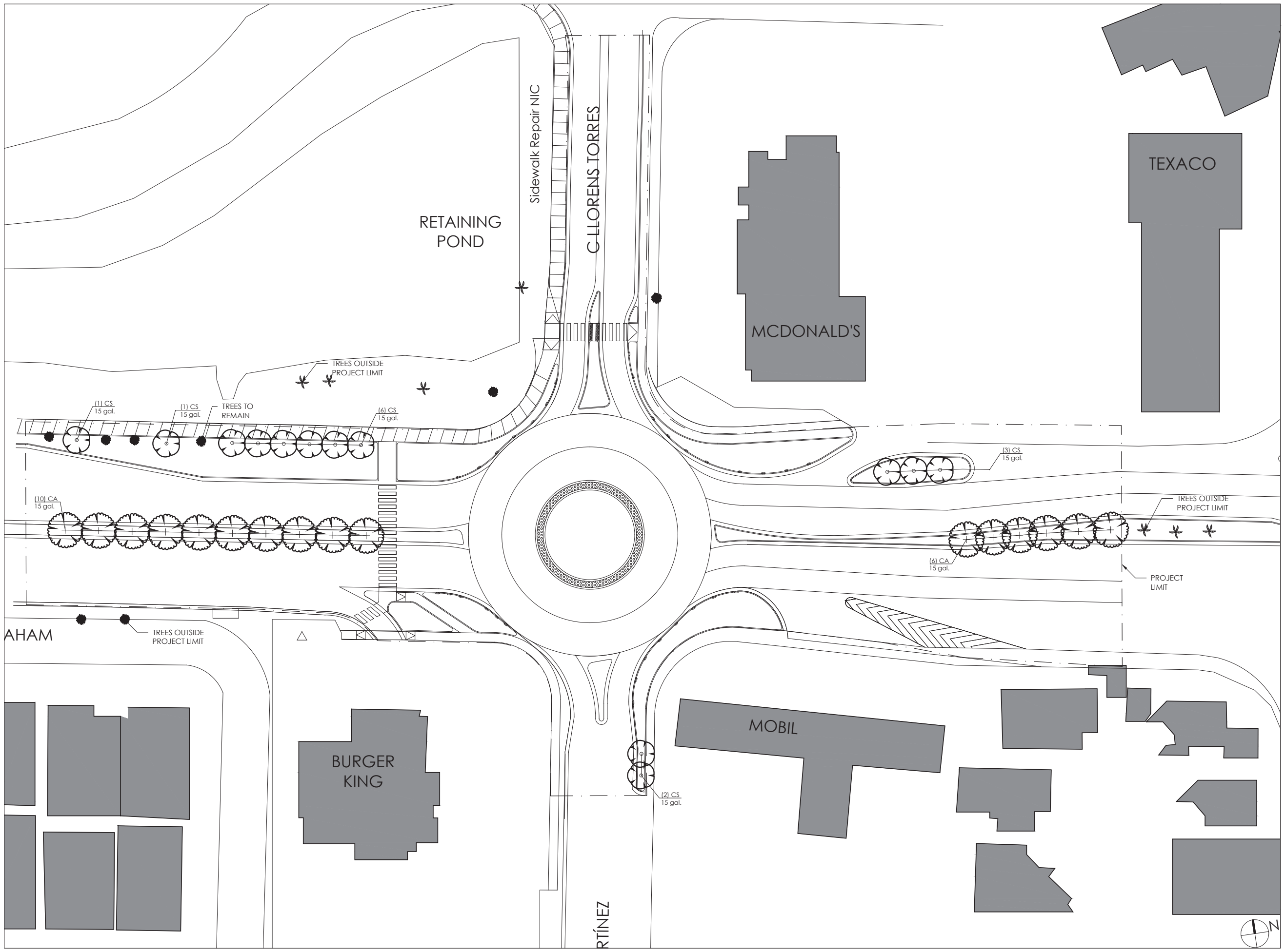
Scale: Scale:1'-0"=1/32"

Sheet: LA-200

Project #: 2022.04

Drawn by: MEG

Checked by: ERCI



1 Tree Mitigation Plan
SCALE: 1'-0"=1/32"

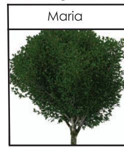
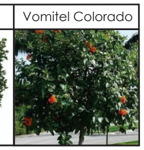
2023-10-18 16:08

PLANT SCHEDULE

TREES	CODE	BOTANICAL / COMMON NAME	SIZE	CONTAINER	QTY
	CA	Calophyllum antillanum / Maria	15 gal.	Pot	16
	CS	Cordia sebestena / Orange Geiger Tree	15 gal.	Pot	13

NOTE TO CONTRACTOR:
-15 trees are requiried for mitigation compliance.
-35 trees are proposed for roundabout design.

TREES

Maria	Vomitel Colorado
	

General Notes

IMPORTANT INFORMATION FOR THE CONTRACTOR

Contractor shall verify al dimensions, levels and condition on-site before commencing any and all work. Any discrepancy, error or omission in these plans shall be notified to the Architect, Landscape Architect or Engineer who stamps and signs these drawings so that proper corrections to the documents can be made.

Do not take any measurements from the physical drawings.

All drawings, specifications and other documents are property of ECo and can solely be used as an instrument of the Architect, Landscape Architect or Engineers' service as reference for this project.

ECo, the signing Architect, Landscape Architect or Engineer, and Eco's Consultants shall be deemed the author(s) of these documents and shall retain all common and statutory laws, including reserved and copyright(s). The full and/or partial reproduction of these drawings may only be done with the express written consent of the Architect, Landscape Architect or Engineer.

Only use documents with a "FOR CONSTRUCTION ONLY" stamp and sealed and signed by the designer.

Yo, Edmundo Colon Arizmendi PE, con licencia número 7812, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

No.	Description	Date

ECo
Landscape + Architecture + Engineering
103 Calle Isabel Andreu Aguilar, 4to Piso, San Juan,PR 00918
787-764-0610 eco-designstudio.com

Tree Mitigation Plan

T.B.Roundabout P.R. - CRP: 000948

Ave. Sabana Seca Int., Calle Rufino Ramírez, Levittown, Toa Baja, PR

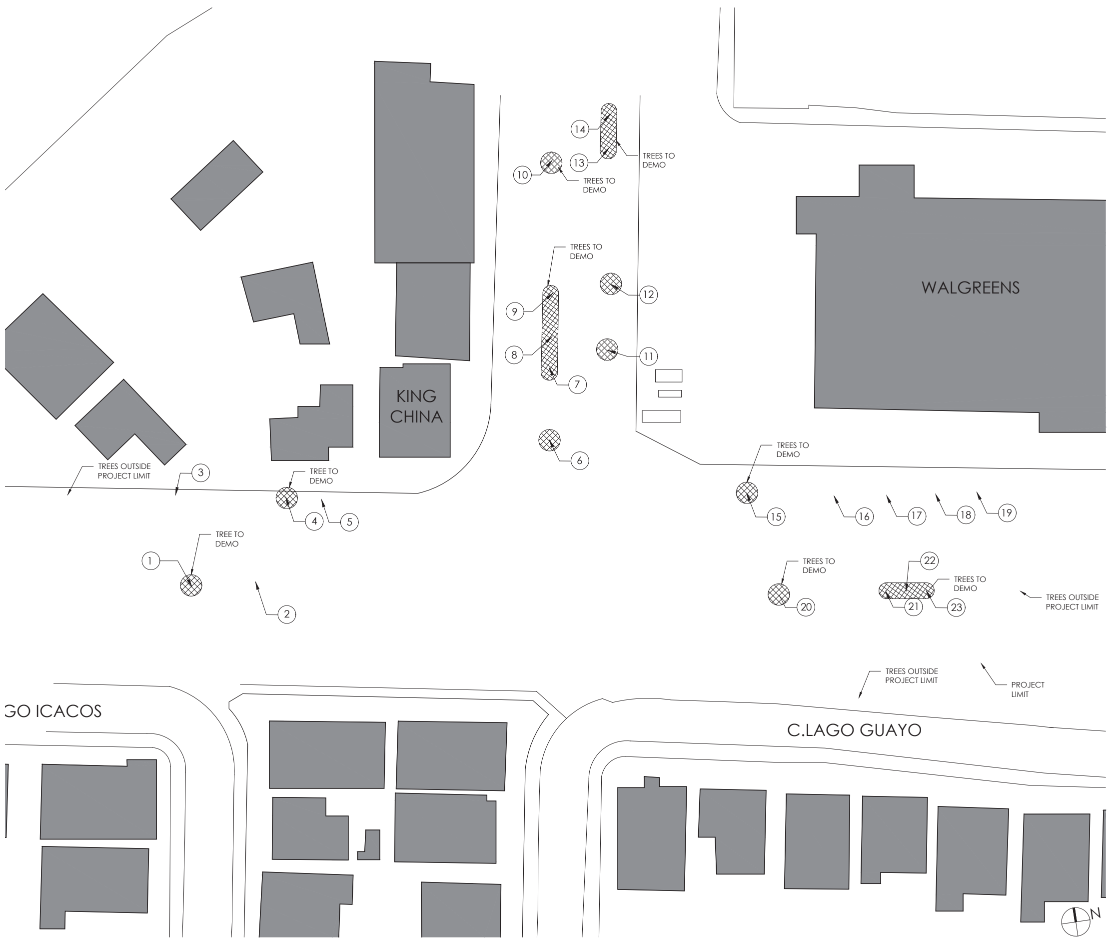
Autonomous Municipality of Toa Baja

Seal:

SIGNING ARCH
License #

Yo, Edmundo Colón Izquierdo, con licencia número 19992, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

File Name:	2022.04-Rotondas Toa Baja
Date: 09-19-2023	Scale: Scale:1'-0"=1/32"
Sheet	LA-201
Project #	2022.04
Drawn by	MEG
Checked by	ERCI



1 Existing Tree Inventory and Removal Plan
SCALE: 1'-0"=1/32"

TREE INVENTORY

REF	Common Name	Latin Name	Height	DBH	Action	Note	Req. Replacement
1	Ixora	Ixora spp	5	2	Remove	Shrub	--
2	Acacia	Acacia	50	28	Conserve	Multitrunk (2)	--
3	Ucar	Bucida buceras	43	15	Conserve		--
4	Ucar	Bucida buceras	26	5	Remove	Bad	--
5	Ucar	Bucida buceras	32	25	Conserve		--
6	Teca	Tectona grandis	25	11	Remove		3
7	Pink Trumpet Tree	Tabebuia rosea	15	8	Remove		3
8	Rainbow Eucalyptu	Ecualyptus deglupta	25	11	Remove		3
9	Manila Palm	Adonidia merrillii	15	6	Remove		3
10	Manila Palm	Adonidia merrillii	15	6	Remove		3
11	Ucar	Bucida buceras	32	11	Remove		3
12	Ucar	Bucida buceras	43	13	Remove		3
13	Ucar	Bucida buceras	33	13	Remove		3
14	Ucar	Bucida buceras	26	13	Remove		3
15	Ucar	Bucida buceras	25	17	Remove		3
16	Ucar	Bucida buceras	25	17	Conserve		--
17	Ucar	Bucida buceras	20	8	Conserve		--
18	Ucar	Bucida buceras	20	15	Conserve		--
19	Ucar	Bucida buceras	35	17	Conserve		--
20	Fiji Fan Palm	Pritchardia pacifica	18	9	Remove		3
21	Manila Palm	Adonidia merrillii	18	8	Remove		3
22	Manila Palm	Adonidia merrillii	18	8	Remove		3
23	Manila Palm	Adonidia merrillii	18	8	Remove		3

TREE INVENTORY SUMMARY

Common Name	Latin Name	Quantity	Remove	Conserve	Req. Replacement
Ucar	Bucida buceras	12	6	6	18
Ixora	Ixora spp	1	1		0
Acacia	Acacia	1		1	0
Manila Palm	Adonidia merrillii	5	5	0	15
Teca	Tectona grandis	1	1		3
Pink Trumpet Tree	Tabebuia rosea	1	1		3
Rainbow Eucalyptu	Ecualyptus deglupta	1	1		3
Fiji Fan Palm	Pritchardia pacifica	1	1		3

General Notes

IMPORTANT INFORMATION FOR THE CONTRACTOR

Contractor shall verify al dimensions, levels and condition on-site before commencing any and all work. Any discrepancy, error or omission in these plans shall be notified to the Architect, Landscape Architect or Engineer who stamps and signs these drawings so that proper corrections to the documents can be made.

Do not take any measurements from the physical drawings.

Only use documents with a "FOR CONSTRUCTION ONLY" stamp and sealed and signed by the designer.

Yo, Edmundo Colon Izquierdo, con licencia número 19992, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

No.	Description	Date

ECo
LANDSCAPE + ARCHITECTURE + ENGINEERING

103 Calle Isabel Andreu Aguilar, 4to Piso, San Juan,PR 00918
787-764-0610 eco-designstudio.com

Existing Tree Inventory andn Removal Plan

T.B. Roundabout P.R.-CRP-000964

Ave. Sabana Seca Int., Ave. Diego Alvarez Chanca, Levittown, Toa Baja, P.R.

Autonomous Municipality of Toa Baja

Seal:

SIGNING ARCH
License #

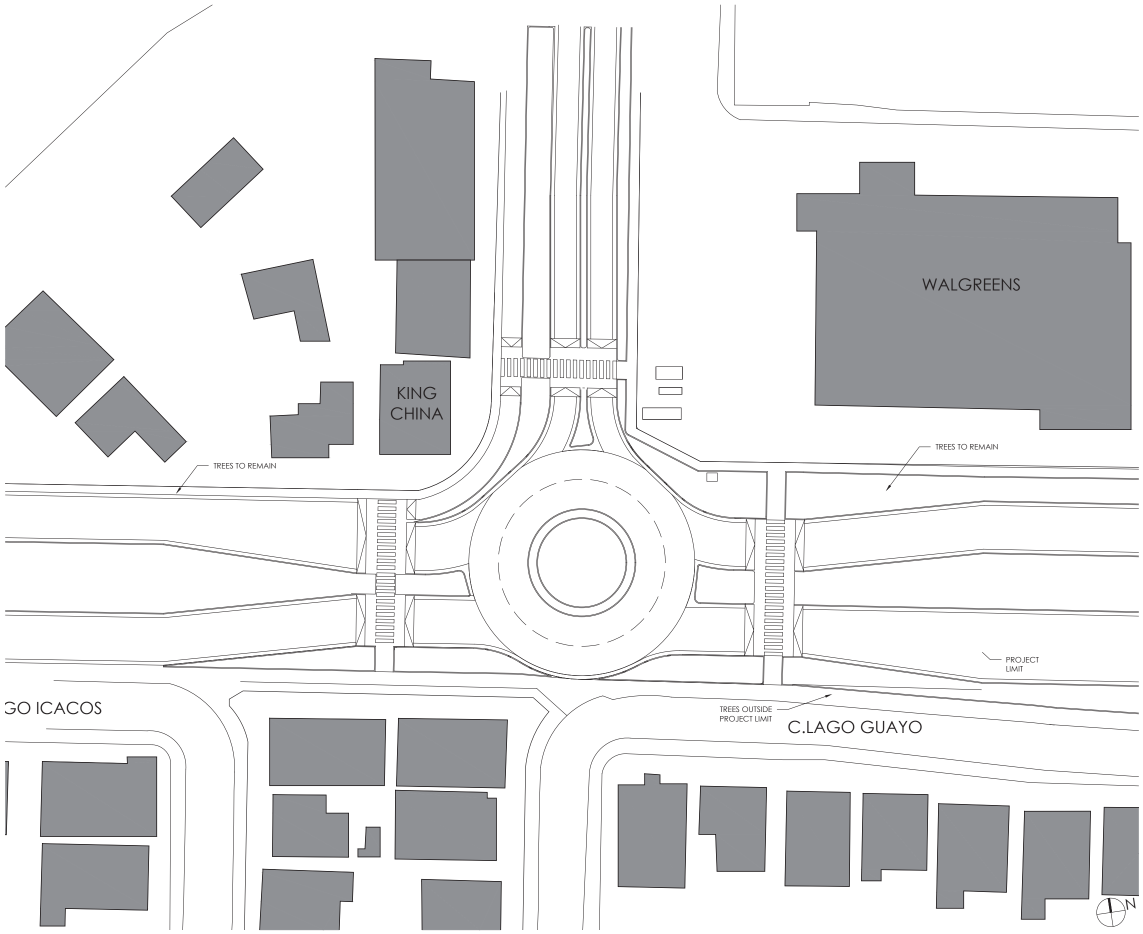
File Name: 2022.04 Rotondas Toa Baja

Date: 09-19-2023
Scale: Scale:1'-0"=1/32"

Sheet

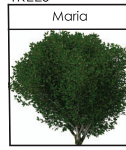
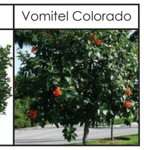
LA-200

Project #: 2022.04
Drawn by: MEG
Checked by: ERCI



1 Tree Mitigation Plan
SCALE: 1'-0"=1/32"

TREES

Maria	Vomitel Colorado
	

NOTE TO CONTRACTOR:
-45 trees are required for mitigation compliance.
-46 trees are proposed for roundabout design.

General Notes

IMPORTANT INFORMATION FOR THE CONTRACTOR

Contractor shall verify al dimensions, levels and condition on-site before commencing any and all work. Any discrepancy, error or omission in these plans shall be notified to the Architect, Landscape Architect or Engineer who stamps and signs these drawings so that proper corrections to the documents can be made.

Do not take any measurements from the physical drawings.

Only use documents with a "FOR CONSTRUCTION ONLY" stamp and sealed and signed by the designer.

Yo, Edmundo Colon Izquierdo, con licencia número 19992, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

No.	Description	Date

ECo
Landscape + Architecture + Engineering

103 Calle Isabel Andreu Aguilar, 4to Piso, San Juan,PR 00918
787-764-0610 eco-designstudio.com

Tree Mitigation Plan

T.B. Roundabout P.R.-CRP-000964

Ave. Sabana Seca Int., Ave. Diego Alvarez Chanca, Levittown, Toa Baja, P.R.

Autonomous Municipality of Toa Baja

Seal:

SIGNING ARCH
License #

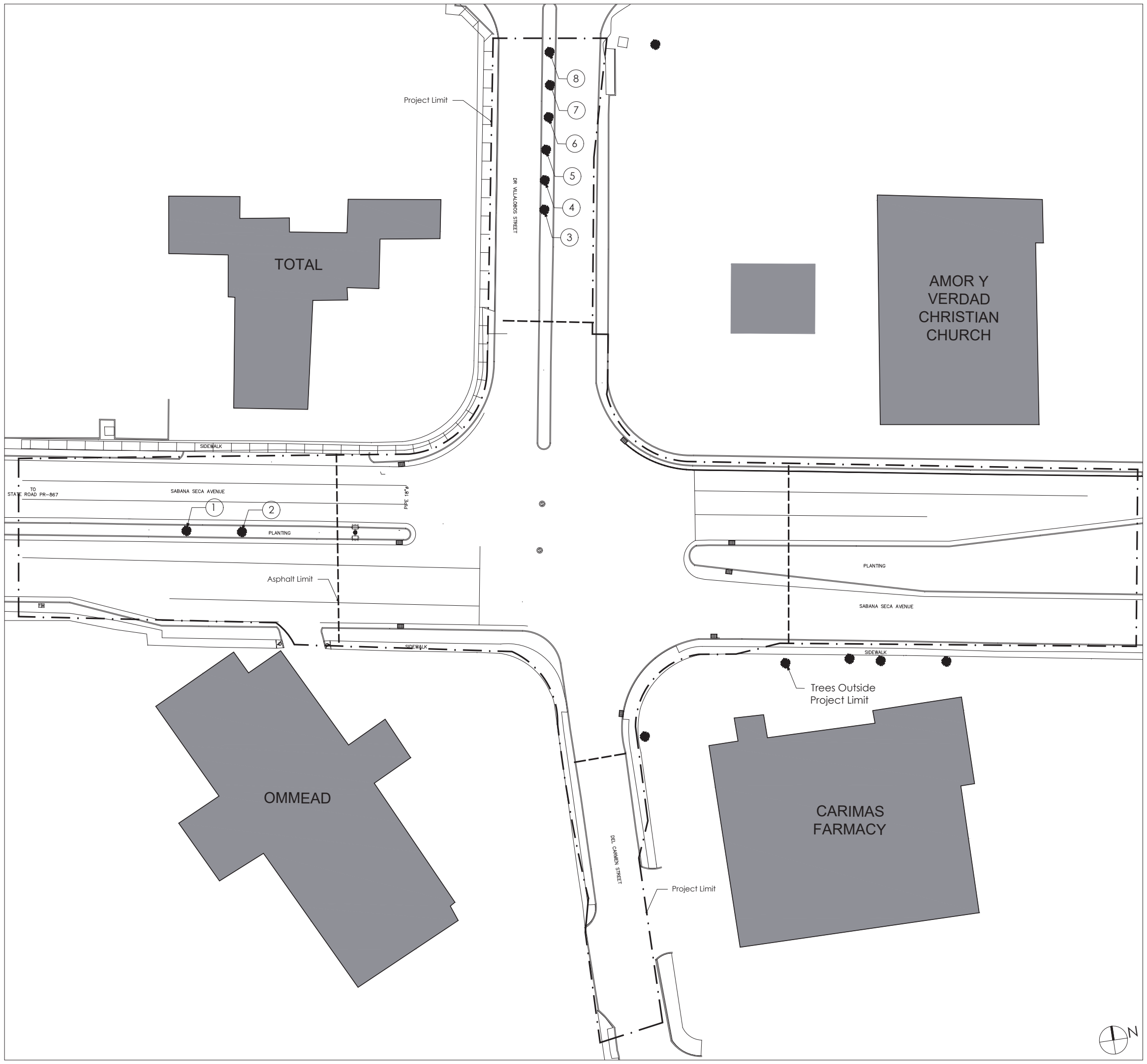
File Name: 2022.04-Rotondas Toa Baja

Date 09-19-2023
Scale Scale:1'-0"=1/32"

Sheet

LA-201

Project #	2022.04
Drawn by	MEG
Checked by	ERCI



1 Existing Tree Inventory and Removal Plan

SCALE: 1'-0"=1/32"

TREE INVENTORY

REF	Common Name	Latin Name	Height	DBH	Action	Note	Req. Replacement
1	Roble Nativo	Tabebuia heterophylla	14	8	Conserve		--
2	Reina de Flores	Lagerstroemia speciosa	20	14	Conserve		--
3	Ucar	Bucida buceras	20	14	Conserve		--
4	Ucar	Bucida buceras	20	14	Conserve		--
5	Ucar	Bucida buceras	20	14	Conserve		--
6	Ucar	Bucida buceras	20	14	Conserve		--
7	Ucar	Bucida buceras	20	14	Conserve		--
8	Ucar	Bucida buceras	20	14	Conserve		--

TREE INVENTORY SUMMARY

Common Name	Latin Name	Quantity	Remove	Conserve	Req. Replacement
Roble Nativo	Tabebuia heterophylla	1		1	0
Reina de Flores	Lagerstroemia speciosa	1		1	0
Ucar	Bucida buceras	6		6	0

General Notes

IMPORTANT INFORMATION FOR THE CONTRACTOR

Contractor shall verify al dimensions, levels and condition on-site before commencing any and all work. Any discrepancy, error or omission in these plans shall be notified to the Architect, Landscape Architect or Engineer who stamps and signs these drawings so that proper corrections to the documents can be made.

Do not take any measurements from the physical drawings.

All drawings, specifications and other documents are property of ECo and can solely be used as an instrument of the Architect, Landscape Architect or Engineers' service as reference for this project.

ECo, the signing Architect, Landscape Architect or Engineer, and Eco's Consultants shall be deemed the author(s) of these documents and shall retain all common and statutory laws, including reserved and copyright(s). The full and/or partial reproduction of these drawings may only be done with the express written consent of the Architect, Landscape Architect or Engineer.

Only use documents with a "FOR CONSTRUCTION ONLY" stamp and sealed and signed by the designer.

Yo, Edmundo Colon Izquierdo, con licencia número 19992, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

No.	Description	Date

ECo
LANDSCAPE + ARCHITECTURE + ENGINEERING
103 Calle Isabel Andreu Aguilar, 4to Piso, San Juan,PR 00918
787-764-0610 eco-designstudio.com

Existing Tree Inventory and Removal Plan

T.B. Roundabout PR-CRP-000973

Ave. Sabana Seca Int. Dr. Villalobos, Levittown, Toa Baja, P.R.

Autonomous Municipio de Toa Baja

Seal:

SIGNING ARCH
License #

Yo, Edmundo Colón Izquierdo, con licencia número 19992, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

File Name: 2022.04-Rotondas Toa Baja

Date 09/19/2023

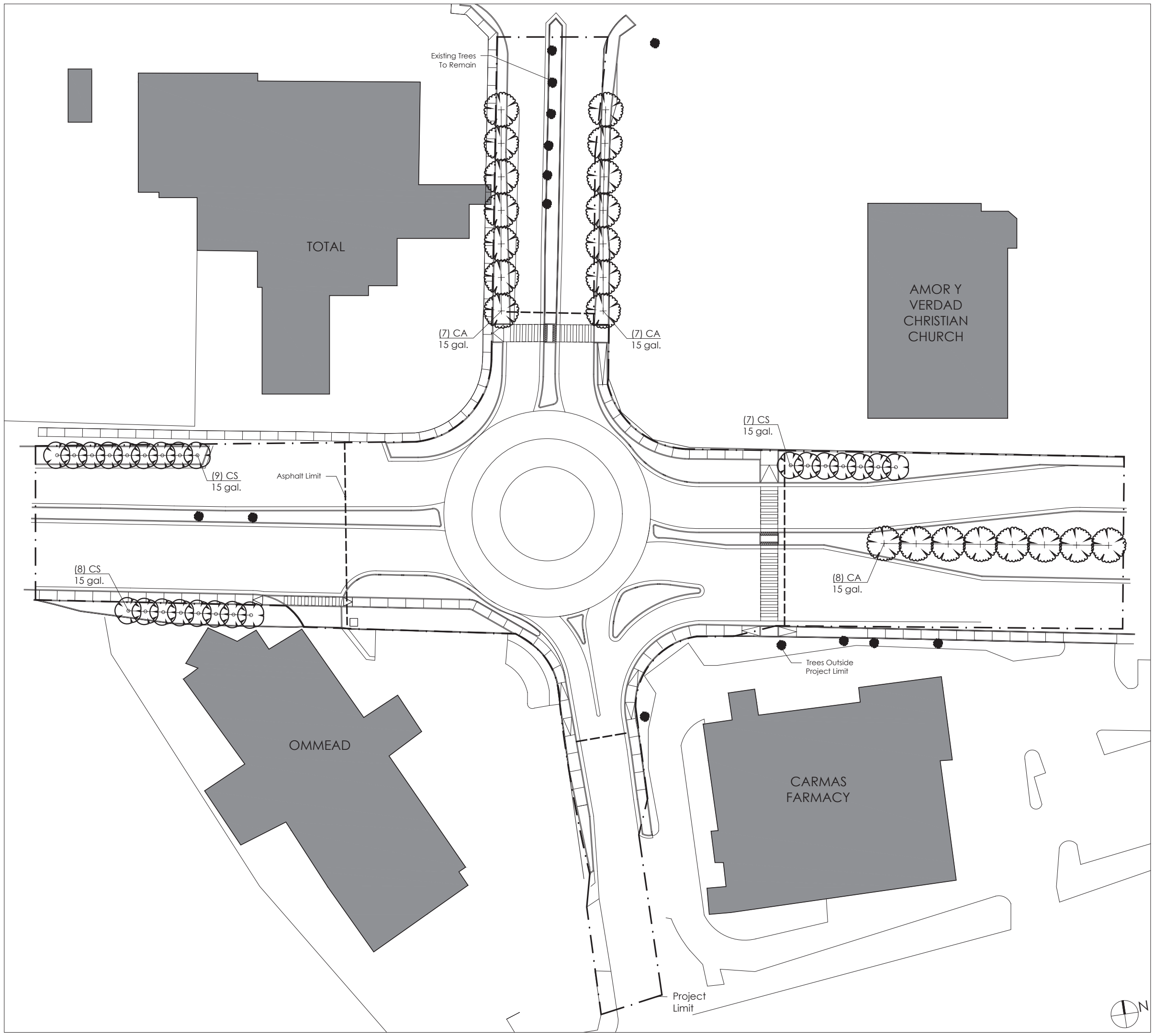
Scale Scale:1'-0"=1/32"

Sheet LA-200

Project # 2022.04

Drawn by MEG

Checked by ERCI



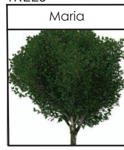
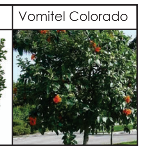
1 Tree Mitigation Plan
SCALE: 1'-0"=1/32"

PLANT SCHEDULE

TREES	CODE	BOTANICAL / COMMON NAME	SIZE	CONTAINER	QTY
	CA	Calophyllum antillanum / Maria	15 gal.	Pot	22
	CS	Cordia sebestena / Orange Geiger Tree	15 gal.	Pot	24

NOTE TO CONTRACTOR:
-41 trees are requiried for mitigation compliance.
-13 trees are proposed for roundabout design.

TREES

Maria	Vomitel Colorado
	

General Notes

IMPORTANT INFORMATION FOR THE CONTRACTOR

Contractor shall verify al dimensions, levels and condition on-site before commencing any and all work. Any discrepancy, error or omission in these plans shall be notified to the Architect, Landscape Architect or Engineer who stamps and signs these drawings so that proper corrections to the documents can be made.

Do not take any measurements from the physical drawings.

Only use documents with a "FOR CONSTRUCTION ONLY" stamp and sealed and signed by the designer.

Yo, Edmundo Colon Izquierdo, con licencia número 19992, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

No.	Description	Date

ECo
LANDSCAPE + ARCHITECTURE + ENGINEERING
103 Calle Isabel Andreu Aguilar, 4to Piso, San Juan, PR 00918
787-764-0610 eco-designstudio.com

Tree Mitigation Plan

T.B. Roundabout PR-CRP-000973

Ave. Sabana Seca Int. Dr. Villalobos, Levittown, Toa Baja, P.R.

Autonomous Municipio de Toa Baja

Seal:

SIGNING ARCH
License #

Yo, Edmundo Colón Izquierdo, con licencia número 19992, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

File Name:	2022.04-Rotondas Toa Baja
Date 09/19/2023	Scale Scale:1'-0"=1/32"
Sheet	LA-201
Project #	2022.04
Drawn by	MEG
Checked by	ERCI

Appendix K: Cultural Resources Documentation

GOVERNMENT OF PUERTO RICO
STATE HISTORIC PRESERVATION OFFICE
Executive Director | Carlos A. Rubio Cancela | carubio@prshpo.pr.gov

Wednesday, September 25, 2024

Lauren B Poche

269 Avenida Ponce de León, San Juan, PR, 00917

SHPO-CF-09-09-24-03 PR-CRP-000948, -000964, -000973 (Toa Baja), Three Proposed Rotunda Projects

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.

Our records support your finding of no historic properties affected for this undertaking.

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 Cancela
State Historic Preservation Officer
CARC/GMO/ MB

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

September 10. 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 NHPA Effect Determination Submittal for Aggregated Projects PR-CRP-000948 - Rotonda Ave. Sabana Seca int. Calle Rufino Ramírez Project, PR-CRP-000964 - Rotonda Ave. Sabana Seca int. Ave. Dr. Diego Alvarez Chanca Project, and PR-CRP-000973 - Rotonda Ave. Sabana Seca int. Calle Dr. Villalobos Project, Levittown, Toa Baja, Puerto Rico – *No Historic Properties Affected*

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 Toa Baja, we are submitting documentation for three proposed rotunda projects in the Levittown area. These projects are located at (1) Ave. Sabana Seca int. Calle Rufino Ramírez (PR-CRP-000948), (2) Ave. Sabana Seca int. Ave. Dr. Diego Alvarez Chanca (PR-CRP-000964), and (3) Ave. Sabana Seca int. Calle Dr. Villalobos (PR-CRP-000973). The proposed roundabouts slightly vary in size and will be constructed in three different intersections which have a traditional 90 degrees configuration. Not one of the roundabouts, however, will exceed the construction areas of the existing intersections. The full scope of the projects are described in detail within the submitted documentation, which includes mapping, photographs, and 60% design plans for each rotunda. Based on the provided documentation, the Program requests a concurrence with a determination that **no historic properties affected** 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

Aggregated Projects:

1. **(1) PR-CRP-000948 - Rotonda Ave. Sabana Seca int. Calle Rufino Ramírez, Levittown;**
2. **(2) PR-CRP-000964 - Rotonda Ave. Sabana Seca int. Ave. Dr. Diego Alvarez Chanca, Levittown; and**
3. **(3) PR-CRP-000973 - Rotonda Ave. Sabana Seca int. Calle Dr. Villalobos, Levittown**

Toa Baja, Puerto Rico

Section 106 Effect Determination Form

PUERTO RICO 2017 DISASTER RECOVERY, CDBG-DR PROGRAM **CITY REVITALIZATION PROGRAM (CITY-REV)** **Section 106 NHPA Effect Determination**	GOVERNMENT OF PUERTO RICO DEPARTMENT OF HOUSING
Subrecipient: Municipio de Toa Baja	
Project Name: PR-CPR-000948 Rotonda Avenida Sábana Seca intersección con la Calle Rufino Ramírez; PR-CPR-000964 Rotonda Avenida Sábana Seca intersección con la Avenida Dr Diego Álvarez Chanca; PR-CPR-000973 Rotonda Avenida Sábana Seca intersección con la Calle Dr Villalobos.	**Project ID**: PR-CPR-000948, PR-CPR-000964; PR-CPR-000973

Project Location: Toa Baja Municipality, Puerto Rico	
Project Coordinates: See Table 1 for project coordinates	
TPID (Número de Catastro): See Table 1 for Oficina de Gerencia de Permisos (OGPe) numbers.[1]	
Type of Undertaking: ☐ Substantial Repair ☒ New Construction[2]	
Construction Date (AH est.): started c 1972	**Property Size** (acres): 2.7 acres

SOI-Qualified Architect/Architectural Historian:	Ms Berenice Sueiro-Vázquez Dr Arleen Pabón-Charneco
Date Reviewed: June-August 2024 (Updated September 2024)	
SOI-Qualified Archaeologist:	Dr Karen Anderson-Córdova
Date Reviewed: June-August 2024 (Updated September 2024)	

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.

INTRODUCTION

ICF LLC prepared a single environmental document to complete the Environmental Review Process of projects PR-CRP-000948, PR-CRP-000964, and PR-CRP-000973 in compliance with 24 *Code of Federal Regulations* (CFR) 58.32 – Project Aggregation. The following stipulations provide the basis for the consolidation of the three projects.

Stipulation 24 CFR 58.32 (a):

> A responsible entity must group together and evaluate as a single project all individual activities which are related either on a geographical or functional basis, or are logical parts of a composite of contemplated actions.

Stipulation 24 CFR 58.32 (c)(1):

> Address adequately and analyze, in a single environmental review, the separate and combined impacts of activities that are similar, connected and closely related, or that are dependent upon other activities and actions.

As a result of the aggregation, the present "Section 106 NHPA Effect Determination Form" (EDF) substitutes the EDFs versions prepared by Edmundo R Colón Izquierdo and Ivor Hernández Llanés for projects PR-CRP-000948 (Roundabout A), PR-CRP-000964 (Roundabout B), and PR-CRP-000973 (Roundabout C).[3] This EDF, however, is based on new research and interpretative activities. The narrative and maps that accompany the document are new and specifically created for this EDF.

---

[1] Roads in Puerto Rico are not assigned a cadaster number. In the cases of construction projects, the OGPe gives each road project a number to obtain the construction permit.

[2] The roundabouts are classified as new construction because they will transform the traditional 90 degrees geometry of the existing intersections.

[3] At times, the Colón-Hernández documents were used as reference for this EDF. When this takes place, it is acknowledged by means of a footnote.

Project Description (Undertaking)

To increase pedestrian safety and ease vehicular congestion, the projects will insert three roundabouts along the Juan "Picolino" Hernández Ferrer Avenue (Sábana Seca Avenue) in Levittown, Toa Baja, Puerto Rico. (See Figure 1.) Clearly defined pedestrian crossings will also form part of the projects. The roundabouts slightly vary in size and will be constructed in three different intersections which have a traditional 90 degrees configuration. Not one of the roundabouts, however, will exceed the construction areas of the existing intersections. The intersections where the roundabouts will be built are listed in the table below. A summary of the three projects' location, size and coordinates is presented in Table 1. (This information was provided by the designer.)

TABLE 1
PROJECT NUMBER, OGPe NUMBER, LOCATION OF ROUNDABOUTS, APPROXIMATE DIAMETER,[4] AND COORDINATES

PROJECT NUMBER	OGPe NUMBER	INTERSECTION	APPROXIMATE DIAMETER	COORDINATES
PR-CRP-000948 (ROUNDABOUT A)	EXC-TMP-156-00	Juan "Picolino" Hernández Ferrer Avenue (Sábana Seca Avenue) intersection with Llorens Torres Street (north) and Rufino Ramírez Street (south)	123.36 feet	Latitude 18.437412° Longitude -66.167189°
PR-CRP-000964 (ROUNDABOUT B)	EXC-TMP-157-00	Juan "Picolino" Hernández Ferrer Avenue (Sábana Seca Avenue) intersection with Dr Álvarez Chanca Avenue	120.75 feet	Latitude 18.437677° Longitude -66.180319°
PR-CRP-000973 (ROUNDABOUT C)	EXC-TMP-158-00	Juan "Picolino" Hernández Ferrer Avenue (Sábana Seca Avenue) intersection with Dr Villalobos Street and Del Carmen Street	142.65 feet	Latitude 18.437799° Longitude -66.185903°

The specific characteristics of each roundabout are detailed below.

PR-CPR-000948
ROUNDABOUT A
At present, the Juan "Picolino" Hernández Ferrer Avenue (Sábana Seca Avenue) intersection with Llorens Torres Street (north) and Rufino Ramírez Street (south) has three westbound and eastbound lanes with lefthand turns turning on the north and south roads. (See Figures 1A and IA-TOPO.) The proposed roundabout will ease traffic coming from adjacent streets and businesses such as *McDonald's*, *Texaco Gas Station, Mobil Gas Station and Burger King*. It will also ease traffic coming from Road #167, located approximately 492.12 feet east of the center of the proposed roundabout, which leads north to PR #165 (also known as El Caño Avenue) and south towards PR#22 Highway. This roundabout will reduce the Juan "Picolino" Hernández Ferrer Avenue (Sábana Seca Avenue) to a two-lanes road in both directions. In addition, Llorens Torres and Rufino Ramírez Streets will be reduced to one lane roads in both directions. Re-greening of the intersection areas is planned.

The Luis Palés Matos Avenue is the project's north limit while the south one is a small cluster of commercial buildings and individual houses.

---

[4] Diameter measurements were provided by the designer in meters. The Program calculated the numbers in square feet.

Minimal excavation of a depth not exceeding four (4) feet is required.[5] Since the project construction area does not extend beyond the limits of existing roads and sidewalks, there will be no earth movement and/or excavations outside the area already impacted when the two avenues were constructed years ago. This intervention will not affect access to neighboring businesses and neighborhoods.

The Program has determined that the project has the same footprint as the existing roadway. This footprint is 92,957.13 square feet and includes the intersections of Juan "Picolino" Hernández Ferrer Avenue (Sábana Seca Avenue) and Rufino Ramírez Street. This area is 629.92 feet (east-to-west) by 465.88 feet (north to south).

PR-CRP-000964
ROUNDABOUT B
The intersection of the Juan "Picolino" Hernández Ferrer Avenue (Sábana Seca Avenue) and the Dr Álvarez Chanca Avenue roundabout will solve vehicle congestion and will increase pedestrian safety. (See Figures 1B- and IB-TOPO.) Additionally, the number of lanes will be reduced from the current three (3) lanes down to two (2), both at the entrance and exit of the proposed roundabout. The culvert located in the center of the roundabout will not rise more than three (3) feet above the finished grade of the road.

The following activities are part of this project:
(1) Insertion of pavement markings, known as "rumble strips," along the Juan "Picolino" Hernández Ferrer Avenue. The aim of this treatment is to reduce vehicular speed.
(2) Addition of a new pedestrian crossing with elevated crossings at sidewalk levels, known as "speed table," at the Dr Álvarez Chanca Avenue.
(3) Insertion of an exclusive lane north of the intersection that with no access from the roundabout to reduce vehicular congestion and still provide access to existing businesses at this intersection.

Minimal excavation of a depth not exceeding four (4) feet is required. Project construction does not extend beyond the limits of the existing roads and sidewalks, therefore, there will be no land movement or excavations outside the area impacted when the two avenues forming the intersection were constructed years ago.

The Emidgio d'Antique Street borders the project's north limit while a small cluster of individual houses marks the southern one.

The Program has determined that the project has the same footprint as the existing roadway. This footprint is 92,720.32 square feet and includes the intersections of Juan "Picolino" Hernández Ferrer Avenue (Sábana Seca Avenue) and Dr Álvarez Chanca Avenue. This area is 688.98 feet (east-to-west) and 321.52 feet (north to south).

PR-CRP-000973
ROUNDABOUT C
The roundabout is to be constructed at the intersection of Juan "Picolino" Hernández Ferrer Avenue (Sábana Seca Avenue) and Dr Villalobos Street and Del Carmen Street intersection. (See Figures 1C and IC-TOPO.) The number of lanes will be reduced from the current three (3) down to two (2), both at the entrance and exit of the proposed roundabout. On the north, a series of paved markings will be included, as well as pedestrian crossing areas. The signage and pedestrian pavement markings will comply with Americans with Disabilities Act (ADA) guidelines.

[5] While excavations will not exceed four (4) feet, drawings on sheet number CI-403, part of the architectural plans, depict manholes that are deeper. On July 23, 2024, the designer, Eduardo Mundo Colón, Architect, informed one of the Secretary of the Interior's qualified professionals that the Section View of the Manhole (Section 14) would be eliminated from the sixty percent (60%) Design Development plans."
.

New green areas and "rain gardens" cover an area of approximately 8,557.31 square feet.

Minimal excavation not exceeding four (4) feet is required. Project construction will not extend beyond the limits of the existing roads and sidewalks. Therefore, there will be no land movement or excavations outside the area already impacted by the two avenues when they were constructed.

The project north limit is formed by the Emidgio d'Antique Street while the south one is related to the Marginal Este Street.

The Program has determined that the project has the same footprint as the existing roadway. This footprint is 88,371.7 square feet and includes the intersections of Juan "Picolino" Hernández Ferrer Avenue (Sábana Seca Avenue) and Dr Villalobos Street. This area is 623.36 feet (east-to-west) and 567.59 feet (north to south).

All three construction areas include the following activities:

(1) Scarification of existing asphalt surfaces;
(2) Reconstruction of existing sidewalks;
(3) Transformation of geometry of existing intersection;
(4) Inclusion of catch basins for stormwater management;
(5) Creation of rain gardens on new sidewalks.

In all three construction areas of the roundabouts, the existing sanitary sewer and potable water distribution systems will be impacted minimally. Electrical and telecommunications posts will be removed. The culvert located in the center of the roundabout will not rise more than three (3) feet above the finished grade of the road. The inner circle of the roundabout will be planted, adding to the regreening efforts along the planting strips along the sidewalks.

Construction Stage Area
The construction staging area is in a lot close to the intersection where the PR-CPR-000964 project will be constructed. (See Figure 1.) It is located on an area occupied by a parking lot and a soccer field. A short road, the C P Juan Manuel Berastain Street, provides access to the area which is listed on maps as Parque Anexo CVS. (The Carimas Pharmacy next to the park was previously a CVS.) The site is bounded on the north by the Caño El Hato and on the south by the Carimas Pharmacy which, in turn, faces the Juan "Picolino" Hernández Ferrer Avenue (Sábana Seca Avenue). On the west side one finds Los Dominicos Avenue (PR-866) while on the east is the building where the Toa Baja train is kept, as well as other commercial buildings.

The staging area will have no subsurface impact.

Close to the southeast corner of the proposed staging area, an archaeological study[6] was carried out in 2006. (See Table 3B.) On 19 June 2007, the Institute of Puerto Rican Culture (IPRC) concurred with the study findings and had no objection to the project as proposed.

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 Undertaking, the Program has

[6] Maritza Torres Martínez, "Informe de Evaluación de Recursos Culturales (Fases IA-IB) Julita Ross Sportsfield PR#866 esquina PR#867, Levittown, Sabana Seca, Toa Baja, Puerto Rico" (MS: San Juan, Puerto Rico, 2006); IPRC Number: IPRC/CAT TB-06-09-03.

determined that the direct APE for these projects is limited to the three project intersections. (See Figure 1.) The approximately calculated projects areas are included in the table below. (See Table 2.)

TABLE 2
INDIVIDUAL ROUNDABOUT PROJECTS AND CONSTRUCTION AREAS

PROJECT NUMBER	AREA
PR-CPR-000948 (ROUNDABOUT A)	94,722.41 square feet
PR-CPR-000964 (ROUNDABOUT B)	71,935.21 square feet
PR-CPR-000973 (ROUNDABOUT C)	88,371.70 square feet

The Toa Baja traditional urban center is an eligible property for inclusion to the National Register of Historic Places (NRHP). The westernmost roundabout (PR-CPR-000973) of the three analyzed in this EDF is the one closes to the Toa Baja historic urban core. It is sited 7.55 kilometers west of this project. Therefore, the Toa Baja urban core is outside the APE and the quarter mile area. (See Figures 2 and 2-TOPO.)

THE VISUAL APE

The three (3) intersections along the Juan "Picolino" Hernández Ferrer Avenue (Sábana Seca Avenue) visual APE will be organized as follows: (1) properties and streets or/and avenues immediately surrounding the intersections, and (2) properties and streets or/and avenues along the border of the visual APEs.

PR-CRP-000948

The roundabout to be constructed at the intersection with Llorens Torres Street (north) and Rufino Ramírez Street (south) visual APE includes sidewalks and planting strips of approximately fifteen (15) feet to approximately twenty-five (25) feet wide bounded immediately by a McDonalds and a Texaco gas station to the northeast, a Mobil gas station to the southeast, a Burger King, other commercial buildings and Marginal Lizzie Grahma Street to the southwest, and a man-made pond to the northwest. The project border visual APE is limited by the Luis Palés Matos Street and individual houses to the north, by Road #167 to the east, by a small cluster of commercial buildings and individual houses to the south, and by Juan "Picolino" Hernández Ferrer Avenue to thre west. (See Figure 3A and Photos 1 to 10.). General views of the project area can be seen from the visual APE from the north (Llorens Torres Street) and the south (Rufino Ramírez Street.) (See Figure 3A and Photos 11 to 14.)

A careful analysis reveals **none** of these properties, except for the Levittown Canal and its man-made pond, are eligible for inclusion in the NRHP. Table 3A provides the distance from the direct APE to the border of the visual APE.

TABLE 3A
DISTANCE FROM PROJECT AREA TO THE BORDER OF THE VISUAL APE

DIRECTION	APPROXIMATE DISTANCE
North	65 feet
East	100 feet
Sur	50 feet
West	15 feet

PR-CRP-000964
The roundabout to be constructed at the intersection with the Dr Álvarez Chanca Avenue visual APE includes a sidewalks and planting strips of approximately fifteen (15) feet wide to approximately twenty-five (25) feet wide bounded immediately by Walgreens to the northeast, by Marginal Lago Guayo Street and houses to the southeast and southwest, and a small cluster of commercial buildings including King China restaurant to the northwest. The project border visual APE is limited by the Emidgio d'Antique Street to the north, and by Juan "Picolino" Hernández Ferrer Avenue to the east and the west. (See Figure 3B and Photos 1 to 7.) General views of the project area can be seen from the visual APE from the north (Dr Álvarez Chanca Avenue) and the south (Lago Jauca Street.) (See Figure 3A and Photos 8 to 9.)

A careful analysis reveals **none** of these properties are eligible for inclusion in the NRHP. Table 3B provides the distance from the direct APE to the border of the visual APE.

TABLE 3B
DISTANCE FROM PROJECT AREA TO THE BORDER OF THE VISUAL APE

DIRECTION	APPROXIMATE DISTANCE
North	35 feet
East	100 feet
Sur	90 feet
West	120 feet

PR-CRP-000973
The roundabout to be constructed at the intersection with the Dr Villalobos Street (north) and Del Carmen Street (south) visual APE includes sidewalks and plating strips of approximately fifteen (15) feet wide to approximately twenty (20) feet wide bounded immediately by the Amor y Verdad Christian Church to the northeast, by Carimas Pharmacy to the southeast, by Toa Baja's Municipality's Oficina Municipal para el Manejo de Emergencias y Desastres (Municipal Office for the Management of Emergencies and Disasters) to the southwest, and by Total Energies Sabana Seca gas station to the northwest. The project border visual APE is limited by the Emidgio d'Antique Street intersection with Dr Villalobos Street to the north, and by Juan "Picolino" Hernández Ferrer Avenue to the east and the west, and Marginal Este Street to the south. (See Figure 3C and Photos 1 to 8.). General views of the project area can be seen from the visual APE from the north (Emidgio d'Antique Street intersection with Dr Villalobos Street) and the south (Del Carmen Street intersection with Marginal Este Street.) (See Figure 3C and Photos 9 to 10.)

A careful analysis reveals **none** of these properties are eligible for inclusion in the NRHP. Table 3C provides the distance from the direct APE to the border of the visual APE.

TABLE 3C
DISTANCE FROM PROJECT AREA TO THE BORDER OF THE VISUAL APE

DIRECTION	APPROXIMATE DISTANCE
North	60 feet
East	10 feet
Sur	75 feet
West	10 feet

One of the most complex issues regarding the interpretation of subdivisions as historic districts throughout the Island are the many transformations each individual building evidences. In the case of subdivisions, these are truly large. These changes directly impact the historic integrity of the individual buildings and the subdivision. The project's visual APE includes a handful of houses belonging to varied sections of Levittown that surround the commercial venues described in the above-mentioned paragraphs. Characteristically, they have undergone transformations that make them, on an individual level, not eligible for inclusion in the NRHP.

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 there are no historic properties previously identified in the project area.

The archaeological cultural resources survey reports and site survey forms, as well as the administrative project files, of both the Puerto Rico State Historic Office (PRSHPO) and the IPRC were consulted. The PRSHPO and the IPRC files do not document any archaeological cultural resources within a quarter mile of the proposed project. Therefore, no map of the archeological resources of the project area is included with this form. The closest documented archaeological site is TB0100034, located approximately 0.80 kilometers north of the proposed project. This site was a multicomponent site with prehistoric Cuevas style ceramics and historic ceramics, fragments of bricks, glass, and metal located west of PR-167 intersection with Boulevard Levittown, in Barrio Sábana Seca. The site is reported as destroyed.[7]

A total of eleven (11) cultural resources survey reports (Phase 1A, 1B and Phase II) are documented in the PRSHPO and IPRC files. All yielded negative results for the location of archaeological properties. (See summaries of these reports and their results in Tables 4A, 4B, and 4C.)

[7] Jacqueline López Meléndez, "Reconocimiento general de yacimientos arqueológicos en el municipio de Toa Baja, Puerto Rico" (MS: San Juan, Puerto Rico, 2005), Appendix C, Recursos Prehistóricos Previamente Reportados, p C-2, ítem TTB-35OEPH.

TABLE 4A
IPRC AND PRSHPO TOA BAJA ARCHAEOLOGICAL STUDIES WITHIN THE QUARTER MILE
(PROJECT PR-CRP-000948)

SHPO/ICP NUMBER	SURVEY DATE	SURVEY	AUTHOR	AREA	RESULTS	SHPO/IPRC COMMENTS
SHPO: 03-20-85-04 IPRC: ICP/CAT CT-85-01-01	December 1985	"Fase IA-IB Estudio Recursos Culturales Proyecto La Mansión, Barrio Palmas, Cataño, Puerto Rico"	Antonio Daubón Vidal	72.057 *cuerdas*	Negative	On 8 April 1985, the PRSHPO recommended the project proceed conditioned to a site inspection prior to construction. On 31 July 1995, the IPRC concurred with the archaeologist and had no objection to the project as proposed.
SHPO: 07-11-86-04 IPRC: ICP/CAT BA-86-01-07	May 1986	"Archaeological Survey for the Improvement of the Aqueduct System of Río Hondo North Trunk Sewer, Bayamón, Puerto Rico (Stage1B)"	Andrés Príncipe Jácome and Robin Walker	8.1kilometers	Negative	Letter with comments was not in the PRSHPO administrative file. On 21 September 1995, the IPRC concurred with the archaeologist and had no objection to the project as proposed.
SHPO: 07-11-86-04 IPRC: ICP/CAT BA-86-01-10	September 1986	"Archaeological Evaluation Sabana Seca and La Arena Ward, Río Hondo North Trunk Sewer, Bayamón, Puerto Rico Phase II"	Andrés Príncipe Jácome	Phase II report of two (2) small areas, dimensions not specified	Negative-Yielded no intact deposits	On 8 October 1986, the PRSHPO concurred no historic properties affected. On 21 September 1995 the IPRC concurred with the archaeologist and had no objection to the project as proposed.
IPRC: ICP/CAT TB-98-05-03	September 1998	"Evaluación Arqueológica Fase IA Investigación Documental y Reconocimiento Preliminar North Coast Transmission and Distribution System Improvements, San Juan Distribution System, Municipios de Toa Baja, Bayamón, Cataño, Guaynabo y San Juan"	Agamemnon Gus Pantel and Héctor R. Marín		Phase 1A report did not include testing	On 4 February 1999, the IPRC concurred with the archaeologist and recommended Phase IB for areas with moderate or high potential.

TABLE 4B
IPRC AND PRSHPO TOA BAJA ARCHAEOLOGICAL STUDIES WITHIN THE QUARTER MILE
(PROJECT PR-CRP-000964)

SHPO/ICP NUMBER	SURVEY DATE	SURVEY	AUTHOR	AREA	RESULTS	SHPO/IPRC COMMENTS
IPRC: ICP/CAT TB-06-09-03	February 2006	"Informe de Evaluación de Recursos Culturales (Fases IA-IB) Julita Ross Sportsfield PR#866 esquina PR#867, Levittown, Sabana Seca, Toa Baja, Puerto Rico"	Maritza Torres-Martínez	60 feet by 60 feet lot	Negative	On 19 June 2007, the IPRC concurred with the archaeologist and had no objection to the project as proposed.
SHPO: 03-04-03-03	January 2004	"Evaluación Arqueológica Fase I, Gimnasio Municipal para el Complejo Deportivo del Municipio de Toa Baja, Puerto Rico"	Marisol Martínez Garayalde	743.2 square meters	Negative	On January 27, 2004, PRSHPO concurred with the finding of "No historic properties are located within the APE."
SHPO: 03-30-09-01	June 2009	"Fase 1A Estudio Recursos Culturales Proyecto Levittown Head Start Center, Calle Dr Chanca 5ta Sección Urb Levittown, Barrio Sabana Llana, Toa Baja"	Antonio Daubón Vidal	2 *cuerdas*	Phase 1A report did not include testing	On August 18, 2009, the PRSHPO concurred with the finding of "No historic properties affected within the APE."

TABLE 4C
IPRC AND PRSHPO TOA BAJA ARCHAEOLOGICAL STUDIES WITHIN THE QUARTER MILE
(PROJECT PR-CRP-000973)

SHPO/ICP NUMBER	SURVEY DATE	SURVEY	AUTHOR	AREA	RESULTS	PRSHPO/IPRC COMMENTS
SHPO: 06-28-91-05 IPRC: ICP/CAT TB-91-01-10	June 1991	"Informe de Evaluación de Recursos Culturales (Fases IA-IB) Finca Sucesión Nevares Vela, Calle Los Magos, Barrio Sabana Seca, Toa Baja"	Antonio Daubón Vidal	20 *cuerdas*	Negative	On 9 September 1991, the PRSHPO ha no objection to the project as proposed. On 26 September 1995, the IPRC concurred with the archaeologist and had no objection to the project as proposed.
SHPO: 11-15-95-01 IPRC: ICP/CAT TB-95-03-02	December 1995	"Fase IA-IB Estudio Recursos Culturales Desarrollo Finca La Acerola Barrio Sabana Llana Carretera Estatal 867 Km 1.2, Toa Baja, Puerto Rico"	Antonio Daubón Vidal	72 *cuerdas*	Negative	On 3 February 1997, the PRSHPO commented "no effect upon historic properties and recommend proceed as planned." On 24 January 1996, the IPRC concurred with the archaeologist and had no objection to the project as proposed.
SHPO: 12-04-95-06 IPRC: ICP/CAT TB-95-03-01	November 1995	"Evaluación Arqueológica (Fases IA-IB) Proyecto Extensión de Avenida Sabana Seca, Toa Baja, Puerto Rico"	Andrés Príncipe Jácome and Jaqueline López Meléndez	1.5 kilometers	Negative	On 13 March 1996, the PRSHPO commented that no historic properties were found within the project area and had no objection to the project as proposed. On 21 December 1995, the IPRC concurred with the archaeologist and had no objection to the project as proposed.

The earliest reports date to the mid-1980's, one for a 72.057 *cuerda*[8] property being developed for housing, located in the Cataño Municipality (ICPR #CT-85-01-01), and a second one for a linear survey of 8.1 kilometers of

[8] A *cuerda* is a traditional Puerto Rican land unit equivalent to 3930 square meters, 4700 square yards, or .971 acres.

a sewer line (ICPR #BA-86-01-07; SHPO #07-11-86-04). (See Figures 4B and 4-TOPO.) The former documents that the housing development was already under construction and that a large section had been leveled and topped with 3.5 to 4 meters of calcareous (limestone) fill.[9] The latter report includes an intensive surface area survey and subsurface testing mainly along existing roads in residential areas, and only documents surface finds of "glazed, 19th century ceramic fragments" in two (2) locations along the route.[10] These two (2) locations were further tested and reported in a Phase II report that yielded no intact archaeological deposits.[11]

During the decade of the 1990's there were two survey reports related to proposed housing developments that were negative for the location of archaeological resources (ICPR #TB91-01-10, SHPO #06-28-91-05; ICPR #TB95-03-02, SHPO #11-15-95-01). (See Figures 4B and 4B-TOPO.) In 1995, a Phase 1A and 1B survey for a 1.5 kilometers extension of the Juan "Picolino" Hernández Ferrer Avenue (Sábana Seca Avenue) west of the proposed roundabout PR-CRP-000973 was carried out (ICPR #TB95-03-01; SHPO #12-04-95-06). (See Figures 4B and 4B-TOPO.) The report documents heavily impacted areas in the majority of that project's APE. The APE for the survey was divided into four areas, A-B-C-D. Subsurface testing, consisting of nine (9) shovel pits ten (10) meters apart, was limited to Area B because it appeared to be less impacted by previous earth movement than Areas A and C. Area D is described as wetlands and was not tested.[12] This latter area included the area of the proposed roundabout PR-CRP-000973.

Another cultural resources survey report relevant to this discussion is a Phase 1A survey carried out in 1998 for the North Coast Transmission and Distribution System Improvements project, a large undertaking consisting of major improvements to the potable water distribution system of the San Juan metropolitan area. This report was prepared for the Puerto Rico Aqueduct and Sewer Authority to assess the archaeological potential of a large area, mainly urban in context (in the municipalities of Bayamón, Toa Baja, Guaynabo, San Juan, Hato Rey, and Río Piedras). The report recommended areas of low, medium, and high probability for the location of archaeological resources. For the area of Toa Baja-Bayamón, it recommended low probability for the location of Pre-Columbian, Colonial and 20th century archaeological resources. Specifically, it indicates:

> The evidence for Pre-Columbian sites for this area does not indicate patterns of dense or concentration of deposits, just the potential of isolated or surface material. For the European Colonial periods the zone was dedicated to agricultural uses, which results in a low potential for archaeological resources associated with intensive activities. During the 20th century, the area is sporadically settled, which can result in isolated evidence associated with these occupations and associated activities, but with limited historical value from an archaeological perspective.[13]

Three archaeological survey reports carried out during the decade of 2000 to 2010, within the quarter mile area covered minimal areas for building construction projects, where no archaeological resources were found.[14]

---

[9] Antonio Daubón Vidal, "Fase 1A-1B Estudio Recursos Culturales Proyecto La Mansión, Barrio Palmas, Cataño, Puerto Rico" (MS: San Juan, Puerto Rico, 1985), p 10.

[10] Andrés Príncipe Jácome and Robin Walker, "Archaeological Survey for the Improvement of the Aqueduct System of Río Hondo North Trunk Sewer, Bayamón, Puerto Rico Stage 1A-1B" (MS: San Juan, Puerto Rico, 1986).

[11] Andrés Príncipe Jácome, "Archaeological Evaluation Sabana Seca and La Arena Ward, Río Hondo North Trunk Sewer, Bayamón, Puerto Rico Stage II (MS: San Juan, Puerto Rico, 1986).

[12] Andrés Príncipe Jácome and Jacqueline López Meléndez, "Evaluación Arqueológica (Fases 1A-1B) Proyecto Extensión de Avenida Sabana Seca, Toa Baja, Puerto Rico" (MS: San Juan, Puerto Rico, 1995), pp 14-15.

[13] Agamemnon Gus Pantel and Héctor R Marín, "Evaluación Arqueológica Fase 1A Investigación Documental y Reconocimiento Preliminar North Coast Transmission and Distribution System Improvements: San Juan Distribution System, Municipios de Toa Baja, Bayamón, Cataño, Guaynabo y San Juan" (MS: San Juan, Puerto Rico, 1998), p 265. Translation by the Program.

[14] It is important to note that there has been extensive archaeological research in the Toa Baja area related to Section 106 and Section 110 compliance. This is because of a combination of factors: flood control projects that have been necessary because of the frequent flooding that this area has historically experienced, the development of the Sabana Seca Naval Base,

PHYSIOGRAPHIC REGION AND SOILS

Toa Baja is in the geomorphological region of the Puerto Rico north coastal plain and surrounded by rivers: Río Bayamón to the east, Río Hondo to the southeast, Río Cocal to the northeast, Río La Plata to the west and Quebrada México to the southwest. The proposed undertaking is located within the alluvial valley physiographic region, which comprises almost two thirds of the municipality and is characterized by frequent flooding, and wetlands.[15] This riverine and wetland environment provided ample resources for human settlement since early Prehistoric to Colonial times, and points to the potential for deeply buried archaeological remains. (See Historic Context section below.)

Based on an analysis of topographic maps prepared for this project by ICF archaeologist Mr Dylan Zedaker it appears that the intersections with new geometry proposed sit at approximately the two (2) to three (3) feet contour lines on the Bayamón historic topographic maps, and therefore within the flood zone of the Río Bayamón. "The northern margin of the preexisting neighborhood to the south of the APE sits at approximately five (5) feet contour line. Therefore, it is likely that Juan "Picolino" Hernández Ferrer Avenue (Sábana Seca Avenue), including the intersections, were built up approximately two (2) to three (3) feet with fill dirt to align vertically with the existing roadbed." (See Image A below.)

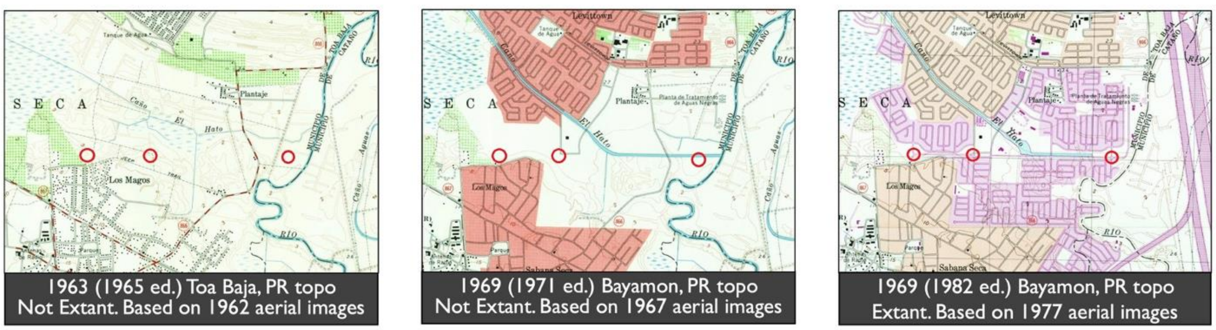


Image A - Toa Baja Historic Topographic Map Research Timeline, USGS Topographic Maps, Toa Baja[16]

Soils in the area are currently classified as urban soils (Us-Urban land-Sabana Seca complex). However, this alluvial valley is characterized by a variety of soils, many of which border the proposed project area. (See Figures 5A and 5B.) These include wetland soils (Mp-Martín Peña Muck) located immediately west and northwest of the APE for Roundabout 000973; soils with 0% to 2% slopes which are either frequently or occasionally flooded (Ba-Bajura Clay, east of Roundabout 000948; To-Toa Alta Silty Clay loam, southeast of Roundabout 000948; Cs-Coloso Silty Clay loam, northeast of Roundabout 000948); and ScB- Sabana Seca clay, with 2% to 8% slopes, in the southwest corner of the APE for Roundabout 000973. The Río Bayamón flows south to northeast of the project area and there are wetlands along the northern boundary of the Juan "Picolino" Hernández Ferrer Avenue (Sábana Seca Avenue), where the three proposed roundabouts are located.

---

the North Coast Transmission and Distribution System potable water distribution project, and the rapid urbanization of the Municipality during the mid to late 20th century.

15 Jacqueline López Meléndez, "Reconocimiento general de yacimientos arqueológicos en el municipio de Toa Baja, Puerto Rico" (MS: San Juan, Puerto Rico, 2005).

16 USGS National Geospatial Program, Historical Topographic Maps – Preserving the Past, Bayamon Quadrangle, 1963 (HTMC, 1965 Photorevised [ed]), 1969 (HTMC, 1971 ed), 1969 (HTMC, 1982 ed), Access: https://ngmdb.usgs.gov/topoview/viewer/#11/18.2815/-66.2225.

DETERMINATION ELIGIBILITY OF PROPERTIES WITHIN THE PROJECT'S APE

In summary, previous archaeological cultural resources surveys in the quarter mile area surrounding the proposed undertaking were negative for the location of archaeological properties. This included an archaeological survey that included the western portion of the APE for Project 000973. Although the alluvial plain of the Toa Baja Municipality has a high archaeological potential due to the variety of soils and abundant sources of water, and the high number of Prehistoric and Historic archaeological sites documented for the Municipality in general, the area for the proposed project has been heavily impacted by previous construction, including the construction of the Sábana Seca Avenue, and aqueduct and sewer improvements. It is our conclusion that there are no archaeological properties eligible for inclusion in the NRHP within the project's APE. (See Prehistoric and Historic Context below.)

Identification of Historic Properties - Architecture
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 the project area is outside the boundaries of the NRHP-eligible Toa Baja Traditional Urban Center/Historic District, under Criteria A and C.[17] (See Figure 2 and 2-TOPO.)

INTRODUCTION

There are no previously identified architectural resources within the project area, visual APE or quarter mile area. For this reason, no map is included with this form. To better understand the architectural resources, present in the Toa Baja Municipality, a summarized analysis of its historic properties is included. Notice needs to be taken that **none** of these are within the project's APE or quarter mile radius.

They are interpreted for this narrative with the sole purpose of presenting a more complete analysis of the Municipality's historic properties.

UNESCO WORLD HERITAGE LIST

Part of the Toa Baja Municipality is a diminutive islet known as Isla de Cabras. Sitting opposite the gargantuan San Felipe del Morro Fortress, across the mouth of San Juan Bay, one finds the 18th century San Juan de la Cruz Fortress (also known as El Cañuelo). This diminutive fort (when compared to the El Morro giant) was charged with the creation of the crossfire (specifically "low fire") that defended the entrance to the bay. (The crossfire was formed as both the small fort and San Felipe discharged shots.) Since El Cañuelo is considered an intrinsic part of the Old San Juan fortification system, the San Juan de la Cruz Fortress is listed in the UNESCO World Heritage List since 1983. The structure is part of the San Felipe del Morro Castle, a National Historic Landmark (NHL). As mentioned, the fort is **not** within the project's APE or the quarter-mile radius.

NRHP LISTED PROPERTIES

There are three (3) Toa Baja Municipality properties listed in the NRHP that deserve mention in this narrative.

[17] As will be mentioned later, the Toa Baja historic town core is 7.55 kilometers away from the westernmost roundabout (Roundabout C).

Toa Baja's historic church, the Iglesia Parroquial de San Pedro y San Matías Apóstoles (also known as Iglesia de San Pedro) (NRHP Number: 75002135), is listed in the NRHP since 17 April 1975.[18] It is relevant to mention the church façade, dated to the 18th century, faces the river and not the town plaza, as traditional. This deviation from the prototypical relationship town plaza-church adds uniqueness to the building.[19]

Additionally, the ruins of the 18th century Ermita de Nuestra Señora de la Candelaria del Plantaje in the Sábana Seca sector (NRHP Number: 15000398), included on 30 June 2015, are in the Toa Baja Municipality.[20]

Finally, the Hacienda Santa Elena (NRHP Number: 83004662) was included in the NRHP on 24 September 1992. The ruins of this hacienda date to the period between 1790 and 1910. The enclave is an example of an industrial processing sugar center. [21]

None of the Toa Baja properties listed in the NRHP are within the project's APE or the quarter-miles radius. However, their early dates underscore the sector's antiquity.

PRSHPO AND IPRC ARCHITECTURAL SURVEYS

To interpret the architectural properties eligible for inclusion in the NRHP, archival research activities were undertaken at both the PRSHPO and the IPRC. The following two PRSHPO architectural windshield surveys were analyzed as part of the interpretative activities:

1. Puerto Rico State Historic Preservation Office, San Juan, Puerto Rico, "Photographic Survey of Historic Properties in Urban Centers in Puerto Rico," 1994.
   The following information was gathered for Toa Baja from this PRSHPO study. (See Table 5.)

TABLE 5
TOA BAJA HISTORIC PROPERTIES INFORMATION
(AS PER THE PRSHPO 1994 INVENTORY)

TOWN	NUMBER OF PROPERTIES SURROUNDING THE PLAZA	NUMBER OF HISTORIC PROPERTIES DOCUMENTED	PERCENTAGE OF HISTORIC PROPERTIES
Toa Baja	26	3	12%

2. Institute of Puerto Rican Culture, San Juan, Puerto Rico, "Inventario Arquitectónico y Fotográfico Perímetro Principal y Secundario de la Plaza de Recreo de Toa Baja," 2011.
   This list includes five (5) properties surrounding the town plaza that "*tienen valor arquitectónico*." In the transmittal letter prepared by Mr Elliott Cruz, the Toa Baja core is described as one that "*carece de riqueza arquitectónica*."[22] (See Table 6.)

---

18 National Register of Historic Places, "Iglesia Parroquial de San Pedro y San Matías Apóstoles, Toa Baja, National Register of Historic Places Nomination" (MS: San Juan, Puerto Rico, 1975).

19 Video, "Toa Baja The Town with an "inverted" church," Access: https://www.youtube.com/watch?v=B5wYpcZYvTg.

20 National Register of Historic Places, "Ermita de Nuestra Señora de la Candelaria del Plantaje National Register of Historic Places Nomination" (MS: San Juan, Puerto Rico, 2015).

21 National Register of Historic Places, "Hacienda Santa Elena, Toa Baja National Register of Historic Places Nomination" (MS: San Juan, Puerto Rico, 1992).

22 The Program interprets the IPRC's determination of "architectural significance" (in Spanish, *valor arquitectónico*) as equivalent to eligibility for inclusion in the NRHP. Institute of Puerto Rican Culture, San Juan, Puerto Rico, "Inventario

TABLE 6
TOA BAJA URBAN PROPERTIES THAT "POSSESS ARCHITECTURAL SIGNIFICANCE"
(AS PER THE IPRC, 2011)

Name	Date	Category	ELIGIBILITY STATUS[23]
Iglesia San Pedro y San Matías Apóstoles	18th century	Building	Listed
Casa Alcaldía	19th century?	Building	Eligible
Art Deco Theater	1st half 20th century	Building	Eligible
Casa de los Colonos	1st half 20th century	Building	Eligible
Wood and Zinc House	1st half 20th century	Building	Eligible

The windshield survey lists ten (10) other historic properties sited within the urban core of Toa Baja. At one point, there is mention that some of these ten properties are aligned along PR#854. No specific addresses, however, are provided nor names of the buildings, making it virtually impossible to refer to the information in the survey.
In any case, **no** properties listed by this inventory are within the APE or quarter mile areas of the Projects.

3. Institute of Puerto Rican Culture, San Juan, Puerto Rico, "Memo From José Silvestre to Samuel Corchado Propiedades dentro del Centro Urbano de Toa Baja,"14 July 2008.
In this memo to architect Corchado, the IPRC personnel lists additional properties considered significant within the urban center of Toa Baja. (See Table 7.)

TABLE 7
SIGNIFICANT PROPERTIES IN TOA BAJA
(AS PER THE IPRC COMMUNICATION, 2008)

PROPERTY	DATE	CATEGORY
Unidad de Salud Pública (at present, Programa de Asistencia Médica)	1st half of the 20th century	Building
Iglesia Evangélica Luterana San Pedro	1st half of the 20th century	Building
"Residencia frente a la Plaza (parte 3)"	1st half of the 20th century	Building
"Residencia frente a la Plaza (parte 4)"	1st half of the 20th century	Building

4. Puerto Rico State Historic Preservation Office, San Juan, Puerto Rico, "Divulgación de los recursos Arqueológicos e Históricos - Planificación y Educación Fases I, II y III - Resumen Arqueológico del municipio de Toa Baja," 2014-2016.

At times, when analyzing Toa Baja's historic properties, mention is made of the Constancia Sugar Mill Locomotive, (also known as the "El trencito de Levittown"; in English, the "Little Levittown Train") manufactured in 1927 by the Baldwin Locomotive Works in Philadelphia. The PRSHPO inventory also includes it in its listing.

Brought to the Island by the United Sugar Corporation, it connected the city of Caguas to the plantation known as the Santa Juana Central. On its way, it made stops in the towns of Gurabo, Juncos, and Las Piedras, as well as the Pasto Viejo sector in Humacao. Engine Number 7 was donated to Levittown by its builders Levitt & Sons in 1968. At present, it is located inside an unmarked building close to the intersection between the Los Dominicanos

Arquitectónico y Fotográfico Perímetro Principal y Secundario de la Plaza de Recreo de Toa Baja" (MS: San Juan, Puerto Rico, 2011).

23 Determination of eligibility for inclusion to the NRHP has been determined in tentative manner by the Program.

Avenue and the Juan "Picolino" Hernández Ferrer Avenue (Sábana Seca Avenue). This building is close to the construction stage that will be used for the projects.

The NRHP includes districts, sites, buildings, structures, and objects that have been identified and documented as being significant in American history, architecture, archaeology, engineering or culture. These historic properties usually do not include objects such as locomotives. The objects mentioned above as one of the historic properties categories describe elements such as an obelisk in a plaza or a commemorative sculpture. The same obelisk or sculpture would not be eligible for inclusion if they are not integral parts of a historic property. Other examples of such components would be a ship on dry dock or a carrousel on its own. As such, they would be considered museum objects rather than historic properties. At present, the Baldwin Locomotive is not eligible for inclusion to the NRHP since it cannot be considered a historic property as per the NRHP guidelines.

5. Puerto Rico State Historic Preservation Office, San Juan, Puerto Rico, "Proyecto de reconocimiento de inventario de centros urbanos de los 78 municipios de Puerto Rico," 2020-In Progress.
Below are the Toa Baja architectural properties this PRSHPO inventory considers eligible for inclusion in the NRHP. (See Table 8.)

TABLE 8
TOA BAJA NRHP ELIGIBLE PROPERTIES
(AS PER PRSHPO INVENTORY 2020-IN PROGRESS)

NAME	APPROXIMATE DATE	CLASSIFICATION
Cementerio Municipal	Second half 19th century	Site (cemetery)
Escuela Luis M Santiago	c 1928	Building (school)
Central Constancia	c 1867	Historic District (sugar hacienda)
Town Plaza Virgilio Dávila	19th century	Site (plaza)
Residencial El Toa	1954	Historic District (public housing)

No properties listed by this inventory are within the APE or the quarter mile areas of the projects.

Historic Context

Prehistory[24]

The Toa Baja Municipality is in Puerto Rico's northern coastal plain, an area that includes a variety of environments, such as: coastal fringe, alluvial valley, karst hills (*mogotes*), and small valleys located among karst hills. It is bordered by rivers along its south, east and west, and the Atlantic Ocean to its north. It provided ample resources for the early inhabitants of the Island who occupied it from the Archaic Age to the present. Archaeological investigations in the area have documented a total of one hundred and five (105) sites, spanning from early prehistory to the 19th century. These include eighteen (18) Pre-Columbian sites, seventy-six (76) historic sites, and eleven (11) multicomponent sites.

24 This information is summarized from PRSHPO, "Divulgación de los recursos Arqueológicos e Históricos - Planificación y Educación Fases I, II y III - Resumen Arqueológico del municipio de Toa Baja" (MS: San Juan, Puerto Rico, 2014-2016) and Jacqueline López Meléndez, "Reconocimiento general de yacimientos arqueológicos en el Municipio de Toa Baja, Puerto Rico" (MS: Puerto Rico State Historic Preservation Office, San Juan, Puerto Rico, 2005).

The earliest site documented for this area is the one named Rio Cocal 1 (PRSHPO TB0100020). Located in the karst hill area of the former US Naval Radio Station Sabana Seca, it is a shell midden in a rock shelter. It has a Pre-Ceramic component dated 3505 BP, and an Elenan Ostionoid ceramic component dated 1050 AD.[25]

Most of the sites documented in Toa Baja are in the former US Naval Radio Station Sabana Seca and consist of historic period sites. Multicomponent sites (which have both Prehistoric and Historic deposits) and Prehistoric sites have also been documented in the alluvial valley area near the water sources of the Río Cocal and the Ciénaga de San Pedro. Another region of Toa Baja that has been extensively surveyed is the western area bordering the La Plata River, which documented at least twelve (12) multicomponent sites with Prehistoric and Historic material, mostly along the margins of the La Plata River.[26]

In summary, there is archaeological evidence for human occupation of the Toa Baja region from the Archaic period, through the Ceramic Agriculturalist periods I-III (Ceramic styles, Hacienda Grande, Cuevas, Santa Elena, Capa, and Esperanza) into the historic-colonial period up to the 19th century.

Historic Period
Toa Baja received its name from the La Plata River that, according to legend, was known by the name of Toa (also known as Tóa) by the natives who inhabited the Puerto Rican archipelago when the Spanish first arrived in 1492. Settled by the 16th century, albeit informally, the legal founding date of the Municipality, 1745,[27] evidences its antiquity.

The Toa Baja region was one of the earliest Puerto Rican sectors explored by the Spaniards. First, it was relatively close to the Ciudad del Puerto Rico (also known as Caparra), the first established urban community in Puerto Rico, sited in the present-day Guaynabo Municipality. As known, this first settlement was erected under the aegis of Juan Ponce de León in 1508. Second, during the early days of the colonization the settlers organized an agricultural center (at times, described as a *real granja* or royal farm) sponsored by the Spanish monarch in the Toa sector. In this manner, by 1519, the agricultural area that fed Caparra was on the shores of the Tóa and Bayamón rivers. It is known there was a small settlement, known as the Vega Real del Tóa, on the shore of the first waterway by 1511.

When the premier settlement was moved to San Juan Islet, the fertile sector was "on the other side" of San Juan Bay. It is a known fact, the area, including neighboring Palo Seco and Cataño, were crucial to the settlement of the rest of the Island even after the main settlement moved from Caparra to San Juan Islet. As a small isle of its own, San Juan was surrounded by water and thus separated from the main island. Every single connection between the two terrestrial bodies was made by water.[28] For centuries, the only existing passageway between the islet and the main island was across the Caño de Martín Peña and the Caño de San Antonio. It was much easier to use a ferry to cross the bay to the opposite shore than to venture their crossing. As a result, until the 19th century, San Juan's opposite shore and easiest route towards the interior of the Island included Toa Baja. There is evidence that, as early as 1620 there were ferries between Cataño and San Juan, as well as between Toa and San Juan.

---

25 Jacqueline López Meléndez, "Reconocimiento general de yacimientos arqueológicos en el Municipio de Toa Baja, Puerto Rico", pp 33-34.
26 *Ibid*., p 56.
27 Adolfo de Hostos established the foundation date as 1847. Adolfo de Hostos, *Historia de San Juan, ciudad murada: Ensayo acerca del proceso de la civilización en la ciudad española de San Juan Bautista de Puerto Rico, 1521-1898* (San Juan: Instituto de Cultura Puertorriqueña, 1976), p 865.
28 Pedro Tomás de Córdova, *Memoria geográficas, históricas, económicas y estadísticas de la isla de Puerto Rico, Volume II (San Juan, Puerto Rico: Instituto de Cultura Puertorriqueña, 1968), p 31.*

Although organized to include five *barrios* and despite its convenient locale, constant flooding curtailed Toa Baja's full development. In 1878, for example, Ubeda y Delgado mentioned the town core included a mere four streets and some houses. He described the region as extremely fertile thanks to the Plata River and smaller tributaries. He mentioned there were four (4) sugar *haciendas* that had steam machinery and two (2) with oxen mills. When Ubeda y Delgado visited the town it included a masonry church, mayoralty, and cemetery. The parochial residence and the slaughterhouse, in turn, were made of wood. Commercial ventures described as "de poca consideración" (in English: of relatively little importance) were listed in the following manner: one (1) *mercería* (haberdashery); two (2) *tiendas mixtas* (diversified stores); fifteen (15) pulperías (grocery shops), and two (2) ventorrillos (small stores).[29] Periodic floodings were a deciding factor in the limited development of the urban core. Construction of another settlement in the drier sector of Palo Seco evidences the many limitations faced by the town. In fact, in 1839 Palo Seco became an independent municipality.[30]

Earlier, in 1776, Fray Íñigo Abbad y Lasierra described fertile Toa Baja's development was constantly threatened not only by frequent floods but also plagues.[31] This explains why the town core never fully developed and the abundance of sugar *haciendas* that were manned by the enslaved. The friar mentioned some of these: El Plantaje, Media Luna, Santa Elena, Central Constancia, La Candelaria, and La Santa Ana. It is safe to say these enclaves formed a bubble of their own that underscored the isolation of the urban milieu *vis-à-vis* the countryside. It was not until the middle of the19th century, that a road linked the town to both Palo Seco and Cataño. This created a direct connection between the *haciendas* and San Juan port which was underscored by the construction of a bridge to cross the Bayamón River. In this manner, Toa Baja was connected to San Juan and the *hacienda* system continued to flourish.

Puerto Rico's circumvallation train was built at the turn of the 20th century, crossing the Toa Baja Municipality from east to west and principally benefitting the sugar cane industry, now planted throughout the Island, at an industrial scale, a development that came to a screeching halt as the Island initiated its industrialization process during the middle decades of the 20th century. Toa Baja continued its sleepy existence as one sugar *hacienda* after another closed. The region, however, was favored by construction activities such as the extraction of sand since its northern sector abutted the sea (Ensanche de Boca Vieja, part of San Juan Bay) and was framed with magnificent beaches. Mangroves principally covered this part of the Municipality.

---

29 Manuel Ubeda y Delgado, *Isla de Puerto Rico Estudio Histórico, Geográfico y Estadístico de la misma* (San Juan, Puerto Rico: Establecimiento tip del *Boletín*), pp 141-142.

30 Julia María Badillo, *Palo Seco: Notas para su Historia* (San Juan, Puerto Rico, Oficina Estatal de Conservación Histórica, 1986), p 11. The Palo Seco issue was still alive during the 20th century: F Cancel Hernández, "Toa Baja Combatirá Anexión de Bo Palo Seco a Cataño," *El Mundo*, 10 December 1957.

31 Fray Íñigo Abbad y Lasierra, *Historia geográfica, civil y natural de la isla de San Juan Bautista* (San Juan, Puerto Rico: Imprenta y librería de Acosta, 1866).

Image B - Levittown, Puerto Rico Street Map
https://www.landsat.com/levittown-puerto-rico-street-map-7245336.html

During the 1960s the middle class of the Island experienced a golden period. Highways connected all parts of the Island empowering the desire for new housing experiences codified in the subdivisions that started to be created during the 1950s for the Baby Boomers and veterans who fought in World War II and the Korea War. Close to the Metropolitan Area of San Juan and to beaches, Toa Baja was deemed as the perfect scenario for a mega subdivision. Marshes were dried, a canal was created, as well as a lake, schools and shopping areas were constructed, and the community known as Levittown emerged. (See Image B above.) When Levittown was constructed, the seemingly paradisiacal locale was framed along its west border by the US Naval Radio Station Sabana Seca, re-established in 1952 and decommissioned in the year 2003. (The former base is **not** within the APE or the quarter mile of the projects.)

Puerto Rico's Levittown in Toa Baja[32] responds to the fashion established during the period from 1947 to 1951 by the firm Levitt & Sons, founded in 1929 in New York by Abraham Levitt.[33] While subdivisions emerged during the late 19th centuries in the United Kingdom and the USA, the firm managed to create the seemingly perfect prototype for the mass-produced suburb during the post-World War II period. The approach was designed for the middle class. Shaping their own suburban bubbles, the Levittowns around the nation offered an idyllic approach to life.[34] Young families could forge their life within the solace of sprawling fairy-land places so different from traditional urban cores (particularly obvious throughout the Puerto Rican archipelago).

While not the first subdivision in the Island, in Puerto Rico Levittown[35] empowered the suburban morphology as the preferred family living solution. The multiple replicas of houses lining the softly curved gardened roads offered a distinct living promise, particularly when compared to traditional towns.[36] Secure in their supposedly perfect interpretation of what living was all about, millennia-old concepts – like the one that mandates the main façade of a house face the street – were discarded as non-creative. In the first section of the Toa Baja Levittown some of the houses faced each other without a street between them. Facing front gardens between two rows of houses created the illusion of a promenade of sorts that invited neighbors to contact each other. Children could play in

---

32 Video, "Levittown in Toa Baja, Puerto Rico in 2023!," Access: https://www.youtube.com/watch?v=6u0jgl0nJAk.

33 Abraham Levitt's sons, William and Alfred, worked for the firm as architects. William J Levitt, "Levitt de Puerto Rico," *El Mundo*, 14 September 1963.

34 Crystal Galyean, "Twentieth Century Levittown The Imperfect Rise of the American Suburb," Access: https://ushistoryscene.com/article/levittown/.

35 Video, "Así es una de las urbanizaciones más grandes de Puerto Rico. Esto es Levittown, Puerto Rico," Access: https://www.youtube.com/watch?v=cwlMJygtnho.

36 William J Levitt, "Levitt de Puerto Rico."

these areas under the watchful eyes of many who sat on their balconies. Considered a necessary pest, cars were relegated to the back of the house.[37]

Image C - Levittown Add, *El Mundo*, 5 September 1963[38]

Residents were promised great views – "La vista es de Levittown"[39] – and a life close to the sea as the sailing boat in the *El Mundo* newspaper add suggests. (See Image C above.) Inaugurated on 6 September 1963, the Condado fireworks show underscored the novelty of the enterprise. As if the sea was not enough, the subdivision included an artificial lake described as "Un lugar único para regatas de vela y remos."[40]

Image D - Sabana Seca Avenue, "San Juan Metropolitan Area Transportation Study and Transportation Plan," Puerto Rico Department of Public Works and Transportation, 1985.[41]

As time went by, urban development grew in the southern direction creating a huge suburban sector that extends from Levittown Beach (on the north) to the Bayamón Municipality (on the south). Between two worlds (suburbia and urban core), the large area created a city of its own. One of the most important development projects of the new "city" was the Juan "Picolino" Hernández Ferrer Avenue (Sábana Seca Avenue), initiated during the late 1960s. (See Image D above.)

The 1978 date (included in the first EDFs prepared) as initiation of construction activities for the Juan

37 This pattern of a service road was imported from the USA, although in the States the front road was not eliminated as it was in some of the local Levittown blocks.

38 This image comes from Edmundo R Colón Izquierdo and Ivor Hernández Llanés, "Section 106 NHPA Effect Determination (EDF)" (MS: San Juan, Puerto Rico, 2024).

39 "Levittown Add," *El Mundo*, 5 September, 1963.

40 "Un lugar único para regatas de vela y remos," *El Mundo-Puerto Rico Ilustrado*, 12 April 1969.

41 This image comes from Edmundo R Colón Izquierdo and Ivor Hernández Llanés, "Section 106 NHPA Effect Determination (EDF)."

"Picolino" Hernández Ferrer Avenue (Sábana Seca Avenue) is contested by IFC's historic map research interpretation of the area.[42] This last study establishes the first construction activities for the avenue took place approximately between 1968 and 1976. This indicates the earliest sections of the avenue are more than fifty (50) years old. (See Image E below.)

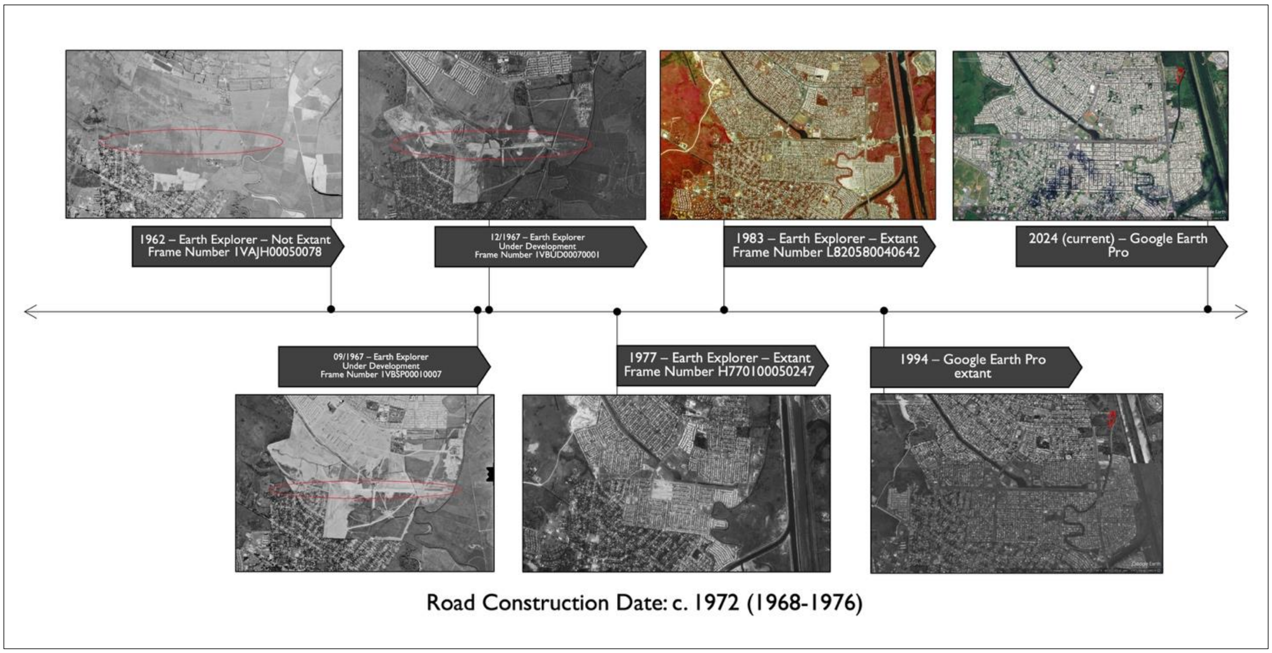


Image E - Toa Baja Historic and Current Satellite Imagery Research Timeline, Toa Baja[43]

This avenue originally ran from east to west through the southern part of Levittown and in plans appears to connect the area to the Bayamón Municipality and the San Juan Metropolitan Area. The avenue was built in sections, east to west, over the course of twenty (20) years. Its relevance to the San Juan Metropolitan Area development was underscored in the 1985 "San Juan Metropolitan Area Transportation Study and Transportation Plan."[44] (See Image D on page 19.) The 1985 Study interpreted as one of the most relevant east-west connectors, a plan never finished.

DETERMINATION OF ELIGIBILITY TO THE NRHP OF THE
LEVITTOWN DISCONTINUOUS HISTORIC DISTICT

As stated, the roundabouts projects principally serve the Levittown community. While not mentioned in any of the existing inventories, the Program believes Levittown Section 1 is a significant urban and architectural

42 The Program thanks Archaeologist Zedaker for his valuable assistance in determining the approximate construction date of the Juan "Picolino" Hernández Ferrer Avenue (Sábana Seca Avenue).

43 Historic and Current Aerials Timeline prepared for this project by ICF archaeologist Mr Dylan Zedake. Photographs come from Google Earth Pro and Earth Explorer.

44 "Departamento de Transportación y Obras Públicas, "San Juan Metropolitan Area Transportation Study and Transportation Plan" (MS: San Juan, Puerto Rico, 1985). The study was authored by Wilbur Smith and Associates / Padilla y Gracia. Plans to extend the avenue from Toa Baja to Cataño crossing the Bayamón River were never finalized although the avenue was extended a smaller distance c 1985. This image comes from Edmundo R Colón Izquierdo and Ivor Hernández Llanés, "Section 106 NHPA Effect Determination (EDF)."

development and therefore a historic residential district eligible for inclusion in the NRHP. The NRHP describes a historic residential district in the following fashion.

> [A] historic residential suburb is classified as a historic district and is defined as: A geographic area, usually located outside the central city, that was historically connected to the city by one or more modes of transportation; subdivided and developed primarily for residential use according to a plan; and possessing a significant concentration, linkage, and continuity of dwellings on small parcels of land, roads and streets, utilities, and community facilities.[45]

Levittown, specifically Section 1, is a unique example of the urban and architectural experimentation that took place on the Island during the 1960s. The Levittown Section 1 quadrangle is bounded by the following streets: El Caño Avenue (PR#165) to the north, Las Palmas Avenue to the east, Levittown Boulevard (PR#868) to the south, and the Del Valle Boulevard to the west.

The Levittown Section 1, the earliest one to be built, be the one that can be considered part of a discontinuous historic district. Among several reasons, this is the section where some of the most creative experimentations regarding subdivision morphology took place. (See Historic Context.) Therefore, the Program recommends the first section of the eight (8)[46] that comprise Levittown be considered eligible for inclusion in the NRHP, as part of a discontinuous historic district, under Criteria A and C since the sector marks a watershed moment in urban organization in the Toa Baja, as well as the Island. The proposed historic district's components are listed in Table 9.

TABLE 9
PROPOSED LEVITTOWN SECTION 1 DISCONTINUOS HISTORIC DISTRICT, TOA BAJA, PUERTO RICO

NAME	APPROXIMATE DATE	CATEGORY
Levittown Section 1 Residential Quadrangle	1963-1965	Buildings
Levittown Tanque de Agua (Levitt Water Tank)	constructed by 1965	Structure
Levittown Lake Recreational Area	1969-1971	Site
Levittown Canal and man-made Pond	sections constructed by 1967	Structure

Several structures were built to support the sections of Levittown as they were built. The so-called Levitt Water Tank (also known as the Blue Tank), the first one to be constructed on the Island and to this day an aviation landmark, should be considered a contributing component of the discontinuous historic district. Additionally, the Levittown Lake Recreational area, a man-made body of water, the Levittown Canal and a man-made smaller pond part of the Canal, could be considered contributing components of this historic district. The lake anchors a recreational area (site) that, as mentioned previously, merited newspapers articles when inaugurated and was considered one of the selling points of the Levittown development. The Canal (structure) and the Lake recreational area (site) made possible the development of the sector that until then was characterized by swamps due to its proximity to the sea. Part of the Canal work included the dredging of the Caño El Hato. (See Figure 6 and Image F below.)

---

45 National Park Service, Department of the Interior, "National Register Bulletin, Historic Residential Suburbs Guidelines for Evaluation and Documentation for the National Register of Historic Places," Access: https://www.nps.gov/subjects/nationalregister/upload/NRB46_Suburbs_part1_508.pdf.

46 Some sources claim there are seven (7) and nine (9) Levittown sections. It is known, parts of Levittown are within the Bayamón Municipality.

Image F - Development of the Levittown area, Toa Baja, Puerto Rico, USGS Map 1963 (left) and USGS Map 1969 (right).[47]

The Levittown Lake Recreational area is located to the northwest of the roundabout's projects, while the Levittown Canal runs north to south, shifting parallel and north to the Juan "Picolino" Hernández Ferrer Avenue (Sábana Seca Avenue), and connecting with the made-pond to the northwest of PR-CRP-00948. (See Figures 6 and 7.)

Further analysis beyond this EDF's scope of work is needed to further interpret the Levittown Section 1 Discontinuous Historic District.

In any case, the Levittown Section 1 Historic Discontinuous District is outside the APE and the quarter mile radius areas. A section of the Levittown Canal and a man-made pond part of the canal are within the project visual APE and the quarter mile radius areas. (See Figure 1.) A sidewalk divides the approximately twenty-five (25) feet distance between the man-made pond of the proposed roundabout project PR-CRP-000948. A section of the Levittown Canal runs parallel to Juan "Picolino" Hernández Ferrer Avenue (Sábana Seca Avenue) for approximately 0.91 kilometers from the center of the roundabout project PR-CRP-000948.

DETERMINATION OF ELIGIBILITY TO THE NRHP OF THE
JUAN "PICOLINO" HERNÁNDEZ FERRER AVENUE (SÁBANA SECA AVENUE)

According to the National Park Service (NPS), eligibility is determined by several characteristics. First, the property must have historic integrity defined by seven considerations: "The quality of significance in American history, architecture, archeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association . . ." To be eligible, a property must also be associated to an important historic context by meeting at least one of four criteria:

A. That are associated with events that have made a significant contribution to the broad patterns of our history; or
B. That are associated with the lives of persons significant in our past; or
C. That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or

[47] USGS National Geospatial Program, Historical Topographic Maps – Preserving the Past, Bayamon Quadrangle, 1963 (HTMC, 1965 Photorevised [ed]), and 1969 (HTMC, 1971 ed), Access: https://ngmdb.usgs.gov/topoview/viewer/#11/18.2815/-66.2225.

D. That have yielded, or may be likely to yield, information important in prehistory or history.[48]

Additionally, although there may exist exceptions, the property must be at least 45 years old.

The aggregate project, as proposed, consists of the construction of three roundabouts in different intersections along the Juan "Picolino" Hernández Ferrer Avenue (Sábana Seca Avenue) in the Toa Baja Municipality. The avenue has existed since circa 1972, when its construction started. As mentioned, the project aims to: (i) create a safer environment for pedestrians at these intersections and (ii) ease traffic congestion.

The Juan "Picolino" Hernández Ferrer Avenue (Sábana Seca Avenue) is **not** eligible for inclusion in the NRHP. It is not associated with any significant event (Criterion A) or person (Criterion B). Additionally, it has no distinguishing architectural, engineering, or urban features (Criterion C) nor can it render information regarding history or prehistory (Criterion D). Visits and careful study of buildings surrounding the three proposed roundabouts evidence there are no historic properties eligible for inclusion to the NRHP. Additionally, an analysis of the Juan "Picolino" Hernández Ferrer Avenue (Sábana Seca Avenue) reveals that, while it complies with the NRHP's age requirement, it is not associated to a historic context. As a result of this analysis, it is **not** eligible for inclusion in the NRHP.

SELECTED SOURCES CONSULTED

Abbad y Lasierra, Fray Íñigo, *Historia geográfica, civil y natural de la isla de San Juan Bautista*, San Juan, Puerto Rico: Imprenta y librería de Acosta, 1866.

Badillo, Julia María, *Palo Seco: Notas para su Historia*, San Juan, Puerto Rico: Oficina Estatal de Preservación Histórica, 1986.

Cancel Hernández, F, "Toa Baja Combatirá Anexión de Bo Palo Seco a Cataño," *El Mundo*, 10 December 1957.

Colón, Edmundo R Izquierdo and Ivor Hernández Llanés, "Section 106 NHPA Effect Determination (EDF)," MS: San Juan, Puerto Rico, 2024.

Córdova, Pedro Tomás de, *Memorias geográficas, históricas, económicas y estadísticas de la isla de Puerto Rico, Volume* II, *San Juan, Puerto Rico: Instituto de Cultura Puertorriqueña, 1968.*

Daubón Vidal, Antonio, "Finca Sucn Nevares Vela Cale Los Magos Barrio Sabana Seca, Toa Baja, Puerto Rico," MS: San Juan, Puerto Rico, 1991.

Daubón Vidal, Antonio, "Fase 1A-1B Estudio Recursos Culturales Proyecto La Mansión, Barrio Palmas, Cataño, Puerto Rico," MS: San Juan, Puerto Rico, 1985.

Ames, David L and Linda Flint McClelland, "National Register Bulletin Historic Residential Suburbs Guidelines for Evaluation and Documentation for the National Register of Historic Places," Department of the Interior, National Park Service, 2002, Access: https://www.nps.gov/subjects/nationalregister/upload/NRB46_Suburbs_part1_508.pdf.

48 "National Register Bulletin "How to Apply the National Register Criteria for Evaluation," pp 2, 12-24, Access: https://www.nps.gov/subjects/nationalregister/upload/NRB-15_web508.pdf.

de Hostos, Adolfo, *Historia de San Juan, ciudad murada: Ensayo acerca del proceso de la civilización en la ciudad española de San Jun Bautista de Puerto Rico, 1521-1898*, San Juan: Instituto de Cultura Puertorriqueña, 1976.

Galyean, Crystal, "Twentieth Century Levittown The Imperfect Rise of the American Suburb," Access: https://ushistoryscene.com/article/levittown/.

Goodwin R Christopher and Bruce Larson, "Cultural Resources Investigation Sabana Seca, Naval Security Group Activity," Frederick, Maryland: R Christopher Goodwin and Associates Inc, 1998.

Institute of Puerto Rican Culture, San Juan, Puerto Rico, "Inventario Arquitectónico y Fotográfico Perímetro Principal y Secundario de la Plaza de Recreo de Toa Baja" MS: San Juan, Puerto Rico, 2011.

_________, "Memo From José Silvestre to Samuel Corchado Propiedades dentro del Centro Urbano de Toa Baja," MS: San Juan, Puerto Rico, 14 July 2008.

Kuranda, Kathryn M and Brooke B Best, "Architectural Survey of NSGA Sabana Seca, Puerto Rico" (Frederick, Maryland: R Christopher Goodwin and Associates Inc, 1998).

Levitt, William J, "Levitt de Puerto Rico," *El Mundo*, 14 September 1963.

"Levittown Add," *El Mundo*, 5 September, 1963.

Lippai, Emeri, "Un lugar único para regatas de vela y remos," *El Mundo-Puerto Rico Ilustrado*, 12 April 1969.

López Meléndez, Jacqueline, "Reconocimiento general de yacimientos arqueológicos en el municipio de Toa Baja, Puerto Rico," MS: San Juan, Puerto Rico, 2005.

Marín Román, Héctor M, "Trasfondo Histórico del Desarrollo de la Zona Costanera del Municipio de Toa Baja, San Juan," MS: Puerto Rico, 1995.

Martínez, Garayalde, Marisol, "Evaluación Arqueológica Fase 1, "Proyecto: Gimnasio Municipal para el Complejo Deportivo del Municipio de Toa Baja, Puerto Rico," MS: San Juan, Puerto Rico, 2004.

National Register of Historic Places, "Ermita de Nuestra Señora de la Candelaria del Plantaje, Toa Baja, Puerto Rico Nomination," MS: San Juan Puerto Rico, 30 June 2015.

National Register of Historic Places, "Historic Residential Suburbs in the United States, 1830-1860 Multiple Property Documentation Form," 2002, Access: file:///C:/Users/arlee/Desktop/HISTORICAL%20COMPLIANCE%20CONSULTING/ICF/TOA%20BAJA.%20AVENIDA/NPS%20Mutiple%20Property%20Listing%20Residential%20HIstoric%20Suburbs.pdf.

_________, "Hacienda Santa Elena , Toa Baja, Puerto Rico Nomination," MS: San Juan Puerto Rico, 24 September 1992.

_________, "Iglesia Parroquial de San Pedro y San Matías Apóstoles, Toa Baja, Puerto Rico Nomination," MS: San Juan, Puerto Rico, 17 April 1975.[49]

National Park Service, Department of the Interior, "National Register Bulletin, Historic Residential Suburbs Guidelines for Evaluation and Documentation for the National Register of Historic Places," Access: https://www.nps.gov/subjects/nationalregister/upload/NRB46_Suburbs_part1_508.pdf.

Pantel, Agamemnon Gus and Héctor R Marín, "Evaluación Arqueológica Fase 1A Investigación Documental y Reconocimiento Preliminar North Coast Transmission and Distribution System Improvements: San Juan Distribution System,Municipios de Toa Baja, Bayamón, Cataño, Guaynabo y San Juan," MS: San Juan, Puerto Rico, 1998.

Príncipe Jacome, Andrés, "Evaluación Arqueológica Fases 1A-1B Proyecto Extensión de Avenida Sabana Seca, Sabana Seca, Toa Baja, Puerto Rico, MS: San Juan, Puerto Rico, 1995.

_________, "Archaeological Evaluation Sabana Seca and La Arena Ward, Río Hondo North Trunk Sewer, Bayamón, Puerto Rico Stage II," MS: San Juan, Puerto Rico, 1986.

Príncipe Jácome, Andrés and Jacqueline López Meléndez, "Evaluación Arqueológica (Fases 1A-1B) Proyecto Extensión de Avenida Sabana Seca, Toa Baja, Puerto Rico," MS: San Juan, Puerto Rico, 1995..

Príncipe Jácome, Andrés and Robin Walker, "Archaeological Survey for the Improvement of the Aqueduct System of Río Hondo North Trunk Sewer, Bayamón, Puerto Rico Stage 1A-1B," MS: San Juan, Puerto Rico, 1986.

Puerto Rico Department of Transportation and Public Works, "San Juan Metropolitan Area Transportation Study and Transportation Plan," MS: San Juan, Puerto Rico, 1985.

Puerto Rico State Historic Preservation Office, San Juan, Puerto Rico, "Proyecto de reconocimiento de inventario de centros urbanos de los 78 municipios de Puerto Rico," MS: San Juan, Puerto Rico, 2020-In Progress.

_________, "Divulgación de los recursos Arqueológicos e Históricos - Planificación y Educación Fases I, II y III - Resumen Arqueológico del municipio de Toa Baja," MS: San Juan, Puerto Rico, 2014-2016.

_________, "Letter from Mr Charles W Walker to Ms Aida Belén Rivera Ruiz regarding Disposal of the Former Naval Security Group Activity (NSGA), Sabana Seca, Puerto Rico," MS: Norfolk, Virginia: Department of the Navy, 6 August 2008.

_________, "Memorandum of Agreement Between the United States Navy and the Puerto Rico State Historic Preservation Officer Concerning the Transfer of Department of Defense Properties at Sabana Seca, Puerto Rico to Sabana Seca Partners, LLC, MS: Norfolk, Virginia, 31 July 2008.

________, File Number 12-04-95-06 "Public Notice Wetland Mitigation Sabana Seca Avenue Extension, Toa Baja, Puerto Rico," MS: San Juan, Puerto Rico, 1996.

_________, "Photographic Survey of Historic Properties in Urban Centers in Puerto Rico," MS: San Juan, Puerto Rico, 1994.

[49] "Iglesia Parroquial de San Pedro y San Matías Apóstoles, Toa Baja, National Register of Historic Places Nomination" (MS: San Juan, Puerto Rico, 1975). The original nomination has no significance criterion.

_________, File Number 06-28-91-05, "Urb Residencial Vistas del Lago, Bo Sábana Seca, Toa Baja, Puerto Rico," MS: San Juan, Puerto Rico, 1991.

Ubeda y Delgado, Manuel, *Isla de Puerto Rico Estudio Histórico, Geográfico y Estadístico de la misma*, San Juan, Puerto Rico: Establecimiento tip del *Boletín*).

VIDEOS

Video, "Levittown in Toa Baja, Puerto Rico in 2023!," Access: https://www.youtube.com/watch?v=6u0jgl0nJAk.

Video, "Así es una de las urbanizaciones más grandes de Puerto Rico. Esto es Levittown, Puerto Rico," Access: https://www.youtube.com/watch?v=cwlMJygtnho.

Determination

The following historic properties have been identified within the APE:

- Direct Effect:

In terms of the archaeological resources, earth movement took place at the time of construction of the Juan "Picolino" Hernández Ferrer Avenue (Sábana Seca Avenue), and, except for some green planting strips, each roundabout is to be built on disturbed terrain that at present is surrounded by several commercial buildings and residential areas. To increase pedestrian safety and ease vehicular congestion, the project as proposed consists of three individual roundabouts along the Juan "Picolino" Hernández Ferrer Avenue (Sábana Seca Avenue) in Levittown, Toa Baja, Puerto Rico. Clearly defined pedestrian crossings will also form part of the project. The roundabouts slightly vary in size and will be constructed in three different intersections. Descriptions and construction details for the three roundabout locations are discussed in detail in the Project Description Section above.

For all three roundabouts, the Program has determined that the direct APE is the footprint of the existing roadway. For PR-CPR000948, this footprint is 92,957.13 square feet and includes the intersections of Juan "Picolino" Hernández Ferrer Avenue (Sábana Seca Avenue) and Rufino Ramírez Street. This area is 629.92 feet (east-to-west) and 465.88 feet (north to south). For PR-CPR-000964, this footprint is 92,720.32 square feet and includes the intersections of Juan "Picolino" Hernández Ferrer Avenue (Sábana Seca Avenue) and Dr Álvarez Chanca Avenue. This area is 688.98 feet (east-to-west) and 321.52 feet (north to south). For PR-CPR-000973, the total impacted area of this roundabout is 88,371.7 square feet and includes the intersections of Juan "Picolino" Hernández Ferrer Avenue (Sábana Seca Avenue) and Dr Villalobos Street. This area is 623.36 feet (east-to-west) and 567.59 feet (north to south).

The Program has determined that the project has the same footprint as the existing roadway.

All three construction areas include the following activities:

(1) Scarification of existing asphalt surfaces;
(2) Reconstruction of existing sidewalks;
(3) Transformation of geometry of existing intersection;
(4) Inclusion of catch basins for storm water management;
(5) Creation of rain gardens on new sidewalks.

In all three construction areas of the roundabouts, the existing sanitary sewer and potable water distribution systems will be impacted minimally. Electrical and telecommunications posts will be removed. The culvert located in the center of the roundabout will not rise more than three (3) feet above the finished grade of the road. The inner circle of the roundabout will be planted, adding to the regreening efforts along the planting strips. Project plans indicate that minimal excavation not exceeding four (4) feet is required. As mentioned, project construction will not extend beyond the limits of the existing roads and sidewalks. Therefore, there will be no land movement or excavations outside the area already impacted by the avenue and intersecting streets when they were constructed.

Although this project is considered a new construction for the purpose of this EDF, it will be built in an area previously impacted by the construction of the Juan "Picolino" Hernández Ferrer Avenue (Sábana Seca Avenue). The construction of this avenue, initiated circa 1972, appears to have required the placement of approximately three (3) to four (4) feet of fill to level the area with the existing housing developments to its north and south, and to fill in wetlands to its west. PRSHPO and IPRC archaeological surveys for projects within a quarter mile radius of the proposed project did not locate any intact deposits eligible for inclusion in the NRHP and documented previous episodes of earth movement and placement of fill in various areas in general proximity to the site of the proposed project.

Based on all the information researched and analyzed, and the fact that earth movement for this project is estimated to be not more than four (4) feet deep, it is the Program's conclusion that the project as proposed will have **no effect** on historic archaeological properties.

- Indirect Effect:

It is our determination that, based on the cultural resources site information available for the project area, **no** potentially NRHP-eligible properties will be impacted by this project. Although a section of the Levittown Canal and its man-made pond are close to roundabout PR-CPR-000948 (approximately twenty-five (25) feet), the project poses no effect upon this contributing component of the Levittown Section 1 Historic District.

Based on the results of our historic property identification efforts, the Program has determined that project actions **will not** affect any historic properties within the APE and within the quarter-mile radius. The closeness of the Canal and its man-made pond to a part of the project will not cause any effect upon this contributing element of the Levittown Section 1 Historic District.

Detailed studies of the three roundabouts and their intersections reveal no historic properties will be affected. Except for the intersection closest to the Canal and its man-made pond, in all cases the intersections are surrounded by properties that are **not** eligible for inclusion in the NRHP.

Subrecipient: Municipio de Toa Baja	
Project Name: PR-CPR-000948 Rotonda Avenida Sábana Seca intersección con la Calle Rufino Ramírez; PR-CPR-000964 Rotonda Avenida Sábana Seca intersección con la Avenida Dr Diego Álvarez Chanca; PR-CPR-000973 Rotonda Avenida Sábana Seca intersección con la Calle Dr Villalobos.	**Project ID**: PR-CPR-000948, PR-CPR-000964; PR-CPR-000973

Recommendation *(Please keep on same page as SHPO Staff Section)*

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 (if applicable):

☐ Adverse Effect

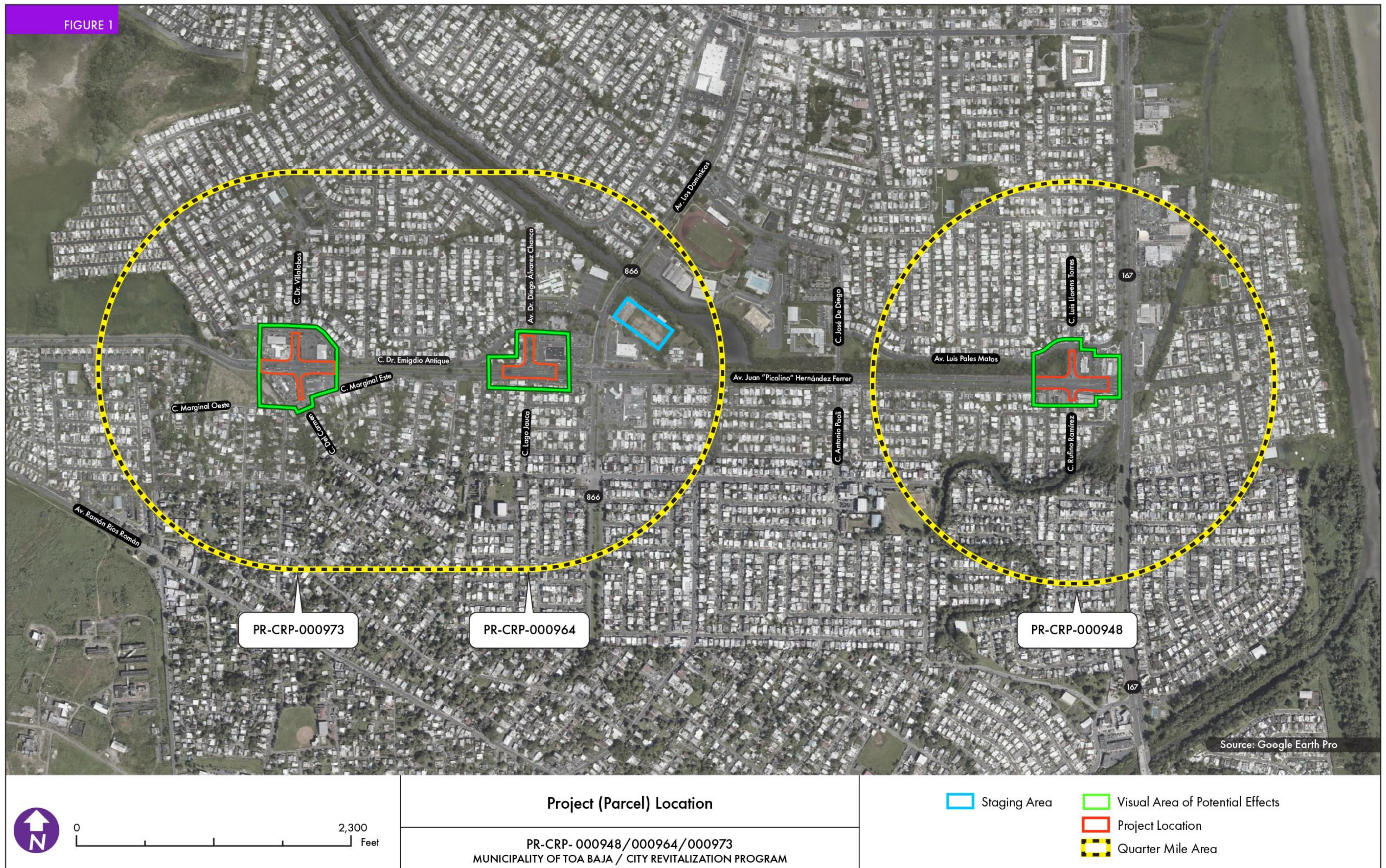
Proposed Resolution (if appliable)

This Section is to be Completed by SHPO Staff Only

The Puerto Rico State Historic Preservation Office has reviewed the above information and: **Concurs** with the information provided. **Does not concur** with the information provided.	
Comments:	
Carlos Rubio-Cancela State Historic Preservation Officer	Date:

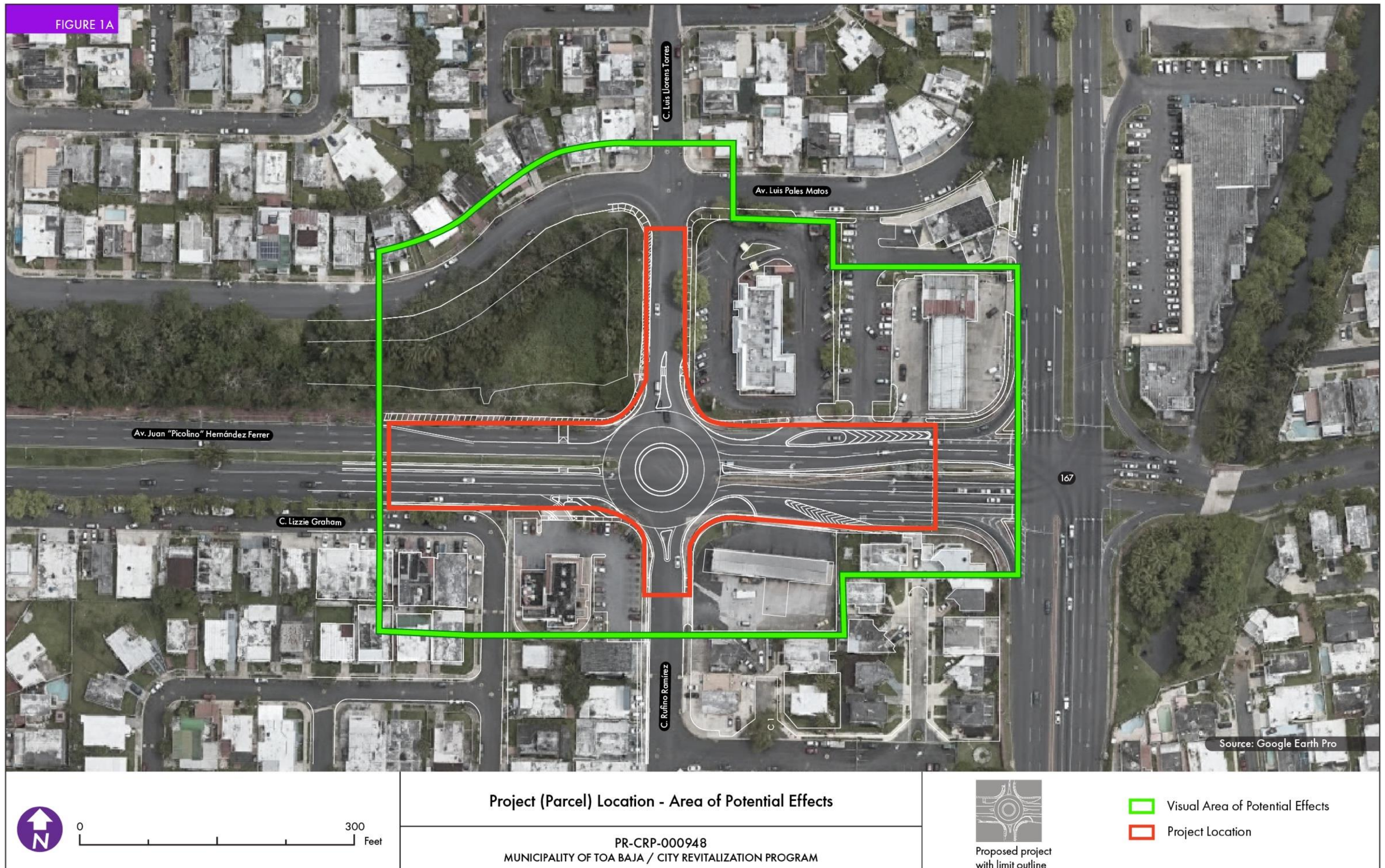
PUERTO RICO 2017 DISASTER RECOVERY, CDBG-DR PROGRAM **CITY REVITALIZATION PROGRAM (CITY-REV)** **Section 106 NHPA Effect Determination**	GOVERNMENT OF PUERTO RICO DEPARTMENT OF HOUSING
Subrecipient: Municipio de Toa Baja	
Project Name: PR-CPR-000948 Rotonda Avenida Sábana Seca intersección con la Calle Rufino Ramírez; PR-CPR-000964 Rotonda Avenida Sábana Seca intersección con la Avenida Dr Diego Álvarez Chanca; PR-CPR-000973 Rotonda Avenida Sábana Seca intersección con la Calle Dr Villalobos.	**Project ID**: PR-CPR-000948, PR-CPR-000964; PR-CPR-000973

Project (Parcel) Location – Area of Potential Effect Map (Aerial)

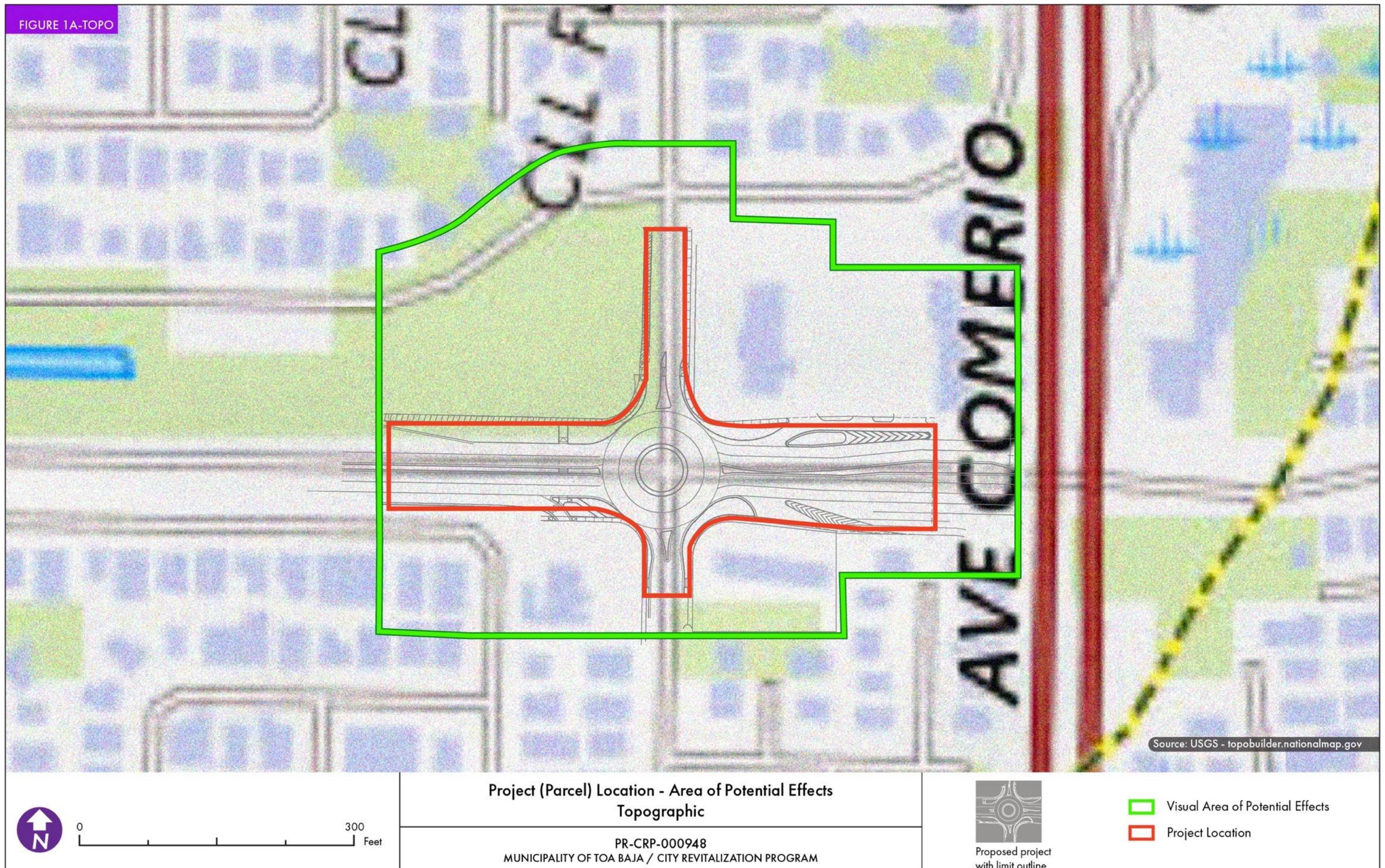


PUERTO RICO 2017 DISASTER RECOVERY, CDBG-DR PROGRAM CITY REVITALIZATION PROGRAM (CITY-REV) **Section 106 NHPA Effect Determination**	
Subrecipient: Municipio de Toa Baja	
Project Name: PR-CPR-000948 Rotonda Avenida Sábana Seca intersección con la Calle Rufino Ramírez; PR-CPR-000964 Rotonda Avenida Sábana Seca intersección con la Avenida Dr Diego Álvarez Chanca; PR-CPR-000973 Rotonda Avenida Sábana Seca intersección con la Calle Dr Villalobos.	**Project ID**: PR-CPR-000948, PR-CPR-000964; PR-CPR-000973

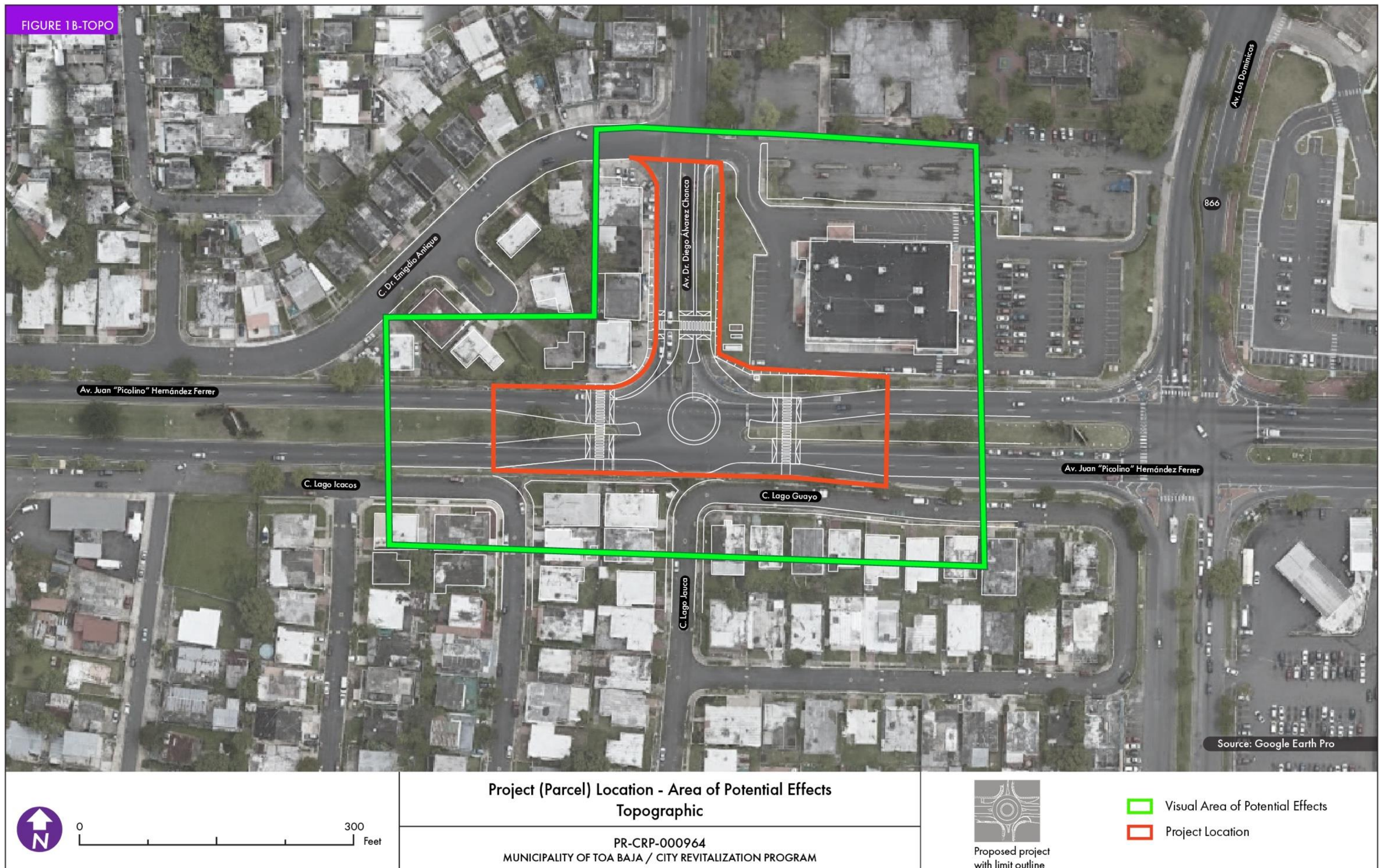
PR-CRP-000948- Project (Parcel) Location – Area of Potential Effect Map (Aerial)



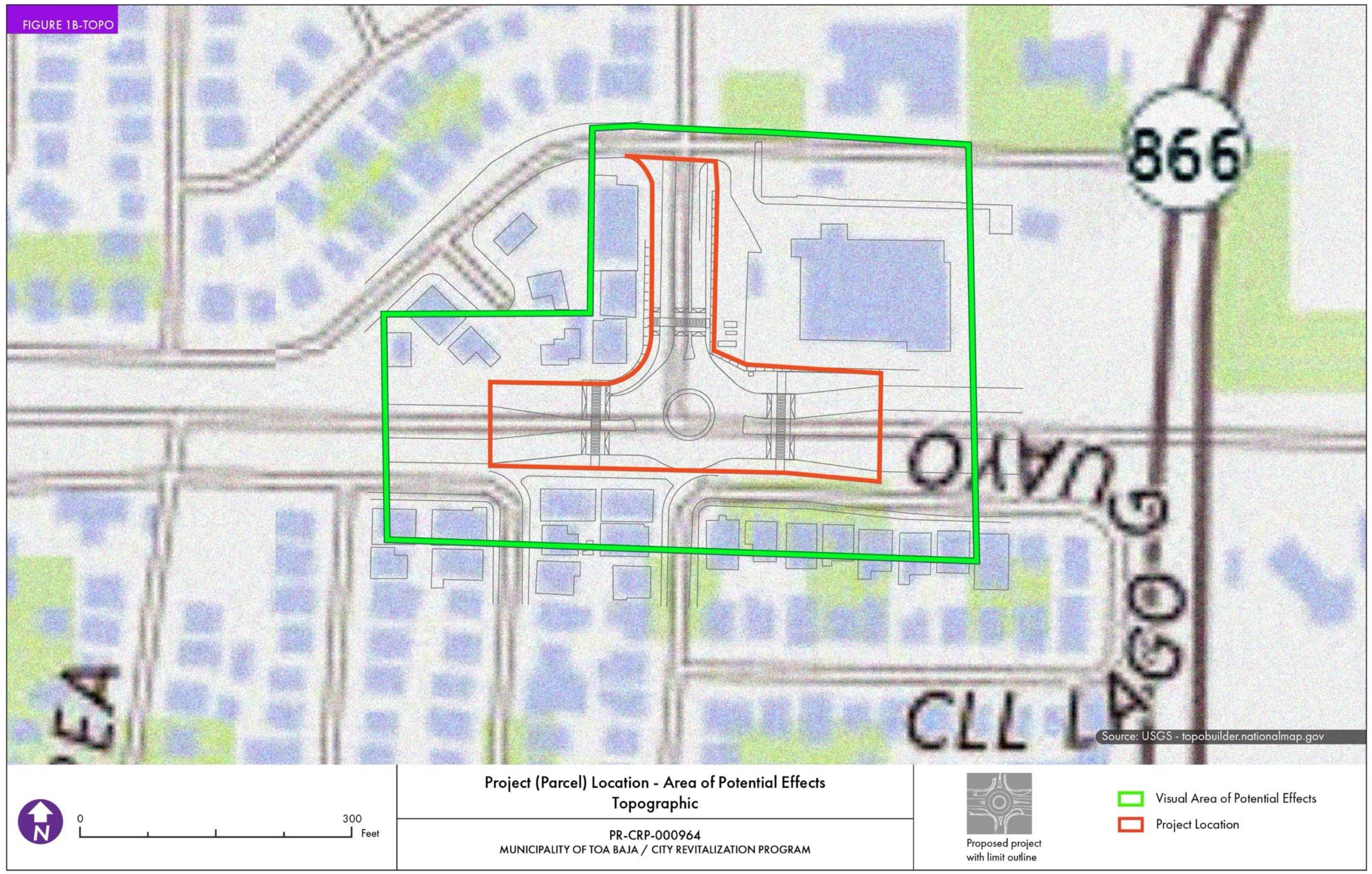
PR-CRP-000948- Project (Parcel) Location – Area of Potential Effect Map (USGS Topographic Map)



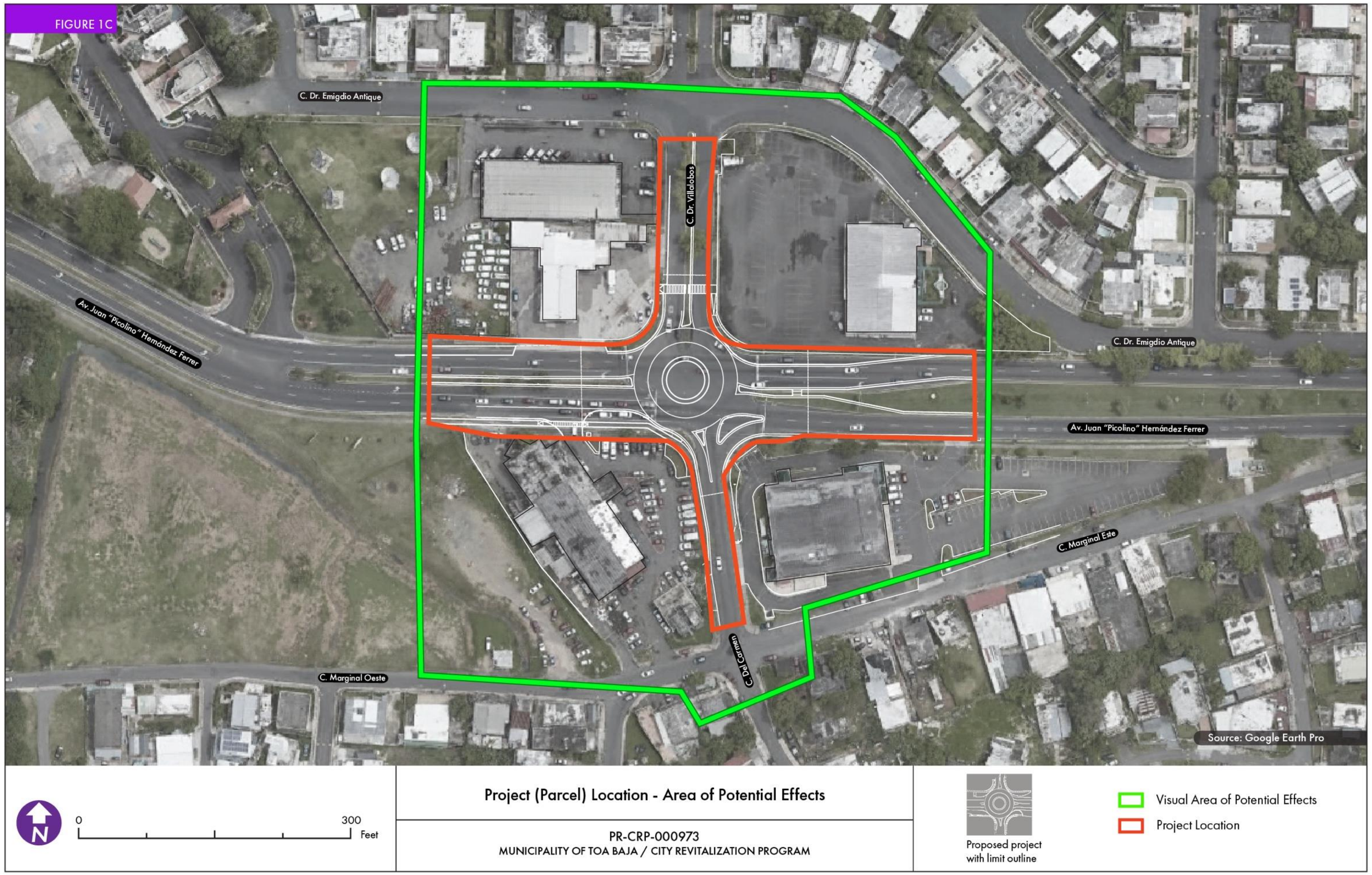
PR-CRP-000964- Project (Parcel) Location – Area of Potential Effect Map (Aerial)



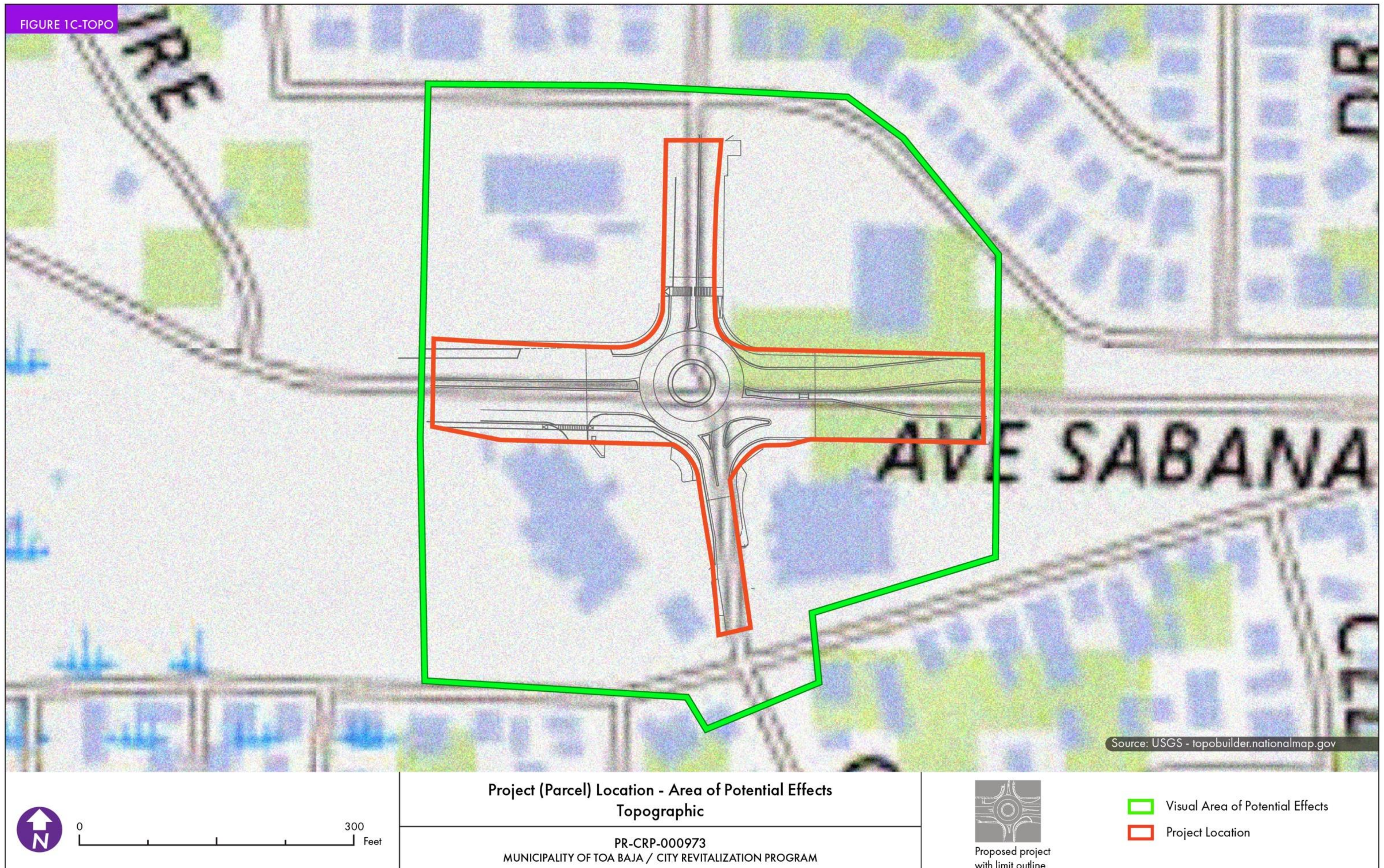
PR-CRP-000964- Project (Parcel) Location – Area of Potential Effect Map (USGS Topographic Map)



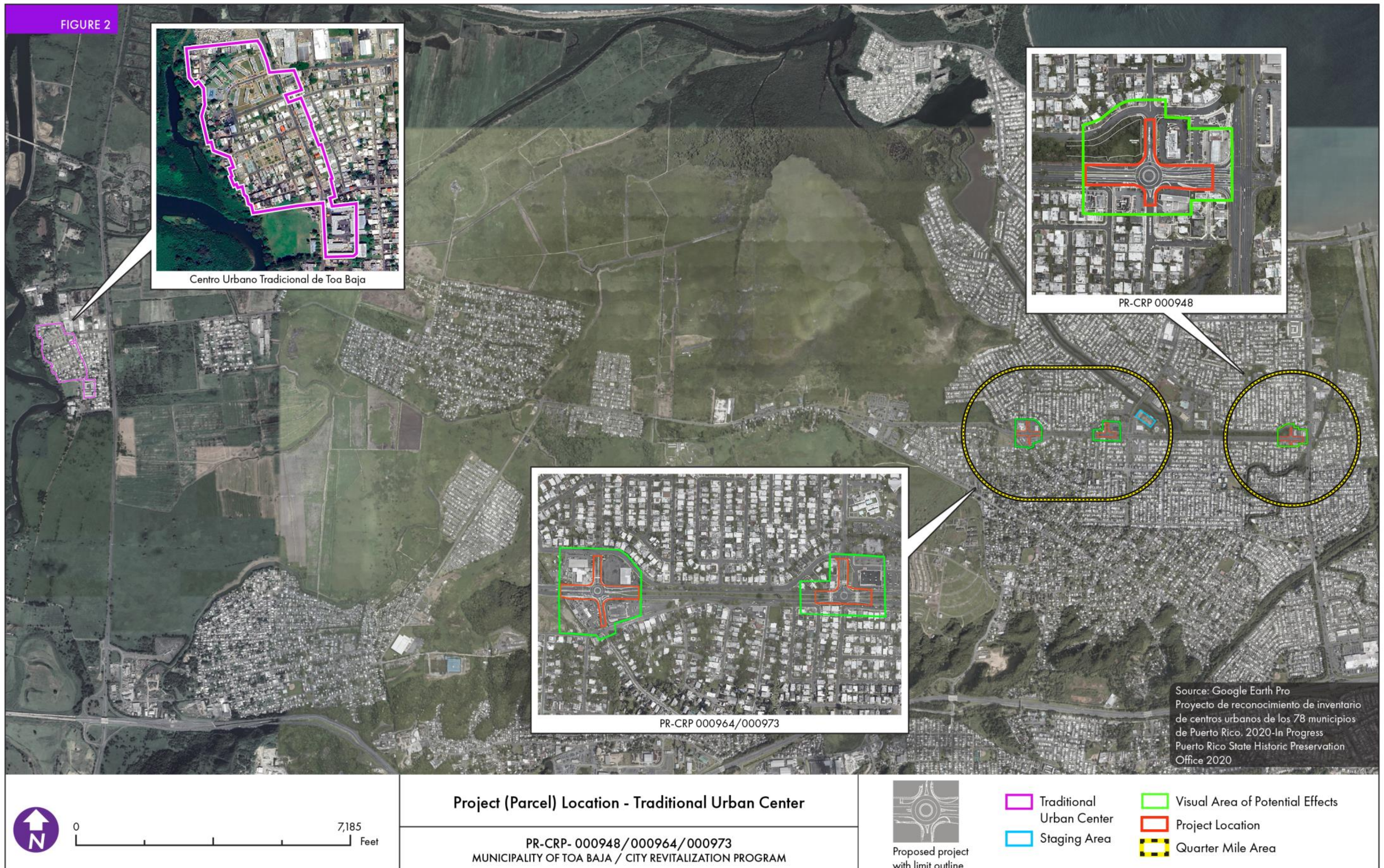
PR-CRP-000973- Project (Parcel) Location – Area of Potential Effect Map (Aerial)



PR-CRP-000964- Project (Parcel) Location – Area of Potential (USGS Topographic Map)

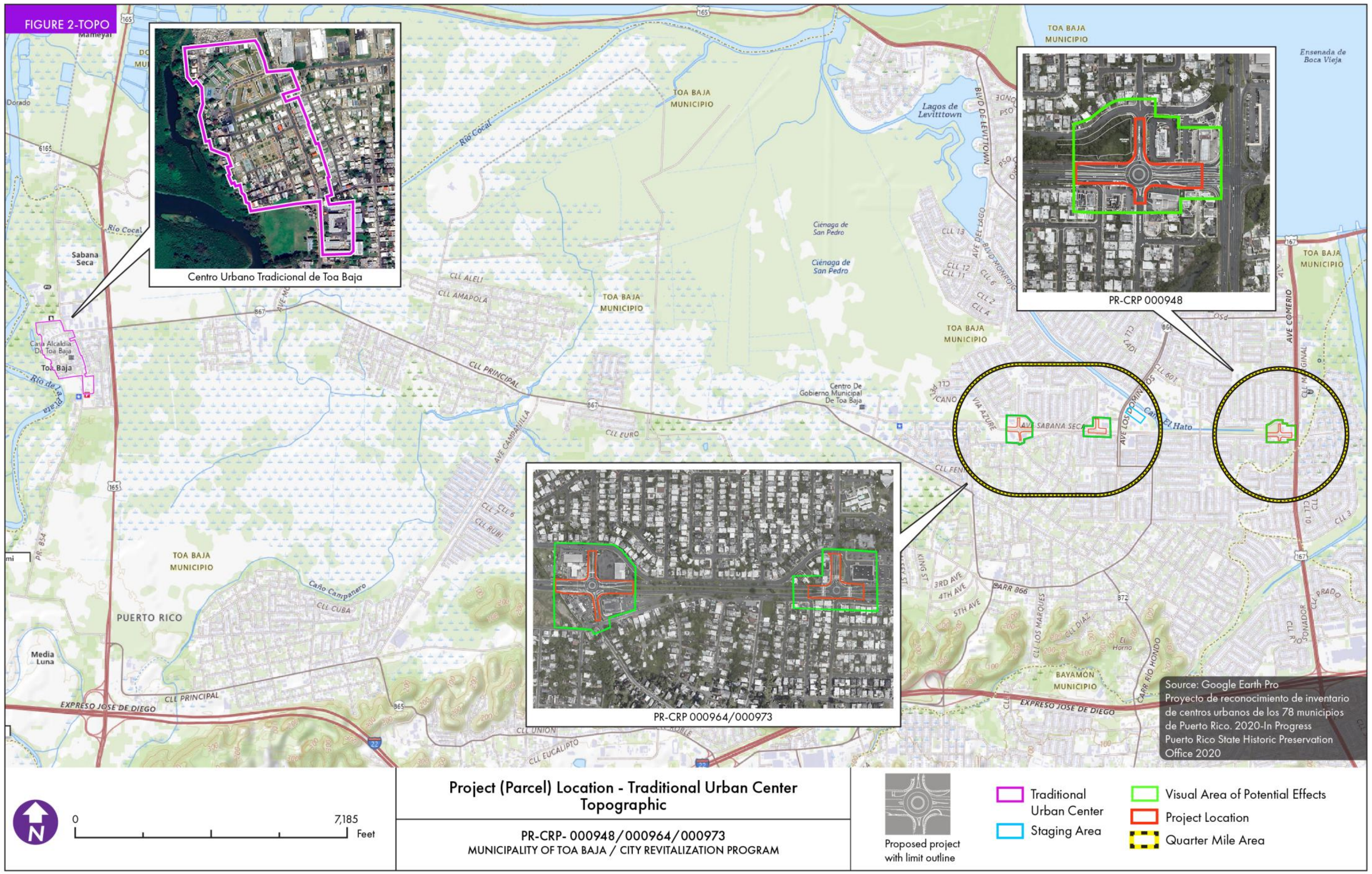


Project (Parcel) Location – Traditional Urban Center (Aerial)



Puerto Rico 2017 Disaster Recovery, CDBG-DR Program **City Revitalization Program (City-Rev)** **Section 106 NHPA Effect Determination**	Government of Puerto Rico Department of Housing
Subrecipient: Municipio de Toa Baja	
Project Name: PR-CPR-000948 Rotonda Avenida Sábana Seca intersección con la Calle Rufino Ramírez; PR-CPR-000964 Rotonda Avenida Sábana Seca intersección con la Avenida Dr Diego Álvarez Chanca; PR-CPR-000973 Rotonda Avenida Sábana Seca intersección con la Calle Dr Villalobos.	**Project ID:** PR-CPR-000948, PR-CPR-000964; PR-CPR-000973

Project (Parcel) Location – Traditional Urban Center (USGS Topographic Map)



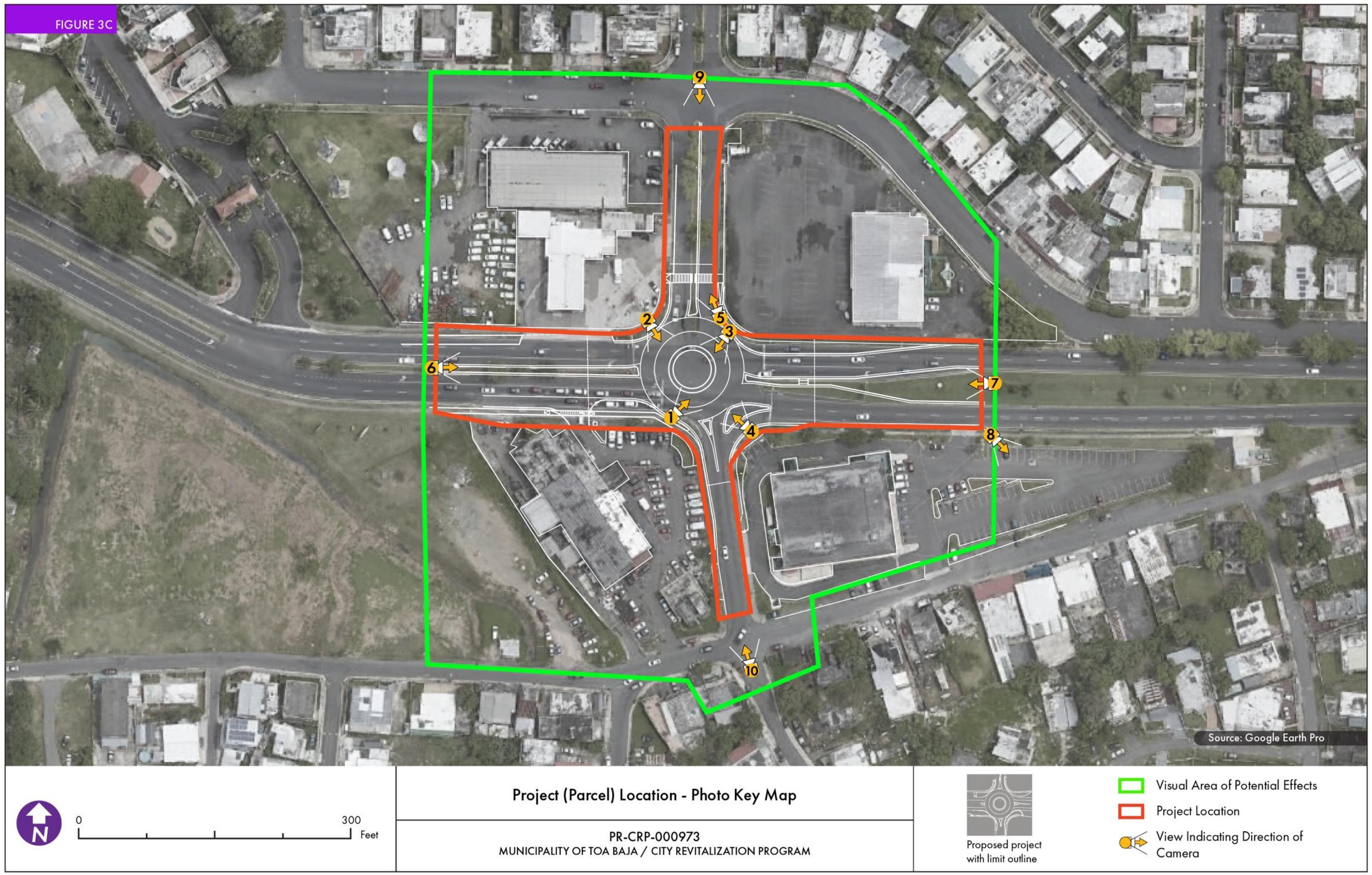
PR-CRP-000948-Project (Parcel) Location – Photo Key Map (Aerial)

Puerto Rico 2017 Disaster Recovery, CDBG-DR Program **City Revitalization Program (City-Rev)** **Section 106 NHPA Effect Determination**	GOVERNMENT OF PUERTO RICO DEPARTMENT OF HOUSING
Subrecipient: Municipio de Toa Baja	
Project Name: PR-CPR-000948 Rotonda Avenida Sábana Seca intersección con la Calle Rufino Ramírez; PR-CPR-000964 Rotonda Avenida Sábana Seca intersección con la Avenida Dr Diego Álvarez Chanca; PR-CPR-000973 Rotonda Avenida Sábana Seca intersección con la Calle Dr Villalobos.	**Project ID**: PR-CPR-000948, PR-CPR-000964; PR-CPR-000973

PR-CRP-000964-Project (Parcel) Location – Photo Key Map (Aerial)

Puerto Rico 2017 Disaster Recovery, CDBG-DR Program **City Revitalization Program (City-Rev)** **Section 106 NHPA Effect Determination**	Government of Puerto Rico Department of Housing
Subrecipient: Municipio de Toa Baja	
Project Name: PR-CPR-000948 Rotonda Avenida Sábana Seca intersección con la Calle Rufino Ramírez; PR-CPR-000964 Rotonda Avenida Sábana Seca intersección con la Avenida Dr Diego Álvarez Chanca; PR-CPR-000973 Rotonda Avenida Sábana Seca intersección con la Calle Dr Villalobos.	**Project ID:** PR-CPR-000948, PR-CPR-000964; PR-CPR-000973

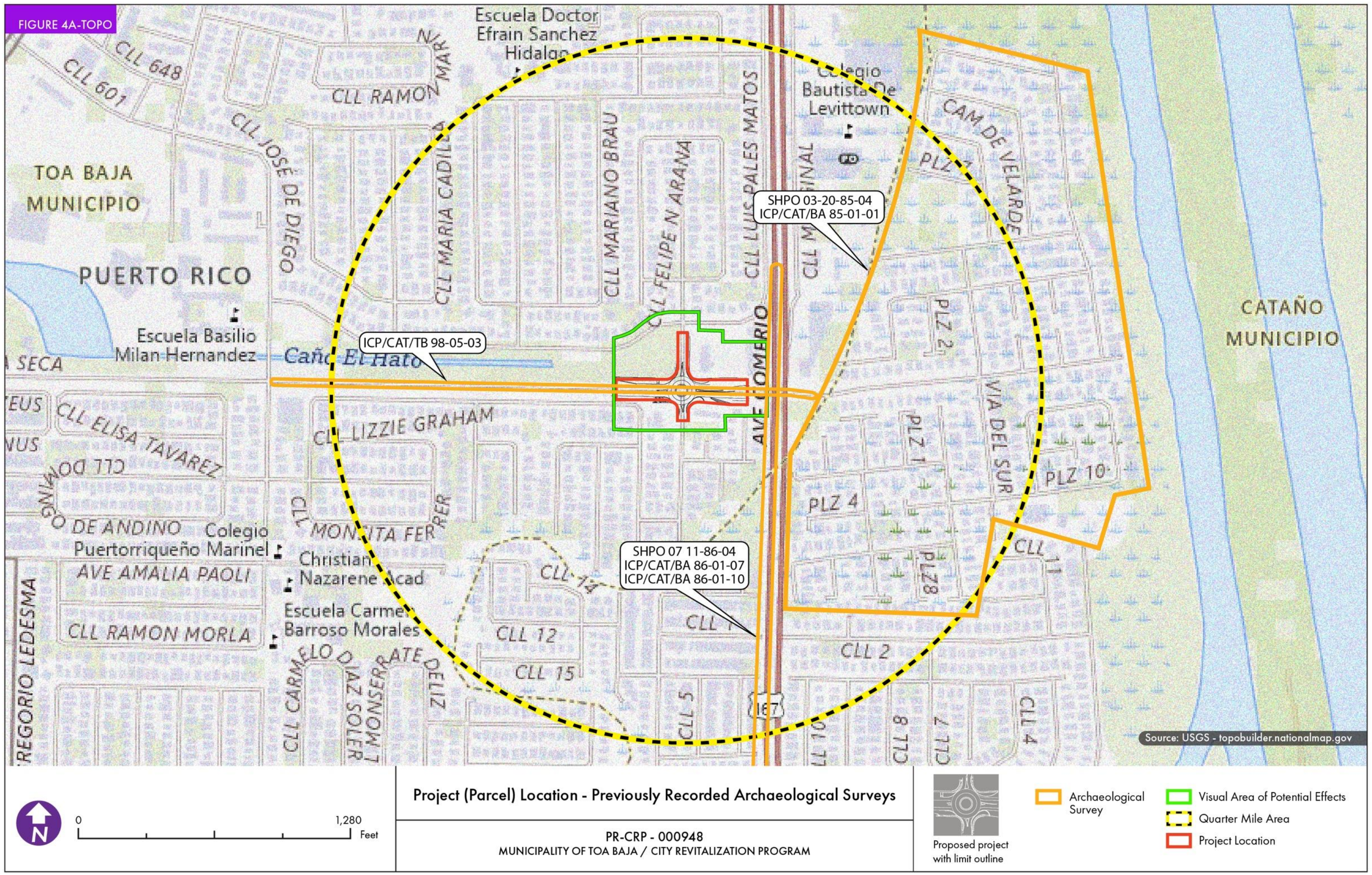
PR-CRP-000973-Project (Parcel) Location – Photo Key Map (Aerial)



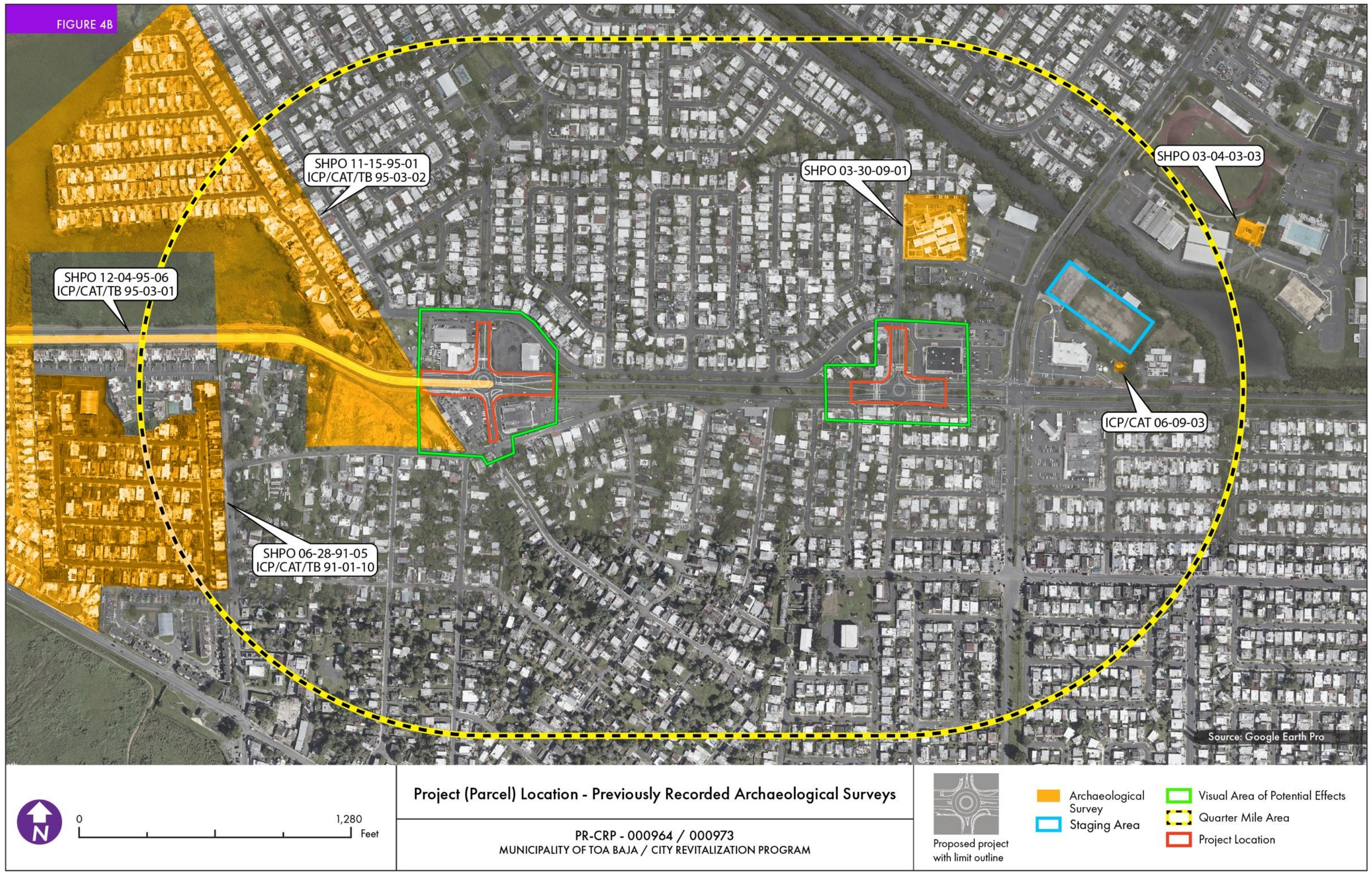
PR-CRP-000948- Project (Parcel) Location – Previously recorded Archaeological Surveys (Aerial)

Puerto Rico 2017 Disaster Recovery, CDBG-DR Program **City Revitalization Program (City-Rev)** **Section 106 NHPA Effect Determination**	GOVERNMENT OF PUERTO RICO DEPARTMENT OF HOUSING
Subrecipient: Municipio de Toa Baja	
Project Name: PR-CPR-000948 Rotonda Avenida Sábana Seca intersección con la Calle Rufino Ramírez; PR-CPR-000964 Rotonda Avenida Sábana Seca intersección con la Avenida Dr Diego Álvarez Chanca; PR-CPR-000973 Rotonda Avenida Sábana Seca intersección con la Calle Dr Villalobos.	**Project ID**: PR-CPR-000948, PR-CPR-000964; PR-CPR-000973

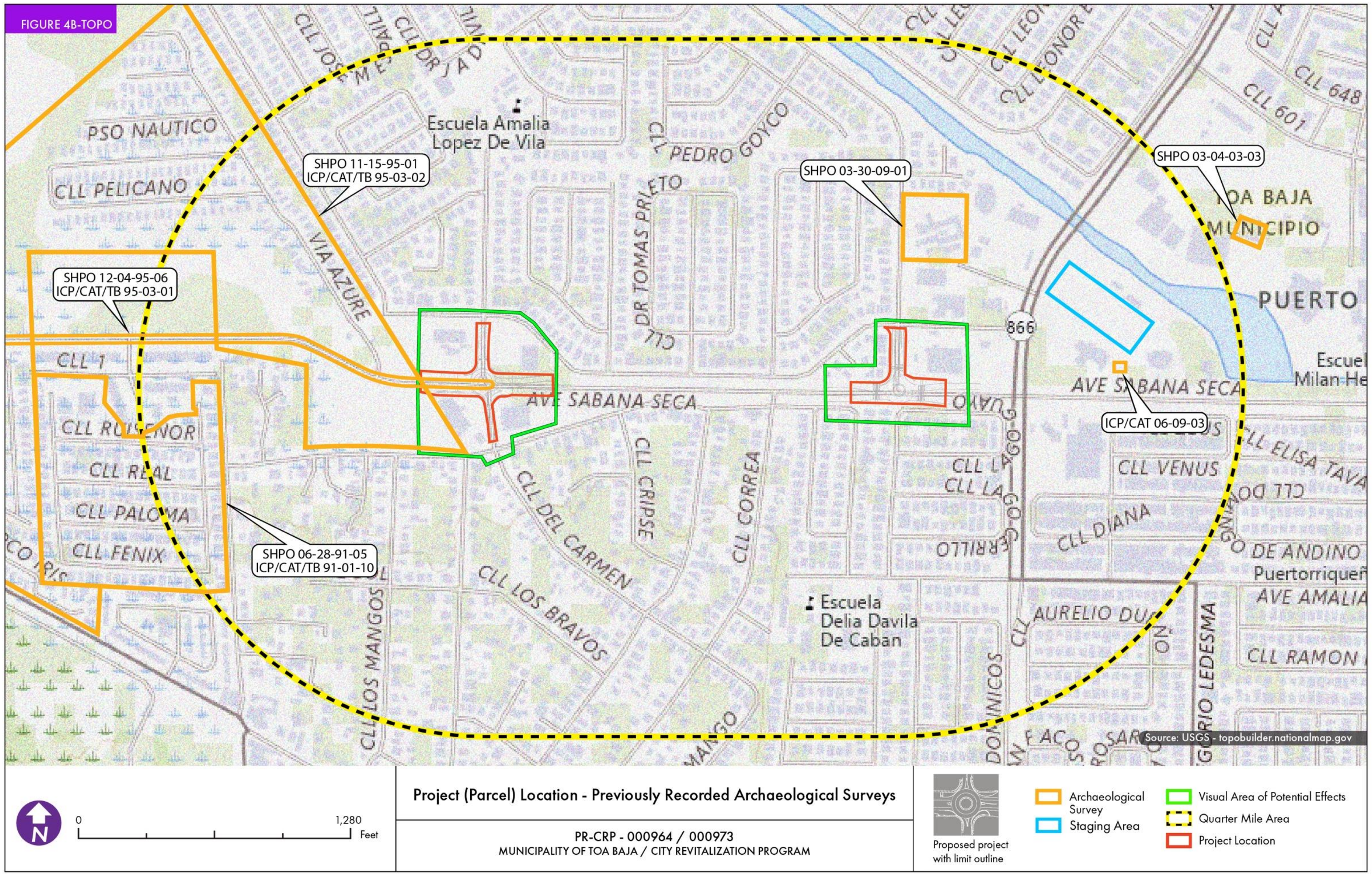
PR-CRP-000948- Project (Parcel) Location – Previously recorded Archaeological Surveys (USGS Topographic Map)



PR-CRP-000964 and PR-CRP-000973 - Project (Parcel) Location – Previously recorded Archaeological Surveys (Aerial)

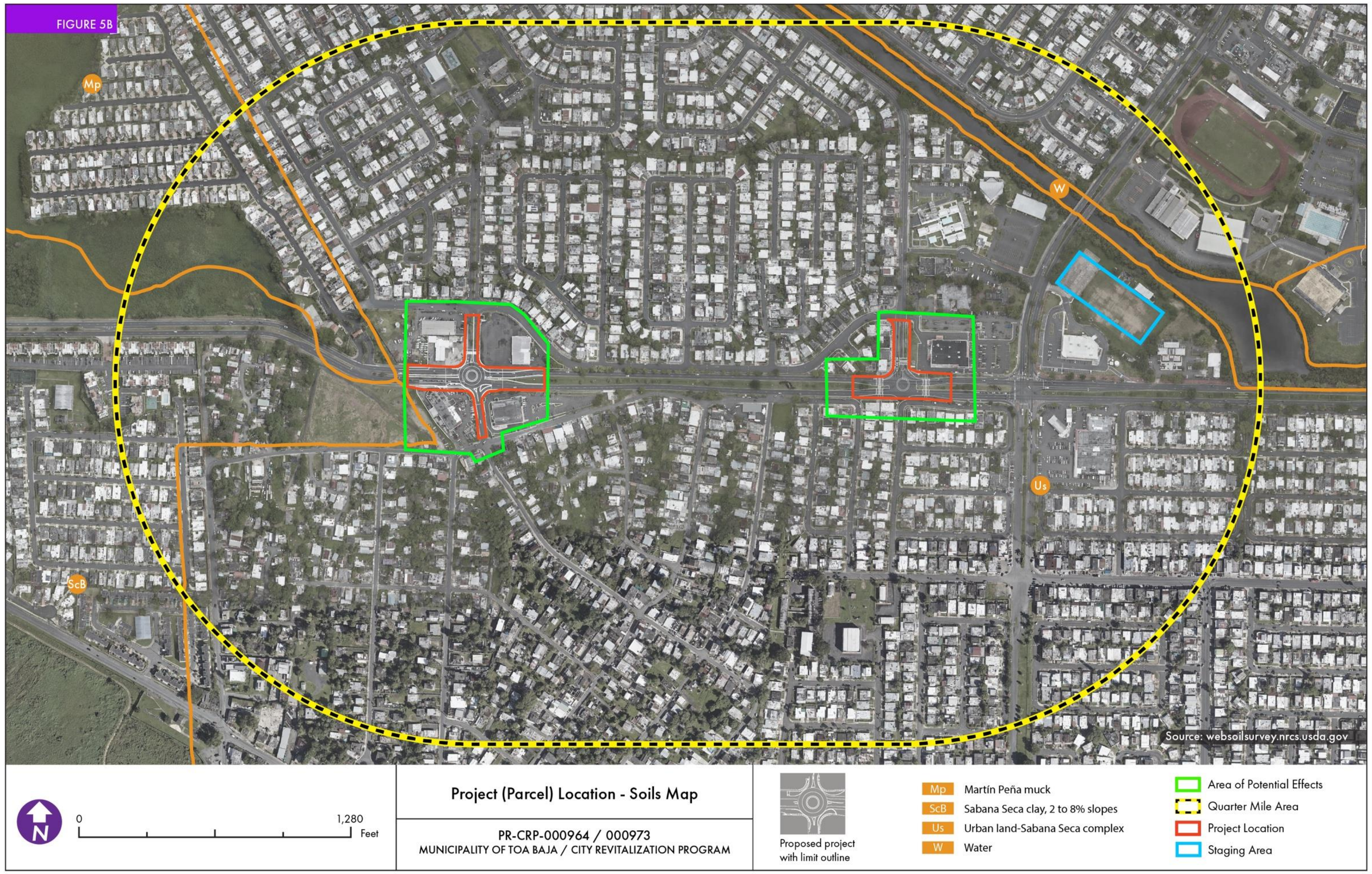


PR-CRP-000964 and PR-CRP-000973 - Project (Parcel) Location – Previously recorded Archaeological Surveys (USGS Topographic Map)



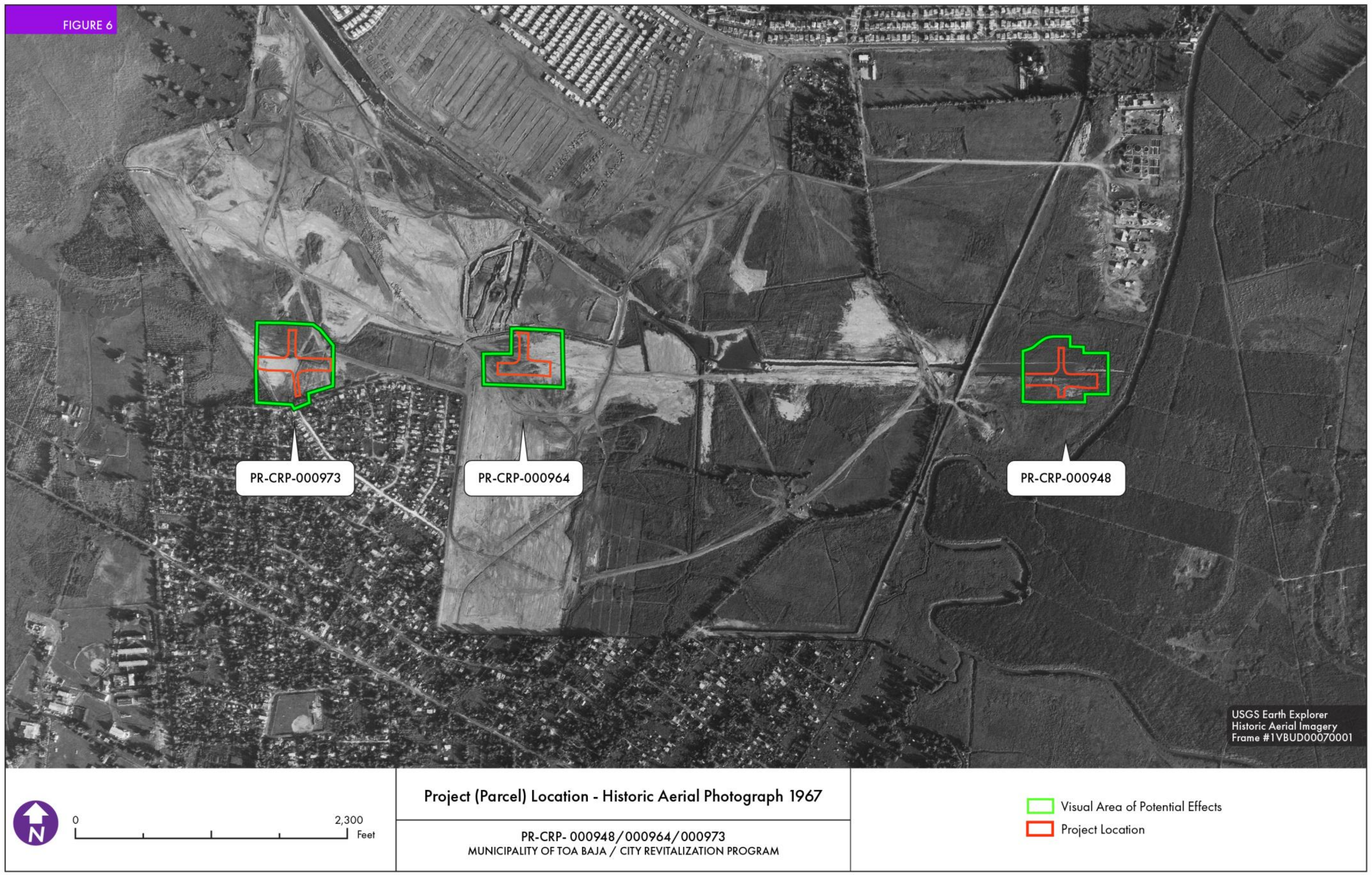
PR-CRP-000948- Project (Parcel) Location – Soils Map (Aerial)

PR-CRP-000964 and PR-CRP-000973- Project (Parcel) Location – Soils Map (Aerial)



Subrecipient: Municipio de Toa Baja	
Project Name: PR-CPR-000948 Rotonda Avenida Sábana Seca intersección con la Calle Rufino Ramírez; PR-CPR-000964 Rotonda Avenida Sábana Seca intersección con la Avenida Dr Diego Álvarez Chanca; PR-CPR-000973 Rotonda Avenida Sábana Seca intersección con la Calle Dr Villalobos.	**Project ID**: PR-CPR-000948, PR-CPR-000964; PR-CPR-000973

Project (Parcel) Location – Historic Aerial Photograph 1967



Project (Parcel) Location – Historic Aerial Photograph 1977

PR-CRP-000948

Photo #1 **Date:17/07/24**	**Description (include direction):** Looking northeast towards project 000948 roundabout location.

Photo #:2 **Date: 17/07/24**	**Description (include direction):** Looking southeast towards project 000948 roundabout location.

PR-CRP-000948

Photo #3 **Date:17/07/24**	**Description (include direction):** Looking southwest towards project 000948 roundabout location.

Photo #4 **Date: 17/07/24**	**Description (include direction):** Looking northwest towards project 000948 roundabout location.

PR-CRP-000948

Photo #5	**Description (include direction):** Looking northeast from corner of intersection, towards houses within the APE limit.
Date:17/07/24	

Photo #6	**Description (include direction):** Looking northwest from corner of intersection, towards houses within the APE limit.
Date: 17/07/24	

PR-CRP-000948

Photo #7 **Date:17/07/24**	**Description (include direction):** Looking east from project's limit in the center of intersection.

Photo #8 **Date: 17/07/24**	**Description (include direction):** Looking southeast from corner of intersection, towards houses within the APE limit.

PR-CRP-000948

Photo #9 **Date:17/07/24**	**Description (include direction):** Looking southwest from corner of intersection, towards houses within the APE limit.

Photo #10 **Date: 17/07/24**	**Description (include direction):** Looking west from project's limit in the center of intersection.

PR-CRP-000948

Photo #11 **Date:17/07/24**	**Description (include direction):** Looking southeast towards intersection, from houses within the APE limit.

Photo #12 **Date: 17/07/24**	**Description (include direction):** Looking southeast towards intersection, from houses within the APE limit.

PR-CRP-000948

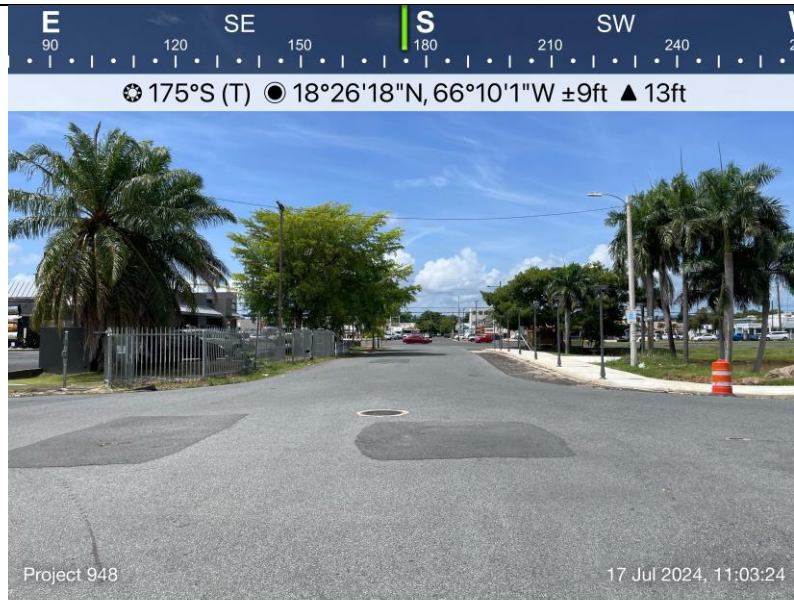


Photo #13 **Date:17/07/24**	**Description (include direction):** Looking south from project's limit towards roundabout location.

Photo #14 **Date: 17/07/24**	**Description (include direction):** Looking north from project's limit towards roundabout location.

PR-CRP-000973

Photo #1 **Date: 17/07/24**	**Description (include direction):** Looking northeast towards project 000973 roundabout location.

Photo #2 **Date: 17/07/24**	**Description (include direction):** Looking southeast towards project 000973 roundabout location.

PR-CRP-000973

Photo #3 **Date: 17/07/24**	**Description (include direction):** Looking southwest towards project 000973 roundabout location.

Photo #4 **Date: 17/07/24**	**Description (include direction):** Looking northwest towards project 000973 roundabout location.

PR-CRP-000973

Photo #5 **Date: 17/07/24**	**Description (include direction):** Looking northwest from corner of intersection, towards houses within the APE limi**t.**

Photo #6 **Date: 17/07/24**	**Description (include direction):** Looking east from project's limit in the center of intersection.

PR-CRP-000973

Photo #7 **Date: 17/07/24**	**Description (include direction):** Looking west from project's limit in the center of intersection.

Photo #8 **Date: 17/07/24**	**Description (include direction):** View from Juan Picolino Hernández Avenue, looking southeast towards Marginal Este Street.

PR-CRP-000973

Photo #9 **Date: 17/07/24**	**Description (include direction):** Looking south from project's APE limit towards roundabout location.

Photo #10 **Date: 17/07/24**	**Description (include direction):** Looking north from project's limit towards roundabout location.

PR-CRP-000973

Photo #1 **Date: 17/07/24**	**Description (include direction):** Looking northeast towards project 000973 roundabout location.

Photo #2 **Date: 17/07/24**	**Description (include direction):** Looking southeast towards project 000973 roundabout location.

Photo #3 **Date: 17/07/24**	**Description (include direction):** Looking southwest towards project 000973 roundabout location.

Photo #4 **Date: 17/07/24**	**Description (include direction):** Looking northwest towards project 000973 roundabout location.

Photo #5 **Date: 17/07/24**	**Description (include direction):** Looking northwest from corner of intersection, towards houses within the APE limi**t.**

Photo #6 **Date: 17/07/24**	**Description (include direction):** Looking east from project's limit in the center of intersection.

Photo #7 **Date: 17/07/24**	**Description (include direction):** Looking west from project's limit in the center of intersection.

Photo #8 **Date: 17/07/24**	**Description (include direction):** View from Juan Picolino Hernández Avenue, looking southeast towards Marginal Este Street.

PR-CRP-000973

Photo #9 **Date: 17/07/24**	**Description (include direction):** Looking south from project's APE limit towards roundabout location.

Photo #10 **Date: 17/07/24**	**Description (include direction):** Looking north from project's limit towards roundabout location.

PR-CRP-000948

Rotonda Ave. Sabana Seca int. Calle Rufino Ramírez, Levittown

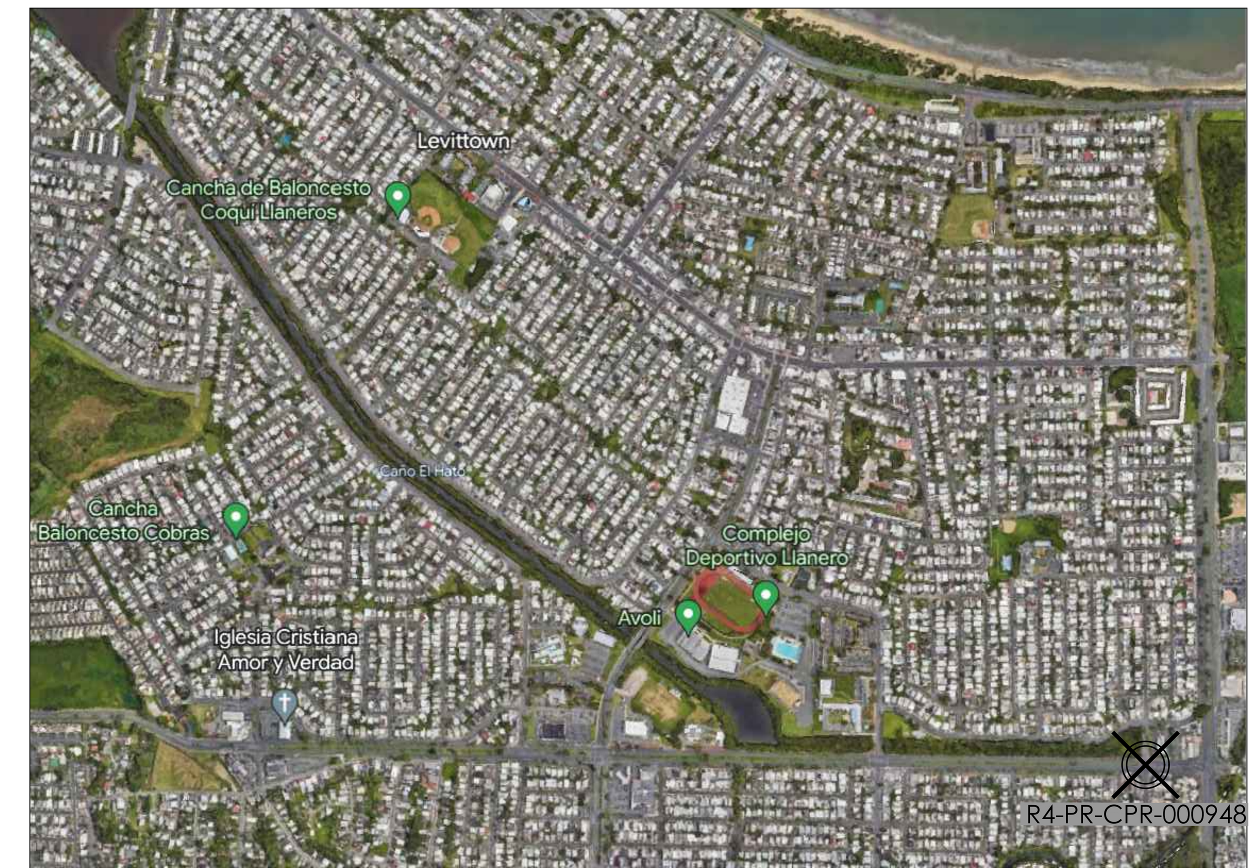
Toa Baja, Puerto Rico

60% Design Drawings

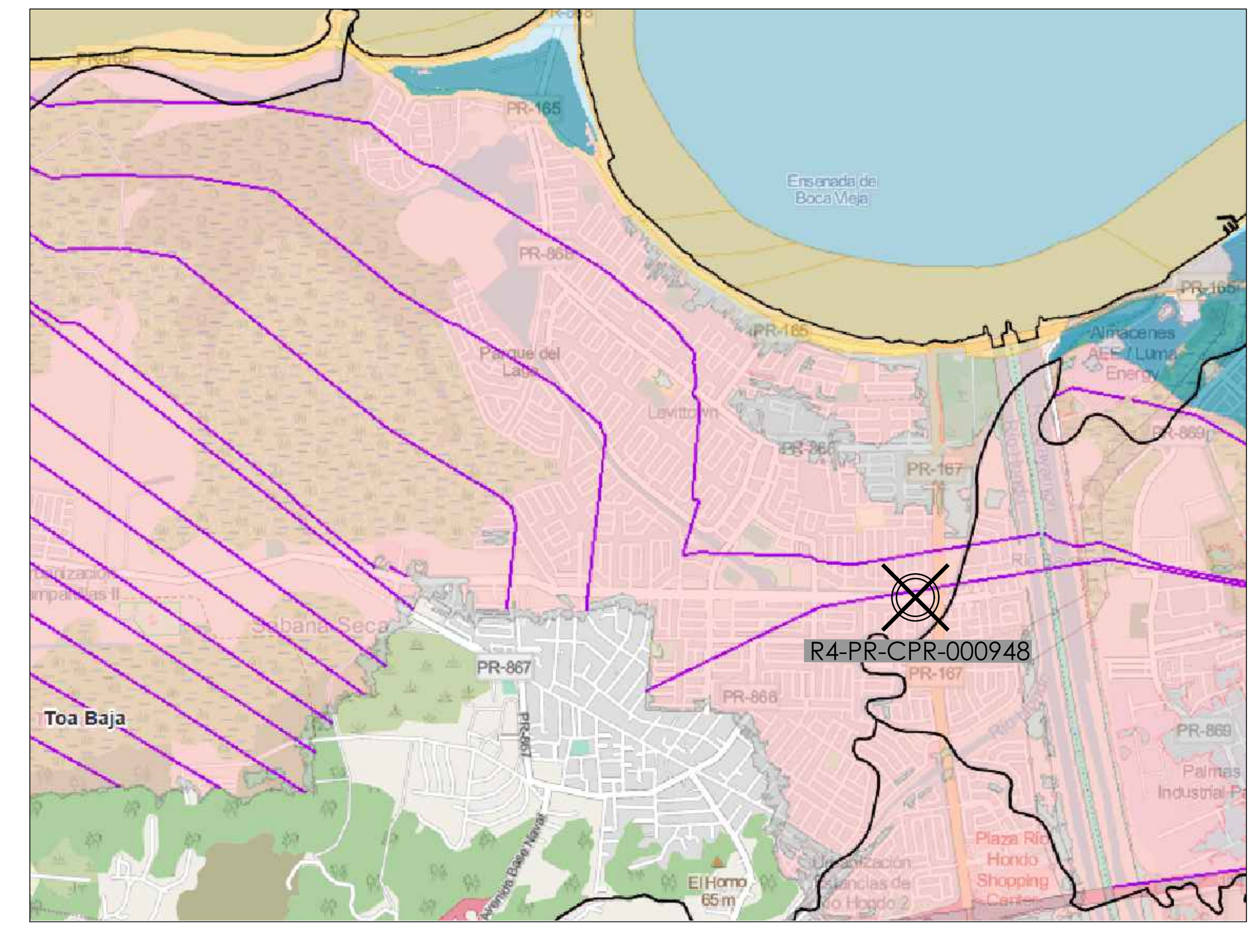
Sheet List

Sheet Order	Sheet Numb	Sheet Name
1	T-1	Title Sheet
2	SU-000	Survey
3	CI-100	General Site Plan
4	CI-101	General Sections
5	CI-102	General Sections
6	CI-103	General Demolition Plan
7	CI-104	Tree & Vegetation Removal Plan
8	CI-105	Sanitary and Potable Water Plan
9	CI-106	Stormwater Improvement Plan
10	CI-107	Electrical Demolition Plan
11	CI-108	SEC Plan
12	CI-109	SEC Details
14	CI-200	Geometry Plan
15	CI-201	Geometry Plan
16	CI-202	Geometry Alignments
17	CI-203	Geometry Alignment Tables
18	CI-204	Pavements & Curbs Schedule
19	CI-205	Markings and Traffic Signals
20	CI-206	Typical Site Details
21	CI-207	Sections & Profiles
22	CI-300	Grading Plan
23	CI-301	Grading Plan
24	CI-400	Stormwater Plan
25	CI-401	Basin Areas
26	CI-402	Stormwater Profiles
27	CI-403	Stormwater Detail
28	LA-200	Existing Tree Inventory and Removal Plan
29	LA-201	Tree Mitigation Plan
30	LA-300	Planting Scope Area + Details
31	LA-301	Planting Area Details
32	LA-302	Planting Area Details
33	A-100	Floor Pattern Plan
34	A-101	Ground Floor Details
35	A-102	Bioswale Plan & Details


Zoning Map



Location Map



Flood Map Panel: 72000C0330J
Fecha de Efectividad: 13.Abril.2018 Fecha de Revision del geodato 12.Mayo.2018

Toa Baja Roundabouts

Levittown, Toa Baja, PR

Municipality of Toa Baja

Consultants

Electric Engineer
Leonardo J. Vidal PE
PO Box 363164
San Juan, PR 00936-3164
787.765.5631
oficinaljv@gmail.com

60% DD REVIEW 09/19/2023

PR-CRP-000948 - Rotonda Ave. Sabana Seca int. Calle Rufino Ramirez, Levittown

Levittown, Toa Baja, PR

Toa Baja Municipality

ECo

LANDSCAPE + ARCHITECTURE + ENGINEERING

103 Calle Isabel Andreu Aguilar, 4to Piso, San Juan,PR 00918
787-764-0610 eco-designstudio.com

Seal:

Edmundo Colón Izquierdo
License #19992

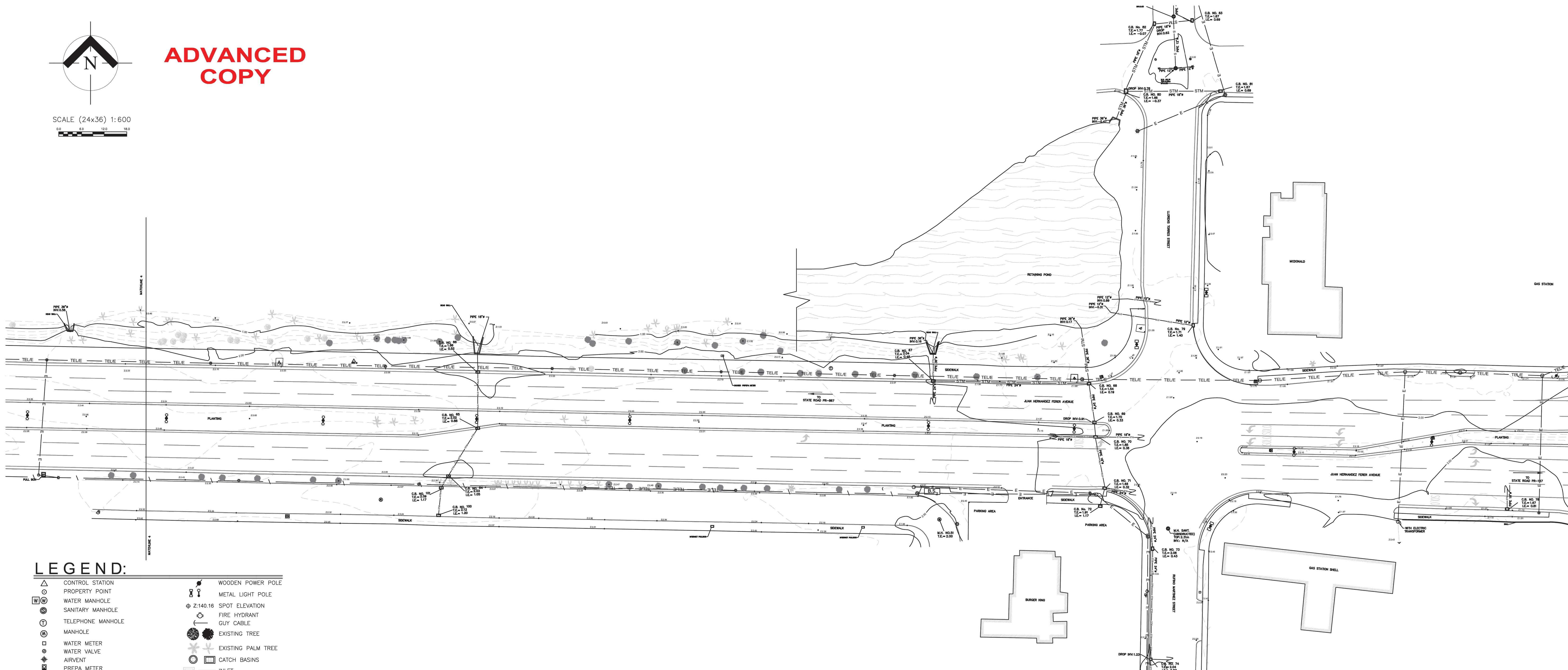
Date 09/19/2023

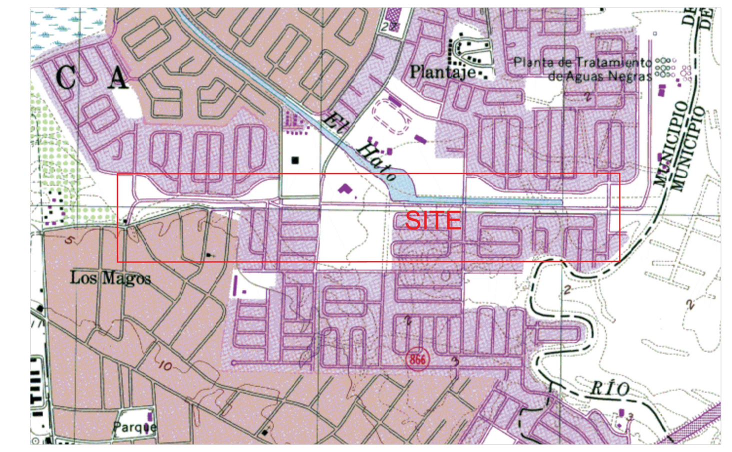
Sheet T-1

Project # PR-CRP-000948

ADVANCED COPY

SCALE (24x36) 1:600





LEGEND:

CONTROL STATION	WOODEN POWER POLE
PROPERTY POINT	METAL LIGHT POLE
WATER MANHOLE	Z:140.16 SPOT ELEVATION
SANITARY MANHOLE	FIRE HYDRANT
TELEPHONE MANHOLE	GUY CABLE
MANHOLE	EXISTING TREE
WATER METER	EXISTING PALM TREE
WATER VALVE	CATCH BASINS
AIRVENT	INLET
PREPA METER	CONCRETE GUTTER
GAS VALVE	CENTER LINE
CONCRETE LIGHT POLE	WATER LINE
CONCRETE POWER POLE	STORM SEWER LINE
UTILITY POLE	TELEPHONE LINE
TELEPHONE POLE	POWER LINE
ELECTRIC BOX	CHAIN LINK FENCE
TELEPHONE BOX	CHAIN LINK FENCE WITH CONC. BASE
WATER VALVE	SIGN
GASE LINE	TRAFFIC LIGHT
METAL FENCE	BOLLARD
TELEPHONE/ELECTRIC	
PROPERTY LINE	
EXISTING STRUCTURES	
CABLE TV BOX	
DTOP TRAFFIC LIGHT BOX	

CONTROL POINT

Point	Northing	Easting	Elevation	Description
8	266900.384	227899.300	2.32	GUN NAIL
9	266894.245	227226.533	2.47	GUN NAIL
10	266884.231	227203.398	2.27	GUN NAIL
11	266884.360	226893.091	2.54	GUN NAIL
12	266886.320	226918.518	2.59	GUN NAIL
13	266929.408	226741.058	2.46	GUN NAIL
14	266889.897	226149.582	3.16	GUN NAIL
5	266907.565	226706.487	2.54	GUN NAIL

SURVEYORS NOTE:

1.The horizontal control used on this plan are P.R. Lambert NAD 83 rev.2011 epoch 2010:0000 and elev. are referred to orthometric height (Geoid 18).

2. All horizontal measurements are in meters unless otherwise specified.

3. Lambert system was established by gps observations using trimble double frequency receivers using a VRS system provided by HLCM Group.

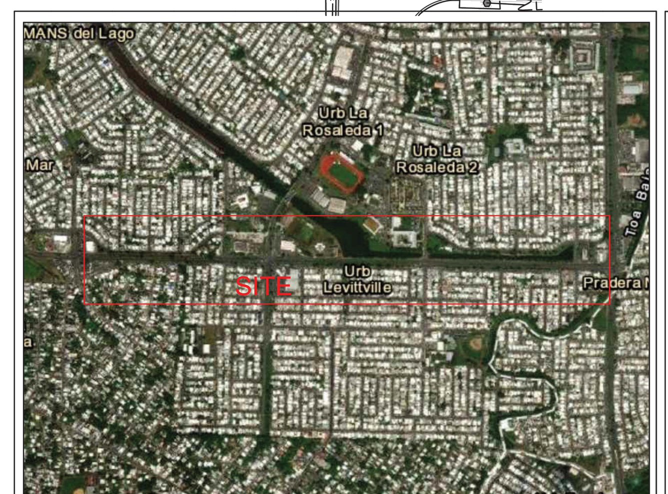
4.The information depicted on this plan represents the results of the survey performed on the date indicated.

5. The information provided on this plan show all currently existing structures, properties and utilities above or below the ground as revealed by public records or observable evidence over ground inspection.

6. As stated in the manual for the professional practice and guidelines for the compensation of professional services, published by the ciapr, in the sections 6.2.4.2, 7.2.1, 7.2.2 , 7.2.4, it is the client, owner, or authorized representative responsibility to corroborate the names of the affected property owners by performing a title search.

7. If expert occupation in a court of justice is necessary, such work will be billed according the latest revision of exhibits 17 of the manual for professional practice and guidelines for the compensations of professional service published by the CIAPR.

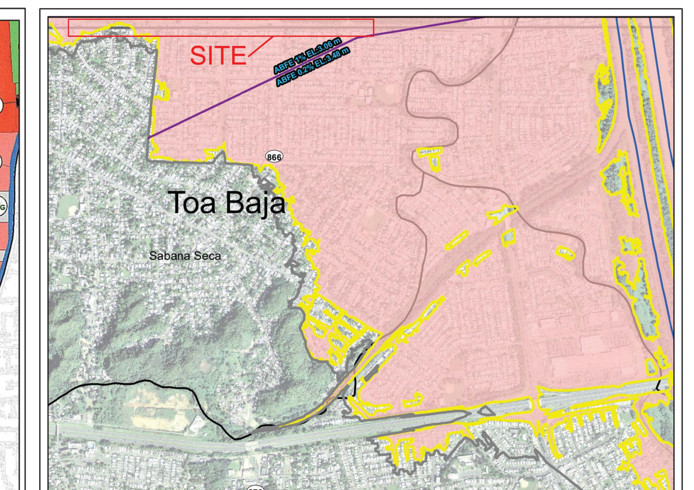
8. The field work was performed in July 26, 2023.



AERIAL PHOTO FROM 2023 N.T.S.

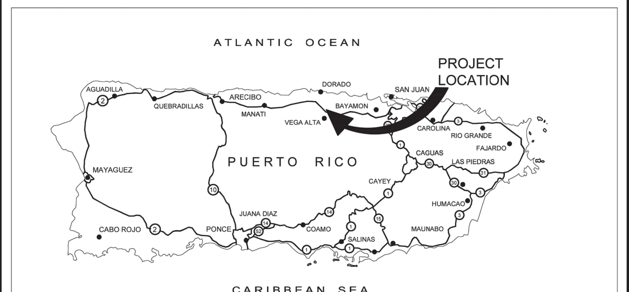
ZONING MAP N.T.S.

"MAPA DE ZONIFICACION DEL MUNICIPIO DE TOA BAJA"
ZONE: PREDOMINANT ZONES: ZU-P (ZONA DE USO DE GOBIERNO)
VALIDITY: MAY 04, 2018



ADVISORY MAP (FEMA FLOOD MAP) N.T.S.

MAP: 72000C0345J
ZONE: A
EFFECTIVE DATE: APRIL 13, 2018



PREPARED BY:

fss.LAND SURVEYORS & Consultants
PO BOX 2075, AIBONITO, P.R., 00705
TEL. / FAX (787) 746-5039

CLIENT NAME:

Toa Baja ORGULLOSLLANERO

PROJECT:

AS BULD AV.PICOLINO
LOCATED AT
AV. JUAN PICOLINO HERNANDEZ FERRER, SABANA SECA WARD
TOA BAJA, PUERTO RICO

PROFESSIONAL STAMP

SIGNATURE BLOCK

REVISIONS:

Drawn by: B.FELICIANO	Revised by: F.SANTIAGO
Date: AUG/8/2023	Scale: AS SHOWN
DWG. NO. 1	SHEET NO. 5 / 5 TOTAL SHEETS

1 Survey
1:500

0 15 30 Meters

General Notes

IMPORTANT INFORMATION FOR THE CONTRACTOR

Contractor shall verify al dimensions, levels and condition on-site before commencing any and all work. Any discrepancy, error or omission in these plans shall be notified to the Architect, Landscape Architect or Engineer who stamps and signs these drawings so that proper corrections to the documents can be made.

Do not take any measurements from the physical drawings.

All drawings, specifications and other documents are property of ECo and can solely be used as an instrument of the Architect, Landscape Architect or Engineers' service as reference for this project.

ECo, the signing Architect, Landscape Architect or Engineer, and Eco's Consultants shall be deemed the author(s) of these documents and shall retain all common and statutory laws, including reserved and copyright(s). The full and/or partial reproduction of these drawings may only be done with the express written consent of the Architect, Landscape Architect or Engineer.

Only use documents with a "FOR CONSTRUCTION ONLY" stamp and sealed and signed by the designer.

Yo, Edmundo Colon Arizmendi PE, con licencia número 7812, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

No.	Description	Date

ECo
LANDSCAPE + ARCHITECTURE + ENGINEERING

103 Calle Isabel Andreu Aguilar, 4to
Piso, San Juan,PR 00918
787-764-0610 eco-designstudio.com

TB Roundabouts: PR-CRP-000948
Ave. Sabana Seca Int. Calle Rufino Ramirez, Levittown
Autonomous Municipality of Toa Baja

Seal:

Survey

SIGNING ENGR
License #

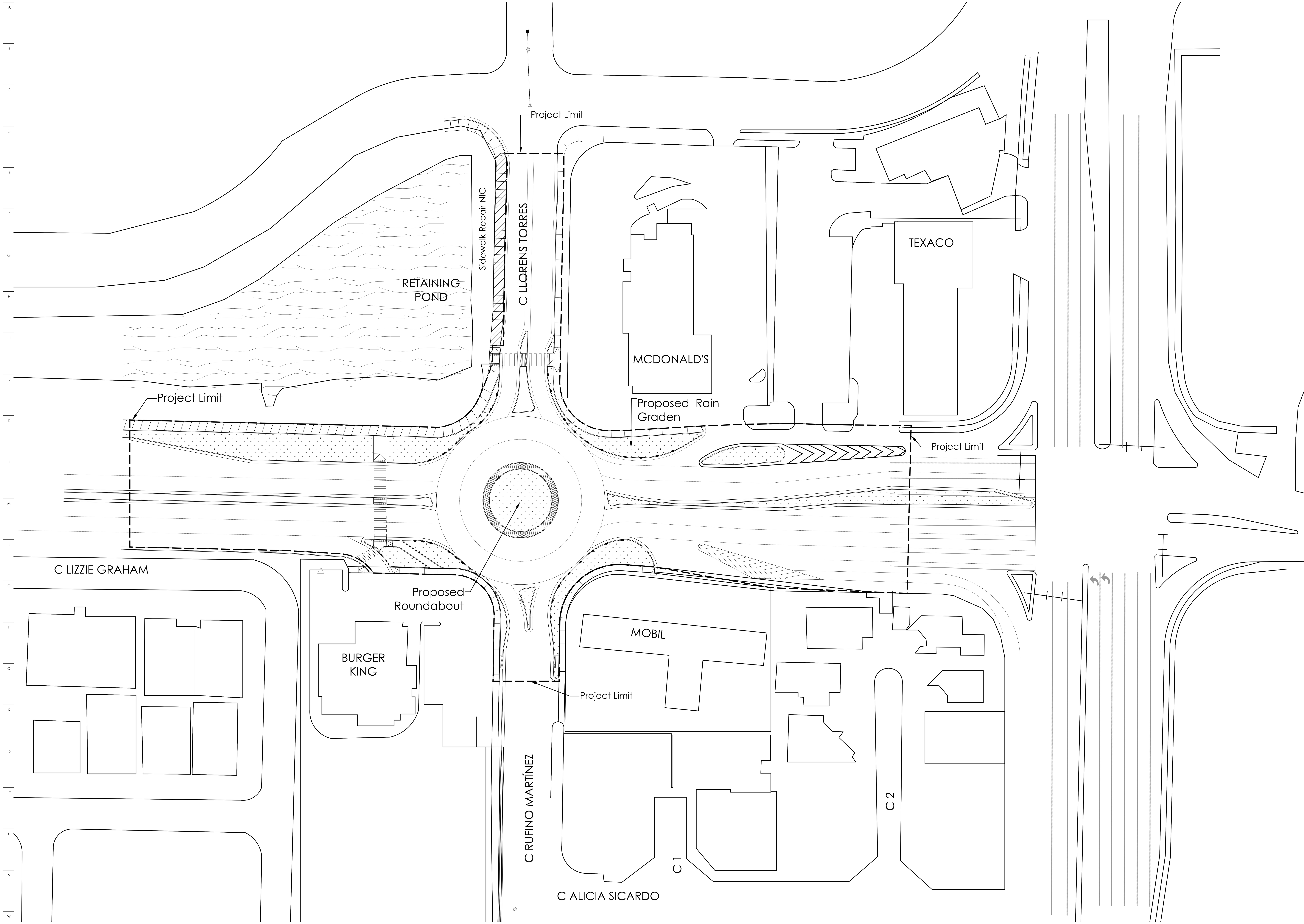
File Name:
2023.04-Rotondas Toa Baja-Grading-PR-CRP-000948

Date 09/19/2023
Scale 1:300

Sheet

SU-100

Project # PR-CRP: 000948
Drawn by DBM
Checked by ECA



1 General Site Plan
1:400

0 15 30 Meters

N

General Notes

IMPORTANT INFORMATION FOR THE CONTRACTOR

Contractor shall verify al dimensions, levels and condition on-site before commencing any and all work. Any discrepancy, error or omission in these plans shall be notified to the Architect, Landscape Architect or Engineer who stamps and signs these drawings so that proper corrections to the documents can be made.

Do not take any measurements from the physical drawings.

All drawings, specifications and other documents are property of ECo and can solely be used as an instrument of the Architect, Landscape Architect or Engineers' service as reference for this project.

Only use documents with a “FOR CONSTRUCTION ONLY” stamp and sealed and signed by the designer.

Yo, Edmundo Colon Arizmendi PE, con licencia número 7812, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

No.	Description	Date

ECo
Landscape + Architecture + Engineering
103 Calle Isabel Andreu Aguilar, 4to Piso, San Juan,PR 00918
787-764-0610 eco-designstudio.com

General Site Plan

TB Roundabouts: PR-CRP-000948

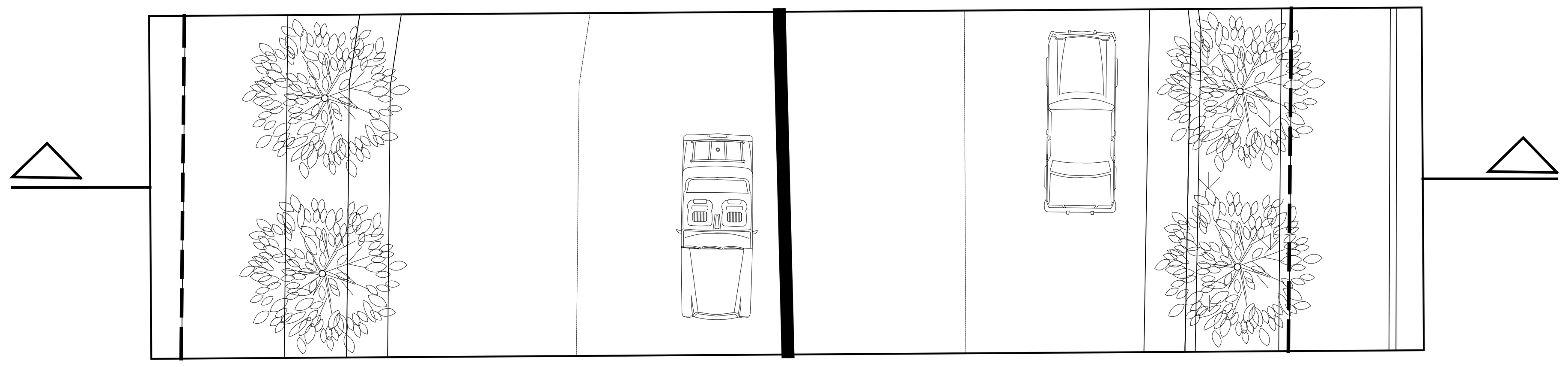
Ave. Sabana Seca Int. Calle Rufino Ramírez, Levittown

Autonomous Municipality of Toa Baja

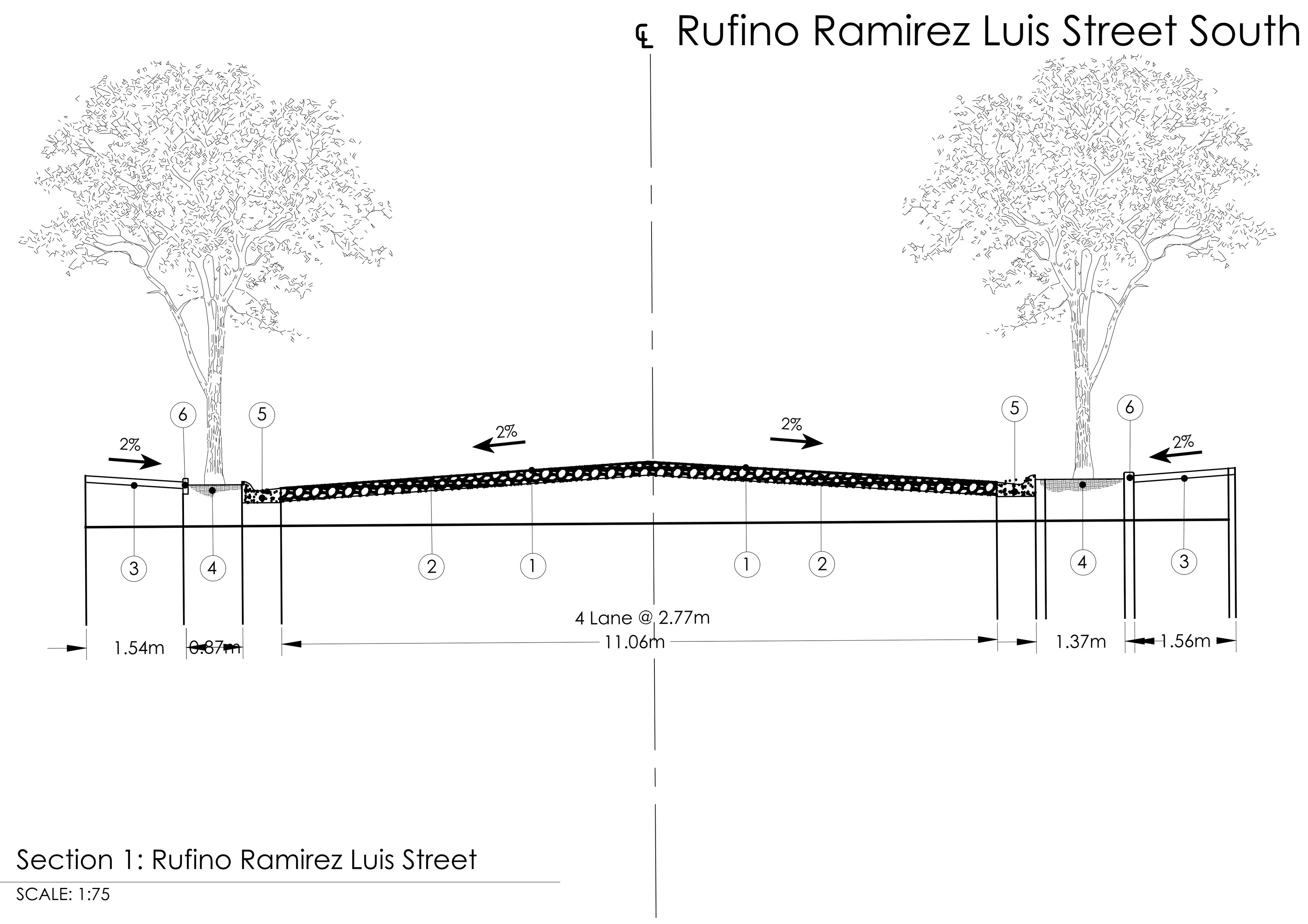
Seal:

SIGNING ARCH
License #

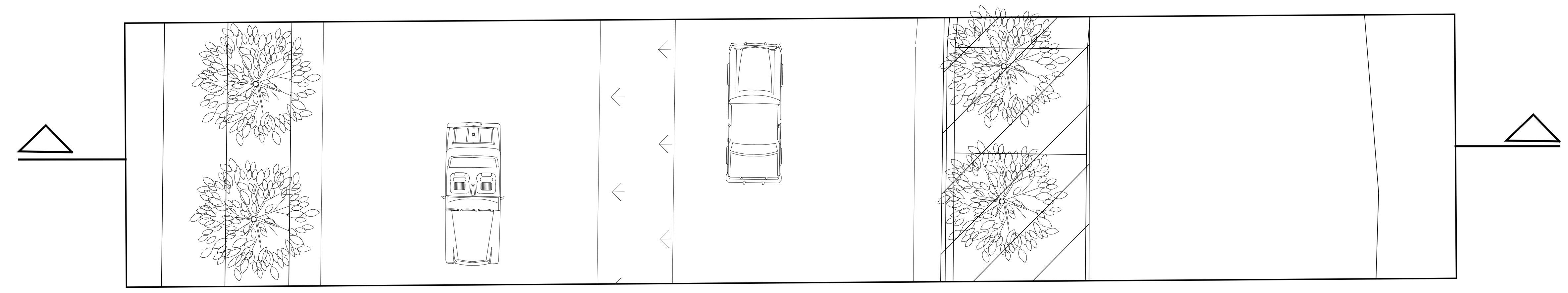
File Name:	2023.04-Rotondas Toa Baja-Grading-PR-CRP-000948
Date	09/19/2023
Scale	1:400
Sheet	CI-100
Project #	PR-CRP: 000948
Drawn by	JFV
Checked by	ECA



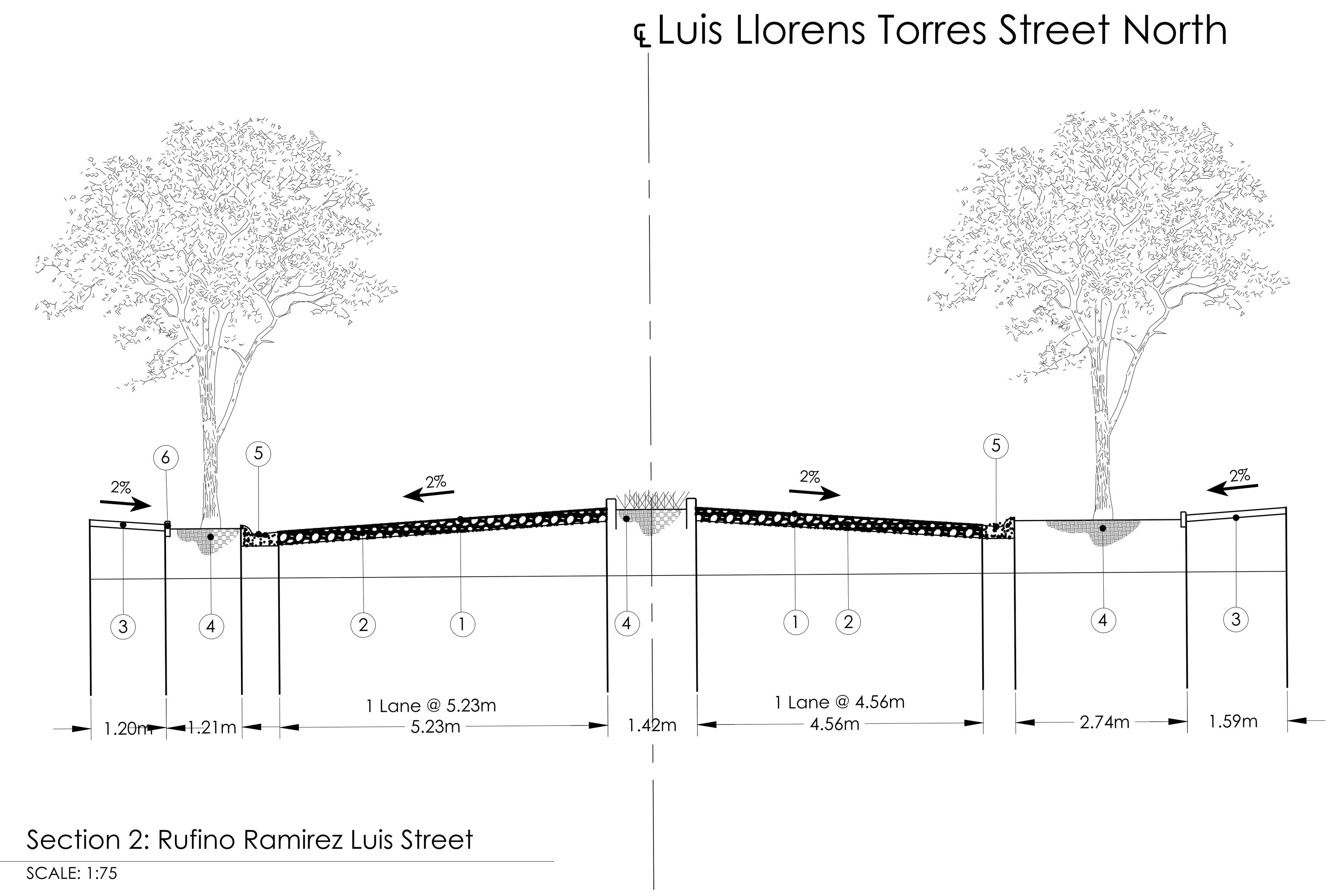
1 Top View 1: Rufino Ramirez Luis Street
SCALE: 1:75



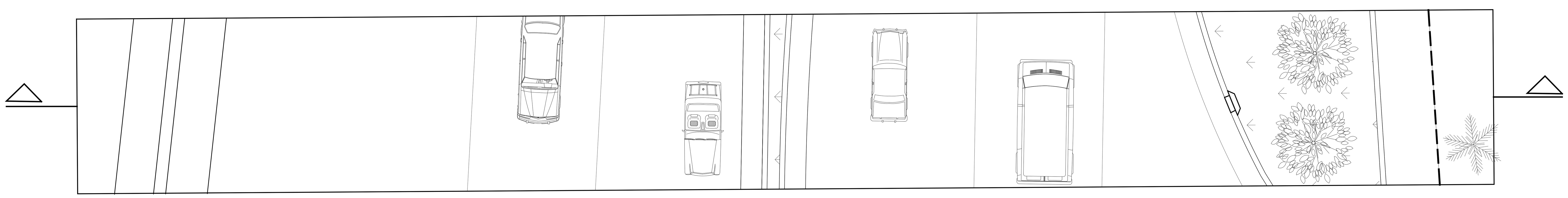
2 Section 1: Rufino Ramirez Luis Street
SCALE: 1:75



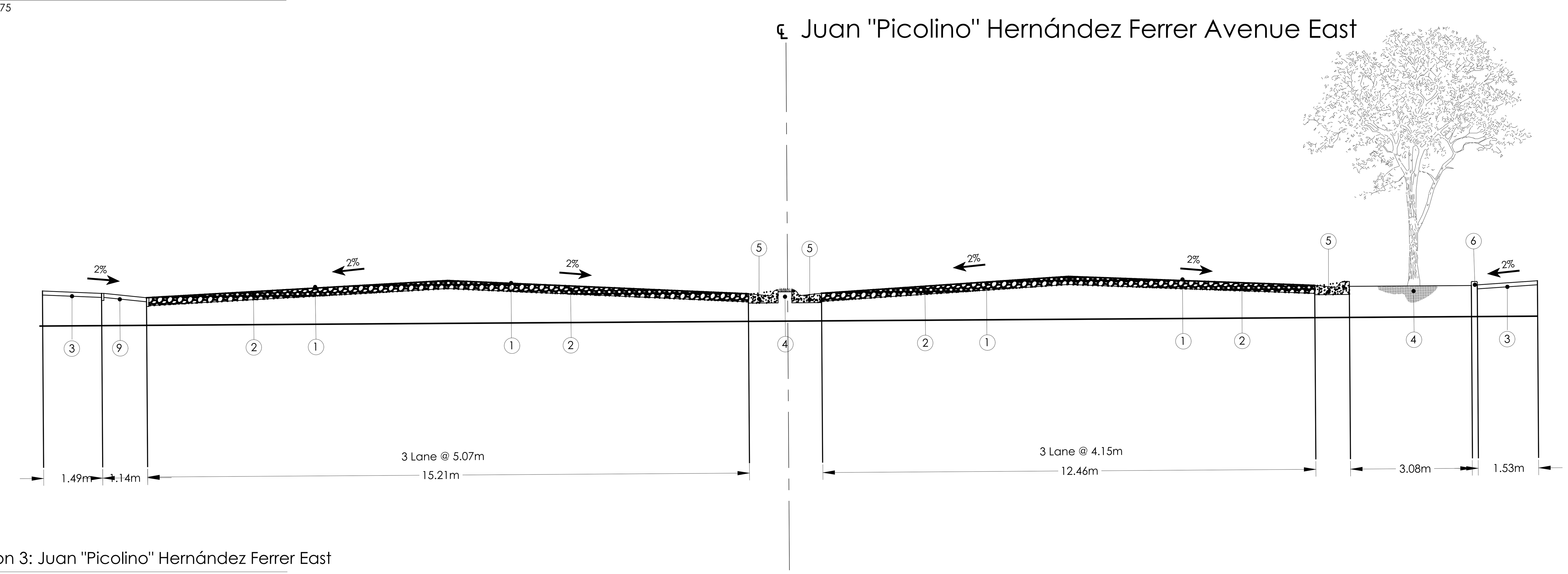
3 Top View 2: Rufino Ramirez Luis Street
SCALE: 1:75



4 Section 2: Rufino Ramirez Luis Street
SCALE: 1:75



5 Top View 3: Juan "Picolino" Hernández Ferrer East
SCALE: 1:75



6 Section 3: Juan "Picolino" Hernández Ferrer East
SCALE: 1:75

General Notes

IMPORTANT INFORMATION FOR THE CONTRACTOR

Contractor shall verify al dimensions, levels and condition on-site before commencing any and all work. Any discrepancy, error or omission in these plans shall be notified to the Architect, Landscape Architect or Engineer who stamps and signs these drawings so that proper corrections to the documents can be made.

Do not take any measurements from the physical drawings.

All drawings, specifications and other documents are property of ECo and can solely be used as an instrument of the Architect, Landscape Architect or Engineers' service as reference for this project.

Only use documents with a "FOR CONSTRUCTION ONLY" stamp and sealed and signed by the designer.

Yo, Edmundo Colon Arizmendi PE, con licencia número 7812, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

No.	Description	Date

ECo
LANDSCAPE + ARCHITECTURE + ENGINEERING
103 Calle Isabel Andreu Aguilar, 4to Piso, San Juan,PR 00918
787-764-0610 eco-designstudio.com

General Sections

TB Roundabouts: PR-CRP-000948

Ave. Sabana Seca Int. Calle Rufino Ramirez, Levittown

Autonomous Municipality of Toa Baja

Seal:

SIGNING ARCH
License #

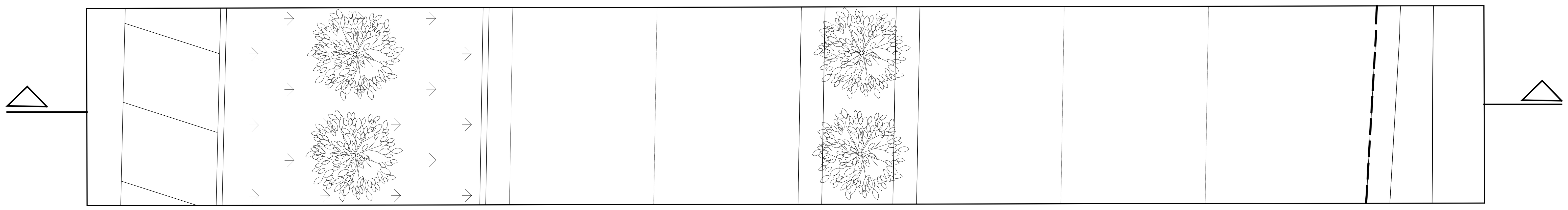
File Name: 2023.04-Rotondas Toa Baja-Grading-PR-CRP-000948

Date: 09/19/2023
Scale: 1:75

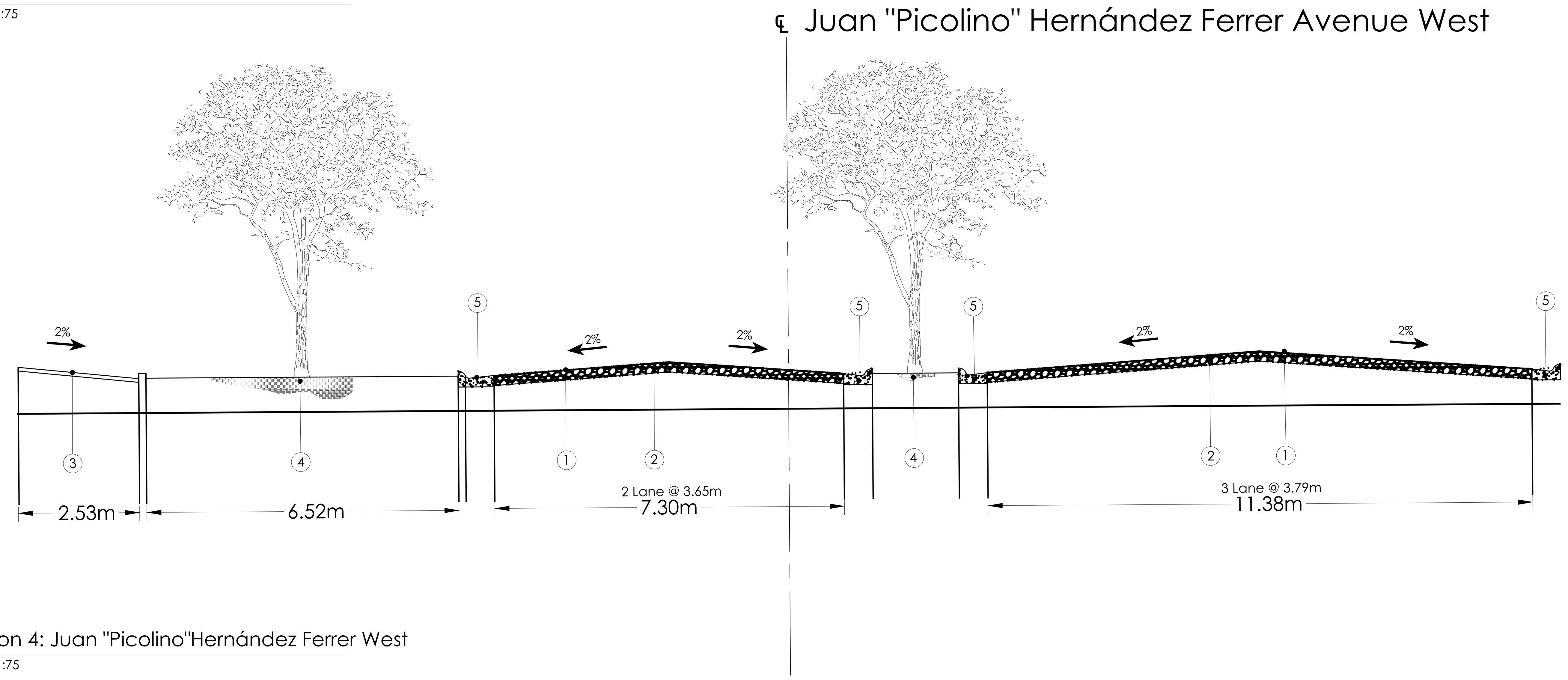
Sheet

CI-101

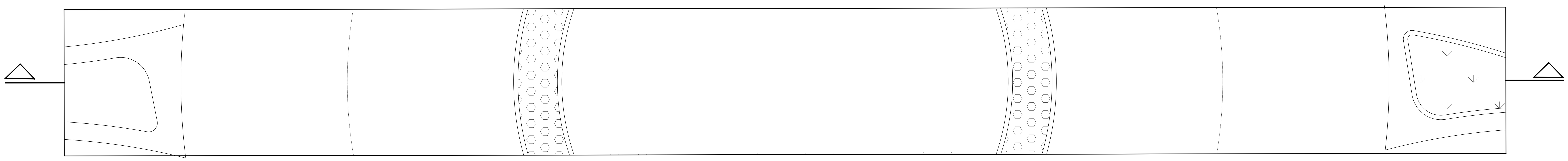
Project #: PR-CRP: 000948
Drawn by: DBM
Checked by: ECA



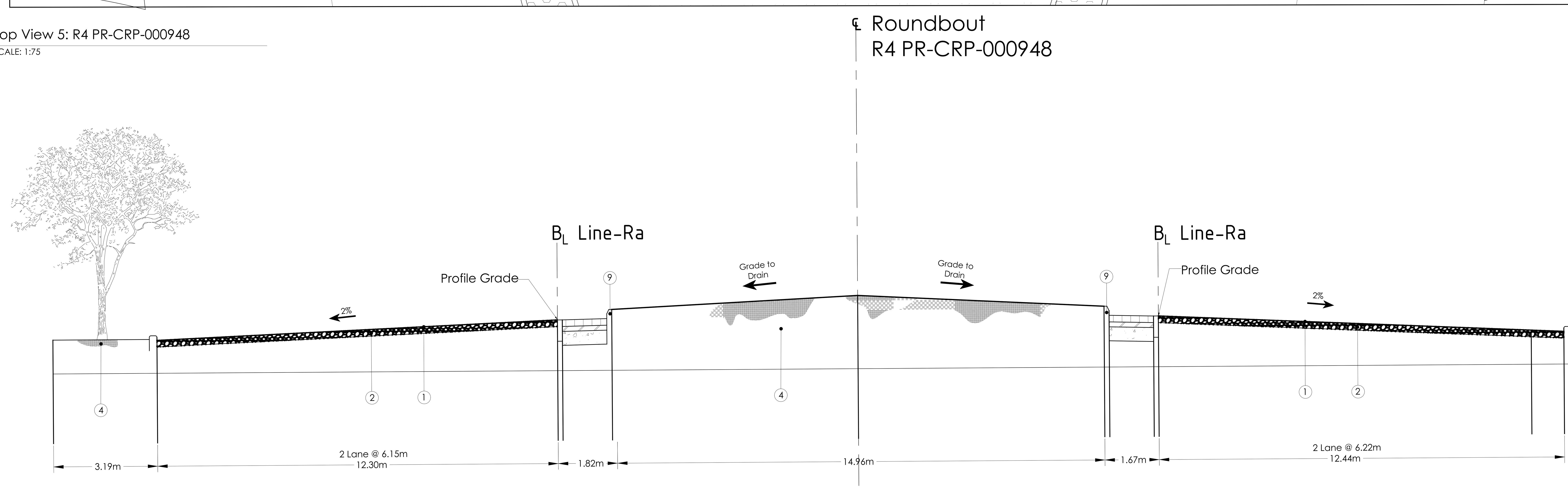
7 Top View 4: Juan "Picolino"Hernández Ferrer
SCALE: 1:75



8 Section 4: Juan "Picolino"Hernández Ferrer West
SCALE: 1:75



9 Top View 5: R4 PR-CRP-000948
SCALE: 1:75



10 Section 5: R3 PR-CRP-000964
SCALE: 1:75

Legend:

(1)	0.05m	Hot Plant Mix Bituminous Surface Pavement
(2)	0.2032m	Aggregate Base Course, (Spec. 304)
(3)	0.10m	Concrete Sidewalk (Spec. 608)
(4)	0.10m	Sodding & Topsoil (Spec. 627)
(5)		Concrete Curb, Type "A" (Spec.)
(6)		Concrete Curb, Type "B" (Spec.)
(7)		Concrete Curb, Type "C" (Spec.)
(8)		Concrete Curb, Type "D" (Spec.)
(9)		Existing Vehicle Ramp
(10)		Concrete Pavement Water way
(11)		Class "D" Borrow

Hot Plan Mix Bituminous Surface Pavement

Hot Plan Mix Bituminous Base Pavement

Aggregate Base Course

General Notes

IMPORTANT INFORMATION FOR THE CONTRACTOR

Contractor shall verify al dimensions, levels and condition on-site before commencing any and all work. Any discrepancy, error or omission in these plans shall be notified to the Architect, Landscape Architect or Engineer who stamps and signs these drawings so that proper corrections to the documents can be made.

Do not take any measurements from the physical drawings.

All drawings, specifications and other documents are property of ECo and can solely be used as an instrument of the Architect, Landscape Architect or Engineers' service as reference for this project.

Only use documents with a “FOR CONSTRUCTION ONLY” stamp and sealed and signed by the designer.

Yo, Edmundo Colon Arizmendi PE, con licencia número 7812, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

No.	Description	Date

ECo
Landscape + Architecture + Engineering
103 Calle Isabel Andreu Aguilar, 4to Piso, San Juan,PR 00918
787-764-0610 eco-designstudio.com

General Sections

TB Roundabouts: PR-CRP-000948

Ave. Sabana Seca Int. Calle Rufino Ramirez, Levittown

Autonomous Municipality of Toa Baja

Seal:

SIGNING ARCH
License #

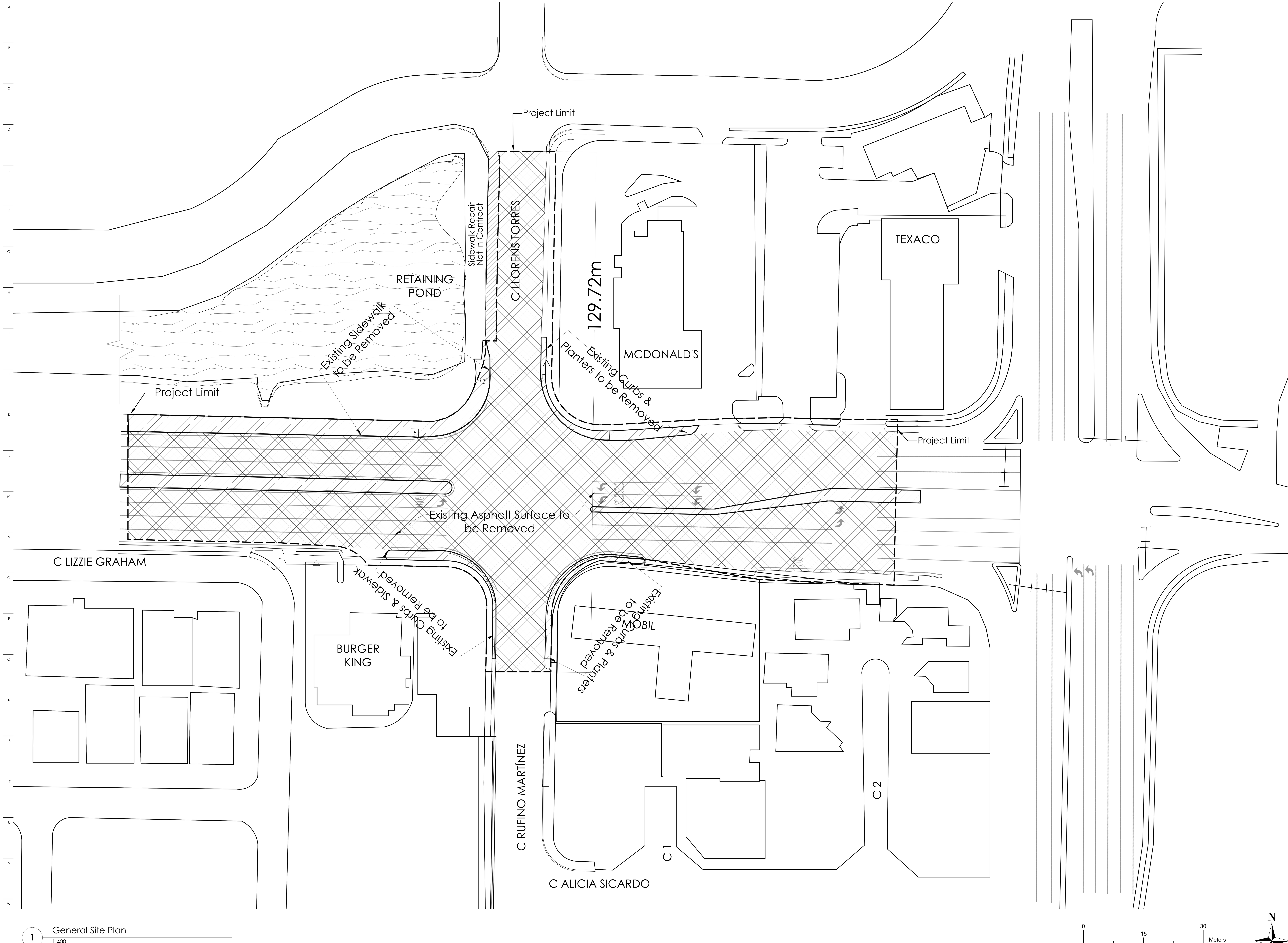
File Name: 2023.04-Rotondas Toa Baja-Grading-PR-CRP-000948

Date: 09/19/2023
Scale: 1:75

Sheet

CI-102

Project #	PR-CRP: 000948
Drawn by	DBM
Checked by	ECA



1 General Site Plan
1:400

General Notes

IMPORTANT INFORMATION FOR THE CONTRACTOR

Contractor shall verify al dimensions, levels and condition on-site before commencing any and all work. Any discrepancy, error or omission in these plans shall be notified to the Architect, Landscape Architect or Engineer who stamps and signs these drawings so that proper corrections to the documents can be made.

Do not take any measurements from the physical drawings.

All drawings, specifications and other documents are property of ECo and can solely be used as an instrument of the Architect, Landscape Architect or Engineers' service as reference for this project.

Only use documents with a "FOR CONSTRUCTION ONLY" stamp and sealed and signed by the designer.

Yo, Edmundo Colon Arizmendi PE, con licencia número 7812, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

No.	Description	Date

ECo
LANDSCAPE + ARCHITECTURE + ENGINEERING
103 Calle Isabel Andreu Aguilar, 4to Piso, San Juan, PR 00918
787-764-0610 eco-designstudio.com

General Demolition Plan

TB Roundabouts: PR-CRP-000948

Ave. Sabana Seca Int. Calle Rufino Ramírez, Levittown

Autonomous Municipality of Toa Baja

Seal:

SIGNING ARCH
License #

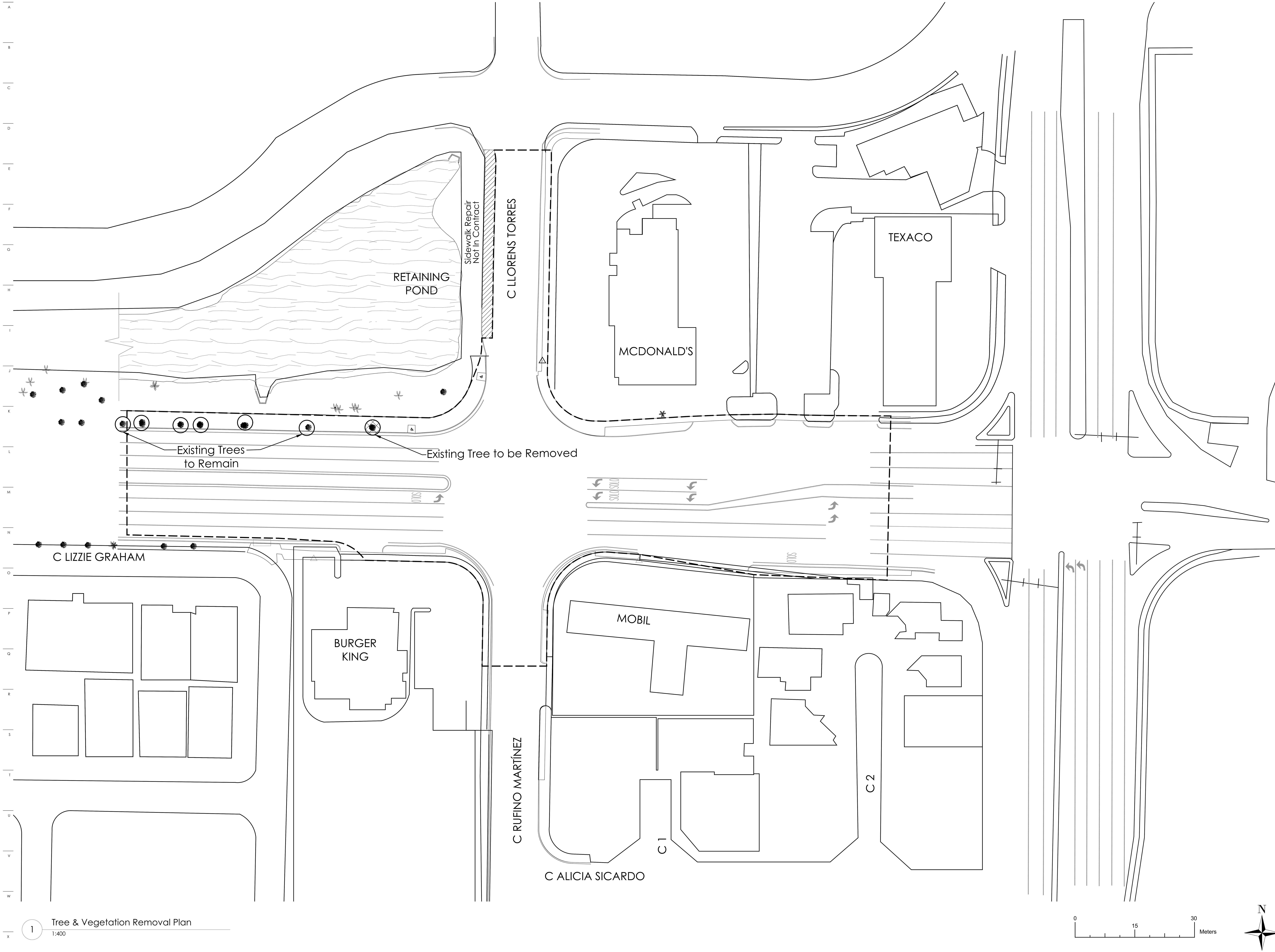
File Name:
2023.04-Rotondas Toa Baja-Grading-PR-CRP-000948

Date	Scale
09/19/2023	1:400

Sheet

CI-103

Project #	PR-CRP: 000948
Drawn by	JFV
Checked by	ECA



1 Tree & Vegetation Removal Plan
1:400

General Notes

IMPORTANT INFORMATION FOR THE CONTRACTOR

Contractor shall verify al dimensions, levels and condition on-site before commencing any and all work. Any discrepancy, error or omission in these plans shall be notified to the Architect, Landscape Architect or Engineer who stamps and signs these drawings so that proper corrections to the documents can be made.

Do not take any measurements from the physical drawings.

All drawings, specifications and other documents are property of ECo and can solely be used as an instrument of the Architect, Landscape Architect or Engineers' service as reference for this project.

ECo, the signing Architect, Landscape Architect or Engineer, and Eco's Consultants shall be deemed the author(s) of these documents and shall retain all common and statutory laws, including reserved and copyright(s). The full and/or partial reproduction of these drawings may only be done with the express written consent of the Architect, Landscape Architect or Engineer.

Only use documents with a "FOR CONSTRUCTION ONLY" stamp and sealed and signed by the designer.

Yo, Edmundo Colon Arizmendi PE, con licencia número 7812, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

No.	Description	Date

ECo
LANDSCAPE + ARCHITECTURE + ENGINEERING

103 Calle Isabel Andreu Aguilar, 4to
Piso, San Juan,PR 00918
787-764-0610 eco-designstudio.com

Tree & Vegetation Removal Plan

TB Roundabouts: PR-CRP-000948

Ave. Sabana Seca Int. Calle Rufino Ramírez, Levittown

Autonomous Municipality of Toa Baja

Seal:

SIGNING ARCH
License #

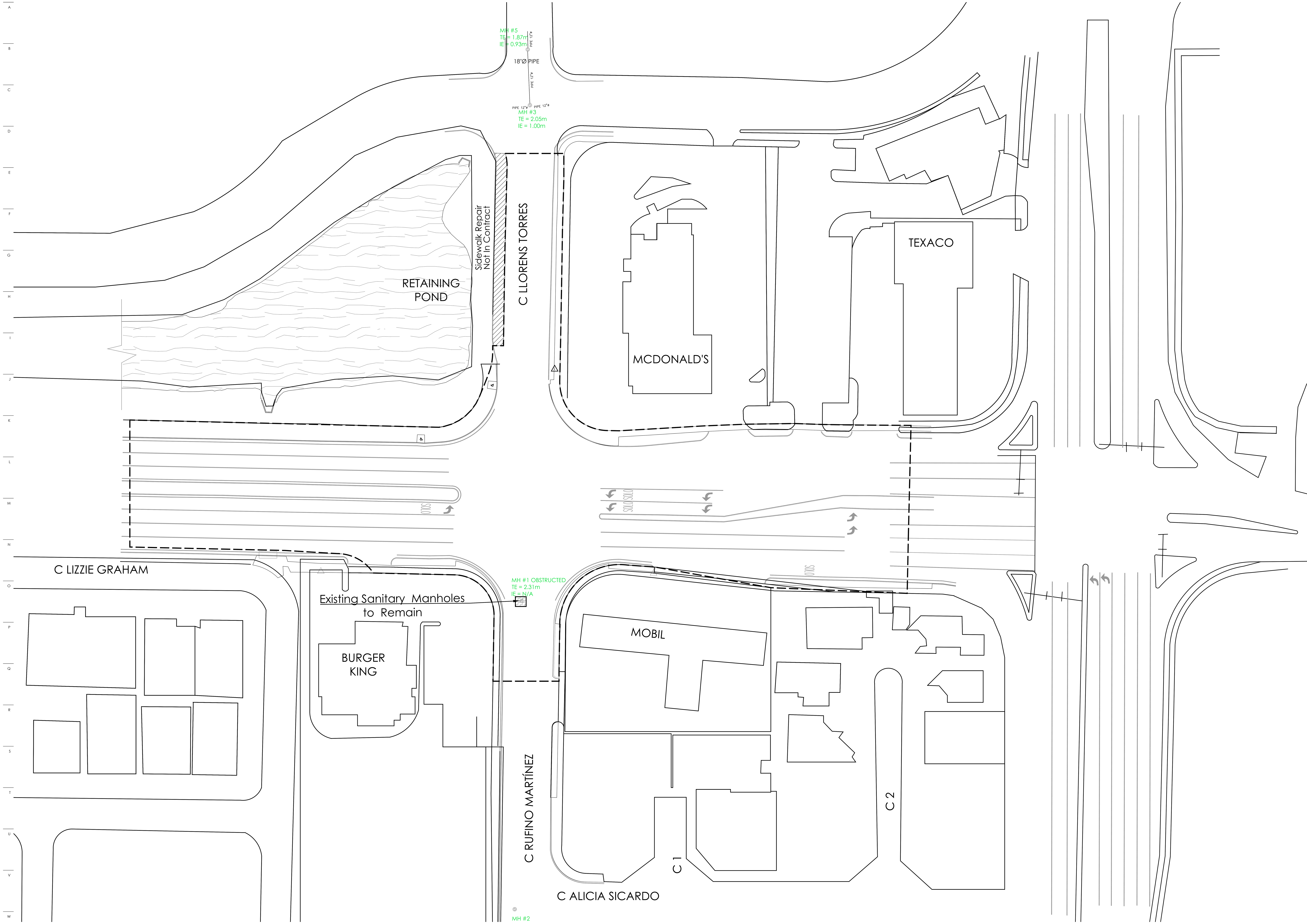
File Name:
2023.04-Rotondas Toa Baja-Grading-PR-CRP-000948

Date	Scale
09/19/2023	1:400

Sheet

CI-104

Project #	PR-CRP: 000948
Drawn by	DBM
Checked by	ECA



1 Sanitary Potable Water Plan
1:400

General Notes

IMPORTANT INFORMATION FOR THE CONTRACTOR

Contractor shall verify al dimensions, levels and condition on-site before commencing any and all work. Any discrepancy, error or omission in these plans shall be notified to the Architect, Landscape Architect or Engineer who stamps and signs these drawings so that proper corrections to the documents can be made.

Do not take any measurements from the physical drawings.

All drawings, specifications and other documents are property of ECo and can solely be used as an instrument of the Architect, Landscape Architect or Engineers' service as reference for this project.

ECo, the signing Architect, Landscape Architect or Engineer, and Eco's Consultants shall be deemed the author(s) of these documents and shall retain all common and statutory laws, including reserved and copyright(s). The full and/or partial reproduction of these drawings may only be done with the express written consent of the Architect, Landscape Architect or Engineer.

Only use documents with a "FOR CONSTRUCTION ONLY" stamp and sealed and signed by the designer.

Yo, Edmundo Colon Arizmendi PE, con licencia número 7812, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

No.	Description	Date

ECo
Landscape + Architecture + Engineering
103 Calle Isabel Andreu Aguilar, 4to
Piso, San Juan,PR 00918
787-764-0610 eco-designstudio.com

Sanitary Potable Water Plan

TB Roundabouts: PR-CRP-000948

Ave. Sabana Seca Int. Calle Rufino Ramirez, Levittown

Autonomous Municipality of Toa Baja

Seal:

SIGNING ARCH
License #

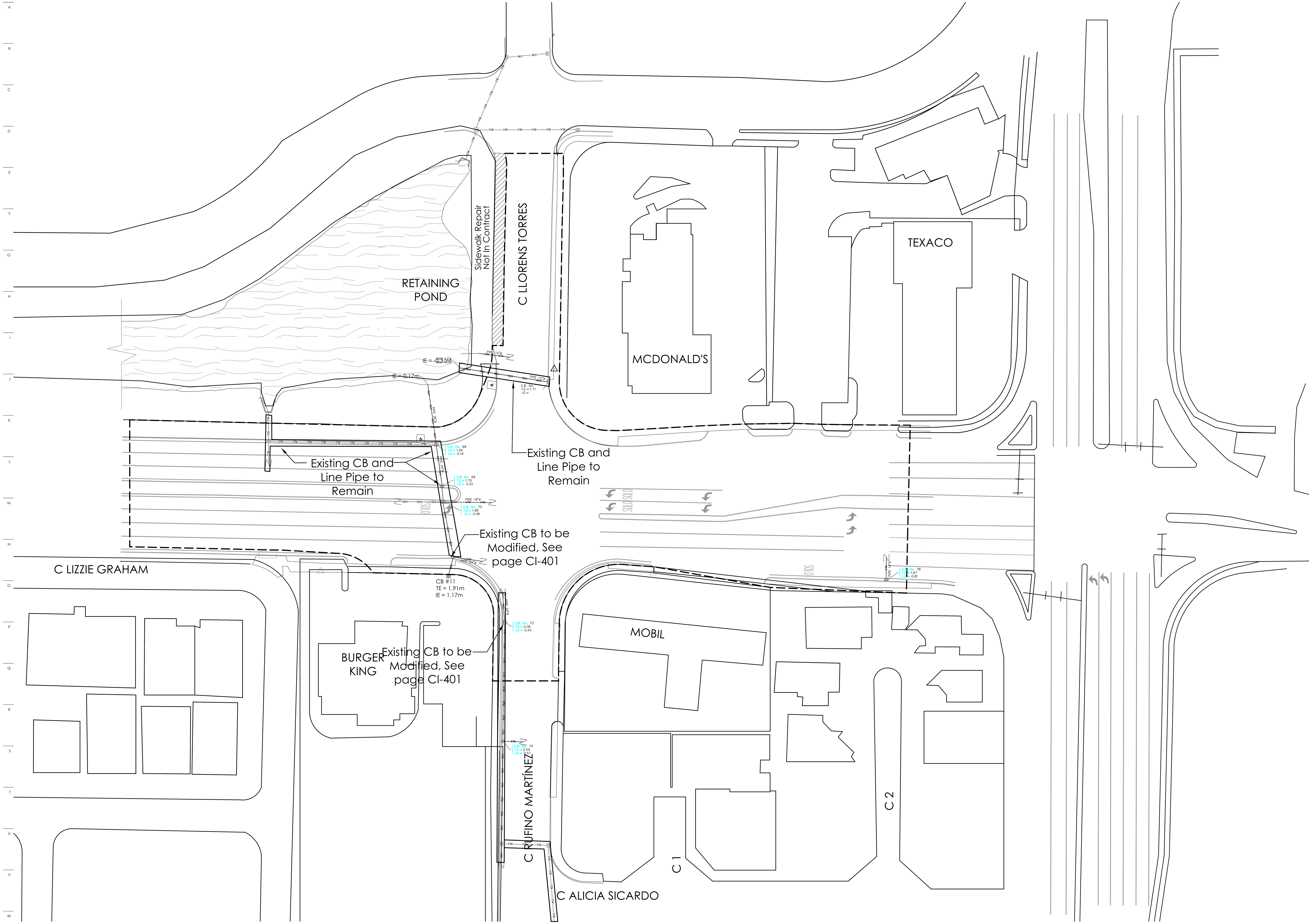
File Name: 2023.04-Rotondas Toa Baja-Grading-PR-CRP-000948

Date	Scale
09/19/2023	1:400

Sheet

CI-105

Project # PR-CRP: 000948
Drawn by DBM
Checked by ECA



1 Stormwater Demolition Plan
1:400

0 15 30 Meters

N

General Notes

IMPORTANT INFORMATION FOR THE CONTRACTOR

Contractor shall verify al dimensions, levels and condition on-site before commencing any and all work. Any discrepancy, error or omission in these plans shall be notified to the Architect, Landscape Architect or Engineer who stamps and signs these drawings so that proper corrections to the documents can be made.

Do not take any measurements from the physical drawings.

All drawings, specifications and other documents are property of ECo and can solely be used as an instrument of the Architect, Landscape Architect or Engineers' service as reference for this project.

ECo, the signing Architect, Landscape Architect or Engineer, and Eco's Consultants shall be deemed the author(s) of these documents and shall retain all common and statutory laws, including reserved and copyright(s). The full and/or partial reproduction of these drawings may only be done with the express written consent of the Architect, Landscape Architect or Engineer.

Only use documents with a "FOR CONSTRUCTION ONLY" stamp and sealed and signed by the designer.

Yo, Edmundo Colon Arizmendi PE, con licencia número 7812, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

No.	Description	Date

ECo
Landscape + Architecture + Engineering
103 Calle Isabel Andreu Aguilar, 4to Piso, San Juan,PR 00918
787-764-0610 eco-designstudio.com

Stormwater Improvement Plan

TB Roundabouts: PR-CRP-000948

Ave. Sabana Seca Int. Calle Rufino Ramírez, Levittown

Autonomous Municipality of Toa Baja

Seal:

SIGNING ARCH
License #

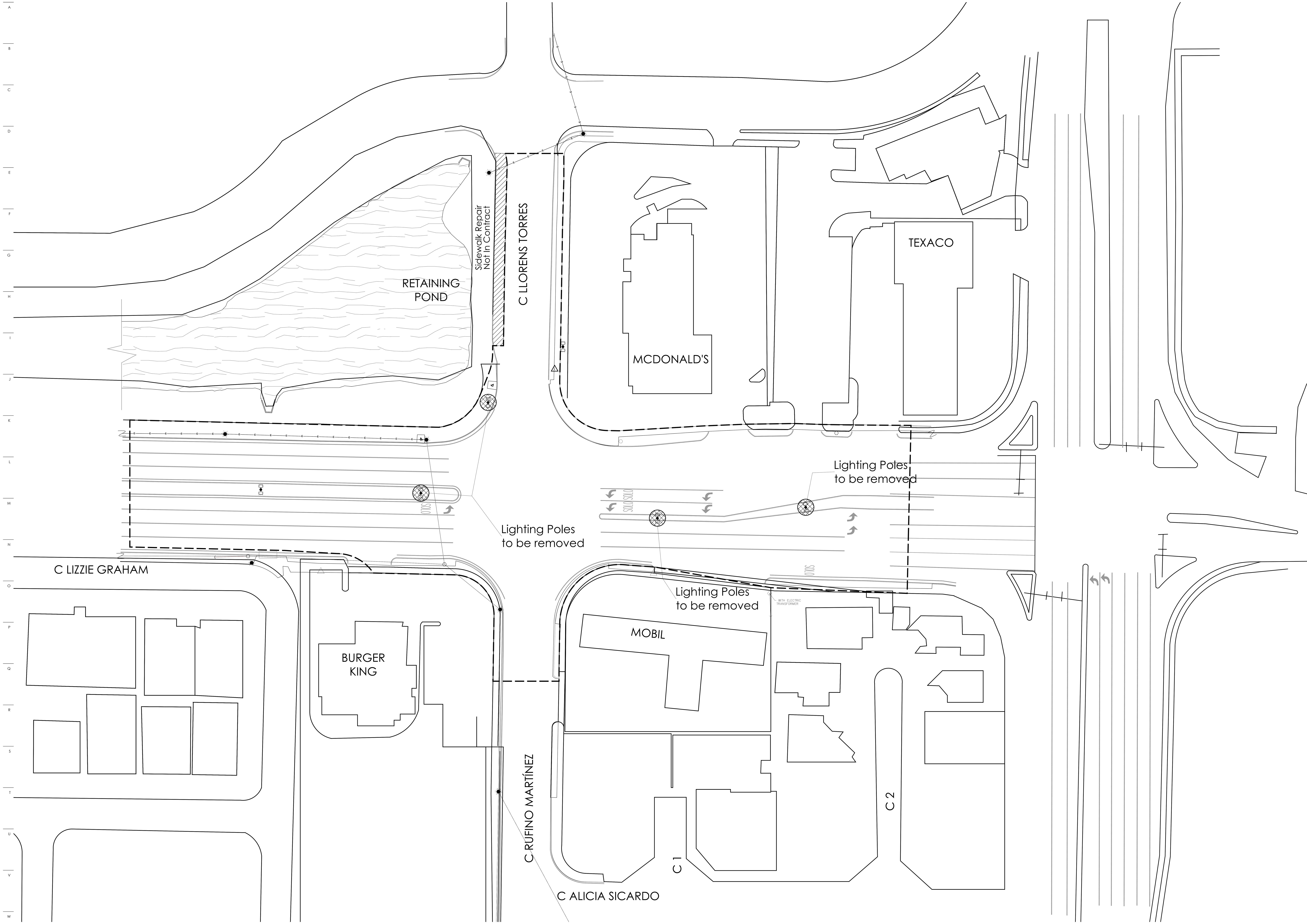
File Name:
2023.04-Rotondas Toa Baja-Grading-PR-CRP-000948

Date	Scale
09/19/2023	1:400

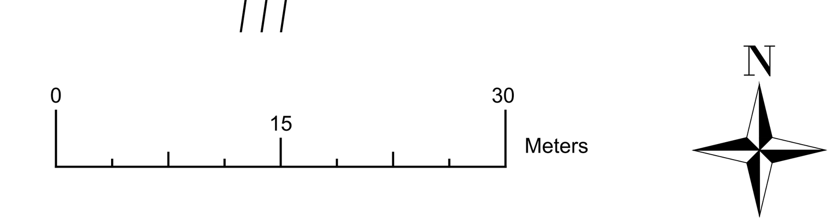
Sheet

CI-106

Project #	PR-CRP: 000948
Drawn by	DBM
Checked by	ECA



1 Electrical Demolition Plan
1:400



General Notes

IMPORTANT INFORMATION FOR THE CONTRACTOR

Contractor shall verify al dimensions, levels and condition on-site before commencing any and all work. Any discrepancy, error or omission in these plans shall be notified to the Architect, Landscape Architect or Engineer who stamps and signs these drawings so that proper corrections to the documents can be made.

Do not take any measurements from the physical drawings.

All drawings, specifications and other documents are property of ECo and can solely be used as an instrument of the Architect, Landscape Architect or Engineers' service as reference for this project.

Only use documents with a "FOR CONSTRUCTION ONLY" stamp and sealed and signed by the designer.

Yo, Edmundo Colon Arizmendi PE, con licencia número 7812, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

No.	Description	Date

ECo
Landscape + Architecture + Engineering
103 Calle Isabel Andreu Aguilar, 4to Piso, San Juan,PR 00918
787-764-0610 eco-designstudio.com

Electrical Demolition Plan

TB Roundabouts: PR-CRP-000948

Ave. Sabana Seca Int. Calle Rufino Ramírez, Levittown

Autonomous Municipality of Toa Baja

Seal:

SIGNING ARCH
License #

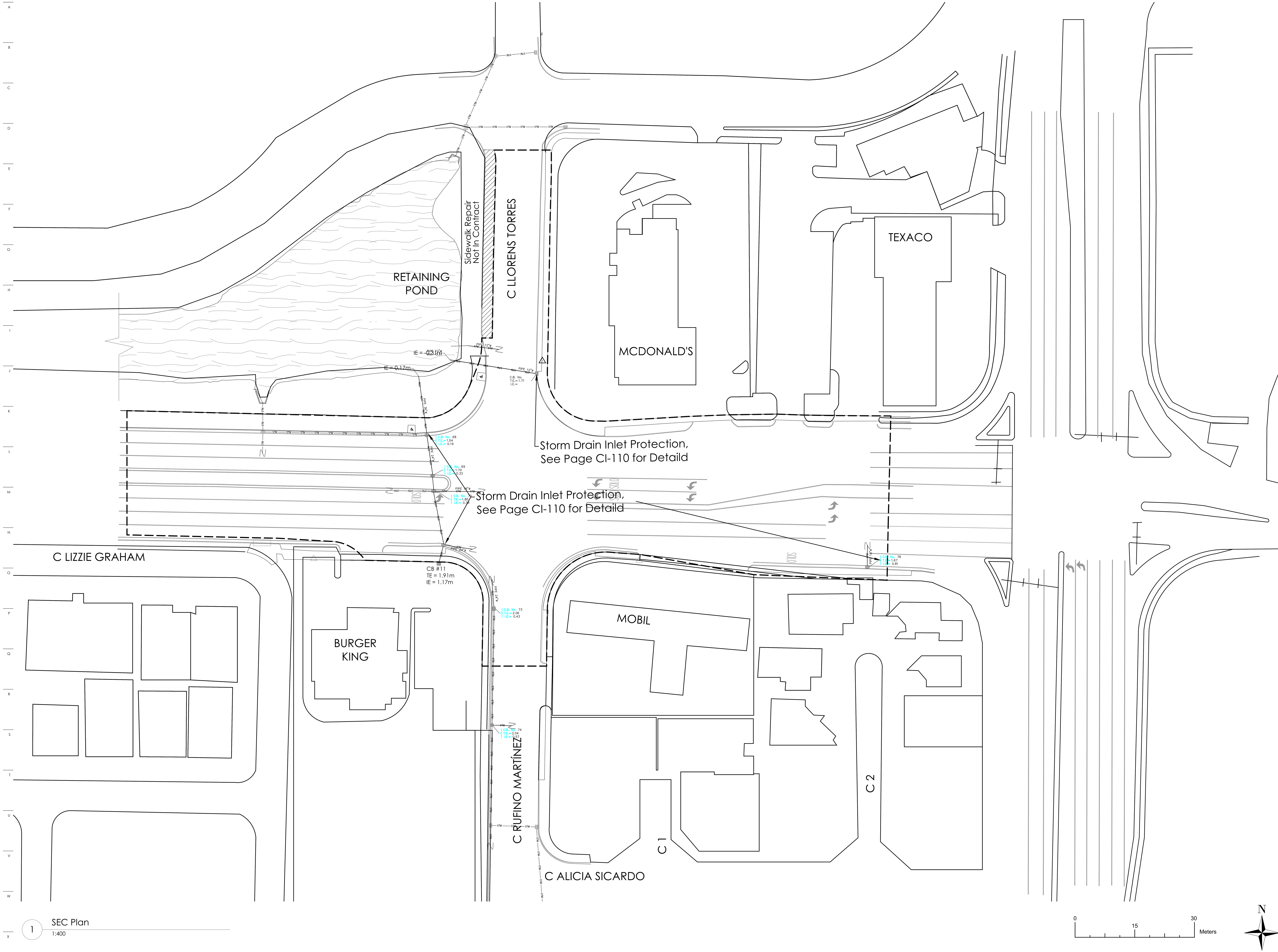
File Name:
2023.04-Rotondas Toa Baja-Grading-PR-CRP-000948

Date	Scale
09/19/2023	1:400

Sheet

CI-107

Project #	PR-CRP: 000948
Drawn by	DBM
Checked by	ECA



1 SEC Plan
1:400

General Notes

IMPORTANT INFORMATION FOR THE CONTRACTOR

Contractor shall verify al dimensions, levels and condition on-site before commencing any and all work. Any discrepancy, error or omission in these plans shall be notified to the Architect, Landscape Architect or Engineer who stamps and signs these drawings so that proper corrections to the documents can be made.

Do not take any measurements from the physical drawings.

All drawings, specifications and other documents are property of ECo and can solely be used as an instrument of the Architect, Landscape Architect or Engineers' service as reference for this project.

Only use documents with a “FOR CONSTRUCTION ONLY” stamp and sealed and signed by the designer.

Yo, Edmundo Colon Arizmendi PE, con licencia número 7812, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

No.	Description	Date

ECo
Landscape + Architecture + Engineering
103 Calle Isabel Andreu Aguilar, 4to
Piso, San Juan,PR 00918
787-764-0610 eco-designstudio.com

TB Roundabouts: PR-CRP-000948
Ave. Sabana Seca Int. Calle Rufino Ramirez, Levittown
Autonomous Municipality of Toa Baja

Seal:

SEC Plan

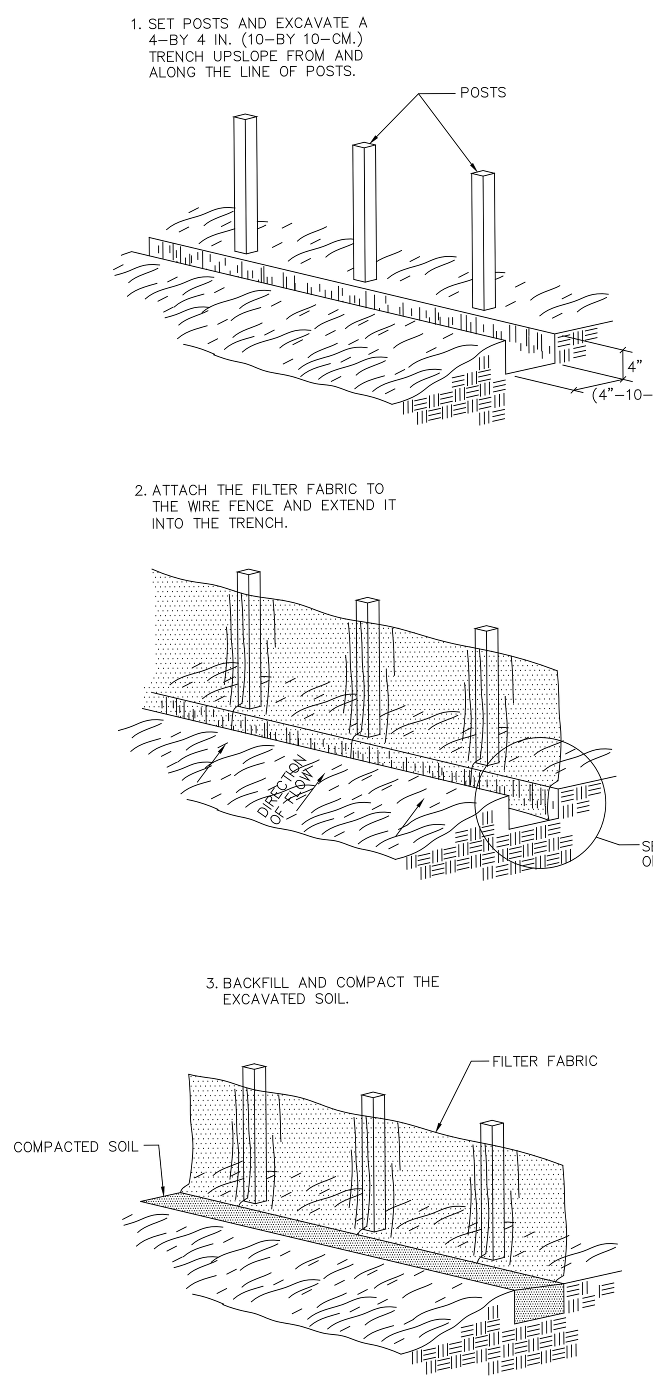
SIGNING ARCH
License #

File Name:
2023.04-Rotondas Toa Baja-Grading-PR-CRP-000948

Date	Scale
09/19/2023	1:400

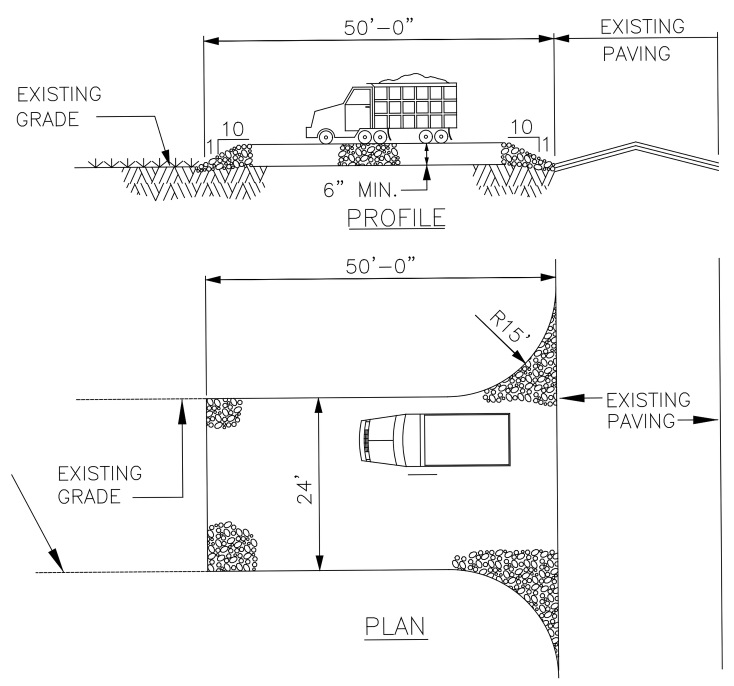
Sheet
CI-108

Project #	PR-CRP: 000948
Drawn by	DBM
Checked by	ECA



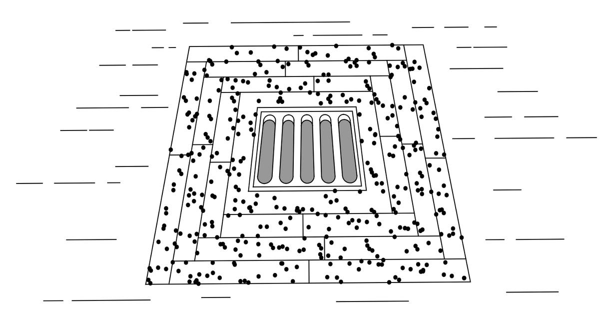
SILT FENCE INSTALLATION DETAIL

NOT TO SCALE

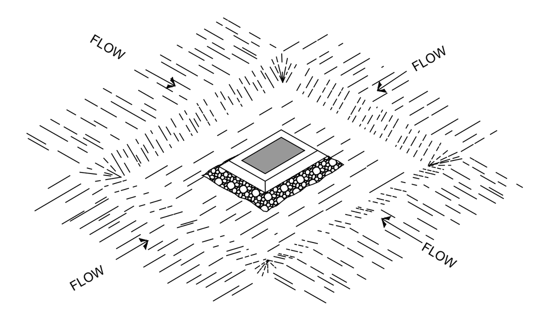


STABILIZED CONSTRUCTION ENTRANCE

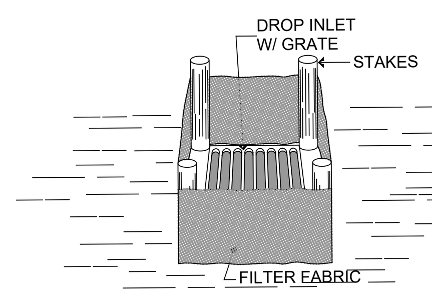
NOT TO SCALE



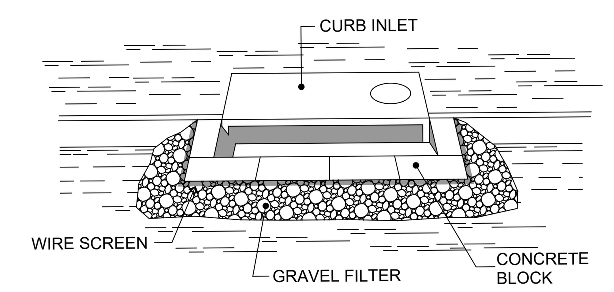
SOD INLET PROTECTION



EXCAVATED GRAVEL INLET PROTECTION



FILTER FABRIC INLET PROTECTION



STORM DRAIN TYPICAL INLET PROTECTION DETAILS

N.T.S.

* SEE NOTE 10 ON THIS DWG.

PROJECT SIGN DETAIL

NOT TO SCALE

1 SEC Details

NTS

STABILIZED CONSTRUCTION ENTRANCE NOTES:

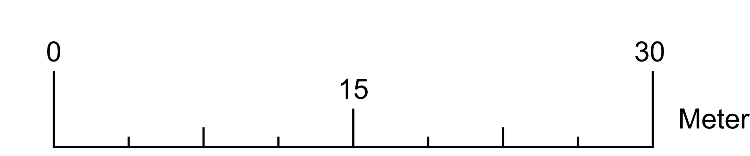
1. PROVIDE APPROPRIATE TRANSITION BETWEEN STABILIZED CONSTRUCTION ENTRANCE AND EXIST. PAVEMENT.
2. STONE SIZE: USE AASHTO M-43 SIZE No. 2 STONE.

CONCRETE WASHOUT NOTES:

1. A CONCRETE WASHOUT STATION SHALL BE PLACED AT EACH PROJECT ENTRANCE.
2. CONCRETE WASHOUT FACILITIES SHOULD NEVER BE PLACED WITHIN 50 FEET OF STORM DRAINS, OPEN DITCHES OR WATERBODIES.
3. CHECK ALL CONCRETE WASHOUT FACILITIES DAILY TO DETERMINE IF THEY HAVE BEEN FILLED TO 75 PERCENT CAPACITY, WHICH IS WHEN MATERIALS NEED TO BE REMOVED.
4. BOTH ABOVE- AND BELOW- GROUND SELF-INSTALLED WASHOUT SHOULD BE INSPECTED DAILY TO ENSURE THAT PLASTIC LININGS ARE INTACT AND SIDEWALLS HAVE NOT BEEN DAMAGED BY CONSTRUCTION ACTIVITIES.
5. REMOVE LIQUIDS OR COVER THE STRUCTURES BEFORE PREDICTED RAINSTORMS TO PREVENT OVERFLOWS.
6. WHEN REMOVING MATERIALS FROM THE CONCRETE WASHOUT, BUILD A NEW STRUCTURE OR, IF THE PREVIOUS STRUCTURE IS STILL INTACT, INSPECT THE STRUCTURE FOR SIGNS OF WEAKENING OF DAMAGE AND MAKE ANY NECESSARY REPAIRS. LINE THE STRUCTURE WITH NEW PLASTIC THAT IS FREE OF HOLES OR TEARS AND REPLACED SIGNAGE IF NECESSARY. IT IS VERY IMPORTANT THAT NEW PLASTIC IS USED AFTER EVERY CLEANING BECAUSE PUMPS AND CONCRETE REMOVAL EQUIPMENT CAN DAMAGE THE EXISTING LINER.
7. CONCRETE WASHOUTS ARE DESIGNED TO PROMOTE EVAPORATION WHERE FEASIBLE. HOWEVER, IF STORED LIQUIDS HAVE NOT EVAPORATED AND THE WASHOUT IS NEARING CAPACITY, VACUUM AND DISPOSE OF THEM IN AN APPROVED MANNER.
8. INSPECTOR SHOULD ALSO NOTE WHETHER THE FACILITIES ARE BEING USED REGULARY; IF DRIVERS HAVE WASHED OUT THEIR CHUTES OR HOPPERS IN OTHER LOCATIONS, YOU MAY NEED TO PROVIDE MORE EDUCATION, INSTALL ADDITIONAL SIGNAGE, OR PLACE ADDITIONAL WASHOUT IN MORE CONVENIENT LOCATIONS.

CES PLAN GENERAL NOTES

1. THE CONTRACTOR SHALL PROTECT ALL CATCH BASINS, SWALES AND CHANNELS NEAR THE PROJECT AREA THAT COULD BE POTENTIALLY, IMPACTED PRIOR TO START ANY EXCAVATION. ALL MEASURES CAN BE REMOVED WHEN THE LOCAL CONSTRUCTION BE COMPLETED.
2. ALL DISTURBED AREAS SHALL BE PROTECTED BY THE CES PLAN MEASURES EVEN THOUGH CONSTRUCTION ONLY INCLUDES PART OF THE PARCEL.
3. CONTRACTOR SHALL INSPECT SEDIMENT BARRIERS AFTER EACH RAIN EVENT. REPAIRS SHALL BE DONE AS SOON AS POSSIBLE. SEDIMENT SHALL BE REMOVED FROM THE BARRIERS WHEN THEY REACH HALF THE HEIGHT OF THE BARRIER.
4. THE CONTRACTOR SHALL MAINTAIN THE INTEGRITY OF THE STABILIZED CONSTRUCTION ENTRANCE.
5. THE CONTRACTOR SHALL MAINTAIN A WATER TANK TRUCK TO SPRAY IT AROUND THE WORKING AREAS WHEN NEEDED OR WHEN THE PROJECT INSPECTOR REQUIRES IT. A WATER HOSE WILL BE INSTALLED NEAR STABILIZED CONSTRUCTION ENTRANCE TO WASH THE CONSTRUCTION VEHICLES WHEELS.
6. THE CONTRACTOR SHALL STRICTLY FOLLOW THE GUIDELINES STATED AT THE CES PLAN APPROVED BY THE ENVIRONMENTAL QUALITY BOARD.
7. THE CONTRACTOR SHALL DISPOSE ALL WASTE MATERIALS AT AN APPROVED LANDFILL.
8. THE CONTRACTOR SHALL RESTORE PAVED AREAS AND RE-SEED GRASS AREAS AS SOON AS POSSIBLE OR AS INSTRUCTED BY THE PROJECT INSPECTOR.
9. ANY MODIFICATION PROPOSAL TO THE CES PLAN SHALL BE CONSULTED WITH THE DESIGNER IN ORDER TO AMMEND THE APPROVED PLAN.
10. A SIGN SHALL BE INSTALLED AT EACH PROJECT ENTRANCE AS PER CONSOLIDATED GENERAL PERMIT CONDITION NUMBER 2.



General Notes

IMPORTANT INFORMATION FOR THE CONTRACTOR

Contractor shall verify al dimensions, levels and condition on-site before commencing any and all work. Any discrepancy, error or omission in these plans shall be notified to the Architect, Landscape Architect or Engineer who stamps and signs these drawings so that proper corrections to the documents can be made.

Do not take any measurements from the physical drawings.

All drawings, specifications and other documents are property of ECo and can solely be used as an instrument of the Architect, Landscape Architect or Engineers' service as reference for this project.

Only use documents with a "FOR CONSTRUCTION ONLY" stamp and sealed and signed by the designer.

Yo, Edmundo Colon Arizmendi PE, con licencia número 7812, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

No.	Description	Date

ECo
LANDSCAPE + ARCHITECTURE + ENGINEERING
103 Calle Isabel Andreu Aguilar, 4to Piso, San Juan,PR 00918
787-764-0610 eco-designstudio.com

SEC Details

TB Roundabouts: PR-CRP-000948

Ave. Sabana Seca Int. Calle Rufino Ramirez, Levittown

Autonomous Municipality of Toa Baja

Seal:

SIGNING ARCH
License #

File Name: 2023.04-Rotondas Toa Baja-Grading-PR-CRP-000948

Date 09/19/2023 | Scale 1:275

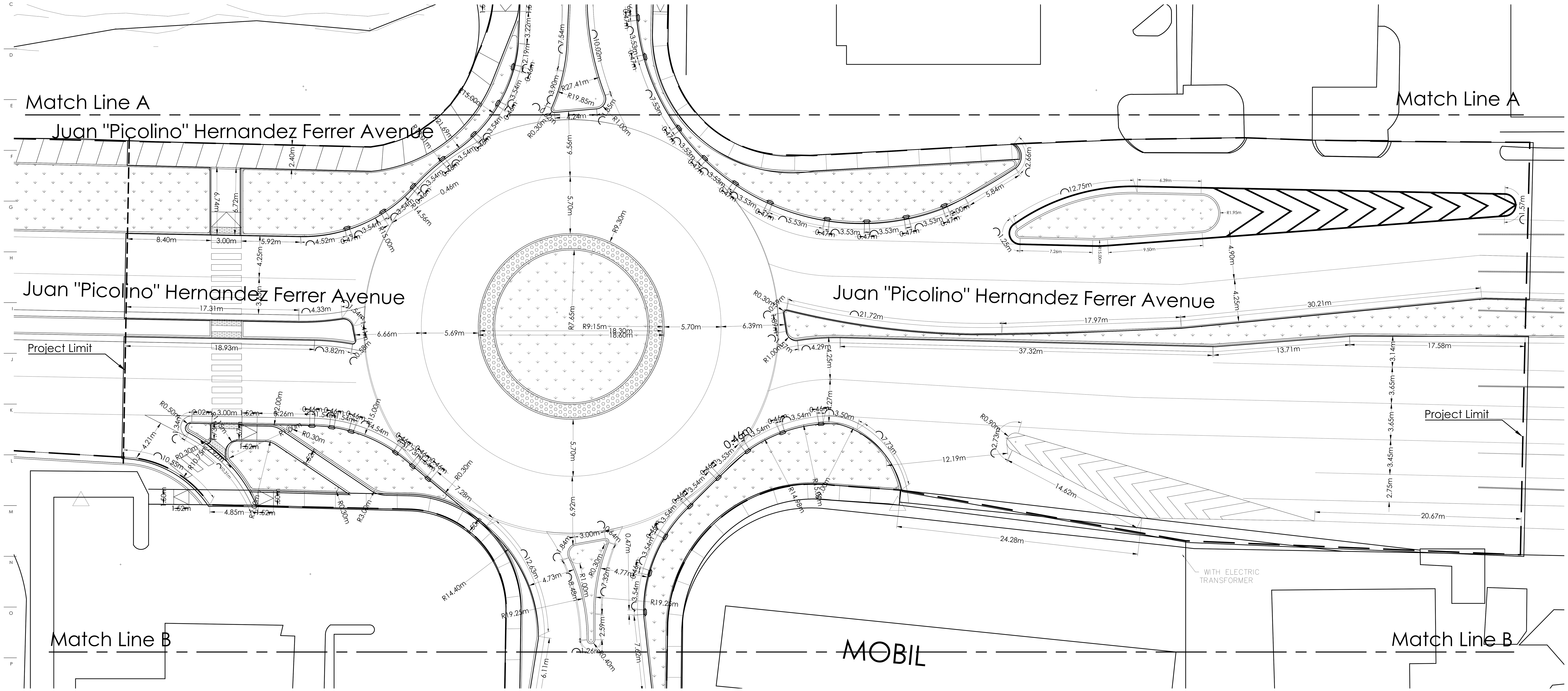
Sheet

CI-109

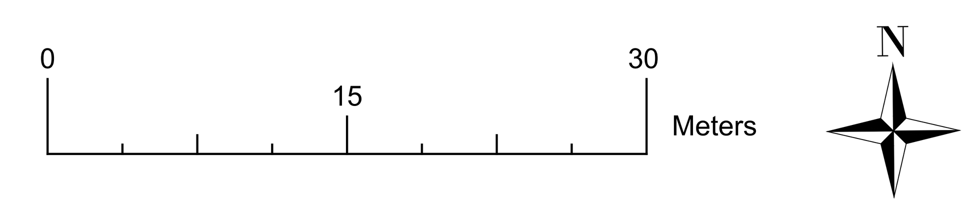
Project # PR-CRP: 000948

Drawn by DBM

Checked by ECA



1 Geometry Plan
1:200



General Notes

IMPORTANT INFORMATION FOR THE CONTRACTOR

Contractor shall verify al dimensions, levels and condition on-site before commencing any and all work. Any discrepancy, error or omission in these plans shall be notified to the Architect, Landscape Architect or Engineer who stamps and signs these drawings so that proper corrections to the documents can be made.

Do not take any measurements from the physical drawings.

All drawings, specifications and other documents are property of ECo and can solely be used as an instrument of the Architect, Landscape Architect or Engineers' service as reference for this project.

ECo, the signing Architect, Landscape Architect or Engineer, and Eco's Consultants shall be deemed the author(s) of these documents and shall retain all common and statutory laws, including reserved and copyright(s). The full and/or partial reproduction of these drawings may only be done with the express written consent of the Architect, Landscape Architect or Engineer.

Only use documents with a "FOR CONSTRUCTION ONLY" stamp and sealed and signed by the designer.

Yo, Edmundo Colon Arizmendi PE, con licencia número 7812, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

No.	Description	Date

ECo
Landscape + Architecture + Engineering
103 Calle Isabel Andreu Aguilar, 4to Piso, San Juan, PR 00918
787-764-0610 eco-designstudio.com

Geometry Plan

TB Roundabouts: PR-CRP-000948

Ave. Sabana Seca Int. Calle Rufino Ramirez, Levittown

Autonomous Municipality of Toa Baja

Seal:

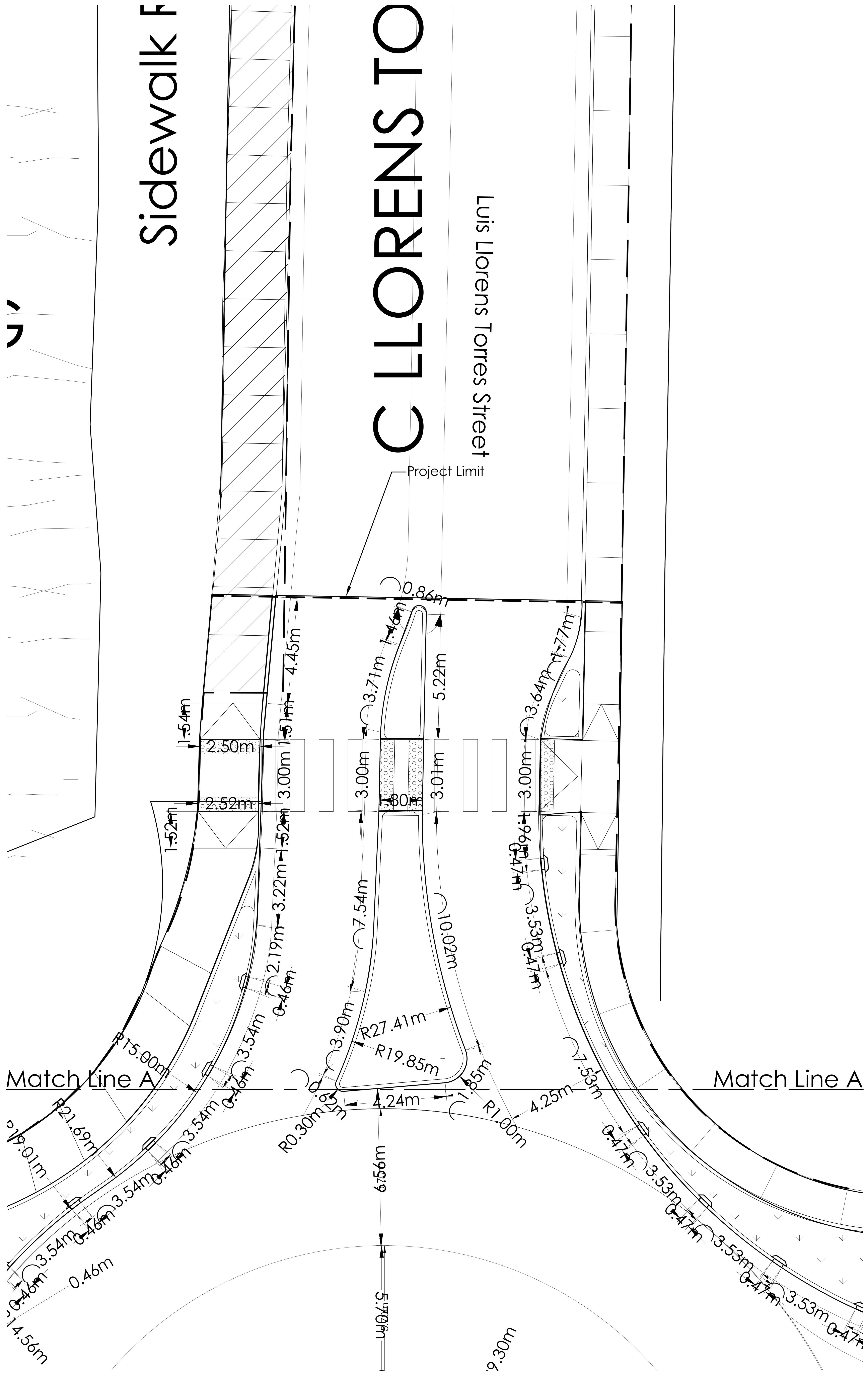
SIGNING ENGR
License #

File Name: 2023.04-Rotondas Toa Baja-Grading-PR-CRP-000948

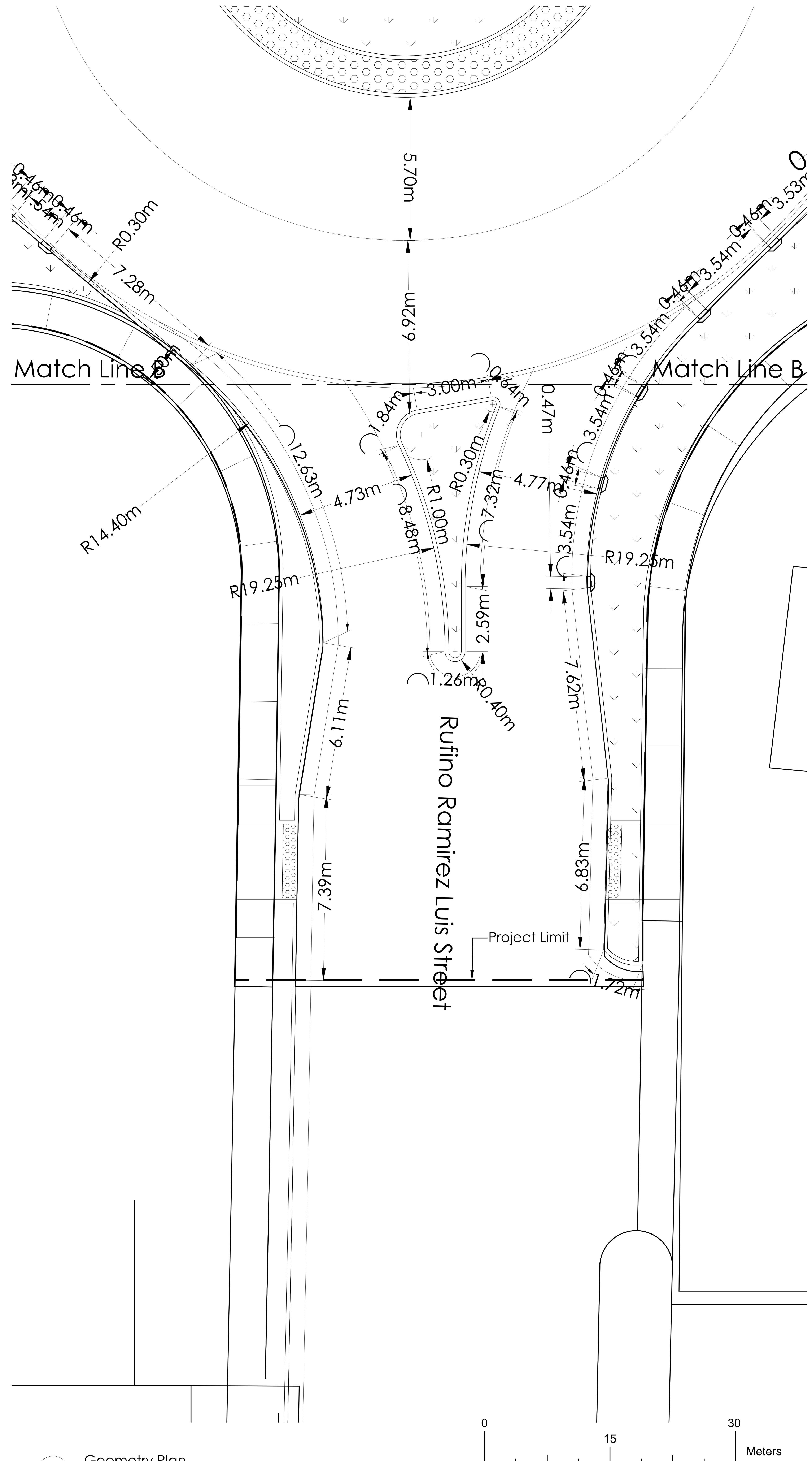
Date: 09/19/2023
Scale: 1:200

Sheet: CI-200

Project #: PR-CRP: 000948
Drawn by: DBM
Checked by: ECA



1 Geometry Plan
1:100



2 Geometry Plan
1:100

General Notes

IMPORTANT INFORMATION FOR THE CONTRACTOR

Contractor shall verify al dimensions, levels and condition on-site before commencing any and all work. Any discrepancy, error or omission in these plans shall be notified to the Architect, Landscape Architect or Engineer who stamps and signs these drawings so that proper corrections to the documents can be made.

Do not take any measurements from the physical drawings.

All drawings, specifications and other documents are property of ECo and can solely be used as an instrument of the Architect, Landscape Architect or Engineers' service as reference for this project.

ECo, the signing Architect, Landscape Architect or Engineer, and Eco's Consultants shall be deemed the author(s) of these documents and shall retain all common and statutory laws, including reserved and copyright(s). The full and/or partial reproduction of these drawings may only be done with the express written consent of the Architect, Landscape Architect or Engineer.

Only use documents with a "FOR CONSTRUCTION ONLY" stamp and sealed and signed by the designer.

Yo, Edmundo Colon Arizmendi PE, con licencia número 7812, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

No.	Description	Date

ECo
Landscape + Architecture + Engineering
103 Calle Isabel Andreu Aguilar, 4to Piso, San Juan,PR 00918
787-764-0610 eco-designstudio.com

Geometry Plan

TB Roundabouts: PR-CRP-000948

Ave. Sabana Seca Int. Calle Rufino Ramirez, Levittown

Autonomous Municipality of Toa Baja

Seal:

SIGNING ENGR
License #

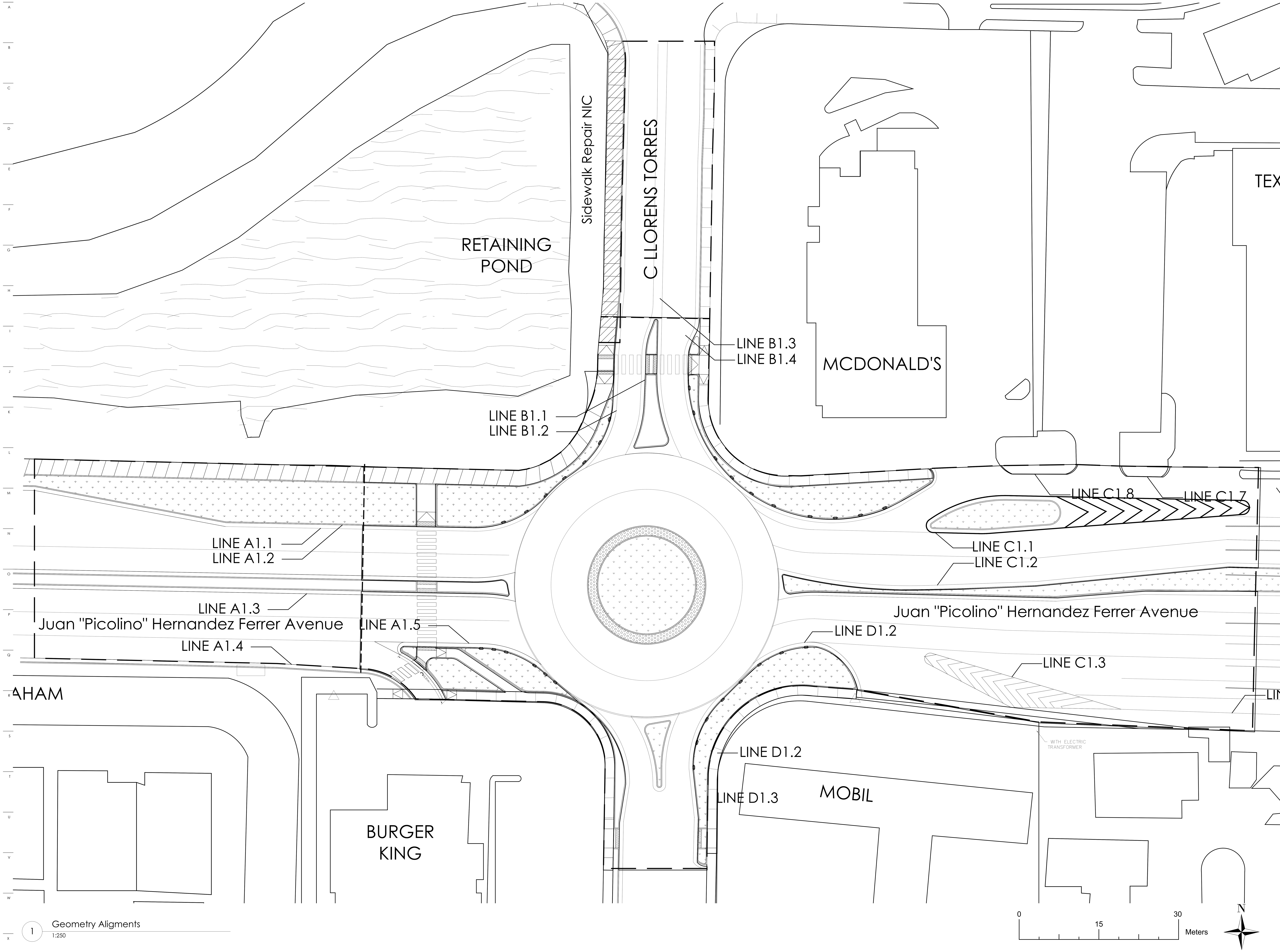
File Name: 2023.04-Rotondas Toa Baja-Grading-PR-CRP-000948

Date	Scale
09/19/2023	1:100

Sheet

CI-201

Project #	PR-CRP: 000948
Drawn by	DBM
Checked by	ECA



1 Geometry Aligments
1:250

General Notes

IMPORTANT INFORMATION FOR THE CONTRACTOR

Contractor shall verify al dimensions, levels and condition on-site before commencing any and all work. Any discrepancy, error or omission in these plans shall be notified to the Architect, Landscape Architect or Engineer who stamps and signs these drawings so that proper corrections to the documents can be made.

Do not take any measurements from the physical drawings.

All drawings, specifications and other documents are property of ECo and can solely be used as an instrument of the Architect, Landscape Architect or Engineers' service as reference for this project.

Only use documents with a "FOR CONSTRUCTION ONLY" stamp and sealed and signed by the designer.

Yo, Edmundo Colon Arizmendi PE, con licencia número 7812, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

No.	Description	Date

ECo
Landscape + Architecture + Engineering
103 Calle Isabel Andreu Aguilar, 4to Piso, San Juan,PR 00918
787-764-0610 eco-designstudio.com

Geometry Alignments

TB Roundabouts: PR-CRP-000948

Ave. Sabana Seca Int. Calle Rufino Ramirez, Levittown

Autonomous Municipality of Toa Baja

Seal:

SIGNING ENGR
License #

File Name: 2023.04-Rotondas Toa Baja-Grading-PR-CRP-000948

Date	Scale
09/19/2023	1:250

Sheet

CI-202

Project #	PR-CRP: 000948
Drawn by	DBM
Checked by	ECA

LINE A1.1

Station	Northing	Easting	Bearing	Distance
0+00.000	266889.941	228044.856		
0+42.485	266889.142	228087.333	PC S 88d55'23" E	42.485
RADIUS: 15.600	PI-Dist: 5.787	DELTA: 40.4211	LENGTH: 11.082	
0+53.567	266892.724	228097.576	PT N 70d43'32" E	

LINE A1.2

Station	Northing	Easting	Bearing	Distance
0+00.000	266890.540	228044.867		
0+42.485	266889.742	228087.345	PC S 88d55'23" E	42.485
RADIUS: 15.000	PI-Dist: 6.867	DELTA: 49.1159	LENGTH: 12.880	
0+55.366	266894.726	228098.795	PT N 66d28'38" E	
0+55.366	266894.726	228098.795	PC N 00d00'00" W	0.000
RADIUS: 21.000	PI-Dist: 2.594	DELTA: −14.051	LENGTH: 5.163	
0+60.528	266898.110	228102.677	PT N 48d55'13" E	
0+60.528	266898.110	228102.677	PC N 00d00'00" W	0.000
RADIUS: 15.000	PI-Dist: 7.969	DELTA: 55.5748	LENGTH: 14.651	
0+75.180	266910.540	228109.281	PT N 27d58'54" E	
0+92.698	266928.058	228109.281	N 00d00'00" E	17.518

LINE A1.3

Station	Northing	Easting	Bearing	Distance
0+00.000	266882.642	228044.719		
0+42.485	266881.843	228087.196	PC S 88d55'23" E	42.485
RADIUS: 22.900	PI-Dist: 3.379	DELTA: 16.4710	LENGTH: 6.709	
0+49.194	266882.695	228093.827	PT N 82d41'02" E	
0+49.194	266882.695	228093.827	PC N 00d00'00" W	0.000
RADIUS: 20.712	PI-Dist: 2.296	DELTA: 12.3906	LENGTH: 4.573	
0+53.768	266878.131	228093.892	PT S 00d49'11" E	
0+53.768	266878.131	228093.892	PC N 00d00'00" W	0.000
RADIUS: 22.900	PI-Dist: 2.607	DELTA: 12.5917	LENGTH: 5.191	
0+58.959	266878.813	228088.757	PT N 82d25'44" W	
1+02.253	266879.627	228045.471	N 88d55'23" W	43.294

LINE A1.4

Station	Northing	Easting	Bearing	Distance
0+00.000	266862.854	228078.268		
0+10.548	266867.627	228069.332	N 61d53'23" W	10.548
0+23.391	266868.394	228056.513	N 86d34'43" W	12.842
0+40.820	266868.842	228039.089	N 88d31'39" W	17.429
0+52.149	266869.087	228027.763	N 88d45'36" W	11.329
0+63.689	266869.278	228016.225	N 89d03'08" W	11.540

LINE A1.5

Station	Northing	Easting	Bearing	Distance
0+00.000	266828.751	228110.551		
0+14.892	266843.641	228110.796	N 00d56'34" E	14.892
0+20.965	266849.636	228111.766	PC N 09d11'15" E	6.073
RADIUS: 15.000	PI-Dist: 8.753	DELTA: 60.3138	LENGTH: 15.846	
0+36.811	266862.719	228104.188	PT N 30d04'43" W	
0+36.811	266862.719	228104.188	PC N 00d00'00" W	0.000
RADIUS: 20.699	PI-Dist: 4.253	DELTA: −23.132	LENGTH: 8.389	
0+45.200	266868.215	228097.925	PT N 48d43'52" W	
0+45.200	266868.215	228097.925	PC N 00d00'00" W	0.000
RADIUS: 15.600	PI-Dist: 5.204	DELTA: 36.5344	LENGTH: 10.046	
0+55.246	266871.515	228088.620	PT N 70d28'31" W	
0+67.391	266871.743	228076.477	PC N 88d55'23" W	12.145
RADIUS: 1.100	PI-Dist: 4.711	DELTA: 153.425	LENGTH: 2.951	
0+70.342	266869.666	228075.951	PT S 14d13'10" W	
0+70.342	266869.666	228075.951	PC N 00d00'00" W	0.000
RADIUS: 14.400	PI-Dist: 4.999	DELTA: −38.172	LENGTH: 9.623	
0+79.965	266862.814	228082.452	PT S 43d29'35" E	

LINE B1.1

Station	Northing	Easting	Bearing	Distance
0+00.000	266928.058	228114.131		
0+17.518	266910.540	228114.131	PC S 00d00'00" W	17.518
RADIUS: 19.850	PI-Dist: 4.166	DELTA: −23.422	LENGTH: 8.213	
0+25.731	266902.559	228112.456	PT S 11d51'13" W	
0+25.731	266902.559	228112.456	PC N 00d00'00" W	0.000
RADIUS: 0.300	PI-Dist: 0.505	DELTA: 118.340	LENGTH: 0.621	
0+26.352	266902.140	228112.756	PT S 35d34'34" E	
0+29.593	266902.414	228115.985	PC N 85d08'26" E	3.241
RADIUS: 1.000	PI-Dist: 1.250	DELTA: 102.404	LENGTH: 1.792	
0+31.385	266903.712	228116.854	PT N 33d48'05" E	
0+31.385	266903.712	228116.854	PC N 00d00'00" W	0.000
RADIUS: 19.850	PI-Dist: 3.062	DELTA: −17.321	LENGTH: 6.076	
0+37.461	266909.694	228115.931	PT N 08d46'08" W	
0+55.825	266928.058	228115.931	N 00d00'00" E	18.365

LINE B1.2

Station	Northing	Easting	Bearing	Distance
0+00.000	266928.058	228109.881		
0+17.518	266910.540	228109.881	PC S 00d00'00" W	17.518
RADIUS: 15.600	PI-Dist: 6.859	DELTA: −47.280	LENGTH: 12.924	
0+30.442	266899.045	228104.827	PT S 23d44'00" W	

LINE B1.3

Station	Northing	Easting	Bearing	Distance
0+00.000	266928.058	228113.531		
0+17.518	266910.540	228113.531	PC S 00d00'00" W	17.518
RADIUS: 19.250	PI-Dist: 5.023	DELTA: −29.150	LENGTH: 9.828	
0+27.346	266901.134	228111.077	PT S 14d37'31" W	
0+27.346	266901.134	228111.077	PC N 00d00'00" W	0.000
RADIUS: 20.458	PI-Dist: 3.836	DELTA: −21.142	LENGTH: 7.584	
0+34.930	266900.980	228118.616	PT S 88d49'54" E	
0+34.930	266900.980	228118.616	PC N 00d00'00" W	0.000
RADIUS: 19.250	PI-Dist: 4.606	DELTA: −26.544	LENGTH: 9.042	
0+43.972	266909.694	228116.531	PT N 13d27'23" W	
0+62.337	266928.058	228116.531	N 00d00'00" E	18.365

LINE B1.4

Station	Northing	Easting	Bearing	Distance
0+00.000	266928.399	228120.536		
0+14.794	266913.605	228120.536	PC S 00d00'00" W	14.794
RADIUS: 22.892	PI-Dist: 37.701	DELTA: 117.280	LENGTH: 46.933	
0+61.727	266893.293	228153.987	PT S 58d44'01" E	
0+67.736	266896.437	228159.108	PC N 58d27'15" E	6.009
RADIUS: 1.641	PI-Dist: 3.952	DELTA: 134.543	LENGTH: 3.863	
0+71.599	266899.430	228158.634	PT N 09d00'05" W	

LINE C1.1

Station	Northing	Easting	Bearing	Distance
0+00.000	266897.293	228165.152		
0+11.411	266889.960	228156.689	S 49d05'33" W	11.411
0+11.411	266889.960	228156.689	PC N 00d00'00" W	0.000
RADIUS: 0.500	PI-Dist: 2.452	DELTA: 156.565	LENGTH: 1.370	
0+12.780	266888.995	228156.862	PT S 10d08'55" E	
0+31.116	266888.555	228175.192	PC S 88d37'26" E	18.336
RADIUS: 0.498	PI-Dist: 3.888	DELTA: 165.234	LENGTH: 1.438	
0+32.555	266889.532	228175.341	PT N 08d40'44" E	
0+32.555	266889.532	228175.341	PC N 00d00'00" W	0.000
RADIUS: 16.019	PI-Dist: 6.723	DELTA: −45.320	LENGTH: 12.731	
0+45.285	266897.293	228165.672	PT N 51d15'02" W	
0+45.285	266897.293	228165.672	PC N 00d00'00" W	0.000
RADIUS: 0.296	PI-Dist: 0.546	DELTA: 123.020	LENGTH: 0.636	
0+45.921	266897.293	228165.152	PT S 89d59'60" W	

LINE C1.2

Station	Northing	Easting	Bearing	Distance
0+00.000	266881.277	228239.791		
0+09.422	266883.571	228230.653	N 75d54'16" W	9.422
0+34.556	266884.175	228205.526	N 88d37'25" W	25.134
0+64.802	266881.243	228175.422	S 84d26'14" W	30.247
0+81.690	266880.643	228158.546	PC S 87d57'52" W	16.887
RADIUS: 80.735	PI-Dist: 11.993	DELTA: −16.535	LENGTH: 23.811	
1+05.501	266883.293	228134.969	PT N 83d35'11" W	
1+05.501	266883.293	228134.969	PC N 00d00'00" W	0.000
RADIUS: 20.713	PI-Dist: 2.499	DELTA: −13.453	LENGTH: 4.975	
1+10.475	266878.331	228134.995	PT S 00d17'32" E	
1+10.475	266878.331	228134.995	PC N 00d00'00" W	0.000
RADIUS: 22.900	PI-Dist: 3.218	DELTA: −15.595	LENGTH: 6.394	
1+16.870	266879.066	228141.326	PT N 83d22'38" E	
1+54.218	266878.169	228178.663	S 88d37'25" E	37.348
1+67.937	266879.225	228192.341	N 85d35'06" E	13.719
2+15.079	266878.761	228239.481	PC S 89d26'11" E	47.142
RADIUS: 1.276	PI-Dist: 11.253	DELTA: 167.035	LENGTH: 3.719	
2+18.798	266881.277	228239.791	PT N 07d01'50" E	

LINE C1.3

Station	Northing	Easting	Bearing	Distance
0+00.000	266847.698	228232.935		
0+17.638	266859.763	228221.341	N 43d51'39" W	17.638
0+20.805	266860.238	228218.210	N 81d21'32" W	3.167
0+50.208	266861.227	228188.823	N 88d04'27" W	29.403
0+81.053	266869.974	228159.245	PC N 73d31'27" W	30.845
RADIUS: 0.901	PI-Dist: 8.880	DELTA: 168.242	LENGTH: 2.650	
0+83.703	266868.315	228158.565	PT S 22d16'21" W	
0+98.352	266861.532	228171.549	S 62d25'00" E	14.649

LINE C1.4

Station	Northing	Easting	Bearing	Distance
0+00.000	266851.567	228239.986		
0+10.967	266862.477	228241.095	PC N 05d48'25" E	10.967
RADIUS: 0.749	PI-Dist: 0.944	DELTA: 103.063	LENGTH: 1.349	
0+12.316	266863.297	228240.254	PT N 45d44'52" W	
0+18.238	266863.403	228234.333	PC N 88d58'15" W	5.923
RADIUS: 0.655	PI-Dist: 1.063	DELTA: 116.425	LENGTH: 1.334	
0+19.573	266862.307	228234.127	PT S 10d37'44" W	
0+19.573	266862.307	228234.127	PC N 00d00'00" W	0.000
RADIUS: 37.735	PI-Dist: 5.952	DELTA: −17.553	LENGTH: 11.807	
0+31.379	266851.567	228238.913	PT S 24d01'01" E	
0+31.379	266851.567	228238.913	PC N 00d00'00" W	0.000
RADIUS: 0.556	PI-Dist: 2.066	DELTA: 149.533	LENGTH: 1.453	
0+32.832	266851.567	228239.986	PT E	

LINE C1.5

Station	Northing	Easting	Bearing	Distance
0+00.000	266893.805	228241.455		
0+10.476	266904.281	228241.444	PC N 00d03'54" W	10.476
RADIUS: 0.814	PI-Dist: 717.326	DELTA: 179.521	LENGTH: 2.555	
0+13.031	266904.281	228239.816	PT W	
0+13.031	266904.281	228239.816	PC N 00d00'00" W	0.000
RADIUS: 28.583	PI-Dist: 6.595	DELTA: −25.591	LENGTH: 12.964	
0+25.995	266894.065	228232.016	PT S 37d21'40" W	
0+25.995	266894.065	228232.016	PC N 00d00'00" W	0.000
RADIUS: 0.529	PI-Dist: 2.140	DELTA: 152.142	LENGTH: 1.405	
0+27.400	266893.141	228232.463	PT S 25d45'58" E	
0+35.703	266893.090	228240.766	PC S 89d39'11" E	8.303
RADIUS: 0.686	PI-Dist: 0.719	DELTA: 92.4216	LENGTH: 1.110	
0+36.813	266893.805	228241.455	PT N 43d59'41" E	

LINE C1.6

Station	Northing	Easting	Bearing	Distance
0+00.000	266917.846	228238.944		
0+33.365	266896.122	228219.300	S 42d07'21" W	33.365
0+44.665	266895.831	228208.003	S 88d31'30" W	11.300
0+55.495	266896.091	228197.176	N 88d37'25" W	10.830
0+80.638	266896.473	228172.037	N 89d07'46" W	25.143

LINE C1.7

Station	Northing	Easting	Bearing	Distance
0+00.000	266899.361	228188.590		
0+01.946	266897.762	228189.601	S 32d18'52" E	1.946
0+07.452	266897.664	228195.107	PC S 88d59'11" E	5.506
RADIUS: 2.239	PI-Dist: 1.069	DELTA: 51.0236	LENGTH: 1.995	
0+09.447	266899.252	228196.204	PT N 34d39'39" E	
0+10.593	266900.396	228196.158	N 02d18'51" W	1.146

LINE C1.8

Station	Northing	Easting	Bearing	Distance
0+00.000	266902.703	228169.125		
0+02.076	266900.629	228169.208	PC S 02d17'37" E	2.076
RADIUS: 4.330	PI-Dist: 1.900	DELTA: 47.2305	LENGTH: 3.581	
0+05.657	266898.116	228171.615	PT S 43d46'15" E	
0+14.146	266898.092	228180.105	PC S 89d50'23" E	8.490
RADIUS: 2.536	PI-Dist: 1.180	DELTA: 49.5342	LENGTH: 2.208	
0+16.355	266899.396	228181.801	PT N 52d26'37" E	
0+19.461	266902.501	228181.729	N 01d18'56" W	3.106

LINE D1.1

Station	Northing	Easting	Bearing	Distance
0+00.000	266822.990	228115.416		
0+26.351	266849.340	228115.416	PC N 00d00'00" W	26.351
RADIUS: 18.650	PI-Dist: 5.960	DELTA: 35.2641	LENGTH: 11.537	
0+37.888	266860.156	228111.959	PT N 17d43'20" W	
0+37.888	266860.156	228111.959	PC N 00d00'00" W	0.000
RADIUS: 20.715	PI-Dist: 3.886	DELTA: 21.1502	LENGTH: 7.683	
0+45.571	266860.659	228119.582	PT N 86d13'32" E	
0+45.571	266860.659	228119.582	PC N 00d00'00" W	0.000
RADIUS: 18.650	PI-Dist: 4.632	DELTA: 27.5343	LENGTH: 9.080	
0+54.651	266851.933	228117.415	PT S 13d56'52" W	
0+54.651	266851.933	228117.415	PC N 00d00'00" W	0.000
RADIUS: 1368805420558.557		DELTA: 0.0000	LENGTH: 28.435	
0+83.086	266823.499	228117.415	PT S 00d00'00" W	

LINE D1.2

Station	Northing	Easting	Bearing	Distance
0+00.000	266836.261	228123.858		
0+02.471	266837.271	228121.729	N 64d38'14" W	2.471
0+09.512	266844.309	228121.906	N 01d26'18" E	7.041
0+17.077	266851.828	228121.073	PC N 06d19'17" W	7.565
RADIUS: 15.000	PI-Dist: 7.732	DELTA: −54.321	LENGTH: 14.278	
0+31.355	266864.241	228126.976	PT N 25d25'55" E	
0+31.355	266864.241	228126.976	PC N 00d00'00" W	0.000
RADIUS: 20.698	PI-Dist: 2.934	DELTA: 16.0817	LENGTH: 5.830	
0+37.185	266868.376	228131.058	PT N 44d37'56" E	
0+37.185	266868.376	228131.058	PC N 00d00'00" W	0.000
RADIUS: 15.600	PI-Dist: 4.784	DELTA: −34.054	LENGTH: 9.283	
0+46.468	266871.726	228139.569	PT N 68d31'04" E	
0+46.468	266871.726	228139.569	PC N 00d00'00" W	0.000
RADIUS: 6.600	PI-Dist: 2.002	DELTA: −33.443	LENGTH: 3.887	
0+50.355	266870.901	228143.310	PT S 77d33'47" E	
0+50.355	266870.901	228143.310	PC N 00d00'00" W	0.000
RADIUS: 9.600	PI-Dist: 5.169	DELTA: −56.355	LENGTH: 9.483	
0+59.838	266863.215	228148.186	PT S 32d23'34" E	

LINE D1.3

Station	Northing	Easting	Bearing	Distance
0+00.000	266849.340	228116.815		
0+02.593	266851.933	228116.815	PC N 00d00'00" W	2.593
RADIUS: 19.250	PI-Dist: 3.703	DELTA: −21.463	LENGTH: 7.317	
0+09.909	266859.075	228118.189	PT N 10d53'19" E	
0+09.909	266859.075	228118.189	PC N 00d00'00" W	0.000
RADIUS: 0.300	PI-Dist: 0.539	DELTA: 121.474	LENGTH: 0.638	
0+10.547	266859.481	228117.858	PT N 39d07'14" W	
0+13.543	266858.960	228114.908	PC S 79d58'53" W	2.995
RADIUS: 1.000	PI-Dist: 1.308	DELTA: 105.132	LENGTH: 1.836	
0+15.379	266857.549	228114.178	PT S 27d22'11" W	
0+15.379	266857.549	228114.178	PC N 00d00'00" W	0.000
RADIUS: 19.250	PI-Dist: 4.310	DELTA: −25.143	LENGTH: 8.481	
0+23.860	266849.340	228116.016	PT S 12d37'15" E	
0+23.860	266849.340	228116.016	PC N 00d00'00" W	0.000
RADIUS: 0.400		DELTA: 180.000	LENGTH: 1.256	
0+25.115	266849.340	228116.815	PT E	

1 Geometry Aligments Tables

NTS

General Notes

IMPORTANT INFORMATION FOR THE CONTRACTOR

Contractor shall verify al dimensions, levels and condition on-site before commencing any and all work. Any discrepancy, error or omission in these plans shall be notified to the Architect, Landscape Architect or Engineer who stamps and signs these drawings so that proper corrections to the documents can be made.
Do not take any measurements from the physical drawings.
All drawings, specifications and other documents are property of ECo and can solely be used as an instrument of the Architect, Landscape Architect or Engineers' service as reference for this project.

Only use documents with a "FOR CONSTRUCTION ONLY" stamp and sealed and signed by the designer.

Yo, Edmundo Colon Arizmendi PE, con licencia número 7812, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

No.	Description	Date

ECo
LANDSCAPE + ARCHITECTURE + ENGINEERING
103 Calle Isabel Andreu Aguilar, 4to Piso, San Juan,PR 00918
787-764-0610 eco-designstudio.com

Geometry Alignments Tables

TB Roundabouts: PR-CRP-000948

Ave. Sabana Seca Int. Calle Rufino Ramirez, Levittown

Autonomous Municipality of Toa Baja

Seal:

SIGNING ARCH
License #

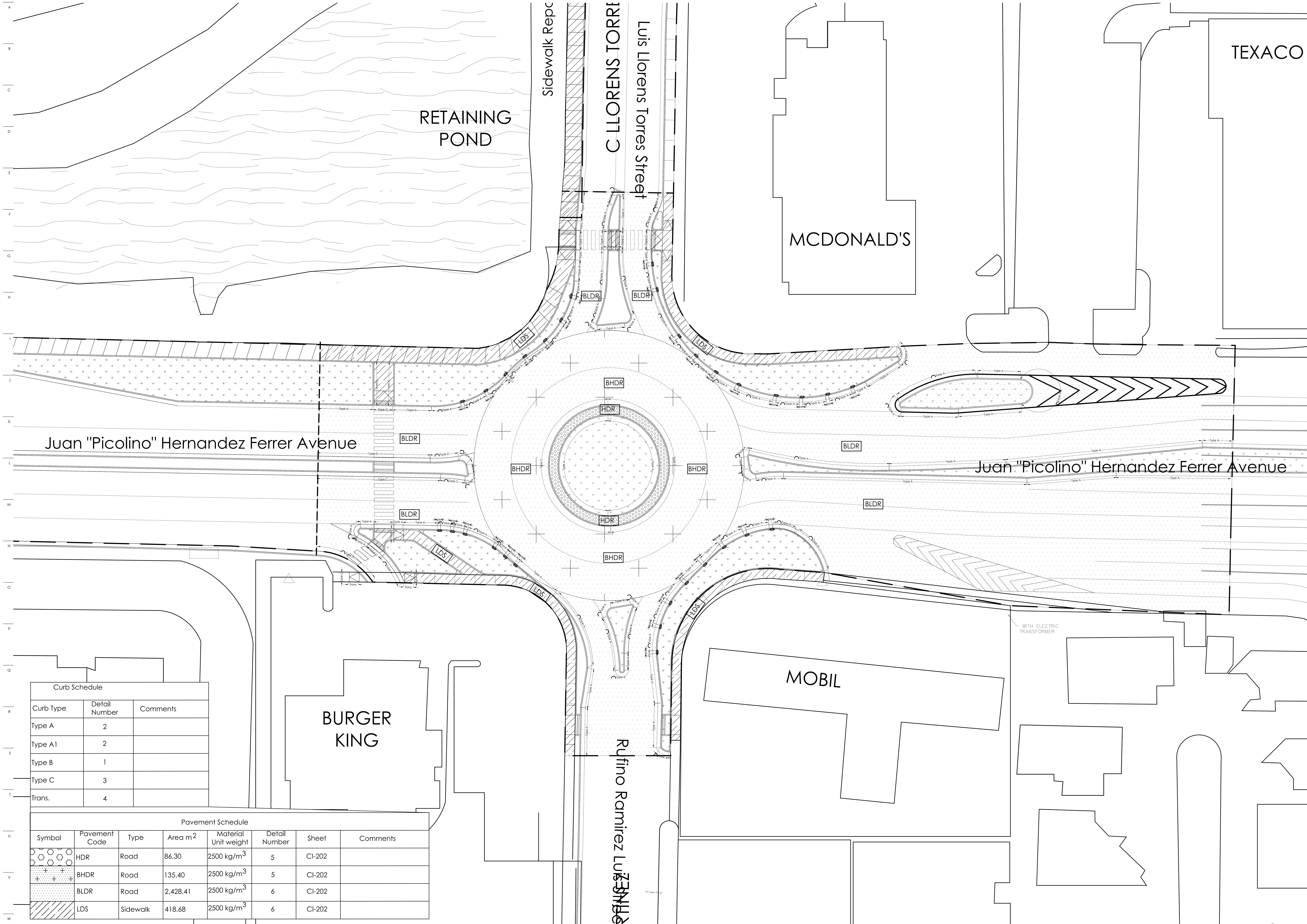
File Name: 2023.04 Rotondas Toa Baja-Grading-PR-CRP-000948

Date: 09/19/2023
Scale: NTS

Sheet

CI-203

Project #: PR-CRP: 000948
Drawn by: JFV
Checked by: ECA



Curb Schedule

Curb Type	Detail Number	Comments
Type A	2	
Type A1	2	
Type B	1	
Type C	3	
Trans.	4	

Pavement Schedule

Symbol	Pavement Code	Type	Area m^2	Material Unit weight	Detail Number	Sheet	Comments
	HDR	Road	86.30	2500 kg/m^3	5	CI-202	
	BHDR	Road	135.40	2500 kg/m^3	5	CI-202	
	BLDR	Road	2,428.41	2500 kg/m^3	6	CI-202	
	LDS	Sidewalk	418.68	2500 kg/m^3	6	CI-202	

1 Pavement & Curb Schedule
1:250

General Notes

IMPORTANT INFORMATION FOR THE CONTRACTOR

Contractor shall verify al dimensions, levels and condition on-site before commencing any and all work. Any discrepancy, error or omission in these plans shall be notified to the Architect, Landscape Architect or Engineer who stamps and signs these drawings so that proper corrections to the documents can be made.

Do not take any measurements from the physical drawings.

All drawings, specifications and other documents are property of ECo and can solely be used as an instrument of the Architect, Landscape Architect or Engineers' service as reference for this project.

Only use documents with a “FOR CONSTRUCTION ONLY” stamp and sealed and signed by the designer.

Yo, Edmundo Colon Arizmendi PE, con licencia número 7812, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

No.	Description	Date

ECo
Landscape + Architecture + Engineering
103 Calle Isabel Andreu Aguilar, 4to Piso, San Juan,PR 00918
787-764-0610 eco-designstudio.com

Pavement & Curb Schedule

TB Roundabouts: PR-CRP-000948

Ave. Sabana Seca Int. Calle Rufino Ramirez, Levittown

Autonomous Municipality of Toa Baja

Seal:

SIGNING ENGR
License #

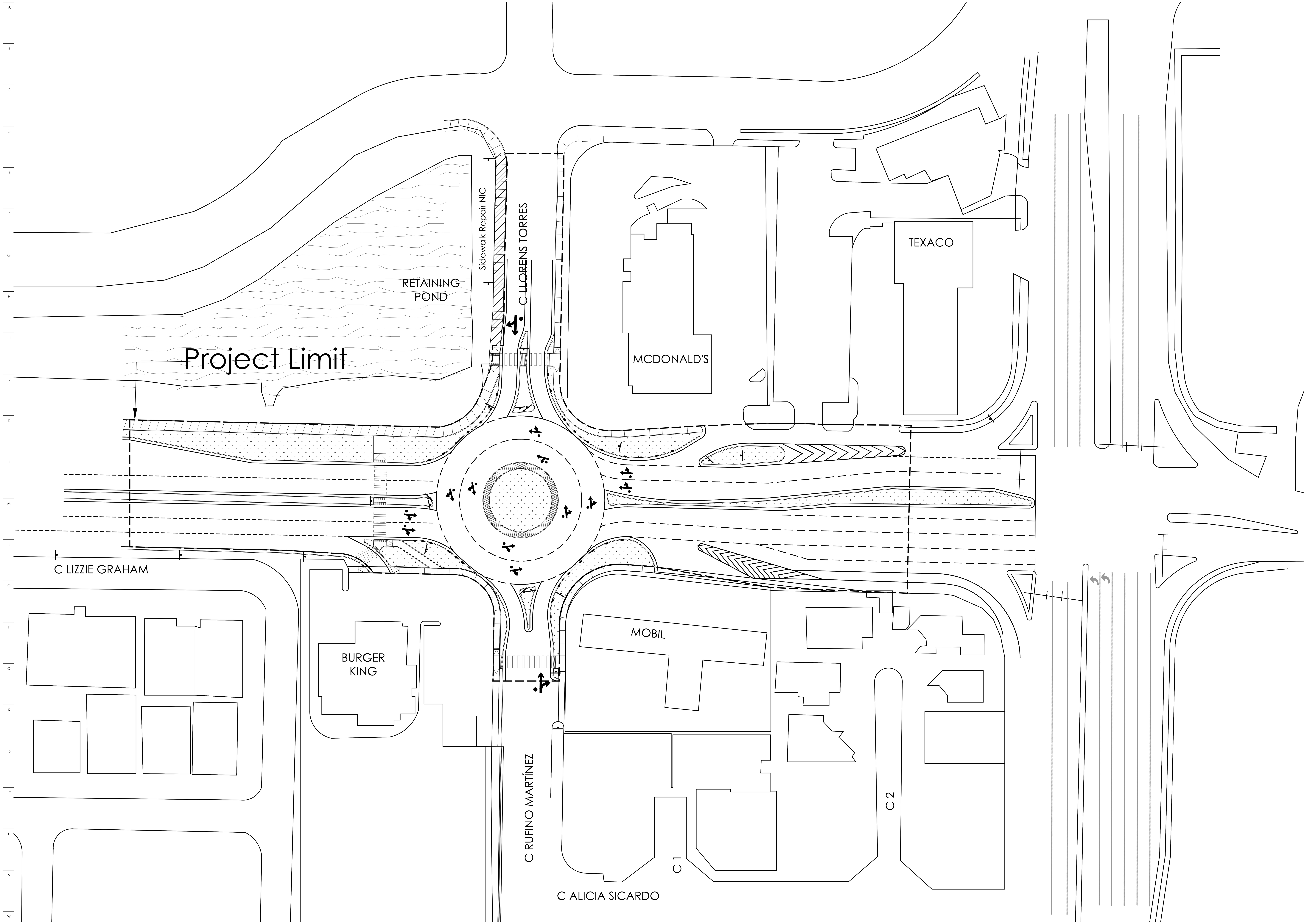
File Name:
2023.04-Rotondas Toa Baja-Grading-PR-CRP-000948

Date	Scale
09/19/2023	1:250

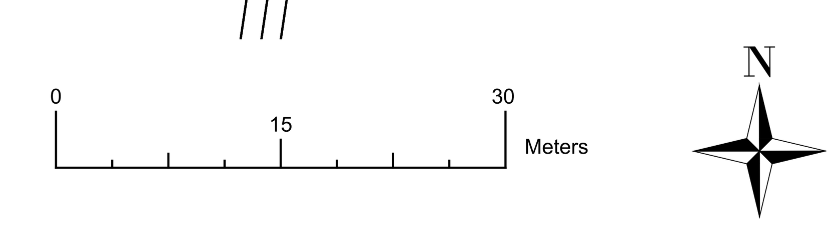
Sheet

CI-204

Project #	PR-CRP: 000948
Drawn by	DBM
Checked by	ECA



1 Traffic Sign Locations
1:400



General Notes

IMPORTANT INFORMATION FOR THE CONTRACTOR

Contractor shall verify al dimensions, levels and condition on-site before commencing any and all work. Any discrepancy, error or omission in these plans shall be notified to the Architect, Landscape Architect or Engineer who stamps and signs these drawings so that proper corrections to the documents can be made.

Do not take any measurements from the physical drawings.

All drawings, specifications and other documents are property of ECo and can solely be used as an instrument of the Architect, Landscape Architect or Engineers' service as reference for this project.

Only use documents with a "FOR CONSTRUCTION ONLY" stamp and sealed and signed by the designer.

Yo, Edmundo Colon Arizmendi PE, con licencia número 7812, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

No.	Description	Date

ECo
Landscape + Architecture + Engineering

103 Calle Isabel Andreu Aguilar, 4to Piso, San Juan,PR 00918
787-764-0610 eco-designstudio.com

Traffic Signs & Pavement Markings

TB Roundabouts: PR-CRP-000948

Ave. Sabana Seca Int. Calle Rufino Ramirez, Levittown

Autonomous Municipality of Toa Baja

Seal:

SIGNING ARCH
License #

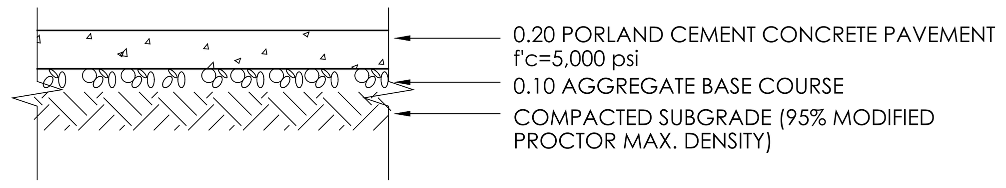
File Name: 2023.04-Rotondas Toa Baja-Grading-PR-CRP-000948

Date	Scale
09/14/2023	1:400

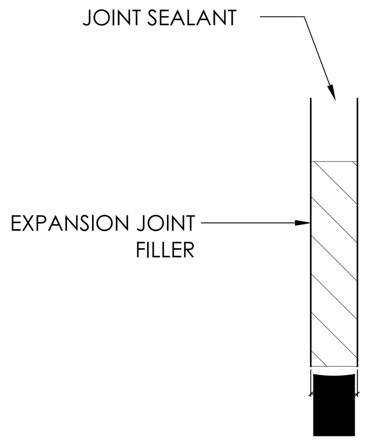
Sheet

CI-205

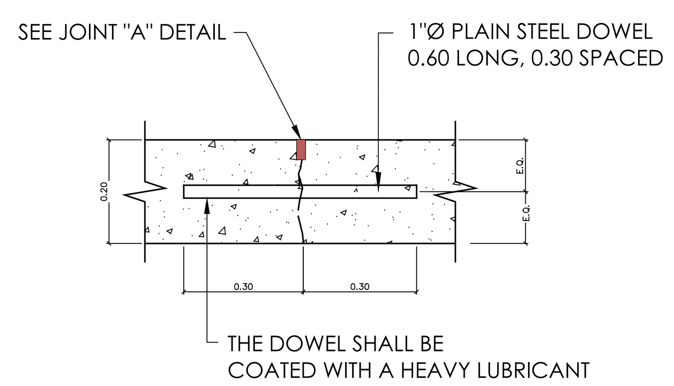
Project #	PR-CRP: 000948
Drawn by	JFV
Checked by	ECA



CONCRETE PAVEMENT DETAIL
NOT TO SCALE

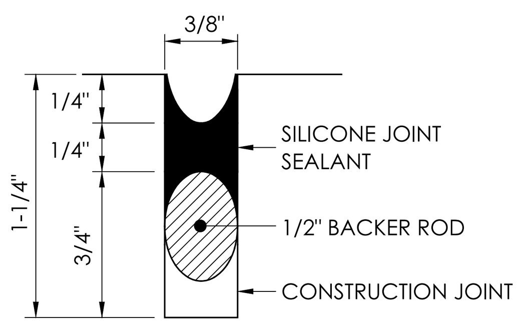


EXPANSION JOINT
NOT TO SCALE

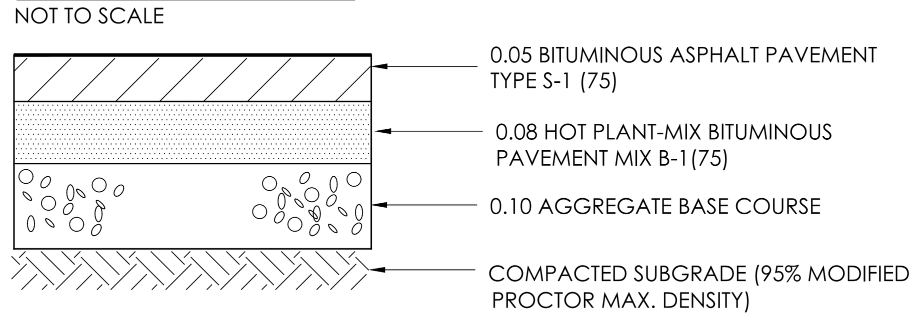


TRANSVERSE CONTRACTION JOINT

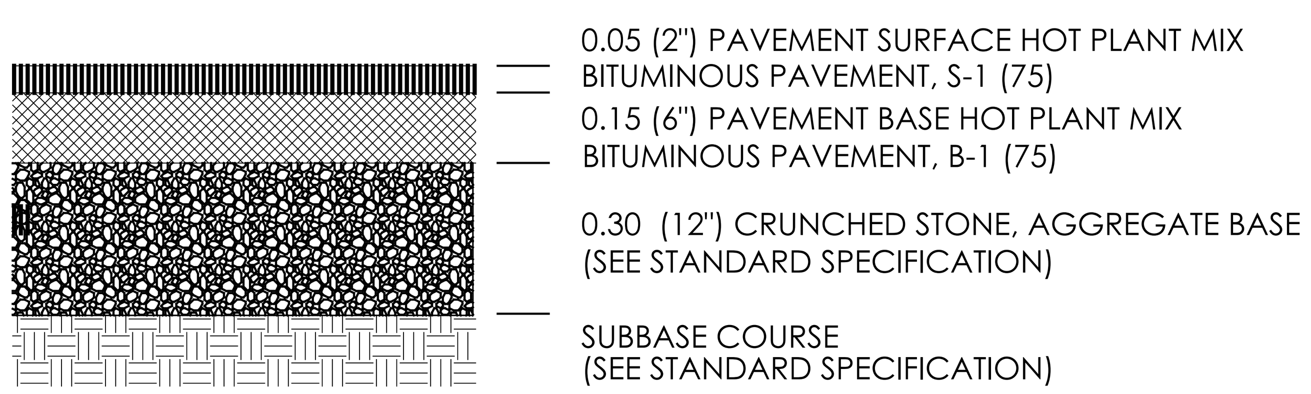
CONCRETE PAVEMENT JOINT DETAILS
NOT TO SCALE



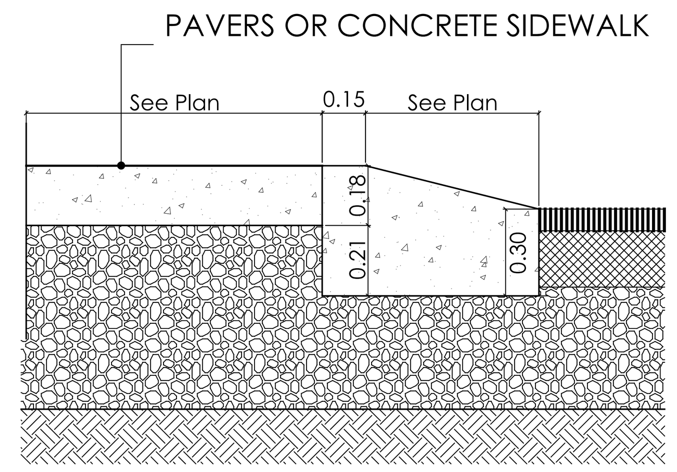
JOINT "A" DETAIL
NOT TO SCALE



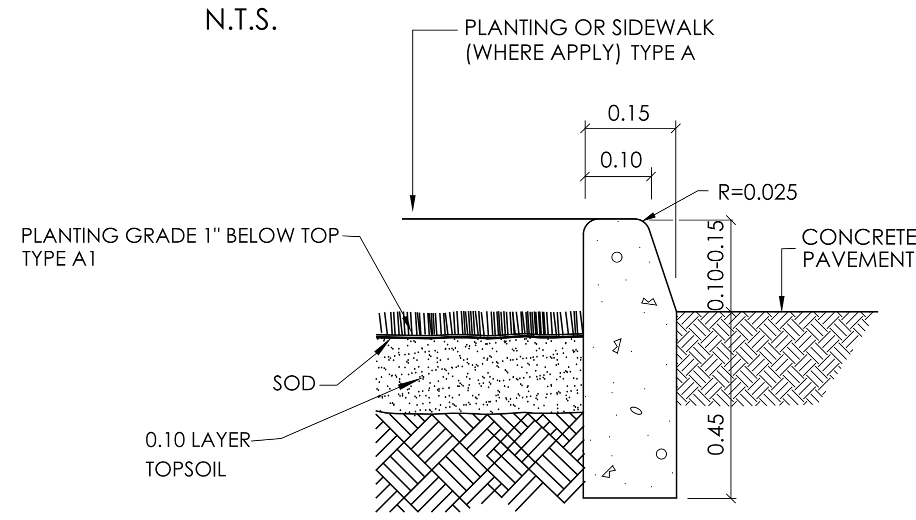
LIGHT DUTY ASPHALT PAVEMENT
NOT TO SCALE



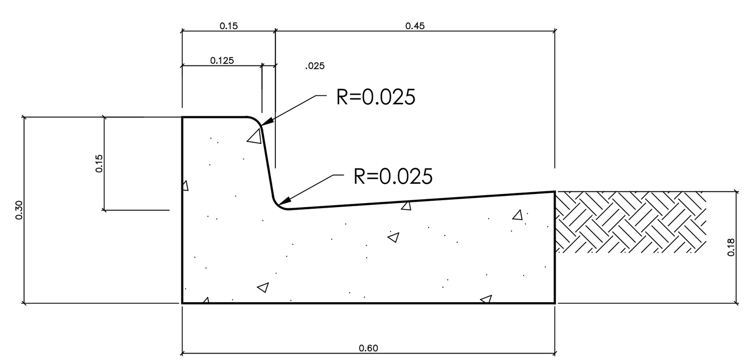
BITUMINOUS HEAVY DUTY PAVEMENT
ESCALA 1:200



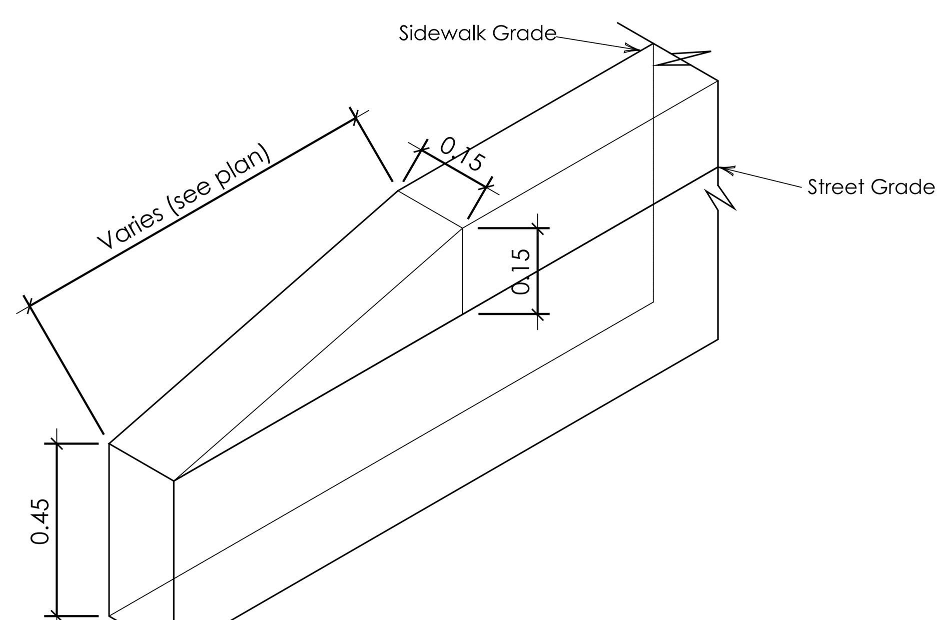
CURB RAMP DETAIL TYPE "B"
N.T.S.



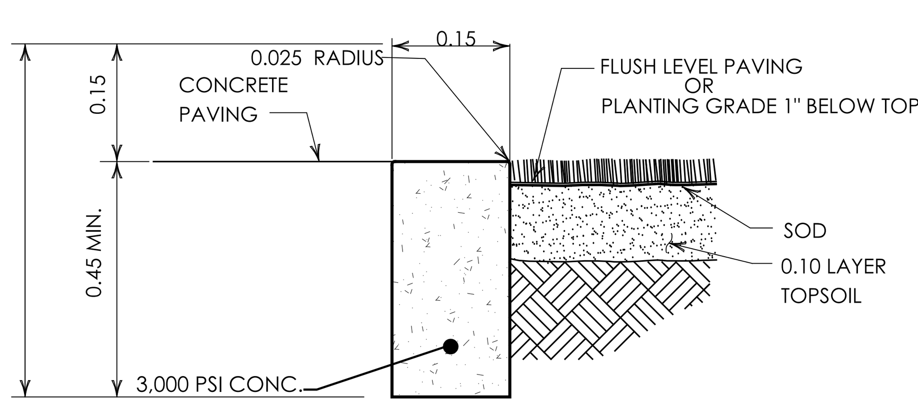
CONCRETE CURB DETAIL TYPE "A" & "A1"
NOT TO SCALE



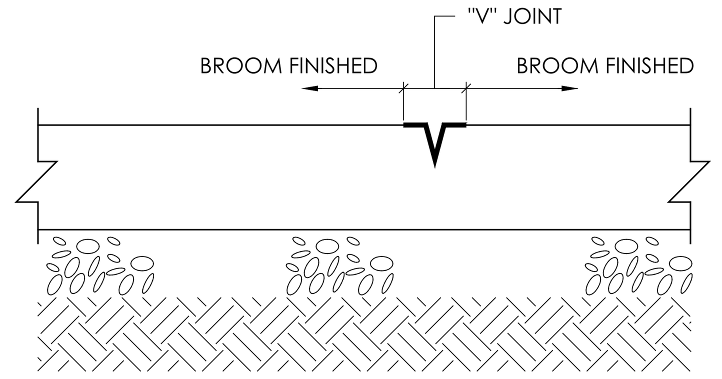
TYPICAL CURB AND GUTTER DETAIL
NOT TO SCALE



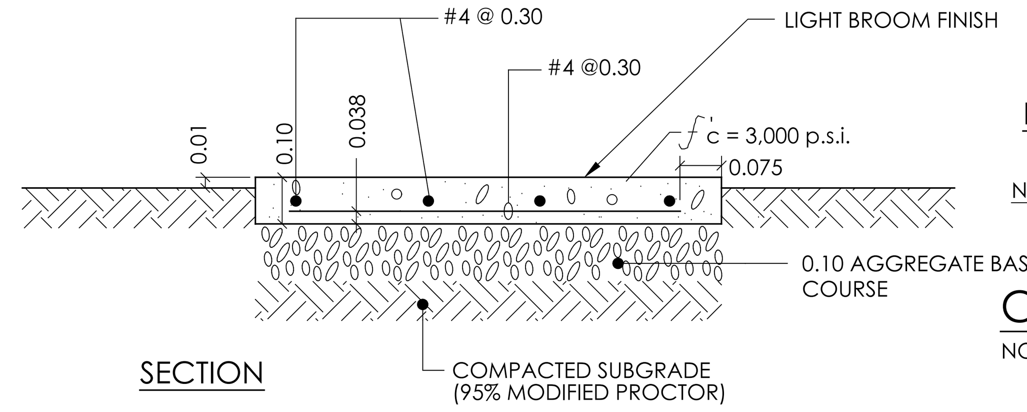
CURB TYPE "A" & "C" TRANSITION
N.T.S.



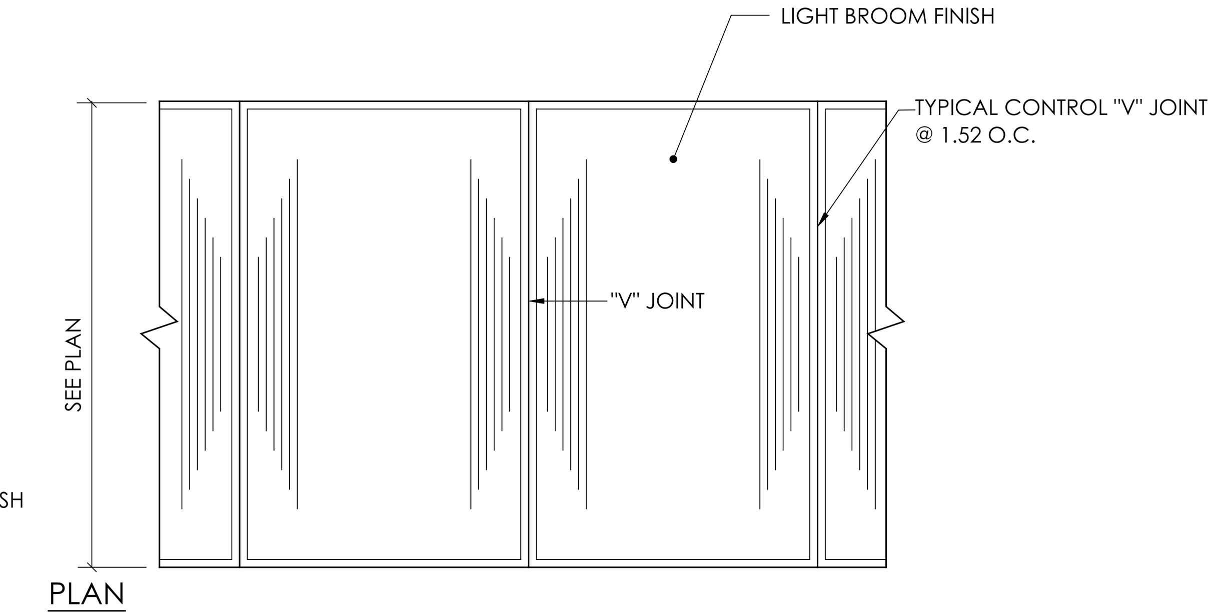
CURB TYPE "C"
N.T.S.



CONTROL "V" JOINT



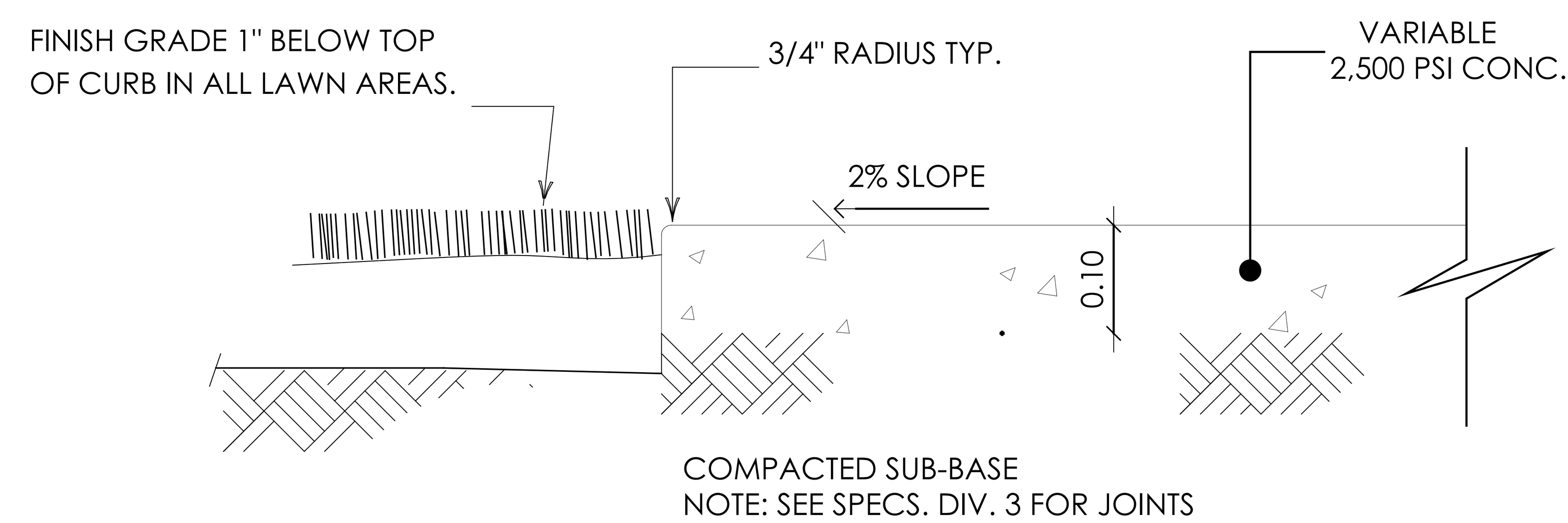
SECTION



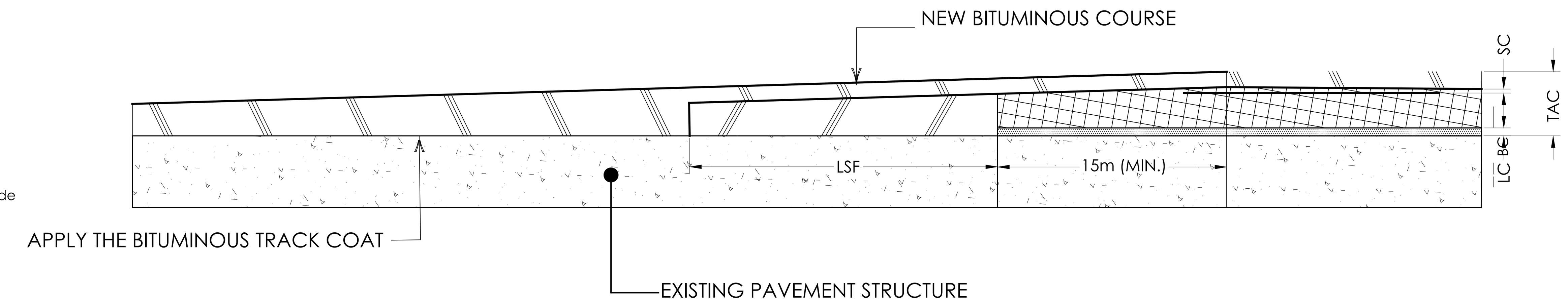
PLAN

NOTE: WHERE SIDEWALK ABUTS EXISTING OR PROPOSED FIXED OBJECTS (CURBS, CURB AND GUTTERS, CONCRETE PAVING, MANHOLES, OR BUILDINGS), INSTALL 12.7MM EXPANSION JOINT FILLER AND JOINT SEALANT.

CONCRETE SIDEWALK DETAIL
NOT TO SCALE



SIDEWALK DETAIL



SECTION TYPICAL NEW BITUMINOUS COURSE AND OVERLAY

TRANSITION TO CONCRETE PAVEMENTS AND STRUCTURES TYPE 14							
OVERALL THICKNESS	MINIMUM COURSE THICKNESS			MINIMUM TRANSITION LENGTHS			MINIMUM FIRST LAYER LENGTHS
TAC (INCHES)	TAC (INCHES)	TAC (INCHES)	TAC (INCHES)	TLL (METERS)	TLB (METERS)	TLS (METERS)	TFS (METERS)
2	N/A	N/A	2	0	0	25	N/A
3	1	N/A	2	15	0	35	N/A
4	2	N/A	2	25	0	45	N/A
5	N/A	3	2	0	35	55	20
6	N/A	4	2	0	45	65	25
7	1	4	2	15	55	75	30

LEGEND:
TAC = THICKNESS OF ALL BITUMINOUS COURSE
LC = THICKNESS OF BITUMINOUS LEVELING COURSE
BC = THICKNESS OF BITUMINOUS BASE COURSE
SC = THICKNESS OF BITUMINOUS SURFACE COURSE
TLL = TRANSITION LENGTH OF BITUMINOUS LEVELING COURSE
TLB = TRANSITION LENGTH OF BITUMINOUS BASE COURSE
TLS = TRANSITION LENGTH OF BITUMINOUS SURFACE COURSE
LFS = TRANSITION OF FIRST LAYER OF BITUMINOUS SURFACE COURSE

Notes:
1.GENERAL NOTES, PRODUCERS AND DETAILS FOR TRANSITION TO CONCRETE PAVEMENT AND STRUCTURES TYPE 14 ARE SHOWN ON SHEET MCPD-1.
2. THE PLACING SEQUENCE OF BITUMINOUS COURSES ARE SHOWN ON SHEET MCPD-21.
3. THE STRESS-RELIEVING INTERLAYER MEMBRANE SHALL BE INSTALLED OVER PAVEMENT CRACKS, AND LONGITUDINAL AND TRANSVERSE JOINTS.

LEGEND:
BITUMINOUS LEVELING COURSE
(HOT PLANT-MIX BITUMINOUS L-2 (75))
BITUMINOUS BASE COURSE
(HOT PLANT-MIX BITUMINOUS B-1 (75) OR SPB)
BITUMINOUS SURFACE COURSE (FIRST LAYER)
(HOT PLANT-MIX BITUMINOUS S-1 (75) OR SPS)
BITUMINOUS SURFACE COURSE (SECOND LAYER)
(HOT PLANT-MIX BITUMINOUS S-1 (75) OR SPS)

General Notes

IMPORTANT INFORMATION FOR THE CONTRACTOR

Contractor shall verify al dimensions, levels and condition on-site before commencing any and all work. Any discrepancy, error or omission in these plans shall be notified to the Architect, Landscape Architect or Engineer who stamps and signs these drawings so that proper corrections to the documents can be made.

Do not take any measurements from the physical drawings.

Only use documents with a "FOR CONSTRUCTION ONLY" stamp and sealed and signed by the designer.

Yo, Edmundo Colon Arizmendi PE, con licencia número 7812, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

No.	Description	Date

ECo
LANDSCAPE + ARCHITECTURE + ENGINEERING
103 Calle Isabel Andreu Aguilar, 4to
Piso, San Juan,PR 00918
787-764-0610 eco-designstudio.com

Typical Site Detail

TB Roundabouts: PR-CRP-000948

Ave. Sabana Seca Int. Calle Rufino Ramirez, Levittown

Autonomous Municipality of Toa Baja

Seal:

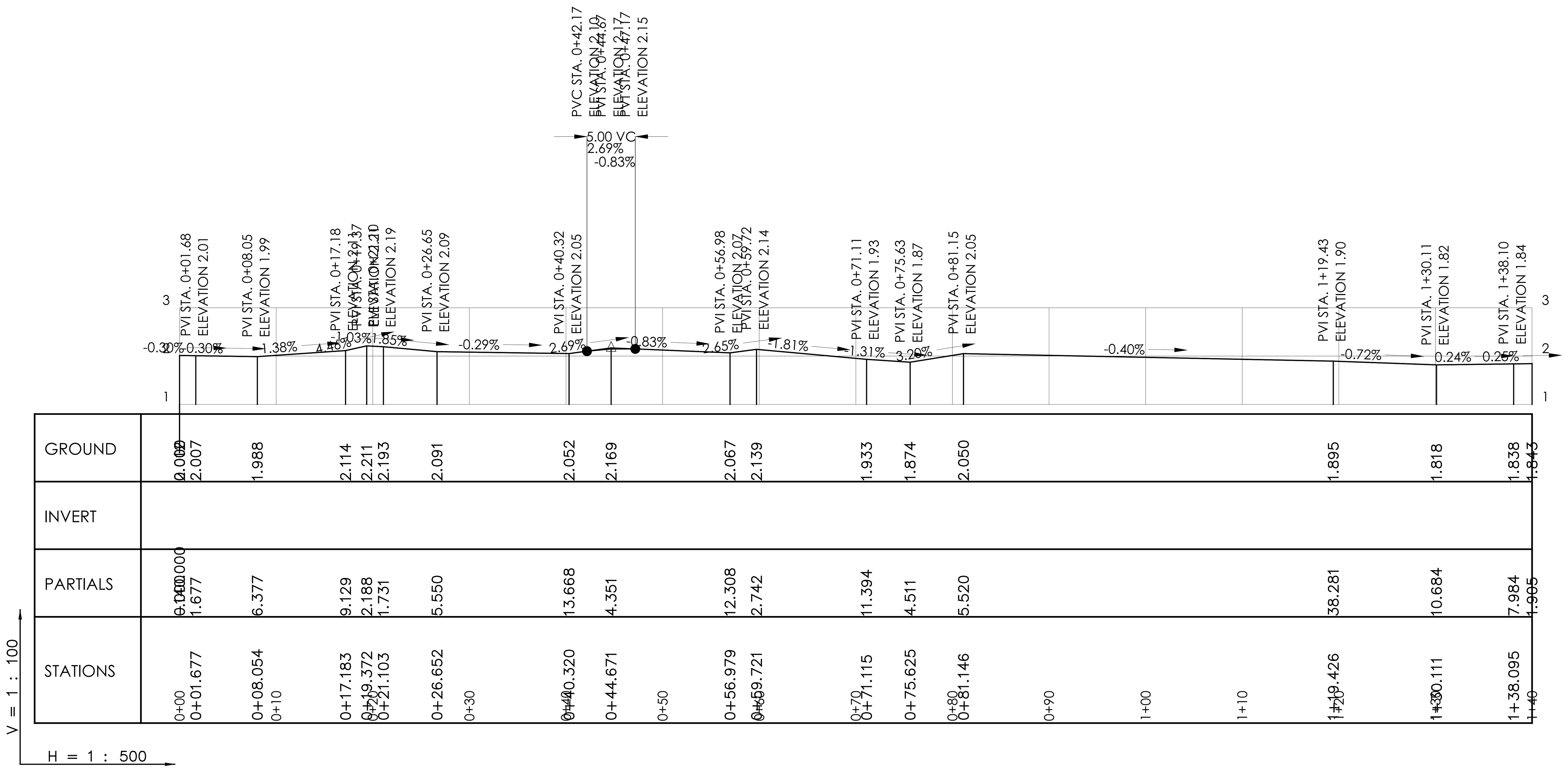
SIGNING ARCH
License #

File Name:
2023.04-Rotondas Toa Baja-Grading-PR-CRP-000948

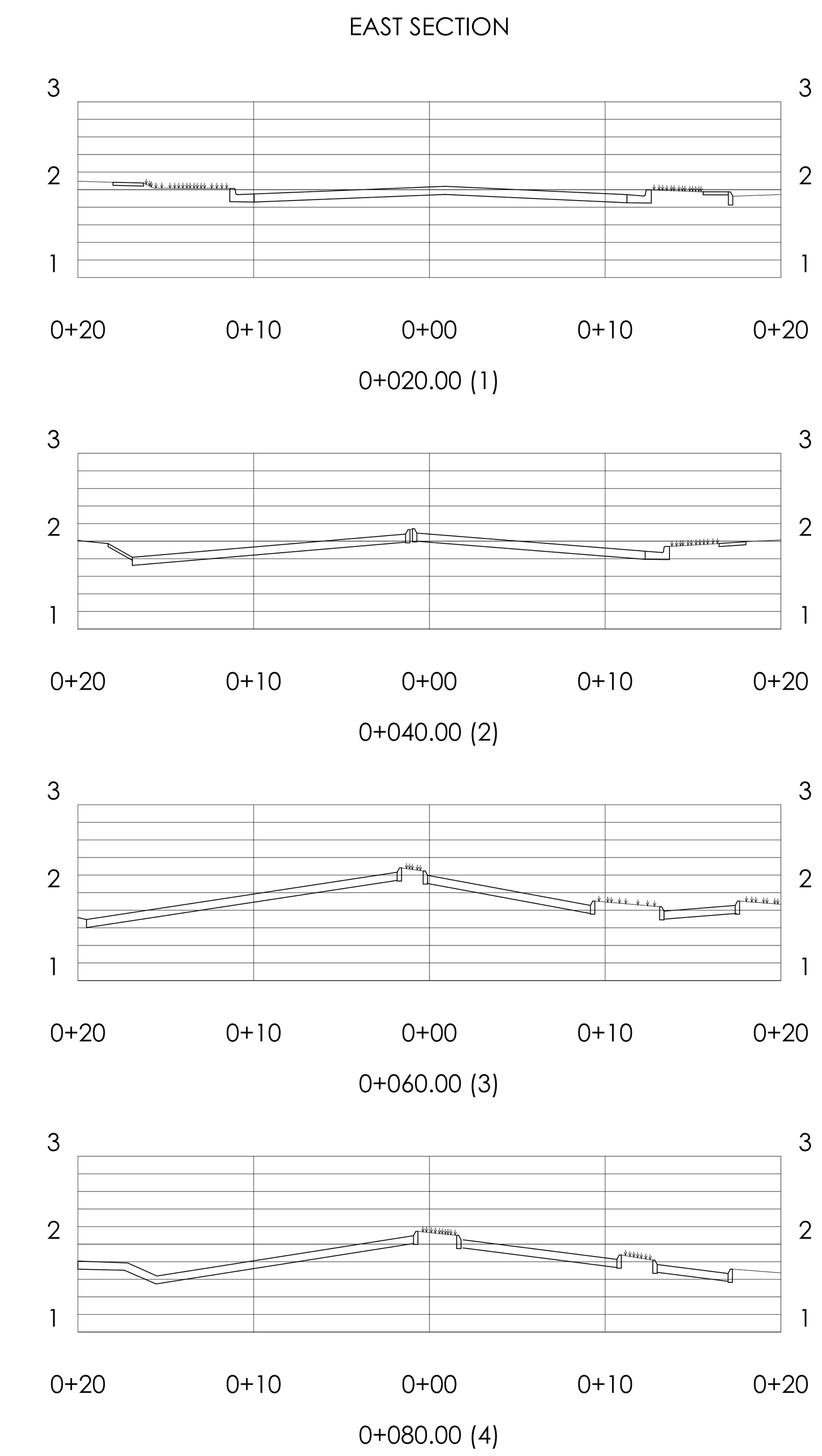
Date 09/19/2023
Scale 1:400

Sheet
CI-206

Project # PR-CRP: 000948
Drawn by DBM
Checked by ECA



C RUFINO MARTÍNEZ & C LLORENS TORRES



General Notes

IMPORTANT INFORMATION FOR THE CONTRACTOR

Contractor shall verify al dimensions, levels and condition on-site before commencing any and all work. Any discrepancy, error or omission in these plans shall be notified to the Architect, Landscape Architect or Engineer who stamps and signs these drawings so that proper corrections to the documents can be made.
Do not take any measurements from the physical drawings.
All drawings, specifications and other documents are property of ECo and can solely be used as an instrument of the Architect, Landscape Architect or Engineers' service as reference for this project.
ECo, the signing Architect, Landscape Architect or Engineer, and Eco's Consultants shall be deemed the author(s) of these documents and shall retain all common and statutory laws, including reserved and copyright(s). The full and/or partial reproduction of these drawings may only be done with the express written consent of the Architect, Landscape Architect or Engineer.
Only use documents with a "FOR CONSTRUCTION ONLY" stamp and sealed and signed by the designer.

Yo, Edmundo Colon Arizmendi PE, con licencia número 7812, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

No.	Description	Date

ECo
LANDSCAPE + ARCHITECTURE + ENGINEERING

103 Calle Isabel Andreu Aguilar, 4to Piso, San Juan,PR 00918
787-764-0610 eco-designstudio.com

Sections & Profiles

TB Roundabouts: PR-CRP-000948

Ave. Sabana Seca Int. Calle Rufino Ramirez, Levittown

Autonomous Municipality of Toa Baja

Seal:

SIGNING ARCH
License #

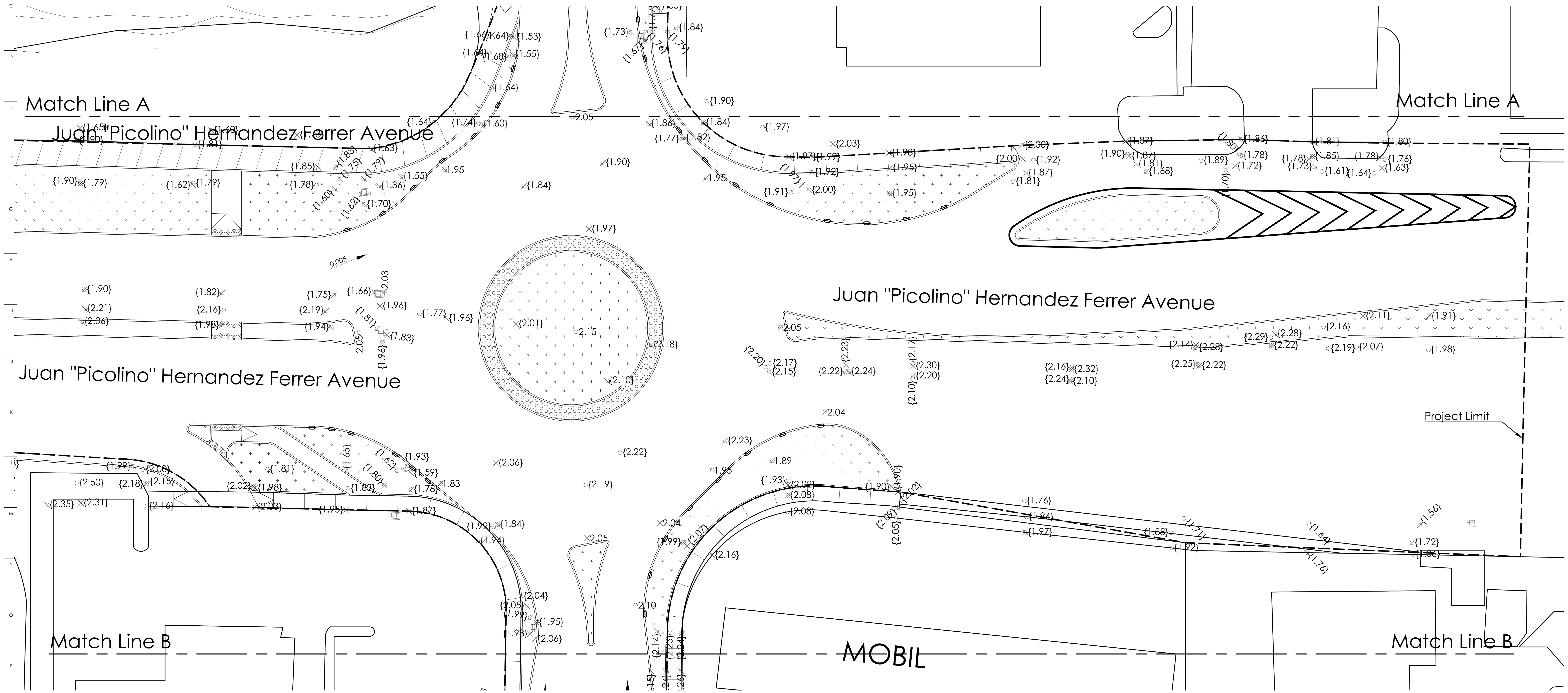
File Name: 2023.04-Rotondas Toa Baja-Grading-PR-CRP-000948

Date	Scale
09/19/2023	NTS

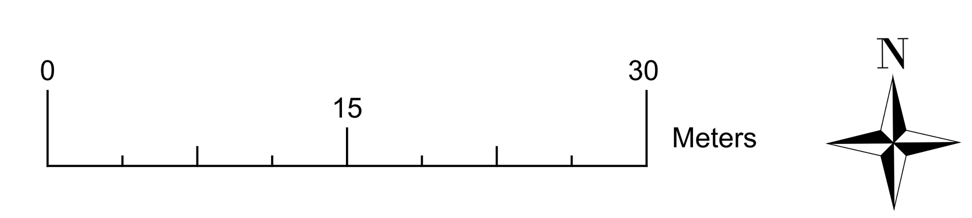
Sheet

CI-207

Project #	PR-CRP: 000948
Drawn by	JFV
Checked by	ECA



1 Grading Plan
1:200



General Notes

IMPORTANT INFORMATION FOR THE CONTRACTOR

Contractor shall verify al dimensions, levels and condition on-site before commencing any and all work. Any discrepancy, error or omission in these plans shall be notified to the Architect, Landscape Architect or Engineer who stamps and signs these drawings so that proper corrections to the documents can be made.

Do not take any measurements from the physical drawings.

All drawings, specifications and other documents are property of ECo and can solely be used as an instrument of the Architect, Landscape Architect or Engineers' service as reference for this project.

ECo, the signing Architect, Landscape Architect or Engineer, and Eco's Consultants shall be deemed the author(s) of these documents and shall retain all common and statutory laws, including reserved and copyright(s). The full and/or partial reproduction of these drawings may only be done with the express written consent of the Architect, Landscape Architect or Engineer.

Only use documents with a "FOR CONSTRUCTION ONLY" stamp and sealed and signed by the designer.

Yo, Edmundo Colon Arizmendi PE, con licencia número 7812, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

No.	Description	Date

ECo
Landscape + Architecture + Engineering

103 Calle Isabel Andreu Aguilar, 4to Piso, San Juan, PR 00918
787-764-0610 eco-designstudio.com

Grading Plan

TB Roundabouts: PR-CRP-000948

Ave. Sabana Seca Int. Calle Rufino Ramirez, Levittown

Autonomous Municipality of Toa Baja

Seal:

SIGNING ENGR
License #

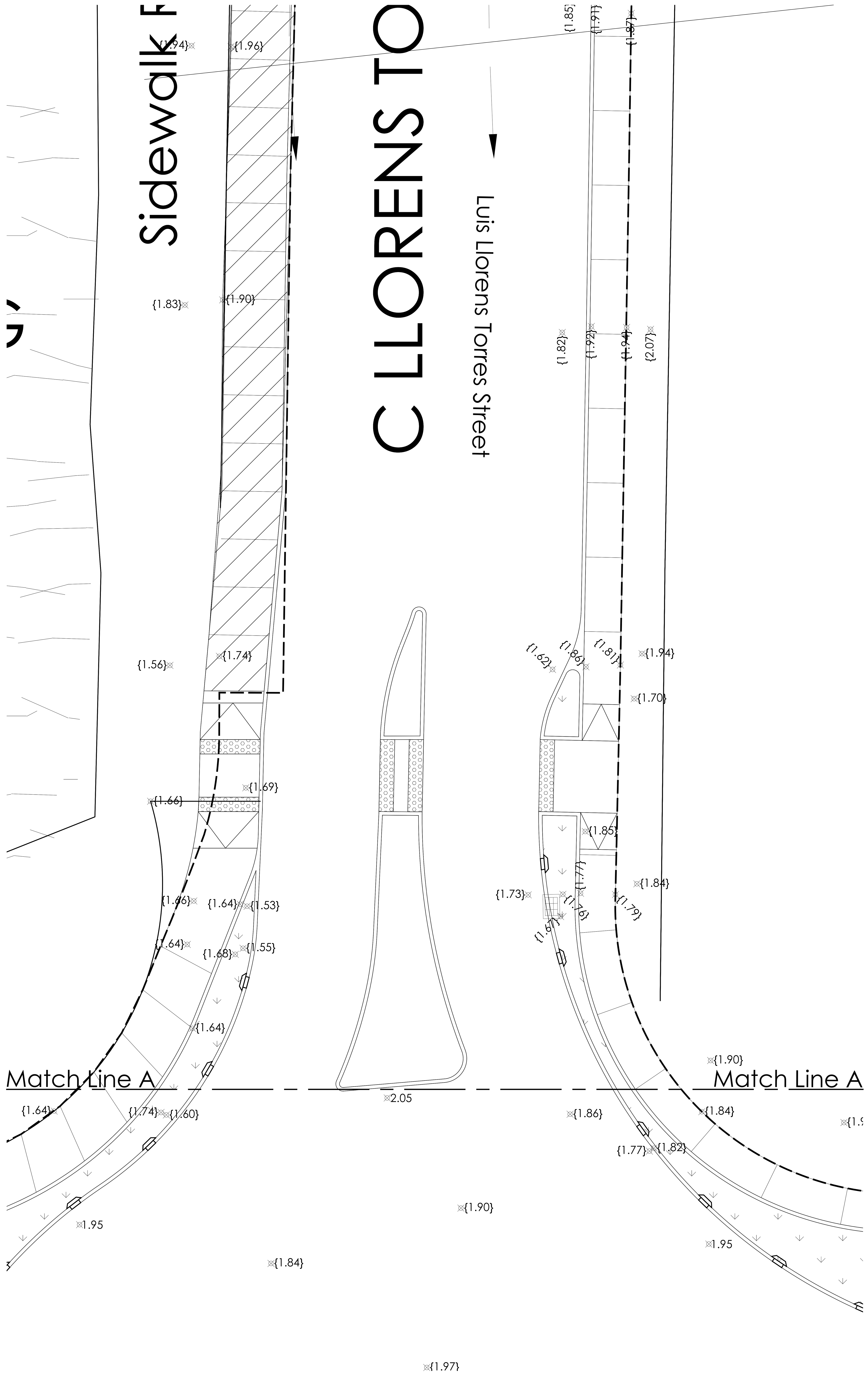
File Name: 2023.04-Rotondas Toa Baja-Grading-PR-CRP-000948

Date	Scale
09/19/2023	1:200

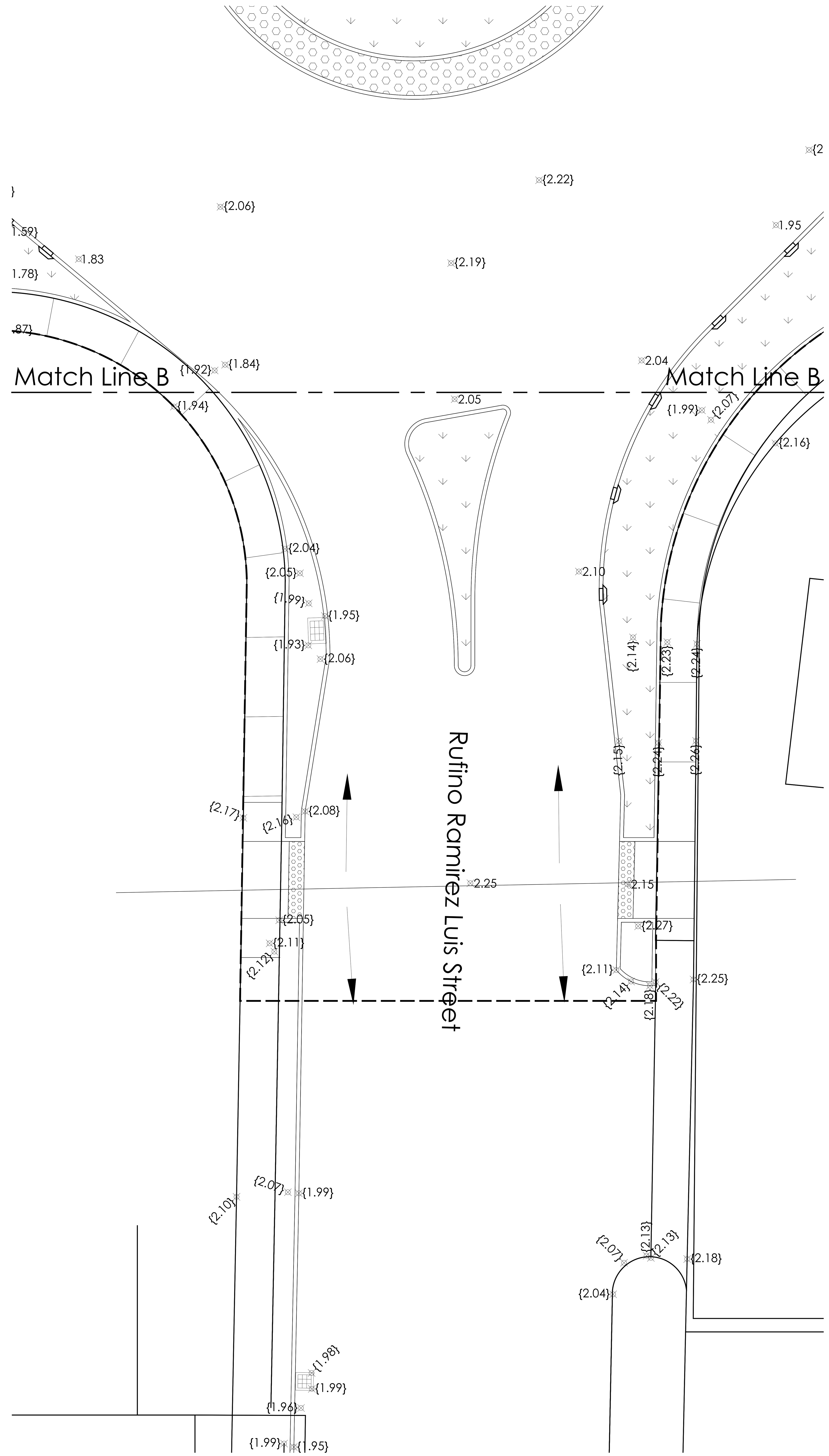
Sheet

CI-300

Project #	PR-CRP: 000948
Drawn by	DBM
Checked by	ECA



1 Grading Plan
1:100



2 Grading Plan
1:100

0 15 30
Meters

N

General Notes

IMPORTANT INFORMATION FOR THE CONTRACTOR

Contractor shall verify al dimensions, levels and condition on-site before commencing any and all work. Any discrepancy, error or omission in these plans shall be notified to the Architect, Landscape Architect or Engineer who stamps and signs these drawings so that proper corrections to the documents can be made.

Do not take any measurements from the physical drawings.

Only use documents with a "FOR CONSTRUCTION ONLY" stamp and sealed and signed by the designer.

Yo, Edmundo Colon Arizmendi PE, con licencia número 7812, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

No.	Description	Date

ECo
Landscape + Architecture + Engineering

103 Calle Isabel Andreu Aguilar, 4to Piso, San Juan,PR 00918
787-764-0610 eco-designstudio.com

TB Roundabouts: PR-CRP-000948
Ave. Sabana Seca Int. Calle Rufino Ramirez, Levittown
Autonomous Municipality of Toa Baja

Grading Plan

Seal:

SIGNING ENGR
License #

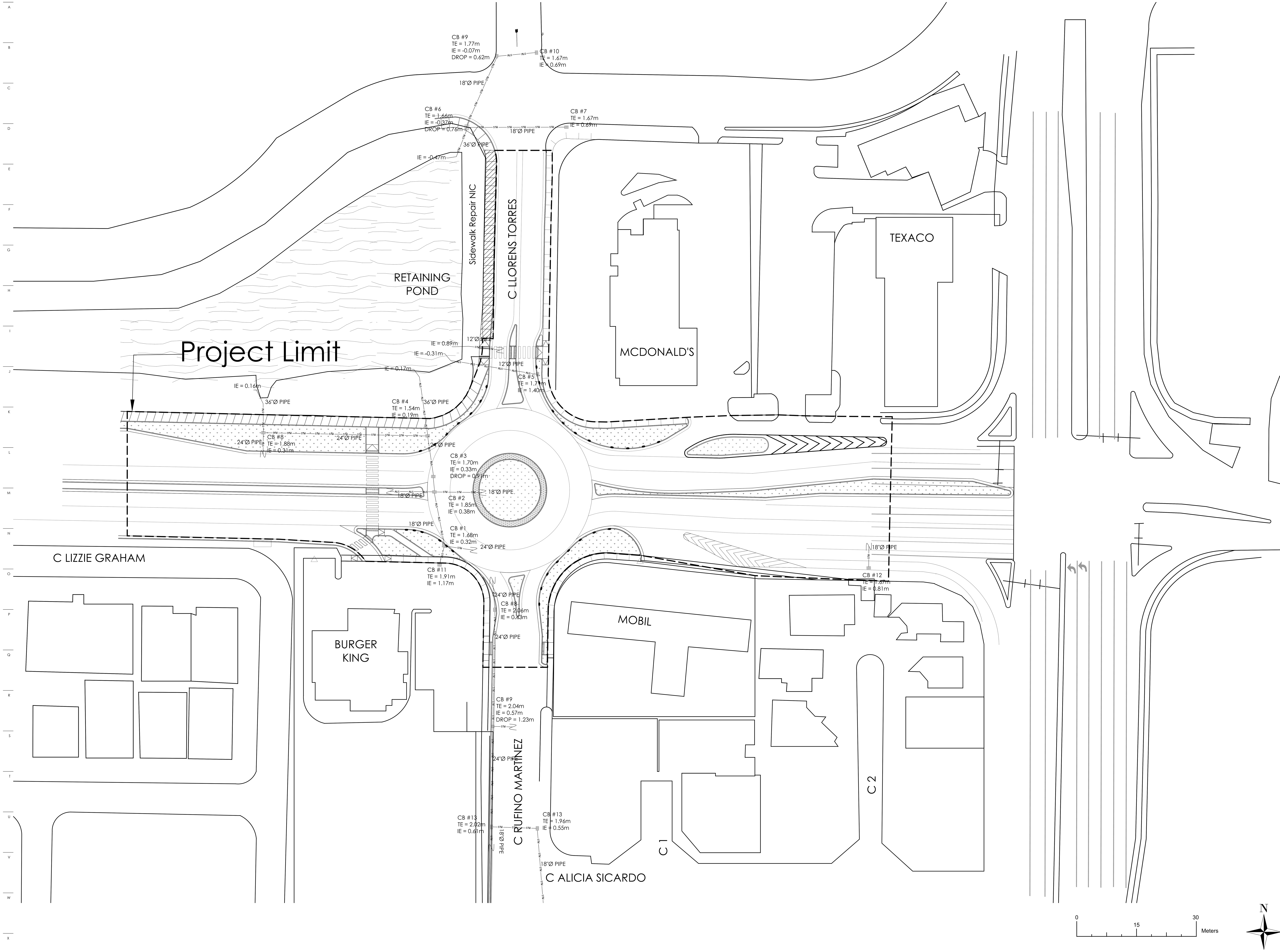
File Name: 2023.04-Rotondas Toa Baja-Grading-PR-CRP-000948

Date	Scale
09/19/2023	1:100

Sheet

CI-301

Project #	PR-CRP: 000948
Drawn by	DBM
Checked by	ECA



General Notes

IMPORTANT INFORMATION FOR THE CONTRACTOR

Contractor shall verify al dimensions, levels and condition on-site before commencing any and all work. Any discrepancy, error or omission in these plans shall be notified to the Architect, Landscape Architect or Engineer who stamps and signs these drawings so that proper corrections to the documents can be made.

Do not take any measurements from the physical drawings.

All drawings, specifications and other documents are property of ECo and can solely be used as an instrument of the Architect, Landscape Architect or Engineers' service as reference for this project.

Only use documents with a "FOR CONSTRUCTION ONLY" stamp and sealed and signed by the designer.

Yo, Edmundo Colon Arizmendi PE, con licencia número 7812, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

No.	Description	Date

ECo
Landscape + Architecture + Engineering

103 Calle Isabel Andreu Aguilar, 4to Piso, San Juan,PR 00918
787-764-0610 eco-designstudio.com

Stormwater Plan

TB Roundabouts: PR-CRP-000948

Ave. Sabana Seca Int. Calle Rufino Ramirez, Levittown

Autonomous Municipality of Toa Baja

Seal:

SIGNING ARCH
License #

File Name:
2023.04-Rotondas Toa Baja-Grading-PR-CRP-000948

Date	Scale
09/19/2023	1:400

Sheet

CI-400

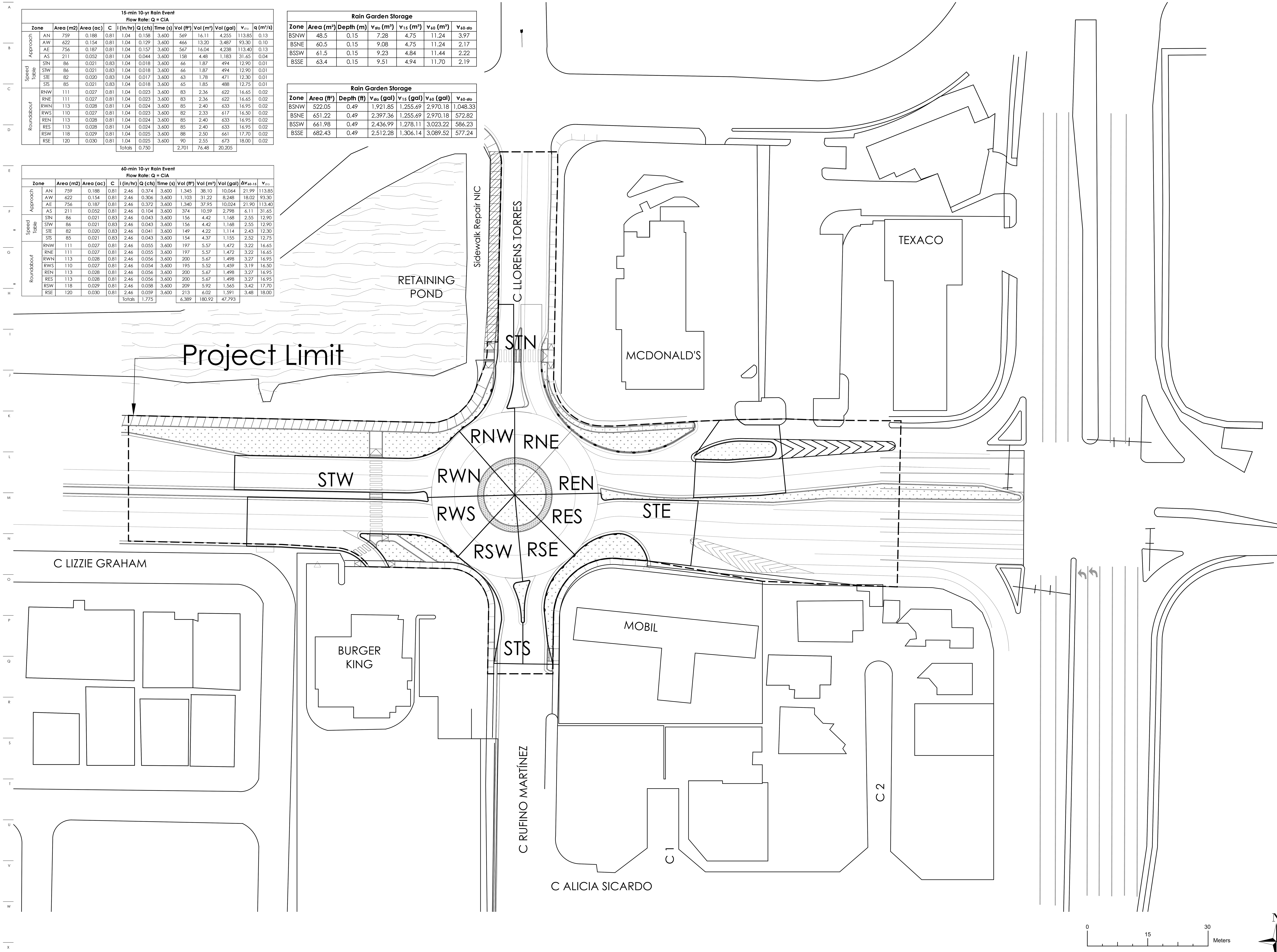
Project #	PR-CRP: 000948
Drawn by	JFV
Checked by	ECA

15-min 10-yr Rain Event Flow Rate: Q = CiA													
Zone		Area (m2)	Area (ac)	C	i (in/hr)	Q (cfs)	Time (s)	Vol (ft³)	Vol (m³)	Vol (gal)	$\forall_{sto}$	q (m³/s)
Approach	AN	759	0.188	0.81	1.04	0.158	3,600	569	16.11	4,255	113.85	0.13
	AW	622	0.154	0.81	1.04	0.129	3,600	466	13.20	3,487	93.30	0.10
	AE	756	0.187	0.81	1.04	0.157	3,600	567	16.04	4,238	113.40	0.13
	AS	211	0.052	0.81	1.04	0.044	3,600	158	4.48	1,183	31.65	0.04
Speed Table	STN	86	0.021	0.83	1.04	0.018	3,600	66	1.87	494	12.90	0.01
	STW	86	0.021	0.83	1.04	0.018	3,600	66	1.87	494	12.90	0.01
	STE	82	0.020	0.83	1.04	0.017	3,600	63	1.78	471	12.30	0.01
	STS	85	0.021	0.83	1.04	0.018	3,600	65	1.85	488	12.75	0.01
Roundabout	RNW	111	0.027	0.81	1.04	0.023	3,600	83	2.36	622	16.65	0.02
	RNE	111	0.027	0.81	1.04	0.023	3,600	83	2.36	622	16.65	0.02
	RWN	113	0.028	0.81	1.04	0.024	3,600	85	2.40	633	16.95	0.02
	RWS	110	0.027	0.81	1.04	0.023	3,600	82	2.33	617	16.50	0.02
	REN	113	0.028	0.81	1.04	0.024	3,600	85	2.40	633	16.95	0.02
	RES	113	0.028	0.81	1.04	0.024	3,600	85	2.40	633	16.95	0.02
	RSW	118	0.029	0.81	1.04	0.025	3,600	88	2.50	661	17.70	0.02
	RSE	120	0.030	0.81	1.04	0.025	3,600	90	2.55	673	18.00	0.02
					Totals	0.750		2,701	76.48	20,205		

60-min 10-yr Rain Event Flow Rate: Q = CiA													
Zone		Area (m2)	Area (ac)	C	i (in/hr)	Q (cfs)	Time (s)	Vol (ft³)	Vol (m³)	Vol (gal)	$\Delta\forall_{60-15}$	$\forall_{sto}$
Approach	AN	759	0.188	0.81	2.46	0.374	3,600	1,345	38.10	10,064	21.99	113.85
	AW	622	0.154	0.81	2.46	0.306	3,600	1,103	31.22	8,248	18.02	93.30
	AE	756	0.187	0.81	2.46	0.372	3,600	1,340	37.95	10,024	21.90	113.40
	AS	211	0.052	0.81	2.46	0.104	3,600	374	10.59	2,798	6.11	31.65
Speed Table	STN	86	0.021	0.83	2.46	0.043	3,600	156	4.42	1,168	2.55	12.90
	STW	86	0.021	0.83	2.46	0.043	3,600	156	4.42	1,168	2.55	12.90
	STE	82	0.020	0.83	2.46	0.041	3,600	149	4.22	1,114	2.43	12.30
	STS	85	0.021	0.83	2.46	0.043	3,600	154	4.37	1,155	2.52	12.75
Roundabout	RNW	111	0.027	0.81	2.46	0.055	3,600	197	5.57	1,472	3.22	16.65
	RNE	111	0.027	0.81	2.46	0.055	3,600	197	5.57	1,472	3.22	16.65
	RWN	113	0.028	0.81	2.46	0.056	3,600	200	5.67	1,498	3.27	16.95
	RWS	110	0.027	0.81	2.46	0.054	3,600	195	5.52	1,459	3.19	16.50
	REN	113	0.028	0.81	2.46	0.056	3,600	200	5.67	1,498	3.27	16.95
	RES	113	0.028	0.81	2.46	0.056	3,600	200	5.67	1,498	3.27	16.95
	RSW	118	0.029	0.81	2.46	0.058	3,600	209	5.92	1,565	3.42	17.70
	RSE	120	0.030	0.81	2.46	0.059	3,600	213	6.02	1,591	3.48	18.00
					Totals	1.775		6,389	180.92	47,793		

Rain Garden Storage						
Zone	Area (m²)	Depth (m)	$\forall_{sto}$ (m³)	$\forall_{15}$ (m³)	$\forall_{60}$ (m³)	$\forall_{60-sto}$
BSNW	48.5	0.15	7.28	4.75	11.24	3.97
BSNE	60.5	0.15	9.08	4.75	11.24	2.17
BSSW	61.5	0.15	9.23	4.84	11.44	2.22
BSSE	63.4	0.15	9.51	4.94	11.70	2.19

Rain Garden Storage						
Zone	Area (ft²)	Depth (ft)	$\forall_{sto}$ (gal)	$\forall_{15}$ (gal)	$\forall_{60}$ (gal)	$\forall_{60-sto}$
BSNW	522.05	0.49	1,921.85	1,255.69	2,970.18	1,048.33
BSNE	651.22	0.49	2,397.36	1,255.69	2,970.18	572.82
BSSW	661.98	0.49	2,436.99	1,278.11	3,023.22	586.23
BSSE	682.43	0.49	2,512.28	1,306.14	3,089.52	577.24



General Notes

IMPORTANT INFORMATION FOR THE CONTRACTOR

Contractor shall verify al dimensions, levels and condition on-site before commencing any and all work. Any discrepancy, error or omission in these plans shall be notified to the Architect, Landscape Architect or Engineer who stamps and signs these drawings so that proper corrections to the documents can be made.

Do not take any measurements from the physical drawings.

Only use documents with a "FOR CONSTRUCTION ONLY" stamp and sealed and signed by the designer.

Yo, Edmundo Colon Arizmendi PE, con licencia número 7812, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

No.	Description	Date

ECo
Landscape + Architecture + Engineering
103 Calle Isabel Andreu Aguilar, 4to Piso, San Juan,PR 00918
787-764-0610 eco-designstudio.com

Basin Areas

TB Roundabouts: PR-CRP-000948

Ave. Sabana Seca Int. Calle Rufino Ramirez, Levittown

Autonomous Municipality of Toa Baja

Seal:

SIGNING ARCH
License #

File Name: 2023.04-Rotondas Toa Baja-Grading-PR-CRP-000948

Date: 09/19/2023 | Scale: 1:400

Sheet

CI-401

Project #: PR-CRP: 000948

Drawn by: JFV

Checked by: ECA

General Notes

IMPORTANT INFORMATION FOR THE CONTRACTOR

Contractor shall verify al dimensions, levels and condition on-site before commencing any and all work. Any discrepancy, error or omission in these plans shall be notified to the Architect, Landscape Architect or Engineer who stamps and signs these drawings so that proper corrections to the documents can be made.

Do not take any measurements from the physical drawings.

All drawings, specifications and other documents are property of ECo and can solely be used as an instrument of the Architect, Landscape Architect or Engineers' service as reference for this project.

Only use documents with a "FOR CONSTRUCTION ONLY" stamp and sealed and signed by the designer.

Yo, Edmundo Colon Arizmendi PE, con licencia número 7812, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

No.	Description	Date

ECo
LANDSCAPE + ARCHITECTURE + ENGINEERING

103 Calle Isabel Andreu Aguilar, 4to Piso, San Juan,PR 00918
787-764-0610 eco-designstudio.com

Stormwater Profiles

TB Roundabouts: PR-CRP-000948

Ave. Sabana Seca Int. Calle Rufino Ramirez, Levittown

Autonomous Municipality of Toa Baja

Seal:

SIGNING ARCH
License #

File Name:
2023.04-Rotondas Toa Baja-Grading-PR-CRP-000948

Date	Scale
09/19/2023	1:400

Sheet

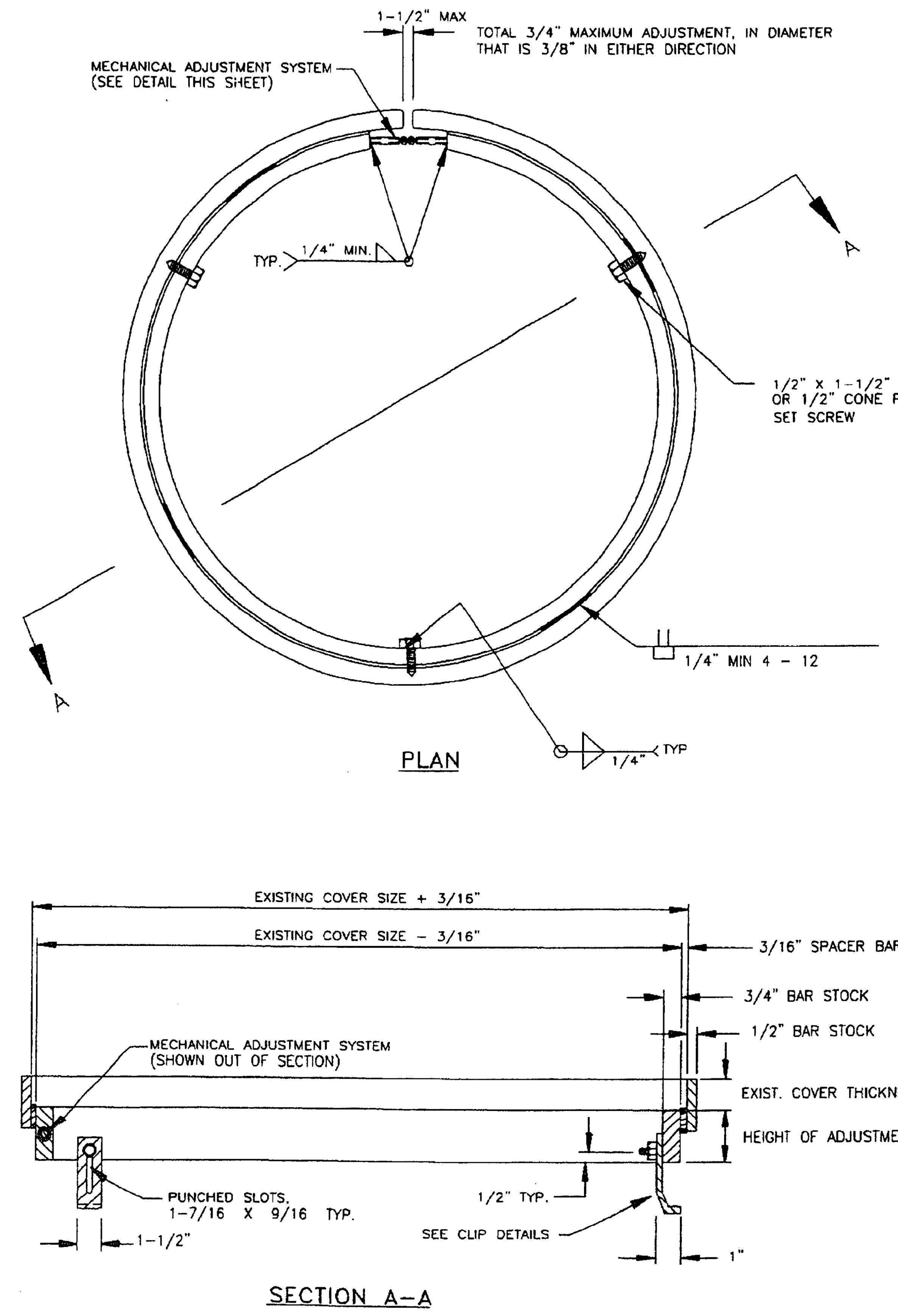
CI-401

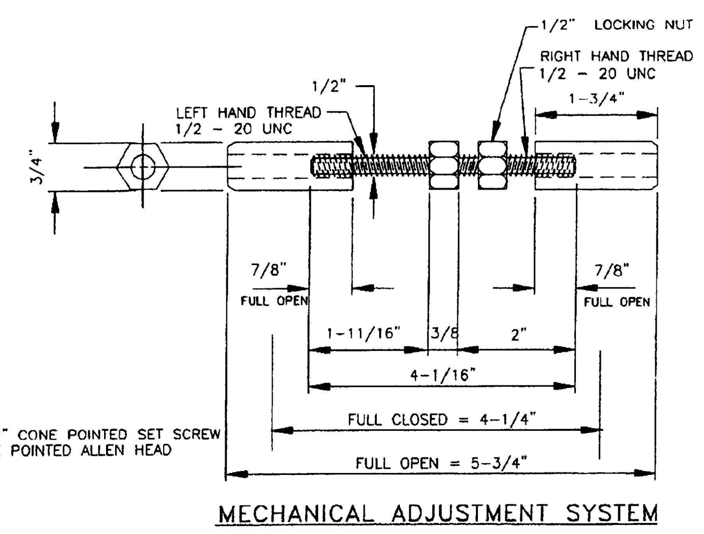
Project #	PR-CRP: 000948
Drawn by	JFV
Checked by	ECA

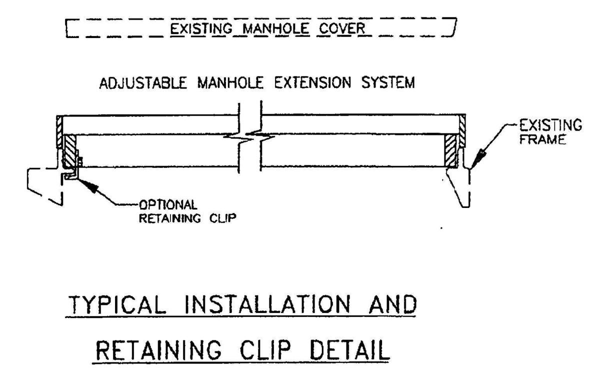
0 15 30 Meters

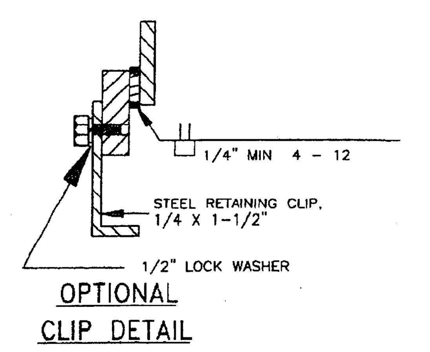
N

TYPE 2 MANHOLE RISER SYSTEM



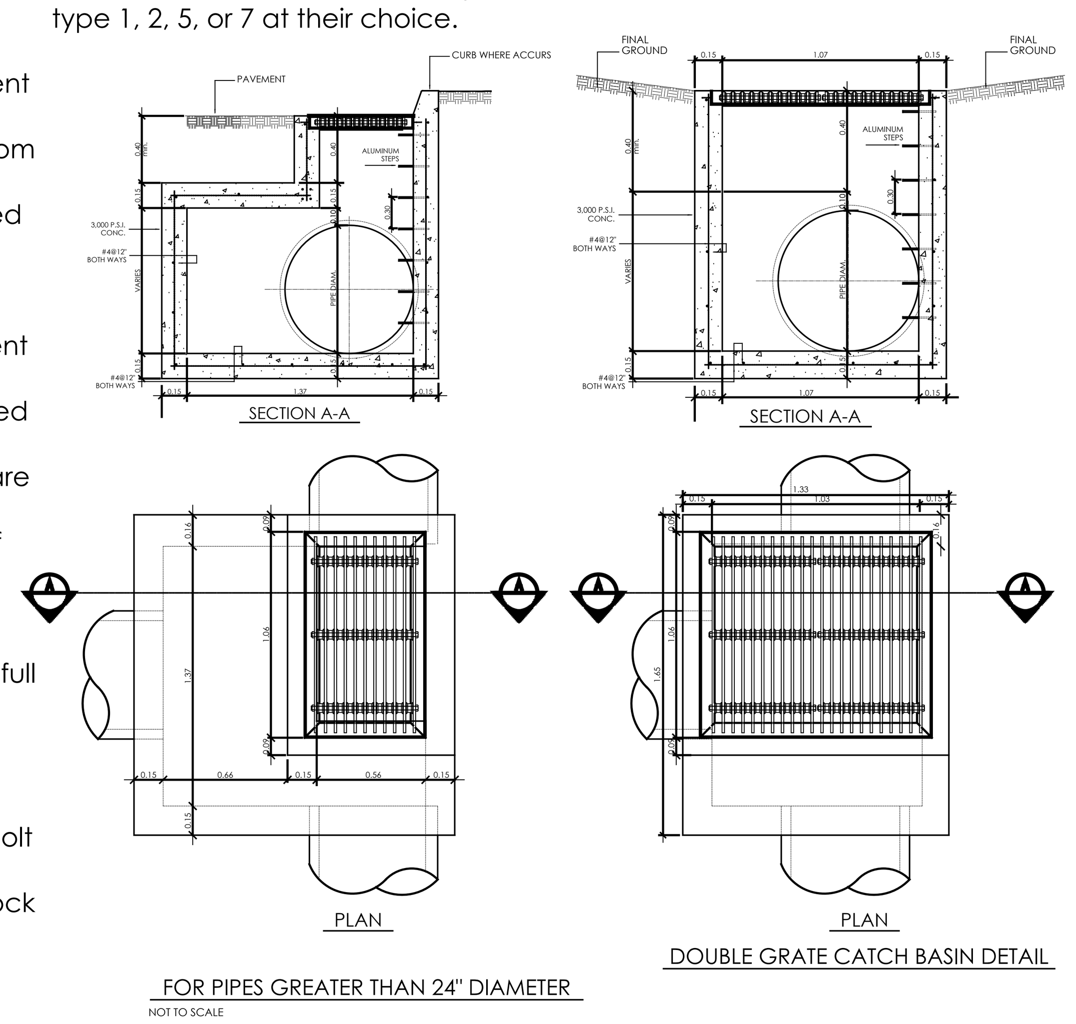




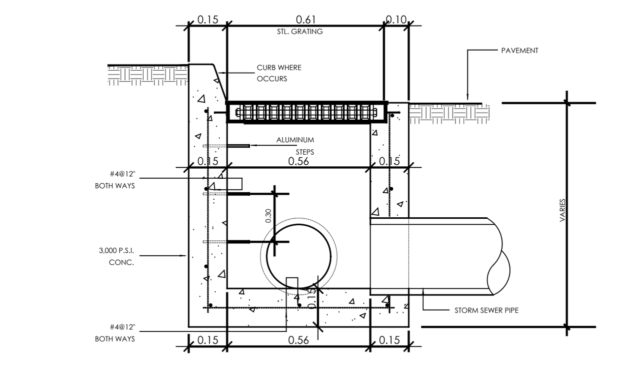


1 Type 2 Manhole Riser Detail
NOT TO SCALE

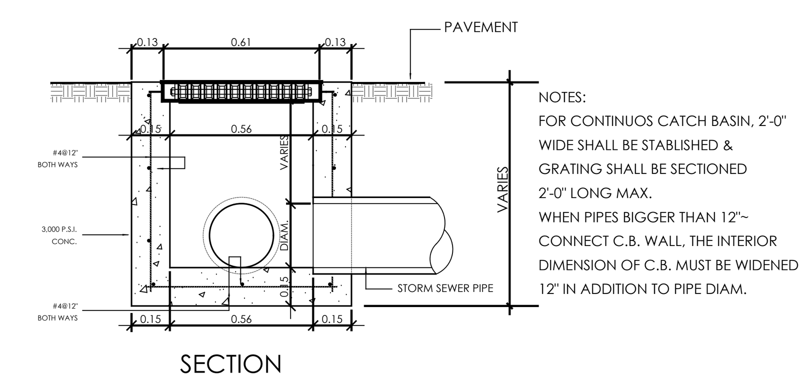
1. All components are manufactured from US made Carbon Steel meeting or exceeding the minimum requirements of ASTM A-36.
2. Top and bottom rings are welded as shown.
3. Bolt studs and nuts are made from type 304 stainless steel.
4. This system is used when the rise is thicker than the lid.
5. Minimum height of adjustment is manhole lid thickness + ¼".
6. Each adjustment ring is custom fabricated from measurements provided with each order. Required measurements include:
   a. Existing manhole cover diameter and thickness
   b. Required height of adjustment from top of existing lid to finished elevation. Maximum recommended height of adjustment for repaving projects is 6'. Height adjustments are available in ¼" increments.
   c. Required length and type of retainer clip.
   d. Width and height of existing casting bearing surface
7. During installation check for full bearing of lower frame section on existing casting.
8. Risers shall be coated with black asphalt bituminous paint.
9. Available options in lieu of bolt studs for attaching retaining clip include drilled and tapped bar stock with 1/2" diameter – 1" long stainless-steel bolt.
10. It shall be a subsidiary obligation of the contractor to take all necessary measurement of the existing manhole cover and frame that will allow the appropriate fabrication of the adjustment ring. The excavation and replacement of the existing pavement structure shall be a subsidiary obligation of the contract.
11. Unless otherwise indicated in the contract the contractor may use type 1, 2, 5, or 7 at their choice.



8 Double & Single Grate Details
NOT TO SCALE

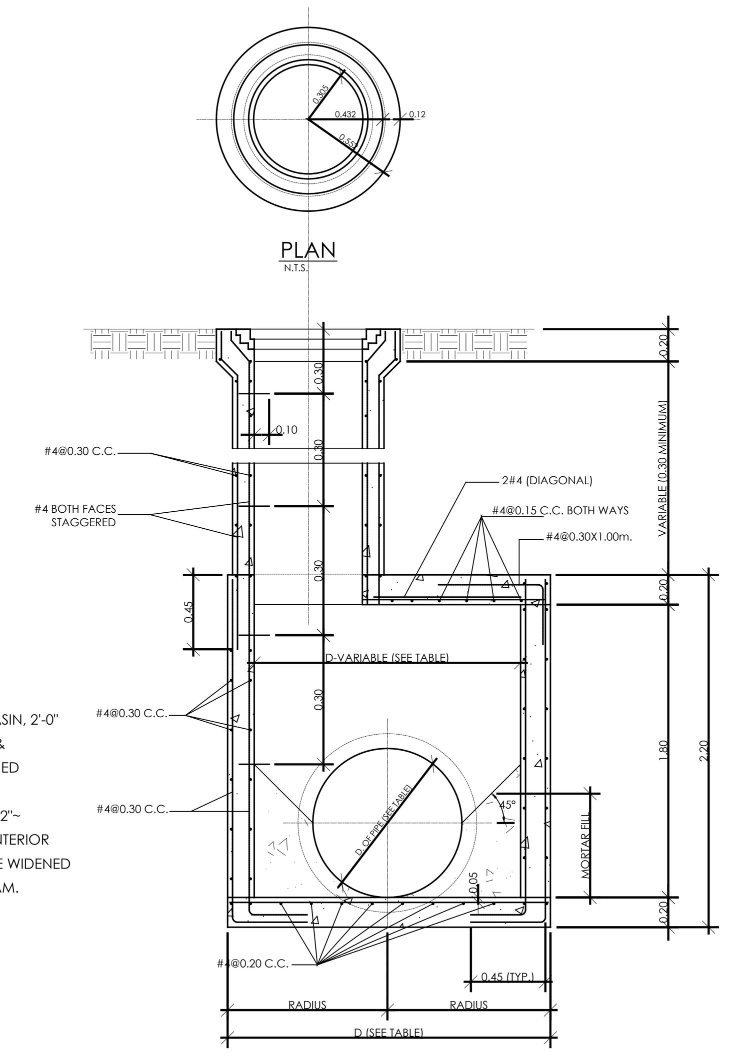


SECTION
12 Inlet Type II Detail
NOT TO SCALE

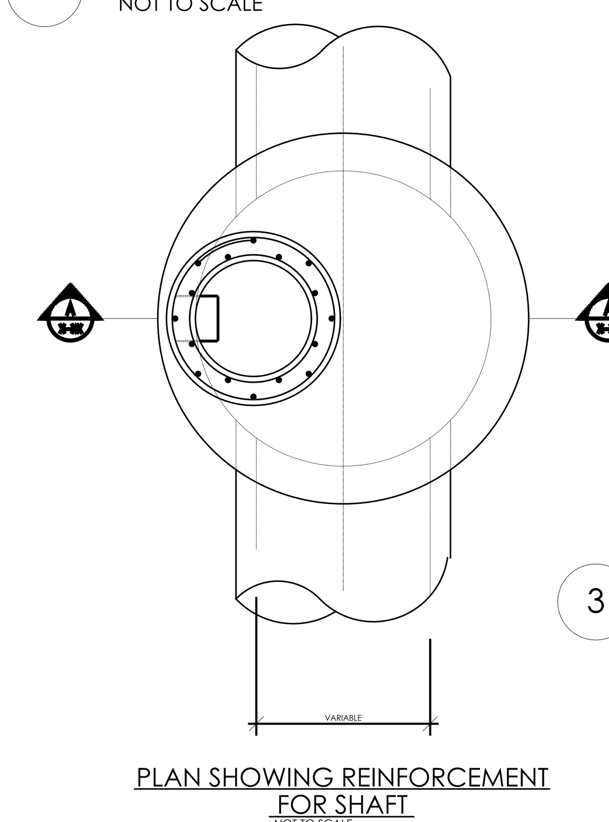


NOTES:
FOR CONTINUOS CATCH BASIN, 2'-0" WIDE SHALL BE STABLISHED & GRATING SHALL BE SECTIONED 2'-0" LONG MAX.
WHEN PIPES BIGGER THAN 12"- CONNECT C.B. WALL. THE INTERIOR DIMENSION OF C.B. MUST BE WIDENED 12" IN ADDITION TO PIPE DIAM.

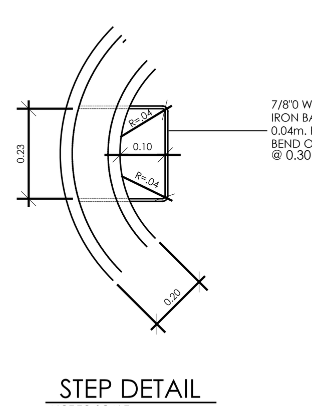
SECTION
13 Inlet Type I Detail
NOT TO SCALE



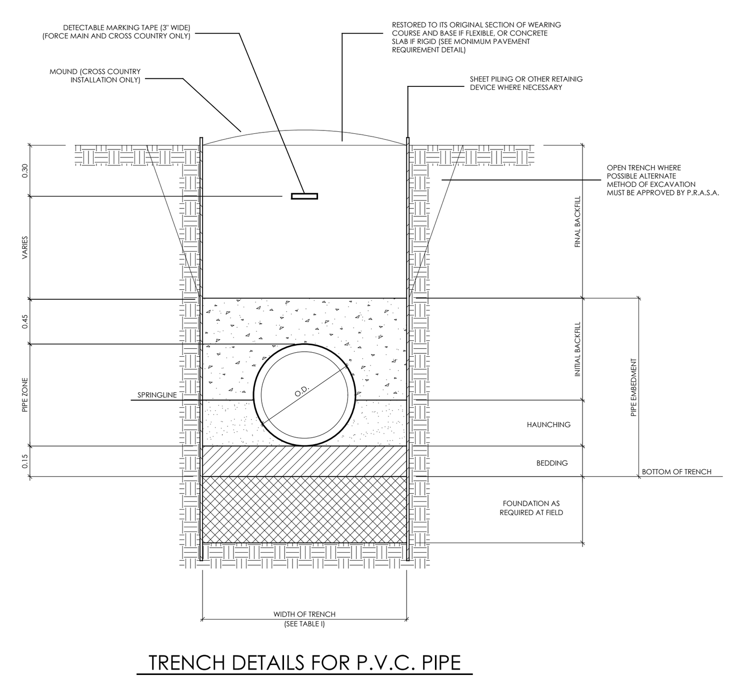
14 Section View of Manhole
NOT TO SCALE



2 Shaft Reinforcement Plan
NOT TO SCALE



3 Step Detail
NOT TO SCALE



6 Trench Details for P.V.C. Pipe
NOT TO SCALE

TABLE I WIDTH OF TRENCH	
DIAMETER (INCHES)	* WIDTH OF TRENCH AT TOP OF PIPE (INCHES)
4"-15"	O.D. + 24"
16"-27"	O.D. + 36"

NOTE :
* WHENEVER MOVABLE SHEET PILING OR OTHER TRENCH PROTECTION IS USED BELOW THE TOP OF THE PIPE, THE CLEAR DISTENCE BETWEEN THE OUTSIDE FACE OF THE PIPE AND THE MOVABLE TRENCH SUPPORT SHALL BE NOT LESS THAN 2.5 X OUTSIDE PIPE DIAMETER.

NOTES :

FOUNDATION AND BEDDING
1-MATERIALS AS CLASSIFIED BY U.S.C.S. AS PER A.S.T.M. D-2487 SOILS CLASSES I-II-III WHERE CRUSHER GRAVEL OR CRUSHER STONE IS USED IT SHALL AS PER A.S.T.M. C-33 GRADATION NO. 67
2-FILL MATERIAL SHALL BE PLACED IN 0.15 m. LAYERS.
3-COMPACT TO 90% OF MAX. COMPACTION AS PER A.S.T.M. D-698 FOR COHESIVE SOILS OR SENSIFY TO 70% OF MAX. RELATIVE DENSITY AS PER A.S.T.M. D-2049 FOR GRANULAR SOILS TEST SHALL BE PERFORMED AT 50 m. INTERVARLS.

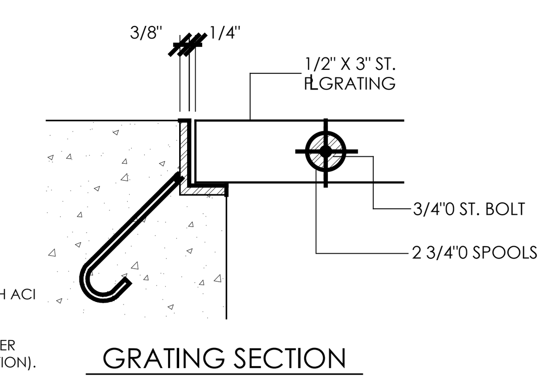
HAUNCHING
1-SAME MATERIALS AS FOR FOUNDATION AND BEDDING.
2-FILL MATERIAL SHALL BE PLACED IN 15 m. LAYERS.
3-COMPACT : ____________
(TO BE DETERMINED BY DESIGNER)

INITIAL BACKFILL CROSS COUNTRY
1-PREVIOUS EXCAVATED MATERIAL FREE FROM BOULDERS AND STONES LARGER THAN 2".
2-FILL MATERIAL SHALL BE PLACED IN 0.30 m. LAYERS.
3-COMPACTION EFFORT NOT REQUIRED OTHR THAN OBTAINED BY SPREADING AND LEVELLING BACKFILL MATERIAL ROLLING EQUIPMENT NOT ALLOWED FOR WORKING BACKFILL MATERIAL IN THIS SECTOR OF TRENCH.

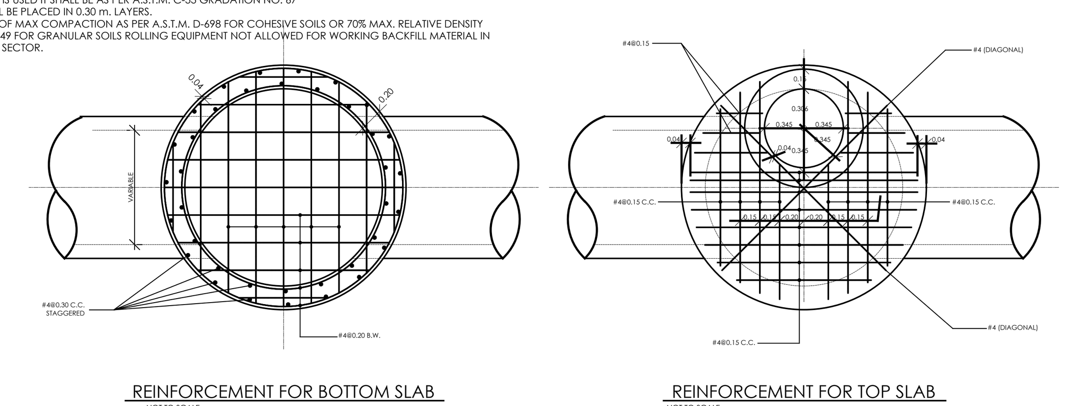
FINAL BACKFILL-CROSS COUNTRY :
1-PREVIOUS EXCAVATED MATERIAL.
2-FILL MATERIAL SHALL BE LOOSELY PLACED IN 0.90 m. LAYERS.
3-COMPACTION AS OBTAINED BY ROLLING WITH THE PLACEMENT EQUIPMENT.
4-MOUND THE SURFACE AND FILL AND MAINTAIN ALL SUNKEN TRENCHES UNTIL FINAL ACCEPTANCE OF THE PROJECT.

INITIAL AND FINAL BACKFILL-UNDER ROADS, STREETS, WALKS, APPRONS AND OTHERS IMPROVED SURFACES :
1-ANY MATERIAL AS CLASSIFIED BY U.S.C.S. AS PER A.S.T.M. D-2487 SOIL CLASSES I-II-III-IV, WHERE CRUSHED GRAVEL OR CRUSHED STONE IS USED IT SHALL BE AS PER A.S.T.M. C-33 GRADATION NO. 67
2-FILL MATERIAL SHALL BE PLACED IN 0.30 m. LAYERS.
3-COMPACT TO 90% OF MAX COMPACTION AS PER A.S.T.M. D-698 FOR COHESIVE SOILS OR 70% MAX. RELATIVE DENSITY AS PER A.S.T.M. D-2049 FOR GRANULAR SOILS ROLLING EQUIPMENT NOT ALLOWED FOR WORKING BACKFILL MATERIAL IN THE INITIAL BACKFILL SECTOR.

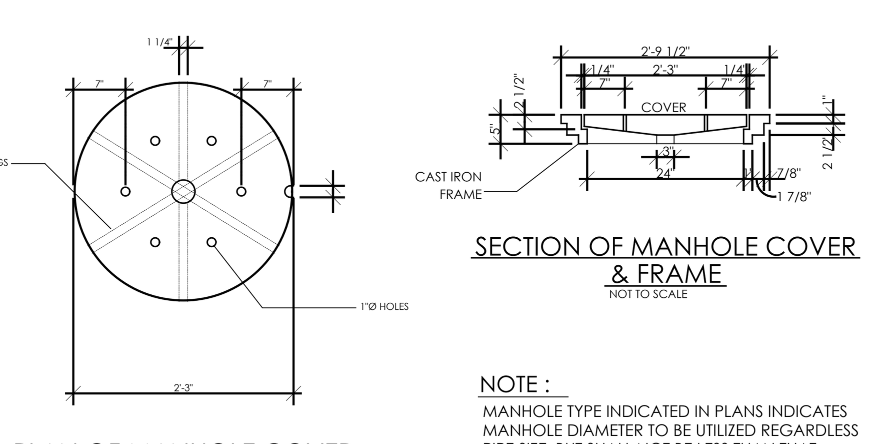
NOTES:
1. CONCRETE STRENGTH 3,000 P.S.I. AT 28 DAY.
2. REINFORCING STEEL ASTM A615, GRADE 60.
3. CONCRETE COVER FOR REINFORCEMENT AS FOLLOWS: a)BOTTOM SLAB.....3" (SIDE & BOTTOM)
4. WELDING AS PER AWS.
5. ALL DETAILING AND CONSTRUCTION TO COMPANY WITH ACI BUILDING CODE (LATEST).
6. ALTERNATE SPOOLS MADE OF ALUMINUM 212 AND UNDER SPECIFICATION ASTM B-179-73 CAN BE USED (LATEST EDITION).



9 Grate Anchor Detail
NOT TO SCALE



10 Slab Reinforcement for Manholes
NOT TO SCALE

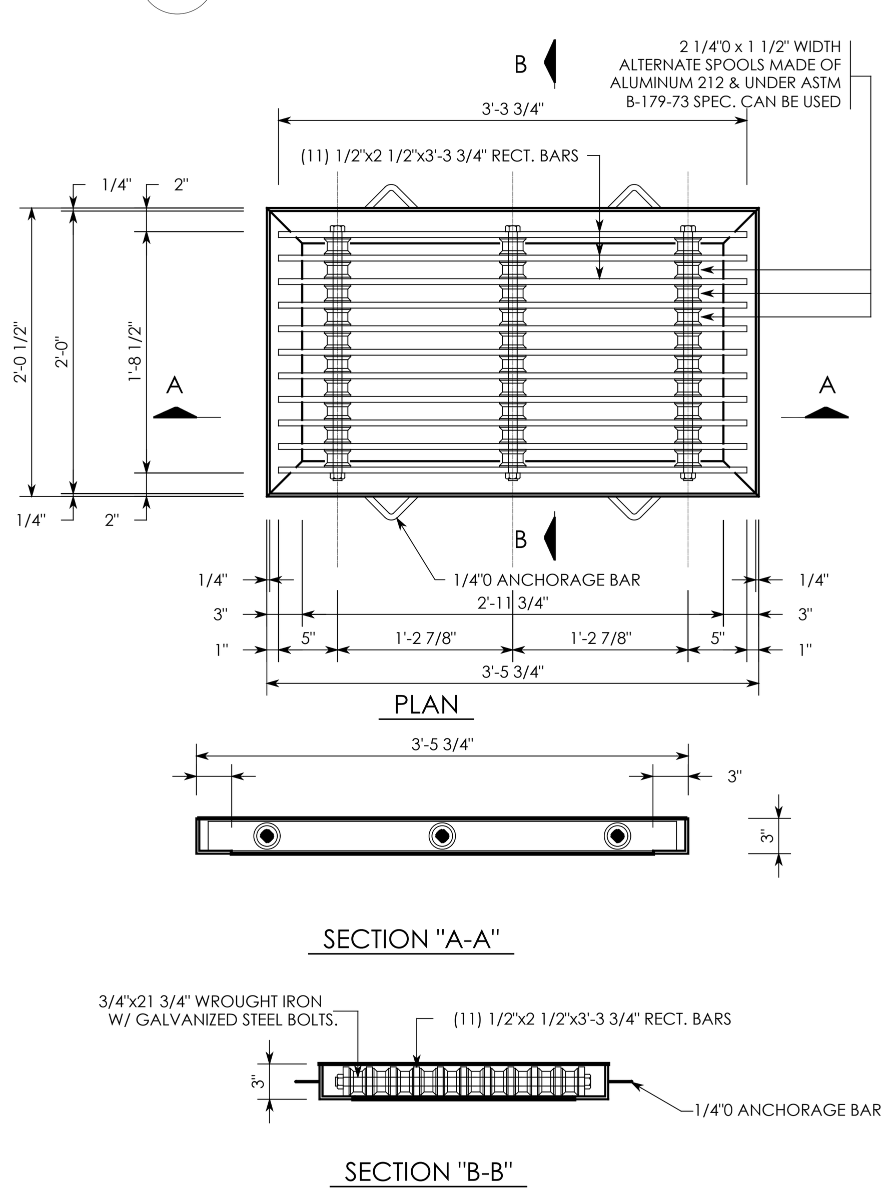


NOTE :
MANHOLE TYPE INDICATED IN PLANS INDICATES MANHOLE DIAMETER TO BE UTILIZED REGARDLESS PIPE SIZE, BUT SHALL NOT BE LESS THAN THAT INDICATED IN TABLE FOR CORRESPONDING PIPE DIAM.

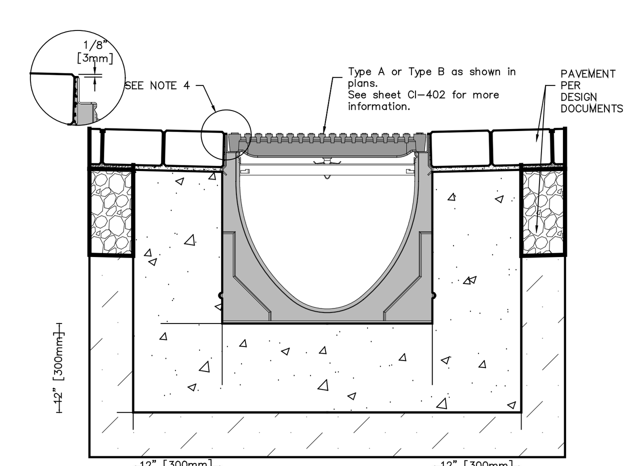
4 Manhole Cover Details
NOT TO SCALE

MAXIMUM SEWERS FOR MANHOLES		
TYPE	MANHOLE DIAM. m.	MAX. PIPE INCHES
1	1.20	30"
2	1.50	36"
3	1.75	42"
4	2.00	48"
5	2.20	54"
6	2.45	60"
7	2.70	66"
8	2.95	72"

5 Manhole Cover Diameters
NOT TO SCALE



7 Grating Detail
NOT TO SCALE



NOTES:
1. IT IS NECESSARY TO ENSURE MINIMUM DIMENSIONS SHOWN ARE SUITABLE FOR EXISTING GROUND CONDITIONS. ENGINEERING ADVICE MAY BE REQUIRED.
2. MINIMUM CONCRETE STRENGTH OF 4,000 PSI IS RECOMMENDED. CONCRETE SHOULD BE VIBRATED TO ELIMINATE AIR POCKETS.
3. EXPANSION AND CONTRACTION CONTROL JOINTS AND REINFORCEMENT ARE RECOMMENDED TO PROTECT CHANNEL AND CONCRETE SURROUND. ENGINEERING ADVICE MAY BE REQUIRED.
4. THE FINISHED LEVEL OF THE CONCRETE SURROUND MUST BE APPROX. 1/8" [3mm] ABOVE THE TOP OF THE CHANNEL EDGE.
5. CONCRETE BASE THICKNESS SHOULD MATCH SLAB THICKNESS. ENGINEERING ADVICE MAY BE REQUIRED TO DETERMINE PROPER LOAD CLASS ... FOR FURTHER DETAILS.

11 Linear Drain Detail
NOT TO SCALE

SPECIFICATION CLAUSE

TYPE - A

ACO DRAIN
KLASSIK DRAIN KS300 12" Internal Width Class A Type 847D - Stainless Steel Longitudinal Grate (ADA) Part No. 142223

TYPE - B

ACO DRAIN
POWERDRAIN-S300K iron edged channels / 12 inch nominal (300 mm) internal width Trench System: S300K TRENCH SYSTEM. PowerLok grate SK3 ductile iron Longitudinal Grate Class E Part No. 96833

GENERAL
THE SURFACE DRAINAGE SYSTEM SHALL BE POLYMER CONCRETE KS300 CHANNEL SYSTEM WITH STAINLESS STEEL EDGE RAILS AS MANUFACTURED BY ACO POLYMER PRODUCTS, INC.

MATERIALS
CHANNELS SHALL BE MANUFACTURED FROM POLYESTER RESIN POLYMER CONCRETE WITH AN INTEGRALLY CAST-IN STAINLESS STEEL EDGE RAIL. MINIMUM PROPERTIES OF POLYMER CONCRETE WILL BE AS FOLLOWS:

COMPRESSIVE STRENGTH:	14,000 PSI
FLEXURAL STRENGTH:	4,000 PSI
TENSILE STRENGTH:	1,500 PSI
WATER ABSORPTION:	0.07%
FROST PROOF	YES
DILUTE ACID AND ALKALI RESISTANT	YES
B117 SALT SPRAY TEST COMPLIANT	YES

THE SYSTEM SHALL BE 12" (300mm) NOMINAL INTERNAL WIDTH WITH A 14.2" (390mm) OVERALL WIDTH AND A BUILT-IN SLOPE OF 0.5%. CHANNEL INVERT SHALL HAVE DEVELOPED "V" SHAPE. ALL CHANNELS SHALL BE INTERLOCKING WITH A MALE/FEMALE JOINT.

THE COMPLETE DRAINAGE SYSTEM SHALL BE BY ACO POLYMER PRODUCTS, INC. ANY DEVIATION OR PARTIAL SYSTEM DESIGN AND/OR IMPROPER INSTALLATION WILL VOID ANY AND ALL WARRANTIES PROVIDED BY ACO POLYMER PRODUCTS, INC.

CHANNEL SHALL WITHSTAND LOADING TO PROPER LOAD CLASS AS OUTLINED BY EN 1433. GRATE TYPE SHALL BE APPROPRIATE TO MEET THE SYSTEM LOAD CLASS SPECIFIED AND INTENDED APPLICATION. GRATES SHALL BE SECURED USING 'QUICKLOK' BOLTLESS LOCKING SYSTEM. CHANNEL AND GRATE SHALL BE CERTIFIED TO MEET THE SPECIFIED EN 1433 LOAD CLASS. THE SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS.

General Notes

IMPORTANT INFORMATION FOR THE CONTRACTOR

Contractor shall verify al dimensions, levels and condition on-site before commencing any and all work. Any discrepancy, error or omission in these plans shall be notified to the Architect, Landscape Architect or Engineer who stamps and signs these drawings so that proper corrections to the documents can be made.

Do not take any measurements from the physical drawings.

All drawings, specifications and other documents are property of ECo and can solely be used as an instrument of the Architect, Landscape Architect or Engineers' service as reference for this project.

ECo, the signing Architect, Landscape Architect or Engineer, and Eco's Consultants shall be deemed the author(s) of these documents and shall retain all common and statutory laws, including reserved and copyright(s). The full and/or partial reproduction of these drawings may only be done with the express written consent of the Architect, Landscape Architect or Engineer.

Only use documents with a "FOR CONSTRUCTION ONLY" stamp and sealed and signed by the designer.

Yo, Edmundo Colon Arizmendi PE, con licencia número 7812, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

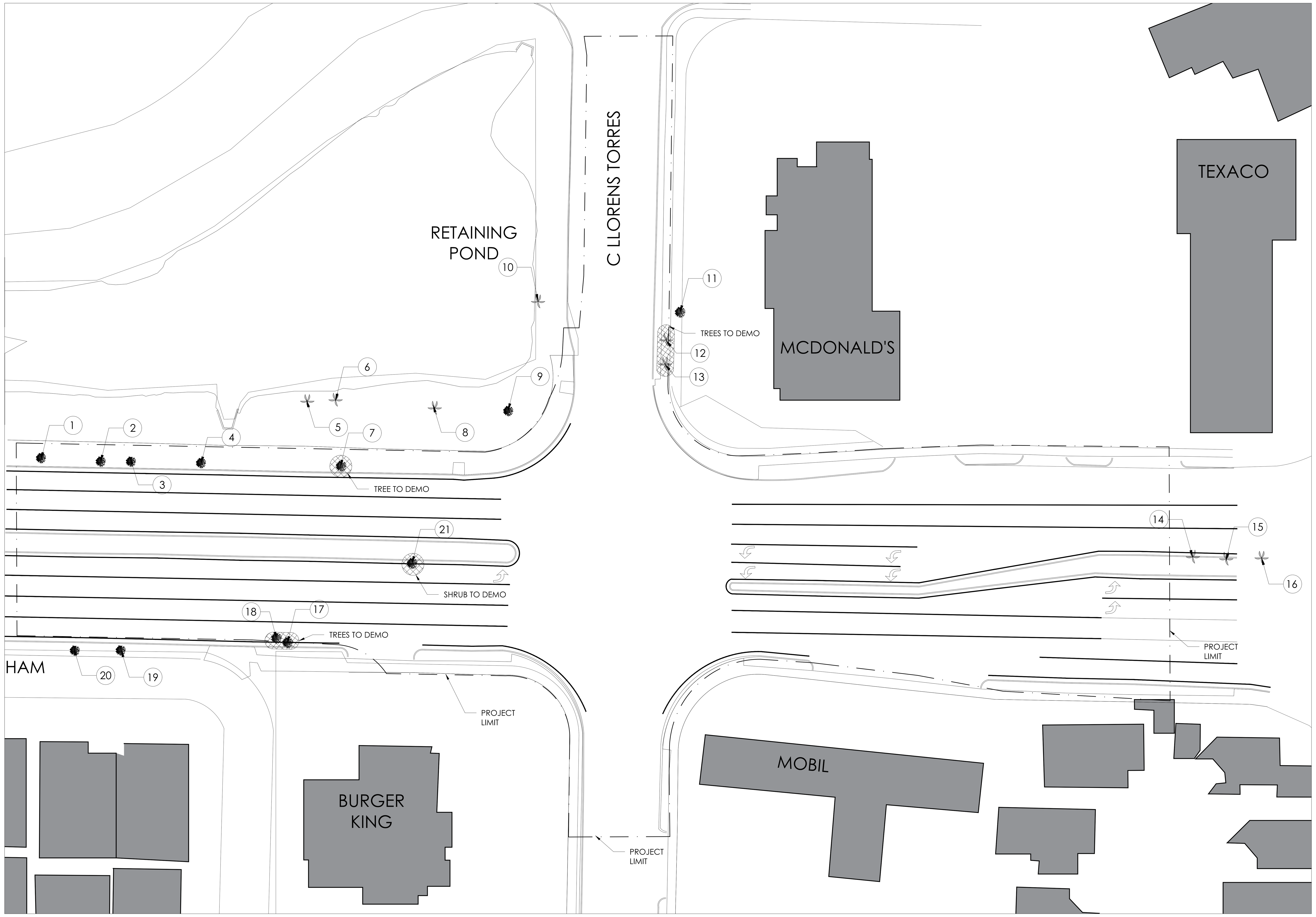
No.	Description	Date

103 Calle Isabel Andreu Aguilar, 4to Piso, San Juan,PR 00918
787-764-0610 eco-designstudio.com

Strom Water Typical Details
TB Roundabouts: PR-CRP-000948
Ave. Sabana Seca Int. Calle Rufino Ramirez, Levittown
Autonomous Municipality of Toa Baja

Seal:
SIGNING ENG
License #

File Name: 2023.04 Rotondas Toa Baja-Grading-PR-CRP-000948
Date: 09/19/2023
Scale: 1:200
Sheet: CI-403
Project #: PR-CRP: 000948
Drawn by: ERCI
Checked by: ECA



1 Existing Tree Inventory & Removal Plan
SCALE: 1'-0"=1/32"

N

TREE INVENTORY

REF	Common Name	Latin Name	Height	DBH	Action	Note	Req. Replacement
1	Ucarillo	Bucida spinosa	20	10	Conserve	Interfering wit	--
2	Ucarillo	Bucida spinosa	20	10	Conserve	Interfering wit	--
3	Ucarillo	Bucida spinosa	20	10	Conserve	Interfering wit	--
4	Ucarillo	Bucida spinosa	12	9	Conserve	Interfering wit	--
5	Palma Real	Roystonea regia	22	16	Conserve		--
6	Palma Real	Roystonea regia	22	16	Conserve		--
7	Ucar	Bucida buceras	25	14	Remove		3
8	Palma Real	Roystonea regia	18	18	Conserve		--
9	Ceiba	Ceiba pentandra	30	36	Conserve		--
10	Palma Real	Roystonea regia	20	16	Conserve		--
11	Ucar	Bucida buceras	25	14	Conserve		--
12	Queen Palm	Syagrus romanzoffiana	4	6	Remove	Stunted	3
13	Queen Palm	Syagrus romanzoffiana	4	6	Remove	Stunted	3
14	Bismarckia Palma	Bismarckia nobilis	20	16	Conserve		--
15	Bismarckia Palma	Bismarckia nobilis	20	16	Conserve		--
16	Bismarckia Palma	Bismarckia nobilis	20	16	Conserve		--
17	Maleleuca	Melaleuca quinquenerv	12	9	Remove	Invasive spec	3
18	Maleleuca	Melaleuca quinquenerv	12	8	Remove	Invasive spec	3
19	Palma de Coco	Cocos nucifera	20	12	Conserve		--
20	Ucar	Bucida buceras	18	12	Conserve		--
21	Hibiscus	Hibiscus rosa-sinsensis	4	2	Remove		--

TREE INVENTORY SUMMARY

Common Name	Latin Name	Quantity	Remove	Conserve	Req. Replacement
Ucarillo	Bucida spinosa	4		4	0
Palma Real	Roystonea regia	4		4	0
Ucar	Bucida buceras	3	1	2	3
Ceiba	Ceiba pentandra	1		1	0
Queen Palm	Syagrus romanzoffiana	2	2	0	6
Bismarckia Palma	Bismarckia nobilis	3		3	0
Hibiscus	Hibiscus rosa-sinsensis	1	1		0
Maleleuca	Melaleuca quinquenervia	2	2		6
Palma de Coco	Cocos nucifera	1		1	0

General Notes

IMPORTANT INFORMATION FOR THE CONTRACTOR

Contractor shall verify al dimensions, levels and condition on-site before commencing any and all work. Any discrepancy, error or omission in these plans shall be notified to the Architect, Landscape Architect or Engineer who stamps and signs these drawings so that proper corrections to the documents can be made.

Do not take any measurements from the physical drawings.

All drawings, specifications and other documents are property of ECo and can solely be used as an instrument of the Architect, Landscape Architect or Engineers' service as reference for this project.

Only use documents with a "FOR CONSTRUCTION ONLY" stamp and sealed and signed by the designer.

Yo, Edmundo Colon Arizmendi PE, con licencia número 7812, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

No.	Description	Date

ECo
LANDSCAPE + ARCHITECTURE + ENGINEERING

103 Calle Isabel Andreu Aguilar, 4to Piso, San Juan,PR 00918
787-764-0610 eco-designstudio.com

Existing Tree Inventory and Removal Plan

T.B.Roundabout P.R. - CRP: 000948

Ave. Sabana Seca Int., Calle Rufino Ramirez, Levittown, Toa Baja, PR

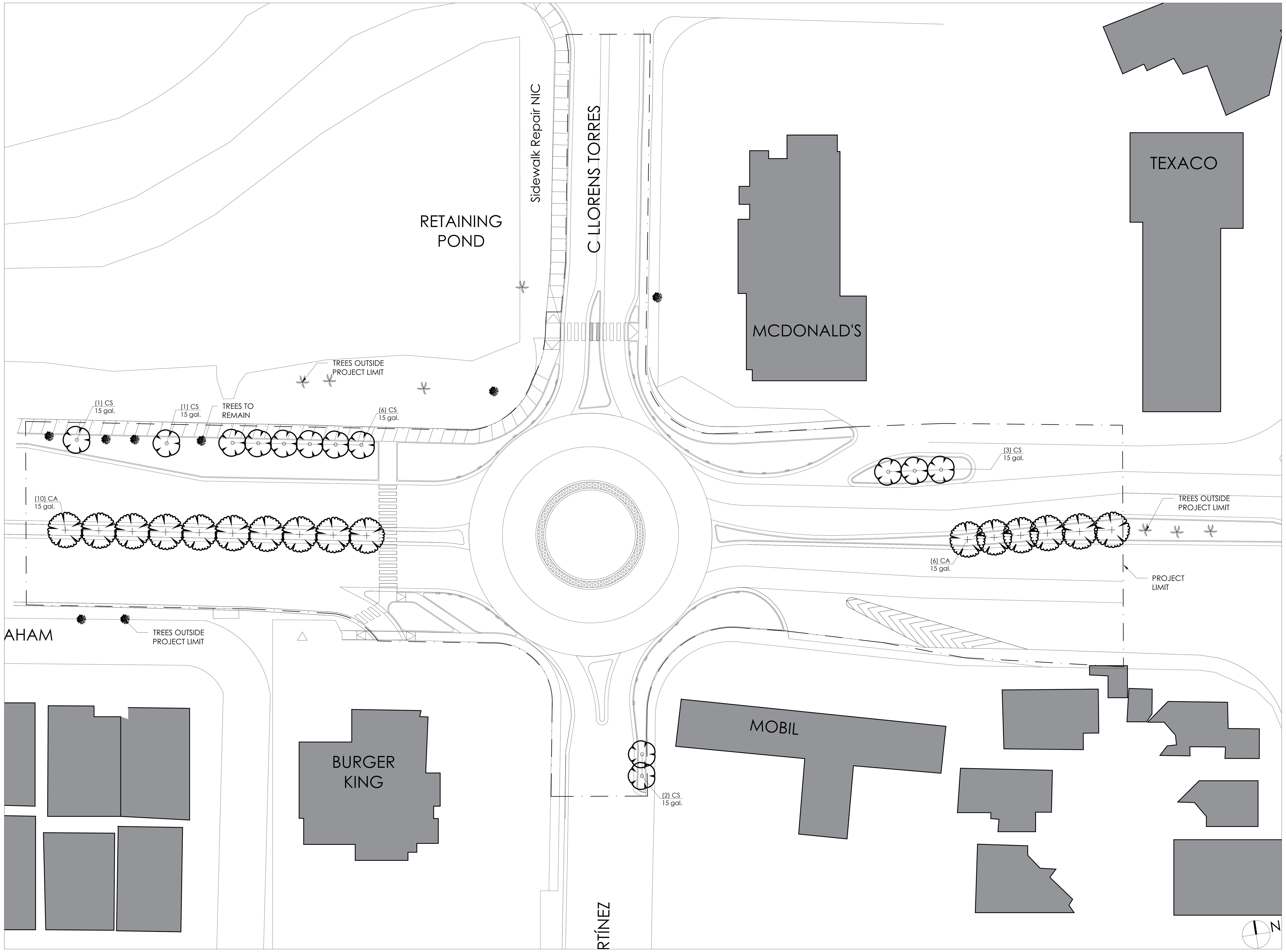
Autonomous Municipality of Toa Baja

Seal:

SIGNING ARCH
License #

Yo, Edmundo Colón Izquierdo, con licencia número 19992, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

File Name:	2022.04-Rotondas Toa Baja
Date: 09-19-2023	Scale: Scale:1'-0"=1/32"
Sheet	LA-200
Project #	2022.04
Drawn by	MEG
Checked by	ERCI



1 Tree Mitigation Plan
SCALE: 1'-0"=1/32"

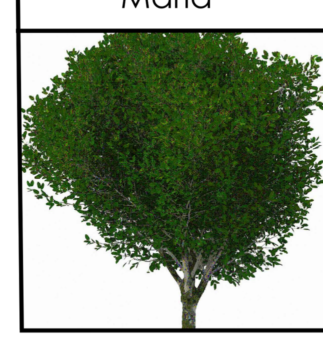
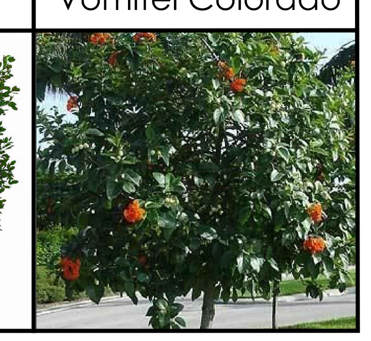
2023-10-18 16:08

PLANT SCHEDULE

TREES	CODE	BOTANICAL / COMMON NAME	SIZE	CONTAINER	QTY
	CA	Calophyllum antillanum / Maria	15 gal.	Pot	16
	CS	Cordia sebestena / Orange Geiger Tree	15 gal.	Pot	13

NOTE TO CONTRACTOR:
-15 trees are requiried for mitigation compliance.
-35 trees are proposed for roundabout design.

TREES

Maria	Vomitel Colorado
	

General Notes

IMPORTANT INFORMATION FOR THE CONTRACTOR

Contractor shall verify al dimensions, levels and condition on-site before commencing any and all work. Any discrepancy, error or omission in these plans shall be notified to the Architect, Landscape Architect or Engineer who stamps and signs these drawings so that proper corrections to the documents can be made.

Do not take any measurements from the physical drawings.

All drawings, specifications and other documents are property of ECo and can solely be used as an instrument of the Architect, Landscape Architect or Engineers' service as reference for this project.

ECo, the signing Architect, Landscape Architect or Engineer, and Eco's Consultants shall be deemed the author(s) of these documents and shall retain all common and statutory laws, including reserved and copyright(s). The full and/or partial reproduction of these drawings may only be done with the express written consent of the Architect, Landscape Architect or Engineer.

Only use documents with a "FOR CONSTRUCTION ONLY" stamp and sealed and signed by the designer.

Yo, Edmundo Colon Arizmendi PE, con licencia número 7812, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

No.	Description	Date

ECo
LANDSCAPE + ARCHITECTURE + ENGINEERING

103 Calle Isabel Andreu Aguilar, 4to Piso, San Juan,PR 00918
787-764-0610 eco-designstudio.com

Tree Mitigation Plan

T.B.Roundabout P.R. - CRP: 000948

Ave. Sabana Seca Int., Calle Rufino Ramírez, Levittown, Toa Baja, PR

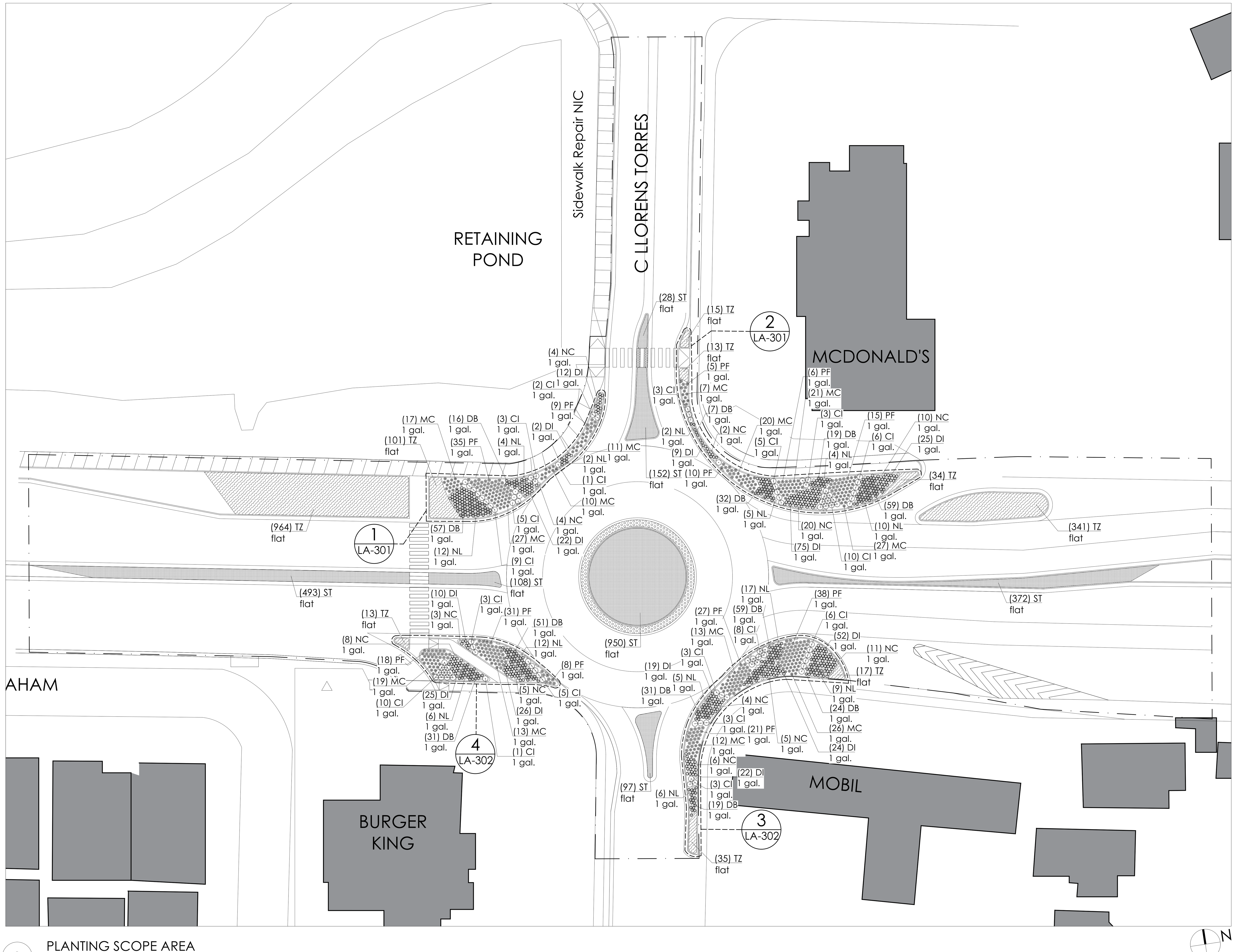
Autonomous Municipality of Toa Baja

Seal:

SIGNING ARCH
License #

Yo, Edmundo Colón Izquierdo, con licencia número 19992, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

File Name:	2022.04-Rotondas Toa Baja
Date 09-19-2023	Scale Scale:1'-0"=1/32"
Sheet	LA-201
Project #	2022.04
Drawn by	MEG
Checked by	ERCI

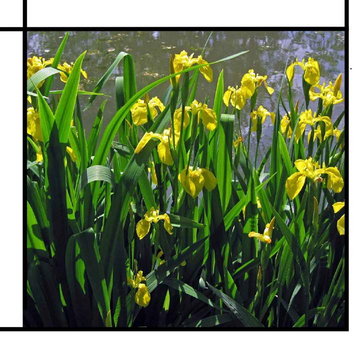


1 PLANTING SCOPE AREA
SCALE: 1/16"=1'-0"

Planting Notes

1. The work shall be constructed and maintained in accordance with these plans, irrigation and landscape standard drawings, approved materials list, as well as these standard planting notes.
2. Exact location of plant materials shall be reviewed by the landscape architect in the field prior to installation. The landscape architect reserves the right to adjust plants to exact location in field.
3. Contractor shall be responsible for verifying all plant counts and square footages. Quantities shown on plans take precedence over written quantities in "planting legends"
4. Provide matching forms and sizes for all plant materials within each species and size designated in the drawings.
5. All plant material shall conform to the American Standard for Nursery Stock ANSI Z60.1 - latest edition as published by the American Nursery & Landscape Association.
6. The Contractor shall provide positive drainage in all landscape areas
7. The Contractor shall schedule inspections forty eight (48) hours in advance of the work being ready for inspection. If the work is not ready for inspection on the scheduled date and time the contractor shall reschedule the inspection as above.
8. Planting inspections are required for the following:
   8.1. Plant material layout prior to planting.
   8.2. Plant material quality prior to planting.
   8.3. Pre-maintenance period plant material inspection (punch list developed).
   8.4. Pre-maintenance period final punch list completion inspection.

GRASS MIX#1:

Dietes Bicolor	Irises Yellow
.\3.2.6 - Planting Info\MIX 1\Dietes bicolor.jpg	

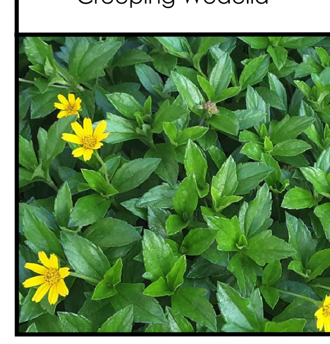
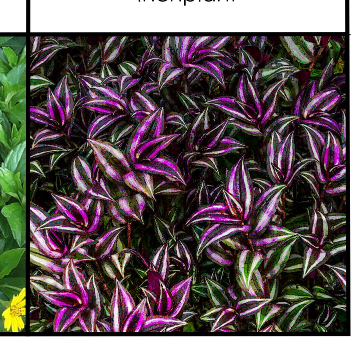
GRASS MIX #2

Neomarica	Dietes Iridioides
.6 - Planting Info\MIX 3\Neomarica caerulea.jpg	.\3.2.6 - Planting Info\MIX 3\dietes iridioide

GRASS MIX #3

Pennisetum	Muhly Grass
.6 - Planting Info\MIX 3\Pennisetum Purpureum.jpg	.\3.2.6 - Planting Info\MIX 1\Muhlenbergia capillaris - Pink muhly grass.jpg

GROUND COVERS

Creeping Wedelia	Inchplant
	

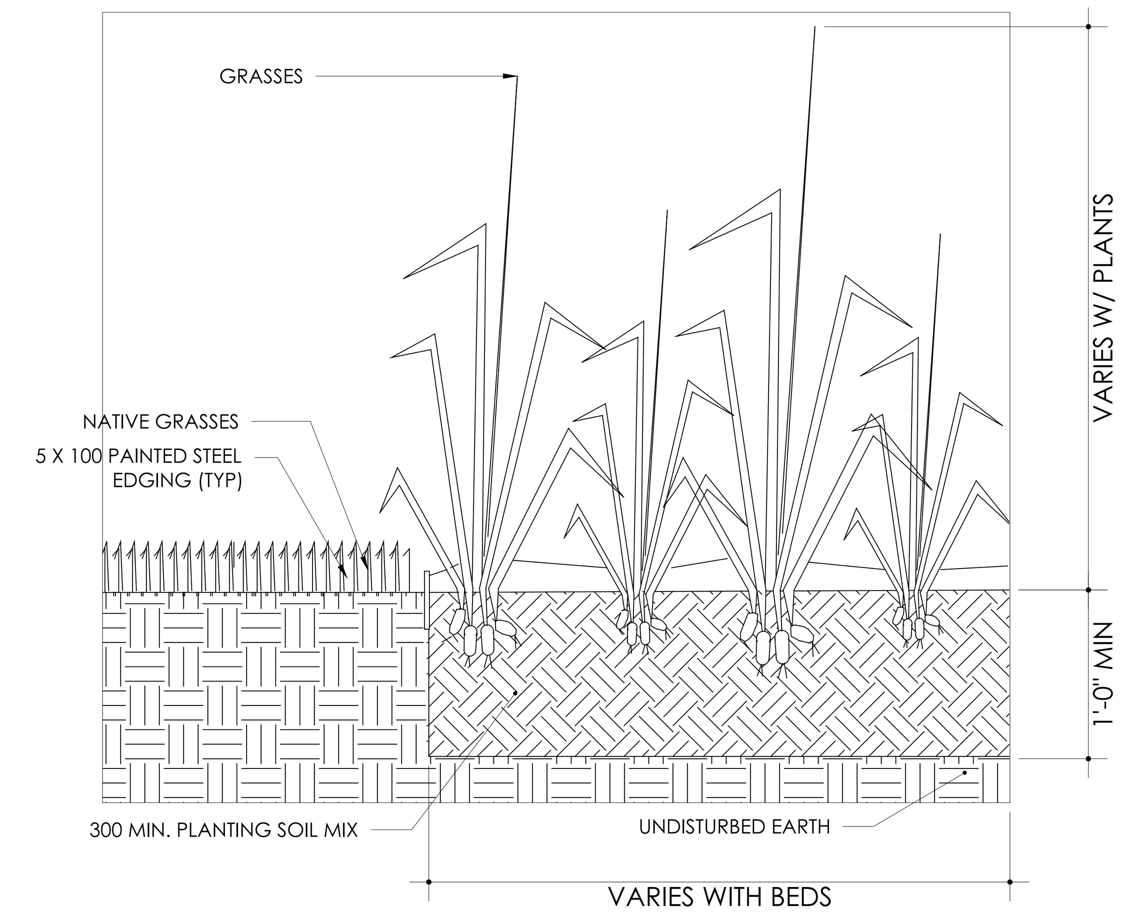
SHRUBS

Icaco
.\3.2.6 - Planting Info\MIX 1\icaco rojoo.JPG

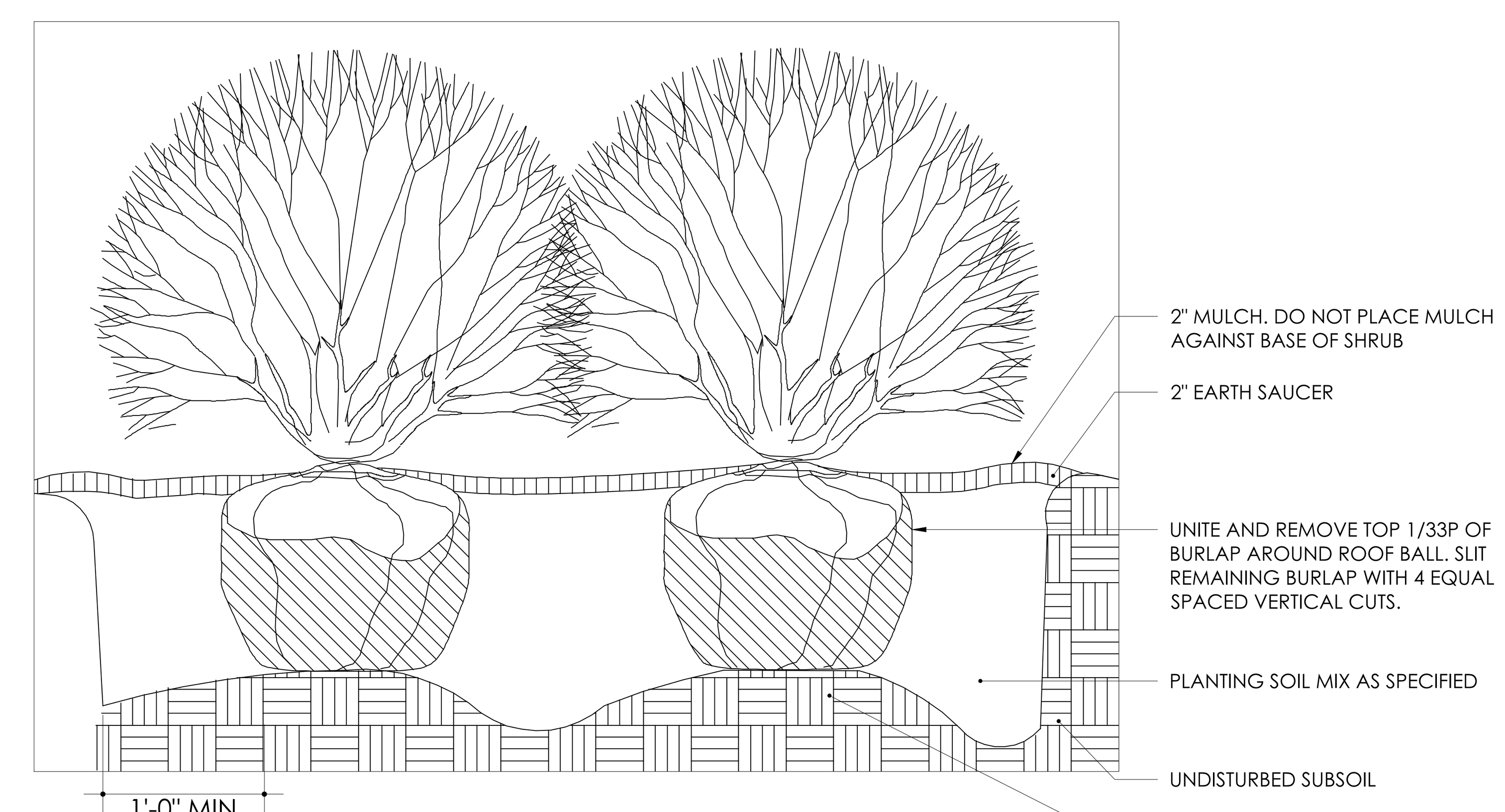
2023-10-18 16:09

PLANT SCHEDULE

SHRUBS	CODE	BOTANICAL / COMMON NAME	SIZE	SPACING	QTY
	CI	Chrysobalanus icaco / Coco Plum	1 gal.	36" o.c.	89
	DB	Dietes bicolor / Bicolor Iris	1 gal.	18" o.c.	408
	DI	Dietes iridioides / Fortnight Lily	1 gal.	18" o.c.	351
	MC	Muhlenbergia capillaris / Pink Muhly Grass	1 gal.	18" o.c.	222
	NC	Neomarica caerulea / Blue Walking Iris	1 gal.	18" o.c.	91
	NL	Neomarica longifolia / Yellow Walking Iris	1 gal.	18" o.c.	94
	PF	Pennisetum setaceum / Fountain Grass	1 gal.	18" o.c.	221
GROUND COVERS	CODE	BOTANICAL / COMMON NAME	SIZE	DENSITY	QTY
	ST	Sphagneticola trilobata / Creeping Wedelia	flat	0.5/sq.ft.	138
	TZ	Tradescantia zebrina / Inchplant	flat	0.5/sq.ft.	128



1 Grasses Detail
NTS



2 Shrub Detail
NTS

Yo, Edmundo Colón Izquierdo, con licencia número 19992, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

General Notes

IMPORTANT INFORMATION FOR THE CONTRACTOR

Contractor shall verify al dimensions, levels and condition on-site before commencing any and all work. Any discrepancy, error or omission in these plans shall be notified to the Architect, Landscape Architect or Engineer who stamps and signs these drawings so that proper corrections to the documents can be made.

Do not take any measurements from the physical drawings.

All drawings, specifications and other documents are property of ECo and can solely be used as an instrument of the Architect, Landscape Architect or Engineers' service as reference for this project.

Only use documents with a "FOR CONSTRUCTION ONLY" stamp and sealed and signed by the designer.

Yo, Edmundo Colon Arizmendi PE, con licencia número 7812, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

Description	Date

ECo
LANDSCAPE + ARCHITECTURE + ENGINEERING
103 Calle Isabel Andreu Aguilar, 4to Piso, San Juan, PR 00918
787-764-0610 eco-designstudio.com

Planting Scope Area + Details
T.B.Roundabout P.R. - CRP: 000948
Ave. Sabana Seca Int., Calle Rufino Ramírez, Levittown, Toa Baja, PR
Autonomous Municipality of Toa Baja

Seal:

SIGNING ARCH
License #

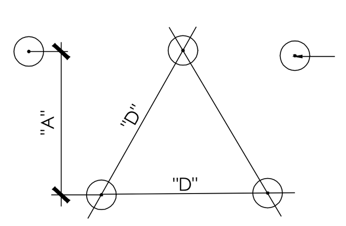
File Name: 2022.04-Rotondas Toa Baja
Date: 09-19-2023
Scale: Scale:1'-0"=1/16"
Sheet: LA-300
Project #: 2022.04
Drawn by: MOS
Checked by: ERCI

1 PLANTING SCOPE AREA

SCALE: 1/8"=1'-0"

N

Planting Type	Plant Spacing "D"	Row "A"
1	36" O.C.	31" O.C.
2	18" O.C.	15" O.C.
3	18" O.C.	15" O.C.
4	18" O.C.	15" O.C.
5	18" O.C.	15" O.C.
6	18" O.C.	15" O.C.
7	18" O.C.	15" O.C.
6	12" O.C.	10" O.C.
7	12" O.C.	10" O.C.



SHRUB SPACING DETAIL N.T.S.

2 PLANTING SCOPE AREA

SCALE: 1/8"=1'-0"

Yo, Edmundo Colón Izquierdo, con licencia número 19992, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

General Notes

IMPORTANT INFORMATION FOR THE CONTRACTOR

Contractor shall verify al dimensions, levels and condition on-site before commencing any and all work. Any discrepancy, error or omission in these plans shall be notified to the Architect, Landscape Architect or Engineer who stamps and signs these drawings so that proper corrections to the documents can be made.

Do not take any measurements from the physical drawings.

All drawings, specifications and other documents are property of ECo and can solely be used as an instrument of the Architect, Landscape Architect or Engineers' service as reference for this project.

Only use documents with a "FOR CONSTRUCTION ONLY" stamp and sealed and signed by the designer.

Yo, Edmundo Colon Arizmendi PE, con licencia número 7812, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

Description Date

ECo
Landscape + Architecture + Engineering

103 Calle Isabel Andreu Aguilar, 4to Piso, San Juan,PR 00918
787-764-0610 eco-designstudio.com

Planting Area Details

T.B.Roundabout P.R. - CRP: 000948

Ave. Sabana Seca Int., Calle Rufino Ramírez,
Levittown, Toa Baja, PR

Autonomous Municipality of Toa Baja

Seal:

SIGNING ARCH
License #

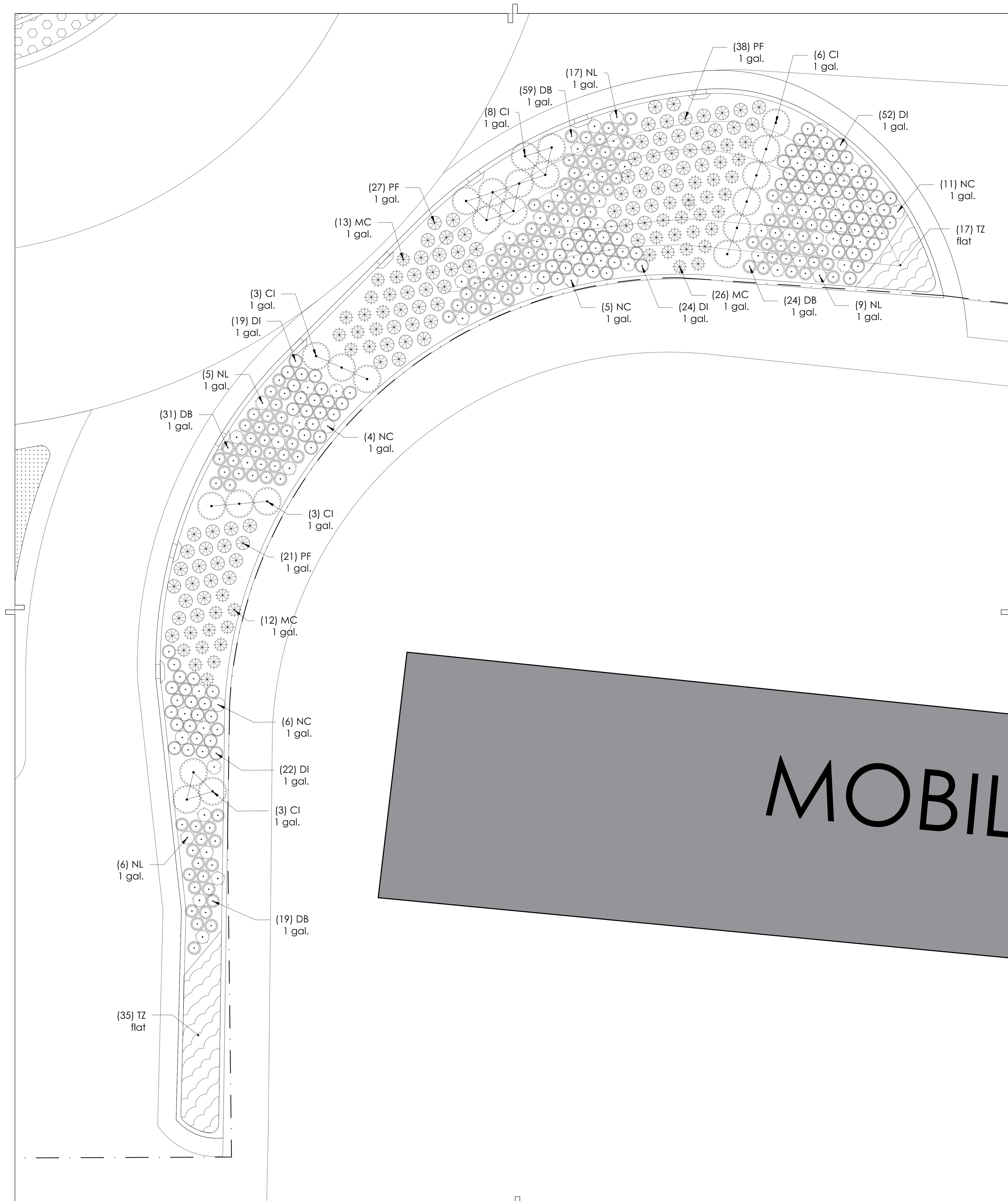
File Name: 2022.04-Rotondas Toa Baja

Date	Scale
09-19-2023	Scale:1'-0"=1/8"

Sheet

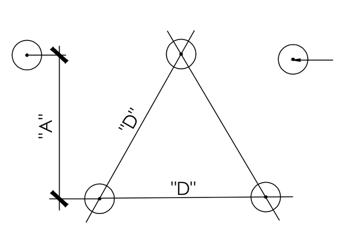
LA-301

Project #	2022.04
Drawn by	MOS
Checked by	ERCI

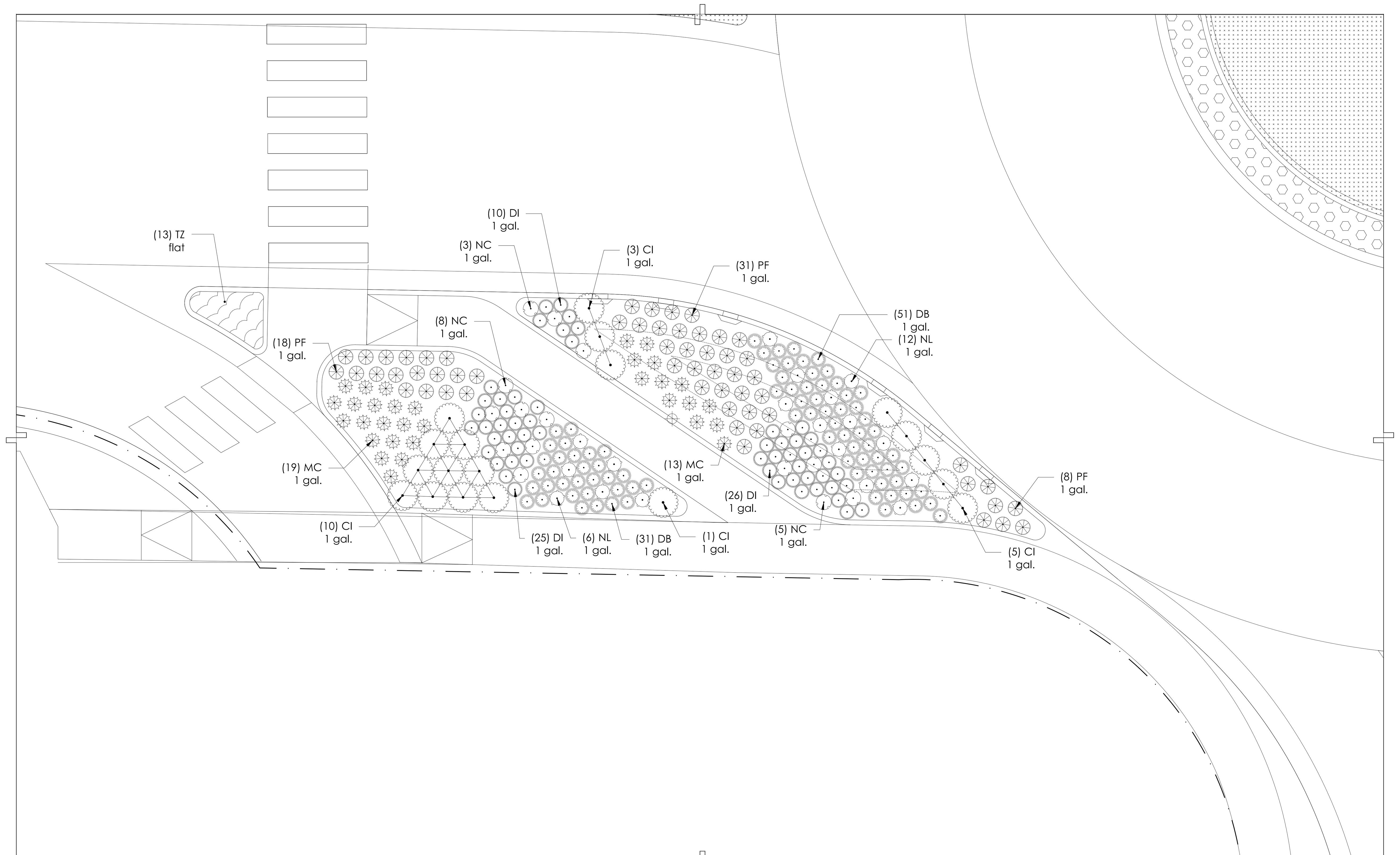


3 PLANTING SCOPE AREA
SCALE: 1/8"=1'-0"
N

Planting Type	Plant Spacing "D"	Row "A"
1	36" O.C.	31" O.C.
2	18" O.C.	15" O.C.
3	18" O.C.	15" O.C.
4	18" O.C.	15" O.C.
5	18" O.C.	15" O.C.
6	18" O.C.	15" O.C.
7	18" O.C.	15" O.C.
6	12" O.C.	10" O.C.
7	12" O.C.	10" O.C.



SHRUB SPACING DETAIL N.T.S.



4 PLANTING SCOPE AREA
SCALE: 1/8"=1'-0"

Yo, Edmundo Colón Izquierdo, con licencia número 19992, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

General Notes

IMPORTANT INFORMATION FOR THE CONTRACTOR

Contractor shall verify al dimensions, levels and condition on-site before commencing any and all work. Any discrepancy, error or omission in these plans shall be notified to the Architect, Landscape Architect or Engineer who stamps and signs these drawings so that proper corrections to the documents can be made.

Do not take any measurements from the physical drawings.

All drawings, specifications and other documents are property of ECo and can solely be used as an instrument of the Architect, Landscape Architect or Engineers' service as reference for this project.

Only use documents with a "FOR CONSTRUCTION ONLY" stamp and sealed and signed by the designer.

Yo, Edmundo Colon Arizmendi PE, con licencia número 7812, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

Description	Date

ECo
Landscape + Architecture + Engineering
103 Calle Isabel Andreu Aguilar, 4to
Piso, San Juan,PR 00918
787-764-0610 eco-designstudio.com

Planting Area Details

T.B.Roundabout P.R. - CRP: 000948

Ave. Sabana Seca Int., Calle Rufino Ramírez,
Levittown, Toa Baja, PR
Autonomous Municipality of Toa Baja

Seal:

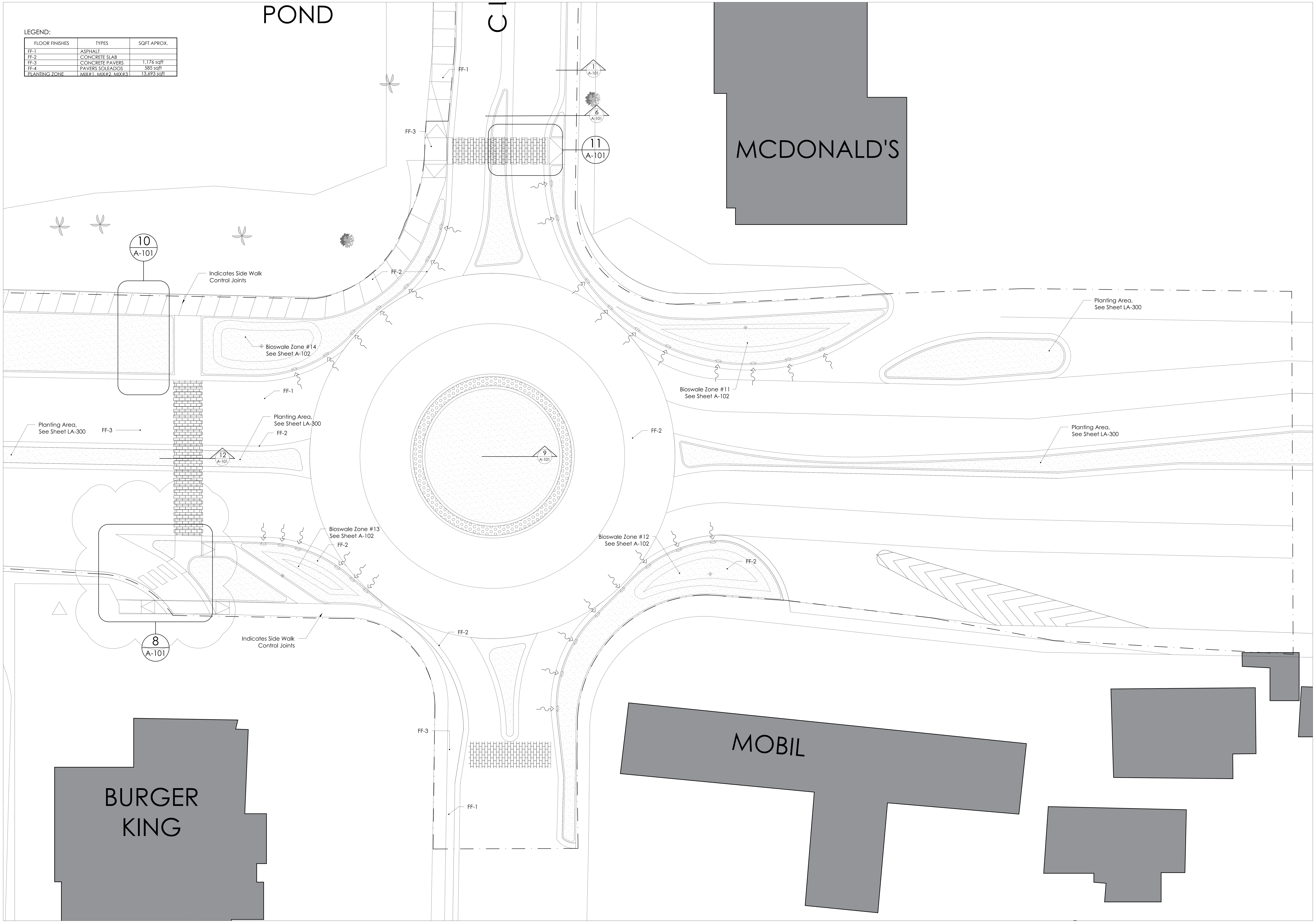
SIGNING ARCH
License #

File Name: 2022.04-Rotondas Toa Baja

Date	Scale
09-19-2023	Scale:1'-0"=1/8"

Sheet
LA-302

Project #	2022.04
Drawn by	MOS
Checked by	ERCI



LEGEND:

FLOOR FINISHES	TYPES	SQFT APROX.
FF-1	ASPHALT	
FF-2	CONCRETE SLAB	
FF-3	CONCRETE PAVERS	1,176 sqft
FF-4	PAVERS SOLEADOS	585 sqft
PLANTING ZONE	MIX#1, MIX#2, MIX#3	13,693 sqft

1 Floor Pattern Plan
SCALE: 1'-0"=1/32"

General Notes

IMPORTANT INFORMATION FOR THE CONTRACTOR

Contractor shall verify al dimensions, levels and condition on-site before commencing any and all work. Any discrepancy, error or omission in these plans shall be notified to the Architect, Landscape Architect or Engineer who stamps and signs these drawings so that proper corrections to the documents can be made.

Do not take any measurements from the physical drawings.

Only use documents with a “FOR CONSTRUCTION ONLY” stamp and sealed and signed by the designer.

Yo, Edmundo Colon Arizmendi PE, con licencia número 7812, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

No.	Description	Date

ECo
Landscape + Architecture + Engineering

103 Calle Isabel Andreu Aguilar, 4to Piso, San Juan,PR 00918
787-764-0610 eco-designstudio.com

Floor Pattern Plan

T.B.Roundabout P.R. - CRP: 000948

Ave. Sabana Seca Int., Calle Rufino Ramírez, Levittown, Toa Baja, PR

Autonomous Municipality of Toa Baja

Seal:

SIGNING ARCH
License #

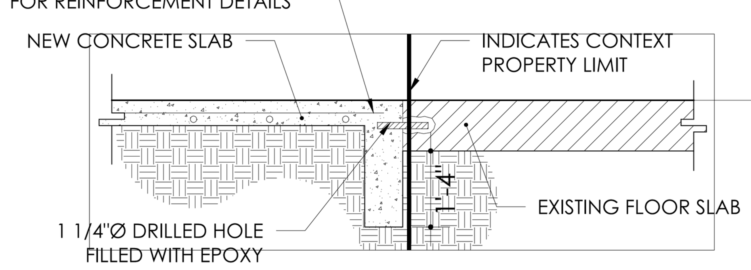
File Name: 2022.04-Rotondas Toa Baja

Date	Scale
09-19-2023	Scale:1'-0"=1/32"

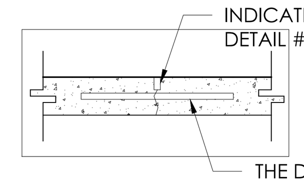
Sheet

A-100

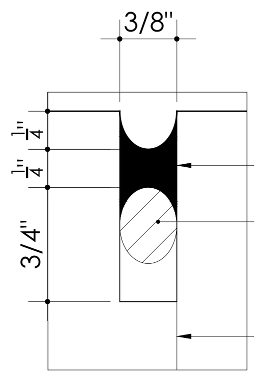
Project #	2022.04
Drawn by	MOS
Checked by	ERCI



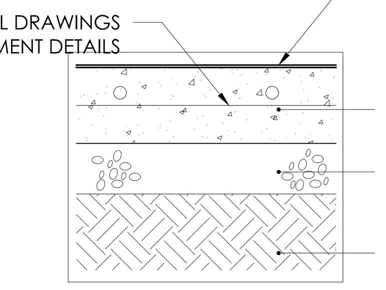
1 Existing & New Concrete Connection Detail
SCALE: 1/2"=1'-0"



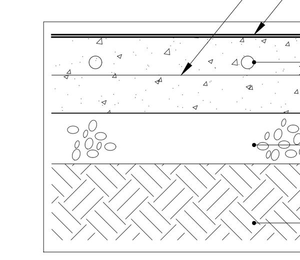
2 Concrete Joint Detail
SCALE: 1/2"=1'-0"



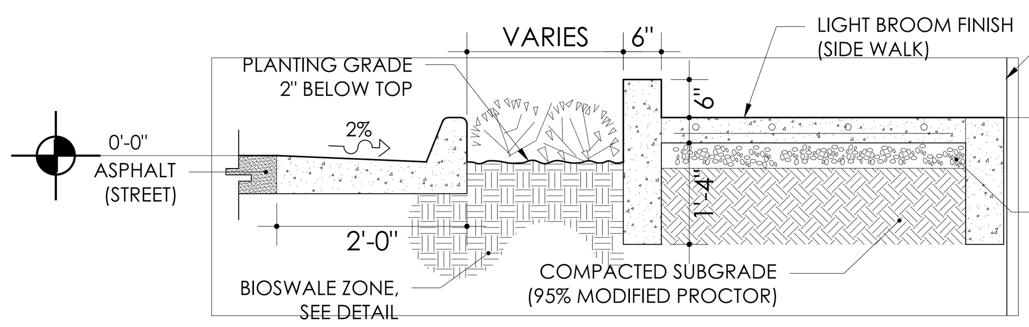
3 Joint Detail
SCALE: 1'-0"=1'-0"



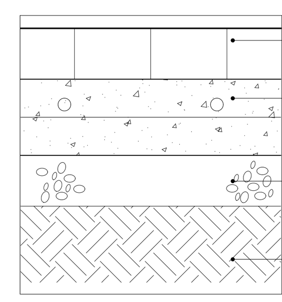
4 Light Duty Concrete Pavement-MKD-LD
NOT TO SCALE



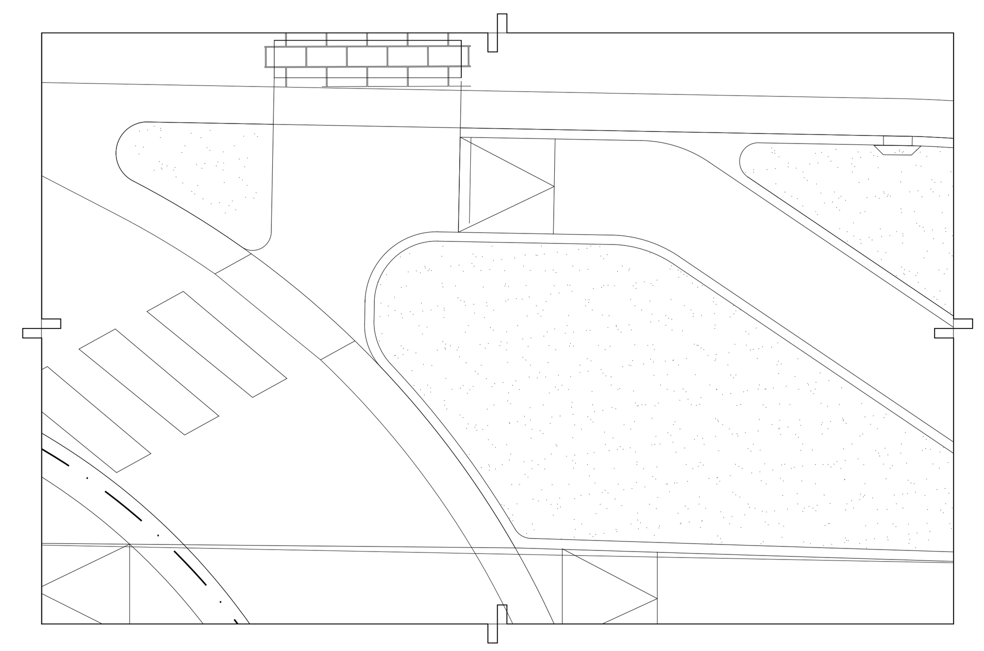
5 Heavy Duty Concrete Pavement-MKD-HD
NOT TO SCALE



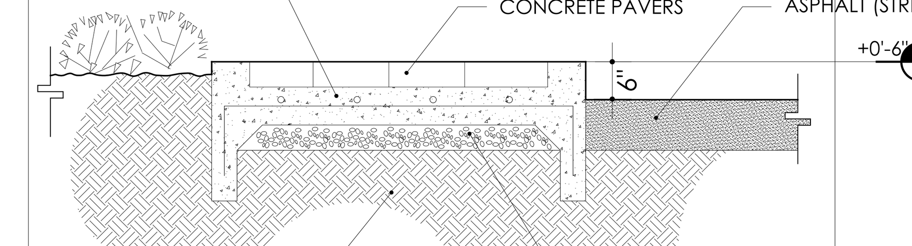
6 Side Walk Section Light Duty-MKD-LDS
NOT TO SCALE



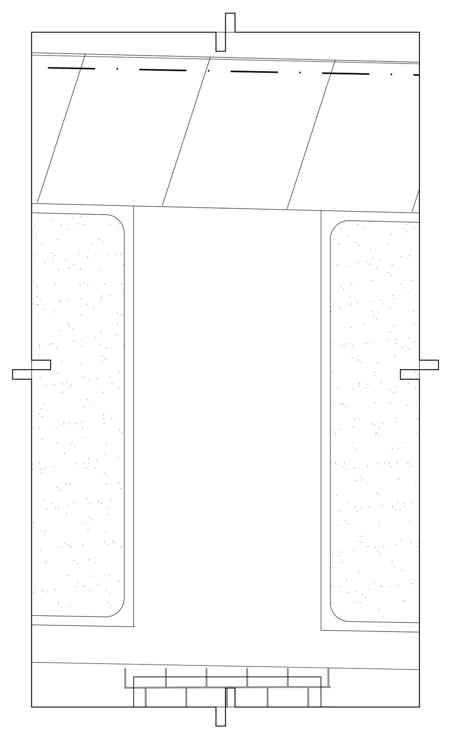
7 Heavy Duty Concrete Paverst-MKD-HD
NOT TO SCALE



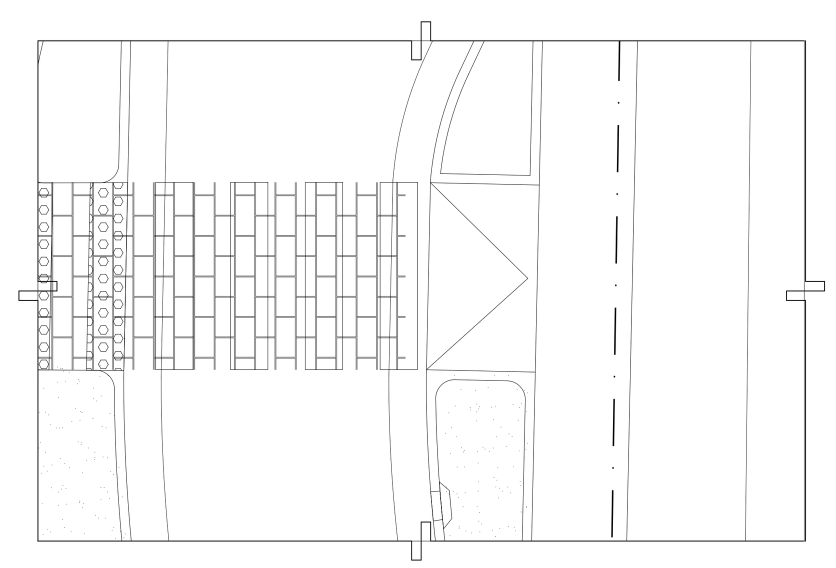
8 Handicapped Ramp Detail-Top View
SCALE: 3/8"=1'-0"



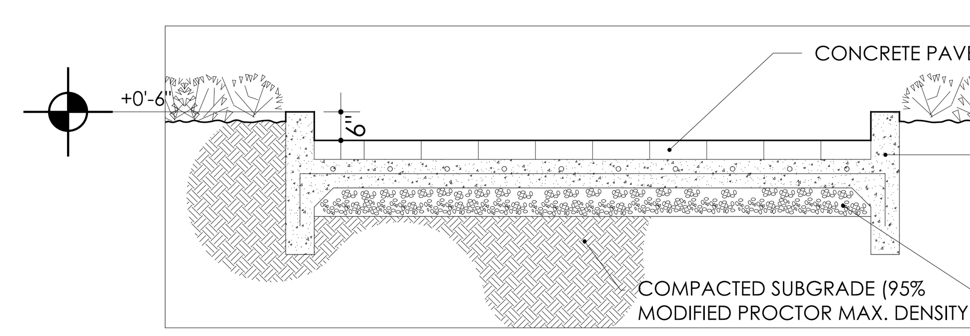
9 Roundabout Center Section Heavy Duty MKD-HD
SCALE: 1/2"=1'-0"



10 Handicapped Ramp Detail-Top View
SCALE: 3/8"=1'-0"



11 Handicapped Ramp Detail-Top View
SCALE: 1/8"=1'-0"



12 Crosswalk Type B Section Heavy Duty
SCALE: 3/8"=1'-0"

General Notes

IMPORTANT INFORMATION FOR THE CONTRACTOR

Contractor shall verify al dimensions, levels and condition on-site before commencing any and all work. Any discrepancy, error or omission in these plans shall be notified to the Architect, Landscape Architect or Engineer who stamps and signs these drawings so that proper corrections to the documents can be made.

Do not take any measurements from the physical drawings.

Only use documents with a "FOR CONSTRUCTION ONLY" stamp and sealed and signed by the designer.

Yo, Edmundo Colon Arizmendi PE, con licencia número 7812, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

No.	Description	Date

ECo
LANDSCAPE + ARCHITECTURE + ENGINEERING

103 Calle Isabel Andreu Aguilar, 4to Piso, San Juan,PR 00918
787-764-0610 eco-designstudio.com

Ground Floor Details

T.B.Roundabout P.R. - CRP: 000948

Ave. Sabana Seca Int., Calle Rufino Ramírez, Levittown, Toa Baja, PR

Autonomous Municipality of Toa Baja

Seal:

SIGNING ARCH
License #

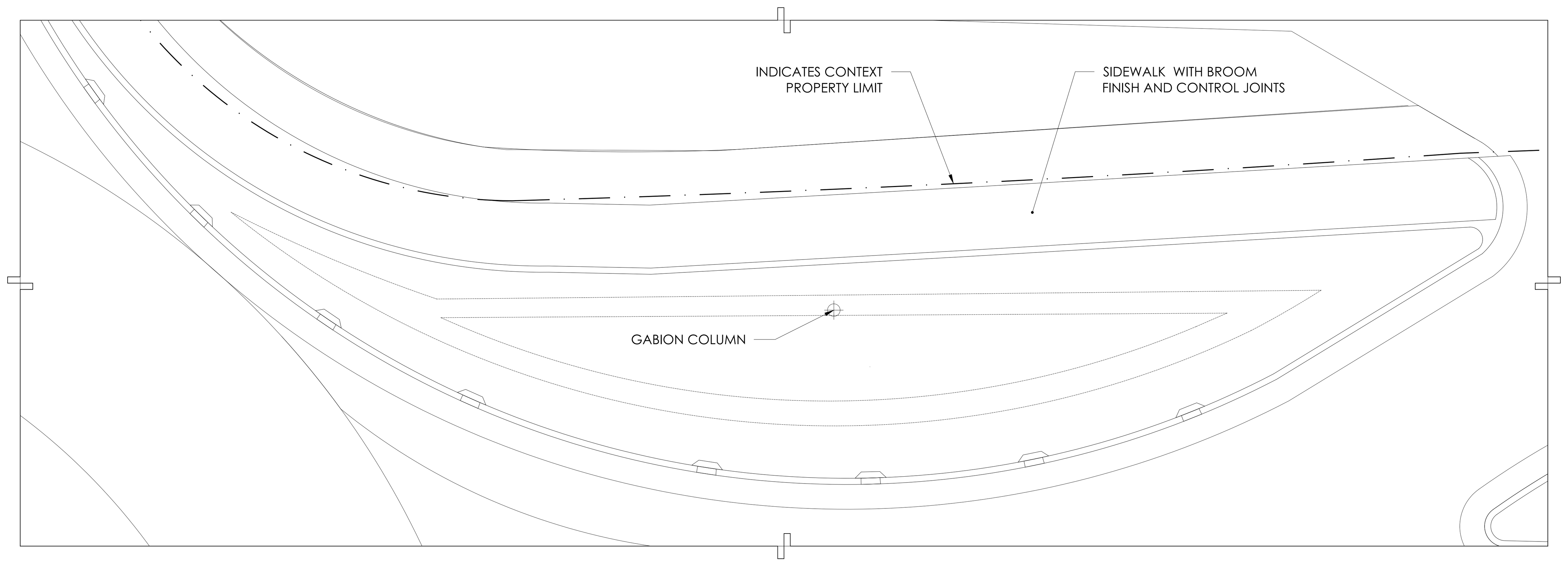
File Name: 2022.04-Rotondas Toa Baja

Date 09-19-2023 | Scale Scale:1'-0"=1/16"

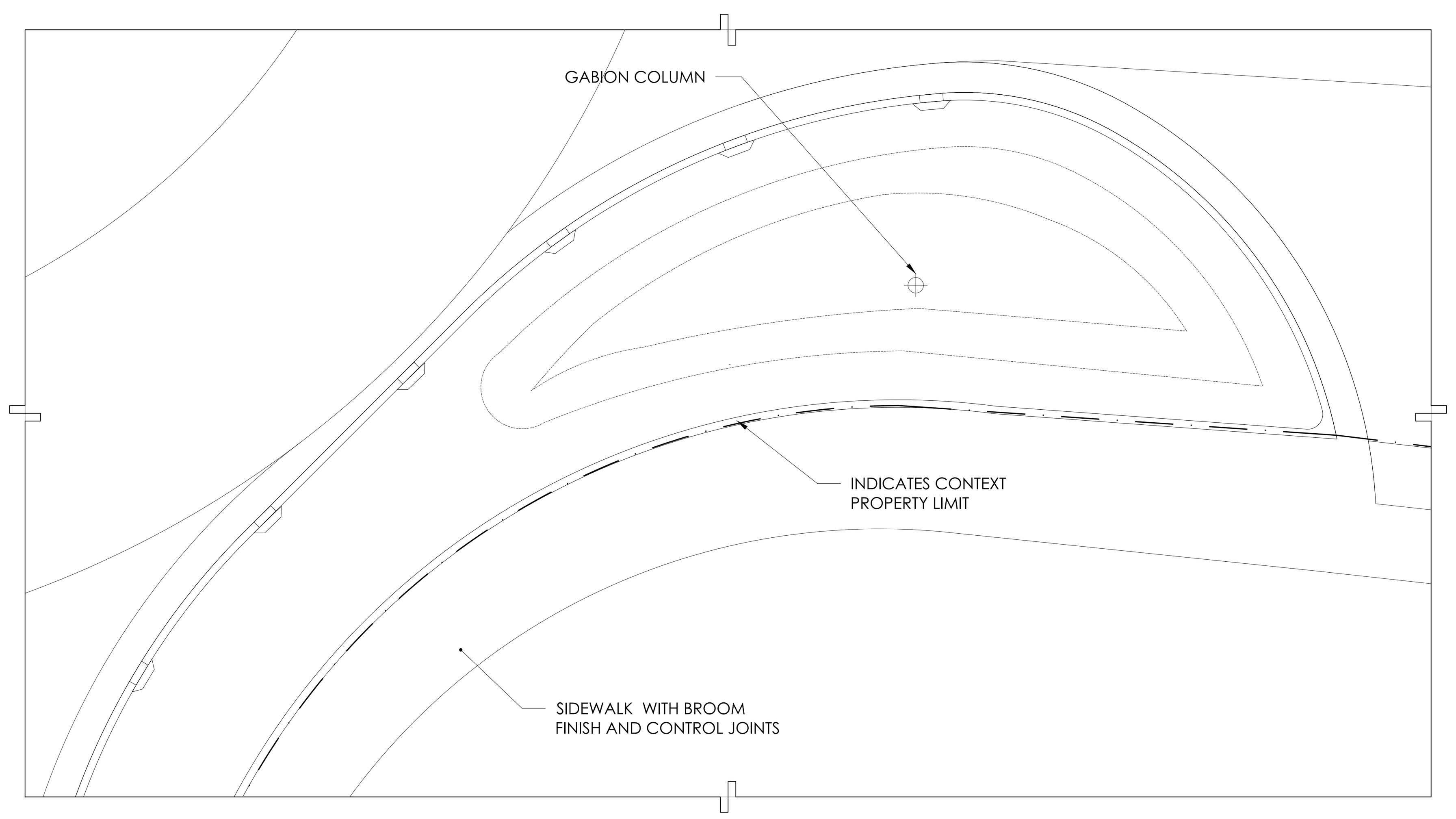
Sheet

A-101

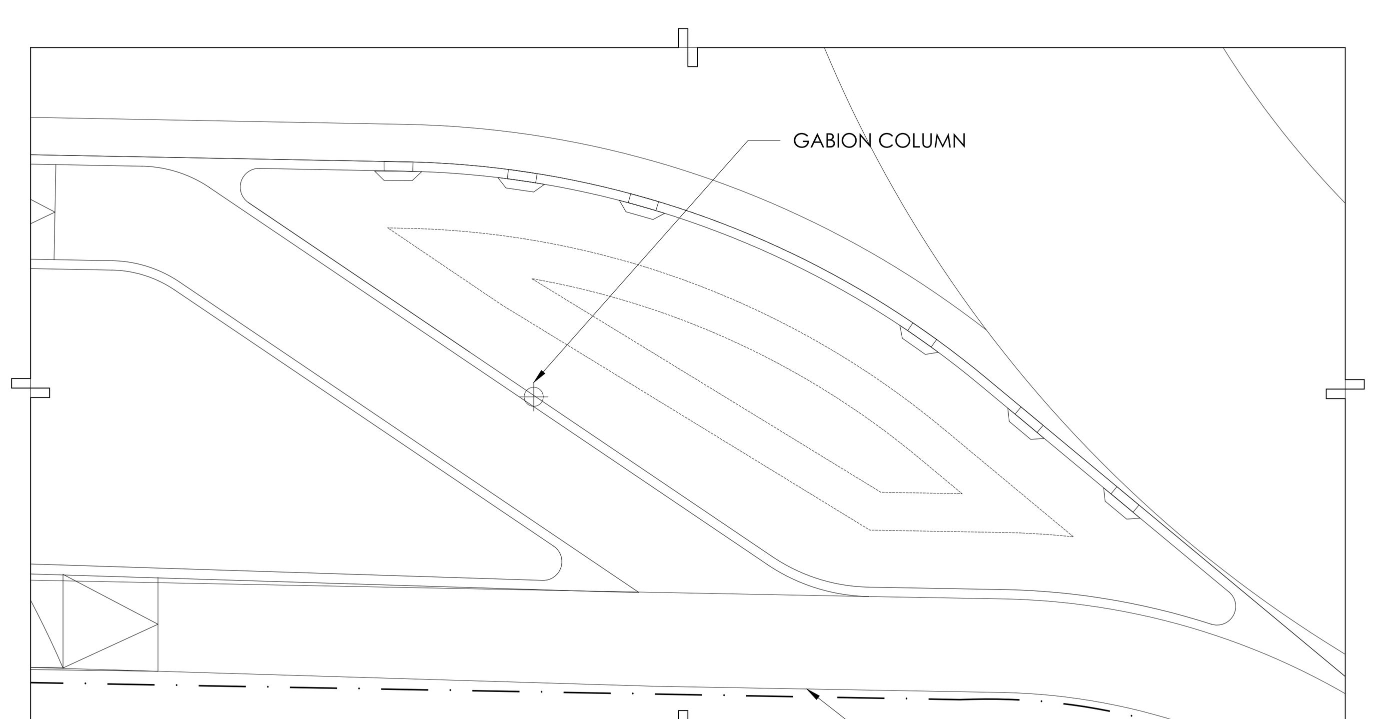
Project # 2022.04
Drawn by MOS
Checked by ERCI



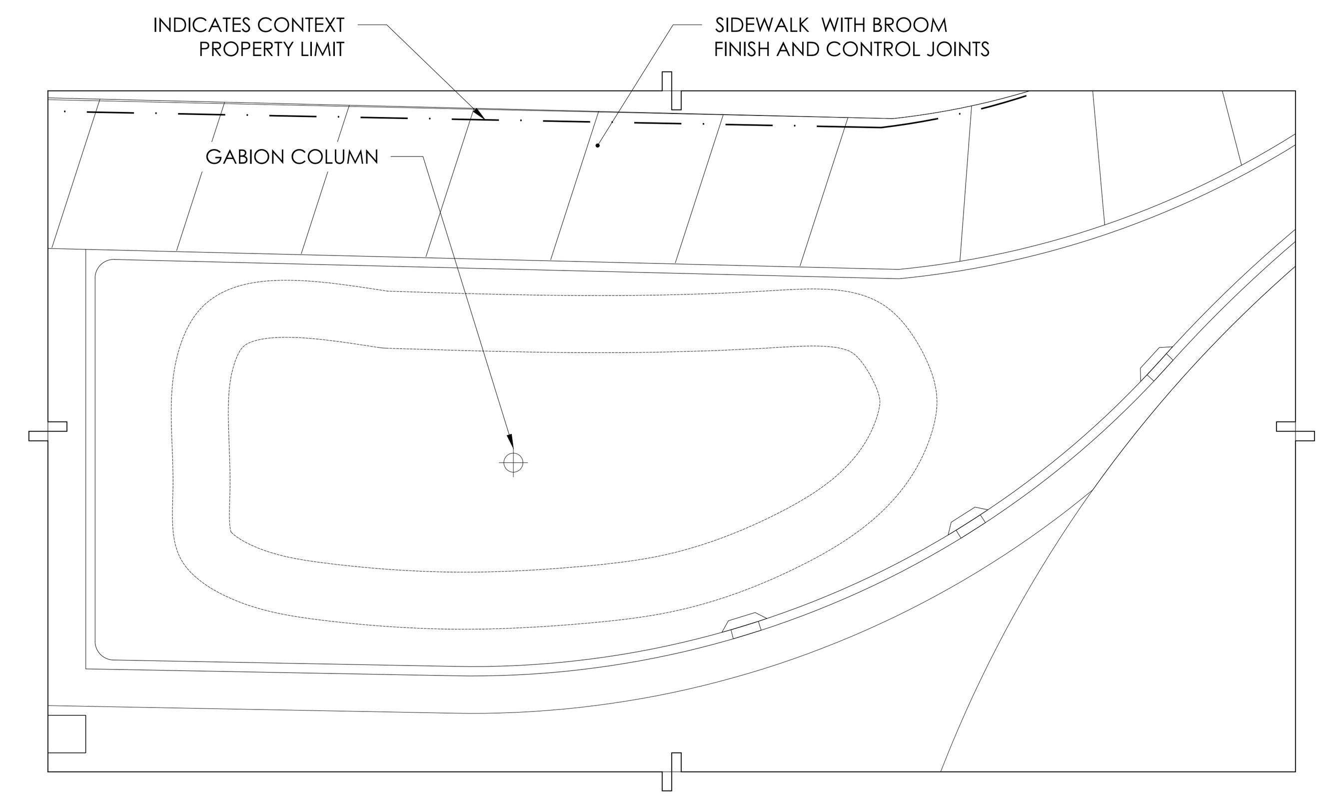
1 Bioswale Plan Zone #11
SCALE: 1/8"=1'-0"



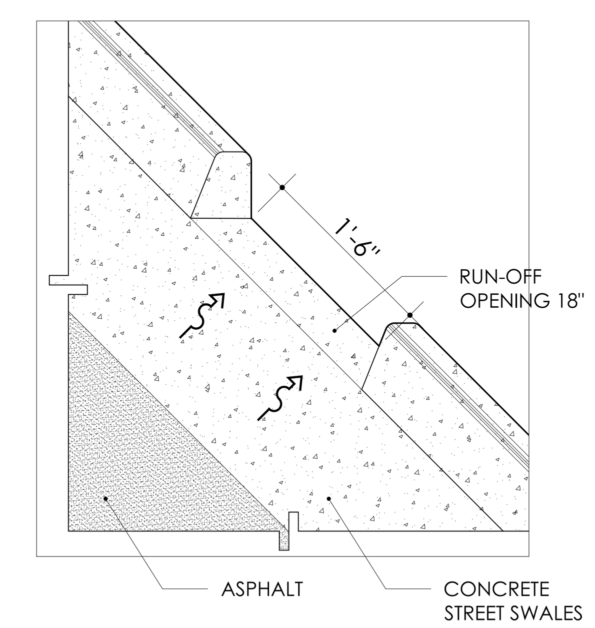
2 Bioswale Plan Zone #12
SCALE: 1/8"=1'-0"



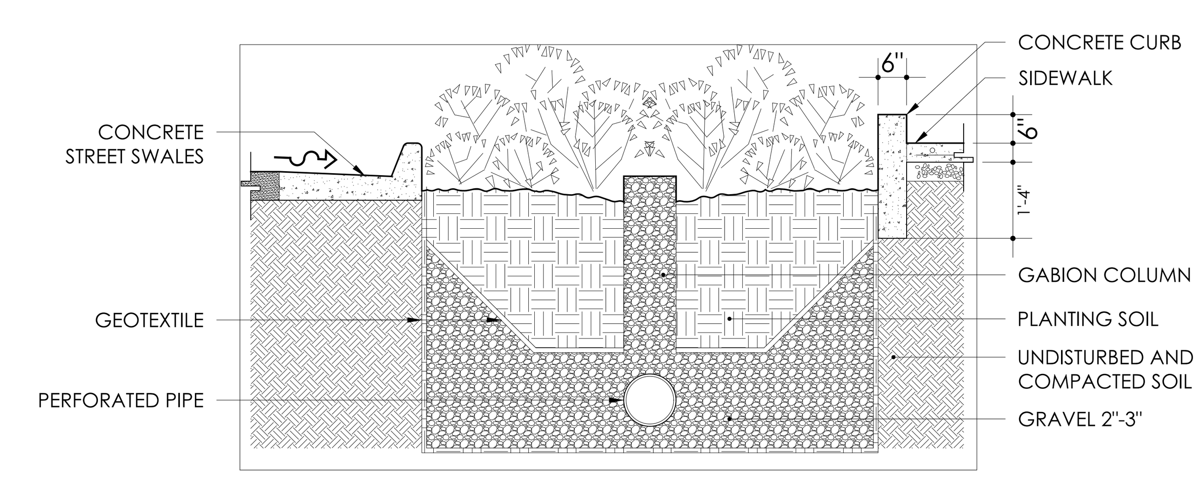
3 Bioswale Plan Zone #13
SCALE: 1/8"=1'-0"



4 Bioswale Plan Zone #14
SCALE: 3/32"=1'-0"



5 Run-Off Detail
NOT TO SCALE



6 KEY PLAN-BIOSWALE LOCATIONS
NOT TO SCALE

General Notes

IMPORTANT INFORMATION FOR THE CONTRACTOR

Contractor shall verify al dimensions, levels and condition on-site before commencing any and all work. Any discrepancy, error or omission in these plans shall be notified to the Architect, Landscape Architect or Engineer who stamps and signs these drawings so that proper corrections to the documents can be made.

Do not take any measurements from the physical drawings.

Only use documents with a "FOR CONSTRUCTION ONLY" stamp and sealed and signed by the designer.

Yo, Edmundo Colon Arizmendi PE, con licencia número 7812, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

No.	Description	Date

ECo
LANDSCAPE + ARCHITECTURE + ENGINEERING

103 Calle Isabel Andreu Aguilar, 4to Piso, San Juan,PR 00918
787-764-0610 eco-designstudio.com

Bioswale Plan & Details

T.B.Roundabout P.R. - CRP: 000948

Ave. Sabana Seca Int., Calle Rufino Ramírez, Levittown, Toa Baja, PR

Autonomous Municipality of Toa Baja

Seal:

SIGNING ARCH
License #

File Name: 2022.04-Rotondas Toa Baja

Date 09-19-2023 | Scale Scale:1'-0"=1/16"

Sheet

A-102

Project # 2022.04
Drawn by MOS
Checked by ERCI

PR-CRP-000964

Rotonda Ave. Sabana Seca int. Ave. Dr. Diego Alvarez Chanca, Levittown

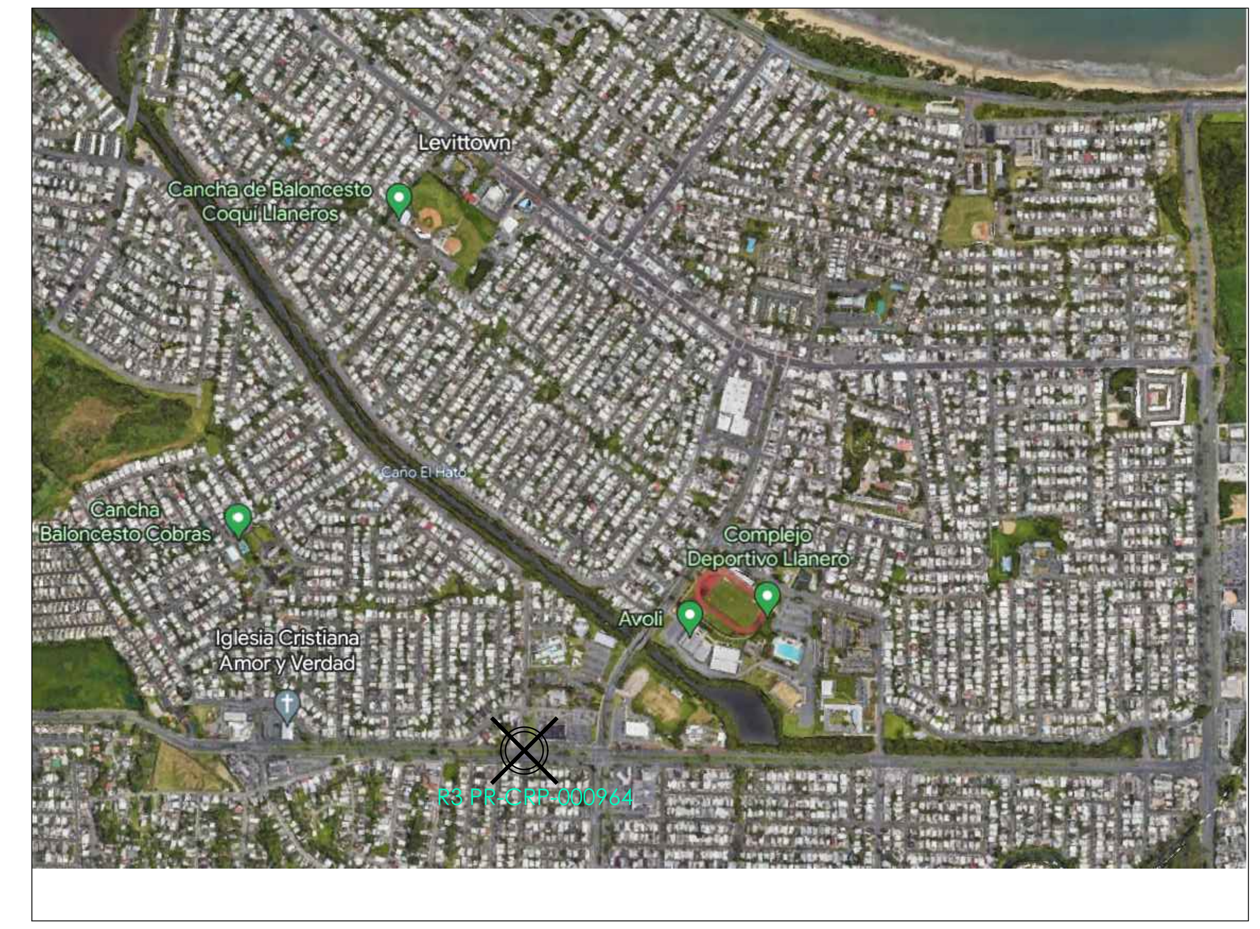
Toa Baja, Puerto Rico

60% Design Drawings

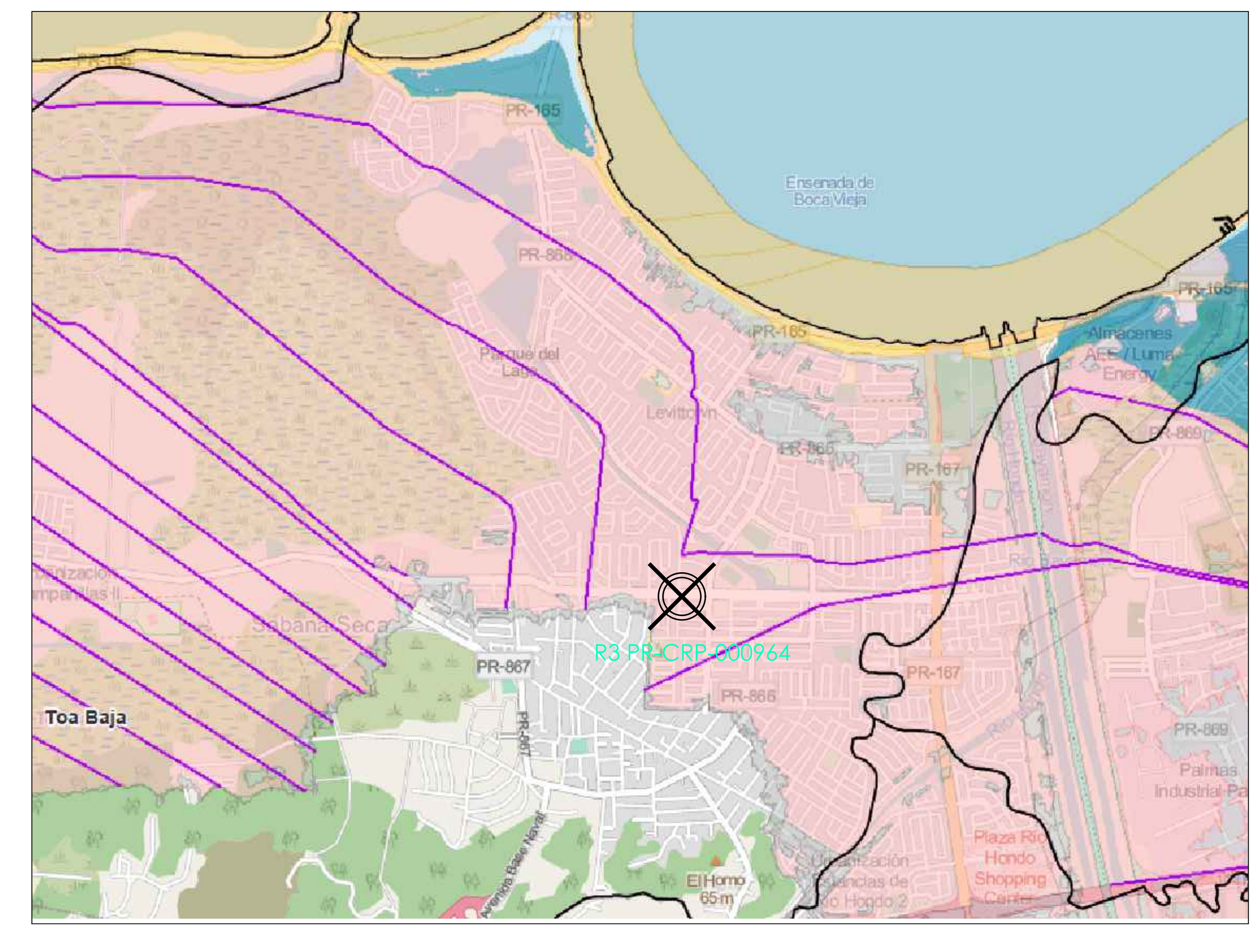
Sheet List

Sheet Order	Sheet Number	Sheet Name
1	T1	Title Sheet
2	SU-100	Survey
3	CI-100	General Site Plan
4	CI-101	Typical Sections
5	CI-102	Typical Sections
6	CI-103	General Demolition Plan
7	CI-104	Tree & Vegetation Removal Plan
8	CI-105	Sanitary & Potable Water Improvement Plan
9	CI-106	Stormwater Improvement Plan
10	CI-107	Electrical Demolition Plan
11	CI-108	SEC Plan
12	CI-109	SEC Details
13	CI-200	Geometry Plan
14	CI-201	Geometry Alignments
15	CI-202	Geometry Alignment Tables
16	CI-203	Pavement & Curb Schedule
17	CI-204	Pavement Markings & Traffic Signs
18	CI-205	Typical Site Details
19	CI-206	Sections & Profiles
20	CI-300	Grading Plan
21	CI-400	Stormwater Plan
22	CI-401	Basin Areas
23	CI-402	Stormater Profiles
24	CI-403	Stormwater Typical Details
25	LA-200	Existing Tree Inventory & Removal Plan
26	LA-201	Tree Mitigation Plan
27	LA-300	Planting Scope Area & Details
28	LA-301	Planting Area Details
29	LA-301	Planting Area Details
30	A-100	Ground Floor Details
31	A-101	Floor Pattern Plan
32	A-102	Bioswale Plan & Details

Zoning Map



Location Map



Flood Map Panel: 72000C0330J
Fecha de Efectividad: 13.Abril.2018 Fecha de Revision del geodato 12.Mayo.2018

60% Design Development Revision

PR-CRP-000964 Rotonda Ave. Sabana Seca int. Ave. Dr. Diego Alvarez Chanca, Levittown

Levittown, Toa Baja, PR
Toa Baja Municipality

Toa Baja Roundabouts
Levittown, Toa Baja, PR
Municipality of Toa Baja

Consultants

Electric Engineer
Leonardo J. Vidal PE
PO Box 363164
San Juan, PR 00936-3164
787.765.5631
oficinaljv@gmail.com

ECo
Landscape + Architecture + Engineering

103 Calle Isabel Andreu Aguilar, 4to Piso. San Juan,PR 00918
787-764-0610 eco-designstudio.com

Seal:

Edmundo Colón Izquierdo
License #19992

Date 09/19/2023

Sheet T-1

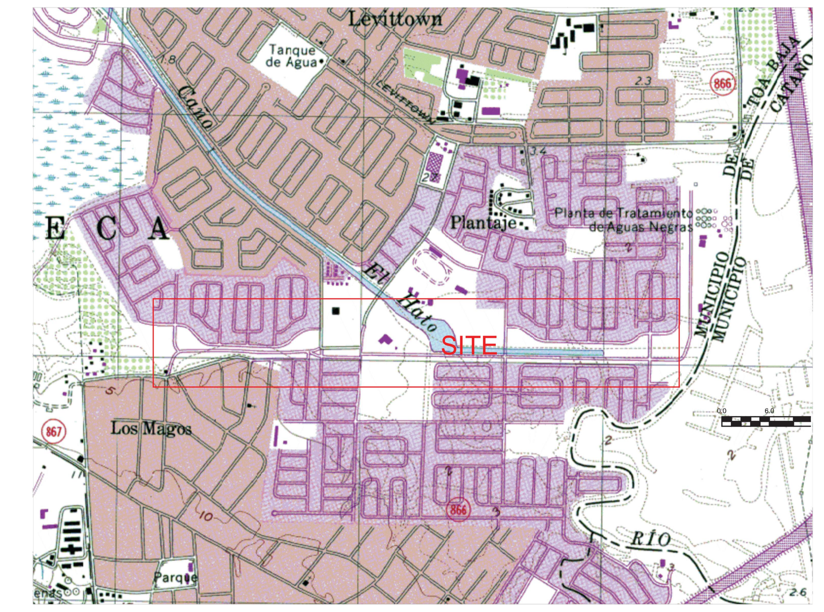
Project # PR-CRP-000964

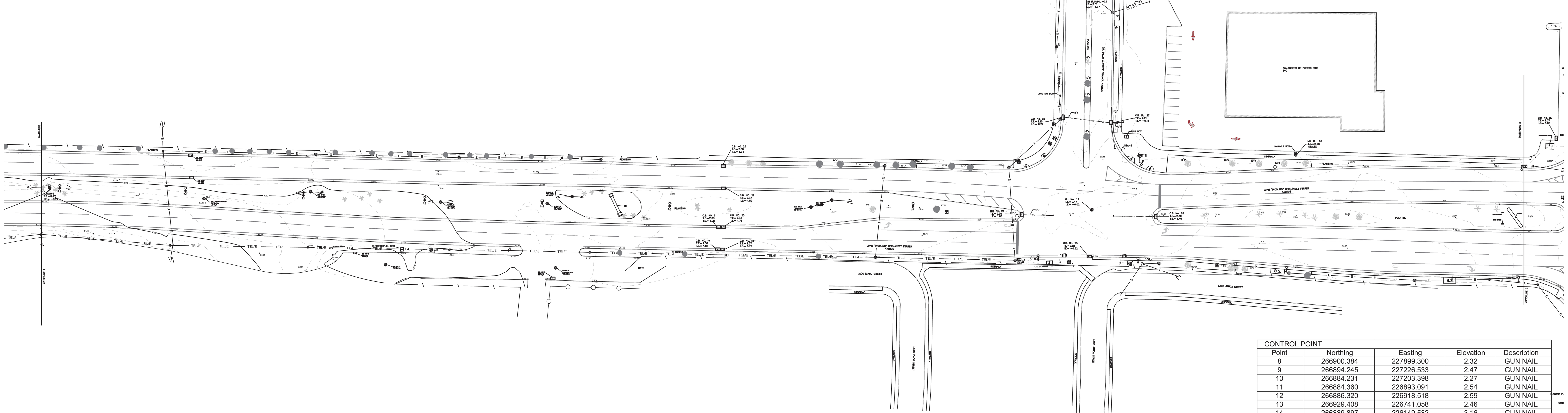
ADVANCED COPY

SCALE (24x36) 1:600

LEGEND:

- CONTROL STATION
- PROPERTY POINT
- WATER MANHOLE
- SANITARY MANHOLE
- TELEPHONE MANHOLE
- MANHOLE
- WATER METER
- WATER VALVE
- AIRVENT
- PREPA METER
- GAS VALVE
- CONCRETE LIGHT POLE
- CONCRETE POWER POLE
- UTILITY POLE
- TELEPHONE POLE
- ELECTRIC BOX
- TELEPHONE BOX
- WATER VALVE
- GASE LINE
- METAL FENCE
- TELEPHONE/ELECTRIC
- PROPERTY LINE
- EXISTING STRUCTURES
- CABLE TV BOX
- TRAFFIC LIGHT BOX
- WOODEN POWER POLE
- METAL LIGHT POLE
- Z:140.16 SPOT ELEVATION
- FIRE HYDRANT
- GUY CABLE
- EXISTING TREE
- EXISTING PALM TREE
- CATCH BASINS
- INLET
- CONCRETE GUTTER
- CENTER LINE
- WATER LINE
- STORM SEWER LINE
- TELEPHONE LINE
- POWER LINE
- CHAIN LINK FENCE
- CHAIN LINK FENCE WITH CONC. BASE
- SIGN
- TRAFFIC LIGHT
- BOLLARD





CONTROL POINT				
Point	Northing	Easting	Elevation	Description
8	266900.384	227899.300	2.32	GUN NAIL
9	266894.245	227226.533	2.47	GUN NAIL
10	266884.231	227203.398	2.27	GUN NAIL
11	266884.360	226893.091	2.54	GUN NAIL
12	266886.320	226918.518	2.59	GUN NAIL
13	266929.408	226741.058	2.46	GUN NAIL
14	266889.897	226149.582	3.16	GUN NAIL
5	266907.565	226706.487	2.54	GUN NAIL

SURVEYORS NOTE:

1. The horizontal control used on this plan are P.R. Lambert NAD 83 rev.2011 epoch 2010:0000 and elev. are referred to orthometric height (Geoid 18).

2. All horizontal measurements are in meters unless otherwise specified.

3. Lambert system was established by gps observations using trimble double frequency receivers using a VRS system provided by HLCM Group.

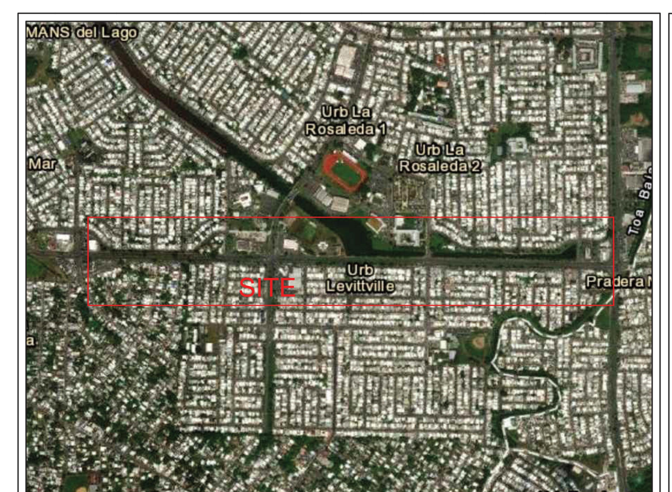
4. The information depicted on this plan represents the results of the survey performed on the date indicated.

5. The information provided on this plan show all currently existing structures, properties and utilities above or below the ground as revealed by public records or observable evidence over ground inspection.

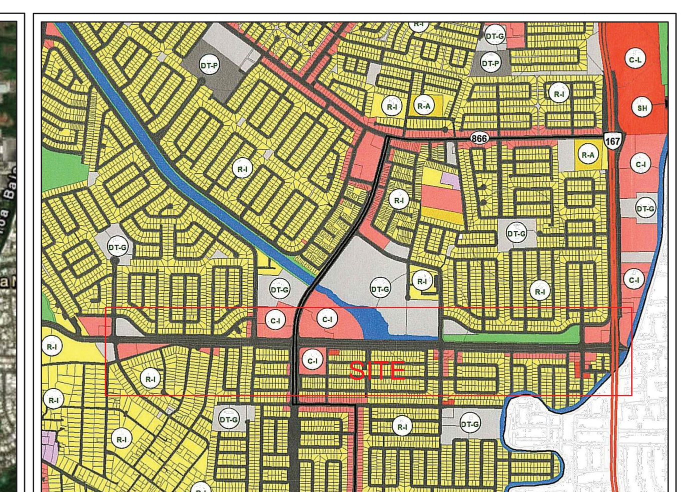
6. As stated in the manual for the professional practice and guidelines for the compensation of professional services, published by the ciapr, in the sections 6.2.4.2, 7.2.1, 7.2.2 , 7.2.4, it is the client, owner, or authorized representative responsibility to corroborate the names of the affected property owners by performing a title search.

7. If expert occupation in a court of justice is necessary, such work will be billed according the latest revision of exhibits 17 of the manual for professional practice and guidelines for the compensations of professional service published by the CIAPR.

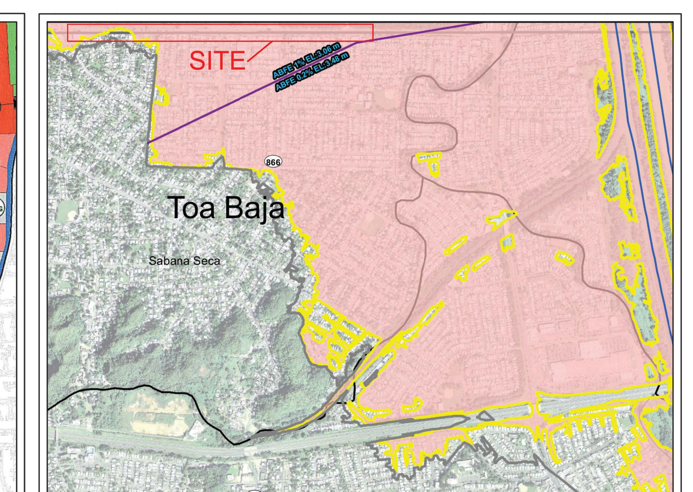
8. The field work was performed in July 26, 2023.



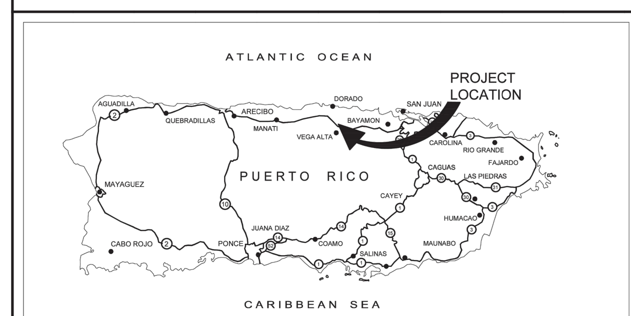
AERIAL PHOTO FROM 2023 N.T.S.



ZONING MAP N.T.S.
"MAPA DE ZONIFICACION DEL MUNICIPIO DE TOA BAJA"
ZONE: PREDOMINANT ZONES: ZU-P (ZONA DE USO DE GOBIERNO)
VALIDITY: MAY 04, 2018



ADVISORY MAP (FEMA FLOOD MAP) N.T.S.
MAP: 72000C0345J
ZONE: A
EFFECTIVE DATE: APRIL 13, 2018



PREPARED BY:

fss LAND SURVEYORS & Consultants
PO BOX 2075, AIBONITO, P.R., 00705
TEL. / FAX (787) 746-5039

CLIENT NAME:

Toa Baja ORGULLOSAMENTE LLANERO

PROJECT:

AS BULD AV.PICOLINO

LOCATED AT
AV. JUAN PICOLINO HERNANDEZ FERRER, SABANA SECA WARD
TOA BAJA, PUERTO RICO

PROFESSIONAL STAMP

SIGNATURE BLOCK

REVISIONS:

Drawn by: B.FELICIANO	Revised by: F.SANTIAGO
Date: AUG/8/2023	Scale: AS SHOWN
DWG. NO. 1	SHEET NO. 2 / 5 TOTAL SHEETS

1 Survey
1:500

General Notes

IMPORTANT INFORMATION FOR THE CONTRACTOR

Contractor shall verify al dimensions, levels and condition on-site before commencing any and all work. Any discrepancy, error or omission in these plans shall be notified to the Architect, Landscape Architect or Engineer who stamps and signs these drawings so that proper corrections to the documents can be made.

Do not take any measurements from the physical drawings.

All drawings, specifications and other documents are property of ECo and can solely be used as an instrument of the Architect, Landscape Architect or Engineers' service as reference for this project.

Only use documents with a “FOR CONSTRUCTION ONLY” stamp and sealed and signed by the designer.

Yo, Edmundo Colon Arizmendi PE, con licencia número 7812, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

No.	Description	Date

ECo
LANDSCAPE + ARCHITECTURE + ENGINEERING
103 Calle Isabel Andreu Aguilar, 4to Piso, San Juan,PR 00918
787-764-0610 eco-designstudio.com

TB Roundabouts: PR-CRP-000964
Ave. Sabana seca Int. Ave. Dr. Diego Ålvarez Chanca, Levittown
Autonomous Municipality of Toa Baja

Survey

Seal:

SIGNING ENGR
License #

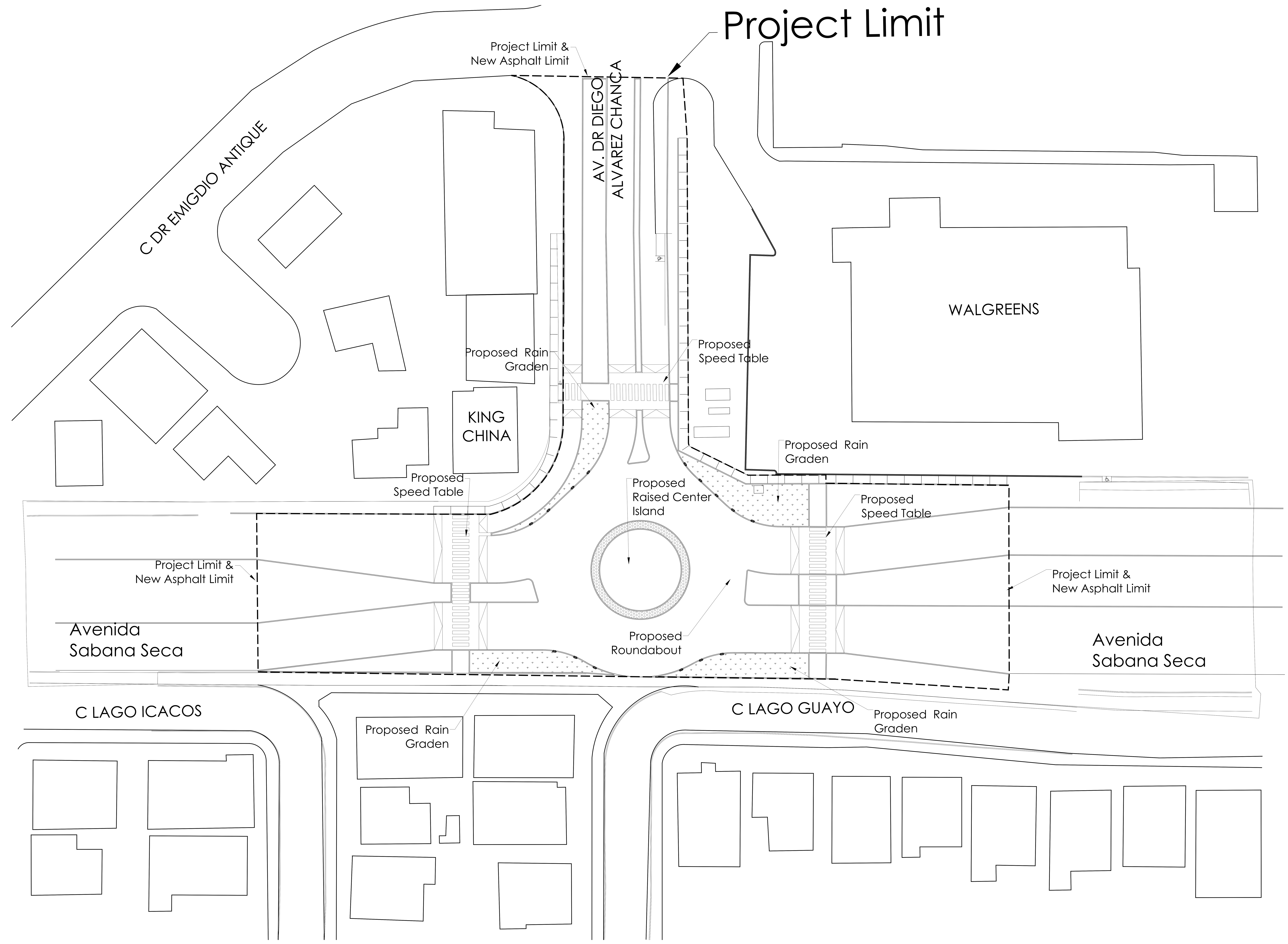
File Name: 2023.04-Rotondas Toa Baja-Geometry-PR-CRP-000964

Date 09/19/2023 | Scale 1:300

Sheet

SU-100

Project # PR-CRP: 000964
Drawn by JFV
Checked by ECA



1 General Site Plan
1:300

General Notes

IMPORTANT INFORMATION FOR THE CONTRACTOR

Contractor shall verify al dimensions, levels and condition on-site before commencing any and all work. Any discrepancy, error or omission in these plans shall be notified to the Architect, Landscape Architect or Engineer who stamps and signs these drawings so that proper corrections to the documents can be made.

Do not take any measurements from the physical drawings.

All drawings, specifications and other documents are property of ECo and can solely be used as an instrument of the Architect, Landscape Architect or Engineers' service as reference for this project.

ECo, the signing Architect, Landscape Architect or Engineer, and Eco's Consultants shall be deemed the author(s) of these documents and shall retain all common and statutory laws, including reserved and copyright(s). The full and/or partial reproduction of these drawings may only be done with the express written consent of the Architect, Landscape Architect or Engineer.

Only use documents with a "FOR CONSTRUCTION ONLY" stamp and sealed and signed by the designer.

Yo, Edmundo Colon Arizmendi PE, con licencia número 7812, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

No.	Description	Date

ECo
LANDSCAPE + ARCHITECTURE + ENGINEERING

103 Calle Isabel Andreu Aguilar, 4to Piso, San Juan,PR 00918
787-764-0610 eco-designstudio.com

General Site Plan

TB Roundabouts: PR-CRP-000964

Ave. Sabana seca Int. Ave. Dr. Diego Ålvarez Chanca, Levittown

Autonomous Municipality of Toa Baja

Seal:

SIGNING ARCH
License #

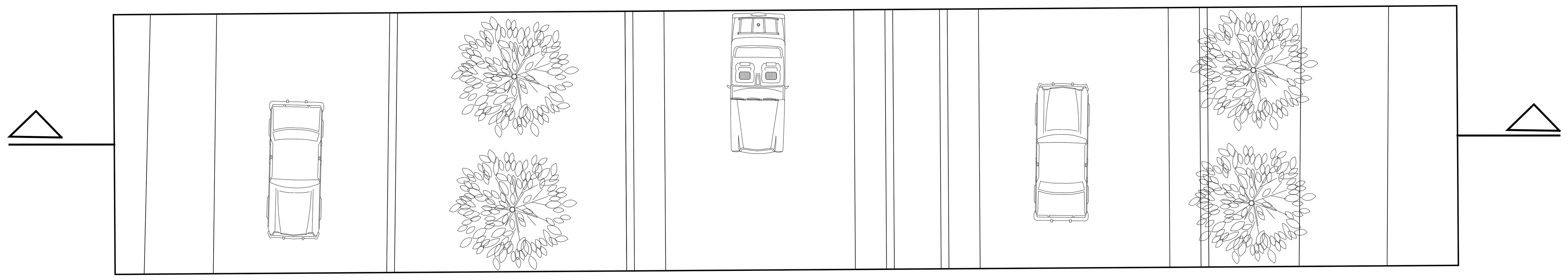
File Name: 2023.04-Rotondas Toa Baja-Geometry-PR-CRP-000964

Date	Scale
09/19/2023	1:300

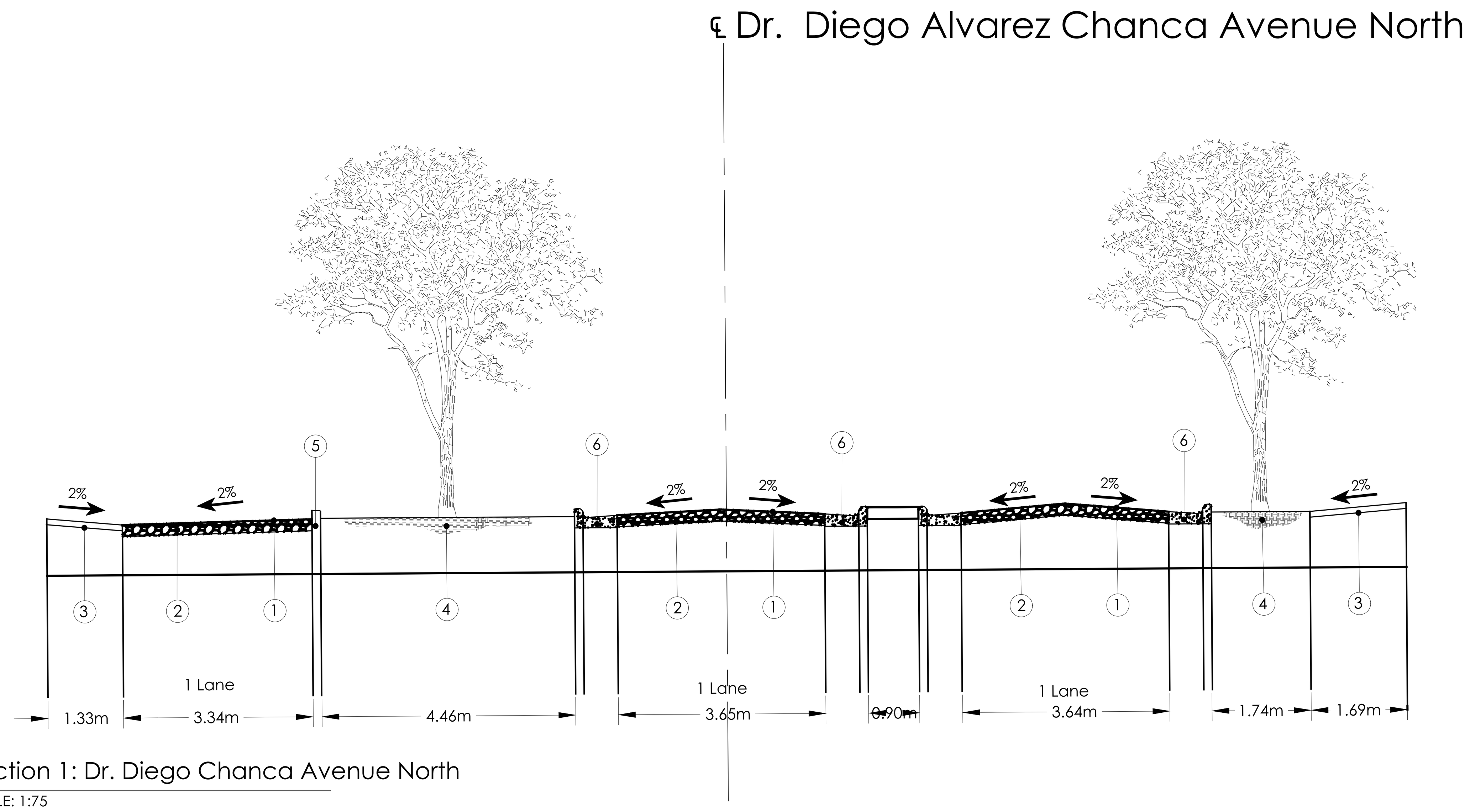
Sheet

CI-100

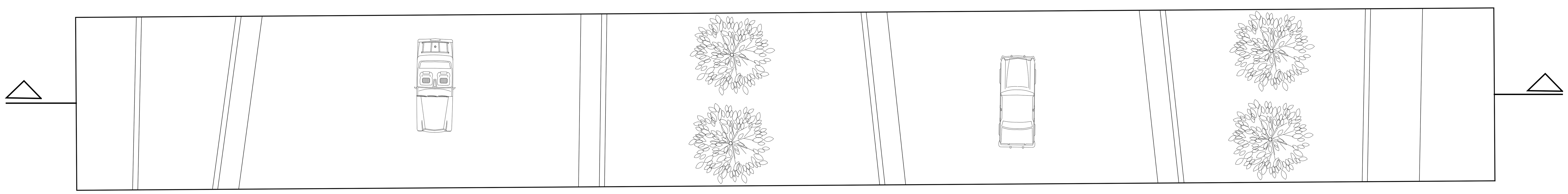
Project #	PR-CRP: 000964
Drawn by	JFV
Checked by	ECA



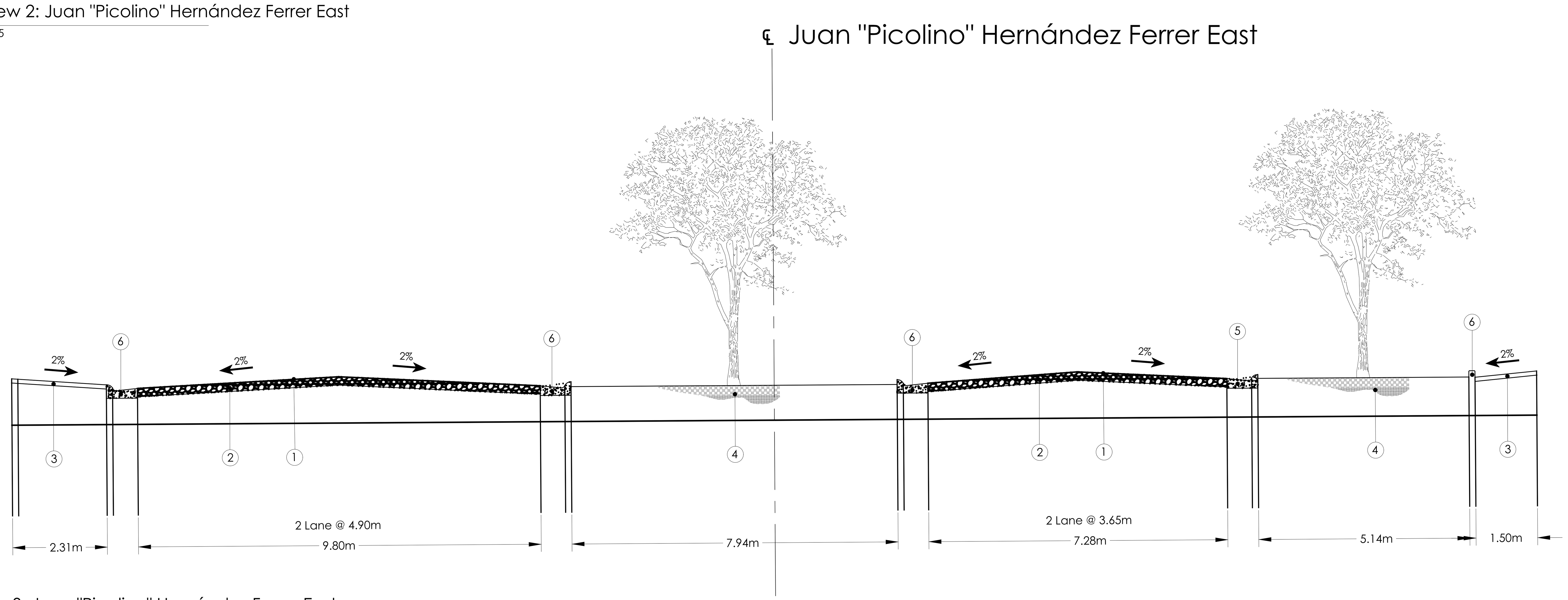
1 Top View 1: Dr. Diego Chanca Avenue North
SCALE: 1:75



2 Section 1: Dr. Diego Chanca Avenue North
SCALE: 1:75



3 Top View 2: Juan "Picolino" Hernández Ferrer East
SCALE: 1:75



4 Section 3: Juan "Picolino" Hernández Ferrer East
SCALE: 1:75

General Notes

IMPORTANT INFORMATION FOR THE CONTRACTOR

Contractor shall verify al dimensions, levels and condition on-site before commencing any and all work. Any discrepancy, error or omission in these plans shall be notified to the Architect, Landscape Architect or Engineer who stamps and signs these drawings so that proper corrections to the documents can be made.

Do not take any measurements from the physical drawings.

Only use documents with a "FOR CONSTRUCTION ONLY" stamp and sealed and signed by the designer.

Yo, Edmundo Colon Arizmendi PE, con licencia número 7812, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

No.	Description	Date

ECo
Landscape + Architecture + Engineering
103 Calle Isabel Andreu Aguilar, 4to Piso, San Juan,PR 00918
787-764-0610 eco-designstudio.com

Typical Sections

TB Roundabouts: PR-CRP-000964

Ave. Sabana seca Int. Ave. Dr. Diego Álvarez Chanca, Levittown

Autonomous Municipality of Toa Baja

Seal:

SIGNING ARCH
License #

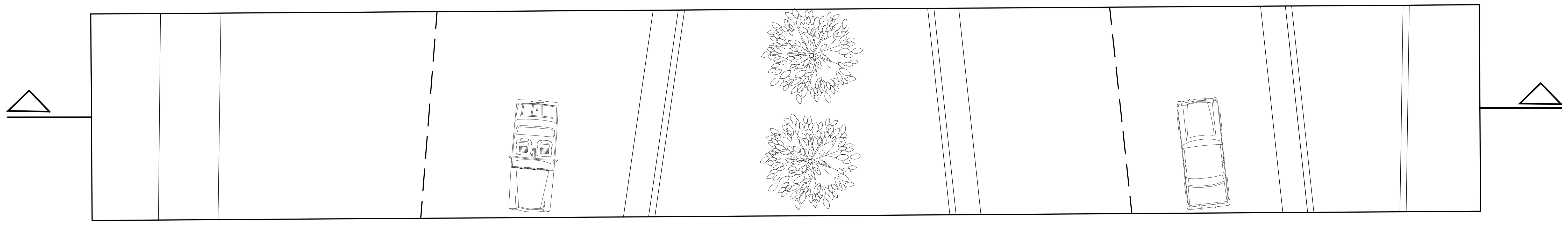
File Name: 2023.04-Rotondas Toa Baja-Geometry-PR-CRP-000964

Date	Scale
09/19/2023	1:75

Sheet

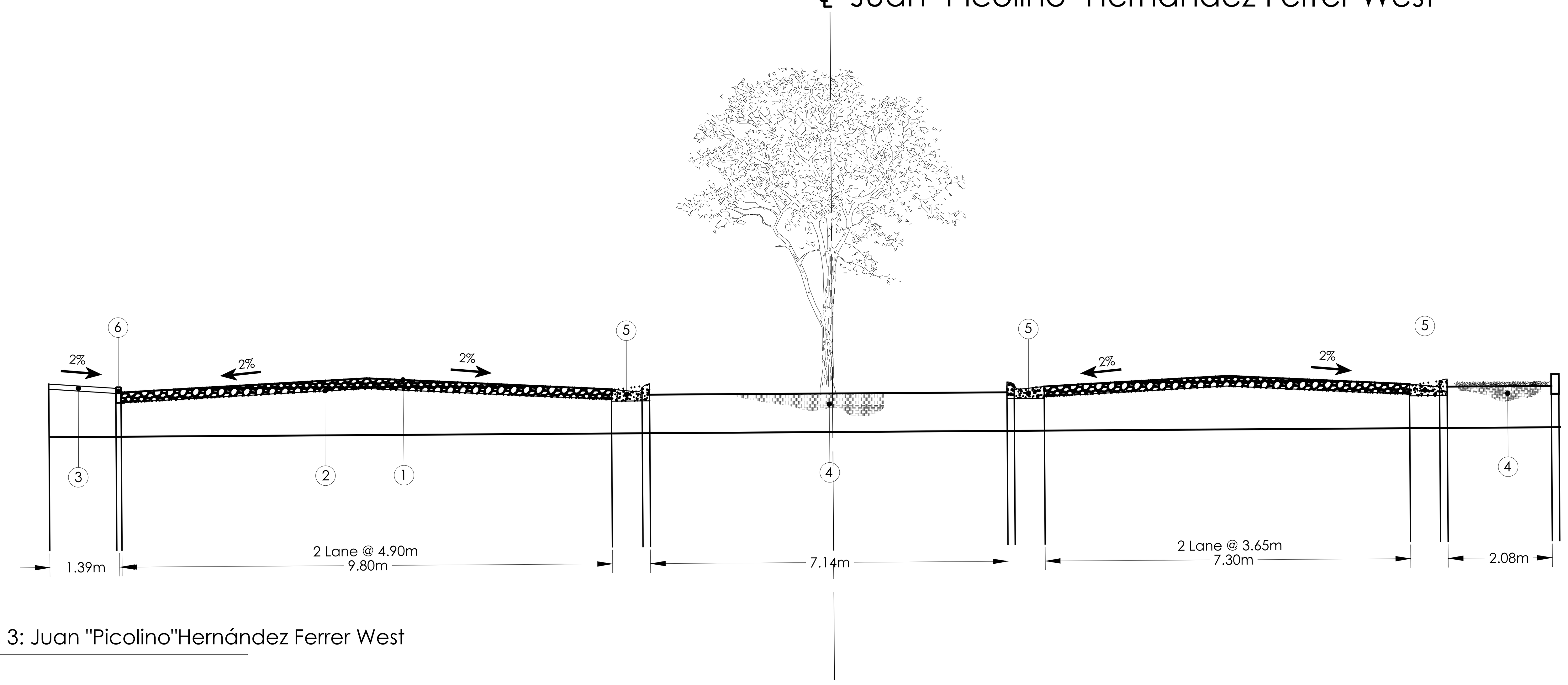
CI-101

Project #	PR-CRP: 000964
Drawn by	DBM
Checked by	ECA

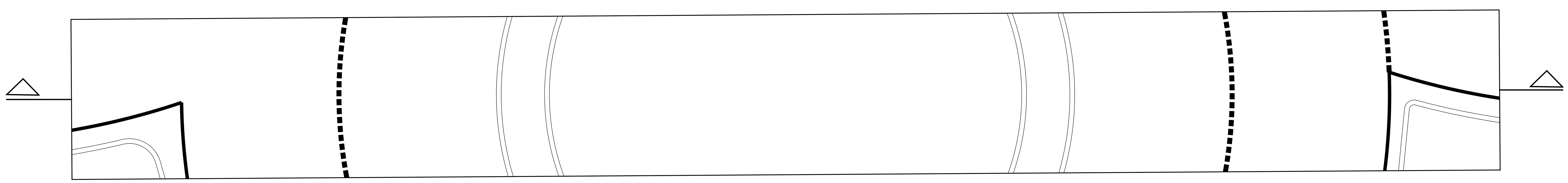


5 Top View 3: Juan "Picolino"Hernández Ferrer
SCALE: 1:75

℄ Juan "Picolino" Hernández Ferrer West

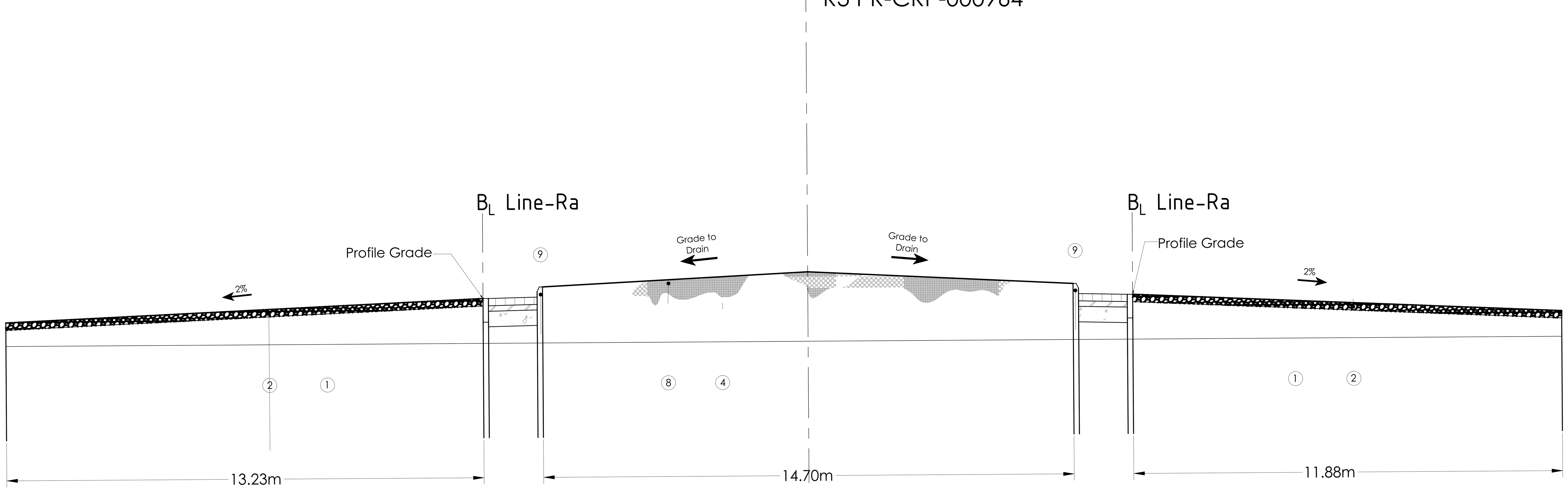


6 Section 3: Juan "Picolino"Hernández Ferrer West
SCALE: 1:75



9 Top View 4: R3 PR-CRP-000964
SCALE: 1:75

℄ Roundbout
R3 PR-CRP-000964



8 Section 4: R3 PR-CRP-000964
SCALE: 1:75

Legend:

(1)	0.05m	Hot Plant Mix Bituminous Surface Pavement
(2)	0.2032m	Aggregate Base Course, (Spec. 304)
(3)	0.10m	Concrete Sidewalk (Spec. 608)
(4)	0.10m	Sodding & Topsoil (Spec. 627)
(5)		Concrete Curb, Type "A" (Spec.)
(6)		Concrete Curb, Type "B" (Spec.)
(7)		Concrete Curb, Type "C" (Spec.)
(8)		Concrete Curb, Type "D" (Spec.)
(9)		Existing Vehicle Ramp
(10)		Concrete Pavement Water way
(11)		Class "D" Borrow

Hot Plan Mix Bituminous Surface Pavement

Hot Plan Mix Bituminous Base Pavement

Aggregate Base Course

General Notes

IMPORTANT INFORMATION FOR THE CONTRACTOR

Contractor shall verify al dimensions, levels and condition on-site before commencing any and all work. Any discrepancy, error or omission in these plans shall be notified to the Architect, Landscape Architect or Engineer who stamps and signs these drawings so that proper corrections to the documents can be made.

Do not take any measurements from the physical drawings.

All drawings, specifications and other documents are property of ECo and can solely be used as an instrument of the Architect, Landscape Architect or Engineers' service as reference for this project.

Only use documents with a "FOR CONSTRUCTION ONLY" stamp and sealed and signed by the designer.

Yo, Edmundo Colon Arizmendi PE, con licencia número 7812, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

No.	Description	Date

ECo
LANDSCAPE + ARCHITECTURE + ENGINEERING
103 Calle Isabel Andreu Aguilar, 4to Piso, San Juan,PR 00918
787-764-0610 eco-designstudio.com

Typical Sections

TB Roundabouts: PR-CRP-000964

Ave. Sabana seca Int. Ave. Dr. Diego Ålvarez Chanca, Levittown

Autonomous Municipality of Toa Baja

Seal:

SIGNING ARCH
License #

File Name: 2023.04-Rotondas Toa Baja-Geometry-PR-CRP-000964

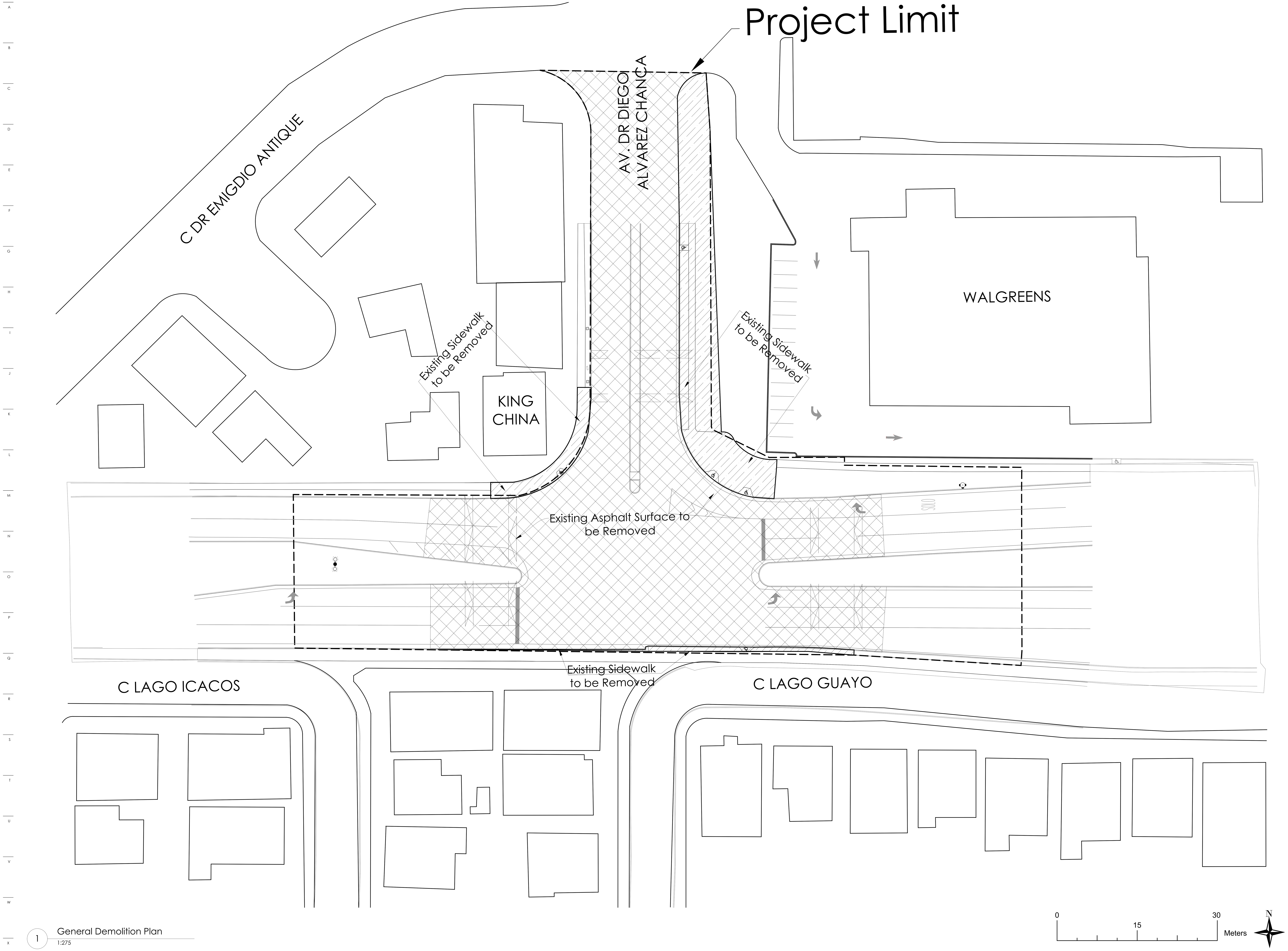
Date	Scale
09/19/2023	1:75

Sheet

CI-102

Project #	PR-CRP: 000964
Drawn by	DBM
Checked by	ECA

N



1 General Demolition Plan
1:275

General Notes

IMPORTANT INFORMATION FOR THE CONTRACTOR

Contractor shall verify al dimensions, levels and condition on-site before commencing any and all work. Any discrepancy, error or omission in these plans shall be notified to the Architect, Landscape Architect or Engineer who stamps and signs these drawings so that proper corrections to the documents can be made.

Do not take any measurements from the physical drawings.

All drawings, specifications and other documents are property of ECo and can solely be used as an instrument of the Architect, Landscape Architect or Engineers' service as reference for this project.

ECo, the signing Architect, Landscape Architect or Engineer, and Eco's Consultants shall be deemed the author(s) of these documents and shall retain all common and statutory laws, including reserved and copyright(s). The full and/or partial reproduction of these drawings may only be done with the express written consent of the Architect, Landscape Architect or Engineer.

Only use documents with a "FOR CONSTRUCTION ONLY" stamp and sealed and signed by the designer.

Yo, Edmundo Colon Arizmendi PE, con licencia número 7812, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

No.	Description	Date

ECo
Landscape + Architecture + Engineering

103 Calle Isabel Andreu Aguilar, 4to Piso, San Juan,PR 00918
787-764-0610 eco-designstudio.com

General Demolition Plan

TB Roundabouts: PR-CRP-000964

Ave. Sabana seca Int. Ave. Dr. Diego Álvarez Chanca, Levittown
Autonomous Municipality of Toa Baja

Seal:

SIGNING ARCH
License #

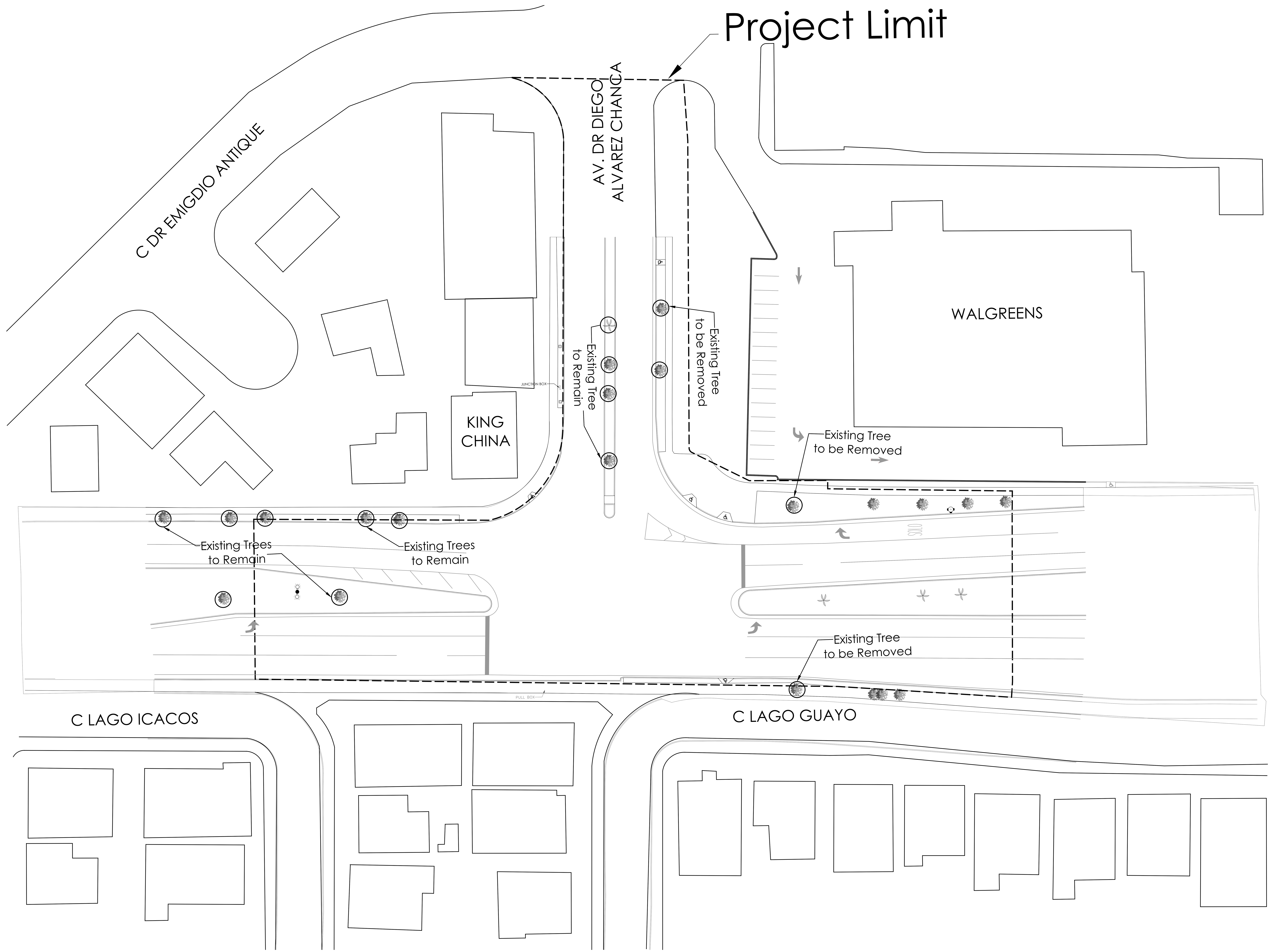
File Name:
2023.04-Rotondas Toa Baja-Geometry-PR-CRP-000964

Date	Scale
09/19/2023	1:275

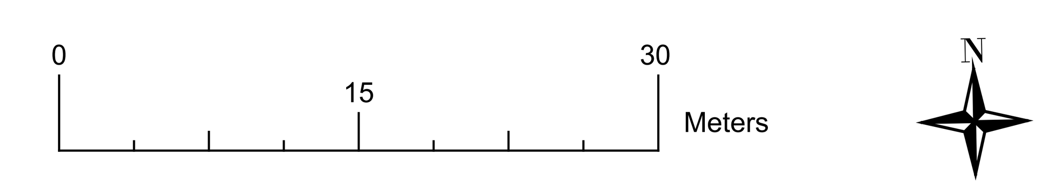
Sheet

CI-103

Project #	PR-CRP: 000964
Drawn by	JFV
Checked by	ECA



1 Tree and Vegetation Removal Plan
1:275



General Notes

IMPORTANT INFORMATION FOR THE CONTRACTOR

Contractor shall verify al dimensions, levels and condition on-site before commencing any and all work. Any discrepancy, error or omission in these plans shall be notified to the Architect, Landscape Architect or Engineer who stamps and signs these drawings so that proper corrections to the documents can be made.

Do not take any measurements from the physical drawings.

All drawings, specifications and other documents are property of ECo and can solely be used as an instrument of the Architect, Landscape Architect or Engineers' service as reference for this project.

Only use documents with a "FOR CONSTRUCTION ONLY" stamp and sealed and signed by the designer.

Yo, Edmundo Colon Arizmendi PE, con licencia número 7812, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

No.	Description	Date

ECo
Landscape + Architecture + Engineering

103 Calle Isabel Andreu Aguilar, 4to Piso, San Juan,PR 00918
787-764-0610 eco-designstudio.com

Tree & Vegetation Removal Plan

TB Roundabouts: PR-CRP-000964

Ave. Sabana seca Int. Ave. Dr. Diego Álvarez Chanca, Levittown

Autonomous Municipality of Toa Baja

Seal:

SIGNING ARCH
License #

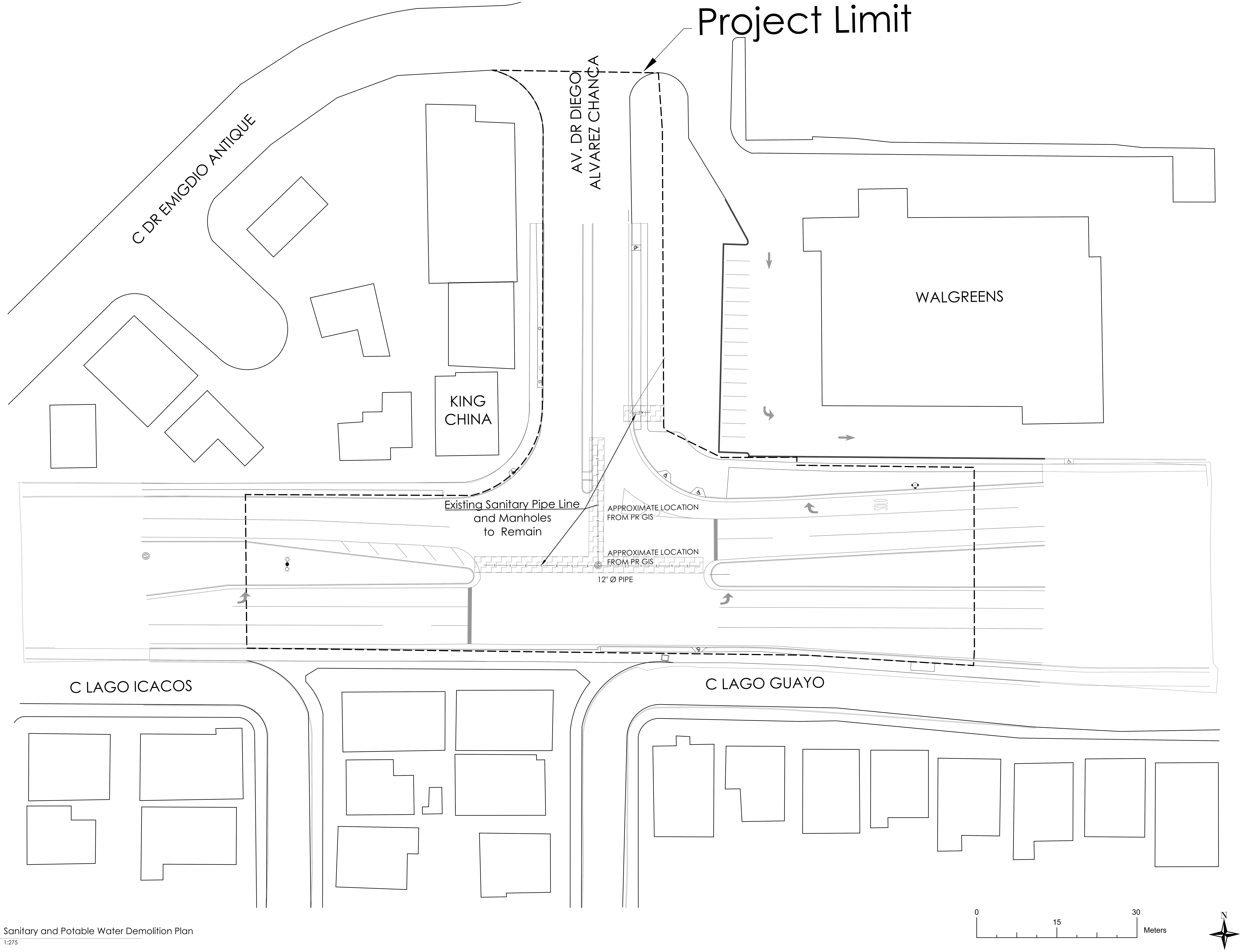
File Name:
2023.04-Rotondas Toa Baja-Geometry-PR-CRP-000964

Date	Scale
09/19/2023	1:300

Sheet

CI-104

Project #	PR-CRP: 000964
Drawn by	JFV
Checked by	ECA



1 Sanitary and Potable Water Demolition Plan
1:275

General Notes

IMPORTANT INFORMATION FOR THE CONTRACTOR

Contractor shall verify al dimensions, levels and condition on-site before commencing any and all work. Any discrepancy, error or omission in these plans shall be notified to the Architect, Landscape Architect or Engineer who stamps and signs these drawings so that proper corrections to the documents can be made.

Do not take any measurements from the physical drawings.

Only use documents with a "FOR CONSTRUCTION ONLY" stamp and sealed and signed by the designer.

Yo, Edmundo Colon Arizmendi PE, con licencia número 7812, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

No.	Description	Date

ECo
LANDSCAPE + ARCHITECTURE + ENGINEERING

103 Calle Isabel Andreu Aguilar, 4to Piso, San Juan,PR 00918
787-764-0610 eco-designstudio.com

Sanitary & Potable Water Improvement Plan

TB Roundabouts: PR-CRP-000964

Ave. Sabana seca Int. Ave. Dr. Diego Álvarez Chanca, Levittown

Autonomous Municipality of Toa Baja

Seal:

SIGNING ARCH
License #

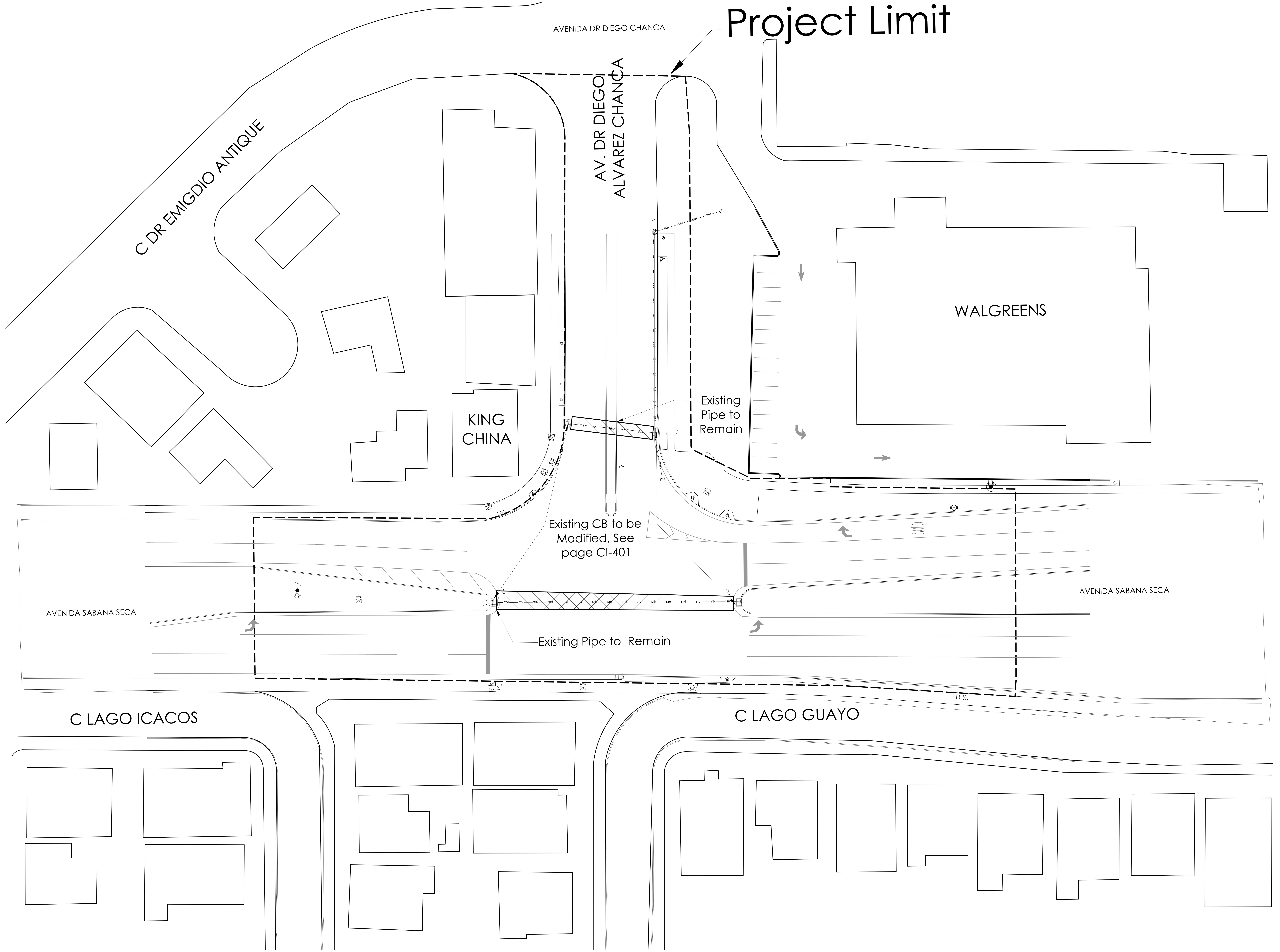
File Name:
2023.04-Rotondas Toa Baja-Geometry-PR-CRP-000964

Date	Scale
09/19/2023	1:300

Sheet

CI-105

Project #	PR-CRP: 000964
Drawn by	JFV
Checked by	ECA



1 Stormwater Demolition Plan
1:275

0 15 30
Meters

General Notes

IMPORTANT INFORMATION FOR THE CONTRACTOR

Contractor shall verify al dimensions, levels and condition on-site before commencing any and all work. Any discrepancy, error or omission in these plans shall be notified to the Architect, Landscape Architect or Engineer who stamps and signs these drawings so that proper corrections to the documents can be made.

Do not take any measurements from the physical drawings.

All drawings, specifications and other documents are property of ECo and can solely be used as an instrument of the Architect, Landscape Architect or Engineers' service as reference for this project.

ECo, the signing Architect, Landscape Architect or Engineer, and Eco's Consultants shall be deemed the author(s) of these documents and shall retain all common and statutory laws, including reserved and copyright(s). The full and/or partial reproduction of these drawings may only be done with the express written consent of the Architect, Landscape Architect or Engineer.

Only use documents with a "FOR CONSTRUCTION ONLY" stamp and sealed and signed by the designer.

Yo, Edmundo Colon Arizmendi PE, con licencia número 7812, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

No.	Description	Date

ECo
LANDSCAPE + ARCHITECTURE + ENGINEERING

103 Calle Isabel Andreu Aguilar, 4to Piso, San Juan,PR 00918
787-764-0610 eco-designstudio.com

Stormwater Improvement Plan

TB Roundabouts: PR-CRP-000964

Ave. Sabana seca Int. Ave. Dr. Diego Álvarez Chanca, Levittown

Autonomous Municipality of Toa Baja

Seal:

SIGNING ARCH
License #

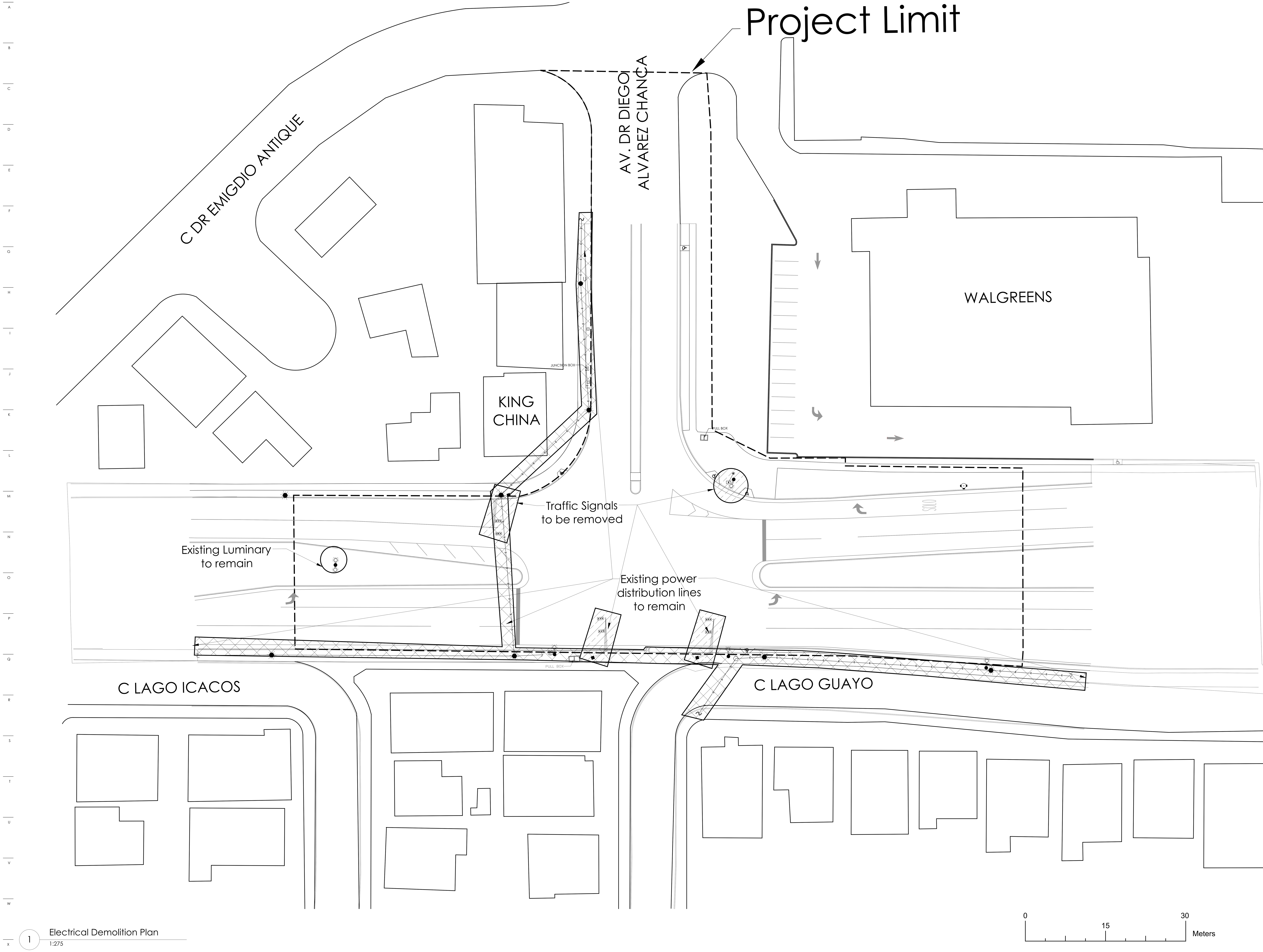
File Name:
2023.04-Rotondas Toa Baja-Geometry-PR-CRP-000964

Date	Scale
09/19/2023	1:300

Sheet

CI-106

Project #	PR-CRP: 000964
Drawn by	JFV
Checked by	ECA



1 Electrical Demolition Plan
1:275

General Notes

IMPORTANT INFORMATION FOR THE CONTRACTOR

Contractor shall verify al dimensions, levels and condition on-site before commencing any and all work. Any discrepancy, error or omission in these plans shall be notified to the Architect, Landscape Architect or Engineer who stamps and signs these drawings so that proper corrections to the documents can be made.

Do not take any measurements from the physical drawings.

All drawings, specifications and other documents are property of ECo and can solely be used as an instrument of the Architect, Landscape Architect or Engineers' service as reference for this project.

Only use documents with a "FOR CONSTRUCTION ONLY" stamp and sealed and signed by the designer.

Yo, Edmundo Colon Arizmendi PE, con licencia número 7812, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

No.	Description	Date

ECo
Landscape + Architecture + Engineering
103 Calle Isabel Andreu Aguilar, 4to Piso, San Juan,PR 00918
787-764-0610 eco-designstudio.com

Electrical Demolition Plan

TB Roundabouts: PR-CRP-000964

Ave. Sabana seca Int. Ave. Dr. Diego Álvarez Chanca, Levittown

Autonomous Municipality of Toa Baja

Seal:

SIGNING ARCH
License #

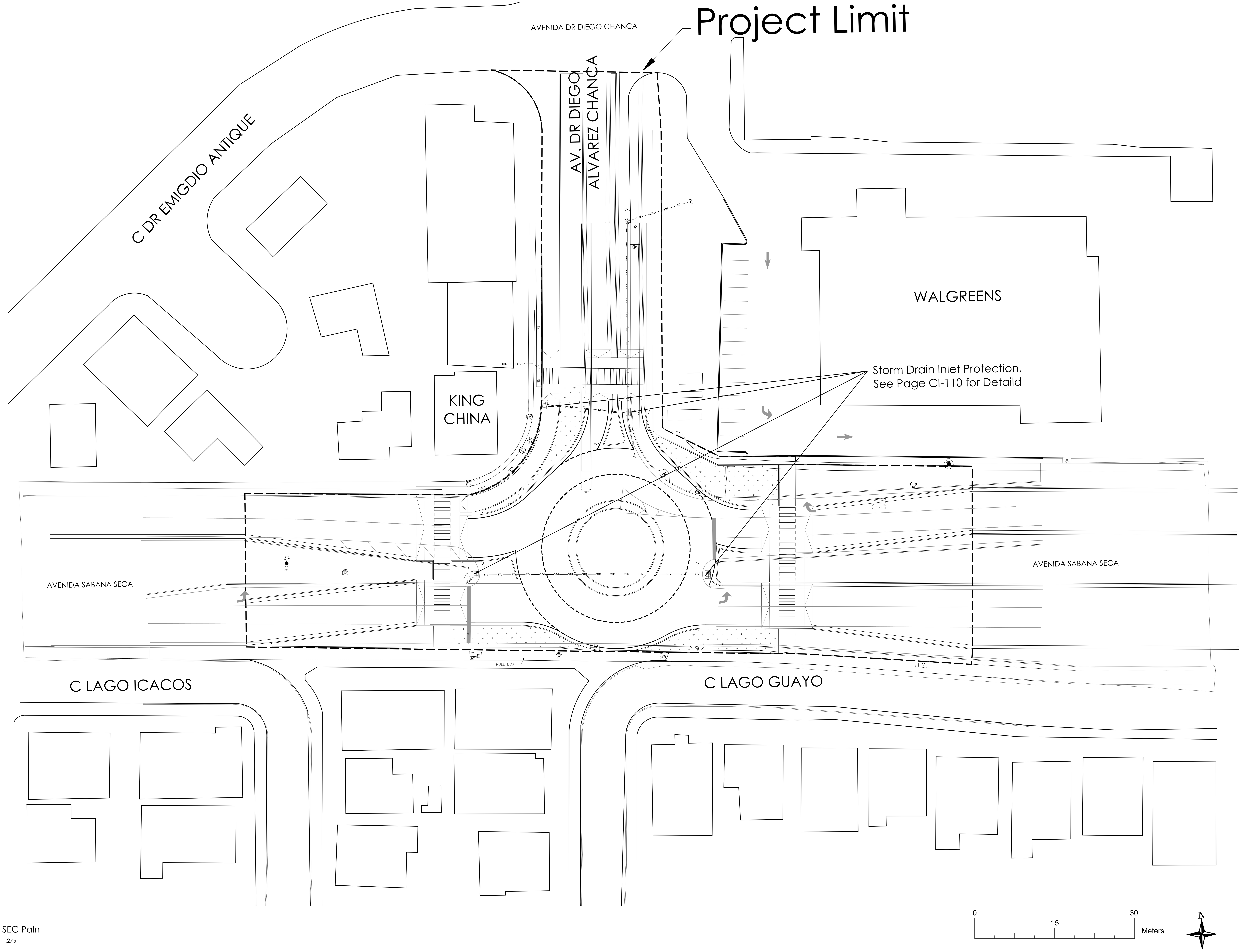
File Name: 2023.04-Rotondas Toa Baja-Geometry-PR-CRP-000964

Date	Scale
09/19/2023	1:300

Sheet

CI-107

Project #	PR-CRP: 000964
Drawn by	JFV
Checked by	ECA



1 SEC Paln
1:275

General Notes

IMPORTANT INFORMATION FOR THE CONTRACTOR

Contractor shall verify al dimensions, levels and condition on-site before commencing any and all work. Any discrepancy, error or omission in these plans shall be notified to the Architect, Landscape Architect or Engineer who stamps and signs these drawings so that proper corrections to the documents can be made.

Do not take any measurements from the physical drawings.

All drawings, specifications and other documents are property of ECo and can solely be used as an instrument of the Architect, Landscape Architect or Engineers' service as reference for this project.

ECo, the signing Architect, Landscape Architect or Engineer, and Eco's Consultants shall be deemed the author(s) of these documents and shall retain all common and statutory laws, including reserved and copyright(s). The full and/or partial reproduction of these drawings may only be done with the express written consent of the Architect, Landscape Architect or Engineer.

Only use documents with a "FOR CONSTRUCTION ONLY" stamp and sealed and signed by the designer.

Yo, Edmundo Colon Arizmendi PE, con licencia número 7812, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

No.	Description	Date

ECo
LANDSCAPE + ARCHITECTURE + ENGINEERING

103 Calle Isabel Andreu Aguilar, 4to Piso, San Juan,PR 00918
787-764-0610 eco-designstudio.com

TB Roundabouts: PR-CRP-000964
Ave. Sabana seca Int. Ave. Dr. Diego Álvarez Chanca, Levittown
Autonomous Municipality of Toa Baja

SEC Plan

Seal:

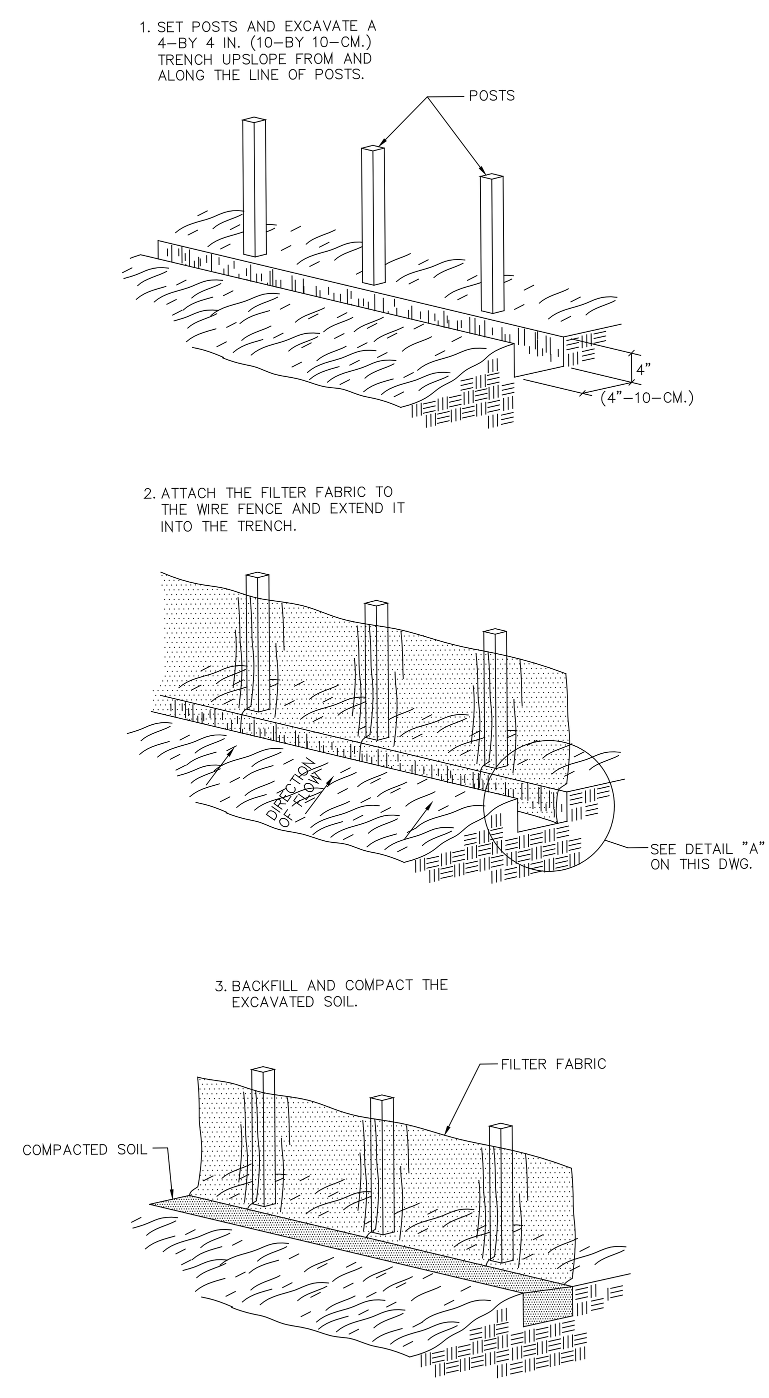
SIGNING ARCH
License #

File Name:
2023.04-Rotondas Toa Baja-Geometry-PR-CRP-000964

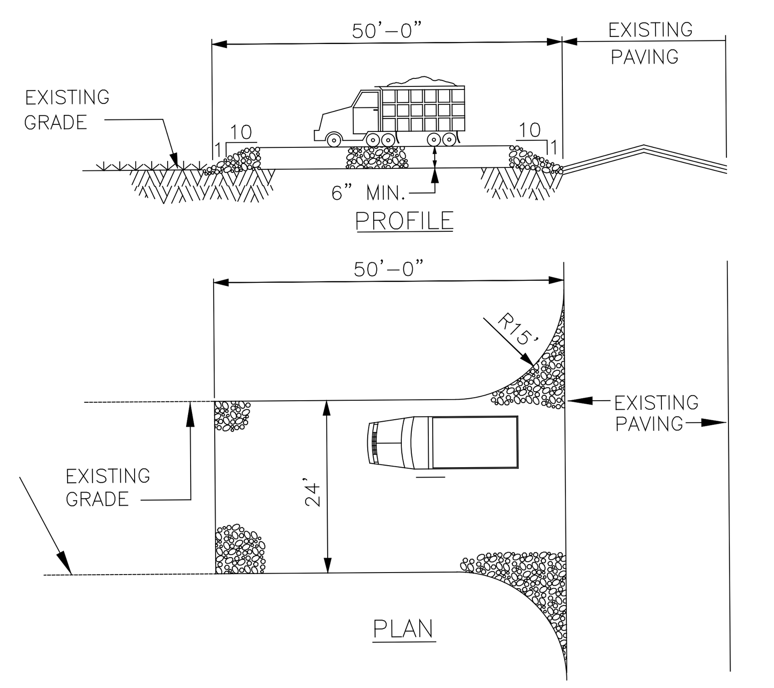
Date	Scale
09/19/2023	1:300

Sheet
CI-108

Project #	PR-CRP: 000964
Drawn by	JFV
Checked by	ECA

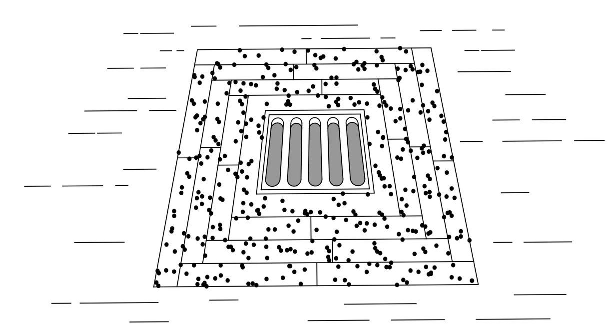


SILT FENCE INSTALLATION DETAIL
NOT TO SCALE

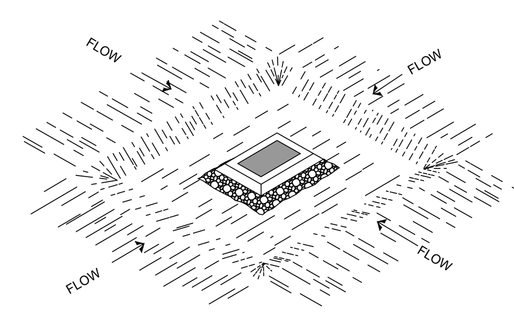


STABILIZED CONSTRUCTION ENTRANCE
NOT TO SCALE

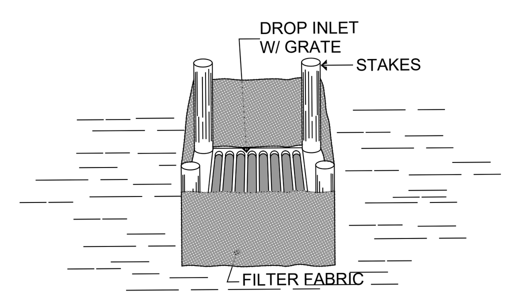
PROJECT SIGN DETAIL
NOT TO SCALE



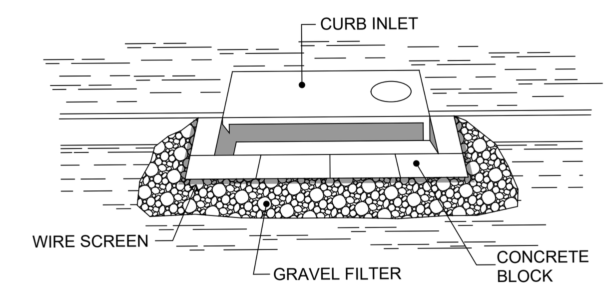
SOD INLET PROTECTION



EXCAVATED GRAVEL INLET PROTECTION



FILTER FABRIC INLET PROTECTION



STORM DRAIN TYPICAL INLET PROTECTION DETAILS
N.T.S.

1 SEC Details
NTS

STABILIZED CONSTRUCTION ENTRANCE NOTES:

1. PROVIDE APPROPRIATE TRANSITION BETWEEN STABILIZED CONSTRUCTION ENTRANCE AND EXIST. PAVEMENT.
2. STONE SIZE: USE AASHTO M–43 SIZE No. 2 STONE.

CONCRETE WASHOUT NOTES:

1. A CONCRETE WASHOUT STATION SHALL BE PLACED AT EACH PROJECT ENTRANCE.
2. CONCRETE WASHOUT FACILITIES SHOULD NEVER BE PLACED WITHIN 50 FEET OF STORM DRAINS, OPEN DITCHES OR WATERBODIES.
3. CHECK ALL CONCRETE WASHOUT FACILITIES DAILY TO DETERMINE IF THEY HAVE BEEN FILLED TO 75 PERCENT CAPACITY, WHICH IS WHEN MATERIALS NEED TO BE REMOVED.
4. BOTH ABOVE– AND BELOW– GROUND SELF–INSTALLED WASHOUT SHOULD BE INSPECTED DAILY TO ENSURE THAT PLASTIC LININGS ARE INTACT AND SIDEWALLS HAVE NOT BEEN DAMAGED BY CONSTRUCTION ACTIVITIES.
5. REMOVE LIQUIDS OR COVER THE STRUCTURES BEFORE PREDICTED RAINSTORMS TO PREVENT OVERFLOWS.
6. WHEN REMOVING MATERIALS FROM THE CONCRETE WASHOUT, BUILD A NEW STRUCTURE OR, IF THE PREVIOUS STRUCTURE IS STILL INTACT, INSPECT THE STRUCTURE FOR SIGNS OF WEAKENING OF DAMAGE AND MAKE ANY NECESSARY REPAIRS. LINE THE STRUCTURE WITH NEW PLASTIC THAT IS FREE OF HOLES OR TEARS AND REPLACED SIGNAGE IF NECESSARY. IT IS VERY IMPORTANT THAT NEW PLASTIC IS USED AFTER EVERY CLEANING BECAUSE PUMPS AND CONCRETE REMOVAL EQUIPMENT CAN DAMAGE THE EXISTING LINER.
7. CONCRETE WASHOUTS ARE DESIGNED TO PROMOTE EVAPORATION WHERE FEASIBLE. HOWEVER, IF STORED LIQUIDS HAVE NOT EVAPORATED AND THE WASHOUT IS NEARING CAPACITY, VACUUM AND DISPOSE OF THEM IN AN APPROVED MANNER.
8. INSPECTOR SHOULD ALSO NOTE WHETHER THE FACILITIES ARE BEING USED REGULARY; IF DRIVERS HAVE WASHED OUT THEIR CHUTES OR HOPPERS IN OTHER LOCATIONS, YOU MAY NEED TO PROVIDE MORE EDUCATION, INSTALL ADDITIONAL SIGNAGE, OR PLACE ADDITIONAL WASHOUT IN MORE CONVENIENT LOCATIONS.

CES PLAN GENERAL NOTES

1. THE CONTRACTOR SHALL PROTECT ALL CATCH BASINS, SWALES AND CHANNELS NEAR THE PROJECT AREA THAT COULD BE POTENTIALLY, IMPACTED PRIOR TO START ANY EXCAVATION. ALL MEASURES CAN BE REMOVED WHEN THE LOCAL CONSTRUCTION BE COMPLETED.
2. ALL DISTURBED AREAS SHALL BE PROTECTED BY THE CES PLAN MEASURES EVEN THOUGH CONSTRUCTION ONLY INCLUDES PART OF THE PARCEL.
3. CONTRACTOR SHALL INSPECT SEDIMENT BARRIERS AFTER EACH RAIN EVENT. REPAIRS SHALL BE DONE AS SOON AS POSSIBLE. SEDIMENT SHALL BE REMOVED FROM THE BARRIERS WHEN THEY REACH HALF THE HEIGHT OF THE BARRIER.
4. THE CONTRACTOR SHALL MAINTAIN THE INTEGRITY OF THE STABILIZED CONSTRUCTION ENTRANCE.
5. THE CONTRACTOR SHALL MAINTAIN A WATER TANK TRUCK TO SPRAY IT AROUND THE WORKING AREAS WHEN NEEDED OR WHEN THE PROJECT INSPECTOR REQUIRES IT. A WATER HOSE WILL BE INSTALLED NEAR STABILIZED CONSTRUCTION ENTRANCE TO WASH THE CONSTRUCTION VEHICLES WHEELS.
6. THE CONTRACTOR SHALL STRICTLY FOLLOW THE GUIDELINES STATED AT THE CES PLAN APPROVED BY THE ENVIRONMENTAL QUALITY BOARD.
7. THE CONTRACTOR SHALL DISPOSE ALL WASTE MATERIALS AT AN APPROVED LANDFILL.
8. THE CONTRACTOR SHALL RESTORE PAVED AREAS AND RE–SEED GRASS AREAS AS SOON AS POSSIBLE OR AS INSTRUCTED BY THE PROJECT INSPECTOR.
9. ANY MODIFICATION PROPOSAL TO THE CES PLAN SHALL BE CONSULTED WITH THE DESIGNER IN ORDER TO AMMEND THE APPROVED PLAN.
10. A SIGN SHALL BE INSTALLED AT EACH PROJECT ENTRANCE AS PER CONSOLIDATED GENERAL PERMIT CONDITION NUMBER 2.

General Notes

IMPORTANT INFORMATION FOR THE CONTRACTOR

Contractor shall verify al dimensions, levels and condition on-site before commencing any and all work. Any discrepancy, error or omission in these plans shall be notified to the Architect, Landscape Architect or Engineer who stamps and signs these drawings so that proper corrections to the documents can be made.

Do not take any measurements from the physical drawings.

Only use documents with a “FOR CONSTRUCTION ONLY” stamp and sealed and signed by the designer.

Yo, Edmundo Colon Arizmendi PE, con licencia número 7812, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

No.	Description	Date

ECo
LANDSCAPE + ARCHITECTURE + ENGINEERING

103 Calle Isabel Andreu Aguilar, 4to Piso, San Juan,PR 00918
787-764-0610 eco-designstudio.com

SEC Details

TB Roundabouts: PR-CRP-000964

Ave. Sabana seca Int. Ave. Dr. Diego Álvarez Chanca, Levittown

Autonomous Municipality of Toa Baja

Seal:

SIGNING ARCH
License #

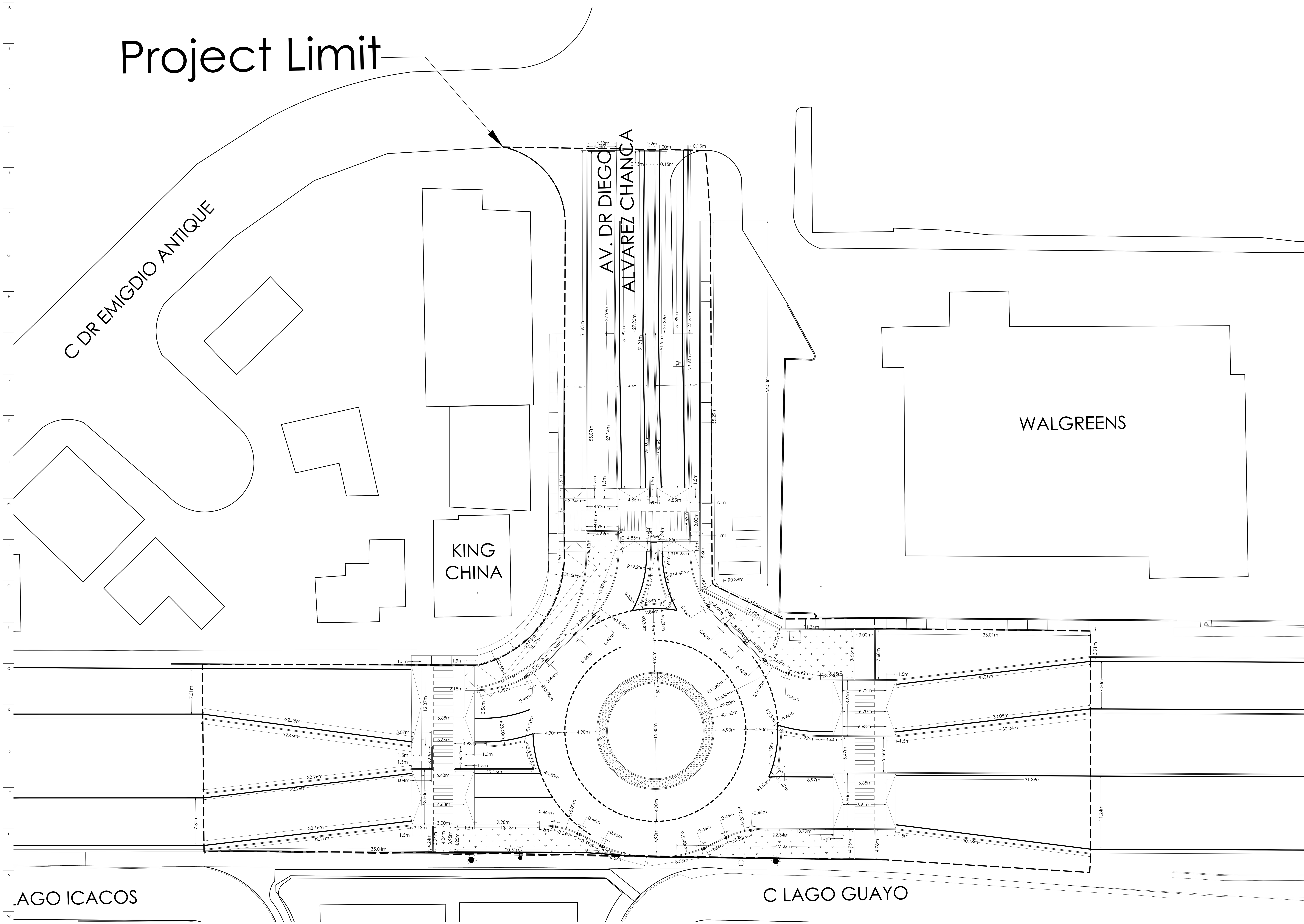
File Name: 2023.04-Rotondas Toa Baja-Geometry-PR-CRP-000964

Date 09/19/2023 | Scale 1:300

Sheet

CI-109

Project # PR-CRP: 000964
Drawn by JFV
Checked by ECA



1 Geometry Plan
1:250

0 15 30
Meters
N

General Notes

IMPORTANT INFORMATION FOR THE CONTRACTOR

Contractor shall verify al dimensions, levels and condition on-site before commencing any and all work. Any discrepancy, error or omission in these plans shall be notified to the Architect, Landscape Architect or Engineer who stamps and signs these drawings so that proper corrections to the documents can be made.

Do not take any measurements from the physical drawings.

All drawings, specifications and other documents are property of ECo and can solely be used as an instrument of the Architect, Landscape Architect or Engineers' service as reference for this project.

ECo, the signing Architect, Landscape Architect or Engineer, and Eco's Consultants shall be deemed the author(s) of these documents and shall retain all common and statutory laws, including reserved and copyright(s). The full and/or partial reproduction of these drawings may only be done with the express written consent of the Architect, Landscape Architect or Engineer.

Only use documents with a “FOR CONSTRUCTION ONLY” stamp and sealed and signed by the designer.

Yo, Edmundo Colon Arizmendi PE, con licencia número 7812, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

No.	Description	Date

ECo
LANDSCAPE + ARCHITECTURE + ENGINEERING

103 Calle Isabel Andreu Aguilar, 4to Piso, San Juan,PR 00918
787-764-0610 eco-designstudio.com

Geometry Plan

TB Roundabouts: PR-CRP-000964

Ave. Sabana seca Int. Ave. Dr. Diego Álvarez Chanca, Levittown
Autonomous Municipality of Toa Baja

Seal:

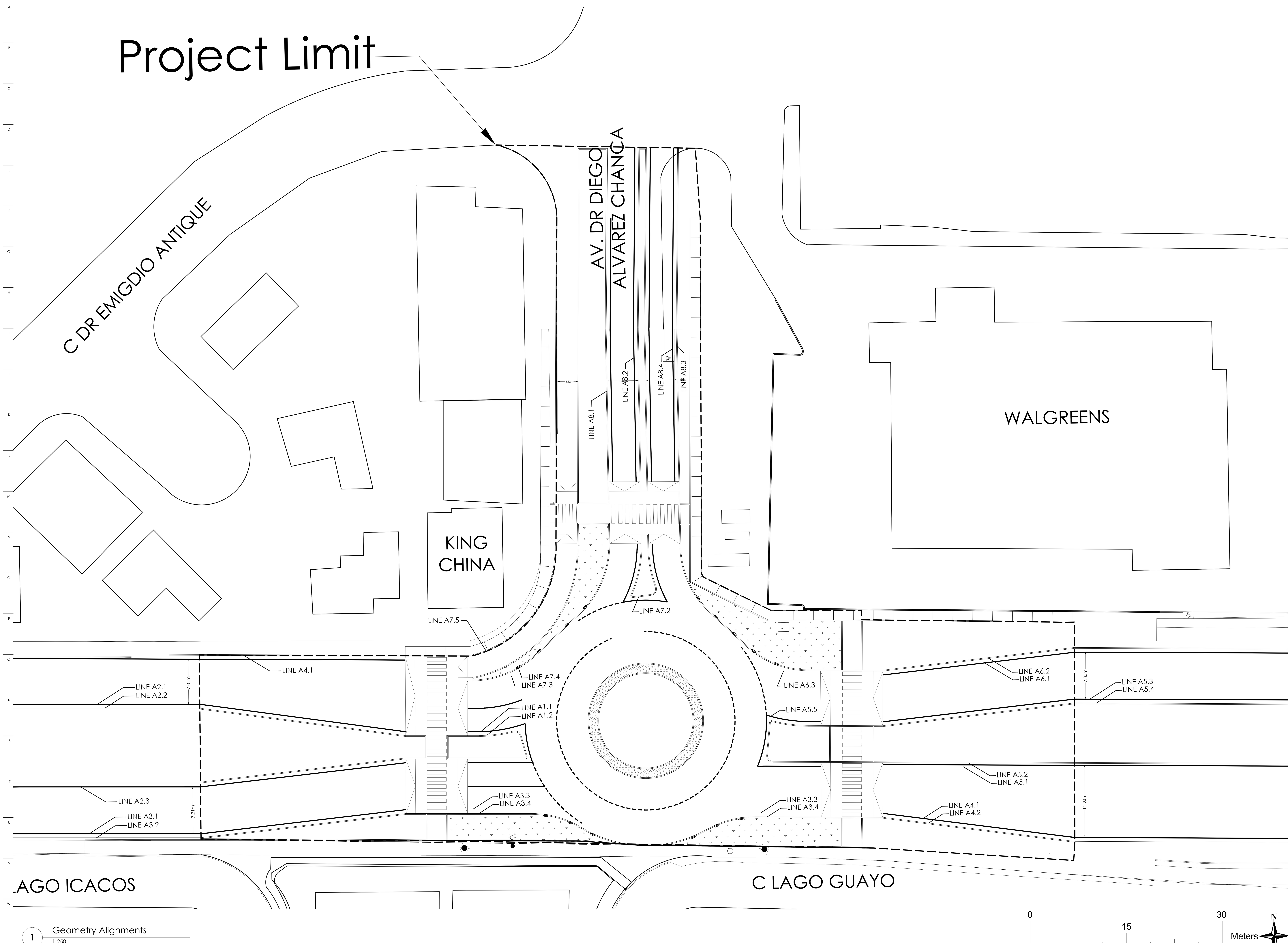
SIGNING ARCH
License #

File Name:
2023.04-Rotondas Toa Baja-Geometry-PR-CRP-000964

Date	Scale
09/19/2023	1:250

Sheet
CI-200

Project #	PR-CRP: 000964
Drawn by	JFV
Checked by	ECA



1 Geometry Alignments
1:250

General Notes

IMPORTANT INFORMATION FOR THE CONTRACTOR

Contractor shall verify al dimensions, levels and condition on-site before commencing any and all work. Any discrepancy, error or omission in these plans shall be notified to the Architect, Landscape Architect or Engineer who stamps and signs these drawings so that proper corrections to the documents can be made.

Do not take any measurements from the physical drawings.

All drawings, specifications and other documents are property of ECo and can solely be used as an instrument of the Architect, Landscape Architect or Engineers' service as reference for this project.

ECo, the signing Architect, Landscape Architect or Engineer, and Eco's Consultants shall be deemed the author(s) of these documents and shall retain all common and statutory laws, including reserved and copyright(s). The full and/or partial reproduction of these drawings may only be done with the express written consent of the Architect, Landscape Architect or Engineer.

Only use documents with a "FOR CONSTRUCTION ONLY" stamp and sealed and signed by the designer.

Yo, Edmundo Colon Arizmendi PE, con licencia número 7812, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

No.	Description	Date

ECo
Landscape + Architecture + Engineering
103 Calle Isabel Andreu Aguilar, 4to Piso, San Juan,PR 00918
787-764-0610 eco-designstudio.com

Geometry Alignments

TB Roundabouts: PR-CRP-000964

Ave. Sabana seca Int. Ave. Dr. Diego Álvarez Chanca, Levittown

Autonomous Municipality of Toa Baja

Seal:

SIGNING ARCH
License #

File Name: 2023.04-Rotondas Toa Baja-Geometry-PR-CRP-000964

Date	Scale
09/19/2023	1:250

Sheet

CI-201

Project #	PR-CRP: 000964
Drawn by	JFV
Checked by	ECA

LINE A1.1

Station	Northing	Easting	Bearing	Distance
0+00.000	266911.239	226706.695		
0+01.740	266911.208	226708.435	PC S 88d59'12" E	1.740
RADIUS: 22.900	PI-Dist: 3.721	DELTA: 18.2729	LENGTH: 7.377	
0+09.117	266912.362	226715.689	PT N 80d58'04" E	
0+09.117	266912.362	226715.689	PC N 00d00'00" W	0.000
RADIUS: 18.800	PI-Dist: 3.151	DELTA: 19.0147	LENGTH: 6.244	
0+15.361	266906.238	226716.756	PT S 09d52'48" E	
0+25.510	266906.407	226706.609	N 89d02'57" W	10.148

LINE A1.2

Station	Northing	Easting	Bearing	Distance
0+00.000	266910.692	226703.384		
0+05.045	266910.608	226708.429	PC S 89d02'56" E	5.045
RADIUS: 21.142	PI-Dist: 2.740	DELTA: 14.4613	LENGTH: 5.450	
0+10.496	266911.218	226713.830	PT N 83d33'58" E	
0+10.496	266911.218	226713.830	PC N 00d00'00" W	0.000
RADIUS: 0.987	PI-Dist: 0.972	DELTA: −89.090	LENGTH: 1.535	
0+12.031	266910.509	226715.020	PT S 59d14'39" E	
0+15.425	266907.237	226715.922	PC S 15d24'49" E	3.395
RADIUS: 0.300	PI-Dist: 0.401	DELTA: −106.21	LENGTH: 0.557	
0+15.982	266906.857	226715.628	PT S 37d46'07" W	
0+28.290	266907.061	226703.322	N 89d02'57" W	12.307
0+31.921	266910.692	226703.384	N 00d58'44" E	3.631

LINE A2.1

Station	Northing	Easting	Bearing	Distance
0+00.000	266916.826	226628.470		
0+36.516	266916.220	226664.981	S 89d02'57" E	36.516
0+68.931	266911.403	226697.036	S 81d27'15" E	32.415

LINE A2.2

Station	Northing	Easting	Bearing	Distance
0+00.000	266916.226	226628.466		
0+36.470	266915.621	226664.931	S 89d02'57" E	36.470
0+68.928	266910.798	226697.028	S 81d27'15" E	32.458
0+72.285	266910.742	226700.385	S 89d02'59" E	3.357
0+75.916	266907.111	226700.323	S 00d58'44" W	3.631
0+79.248	266907.167	226696.991	N 89d02'57" W	3.332
1+11.513	266903.937	226664.888	S 84d15'19" W	32.264
1+48.128	266904.545	226628.278	N 89d02'57" W	36.615

LINE A2.3

Station	Northing	Easting	Bearing	Distance
0+00.000	266903.945	226628.274		
0+36.619	266903.337	226664.888	S 89d02'57" E	36.619
0+68.876	266906.567	226696.983	N 84d15'13" E	32.257

LINE A3.1

Station	Northing	Easting	Bearing	Distance
0+00.000	266896.644	226628.225		
0+36.668	266896.036	226664.888	S 89d02'57" E	36.668
0+68.835	266899.267	226696.892	N 84d14'05" E	32.166

LINE A3.2

Station	Northing	Easting	Bearing	Distance
0+00.000	266896.044	226628.221		
0+36.672	266895.436	226664.888	S 89d02'57" E	36.672
0+68.831	266898.667	226696.885	N 84d13'60" E	32.159
0+72.123	266898.600	226700.176	S 88d50'12" E	3.292
0+76.351	266894.373	226700.090	S 01d09'48" W	4.228
1+11.566	266895.138	226664.883	N 88d45'20" W	35.215
1+11.864	266895.436	226664.888	N 00d57'33" E	0.298

LINE A3.3

Station	Northing	Easting	Bearing	Distance
0+00.000	266899.108	226706.480		
0+10.151	266898.939	226716.630	PC S 89d02'57" E	10.151
RADIUS: 15.000	PI-Dist: 4.223	DELTA: −31.263	LENGTH: 8.232	
0+18.383	266896.607	226724.417	PT S 73d19'38" E	
0+18.383	266896.607	226724.417	PC N 00d00'00" W	0.000
RADIUS: 18.800	PI-Dist: 11.111	DELTA: 61.1003	LENGTH: 20.070	
0+38.454	266896.003	226743.538	PT S 88d11'20" E	
0+38.454	266896.003	226743.538	PC N 00d00'00" W	0.000
RADIUS: 15.000	PI-Dist: 4.011	DELTA: −29.562	LENGTH: 7.839	
0+46.292	266897.851	226751.064	PT N 76d11'53" E	
0+56.792	266897.637	226761.562	S 88d49'52" E	10.500

LINE A3.4

Station	Northing	Easting	Bearing	Distance
0+00.000	266898.500	226703.175		
0+13.278	266898.342	226716.452	PC S 89d19'08" E	13.278
RADIUS: 14.751	PI-Dist: 4.188	DELTA: −31.420	LENGTH: 8.162	
0+21.439	266896.050	226724.176	PT S 73d28'06" E	
0+21.439	266896.050	226724.176	PC N 00d00'00" W	0.000
RADIUS: 19.030	PI-Dist: 4.698	DELTA: 27.4416	LENGTH: 9.213	
0+30.652	266893.153	226732.827	PT S 71d29'12" E	
0+30.652	266893.153	226732.827	PC N 00d00'00" W	0.000
RADIUS: 23.199	PI-Dist: 0.558	DELTA: 2.4515	LENGTH: 1.115	
0+31.767	266893.089	226733.940	PT S 86d43'57" E	
0+31.767	266893.089	226733.940	PC N 00d00'00" W	0.000
RADIUS: 19.067	PI-Dist: 5.228	DELTA: 30.3952	LENGTH: 10.204	
0+41.971	266895.433	226743.747	PT N 76d33'29" E	
0+41.971	266895.433	226743.747	PC N 00d00'00" W	0.000
RADIUS: 14.738	PI-Dist: 3.978	DELTA: −30.124	LENGTH: 7.772	
0+49.743	266897.248	226751.212	PT N 76d19'56" E	
0+63.381	266896.970	226764.847	S 88d49'52" E	13.638
0+68.135	266892.217	226764.762	S 01d00'48" W	4.754
0+98.969	266893.089	226733.940	N 88d22'46" W	30.834
1+09.209	266893.934	226723.736	N 85d15'55" W	10.240
1+29.860	266894.312	226703.087	N 88d57'06" W	20.652
1+34.111	266898.561	226703.238	N 02d02'08" E	4.251

LINE A4.1

Station	Northing	Easting	Bearing	Distance
0+00.000	266897.446	226771.166		
0+30.221	266893.185	226801.085	S 81d53'39" E	30.221
0+80.093	266892.167	226850.946	S 88d49'52" E	49.871

LINE A4.2

Station	Northing	Easting	Bearing	Distance
0+00.000	266892.082	226769.541		
0+01.832	266892.134	226767.710	N 88d22'46" W	1.832
0+06.680	266896.981	226767.847	N 01d37'14" E	4.849
0+09.992	266896.841	226771.155	S 87d35'29" E	3.311
0+40.175	266892.586	226801.037	S 81d53'39" E	30.183
0+90.103	266891.567	226850.955	S 88d49'52" E	49.928

LINE A5.1

Station	Northing	Easting	Bearing	Distance
0+00.000	266904.745	226771.295		
0+79.453	266903.124	226850.731	S 88d49'52" E	79.453

LINE A5.2

Station	Northing	Easting	Bearing	Distance
0+00.000	266903.724	226850.735		
0+89.093	266905.542	226761.661	N 88d49'52" W	89.093
0+96.560	266905.689	226754.195	PC N 88d52'00" W	7.467
RADIUS: 0.999	PI-Dist: 1.087	DELTA: −94.484	LENGTH: 1.654	
0+98.214	266906.792	226753.220	PT N 41d27'36" W	
1+03.367	266911.918	226753.751	PC N 05d54'41" E	5.153
RADIUS: 0.300	PI-Dist: 0.355	DELTA: −99.362	LENGTH: 0.522	
1+03.889	266912.176	226754.130	PT N 55d42'55" E	
1+03.889	266912.176	226754.130	PC N 00d00'00" W	0.000
RADIUS: 22.900	PI-Dist: 2.883	DELTA: 14.2102	LENGTH: 5.736	
1+09.624	266911.346	226759.790	PT S 81d39'21" E	
1+21.245	266911.109	226771.408	S 88d49'52" E	11.620
1+51.270	266914.144	226801.279	N 84d11'54" E	30.025
2+00.887	266913.132	226850.886	S 88d49'52" E	49.617

LINE A5.3

Station	Northing	Easting	Bearing	Distance
0+00.000	266913.731	226850.907		
0+49.626	266914.744	226801.291	N 88d49'52" W	49.626
0+79.652	266911.709	226771.418	S 84d11'55" W	30.027

LINE A5.4

Station	Northing	Easting	Bearing	Distance
0+00.000	266903.724	226850.735		
0+89.093	266905.542	226761.661	N 88d49'52" W	89.093
0+96.560	266905.689	226754.195	PC N 88d52'00" W	7.467
RADIUS: 0.999	PI-Dist: 1.087	DELTA: −94.484	LENGTH: 1.654	
0+98.214	266906.792	226753.220	PT N 41d27'36" W	
1+03.367	266911.918	226753.751	PC N 05d54'41" E	5.153
RADIUS: 0.300	PI-Dist: 0.355	DELTA: −99.362	LENGTH: 0.522	
1+03.889	266912.176	226754.130	PT N 55d42'55" E	
1+03.889	266912.176	226754.130	PC N 00d00'00" W	0.000
RADIUS: 22.900	PI-Dist: 2.883	DELTA: 14.2102	LENGTH: 5.736	
1+09.624	266911.346	226759.790	PT S 81d39'21" E	
1+21.245	266911.109	226771.408	S 88d49'52" E	11.620
1+51.270	266914.144	226801.279	N 84d11'54" E	30.025
2+00.887	266913.132	226850.886	S 88d49'52" E	49.617

LINE A6.1

Station	Northing	Easting	Bearing	Distance
0+00.000	266921.028	226851.162		
0+49.732	266922.042	226801.440	N 88d49'52" W	49.732
0+79.707	266919.011	226771.619	S 84d11'43" W	29.975

LINE A6.2

Station	Northing	Easting	Bearing	Distance
0+00.000	266921.627	226851.183		
0+49.778	266922.643	226801.416	N 88d49'52" W	49.778
0+79.789	266919.607	226771.558	S 84d11'43" W	30.012
0+83.085	266919.627	226768.262	N 89d39'40" W	3.296
0+86.086	266919.736	226765.263	N 87d55'11" W	3.001
0+88.011	266919.775	226763.338	N 88d49'52" W	1.925
0+91.387	266919.844	226759.963	PC N 88d49'52" W	3.376
RADIUS: 14.400	PI-Dist: 5.611	DELTA: −42.344	LENGTH: 10.701	
1+02.088	266923.839	226750.300	PT N 67d32'31" W	
1+09.865	266929.216	226744.682	PC N 46d15'10" W	7.777
RADIUS: 14.400	PI-Dist: 2.294	DELTA: −18.055	LENGTH: 4.549	
1+14.414	266932.824	226741.943	PT N 37d12'10" W	
1+15.682	266933.422	226743.060	N 61d50'49" E	1.267
1+27.818	266927.850	226753.842	S 62d40'14" E	12.137
1+39.349	266927.694	226765.371	S 89d13'23" E	11.530
1+42.349	266927.653	226768.371	S 89d13'23" E	3.000
1+75.513	266926.856	226801.526	S 88d37'21" E	33.164

LINE A6.3

Station	Northing	Easting	Bearing	Distance
0+00.000	266919.206	226761.831		
0+01.881	266919.244	226759.951	PC N 88d49'52" W	1.881
RADIUS: 15.000	PI-Dist: 5.845	DELTA: −42.344	LENGTH: 11.147	
0+13.028	266923.405	226749.885	PT N 67d32'31" W	
0+20.804	266928.783	226744.267	PC N 46d15'10" W	7.777
RADIUS: 15.000	PI-Dist: 6.406	DELTA: −46.151	LENGTH: 12.109	
0+32.913	266939.618	226739.639	PT N 23d07'35" W	
0+33.271	266939.977	226739.639	N 00d00'00" E	0.358

LINE A7.1

Station	Northing	Easting	Bearing	Distance
0+00.000	266940.047	226735.989		
0+00.429	266939.618	226735.989	PC S 00d00'00" W	0.429
RADIUS: 18.650	PI-Dist: 4.613	DELTA: 27.4720	LENGTH: 9.045	
0+09.474	266930.924	226738.140	PT S 13d53'40" E	
0+09.474	266930.924	226738.140	PC N 00d00'00" W	0.000
RADIUS: 18.800	PI-Dist: 3.508	DELTA: 21.0820	LENGTH: 6.936	
0+16.410	266930.999	226731.244	PT N 89d22'18" W	
0+16.410	266930.999	226731.244	PC N 00d00'00" W	0.000
RADIUS: 18.650	PI-Dist: 4.831	DELTA: 29.0244	LENGTH: 9.454	
0+25.865	266940.054	226733.589	PT N 14d31'22" E	

LINE A7.2

Station	Northing	Easting	Bearing	Distance
0+00.000	266941.582	226734.189		
0+01.500	266940.082	226734.189	PC S 00d00'03" W	1.500
RADIUS: 19.381	PI-Dist: 4.160	DELTA: −24.133	LENGTH: 8.195	
0+09.695	266932.129	226732.482	PT S 12d06'51" W	
0+09.695	266932.129	226732.482	PC N 00d00'00" W	0.000
RADIUS: 0.300	PI-Dist: 0.521	DELTA: 120.034	LENGTH: 0.629	
0+10.325	266931.707	226732.786	PT S 35d48'12" E	
0+13.160	266931.999	226735.606	PC N 84d04'55" E	2.835
RADIUS: 1.000	PI-Dist: 1.261	DELTA: 103.103	LENGTH: 1.801	
0+14.961	266933.321	226736.448	PT N 32d29'36" E	
0+14.961	266933.321	226736.448	PC N 00d00'00" W	0.000
RADIUS: 19.250	PI-Dist: 3.238	DELTA: −19.054	LENGTH: 6.416	
0+21.376	266939.618	226735.389	PT N 09d32'52" W	
0+23.317	266941.559	226735.389	N 00d00'00" E	1.941

LINE A7.3

Station	Northing	Easting	Bearing	Distance
0+00.000	266940.164	226729.938		
0+12.825	266928.786	226724.844	S 24d07'15" W	12.825
0+22.023	266922.592	226718.043	PC S 47d40'19" W	9.199
RADIUS: 15.600	PI-Dist: 6.191	DELTA: −43.172	LENGTH: 11.787	
0+33.810	266918.527	226707.276	PT S 69d19'03" W	
0+34.262	266918.535	226706.825	N 89d02'14" W	0.452

LINE A7.4

Station	Northing	Easting	Bearing	Distance
0+00.000	266919.160	226705.335		
0+01.951	266919.127	226707.286	PC S 89d02'14" E	1.951
RADIUS: 15.000	PI-Dist: 5.953	DELTA: 43.1726	LENGTH: 11.334	
0+13.285	266923.035	226717.639	PT N 69d19'03" E	
0+22.483	266929.229	226724.440	PC N 47d40'19" E	9.199
RADIUS: 15.000	PI-Dist: 6.627	DELTA: 47.4019	LENGTH: 12.480	
0+34.964	266940.319	226729.339	PT N 23d50'10" E	
0+37.972	266943.327	226729.339	N 00d00'00" W	3.008
0+42.956	266943.448	226724.357	N 88d36'58" W	4.983
0+47.229	266939.176	226724.228	S 01d44'18" W	4.273
0+47.229	266939.176	226724.228	N	0.000
0+47.229	266939.176	226724.228	PC N 00d00'00" W	0.000
RADIUS: 20.498	PI-Dist: 16.188	DELTA: −76.355	LENGTH: 27.404	
0+74.633	266919.723	226707.882	PT S 40d02'17" W	
0+74.633	266919.723	226707.882	PC N 00d00'00" W	0.000
RADIUS: 1.650	PI-Dist: 0.183	DELTA: −12.373	LENGTH: 0.364	
0+74.997	266919.689	226707.521	PT S 84d39'01" W	
0+77.173	266919.726	226705.345	N 89d02'14" W	2.176

LINE A7.5

Station	Northing	Easting	Bearing	Distance
0+00.000	266923.164	226697.184		
0+10.120	266922.994	226707.302	PC S 89d02'14" E	10.120
RADIUS: 17.152	PI-Dist: 13.517	DELTA: 76.2850	LENGTH: 22.895	
0+33.015	266939.276	226720.929	PT N 39d55'33" E	
0+84.764	266991.016	226721.938	N 01d07'00" E	51.750

LINE A8.1

Station	Northing	Easting	Bearing	Distance
0+00.000	266990.962	226725.386		
0+00.000	266990.962	226725.386	N 00d00'00" W	0.000
0+44.381	266946.589	226724.565	S 01d03'34" W	44.381
0+49.006	266946.477	226729.189	S 88d36'58" E	4.625
0+76.141	266973.612	226729.189	N 00d00'00" W	27.135
0+93.280	266990.746	226729.603	N 01d23'02" E	17.139

LINE A8.2

Station	Northing	Easting	Bearing	Distance
0+00.000	266990.884	226730.356		
0+17.277	266973.612	226729.939	S 01d23'02" W	17.277
0+41.084	266949.806	226729.939	S	23.807
0+44.734	266949.754	226733.589	S 89d11'32" E	3.650
0+68.593	266973.612	226733.589	N 00d00'00" W	23.858
0+85.813	266990.827	226734.005	N 01d23'02" E	17.220

LINE A8.3

Station	Northing	Easting	Bearing	Distance
0+00.000	266990.723	226740.652		
0+17.116	266973.612	226740.239	S 01d23'02" W	17.116
0+41.060	266949.669	226740.239	S 00d00'00" E	23.944
0+49.252	266941.477	226740.239	S 00d00'00" E	8.192
0+51.110	266939.618	226740.239	PC S	1.858
RADIUS: 14.400	PI-Dist: 6.150	DELTA: 46.1510	LENGTH: 11.625	
0+62.734	266929.216	226744.682	PT S 23d07'35" E	

LINE A8.4

Station	Northing	Easting	Bearing	Distance
0+00.000	266990.790	226736.404		
0+17.191	266973.604	226735.989	S 01d23'02" W	17.191
0+41.075	266949.720	226735.989	S	23.884
0+44.725	266949.669	226739.639	S 89d11'32" E	3.650
0+68.669	266973.612	226739.639	N 00d00'00" W	23.944
0+85.794	266990.733	226740.053	N 01d23'02" E	17.125

1 Geometry Alignment Tables

General Notes

IMPORTANT INFORMATION FOR THE CONTRACTOR

Contractor shall verify al dimensions, levels and condition on-site before commencing any and all work. Any discrepancy, error or omission in these plans shall be notified to the Architect, Landscape Architect or Engineer who stamps and signs these drawings so that proper corrections to the documents can be made.

Do not take any measurements from the physical drawings.

Only use documents with a "FOR CONSTRUCTION ONLY" stamp and sealed and signed by the designer.

Yo, Edmundo Colon Arizmendi PE, con licencia número 7812, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

No.	Description	Date

ECo
LANDSCAPE + ARCHITECTURE + ENGINEERING

103 Calle Isabel Andreu Aguilar, 4to Piso, San Juan,PR 00918
787-764-0610 eco-designstudio.com

Geometry Alignment Tables

TB Roundabouts: PR-CRP-000964

Ave. Sabana seca Int. Ave. Dr. Diego Ålvarez Chanca, Levittown

Autonomous Municipality of Toa Baja

Seal:

SIGNING ARCH
License #

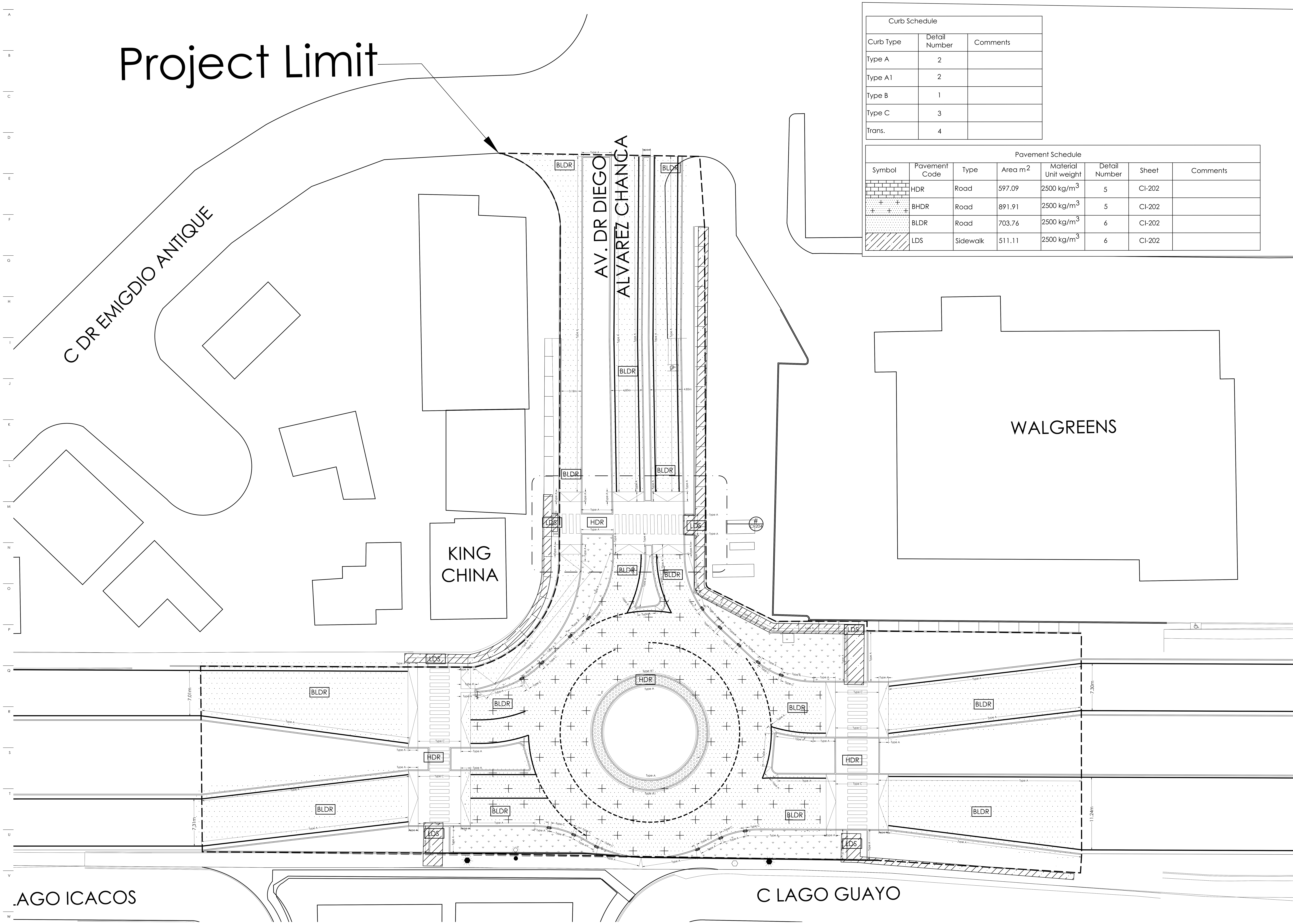
File Name: 2023.04-Rotondas Toa Baja-Geometry-PR-CRP-000964

Date 09/19/2023 | Scale NTS

Sheet

CI-202

Project # PR-CRP: 000964
Drawn by JFV
Checked by ECA



1 Pavement & Curb Schedule
1:250

Curb Schedule		
Curb Type	Detail Number	Comments
Type A	2	
Type A1	2	
Type B	1	
Type C	3	
Trans.	4	

Pavement Schedule							
Symbol	Pavement Code	Type	Area m^2	Material Unit weight	Detail Number	Sheet	Comments
	HDR	Road	597.09	2500 kg/m^3	5	CI-202	
	BHDR	Road	891.91	2500 kg/m^3	5	CI-202	
	BLDR	Road	703.76	2500 kg/m^3	6	CI-202	
	LDS	Sidewalk	511.11	2500 kg/m^3	6	CI-202	

General Notes

IMPORTANT INFORMATION FOR THE CONTRACTOR

Contractor shall verify al dimensions, levels and condition on-site before commencing any and all work. Any discrepancy, error or omission in these plans shall be notified to the Architect, Landscape Architect or Engineer who stamps and signs these drawings so that proper corrections to the documents can be made.

Do not take any measurements from the physical drawings.

All drawings, specifications and other documents are property of ECo and can solely be used as an instrument of the Architect, Landscape Architect or Engineers' service as reference for this project.

ECo, the signing Architect, Landscape Architect or Engineer, and Eco's Consultants shall be deemed the author(s) of these documents and shall retain all common and statutory laws, including reserved and copyright(s). The full and/or partial reproduction of these drawings may only be done with the express written consent of the Architect, Landscape Architect or Engineer.

Only use documents with a "FOR CONSTRUCTION ONLY" stamp and sealed and signed by the designer.

Yo, Edmundo Colon Arizmendi PE, con licencia número 7812, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

No.	Description	Date

ECo
LANDSCAPE + ARCHITECTURE + ENGINEERING

103 Calle Isabel Andreu Aguilar, 4to Piso, San Juan,PR 00918
787-764-0610 eco-designstudio.com

Pavement & Curb Schedule

TB Roundabouts: PR-CRP-000964

Ave. Sabana seca Int. Ave. Dr. Diego Ålvarez Chanca, Levittown

Autonomous Municipality of Toa Baja

Seal:

SIGNING ARCH
License #

File Name: 2023.04-Rotondas Toa Baja-Geometry-PR-CRP-000964

Date 09/19/2023 | Scale 1:250

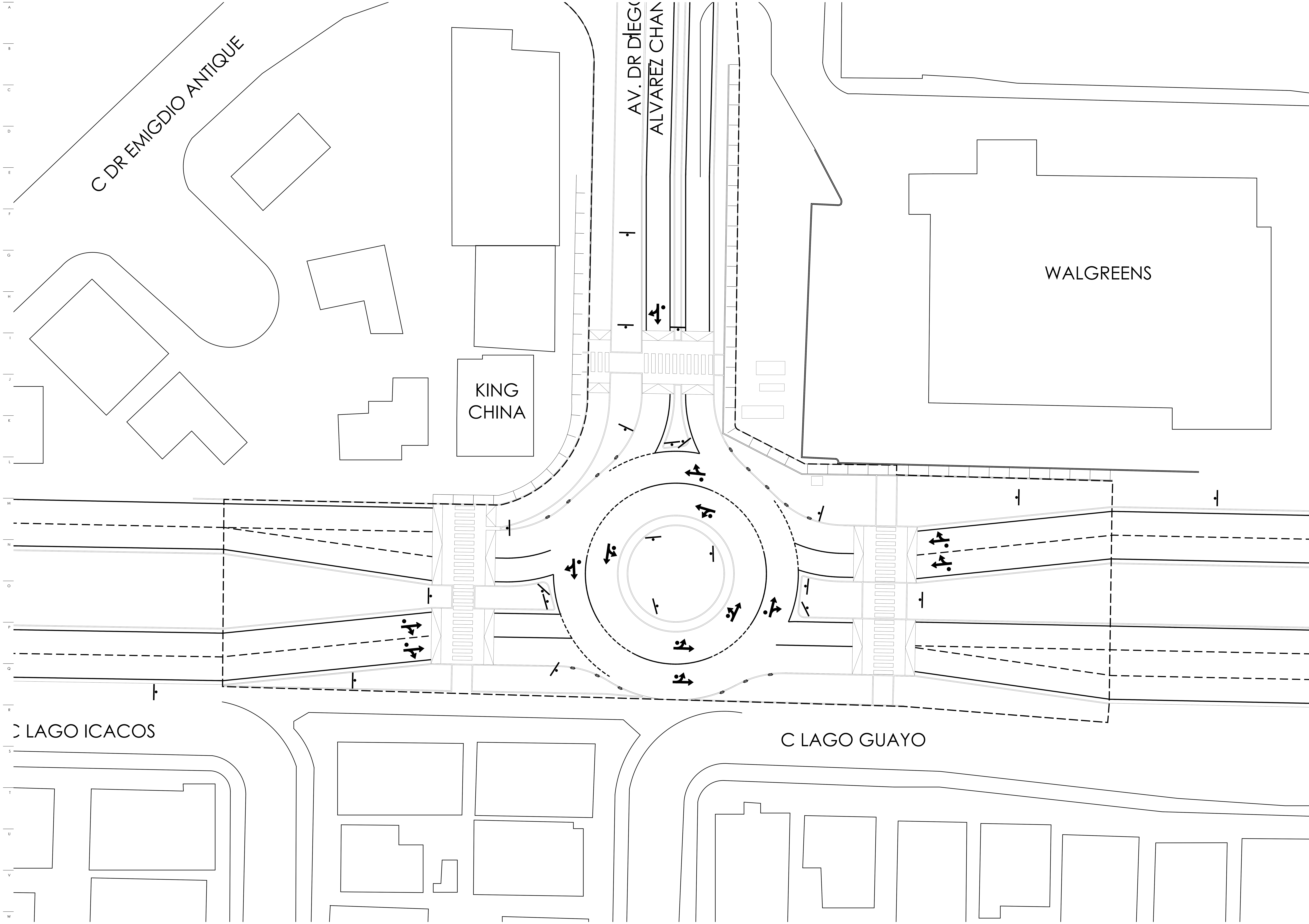
Sheet

CI-203

Project # PR-CRP: 000964

Drawn by JFV

Checked by ECA



1 Traffic Sign Locations
1:250

0 15 30 Meters

N

General Notes

IMPORTANT INFORMATION FOR THE CONTRACTOR

Contractor shall verify al dimensions, levels and condition on-site before commencing any and all work. Any discrepancy, error or omission in these plans shall be notified to the Architect, Landscape Architect or Engineer who stamps and signs these drawings so that proper corrections to the documents can be made.

Do not take any measurements from the physical drawings.

Only use documents with a “FOR CONSTRUCTION ONLY” stamp and sealed and signed by the designer.

Yo, Edmundo Colon Arizmendi PE, con licencia número 7812, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

No.	Description	Date

ECo
Landscape + Architecture + Engineering

103 Calle Isabel Andreu Aguilar, 4to Piso, San Juan,PR 00918
787-764-0610 eco-designstudio.com

Pavement Markings & Traffic Signs

TB Roundabouts: PR-CRP-000964

Ave. Sabana seca Int. Ave. Dr. Diego Álvarez Chanca, Levittown

Autonomous Municipality of Toa Baja

Seal:

SIGNING ARCH
License #

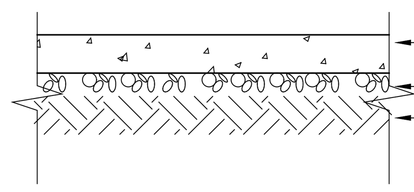
File Name:
2023.04-Rotondas Toa Baja-Geometry-PR-CRP-000964

Date	Scale
09/19/2023	1:250

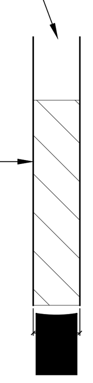
Sheet

CI-204

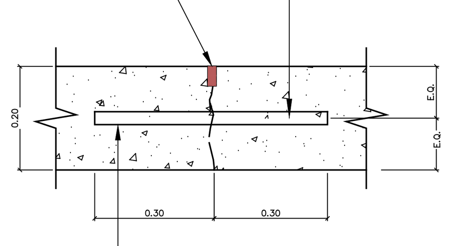
Project #	PR-CRP: 000964
Drawn by	JFV
Checked by	ECA



CONCRETE PAVEMENT DETAIL
NOT TO SCALE

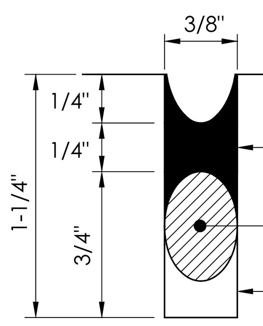


EXPANSION JOINT
NOT TO SCALE

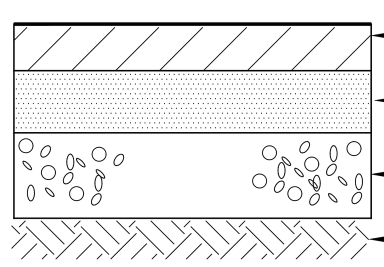


TRANSVERSE CONTRACTION JOINT

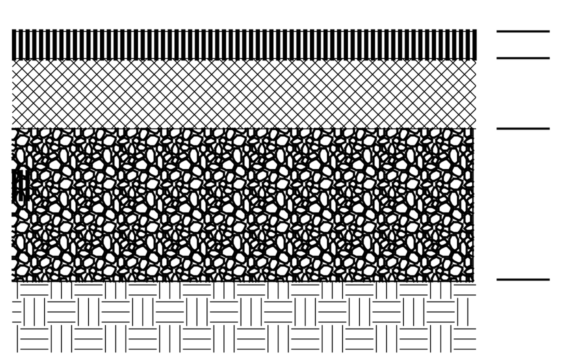
CONCRETE PAVEMENT JOINT DETAILS
NOT TO SCALE



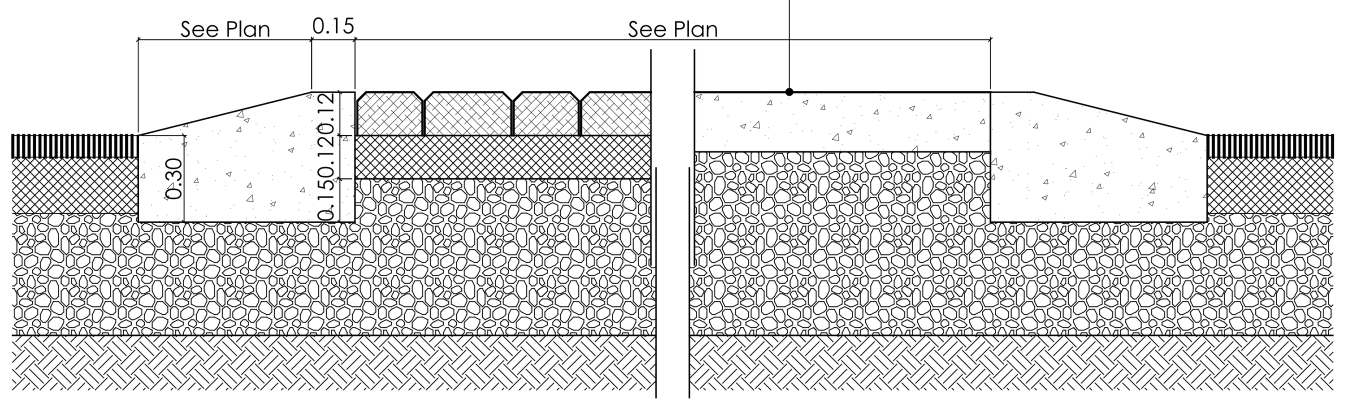
JOINT "A" DETAIL
NOT TO SCALE



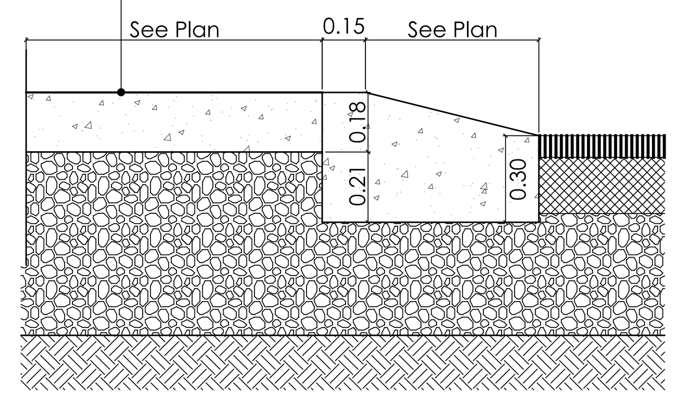
LIGHT DUTY ASPHALT PAVEMENT
NOT TO SCALE



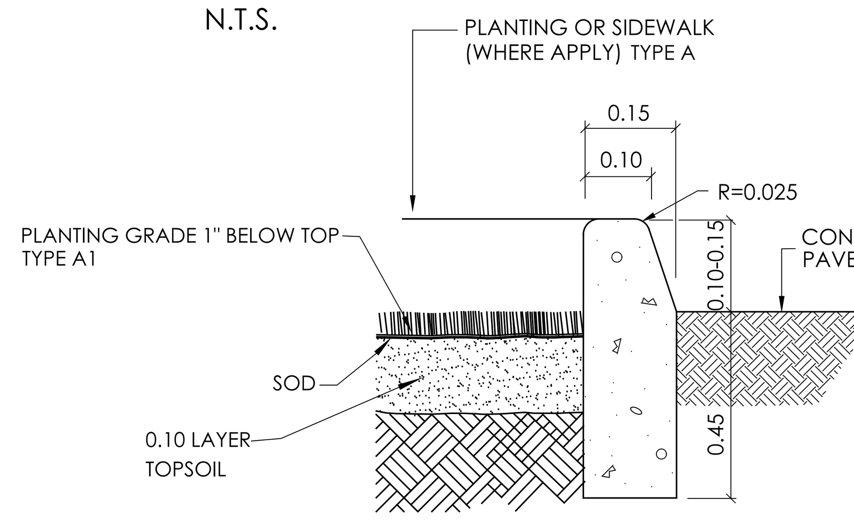
BITUMINOUS HEAVY DUTY PAVEMENT
ESCALA 1:200



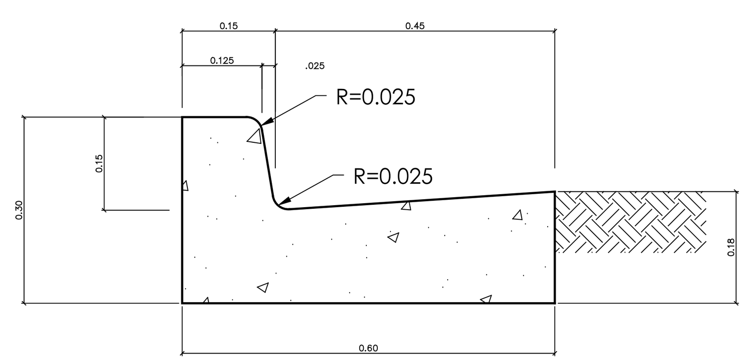
SPEED BUMP DETAIL
N.T.S.



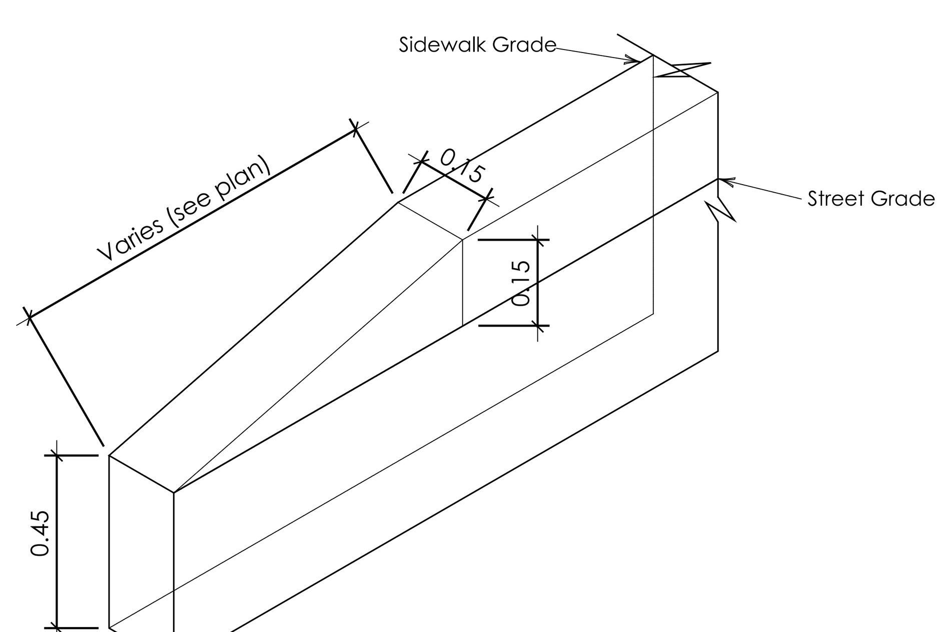
CURB RAMP DETAIL TYPE "B"
N.T.S.



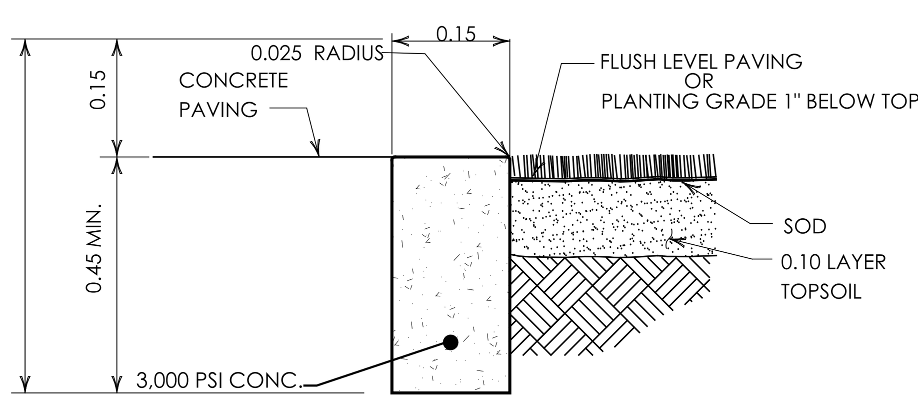
CONCRETE CURB DETAIL TYPE "A" & "A1"
NOT TO SCALE



TYPICAL CURB AND GUTTER DETAIL
NOT TO SCALE



CURB TYPE "A" & "C" TRANSITION
N.T.S.



CURB TYPE "C"
N.T.S.

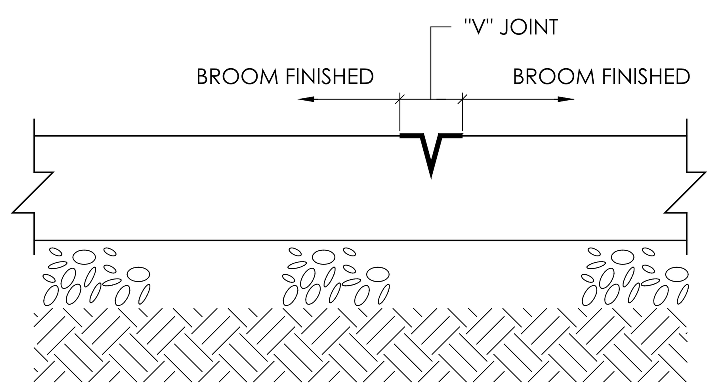
LEGEND:

BITUMINOUS LEVELING COURSE (HOT PLANT-MIX BITUMINOUS L-2 (75))

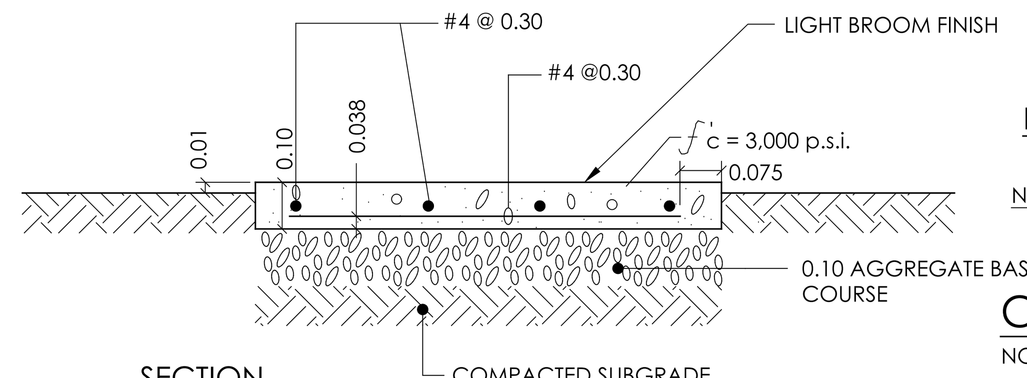
BITUMINOUS BASE COURSE (HOT PLANT-MIX BITUMINOUS B-1 (75) OR SPB)

BITUMINOUS SURFACE COURSE (FIRST LAYER) (HOT PLANT-MIX BITUMINOUS S-1 (75) OR SPS)

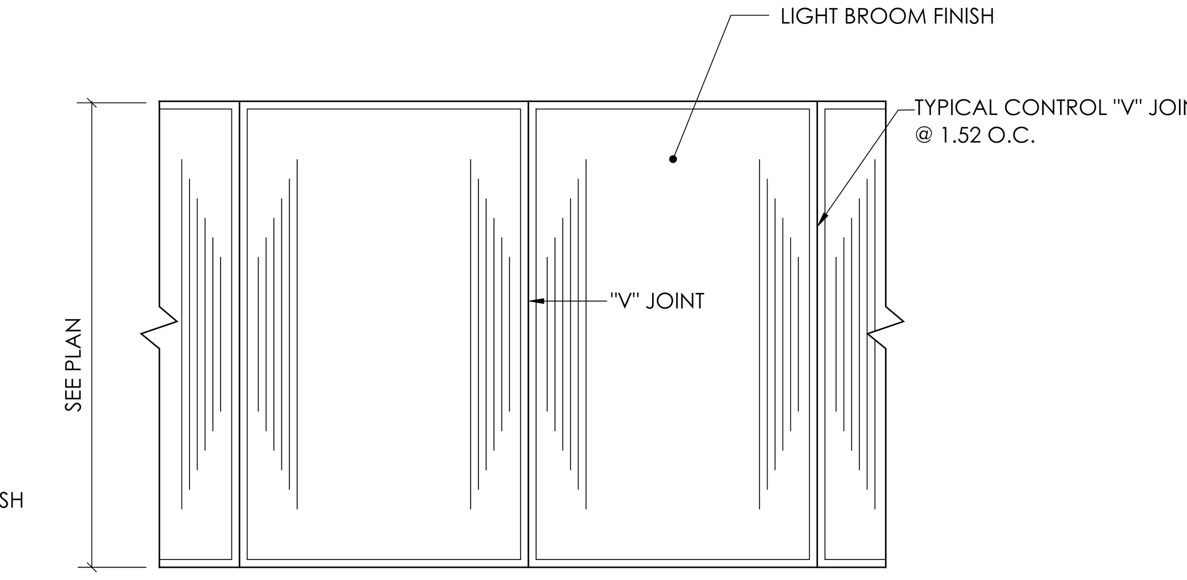
BITUMINOUS SURFACE COURSE (SECOND LAYER) (HOT PLANT-MIX BITUMINOUS S-1 (75) OR SPS)



CONTROL "V" JOINT



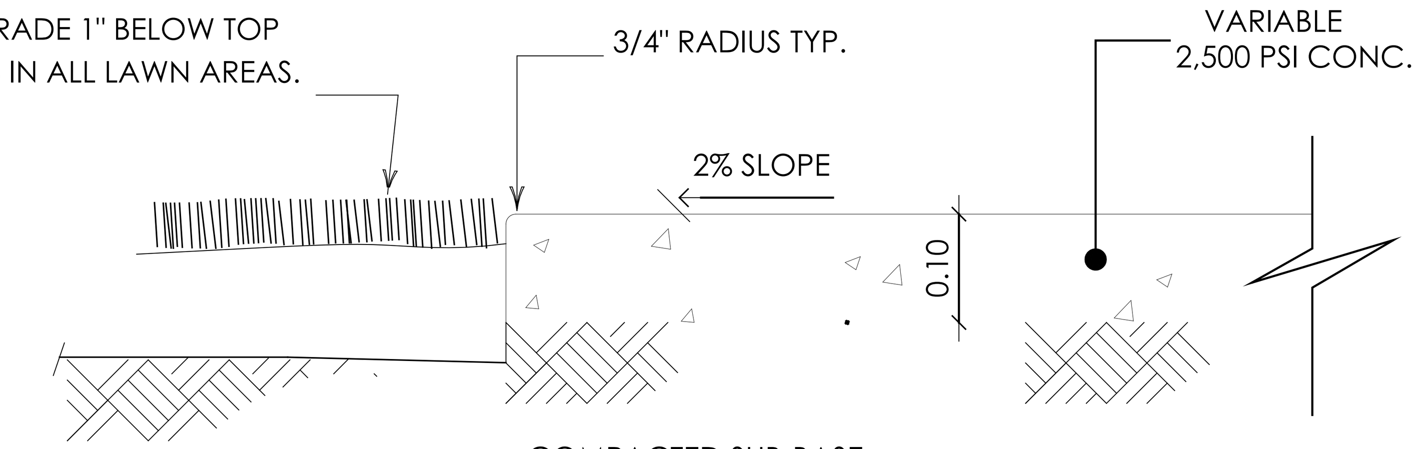
SECTION



PLAN

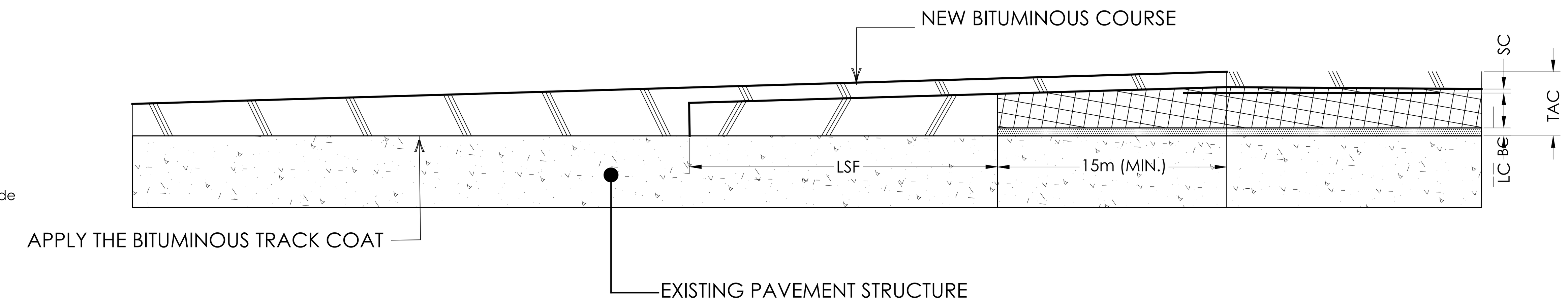
NOTE: WHERE SIDEWALK ABUTS EXISTING OR PROPOSED FIXED OBJECTS (CURBS, CURB AND GUTTERS, CONCRETE PAVING, MANHOLES, OR BUILDINGS), INSTALL 12.7MM EXPANSION JOINT FILLER AND JOINT SEALANT.

CONCRETE SIDEWALK DETAIL
NOT TO SCALE



COMPACTED SUB-BASE
NOTE: SEE SPECS. DIV. 3 FOR JOINTS

SIDEWALK DETAIL



SECTION TYPICAL NEW BITUMINOUS COURSE AND OVERLAY

TRANSITION TO CONCRETE PAVEMENTS AND STRUCTURES TYPE 14

OVERALL THICKNESS	MINIMUM COURSE THICKNESS			MINIMUM TRANSITION LENGTHS			MINIMUM FIRST LAYER LENGTHS
TAC (INCHES)	TAC (INCHES)	TAC (INCHES)	TAC (INCHES)	TLL (METERS)	TLB (METERS)	TLS (METERS)	TFS (METERS)
2	N/A	N/A	2	0	0	25	N/A
3	1	N/A	2	15	0	35	N/A
4	2	N/A	2	25	0	45	N/A
5	N/A	3	2	0	35	55	20
6	N/A	4	2	0	45	65	25
7	1	4	2	15	55	75	30

LEGEND:
TAC = THICKNESS OF ALL BITUMINOUS COURSE
LC = THICKNESS OF BITUMINOUS LEVELING COURSE
BC = THICKNESS OF BITUMINOUS BASE COURSE
SC = THICKNESS OF BITUMINOUS SURFACE COURSE
TLL = TRANSITION LENGTH OF BITUMINOUS LEVELING COURSE
TLB = TRANSITION LENGTH OF BITUMINOUS BASE COURSE
TLS = TRANSITION LENGTH OF BITUMINOUS SURFACE COURSE
LFS = TRANSITION OF FIRST LAYER OF BITUMINOUS SURFACE COURSE

Notes:
1. GENERAL NOTES, PRODUCERS AND DETAILS FOR TRANSITION TO CONCRETE PAVEMENT AND STRUCTURES TYPE 14 ARE SHOWN ON SHEET MCPD-1.
2. THE PLACING SEQUENCE OF BITUMINOUS COURSES ARE SHOWN ON SHEET MCPD-21.
3. THE STRESS-RELIEVING INTERLAYER MEMBRANE SHALL BE INSTALLED OVER PAVEMENT CRACKS, AND LONGITUDINAL AND TRANSVERSE JOINTS.

General Notes

IMPORTANT INFORMATION FOR THE CONTRACTOR

Contractor shall verify al dimensions, levels and condition on-site before commencing any and all work. Any discrepancy, error or omission in these plans shall be notified to the Architect, Landscape Architect or Engineer who stamps and signs these drawings so that proper corrections to the documents can be made.

Do not take any measurements from the physical drawings.

All drawings, specifications and other documents are property of ECo and can solely be used as an instrument of the Architect, Landscape Architect or Engineers' service as reference for this project.

Only use documents with a "FOR CONSTRUCTION ONLY" stamp and sealed and signed by the designer.

Yo, Edmundo Colon Arizmendi PE, con licencia número 7812, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

No.	Description	Date

ECo
LANDSCAPE + ARCHITECTURE + ENGINEERING
103 Calle Isabel Andreu Aguilar, 4to Piso, San Juan, PR 00918
787-764-0610 eco-designstudio.com

Typical Site Detail

TB Roundabouts: PR-CRP-000964

Ave. Sabana seca Int. Ave. Dr. Diego Álvarez Chanca, Levittown

Autonomous Municipality of Toa Baja

Seal:

SIGNING ARCH
License #

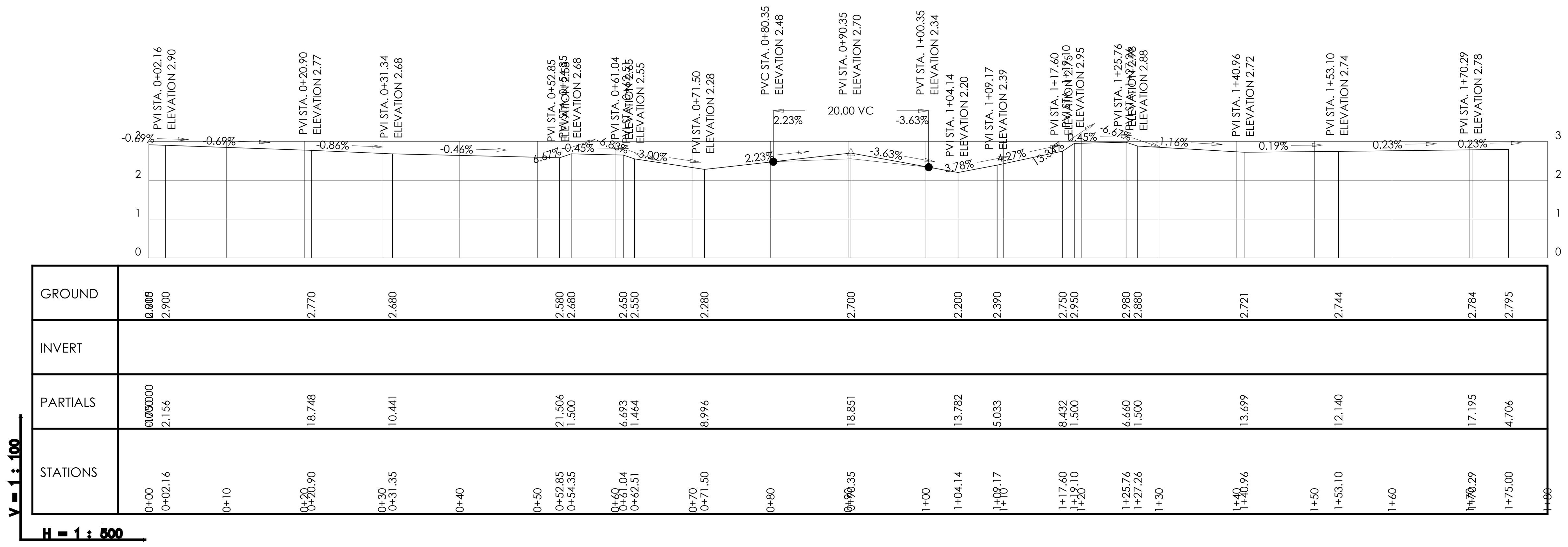
File Name: 2023-04-Rotondas Toa Baja-Geometry-PR-CRP-000964

Date	Scale
09/19/2023	NTS

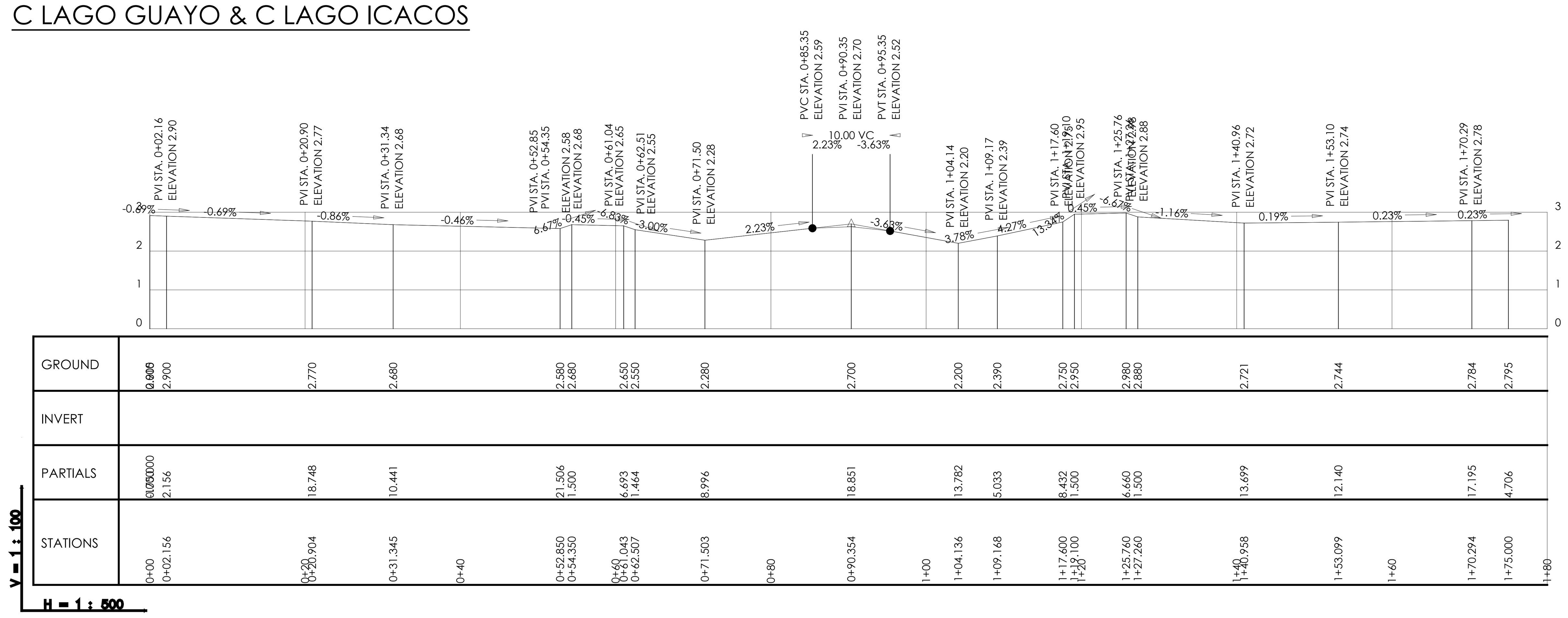
Sheet

CI-205

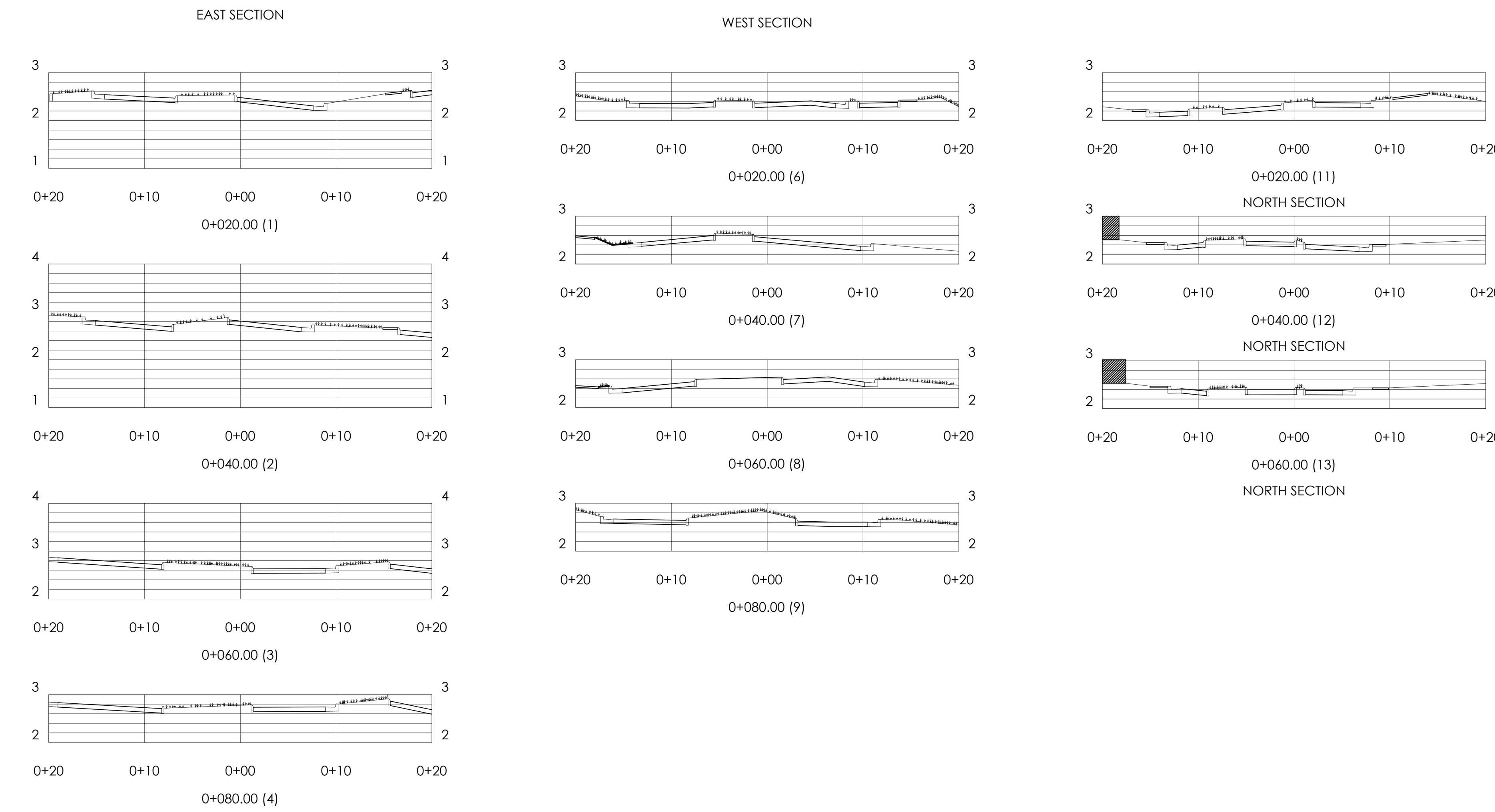
Project #	PR-CRP: 000964
Drawn by	DBM
Checked by	ECA



C LAGO GUAYO & C LAGO ICACOS



AV. DR DIEGO ALVAREZ CHANCA



General Notes

IMPORTANT INFORMATION FOR THE CONTRACTOR

Contractor shall verify al dimensions, levels and condition on-site before commencing any and all work. Any discrepancy, error or omission in these plans shall be notified to the Architect, Landscape Architect or Engineer who stamps and signs these drawings so that proper corrections to the documents can be made.

Do not take any measurements from the physical drawings.

All drawings, specifications and other documents are property of ECo and can solely be used as an instrument of the Architect, Landscape Architect or Engineers' service as reference for this project.

ECo, the signing Architect, Landscape Architect or Engineer, and Eco's Consultants shall be deemed the author(s) of these documents and shall retain all common and statutory laws, including reserved and copyright(s). The full and/or partial reproduction of these drawings may only be done with the express written consent of the Architect, Landscape Architect or Engineer.

Only use documents with a "FOR CONSTRUCTION ONLY" stamp and sealed and signed by the designer.

Yo, Edmundo Colon Arizmendi PE, con licencia número 7812, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

No.	Description	Date

ECo
Landscape + Architecture + Engineering

103 Calle Isabel Andreu Aguilar, 4to Piso, San Juan,PR 00918
787-764-0610 eco-designstudio.com

Sections & Profiles

TB Roundabouts: PR-CRP-000964

Ave. Sabana seca Int. Ave. Dr. Diego Álvarez Chanca, Levittown

Autonomous Municipality of Toa Baja

Seal:

SIGNING ARCH
License #

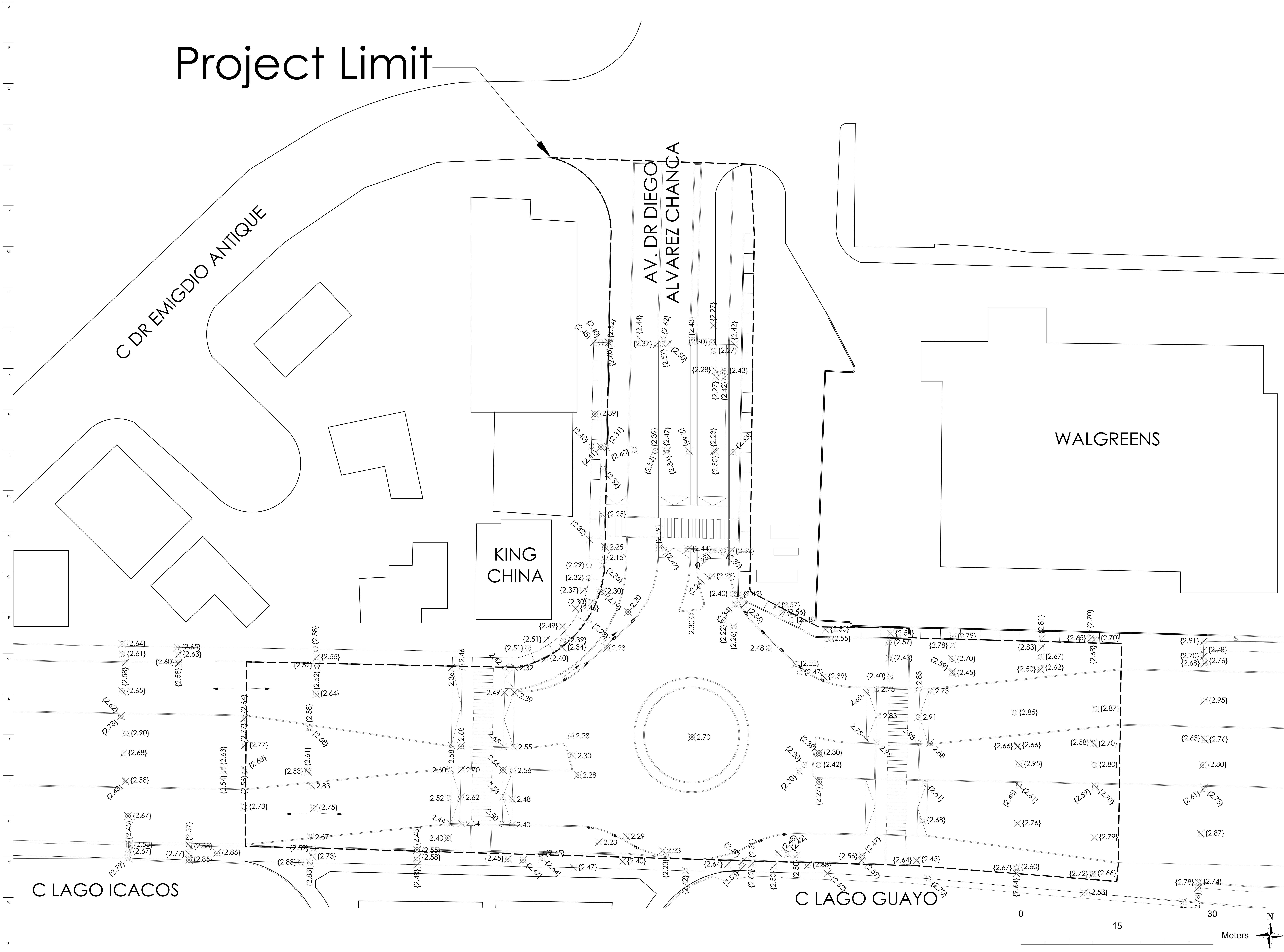
File Name:
2023.04-Rotondas Toa Baja-Geometry-PR-CRP-000964

Date	Scale
09/19/2023	1:500

Sheet

CI-206

Project #	PR-CRP: 000964
Drawn by	JFV
Checked by	ECA



General Notes

IMPORTANT INFORMATION FOR THE CONTRACTOR

Contractor shall verify al dimensions, levels and condition on-site before commencing any and all work. Any discrepancy, error or omission in these plans shall be notified to the Architect, Landscape Architect or Engineer who stamps and signs these drawings so that proper corrections to the documents can be made.

Do not take any measurements from the physical drawings.

All drawings, specifications and other documents are property of ECo and can solely be used as an instrument of the Architect, Landscape Architect or Engineers' service as reference for this project.

Only use documents with a "FOR CONSTRUCTION ONLY" stamp and sealed and signed by the designer.

Yo, Edmundo Colon Arizmendi PE, con licencia número 7812, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

No.	Description	Date

ECo
Landscape + Architecture + Engineering

103 Calle Isabel Andreu Aguilar, 4to Piso, San Juan, PR 00918
787-764-0610 eco-designstudio.com

Grading Plan

TB Roundabouts: PR-CRP-000964

Ave. Sabana seca Int. Ave. Dr. Diego Álvarez Chanca, Levittown

Autonomous Municipality of Toa Baja

Seal:

SIGNING ARCH
License #

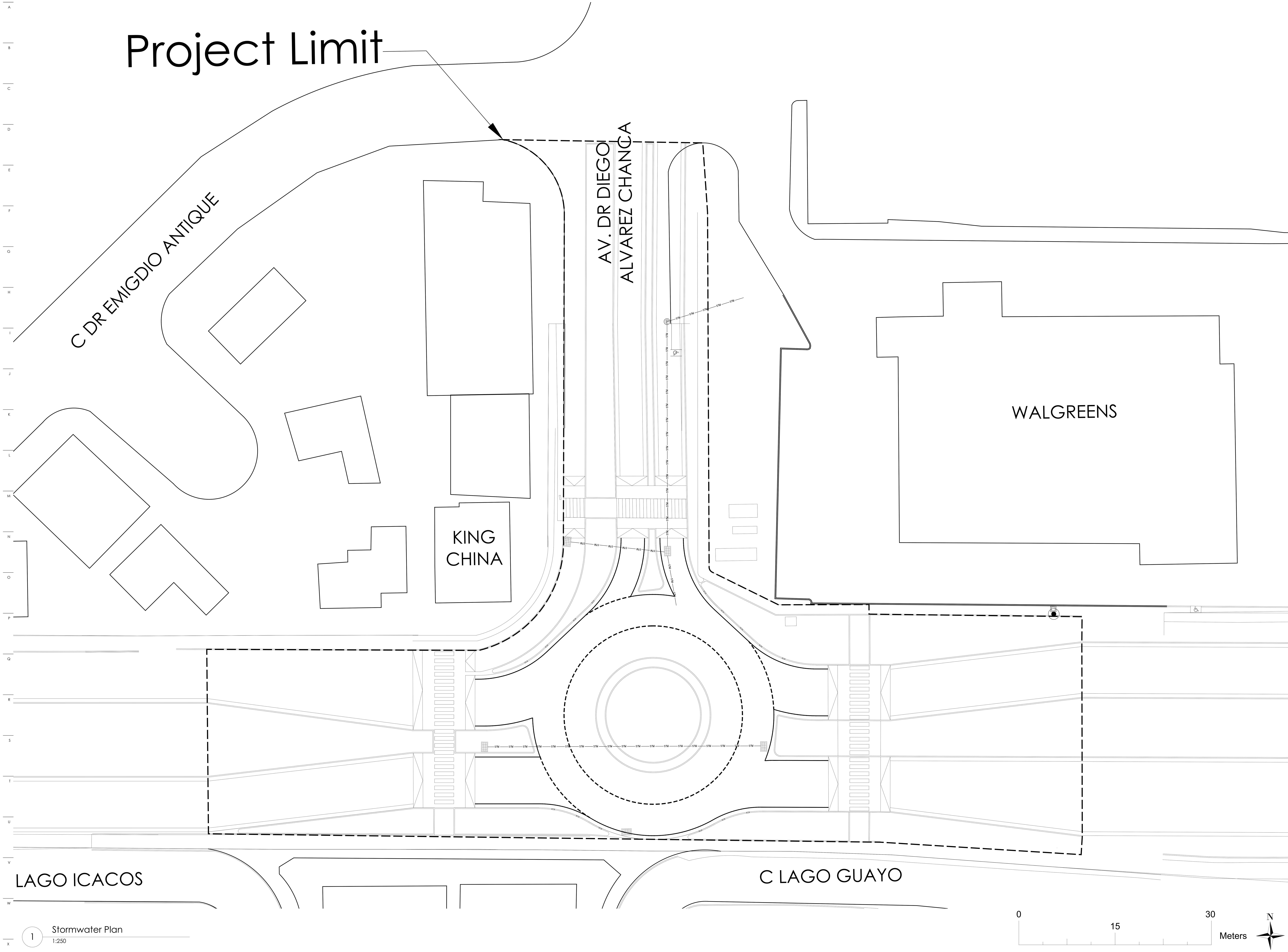
File Name: 2023.04-Rotondas Toa Baja-Geometry-PR-CRP-000964

Date	Scale
09/19/2023	1:250

Sheet

CI-300

Project #	PR-CRP: 000964
Drawn by	JFV
Checked by	ECA



1 Stormwater Plan
1:250

General Notes

IMPORTANT INFORMATION FOR THE CONTRACTOR

Contractor shall verify al dimensions, levels and condition on-site before commencing any and all work. Any discrepancy, error or omission in these plans shall be notified to the Architect, Landscape Architect or Engineer who stamps and signs these drawings so that proper corrections to the documents can be made.

Do not take any measurements from the physical drawings.

Only use documents with a "FOR CONSTRUCTION ONLY" stamp and sealed and signed by the designer.

Yo, Edmundo Colon Arizmendi PE, con licencia número 7812, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

No.	Description	Date

ECo
Landscape + Architecture + Engineering

103 Calle Isabel Andreu Aguilar, 4to Piso, San Juan,PR 00918
787-764-0610 eco-designstudio.com

TB Roundabouts: PR-CRP-000964

Ave. Sabana seca Int. Ave. Dr. Diego Ålvarez Chanca, Levittown

Autonomous Municipality of Toa Baja

Basin Areas

Seal:

SIGNING ARCH
License #

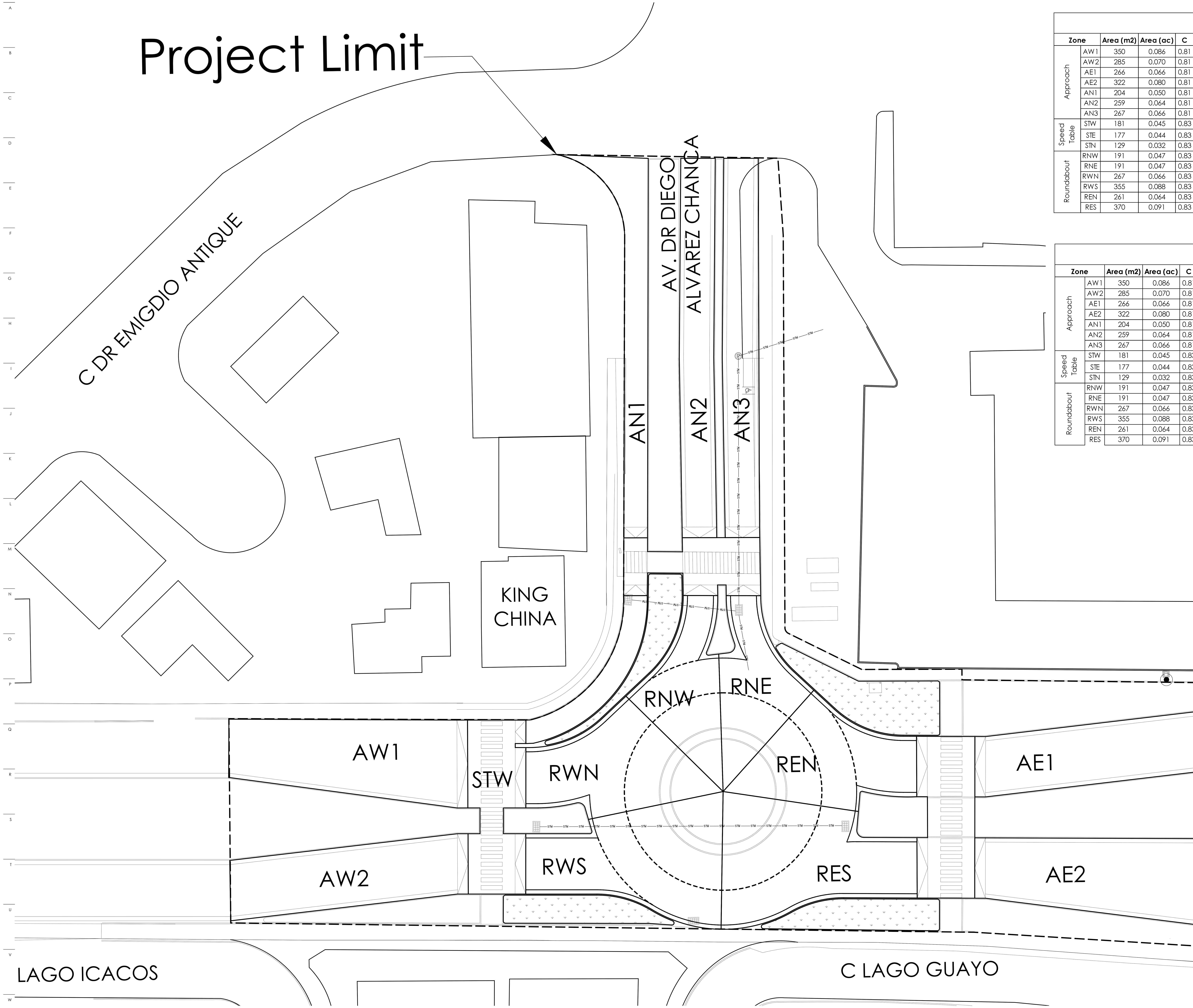
File Name: 2023.04-Rotondas Toa Baja-Geometry-PR-CRP-000964

Date	Scale
09/19/2023	1:250

Sheet

CI-400

Project #	PR-CRP: 000964
Drawn by	JFV
Checked by	ECA



1 Basin Areas
1:250

15-min 10-yr Rain Event
Flow Rate: Q = CiA

Zone		Area (m2)	Area (ac)	C	i (in/hr)	Q (cfs)	Time (s)	Vol (ft³)	Vol (m³)	Vol (gal)	∀sto	q (m³/s)
Approach	AW1	350	0.086	0.81	1.04	0.073	3,600	262	7.43	1,962	52.50	0.06
	AW2	285	0.070	0.81	1.04	0.059	3,600	214	6.05	1,598	42.75	0.05
	AE1	266	0.066	0.81	1.04	0.055	3,600	199	5.64	1,491	39.90	0.04
	AE2	322	0.080	0.81	1.04	0.067	3,600	241	6.83	1,805	48.30	0.05
	AN1	204	0.050	0.81	1.04	0.042	3,600	153	4.33	1,144	30.60	0.03
	AN2	259	0.064	0.81	1.04	0.054	3,600	194	5.50	1,452	38.85	0.04
	AN3	267	0.066	0.81	1.04	0.056	3,600	200	5.67	1,497	40.05	0.04
Speed Table	STW	181	0.045	0.83	1.04	0.039	3,600	139	3.94	1,040	27.15	0.03
	STE	177	0.044	0.83	1.04	0.038	3,600	136	3.85	1,017	26.55	0.03
	STN	129	0.032	0.83	1.04	0.028	3,600	99	2.80	741	19.35	0.02
Roundabout	RNW	191	0.047	0.83	1.04	0.041	3,600	147	4.15	1,097	28.65	0.03
	RNE	191	0.047	0.83	1.04	0.041	3,600	147	4.15	1,097	28.65	0.03
	RWN	267	0.066	0.83	1.04	0.057	3,600	205	5.81	1,534	40.05	0.04
	RWS	355	0.088	0.83	1.04	0.076	3,600	273	7.72	2,039	53.25	0.06
	REN	261	0.064	0.83	1.04	0.056	3,600	200	5.68	1,499	39.15	0.04
	RES	370	0.091	0.83	1.04	0.079	3,600	284	8.05	2,125	55.50	0.06
					Totals	0.859		3,093	87.58	23,137		

60-min 10-yr Rain Event
Flow Rate: Q = CiA

Zone		Area (m2)	Area (ac)	C	i (in/hr)	Q (cfs)	Time (s)	Vol (ft³)	Vol (m³)	Vol (gal)	Δ∀60-15	∀sto
Approach	AW1	350	0.086	0.81	2.46	0.172	3,600	620	17.57	4,641	10.14	52.50
	AW2	285	0.070	0.81	2.46	0.140	3,600	505	14.31	3,779	8.26	42.75
	AE1	266	0.066	0.81	2.46	0.131	3,600	472	13.35	3,527	7.71	39.90
	AE2	322	0.080	0.81	2.46	0.159	3,600	571	16.16	4,270	9.33	48.30
	AN1	204	0.050	0.81	2.46	0.100	3,600	362	10.24	2,705	5.91	30.60
	AN2	259	0.064	0.81	2.46	0.128	3,600	459	13.00	3,434	7.50	38.85
	AN3	267	0.066	0.81	2.46	0.131	3,600	473	13.40	3,540	7.74	40.05
Speed Table	STW	181	0.045	0.83	2.46	0.091	3,600	329	9.31	2,459	5.37	27.15
	STE	177	0.044	0.83	2.46	0.089	3,600	321	9.10	2,405	5.25	26.55
	STN	129	0.032	0.83	2.46	0.065	3,600	234	6.63	1,753	3.83	19.35
Roundabout	RNW	191	0.047	0.83	2.46	0.096	3,600	347	9.82	2,595	5.67	28.65
	RNE	191	0.047	0.83	2.46	0.096	3,600	347	9.82	2,595	5.67	28.65
	RWN	267	0.066	0.83	2.46	0.135	3,600	485	13.73	3,628	7.93	40.05
	RWS	355	0.088	0.83	2.46	0.179	3,600	645	18.26	4,823	10.54	53.25
	REN	261	0.064	0.83	2.46	0.132	3,600	474	13.42	3,546	7.75	39.15
	RES	370	0.091	0.83	2.46	0.187	3,600	672	19.03	5,027	10.98	55.50
					Totals	2.032		7,316	207.17	54,728		

Rain Garden Storage

Zone	Area (m²)	Depth (m)	$\forall_{sto}$ (m³)	$\forall_{15}$ (m³)	$\forall_{60}$ (m³)	$\forall_{60\text{-}sto}$
BSNW	78	0.15	11.70	8.00	18.93	7.23
BSNE	133	0.15	19.95	8.61	20.37	0.42
BSSW	81	0.15	12.15	9.83	23.25	11.10
BSSE	92	0.15	13.80	15.76	37.29	23.49

Rain Garden Storage

Zone	Area (ft²)	Depth (ft)	$\forall_{sto}$ (gal)	$\forall_{15}$ (gal)	$\forall_{60}$ (gal)	$\forall_{60\text{-}sto}$
BSNW	839.59	0.49	3,090.81	2,113.85	5,000.07	1,909.25
BSNE	1431.60	0.49	5,270.23	2,274.69	5,380.51	110.27
BSSW	871.88	0.49	3,209.69	2,596.36	6,141.39	2,931.70
BSSE	990.28	0.49	3,645.57	4,164.51	9,850.67	6,205.10

General Notes

IMPORTANT INFORMATION FOR THE CONTRACTOR

Contractor shall verify al dimensions, levels and condition on-site before commencing any and all work. Any discrepancy, error or omission in these plans shall be notified to the Architect, Landscape Architect or Engineer who stamps and signs these drawings so that proper corrections to the documents can be made.

Do not take any measurements from the physical drawings.

Only use documents with a “FOR CONSTRUCTION ONLY” stamp and sealed and signed by the designer.

Yo, Edmundo Colon Arizmendi PE, con licencia número 7812, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

No.	Description	Date

ECo
LANDSCAPE + ARCHITECTURE + ENGINEERING

103 Calle Isabel Andreu Aguilar, 4to Piso, San Juan,PR 00918
787-764-0610 eco-designstudio.com

Basin Areas

TB Roundabouts: PR-CRP-000964

Ave. Sabana seca Int. Ave. Dr. Diego Ålvarez Chanca, Levittown

Autonomous Municipality of Toa Baja

Seal:

SIGNING ARCH
License #

File Name: 2023.04-Rotondas Toa Baja-Geometry-PR-CRP-000964

Date: 09/19/2023
Scale: 1:250

Sheet: CI-401

Project #: PR-CRP: 000964
Drawn by: JFV
Checked by: ECA

General Notes

IMPORTANT INFORMATION FOR THE CONTRACTOR

Contractor shall verify al dimensions, levels and condition on-site before commencing any and all work. Any discrepancy, error or omission in these plans shall be notified to the Architect, Landscape Architect or Engineer who stamps and signs these drawings so that proper corrections to the documents can be made.

Do not take any measurements from the physical drawings.

Only use documents with a "FOR CONSTRUCTION ONLY" stamp and sealed and signed by the designer.

Yo, Edmundo Colon Arizmendi PE, con licencia número 7812, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

No.	Description	Date

ECo
Landscape + Architecture + Engineering

103 Calle Isabel Andreu Aguilar, 4to Piso, San Juan,PR 00918
787-764-0610 eco-designstudio.com

Stormwater Profiles

TB Roundabouts: PR-CRP-000964

Ave. Sabana seca Int. Ave. Dr. Diego Álvarez Chanca, Levittown

Autonomous Municipality of Toa Baja

Seal:

SIGNING ARCH
License #

File Name: 2023.04-Rotondas Toa Baja-Geometry-PR-CRP-000964

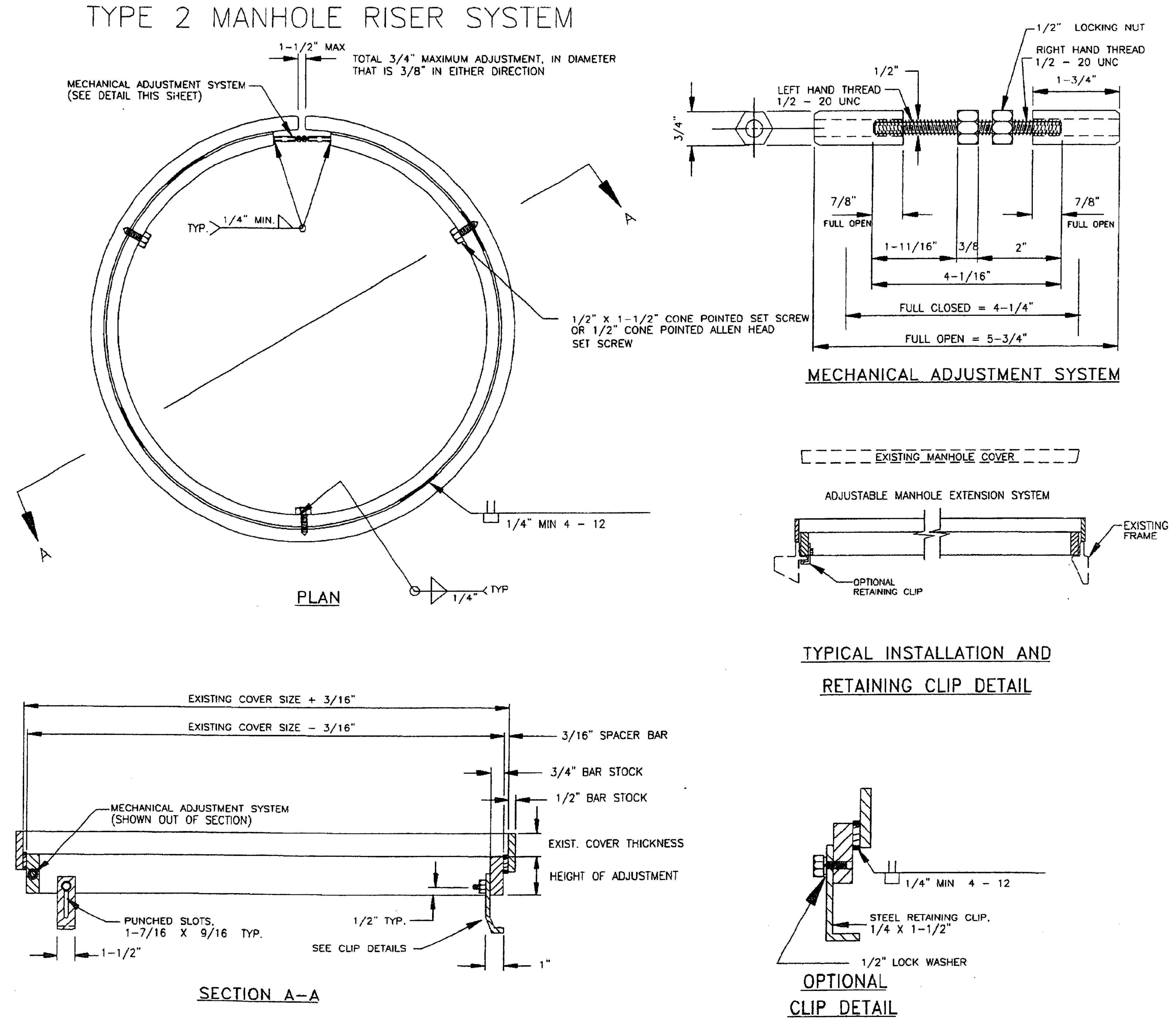
Date: 09/19/2023 | Scale: 1:400

Sheet

CI-402

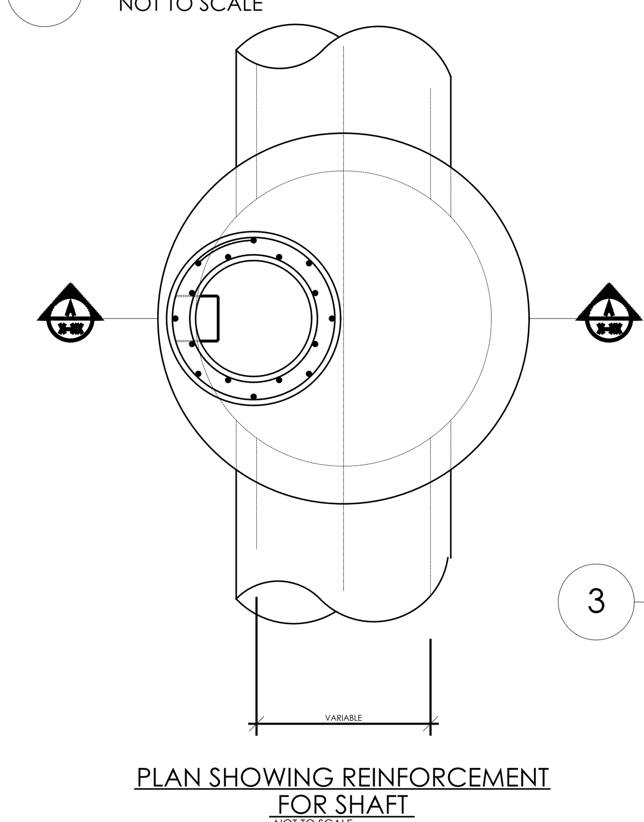
Project #: PR-CRP: 000964
Drawn by: JFV
Checked by: ECA

TYPE 2 MANHOLE RISER SYSTEM

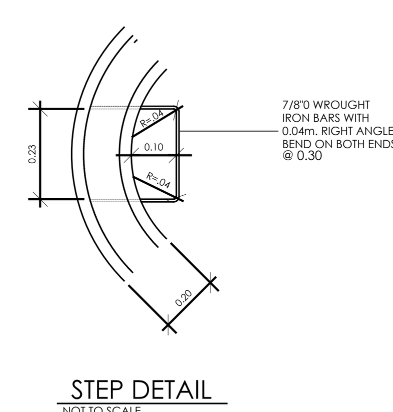


1. All components are manufactured from US made Carbon Steel meeting or exceeding the minimum requirements of ASTM A-36.
2. Top and bottom rings are welded as shown.
3. Bolt studs and nuts are made from type 304 stainless steel.
4. This system is used when the rise is thicker than the lid.
5. Minimum height of adjustment is manhole lid thickness + ¼".
6. Each adjustment ring is custom fabricated from measurements provided with each order. Required measurements include:
a. Existing manhole cover diameter and thickness
b. Required height of adjustment from top of existing lid to finished elevation. Maximum recommended height of adjustment for repaving projects is 6'. Height adjustments are available in ¼" increments.
c. Required length and type of retainer clip.
d. Width and height of existing casting bearing surface
7. During installation check for full bearing of lower frame section on existing casting.
8. Risers shall be coated with black asphalt bituminous paint.
9. Available options in lieu of bolt studs for attaching retaining clip include drilled and tapped bar stock with 1/2" diameter – 1" long stainless-steel bolt.
10. It shall be a subsidiary obligation of the contractor to take all necessary measurement of the existing manhole cover and frame that will allow the appropriate fabrication of the adjustment ring. The excavation and replacement of the existing pavement structure shall be a subsidiary obligation of the contract.
11. Unless otherwise indicated in the contract the contractor may use type 1, 2, 5, or 7 at their choice.

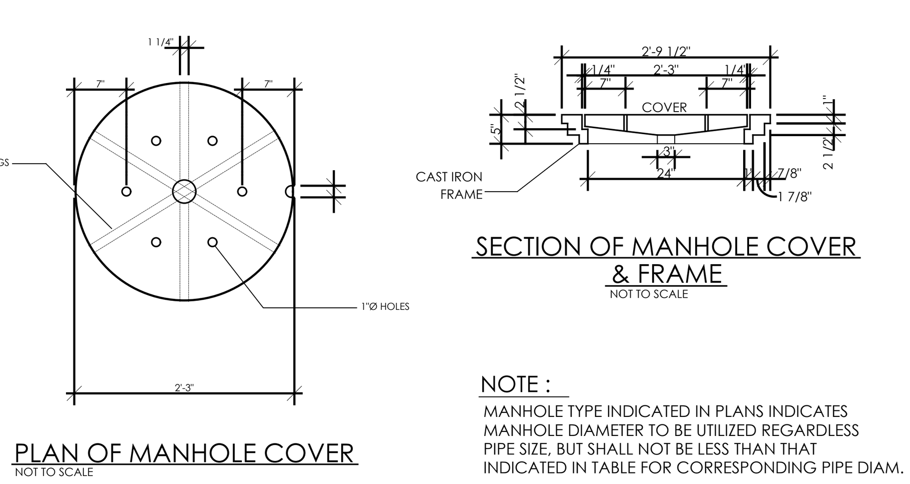
1 Type 2 Manhole Riser Detail
NOT TO SCALE



2 Shaft Reinforcement Plan
NOT TO SCALE



3 Step Detail
NOT TO SCALE

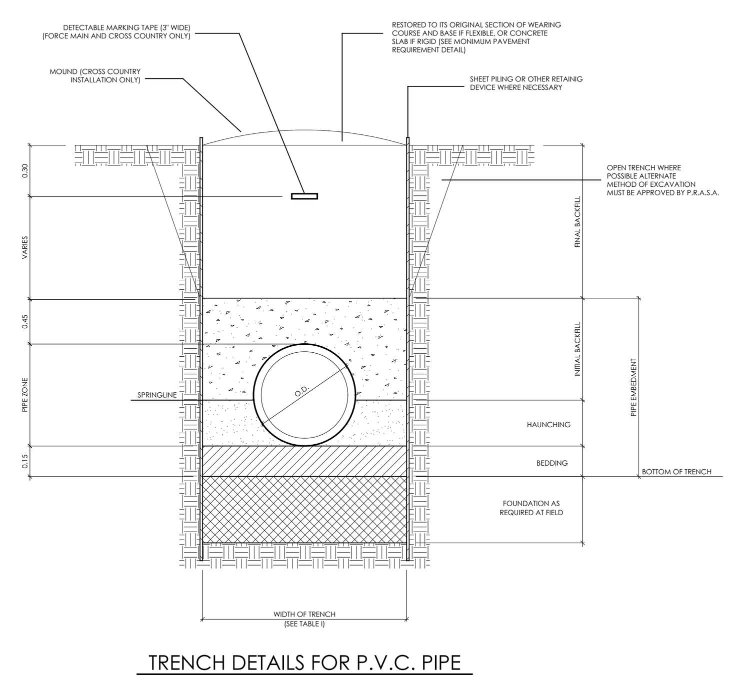


NOTE :
MANHOLE TYPE INDICATED IN PLANS INDICATES MANHOLE DIAMETER TO BE UTILIZED REGARDLESS PIPE SIZE, BUT SHALL NOT BE LESS THAN THAT INDICATED IN TABLE FOR CORRESPONDING PIPE DIAM.

4 Manhole Cover Details
NOT TO SCALE

MAXIMUM SEWERS FOR MANHOLES		
TYPE	MANHOLE DIAM. m.	MAX. PIPE INCHES
1	1.20	30"
2	1.50	36"
3	1.75	42"
4	2.00	48"
5	2.20	54"
6	2.45	60"
7	2.70	66"
8	2.95	72"

5 Manhole Cover Diameters
NOT TO SCALE



6 Trench Details for P.V.C. Pipe
NOT TO SCALE

TABLE I WIDTH OF TRENCH	
DIAMETER (INCHES)	* WIDTH OF TRENCH AT TOP OF PIPE (INCHES)
4"-15"	O.D. + 24"
16"-27"	O.D. + 36"

NOTE :
* WHENEVER MOVABLE SHEET PILING OR OTHER TRENCH PROTECTION IS USED BELOW THE TOP OF THE PIPE, THE CLEAR DISTENCE BETWEEN THE OUTSIDE FACE OF THE PIPE AND THE MOVABLE TRENCH SUPPORT SHALL BE NOT LESS THAN 2.5 X OUTSIDE PIPE DIAMETER.

NOTES :

FOUNDATION AND BEDDING

1-MATERIALS AS CLASSIFIED BY U.S.C.S. AS PER A.S.T.M. D-2487 SOILS CLASSES I-II-III WHERE CRUSHER GRAVEL OR CRUSHER STONE IS USED IT SHALL AS PER A.S.T.M. C-33 GRADATION NO. 67
2-FILL MATERIAL SHALL BE PLACED IN 0.15 m. LAYERS.
3-COMPACT TO 90% OF MAX. COMPACTION AS PER A.S.T.M. D-698 FOR COHESIVE SOILS OR SENSIFY TO 70% OF MAX. RELATIVE DENSITY AS PER A.S.T.M. D-2049 FOR GRANULAR SOILS TEST SHALL BE PERFORMED AT 50 m. INTERVARLS.

HAUNCHING

1-SAME MATERIALS AS FOR FOUNDATION AND BEDDING.
2-FILL MATERIAL SHALL BE PLACED IN 15 m. LAYERS.
3-COMPACT : ____________
(TO BE DETERMINED BY DESIGNER)

INITIAL BACKFILL CROSS COUNTRY

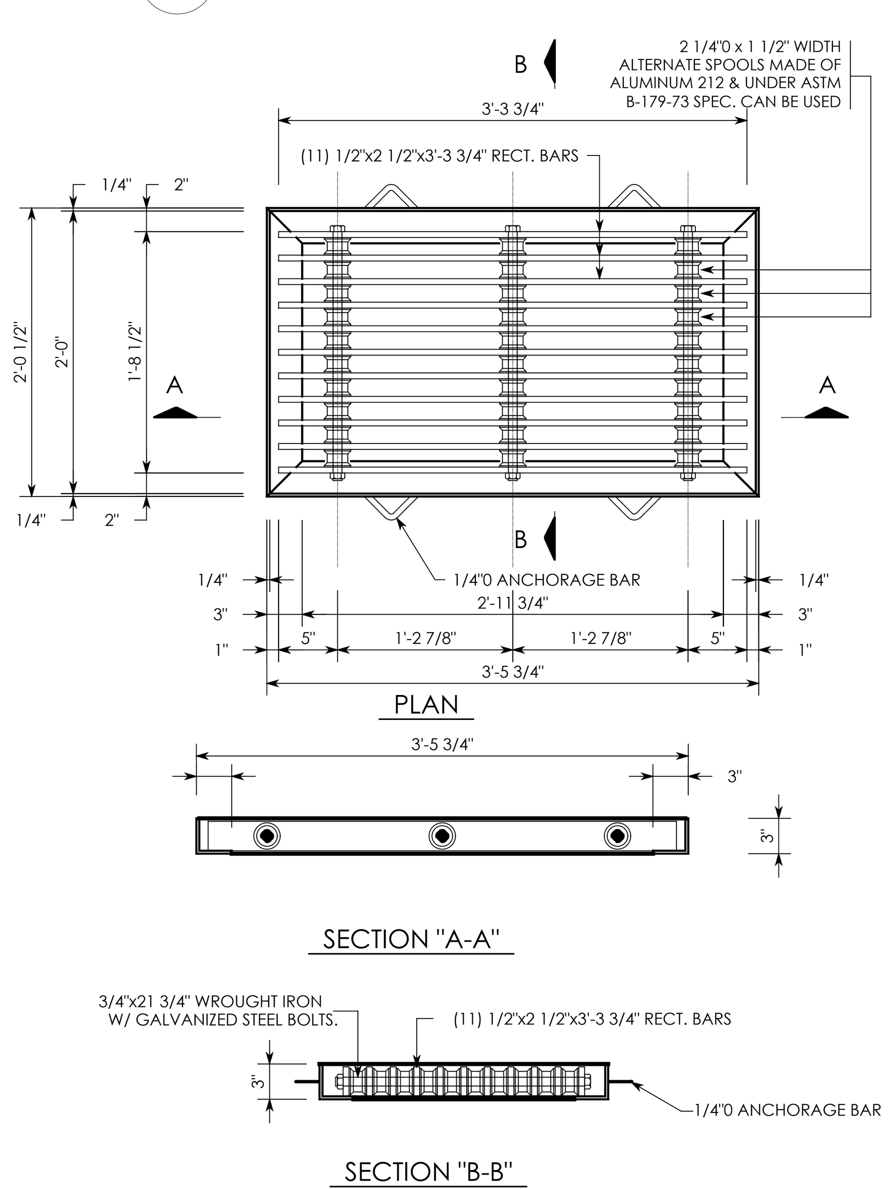
1-PREVIOUS EXCAVATED MATERIAL FREE FROM BOULDERS AND STONES LARGER THAN 2".
2-FILL MATERIAL SHALL BE PLACED IN 0.30 m. LAYERS.
3-COMPACTION EFFORT NOT REQUIRED OTHR THAN OBTAINED BY SPREADING AND LEVELLING BACKFILL MATERIAL ROLLING EQUIPMENT NOT ALLOWED FOR WORKING BACKFILL MATERIAL IN THIS SECTOR OF TRENCH.

FINAL BACKFILL-CROSS COUNTRY :

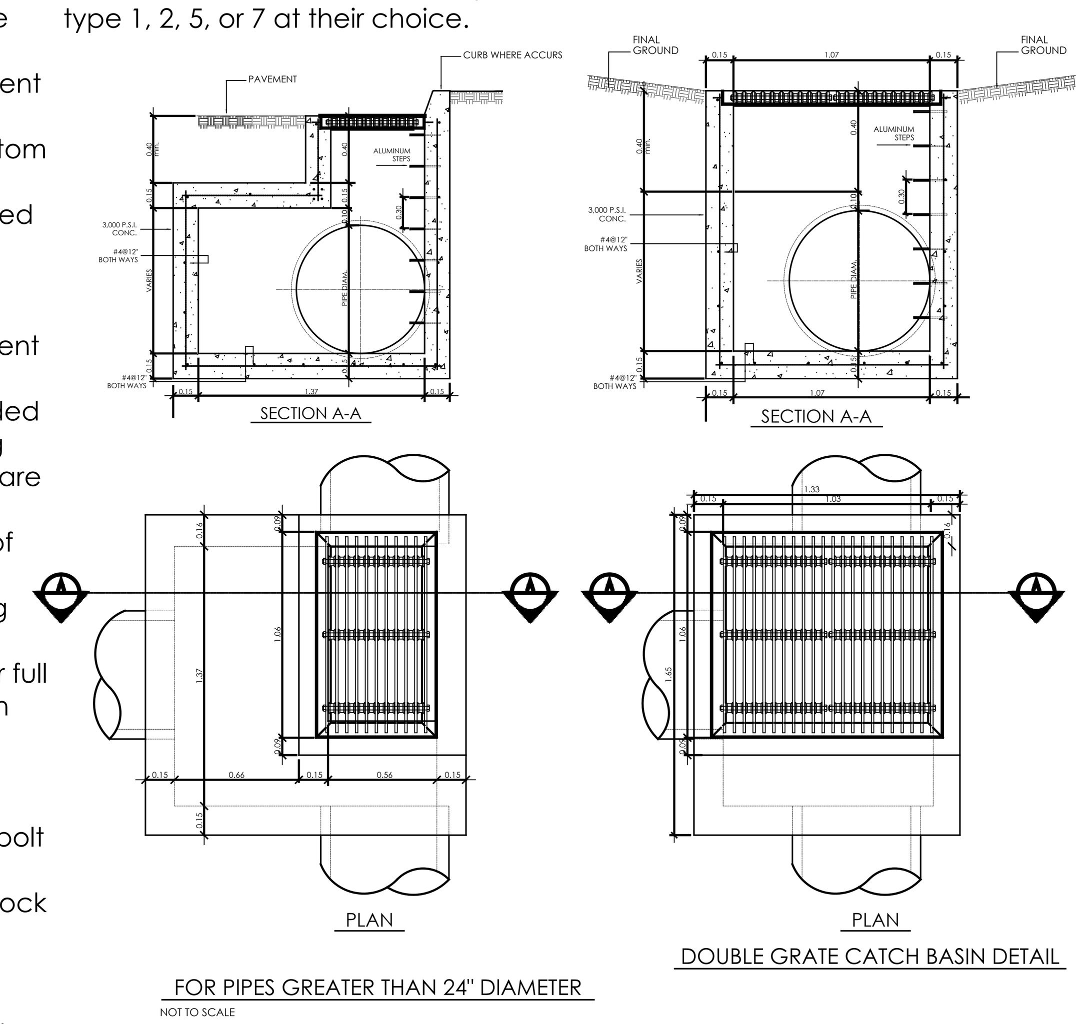
1-PREVIOUS EXCAVATED MATERIAL.
2-FILL MATERIAL SHALL BE LOOSELY PLACED IN 0.90 m. LAYERS.
3-COMPACTION AS OBTAINED BY ROLLING WITH THE PLACEMENT EQUIPMENT.
4-MOUND THE SURFACE AND FILL AND MAINTAIN ALL SUNKEN TRENCHES UNTIL FINAL ACCEPTANCE OF THE PROJECT.

INITIAL AND FINAL BACKFILL-UNDER ROADS, STREETS, WALKS, APPRONS AND OTHERS IMPROVED SURFACES :

1-ANY MATERIAL AS CLASSIFIED BY U.S.C.S. AS PER A.S.T.M. D-2487 SOIL CLASSES I-II-III-IV, WHERE CRUSHED GRAVEL OR CRUSHED STONE IS USED IT SHALL BE AS PER A.S.T.M. C-33 GRADATION NO. 67
2-FILL MATERIAL SHALL BE PLACED IN 0.30 m. LAYERS.
3-COMPACT TO 90% OF MAX COMPACTION AS PER A.S.T.M. D-698 FOR COHESIVE SOILS OR 70% MAX. RELATIVE DENSITY AS PER A.S.T.M. D-2049 FOR GRANULAR SOILS ROLLING EQUIPMENT NOT ALLOWED FOR WORKING BACKFILL MATERIAL IN THE INITIAL BACKFILL SECTOR.



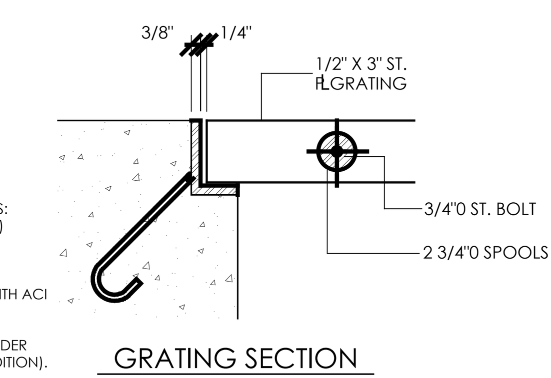
7 Grating Detail
NOT TO SCALE



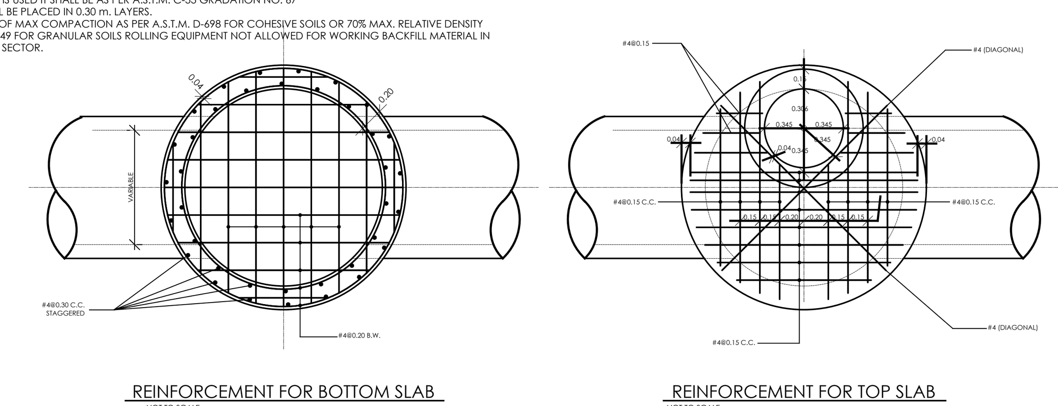
8 Double & Single Grate Details
NOT TO SCALE

NOTES:

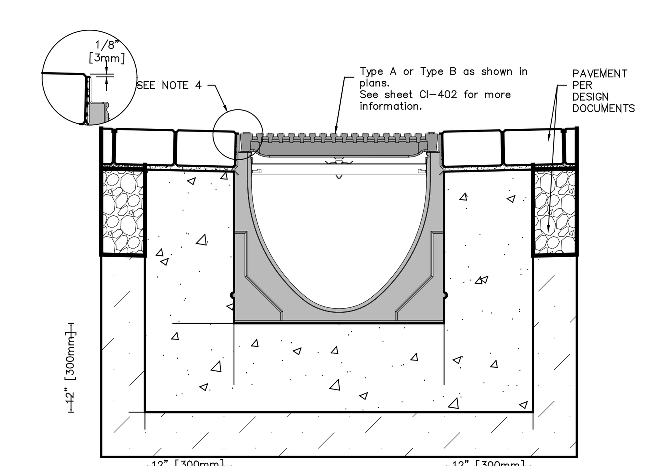
1. CONCRETE STRENGTH 3,000 P.S.I. AT 28 DAY.
2. REINFORCING STEEL ASTM A615, GRADE 60.
3. CONCRETE COVER FOR REINFORCEMENT AS FOLLOWS: a)BOTTOM SLAB.................................3" (SIDE & BOTTOM)
4. WELDING AS PER AWS.
5. ALL DETAILING AND CONSTRUCTION TO COMPANY WITH ACI BUILDING CODE (LATEST).
6. ALTERNATE SPOOLS MADE OF ALUMINUM 212 AND UNDER SPECIFICATION ASTM B-179-73 CAN BE USED (LATEST EDITION).



9 Grate Anchor Detail
NOT TO SCALE



10 Slab Reinforcement for Manholes
NOT TO SCALE



NOTES:
1. IT IS NECESSARY TO ENSURE MINIMUM DIMENSIONS SHOWN ARE SUITABLE FOR EXISTING GROUND CONDITIONS. *ENGINEERING ADVICE MAY BE REQUIRED.*
2. MINIMUM CONCRETE STRENGTH OF 4,000 PSI IS RECOMMENDED. CONCRETE SHOULD BE VIBRATED TO ELIMINATE AIR POCKETS.
3. EXPANSION AND CONTRACTION CONTROL JOINTS AND REINFORCEMENT ARE RECOMMENDED TO PROTECT CHANNEL AND CONCRETE SURROUND. *ENGINEERING ADVICE MAY BE REQUIRED.*
4. THE FINISHED LEVEL OF THE CONCRETE SURROUND MUST BE APPROX. 1/8" [3mm] ABOVE THE TOP OF THE CHANNEL EDGE.
5. CONCRETE BASE THICKNESS SHOULD MATCH SLAB THICKNESS. ENGINEERING ADVICE MAY BE REQUIRED TO DETERMINE PROPER LOAD CLASS.
6. REFER TO ACO'S LATEST INSTALLATION INSTRUCTIONS FOR FURTHER DETAILS.

SPECIFICATION CLAUSE

TYPE - A

ACO DRAIN
KLASSIK DRAIN KS300 12" Internal Width Class A Type 847D - Stainless Steel Longitudinal Grate (ADA) Part No. 142223

TYPE - B

ACO DRAIN
POWERDRAIN-S300K iron edged channels / 12 inch nominal (300 mm) internal width Trench System: S300K TRENCH SYSTEM. PowerLok grate SK3 ductile iron Longitudinal Grate Class E Part No. 96833

GENERAL
THE SURFACE DRAINAGE SYSTEM SHALL BE POLYMER CONCRETE KS300 CHANNEL SYSTEM WITH STAINLESS STEEL EDGE RAILS AS MANUFACTURED BY ACO POLYMER PRODUCTS, INC.

MATERIALS
CHANNELS SHALL BE MANUFACTURED FROM POLYESTER RESIN POLYMER CONCRETE WITH AN INTEGRALLY CAST-IN STAINLESS STEEL EDGE RAIL. MINIMUM PROPERTIES OF POLYMER CONCRETE WILL BE AS FOLLOWS:

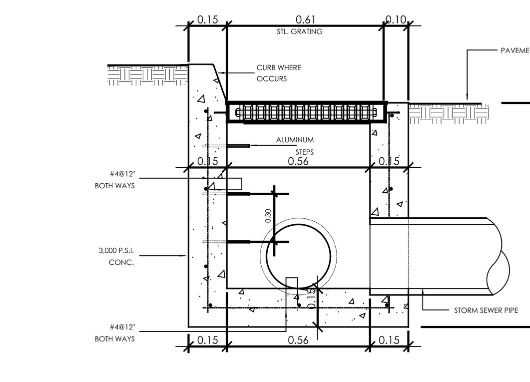
COMPRESSIVE STRENGTH:	14,000 PSI
FLEXURAL STRENGTH:	4,000 PSI
TENSILE STRENGTH:	1,500 PSI
WATER ABSORPTION:	0.07%
FROST PROOF	YES
DILUTE ACID AND ALKALI RESISTANT	YES
B117 SALT SPRAY TEST COMPLIANT	YES

THE SYSTEM SHALL BE 12" (300mm) NOMINAL INTERNAL WIDTH WITH A 14.2" (390mm) OVERALL WIDTH AND A BUILT-IN SLOPE OF 0.5%. CHANNEL INVERT SHALL HAVE DEVELOPED "V" SHAPE. ALL CHANNELS SHALL BE INTERLOCKING WITH A MALE/FEMALE JOINT.

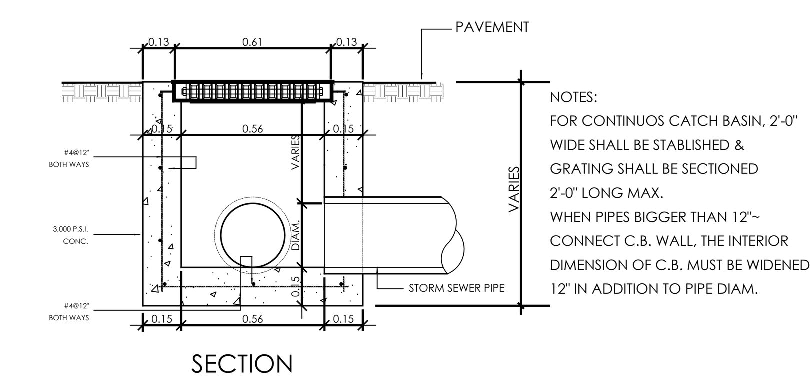
THE COMPLETE DRAINAGE SYSTEM SHALL BE BY ACO POLYMER PRODUCTS, INC. ANY DEVIATION OR PARTIAL SYSTEM DESIGN AND/OR IMPROPER INSTALLATION WILL VOID ANY AND ALL WARRANTIES PROVIDED BY ACO POLYMER PRODUCTS, INC.

CHANNEL SHALL WITHSTAND LOADING TO PROPER LOAD CLASS AS OUTLINED BY EN 1433. GRATE TYPE SHALL BE APPROPRIATE TO MEET THE SYSTEM LOAD CLASS SPECIFIED AND INTENDED APPLICATION. GRATES SHALL BE SECURED USING 'QUICKLOK' BOLTLESS LOCKING SYSTEM. CHANNEL AND GRATE SHALL BE CERTIFIED TO MEET THE SPECIFIED EN 1433 LOAD CLASS. THE SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS.

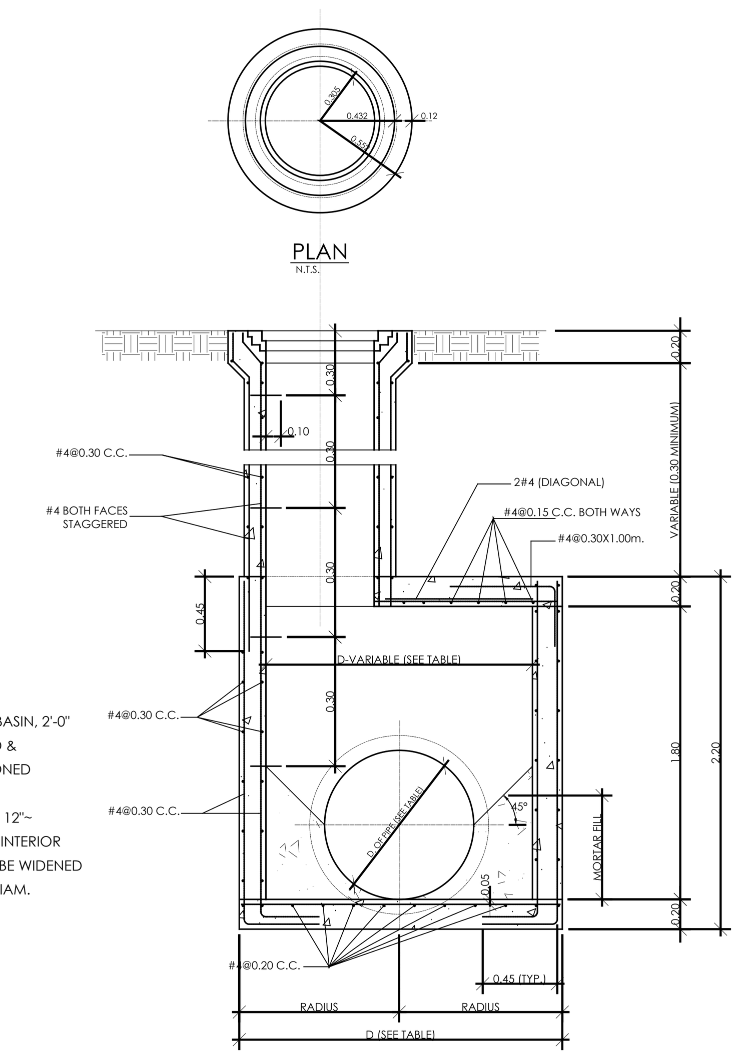
11 Linear Drain Detail
NOT TO SCALE



12 Inlet Type II Detail
NOT TO SCALE



13 Inlet Type I Detail
NOT TO SCALE



14 Section View of Manhole
NOT TO SCALE

General Notes

IMPORTANT INFORMATION FOR THE CONTRACTOR

Contractor shall verify al dimensions, levels and condition on-site before commencing any and all work. Any discrepancy, error or omission in these plans shall be notified to the Architect, Landscape Architect or Engineer who stamps and signs these drawings so that proper corrections to the documents can be made.

Do not take any measurements from the physical drawings.

All drawings, specifications and other documents are property of ECo and can solely be used as an instrument of the Architect, Landscape Architect or Engineers' service as reference for this project.

ECo, the signing Architect, Landscape Architect or Engineer, and Eco's Consultants shall be deemed the author(s) of these documents and shall retain all common and statutory laws, including reserved and copyright(s). The full and/or partial reproduction of these drawings may only be done with the express written consent of the Architect, Landscape Architect or Engineer.

Only use documents with a "FOR CONSTRUCTION ONLY" stamp and sealed and signed by the designer.

Yo, Edmundo Colon Arizmendi PE, con licencia número 7812, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

No.	Description	Date

103 Calle Isabel Andreu Aguilar, 4to Piso, San Juan,PR 00918
787-764-0610 eco-designstudio.com

Stromwater Typical Details

TB Roundabouts: PR-CRP-000964

Ave. Sabana seca Int. Ave. Dr. Diego Álvarez Chanca, Levittown
Autonomous Municipality of Toa Baja

Seal:

SIGNING ENG
License #

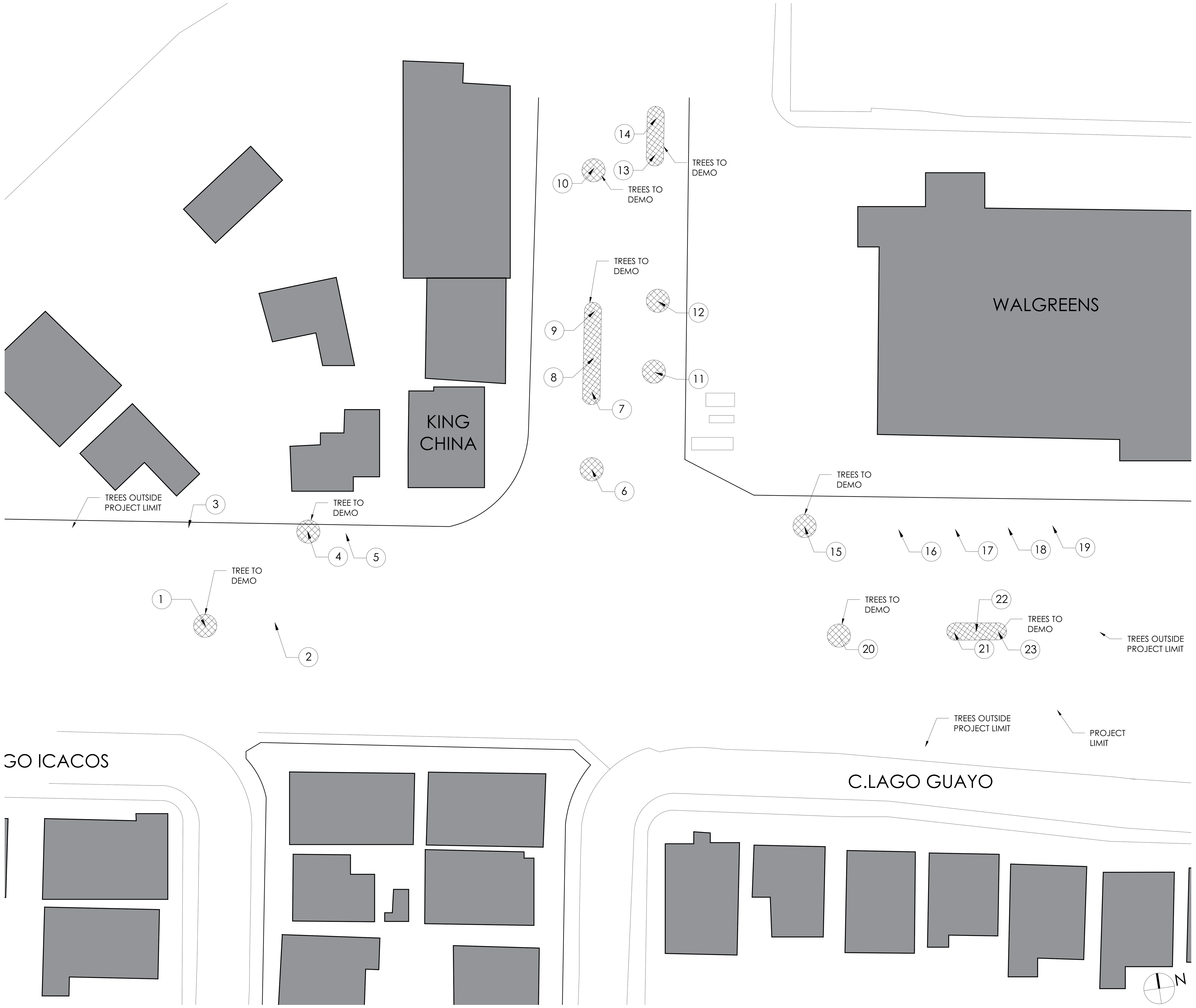
File Name:
2023-04-Rotondas Toa Baja-Geometry-PR-CRP-000964

Date	Scale
09/19/2023	1:200

Sheet

CI-403

Project #	PR-CRP: 000964
Drawn by	ERCI
Checked by	ECA



1 Existing Tree Inventory and Removal Plan

SCALE: 1'-0"=1/32"

TREE INVENTORY

REF	Common Name	Latin Name	Height	DBH	Action	Note	Req. Replacement
1	Ixora	Ixora spp	5	2	Remove	Shrub	--
2	Acacia	Acacia	50	28	Conserve	Multitrunk (2)	--
3	Ucar	Bucida buceras	43	15	Conserve		--
4	Ucar	Bucida buceras	26	5	Remove	Bad	--
5	Ucar	Bucida buceras	32	25	Conserve		--
6	Teca	Tectona grandis	25	11	Remove		3
7	Pink Trumpet Tree	Tabebuia rosea	15	8	Remove		3
8	Rainbow Eucalyptu	Ecualyptus deglupta	25	11	Remove		3
9	Manila Palm	Adonidia merrillii	15	6	Remove		3
10	Manila Palm	Adonidia merrillii	15	6	Remove		3
11	Ucar	Bucida buceras	32	11	Remove		3
12	Ucar	Bucida buceras	43	13	Remove		3
13	Ucar	Bucida buceras	33	13	Remove		3
14	Ucar	Bucida buceras	26	13	Remove		3
15	Ucar	Bucida buceras	25	17	Remove		3
16	Ucar	Bucida buceras	25	17	Conserve		--
17	Ucar	Bucida buceras	20	8	Conserve		--
18	Ucar	Bucida buceras	20	15	Conserve		--
19	Ucar	Bucida buceras	35	17	Conserve		--
20	Fiji Fan Palm	Pritchardia pacifica	18	9	Remove		3
21	Manila Palm	Adonidia merrillii	18	8	Remove		3
22	Manila Palm	Adonidia merrillii	18	8	Remove		3
23	Manila Palm	Adonidia merrillii	18	8	Remove		3

TREE INVENTORY SUMMARY

Common Name	Latin Name	Quantity	Remove	Conserve	Req. Replacement
Ucar	Bucida buceras	12	6	6	18
Ixora	Ixora spp	1	1		0
Acacia	Acacia	1		1	0
Manila Palm	Adonidia merrillii	5	5	0	15
Teca	Tectona grandis	1	1		3
Pink Trumpet Tree	Tabebuia rosea	1	1		3
Rainbow Eucalyptu	Ecualyptus deglupta	1	1		3
Fiji Fan Palm	Pritchardia pacifica	1	1		3

General Notes

IMPORTANT INFORMATION FOR THE CONTRACTOR

Contractor shall verify al dimensions, levels and condition on-site before commencing any and all work. Any discrepancy, error or omission in these plans shall be notified to the Architect, Landscape Architect or Engineer who stamps and signs these drawings so that proper corrections to the documents can be made.

Do not take any measurements from the physical drawings.

Only use documents with a "FOR CONSTRUCTION ONLY" stamp and sealed and signed by the designer.

Yo, Edmundo Colon Izquierdo, con licencia número 19992, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

No.	Description	Date

ECo
Landscape + Architecture + Engineering

103 Calle Isabel Andreu Aguilar, 4to Piso, San Juan,PR 00918
787-764-0610 eco-designstudio.com

Existing Tree Inventory andn Removal Plan

T.B. Roundabout P.R.-CRP-000964

Ave. Sabana Seca Int., Ave. Diego Alvarez Chanca, Levittown, Toa Baja, P.R.

Autonomous Municipality of Toa Baja

Seal:

SIGNING ARCH
License #

File Name: 2022.04-Rotondas Toa Baja

Date 09-19-2023

Scale Scale:1'-0"=1/32"

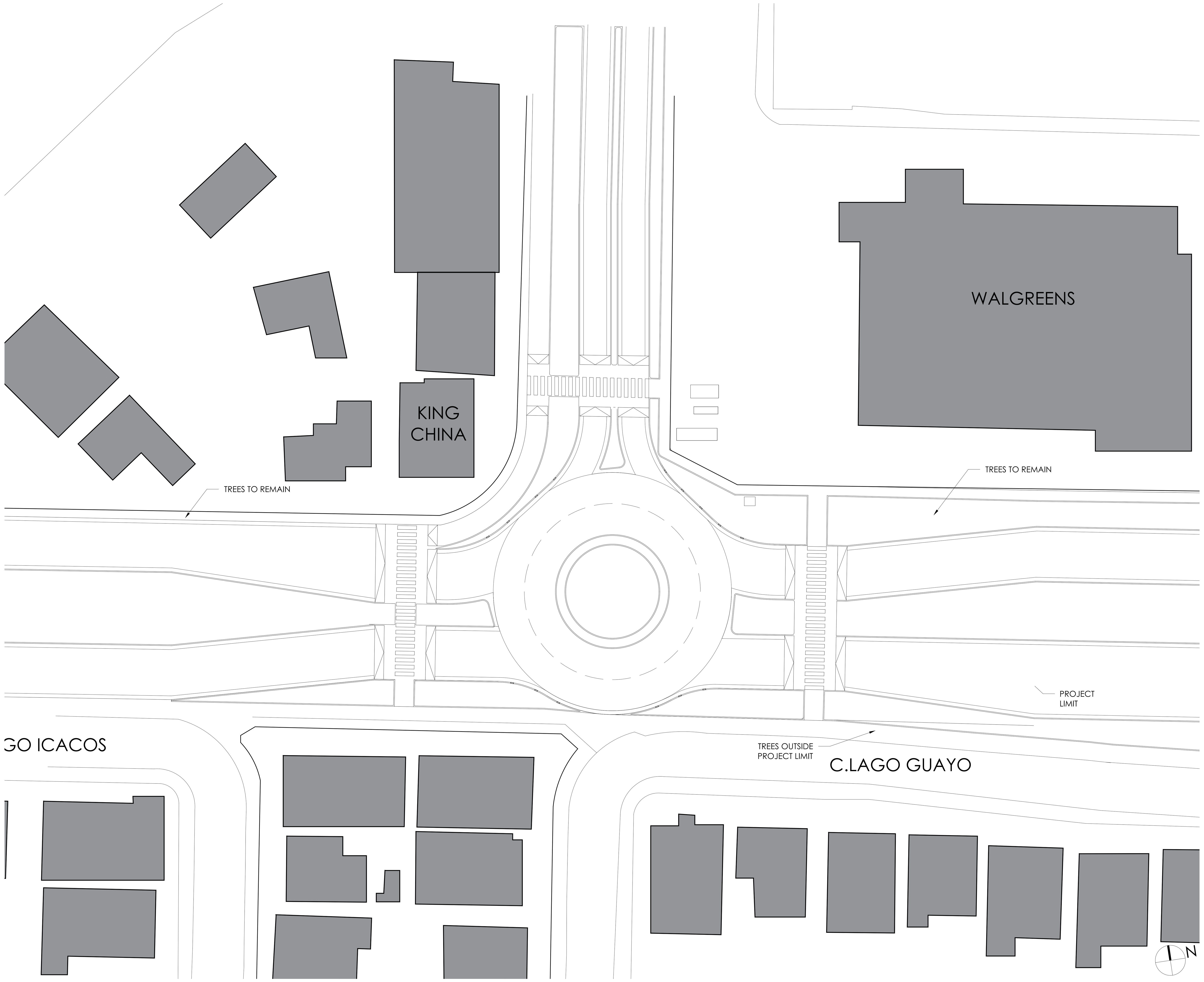
Sheet

LA-200

Project # 2022.04

Drawn by MEG

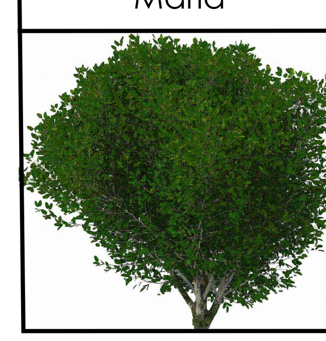
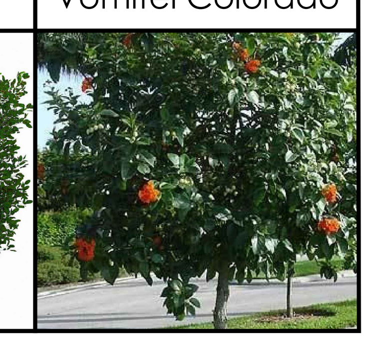
Checked by ERCI



1 Tree Mitigation Plan
SCALE: 1'-0"=1/32"

NOTE TO CONTRACTOR:
-45 trees are requiried for mitigation compliance.
-46 trees are proposed for roundabout design.

TREES

Maria	Vomitel Colorado
	

General Notes

IMPORTANT INFORMATION FOR THE CONTRACTOR

Contractor shall verify al dimensions, levels and condition on-site before commencing any and all work. Any discrepancy, error or omission in these plans shall be notified to the Architect, Landscape Architect or Engineer who stamps and signs these drawings so that proper corrections to the documents can be made.

Do not take any measurements from the physical drawings.

All drawings, specifications and other documents are property of ECo and can solely be used as an instrument of the Architect, Landscape Architect or Engineers' service as reference for this project.

Only use documents with a "FOR CONSTRUCTION ONLY" stamp and sealed and signed by the designer.

Yo, Edmundo Colon Izquierdo, con licencia número 19992, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

No.	Description	Date

ECo
Landscape + Architecture + Engineering

103 Calle Isabel Andreu Aguilar, 4to
Piso, San Juan,PR 00918
787-764-0610 eco-designstudio.com

Tree Mitigation Plan

T.B. Roundabout P.R.-CRP-000964

Ave. Sabana Seca Int., Ave. Diego Alvarez Chanca,
Levittown, Toa Baja, P.R.

Autonomous Municipality of Toa Baja

Seal:

SIGNING ARCH
License #

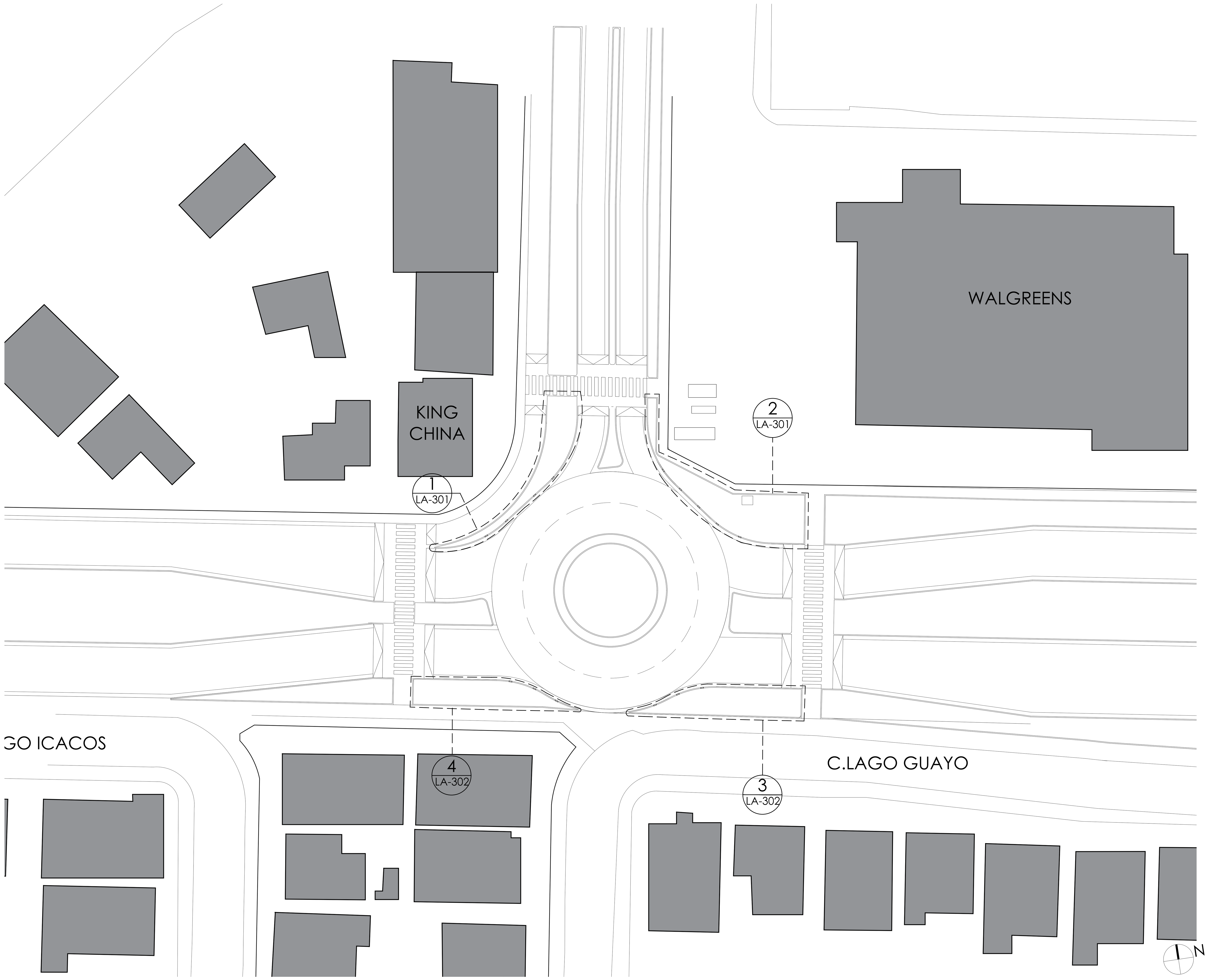
File Name: 2022.04-Rotondas Toa Baja

Date	Scale
09-19-2023	Scale:1'-0"=1/32"

Sheet

LA-201

Project #	2022.04
Drawn by	MEG
Checked by	ERCI

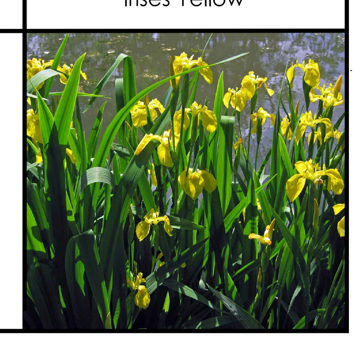


1 PLANTING SCOPE AREA
SCALE: 1/16"=1'-0"

Planting Notes

1. The work shall be constructed and maintained in accordance with these plans, irrigation and landscape standard drawings, approved materials list, as well as these standard planting notes.
2. Exact location of plant materials shall be reviewed by the landscape architect in the field prior to installation. The landscape architect reserves the right to adjust plants to exact location in field.
3. Contractor shall be responsible for verifying all plant counts and square footages. Quantities shown on plans take precedence over written quantities in "planting legends"
4. Provide matching forms and sizes for all plant materials within each species and size designated in the drawings.
5. The Contractor shall provide positive drainage in all landscape areas
6. The Contractor shall schedule inspections forty eight (48) hours in advance of the work being ready for inspection. If the work is not ready for inspection on the scheduled date and time the contractor shall reschedule the inspection as above.
7. Planting inspections are required for the following:
   - 7.1. Plant material layout prior to planting.
   - 7.2. Plant material quality prior to planting.
   - 7.3. Pre-maintenance period plant material inspection (punch list developed).
   - 7.4. Pre-maintenance period final punch list completion inspection.

GRASS MIX#1:

Dietes Bicolor	Irises Yellow
..\3.2.6 - Planting Info\MIX 1\Dietes bicolor.jpg	

GRASS MIX #3

Pennisetum	Muhly Grass
2.6 - Planting Info\MIX 3\Pennisetum Purpureum.jpg	..\3.2.6 - Planting Info\MIX 1\Muhlenbergia capillaris - Pink muhly grass.jpg

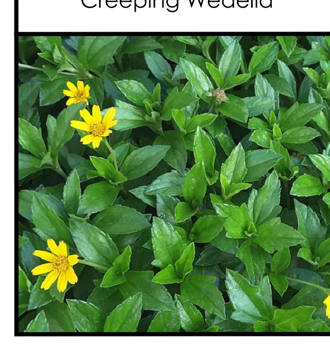
SHRUBS

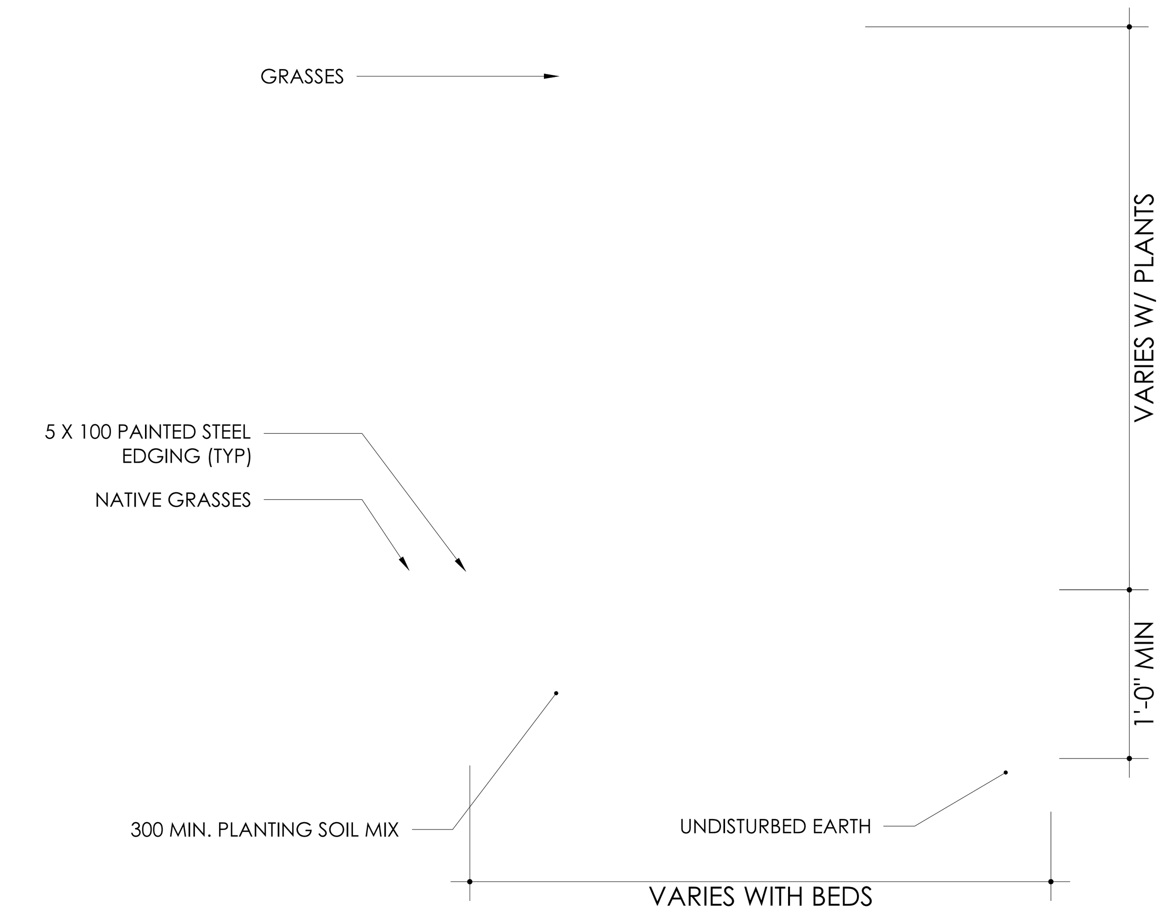
Icaco
..\3.2.6 - Planting Info\MIX 1\icaco rojoo.JPG

GRASS MIX #2

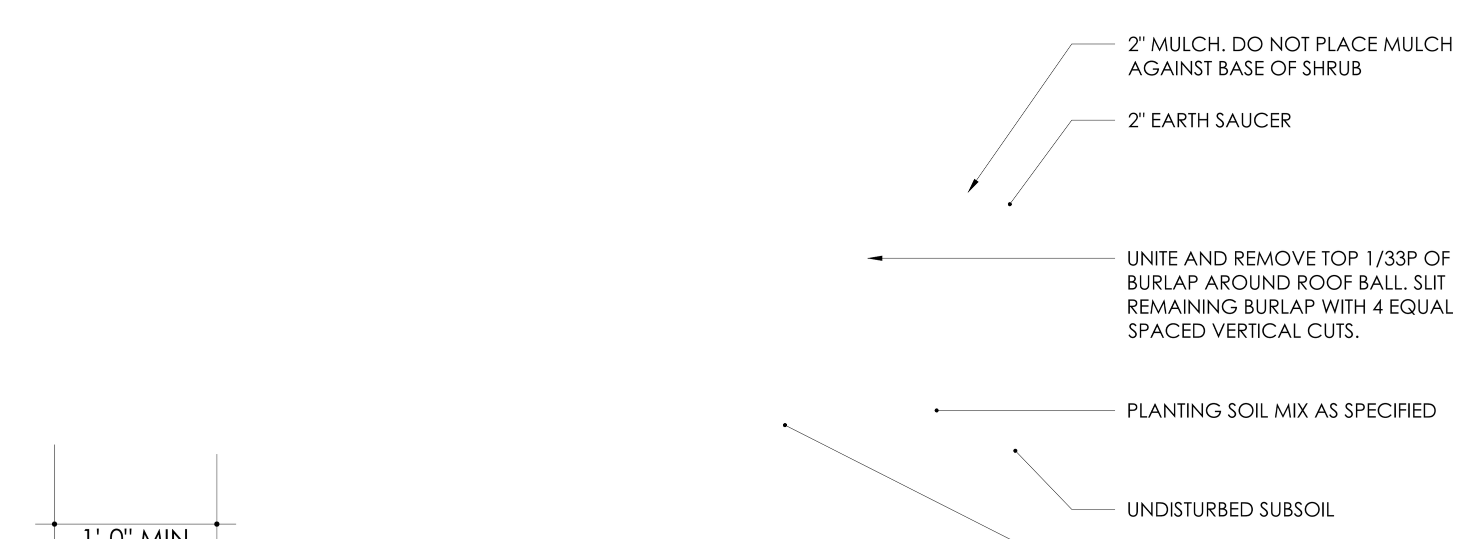
Neomarica	Dietes Iridioides
2.6 - Planting Info\MIX 3\Neomarica caerulea.jpg	..\3.2.6 - Planting Info\MIX 3\dietes iridioides

GROUND COVERS

Creeping Wedelia	Inchplant
	



2 Grasses Detail
NTS



2 Shrub Detail
NTS

General Notes

IMPORTANT INFORMATION FOR THE CONTRACTOR

Contractor shall verify al dimensions, levels and condition on-site before commencing any and all work. Any discrepancy, error or omission in these plans shall be notified to the Architect, Landscape Architect or Engineer who stamps and signs these drawings so that proper corrections to the documents can be made.

Do not take any measurements from the physical drawings.

Only use documents with a "FOR CONSTRUCTION ONLY" stamp and sealed and signed by the designer.

Yo, Edmundo Colon Izquierdo, con licencia número 19992, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

No.	Description	Date

ECo
LANDSCAPE + ARCHITECTURE + ENGINEERING
103 Calle Isabel Andreu Aguilar, 4to Piso, San Juan,PR 00918
787-764-0610 eco-designstudio.com

Planting Scope Area + Details

T.B. Roundabout P.R.-CRP-000964

Ave. Sabana Seca Int., Ave. Diego Alvarez Chanca, Levittown, Toa Baja, P.R.

Autonomous Municipality of Toa Baja

Seal:

SIGNING ARCH
License #

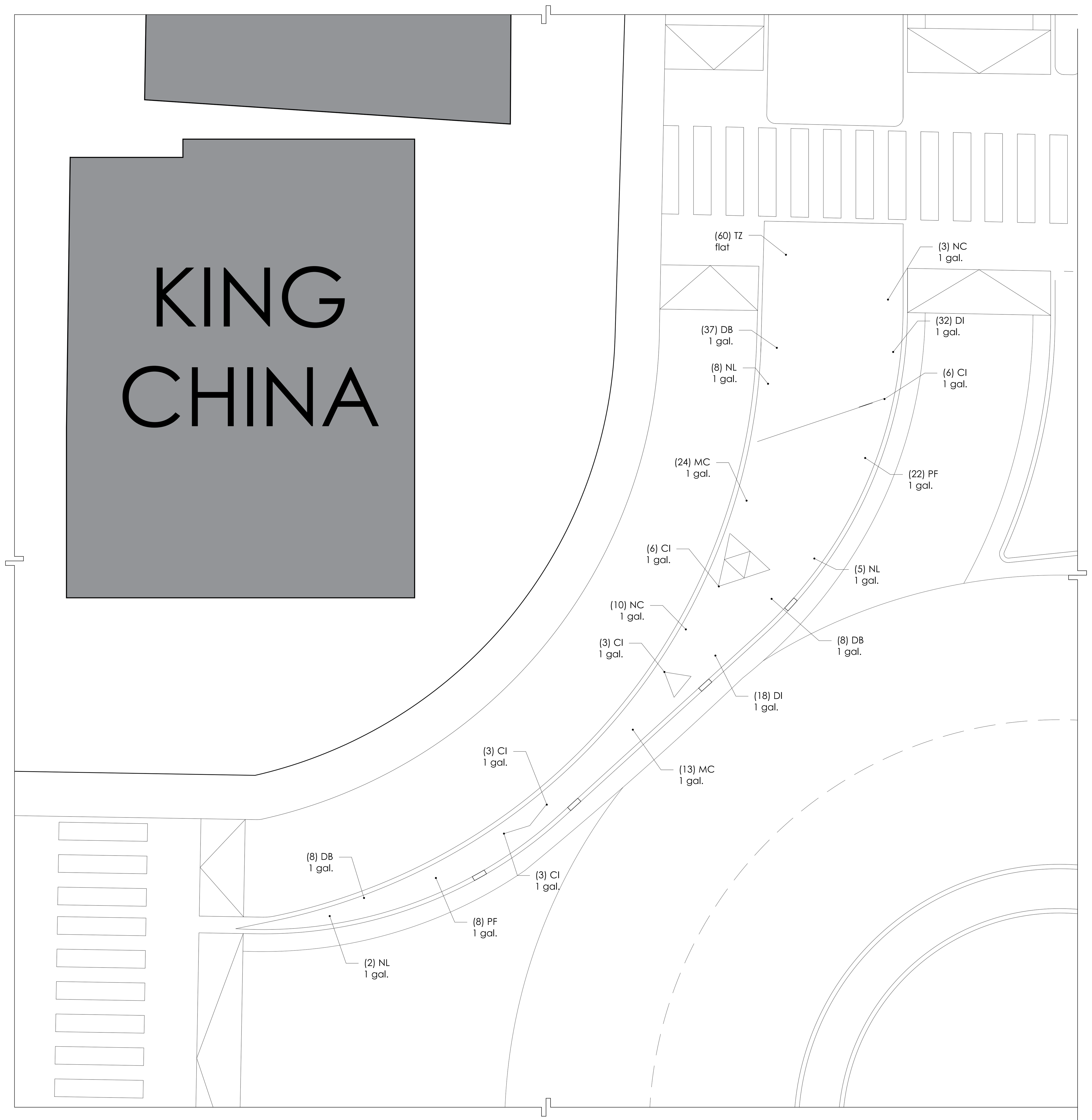
File Name: 2022.04-Rotondas Toa Baja

Date	Scale
09-19-2023	Scale:1'-0"=1/16"

Sheet

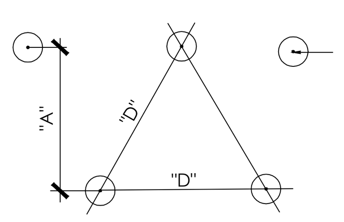
LA-300

Project #	2022.04
Drawn by	MOS
Checked by	ERCI



1 PLANTING SCOPE AREA
SCALE: 1/8"=1'-0"

Planting Type	Plant Spacing "D"	Row "A"
1	36" O.C.	31" O.C.
2	18" O.C.	15" O.C.
3	18" O.C.	15" O.C.
4	18" O.C.	15" O.C.
5	18" O.C.	15" O.C.
6	18" O.C.	15" O.C.
7	18" O.C.	15" O.C.
6	12" O.C.	10" O.C.
7	12" O.C.	10" O.C.



SHRUB SPACING DETAIL N.T.S.

2 PLANTING SCOPE AREA
SCALE: 1/8"=1'-0"

General Notes

IMPORTANT INFORMATION FOR THE CONTRACTOR

Contractor shall verify al dimensions, levels and condition on-site before commencing any and all work. Any discrepancy, error or omission in these plans shall be notified to the Architect, Landscape Architect or Engineer who stamps and signs these drawings so that proper corrections to the documents can be made.

Do not take any measurements from the physical drawings.

All drawings, specifications and other documents are property of ECo and can solely be used as an instrument of the Architect, Landscape Architect or Engineers' service as reference for this project.

Only use documents with a "FOR CONSTRUCTION ONLY" stamp and sealed and signed by the designer.

Yo, Edmundo Colon Izquierdo, con licencia número 19992, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

No.	Description	Date

ECo
LANDSCAPE + ARCHITECTURE + ENGINEERING
103 Calle Isabel Andreu Aguilar, 4to Piso, San Juan,PR 00918
787-764-0610 eco-designstudio.com

Planting Area Details

T.B. Roundabout P.R.-CRP-000964

Ave. Sabana Seca Int., Ave. Diego Alvarez Chanca, Levittown, Toa Baja, P.R.

Autonomous Municipality of Toa Baja

Seal:

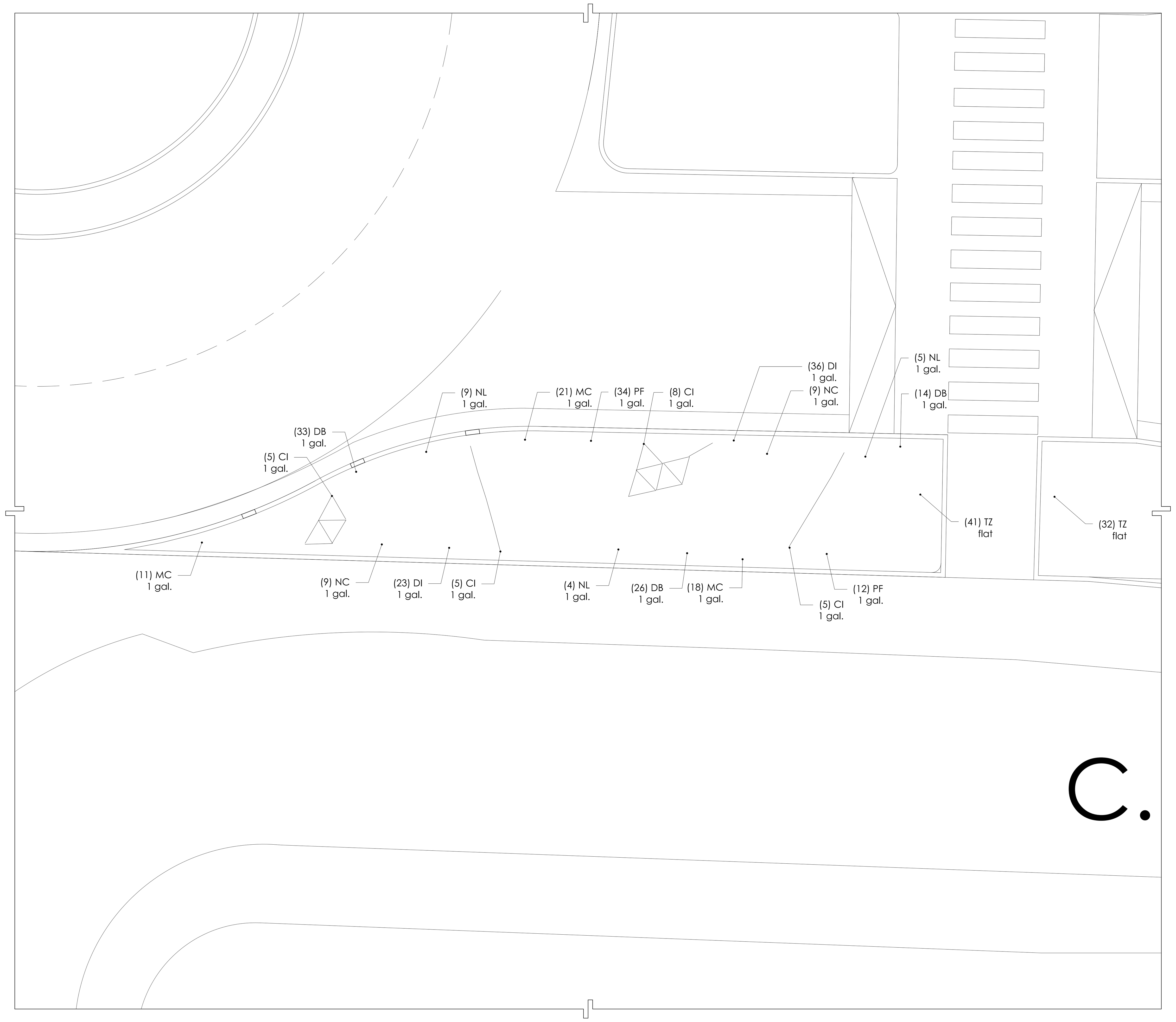
SIGNING ARCH
License #

File Name: 2022.04-Rotondas Toa Baja

Date: 09-19-2023
Scale: Scale:1'-0"=1/8"

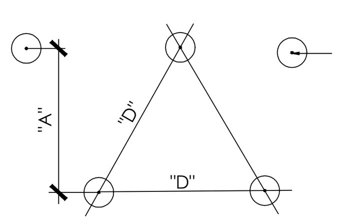
Sheet
LA-301

Project # 2022.04
Drawn by MOS
Checked by ERCI

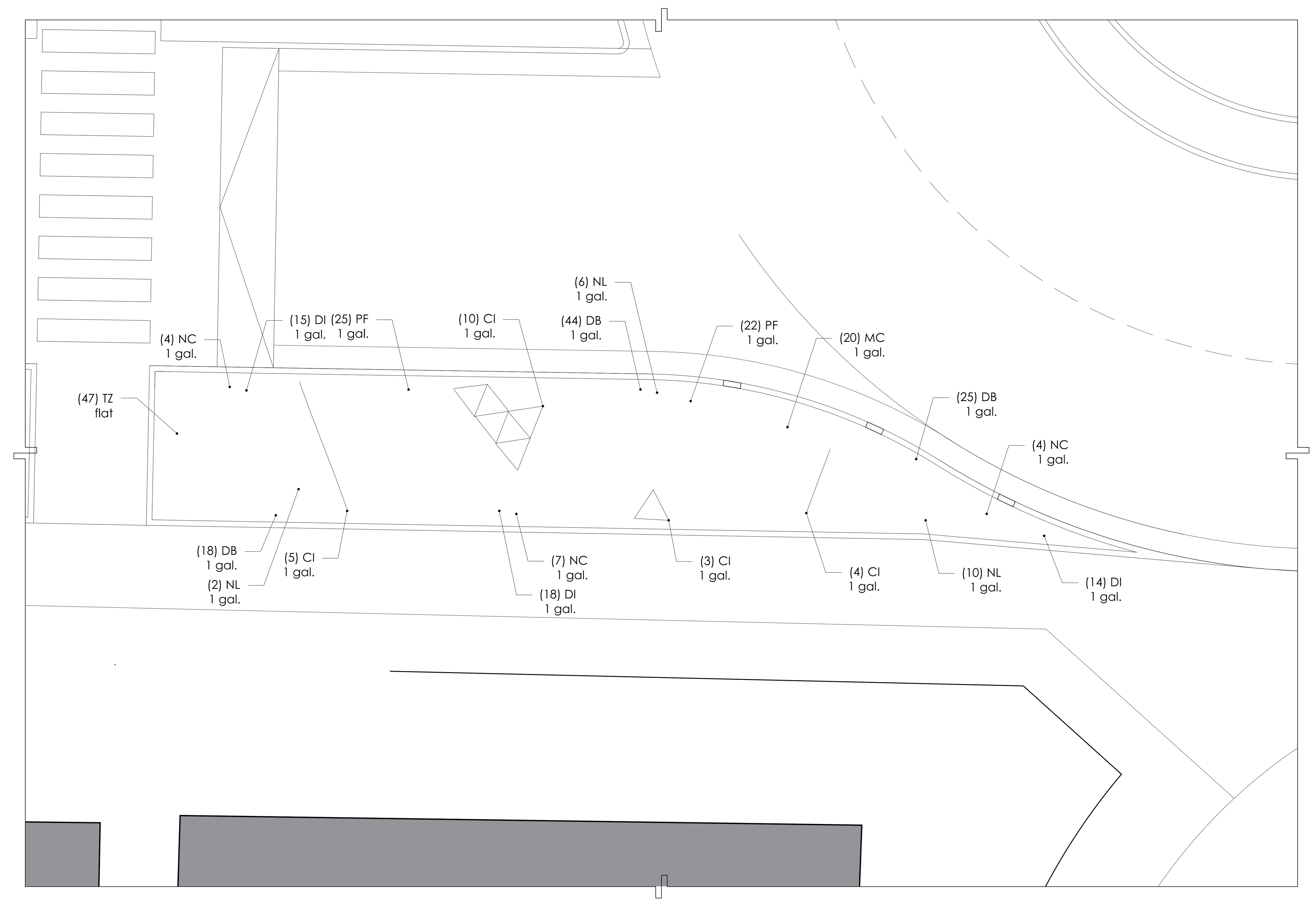


3 PLANTING SCOPE AREA
SCALE: 1/8"=1'-0"
N

Planting Type	Plant Spacing "D"	Row "A"
1	36" O.C.	31" O.C.
2	18" O.C.	15" O.C.
3	18" O.C.	15" O.C.
4	18" O.C.	15" O.C.
5	18" O.C.	15" O.C.
6	18" O.C.	15" O.C.
7	18" O.C.	15" O.C.
6	12" O.C.	10" O.C.
7	12" O.C.	10" O.C.



SHRUB SPACING DETAIL N.T.S.



4 PLANTING SCOPE AREA
SCALE: 1/8"=1'-0"
N

General Notes

IMPORTANT INFORMATION FOR THE CONTRACTOR

Contractor shall verify al dimensions, levels and condition on-site before commencing any and all work. Any discrepancy, error or omission in these plans shall be notified to the Architect, Landscape Architect or Engineer who stamps and signs these drawings so that proper corrections to the documents can be made.

Do not take any measurements from the physical drawings.

All drawings, specifications and other documents are property of ECo and can solely be used as an instrument of the Architect, Landscape Architect or Engineers' service as reference for this project.

ECo, the signing Architect, Landscape Architect or Engineer, and Eco's Consultants shall be deemed the author(s) of these documents and shall retain all common and statutory laws, including reserved and copyright(s). The full and/or partial reproduction of these drawings may only be done with the express written consent of the Architect, Landscape Architect or Engineer.

Only use documents with a "FOR CONSTRUCTION ONLY" stamp and sealed and signed by the designer.

Yo, Edmundo Colon Izquierdo, con licencia número 19992, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

No.	Description	Date

ECo
Landscape + Architecture + Engineering
103 Calle Isabel Andreu Aguilar, 4to
Piso, San Juan,PR 00918
787-764-0610 eco-designstudio.com

Planting Area Details

T.B. Roundabout P.R.-CRP-000964

Ave. Sabana Seca Int., Ave. Diego Alvarez Chanca,
Levittown, Toa Baja, P.R.

Autonomous Municipality of Toa Baja

Seal:

SIGNING ARCH
License #

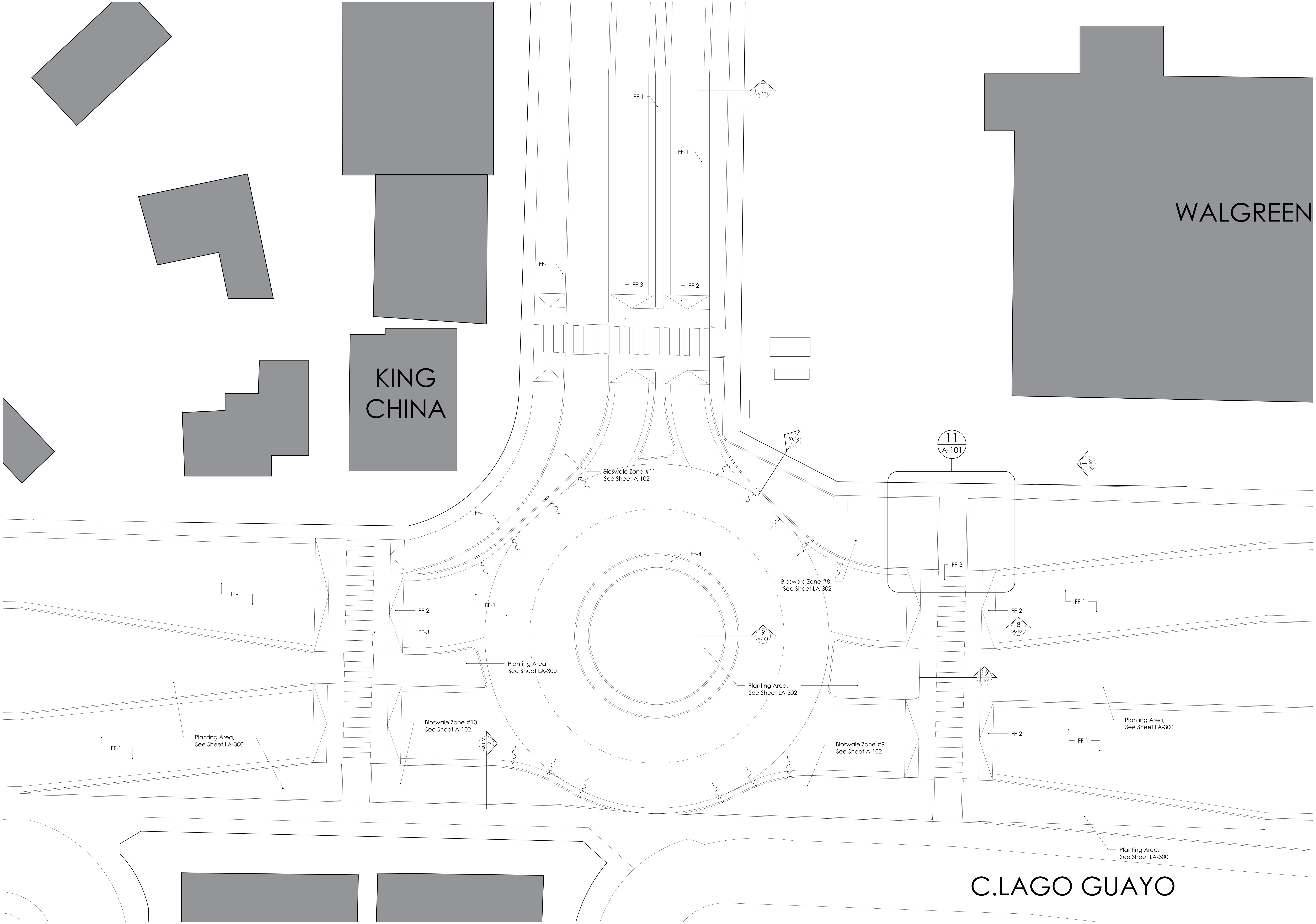
File Name: 2022.04-Rotondas Toa Baja

Date: 09-19-2023
Scale: Scale:1'-0"=1/8"

Sheet

LA-302

Project #: 2022.04
Drawn by: MOS
Checked by: ERCI



1 Floor Pattern Plan

SCALE: 1'-0"=1/16"

LEGEND:

FLOOR FINISHES	TYPES	SQFT APROX.
FF-1	ASPHALT	
FF-2	CONCRETE SLAB	
FF-3	CONCRETE PAVERS	4,203 sqft
FF-4	PAVERS SOLEADOS	835 sqft
PLANTING ZONE	MIX#1, MIX#2, MIX#3	

General Notes

IMPORTANT INFORMATION FOR THE CONTRACTOR

Contractor shall verify al dimensions, levels and condition on-site before commencing any and all work. Any discrepancy, error or omission in these plans shall be notified to the Architect, Landscape Architect or Engineer who stamps and signs these drawings so that proper corrections to the documents can be made.

Do not take any measurements from the physical drawings.

All drawings, specifications and other documents are property of ECo and can solely be used as an instrument of the Architect, Landscape Architect or Engineers' service as reference for this project.

Only use documents with a "FOR CONSTRUCTION ONLY" stamp and sealed and signed by the designer.

Yo, Edmundo Colon Izquierdo, con licencia número 19992, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

No.	Description	Date

ECo
LANDSCAPE + ARCHITECTURE + ENGINEERING
103 Calle Isabel Andreu Aguilar, 4to Piso, San Juan,PR 00918
787-764-0610 eco-designstudio.com

Floor Pattern Plan

T.B. Roundabout P.R.-CRP-000964

Ave. Sabana Seca Int., Ave. Diego Alvarez Chanca, Levittown, Toa Baja, P.R.

Autonomous Municipality of Toa Baja

Seal:

SIGNING ARCH
License #

File Name: 2022.04-Rotondas Toa Baja

Date 09-19-2023

Scale Scale:1'-0"=1/16"

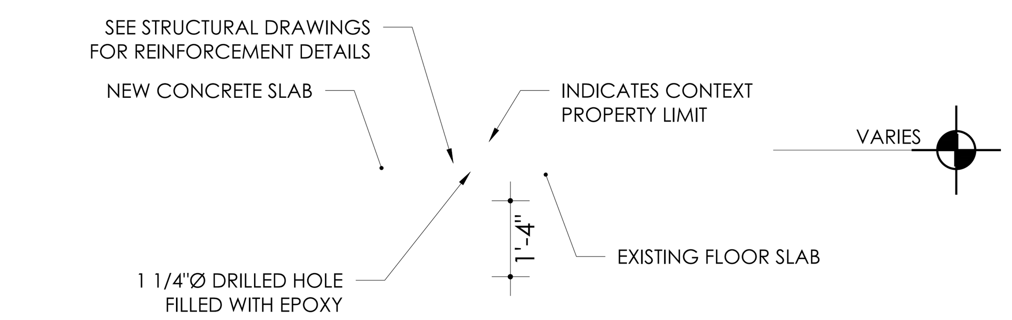
Sheet

A-100

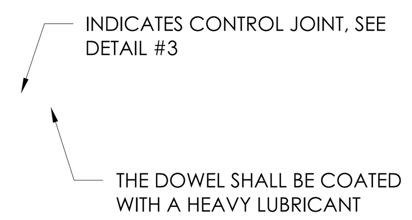
Project # 2022.04

Drawn by MOS

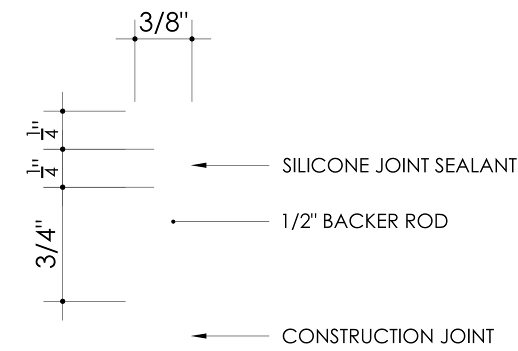
Checked by ERCI



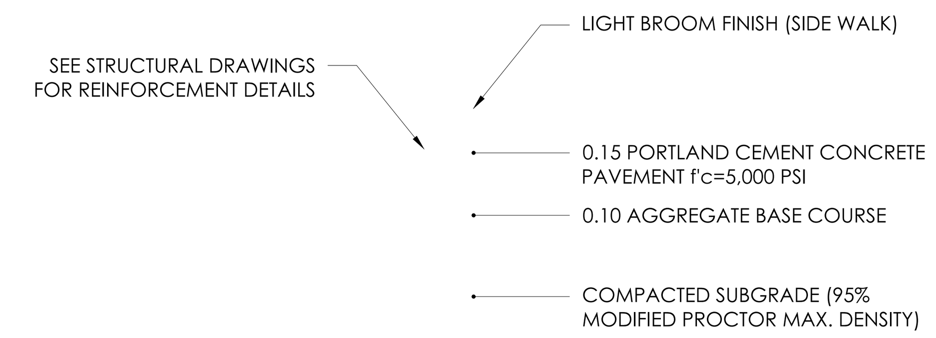
1 Existing & New Concrete Connection Detail
SCALE: 1/2"=1'-0"



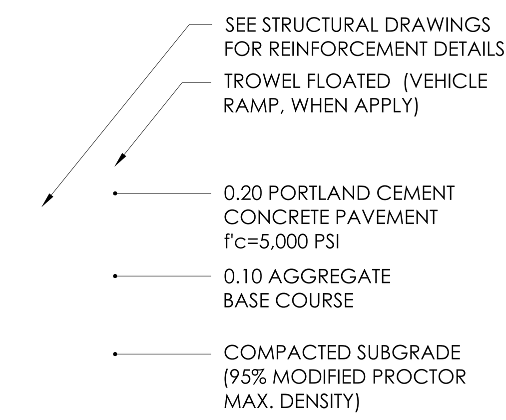
2 Concrete Joint Detail
SCALE: 1/2"=1'-0"



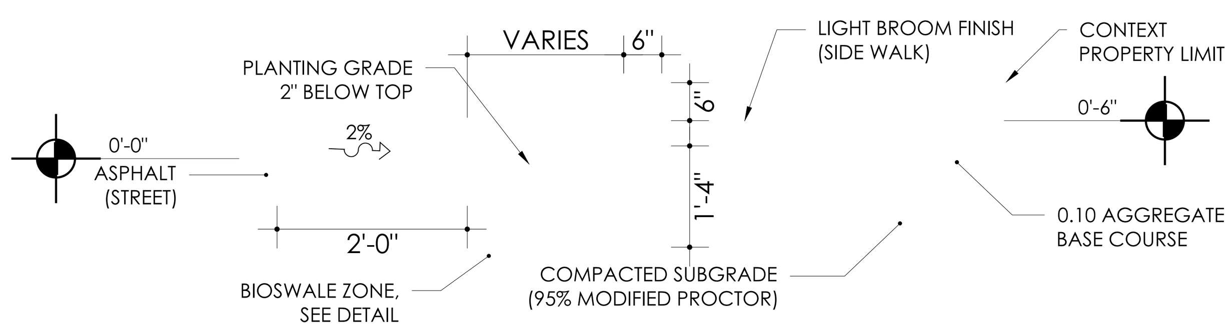
3 Joint Detail
SCALE: 1'-0"=1'-0"



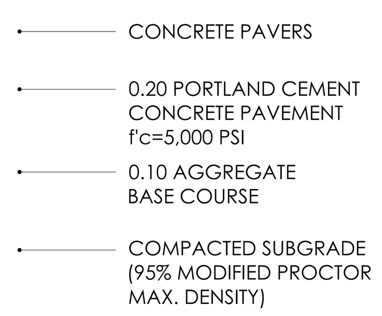
4 Light Duty Concrete Pavement-MKD-LD
NOT TO SCALE



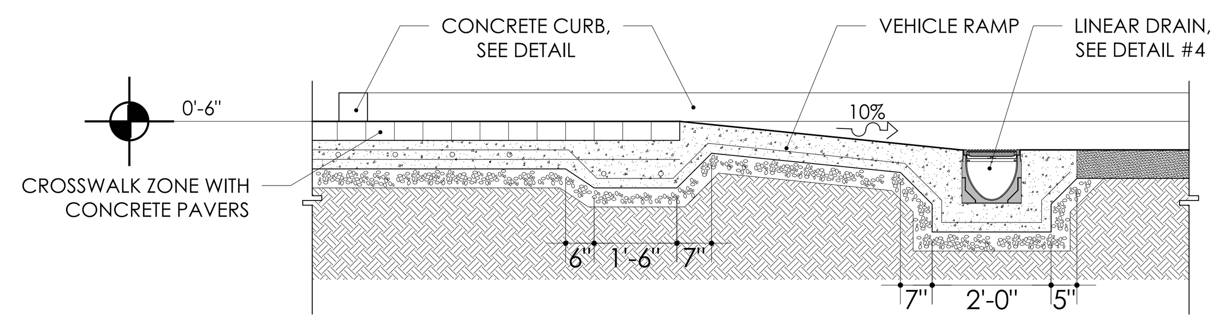
5 Heavy Duty Concrete Pavement-MKD-HD
NOT TO SCALE



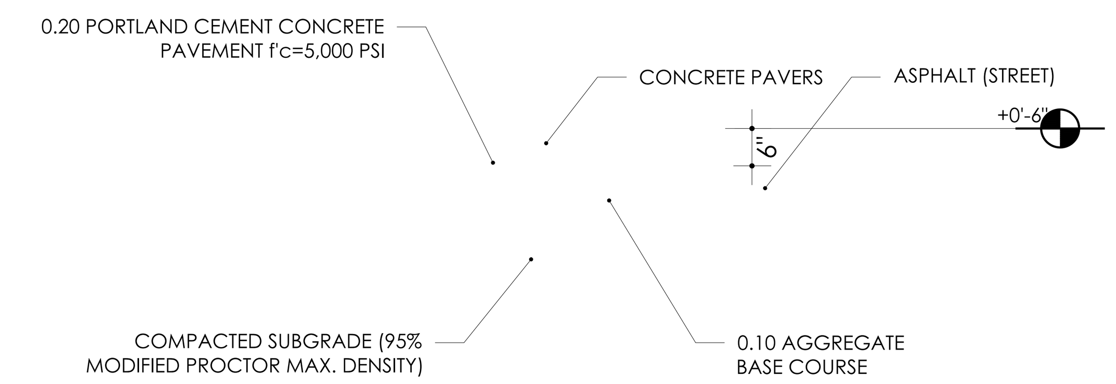
6 Side Walk Section Light Duty-MKD-LDS
NOT TO SCALE



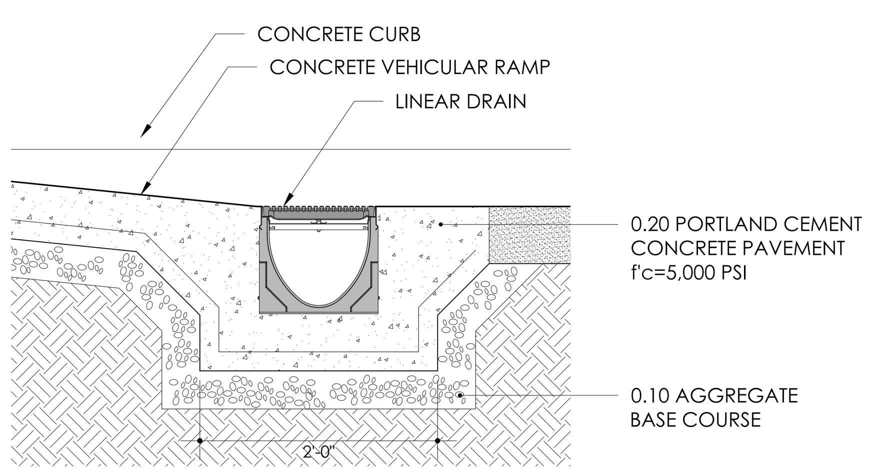
7 Heavy Duty Concrete Paverst-MKD-HD
NOT TO SCALE



8 Vehicle Ramp Section Heavy Duty MKD-HD
SCALE: 3/8"=1'-0"

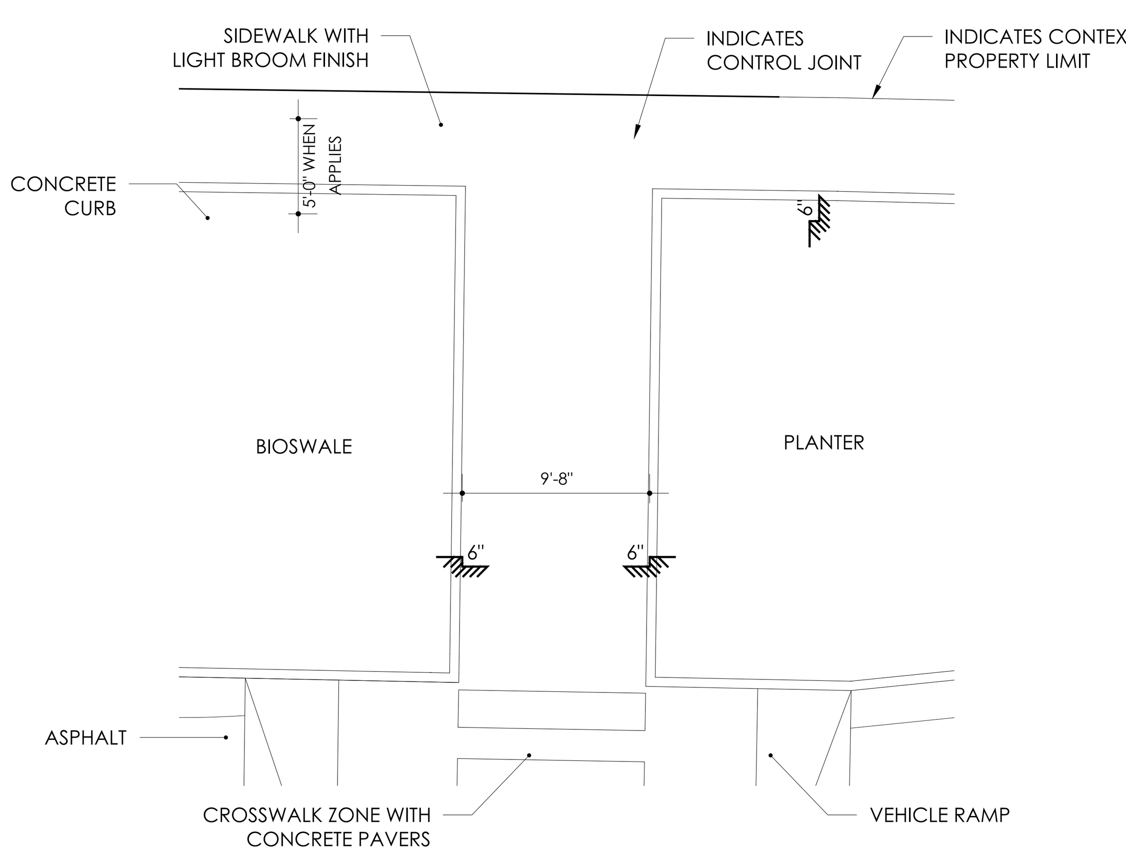


9 Roundabout Center Section Heavy Duty MKD-HD
SCALE: 1/2"=1'-0"

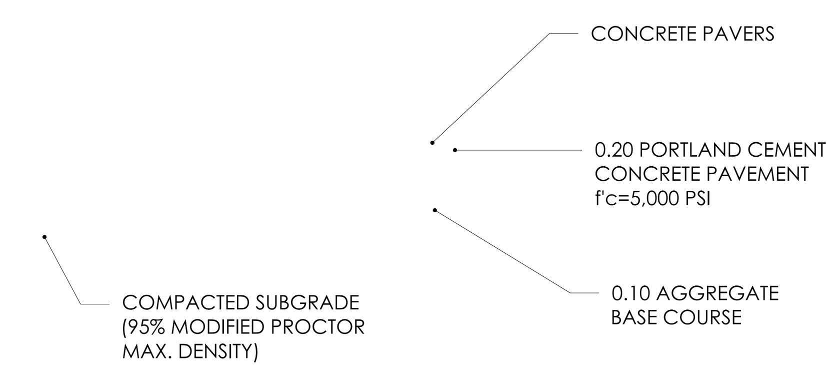


NOTES:
1. IT IS NECESSARY TO ENSURE MINIMUM DIMENSIONS SHOWN ARE SUITABLE FOR EXISTING GROUND CONDITIONS. ***ENGINEERING ADVICE MAY BE REQUIRED.***
2. MINIMUM CONCRETE STRENGTH OF 4,000 PSI IS RECOMMENDED. CONCRETE SHOULD BE VIBRATED TO ELIMINATE AIR POCKETS.
3. EXPANSION AND CONTRACTION CONTROL JOINTS AND REINFORCEMENT ARE RECOMMENDED TO PROTECT CHANNEL AND CONCRETE SURROUND. ***ENGINEERING ADVICE MAY BE REQUIRED.***
4. THE FINISHED LEVEL OF THE CONCRETE SURROUND MUST BE APPROX. 1/8" [3mm] ABOVE THE TOP OF THE CHANNEL EDGE.
5. CONCRETE BASE THICKNESS SHOULD MATCH SLAB THICKNESS. ENGINEERING ADVICE MAY BE REQUIRED TO DETERMINE PROPER LOAD CLASS.
6. REFER TO ACO'S LATEST INSTALLATION INSTRUCTIONS FOR FURTHER DETAILS.

10 Linear Drain Detail
NOT TO SCALE



11 Top View Connection Crosswalk & Sidewalk
SCALE: 1/8"=1'-0"



12 Crosswalk Type B Section Heavy Duty
SCALE: 3/8"=1'-0"

General Notes

IMPORTANT INFORMATION FOR THE CONTRACTOR

Contractor shall verify al dimensions, levels and condition on-site before commencing any and all work. Any discrepancy, error or omission in these plans shall be notified to the Architect, Landscape Architect or Engineer who stamps and signs these drawings so that proper corrections to the documents can be made.

Do not take any measurements from the physical drawings.

Only use documents with a "FOR CONSTRUCTION ONLY" stamp and sealed and signed by the designer.

Yo, Edmundo Colon Izquierdo, con licencia número 19992, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

No.	Description	Date

ECo
Landscape + Architecture + Engineering

103 Calle Isabel Andreu Aguilar, 4to Piso, San Juan,PR 00918
787-764-0610 eco-designstudio.com

Ground Floor Details

T.B. Roundabout P.R.-CRP-000964

Ave. Sabana Seca Int., Ave. Diego Alvarez Chanca, Levittown, Toa Baja, P.R.

Autonomous Municipality of Toa Baja

Seal:

SIGNING ARCH
License #

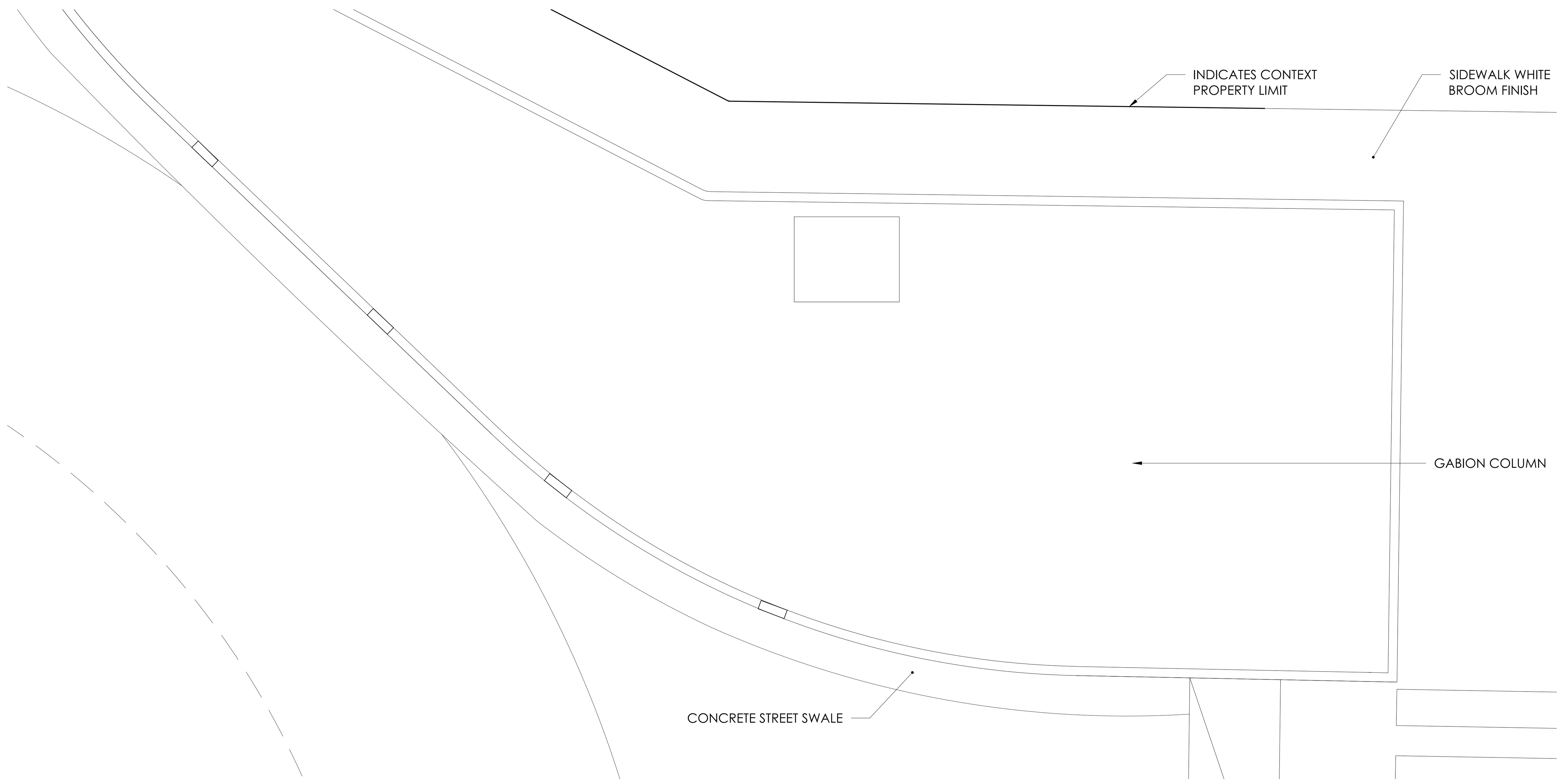
File Name: 2022.04-Rotondas Toa Baja

Date 09-19-2023 | Scale Scale:1'-0"=1/16"

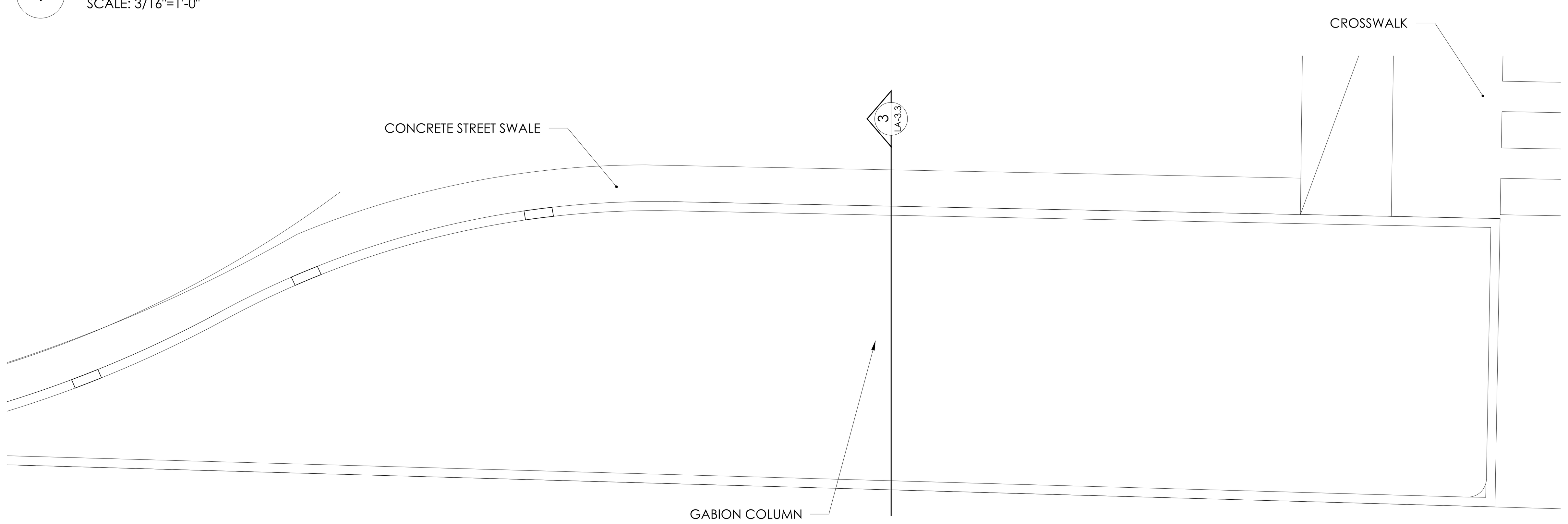
Sheet

A-101

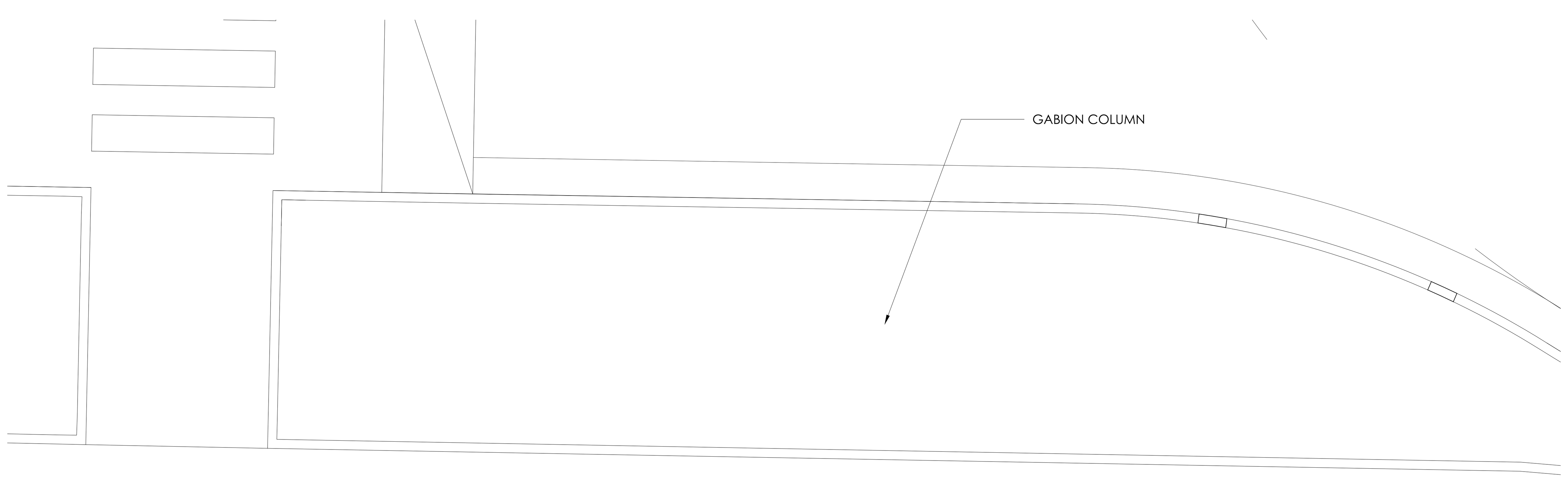
Project # 2022.04
Drawn by MOS
Checked by ERCI



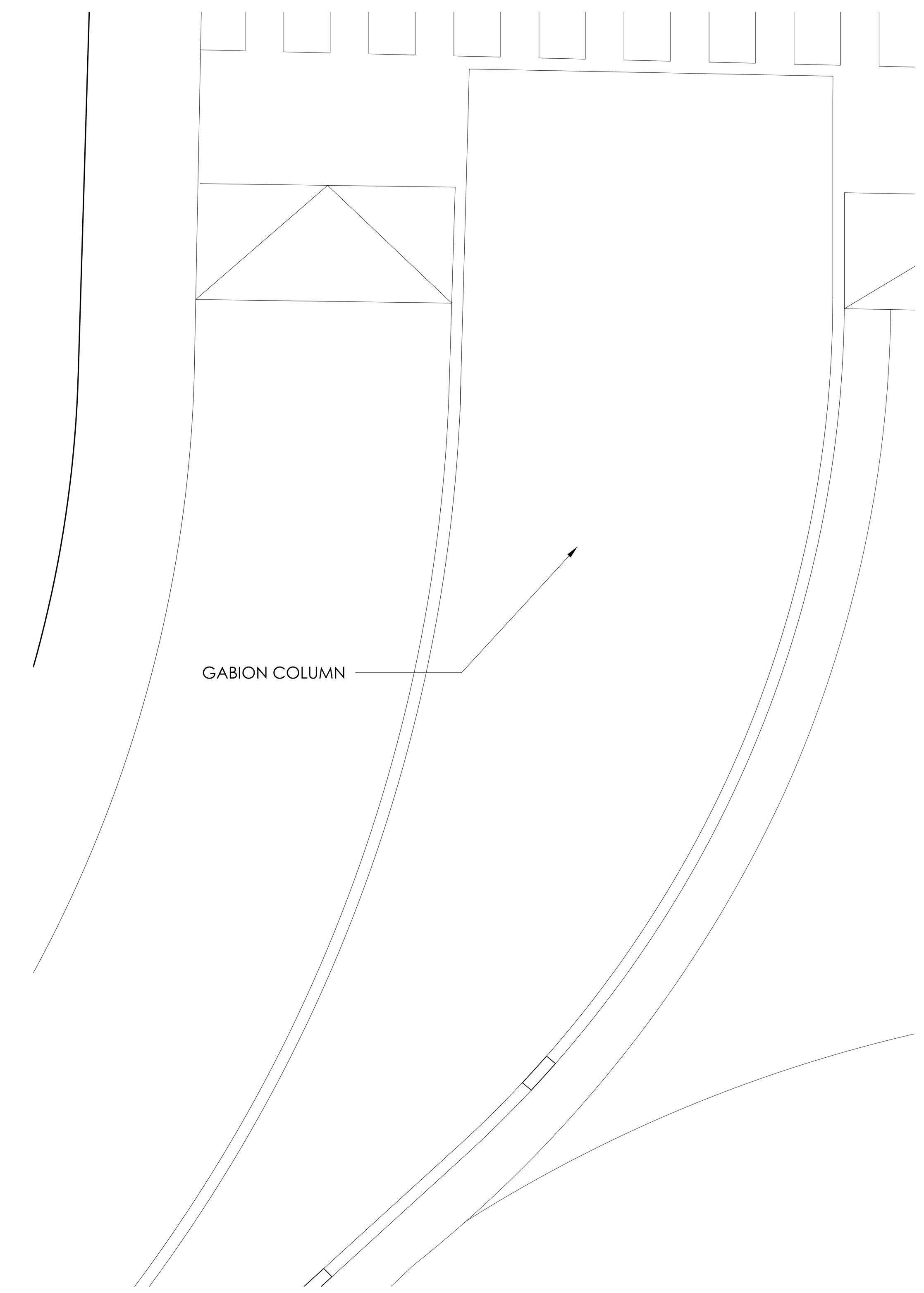
1 Bioswale Plan Zone #8
SCALE: 3/16"=1'-0"



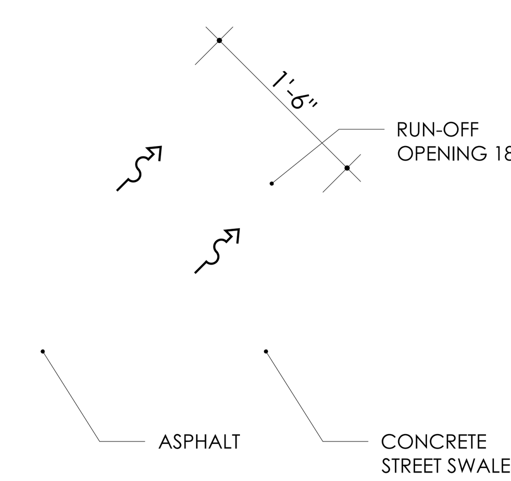
2 Bioswale Plan Zone #9
SCALE: 3/16"=1'-0"



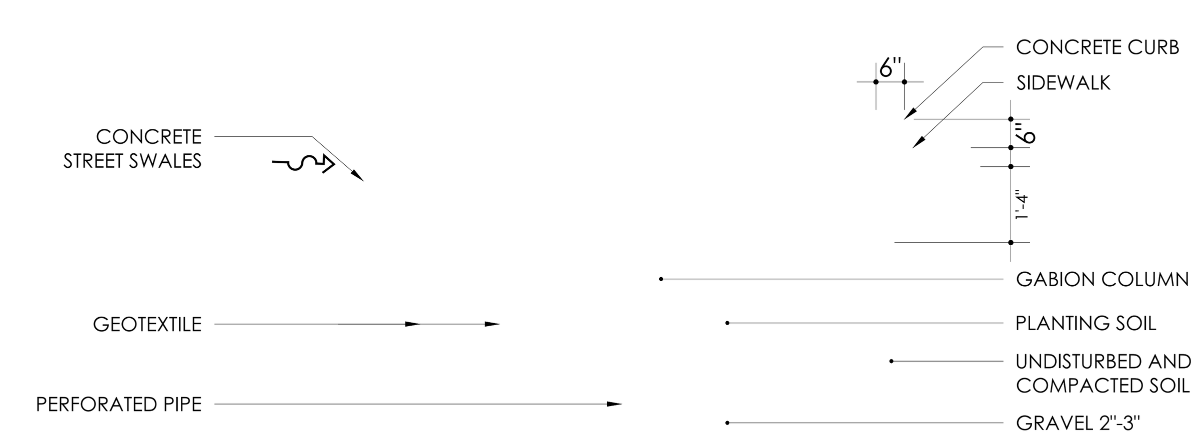
3 Bioswale Plan Zone #10
SCALE: 3/16"=1'-0"



4 Bioswale Plan Zone #11
SCALE: 3/32"=1'-0"



5 Run-Off Detail
NOT TO SCALE



6 KEY PLAN-BIOSWALE LOCATIONS
NOT TO SCALE

General Notes

IMPORTANT INFORMATION FOR THE CONTRACTOR

Contractor shall verify al dimensions, levels and condition on-site before commencing any and all work. Any discrepancy, error or omission in these plans shall be notified to the Architect, Landscape Architect or Engineer who stamps and signs these drawings so that proper corrections to the documents can be made.

Do not take any measurements from the physical drawings.

All drawings, specifications and other documents are property of ECo and can solely be used as an instrument of the Architect, Landscape Architect or Engineers' service as reference for this project.

ECo, the signing Architect, Landscape Architect or Engineer, and Eco's Consultants shall be deemed the author(s) of these documents and shall retain all common and statutory laws, including reserved and copyright(s). The full and/or partial reproduction of these drawings may only be done with the express written consent of the Architect, Landscape Architect or Engineer.

Only use documents with a "FOR CONSTRUCTION ONLY" stamp and sealed and signed by the designer.

Yo, Edmundo Colon Izquierdo, con licencia número 19992, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

No.	Description	Date

ECo
LANDSCAPE + ARCHITECTURE + ENGINEERING

103 Calle Isabel Andreu Aguilar, 4to Piso, San Juan,PR 00918
787-764-0610 eco-designstudio.com

Bioswale Plan & Details

T.B. Roundabout P.R.-CRP-000964

Ave. Sabana Seca Int., Ave. Diego Alvarez Chanca, Levittown, Toa Baja, P.R.

Autonomous Municipality of Toa Baja

Seal:

SIGNING ARCH
License #

File Name: 2022.04-Rotondas Toa Baja

Date: 09-19-2023
Scale: Scale:1'-0"=1/16"

Sheet
A-102

Project #: 2022.04
Drawn by: MOS
Checked by: ERCI

PR-CRP-000973

Rotonda Ave. Sabana Seca int. Calle Dr. Villalobos, Levittown

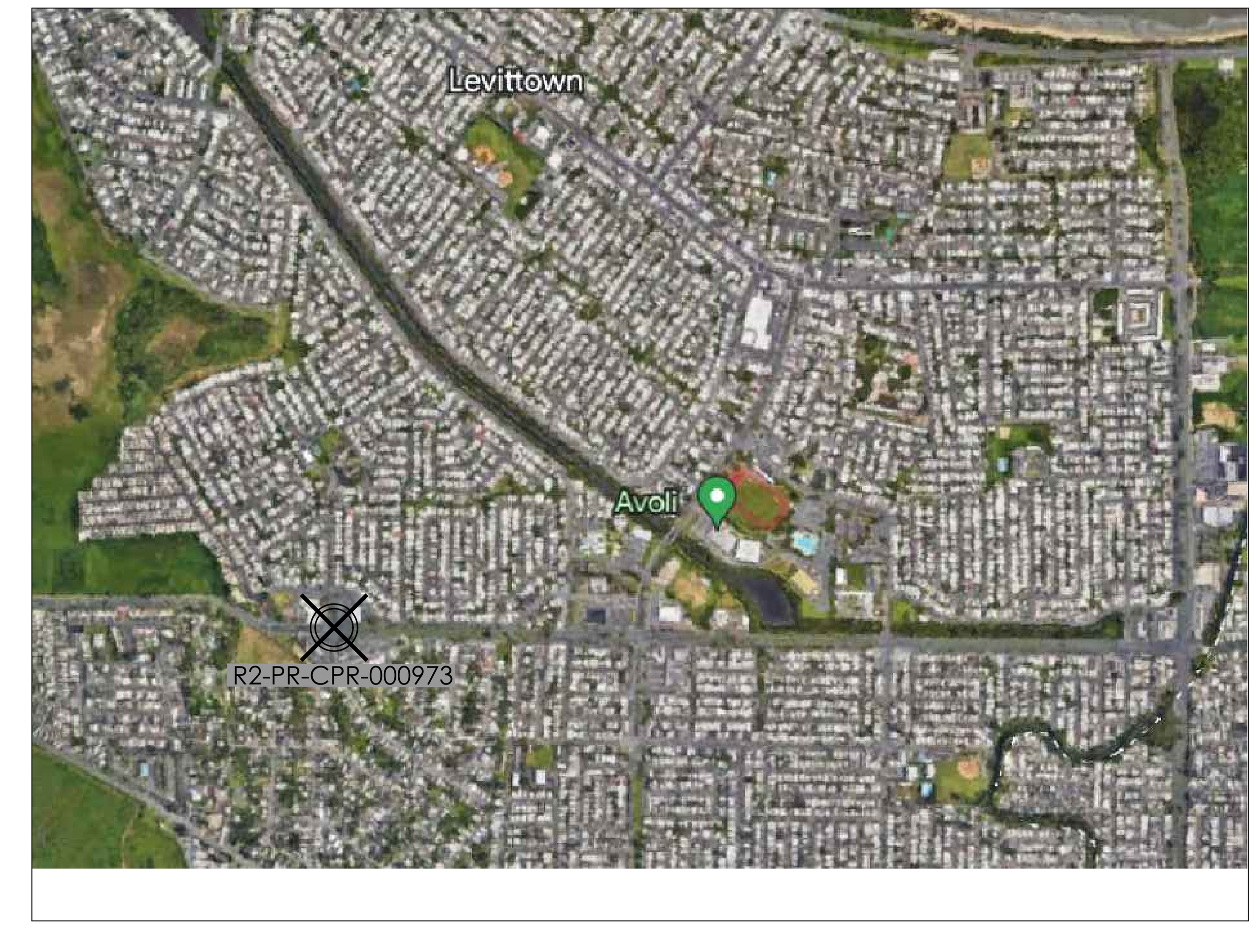
Toa Baja, Puerto Rico

60% Design Drawings

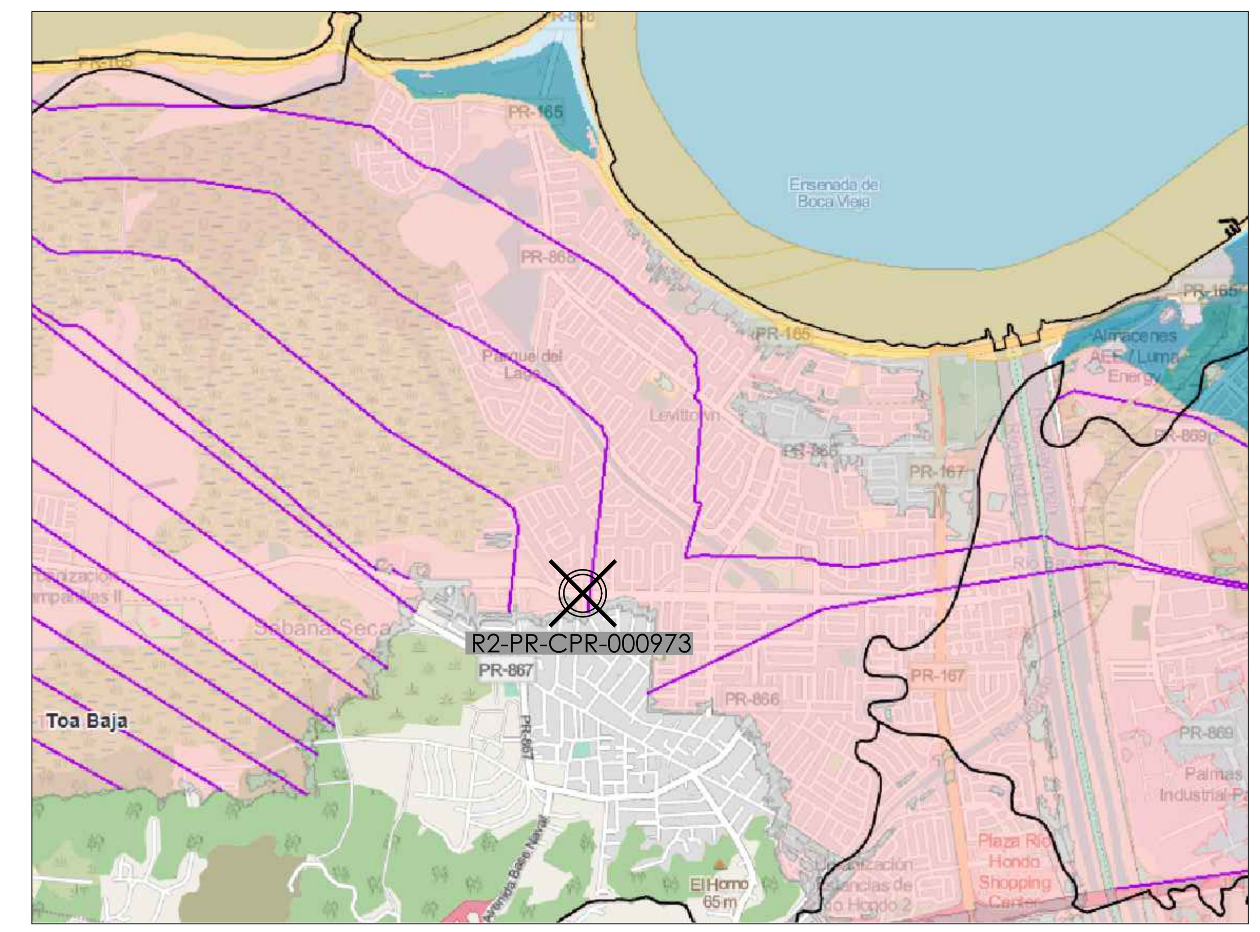
Sheet List

Sheet Order	Sheet Number	Sheet Name
1	T-1	Title Sheet
2	SU-100	Survey
3	CI-100	General Site Plan
4	CI-101	Typical Sections
5	CI-102	Typical Sections
6	CI-103	General Demolition Plan
7	CI-104	Tree and Vegetation Removal Plan
8	CI-105	Sanitary & Potable Water Improvement Plan
9	CI-106	Stormwater Improvement Plan
10	CI-107	Electrical Demolition Plan
11	CI-108	SEC Plan
12	CI-109	SEC Detail
14	CI-200	Geometry Plan
15	CI-201	Geometry Plan
16	CI-202	Geometry Alignments
17	CI-203	Geometry Alignment Tables
18	CI-204	Pavements & Curbs Schedule
19	CI-205	Pavement Markings and Traffic Signals
20	CI-206	Typical Site Details
21	CI-207	Sections & Profiles
22	CI-300	Grading Plan
23	CI-301	Grading Plan
24	CI-400	Stormwater Plan
25	CI-401	Basin Areas
26	CI-402	Stormwater Profiles
27	CI-403	Stormwater Typical Details
28	LA-200	Existing Tree Inventory & Removal Plan
29	LA-201	Tree Mitigation Plan
30	LA-300	Planting Scope Area & Details
31	LA-301	Planting Area Details
32	LA-302	Planting Area Details
33	A-100	Ground Floor Details
34	A-101	Floor Pattern Plan
35	A-102	Bioswale Plan & Details

Zoning Map



Location Map



Flood Map — Panel: 72000C0330J
Fecha de Efectividad: 13.Abril.2018 — Fecha de Revision del geodato 12.Mayo.2018

Toa Baja Roundabouts

Levittown, Toa Baja, PR

Municipality of Toa Baja

Consultants

Electric Engineer
Leonardo J. Vidal PE
PO Box 363164
San Juan, PR 00936-3164
787.765.5631
oficinaljv@gmail.com

60% DD REVIEW 09/19/2023

Toa Baja Roundabouts PR-CRP-000973

Levittown, Toa Baja, PR

Toa Baja Municipality

ECo
LANDSCAPE + ARCHITECTURE + ENGINEERING

103 Calle Isabel Andreu Aguilar, 4to Piso. San Juan,PR 00918
787-764-0610 eco-designstudio.com

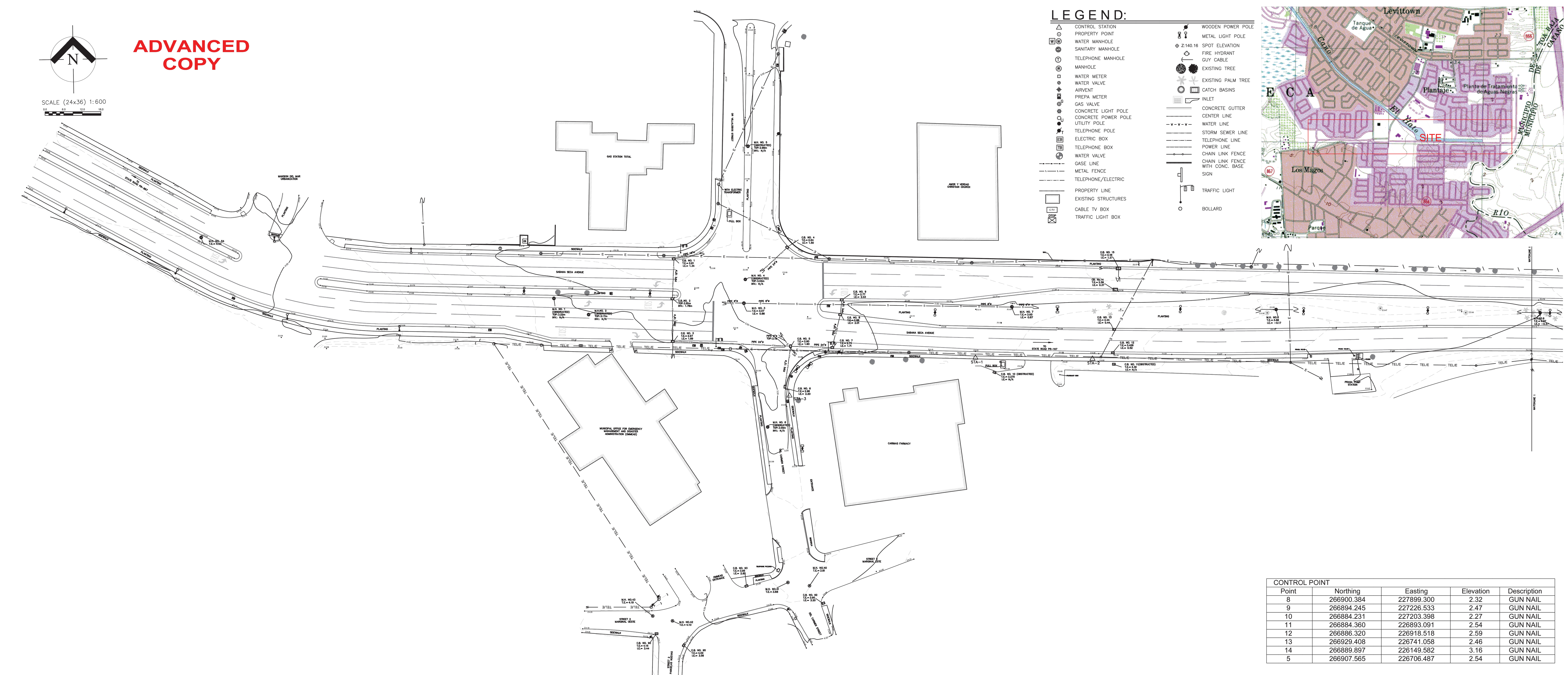
Seal:

Edmundo Colón Izquierdo
License #19992

Date: 09/19/2023

Sheet: T-1

Project #: 2023.04



CONTROL POINT				
Point	Northing	Easting	Elevation	Description
8	266900.384	227899.300	2.32	GUN NAIL
9	266894.245	227226.533	2.47	GUN NAIL
10	266884.231	227203.398	2.27	GUN NAIL
11	266884.360	226893.091	2.54	GUN NAIL
12	266886.320	226918.518	2.59	GUN NAIL
13	266929.408	226741.058	2.46	GUN NAIL
14	266889.897	226149.582	3.16	GUN NAIL
5	266907.565	226706.487	2.54	GUN NAIL

SURVEYORS NOTE:

1.The horizontal control used on this plan are P.R. Lambert NAD 83 rev.2011 epoch 2010:0000 and elev. are referred to orthometric height (Geoid 18).

2. All horizontal measurements are in meters unless otherwise specified.

3. Lambert system was established by gps observations using trimble double frequency receivers using a VRS system provided by HLCM Group.

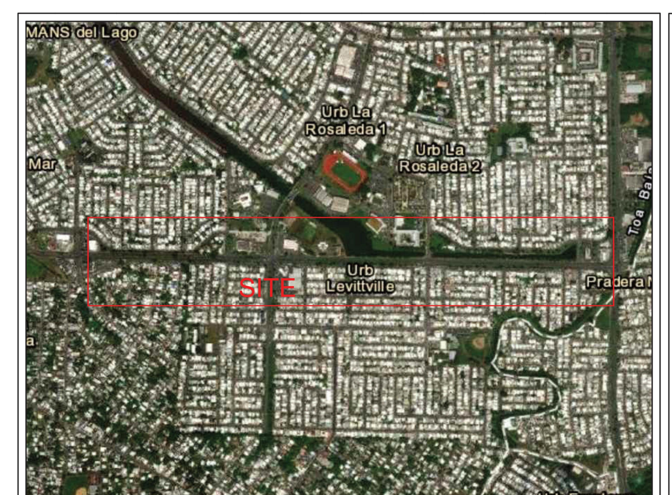
4.The information depicted on this plan represents the results of the survey performed on the date indicated.

5. The information provided on this plan show all currently existing structures, properties and utilities above or below the ground as revealed by public records or observable evidence over ground inspection.

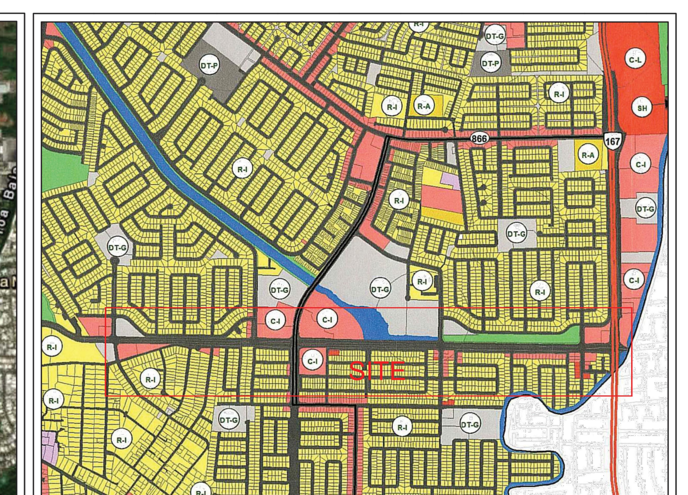
6. As stated in the manual for the professional practice and guidelines for the compensation of professional services, published by the ciapr, in the sections 6.2.4.2, 7.2.1, 7.2.2 , 7.2.4, it is the client, owner, or authorized representative responsibility to corroborate the names of the affected property owners by performing a title search.

7. If expert occupation in a court of justice is necessary, such work will be billed according the latest revision of exhibits 17 of the manual for professional practice and guidelines for the compensations of professional service published by the CIAPR.

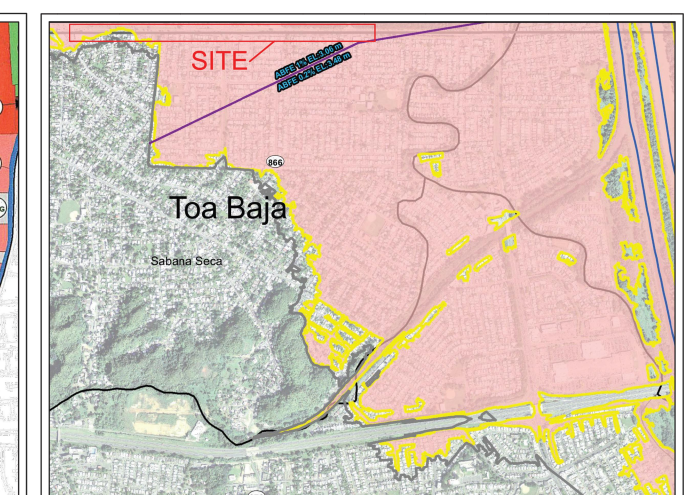
8. The field work was performed in July 26, 2023.



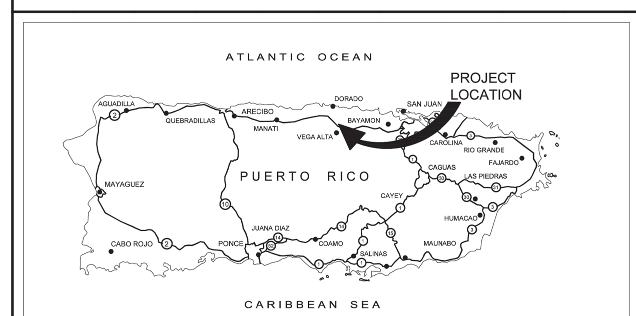
AERIAL PHOTO N.T.S.
FROM 2023



ZONING MAP N.T.S.
"MAPA DE ZONIFICACION DEL MUNICIPIO DE TOA BAJA"
ZONE: PREDOMINANT ZONES: ZU-P (ZONA DE USO DE GOBIERNO)
VALIDITY: MAY 04, 2018



ADVISORY MAP (FEMA FLOOD MAP) N.T.S.
MAP: 72000C0345J
ZONE: A
EFFECTIVE DATE: APRIL 13, 2018



PREPARED BY:

fss LAND SURVEYORS & Consultants
PO BOX 2075, AIBONITO, P.R., 00705
TEL. / FAX (787) 746-5039

CLIENT NAME:

Toa Baja

PROJECT:

AS BULD AV.PICOLINO
LOCATED AT
AV. JUAN PICOLINO HERNANDEZ FERRER, SABANA SECA WARD
TOA BAJA, PUERTO RICO

PROFESSIONAL STAMP

SIGNATURE BLOCK

REVISIONS:

Drawn by: B.FELICIANO	Revised by: F.SANTIAGO
Date: AUG/8/2023	Scale: AS SHOWN
DWG. NO. 1	SHEET NO. 1 / 5 TOTAL SHEETS

1 Survey
1:500

General Notes

IMPORTANT INFORMATION FOR THE CONTRACTOR

Contractor shall verify al dimensions, levels and condition on-site before commencing any and all work. Any discrepancy, error or omission in these plans shall be notified to the Architect, Landscape Architect or Engineer who stamps and signs these drawings so that proper corrections to the documents can be made.

Do not take any measurements from the physical drawings.

All drawings, specifications and other documents are property of ECo and can solely be used as an instrument of the Architect, Landscape Architect or Engineers' service as reference for this project.

Only use documents with a "FOR CONSTRUCTION ONLY" stamp and sealed and signed by the designer.

Yo, Edmundo Colon Arizmendi PE, con licencia número 7812, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

No.	Description	Date

ECo
LANDSCAPE + ARCHITECTURE + ENGINEERING
103 Calle Isabel Andreu Aguilar, 4to
Piso, San Juan,PR 00918
787-764-0610 eco-designstudio.com

TB Roundabouts: PR-CRP-000973
Ave. Sabana Seca Int. Calle Dr. Villalobos, Levittown
Autonomous Municipality of Toa Baja

Seal:

Survey

SIGNING ENGR
License #

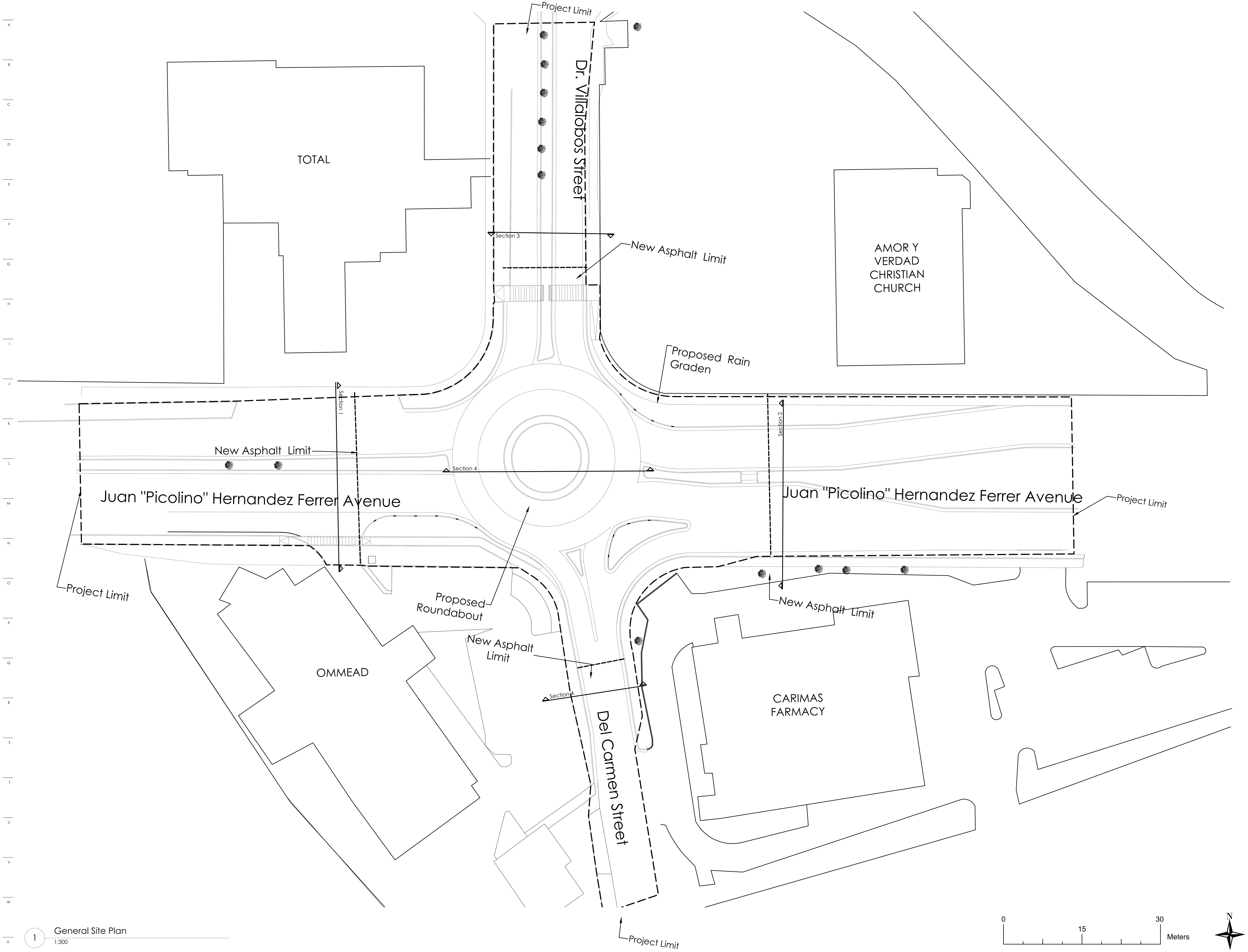
File Name:
2023.04-Rotondas Toa Baja-Geometry-PR-CRP-000973

Date	Scale
09/19/2023	1:500

Sheet

SU-100

Project #	PR-CRP: 000973
Drawn by	DBM
Checked by	ECA



1 General Site Plan
1:300

General Notes

IMPORTANT INFORMATION FOR THE CONTRACTOR

Contractor shall verify al dimensions, levels and condition on-site before commencing any and all work. Any discrepancy, error or omission in these plans shall be notified to the Architect, Landscape Architect or Engineer who stamps and signs these drawings so that proper corrections to the documents can be made.

Do not take any measurements from the physical drawings.

All drawings, specifications and other documents are property of ECo and can solely be used as an instrument of the Architect, Landscape Architect or Engineers' service as reference for this project.

ECo, the signing Architect, Landscape Architect or Engineer, and Eco's Consultants shall be deemed the author(s) of these documents and shall retain all common and statutory laws, including reserved and copyright(s). The full and/or partial reproduction of these drawings may only be done with the express written consent of the Architect, Landscape Architect or Engineer.

Only use documents with a "FOR CONSTRUCTION ONLY" stamp and sealed and signed by the designer.

Yo, Edmundo Colon Arizmendi PE, con licencia número 7812, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

No.	Description	Date

ECo
Landscape + Architecture + Engineering

103 Calle Isabel Andreu Aguilar, 4to
Piso, San Juan,PR 00918
787-764-0610 eco-designstudio.com

General Site Plan

TB Roundabouts: PR-CRP-000973

Ave. Sabana Seca Int. Calle Dr. Villalobos, Levittown

Autonomous Municipality of Toa Baja

Seal:

SIGNING ENGR
License #

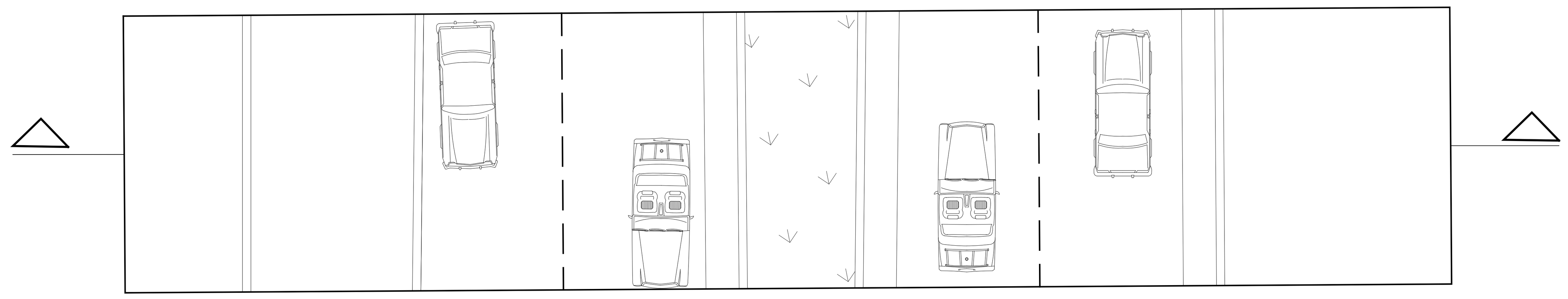
File Name: 2023.04-Rotondas Toa Baja-Geometry-PR-CRP-000973

Date	Scale
09/19/2023	1:300

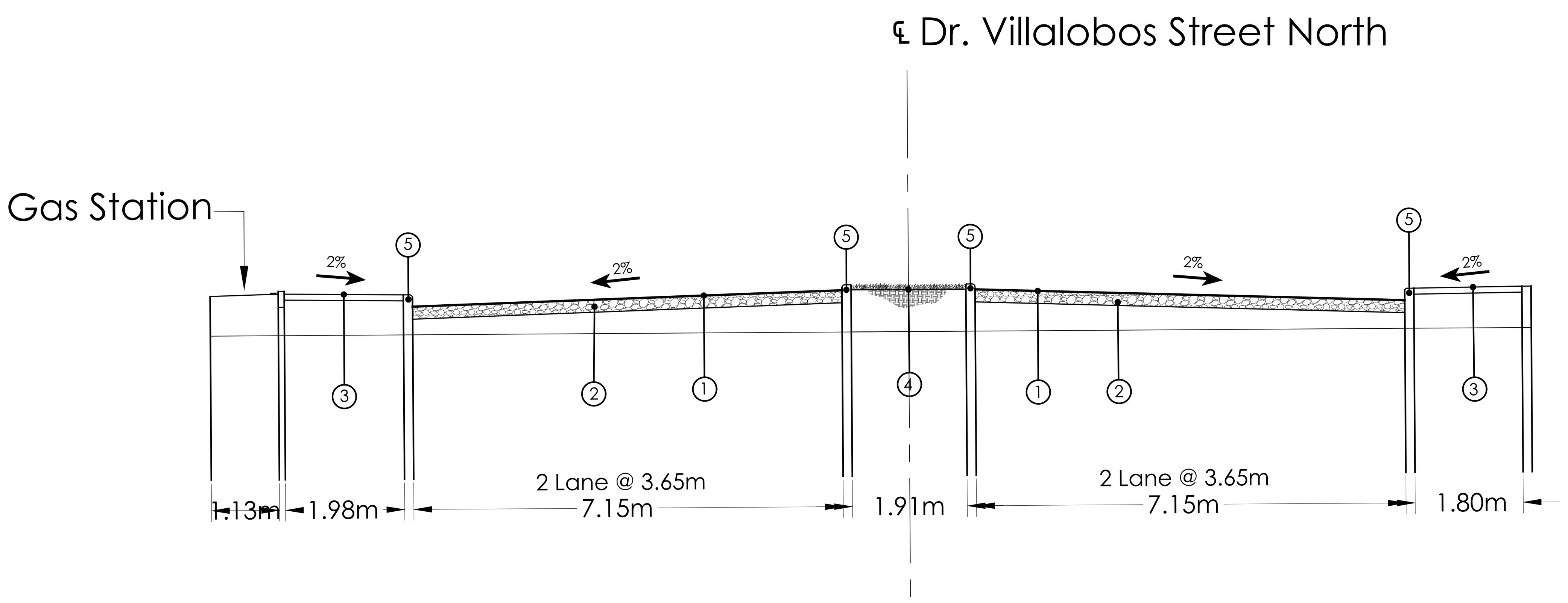
Sheet

CI-100

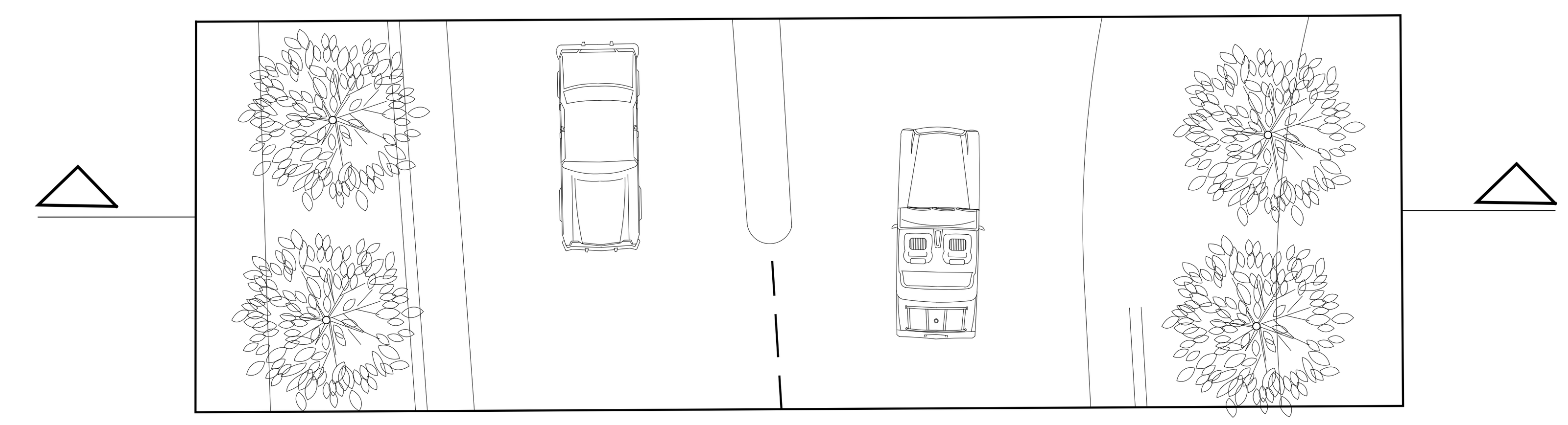
Project #	PR-CRP: 000973
Drawn by	DBM
Checked by	ECA



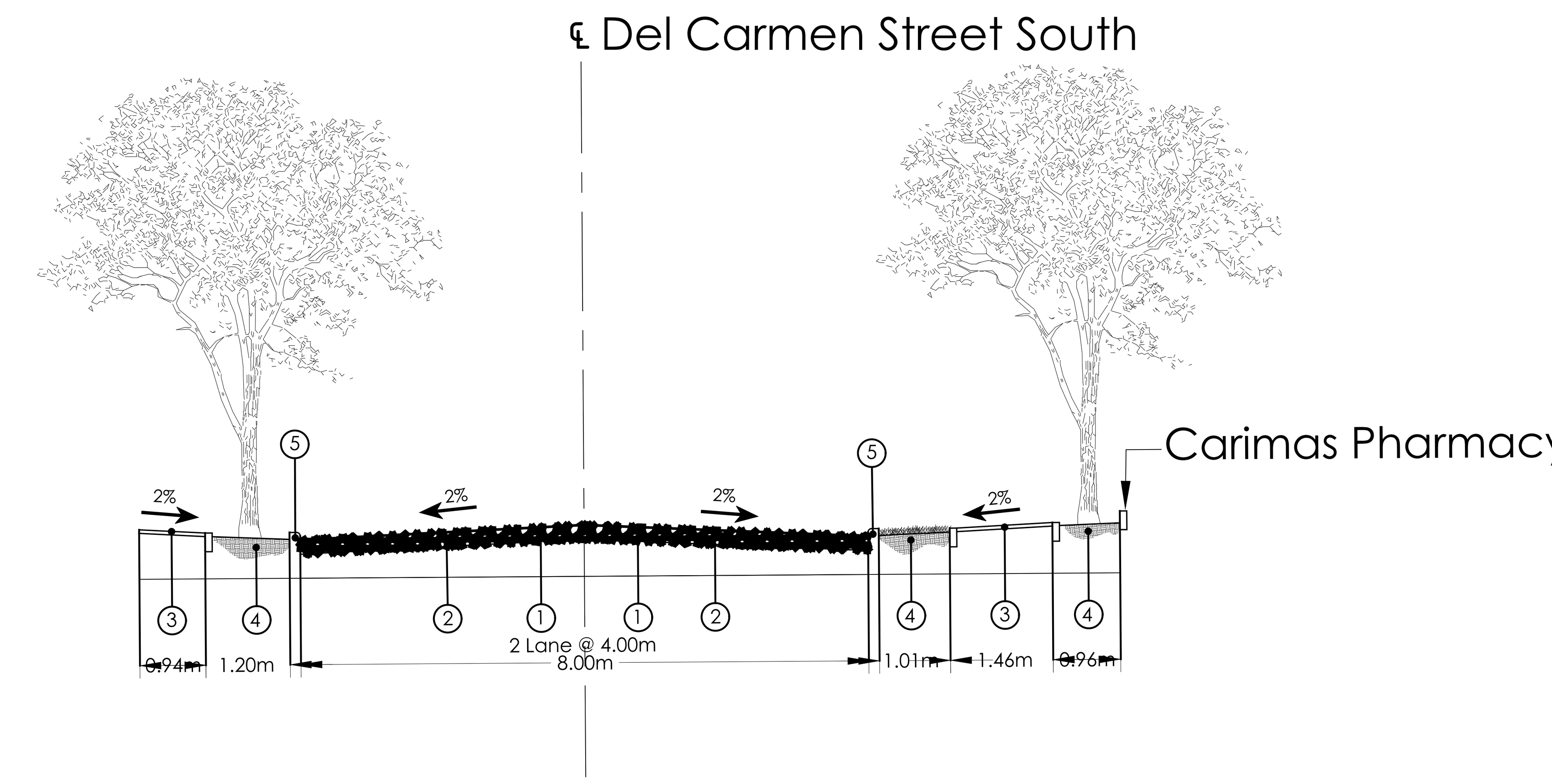
1 Top View 1: Dr. Villalobos Street North
SCALE: 1:75



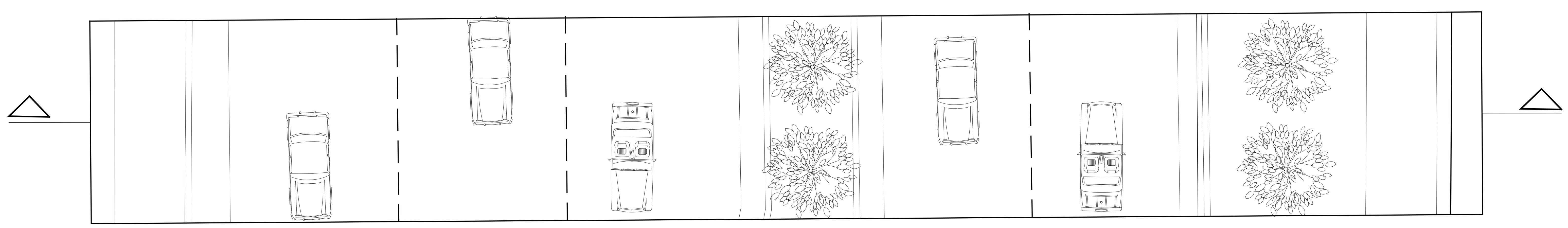
2 Section 1: Dr. Villalobos Street North
SCALE: 1:75



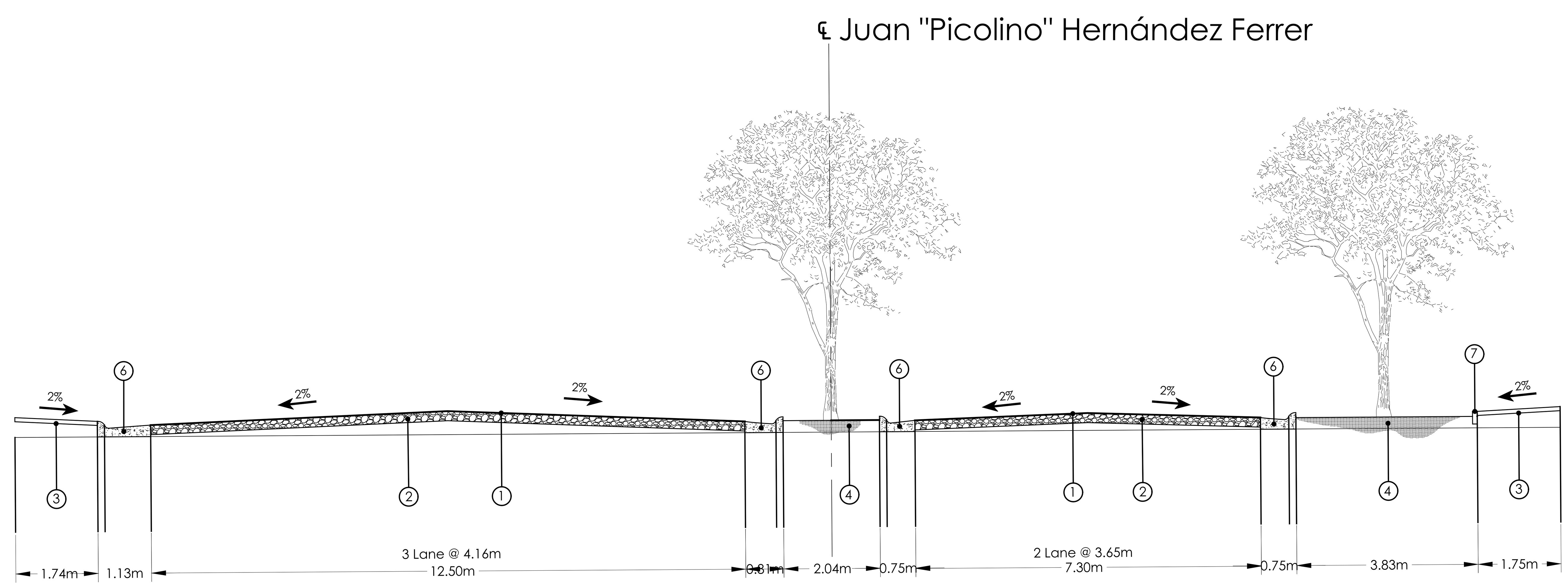
3 Top View 2: Del Carme Street South
SCALE: 1:75



4 Section 2: Del Carmen Street South
SCALE: 1:75



5 Top View 3: Juan "Picolino" Hernández Ferrer West
SCALE: 1:75



6 Section 3: Juan "Picolino" Hernández Ferrer West
SCALE: 1:75

General Notes

IMPORTANT INFORMATION FOR THE CONTRACTOR

Contractor shall verify al dimensions, levels and condition on-site before commencing any and all work. Any discrepancy, error or omission in these plans shall be notified to the Architect, Landscape Architect or Engineer who stamps and signs these drawings so that proper corrections to the documents can be made.

Do not take any measurements from the physical drawings.

All drawings, specifications and other documents are property of ECo and can solely be used as an instrument of the Architect, Landscape Architect or Engineers' service as reference for this project.

Only use documents with a "FOR CONSTRUCTION ONLY" stamp and sealed and signed by the designer.

Yo, Edmundo Colon Arizmendi PE, con licencia número 7812, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

No.	Description	Date

ECo
Landscape + Architecture + Engineering
103 Calle Isabel Andreu Aguilar, 4to Piso, San Juan,PR 00918
787-764-0610 eco-designstudio.com

Typical Sections

TB Roundabouts: PR-CRP-000973

Ave. Sabana Seca Int. Calle Dr. Villalobos, Levittown

Autonomous Municipality of Toa Baja

Seal:

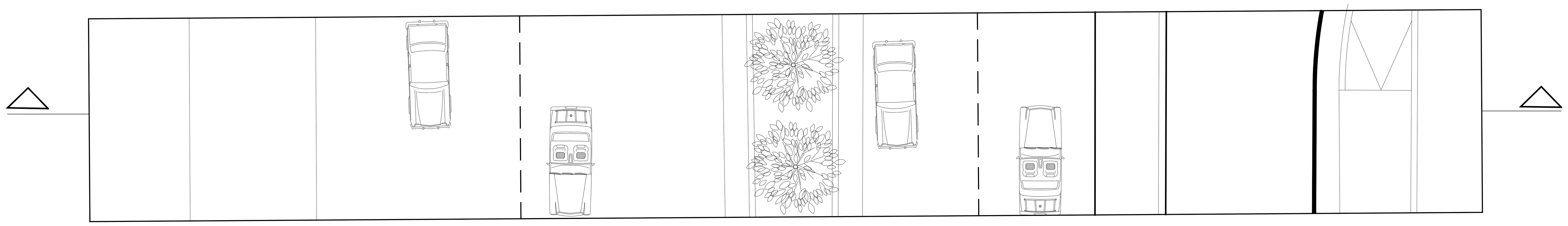
SIGNING ARCH
License #

File Name: 2023.04-Rotondas Toa Baja-Geometry-PR-CRP-000973

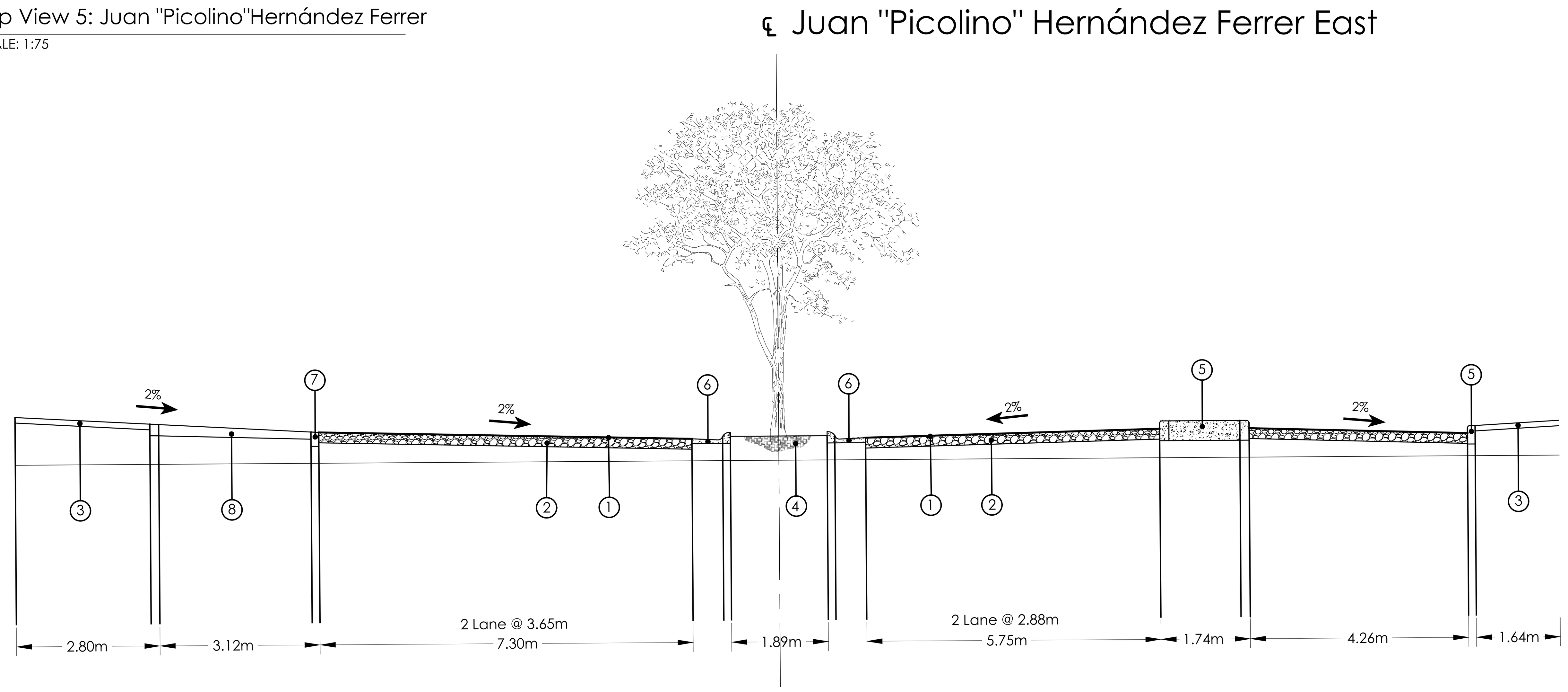
Date 09/19/2023 | Scale 1:75

Sheet
CI-101

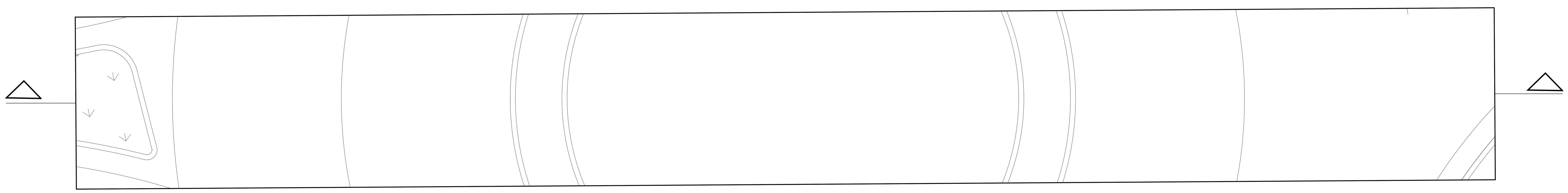
Project #	PR-CRP: 000973
Drawn by	DBM
Checked by	ECA



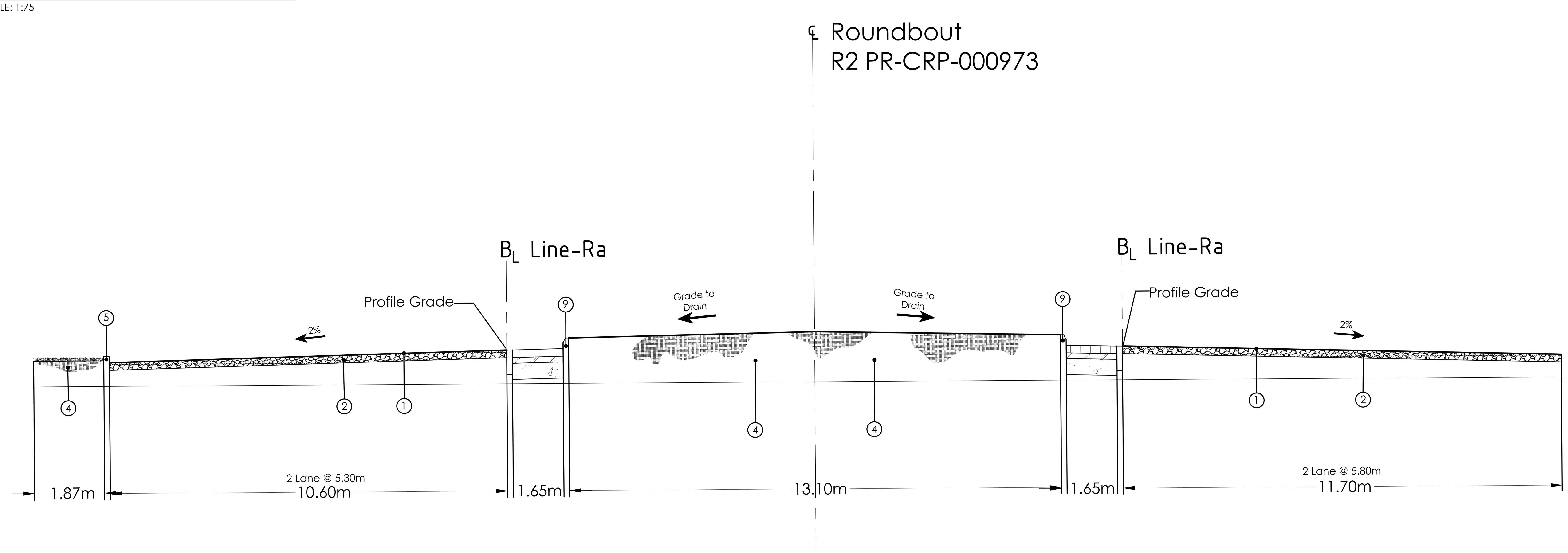
7 Top View 5: Juan "Picolino"Hernández Ferrer
SCALE: 1:75



8 Section 4: Juan "Picolino"Hernández Ferrer East
SCALE: 1:75



9 Top View 5: R2 PR-CRP-000973
SCALE: 1:75



10 Section 5: R2 PR-CRP-000973
SCALE: 1:75

Legend:

(1)	0.05m	Hot Plant Mix Bituminous Surface Pavement
(2)	0.2032m	Aggregate Base Course, (Spec. 304)
(3)	0.10m	Concrete Sidewalk (Spec. 608)
(4)	0.10m	Sodding & Topsoil (Spec. 627)
(5)		Concrete Curb, Type "A" (Spec.)
(6)		Concrete Curb, Type "B" (Spec.)
(7)		Concrete Curb, Type "C" (Spec.)
(8)		Concrete Curb, Type "D" (Spec.)
(9)		Existing Vehicle Ramp
(10)		Concrete Pavement Water way
(11)		Class "D" Borrow

Hot Plan Mix Bituminous Surface Pavement

Hot Plan Mix Bituminous Base Pavement

Aggregate Base Course

General Notes

IMPORTANT INFORMATION FOR THE CONTRACTOR

Contractor shall verify al dimensions, levels and condition on-site before commencing any and all work. Any discrepancy, error or omission in these plans shall be notified to the Architect, Landscape Architect or Engineer who stamps and signs these drawings so that proper corrections to the documents can be made.

Do not take any measurements from the physical drawings.

Only use documents with a "FOR CONSTRUCTION ONLY" stamp and sealed and signed by the designer.

Yo, Edmundo Colon Arizmendi PE, con licencia número 7812, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

No.	Description	Date

ECo
Landscape + Architecture + Engineering

103 Calle Isabel Andreu Aguilar, 4to Piso, San Juan,PR 00918
787-764-0610 eco-designstudio.com

Typical Sections

TB Roundabouts: PR-CRP-000973

Ave. Sabana Seca Int. Calle Dr. Villalobos, Levittown

Autonomous Municipality of Toa Baja

Seal:

SIGNING ARCH
License #

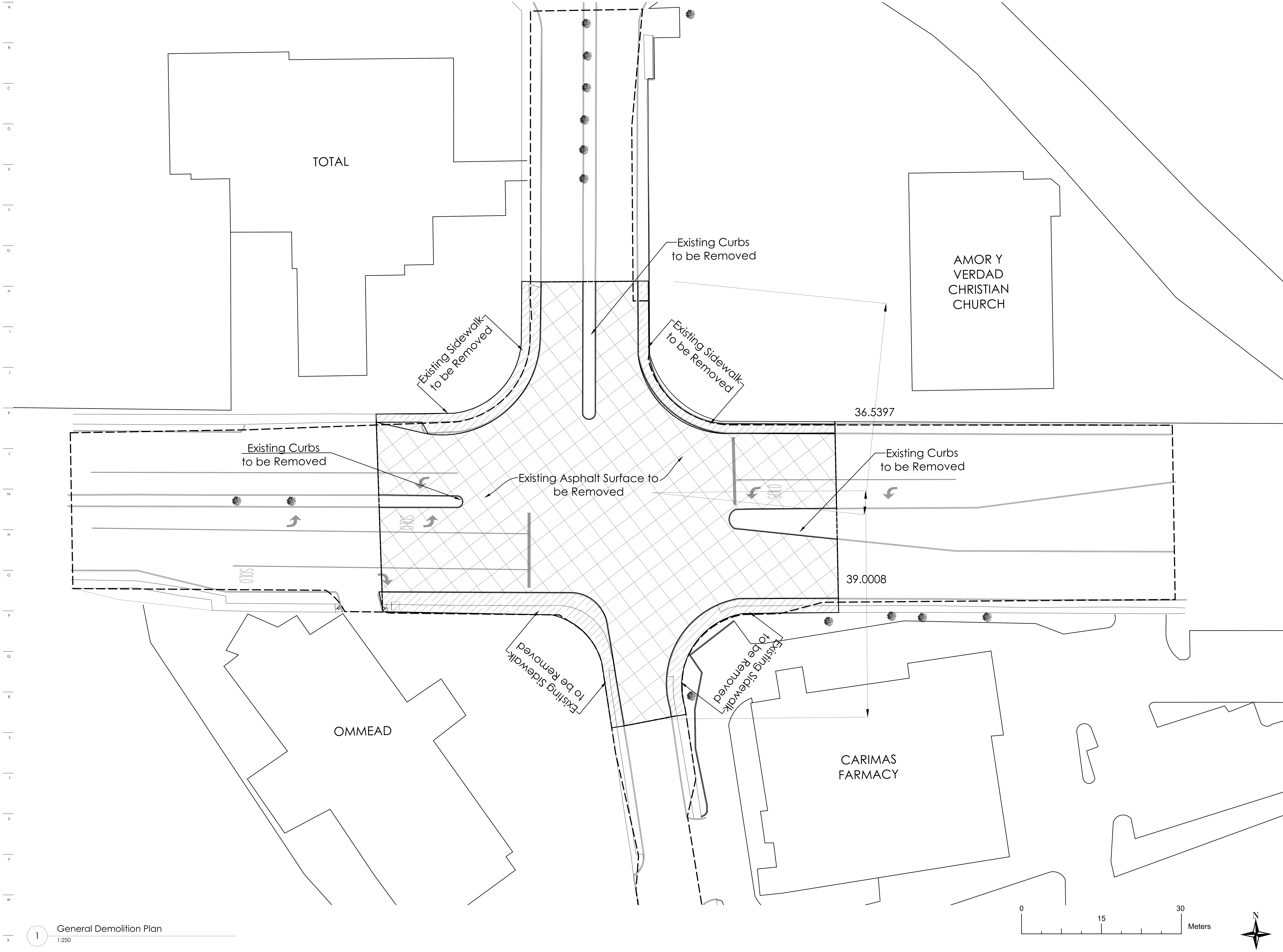
File Name: 2023.04-Rotondas Toa Baja-Geometry-PR-CRP-000973

Date 09/19/2023 | Scale 1:75

Sheet

CI-102

Project # PR-CRP: 000973
Drawn by DBM
Checked by ECA



1 General Demolition Plan
1:250

General Notes

IMPORTANT INFORMATION FOR THE CONTRACTOR

Contractor shall verify al dimensions, levels and condition on-site before commencing any and all work. Any discrepancy, error or omission in these plans shall be notified to the Architect, Landscape Architect or Engineer who stamps and signs these drawings so that proper corrections to the documents can be made.

Do not take any measurements from the physical drawings.

All drawings, specifications and other documents are property of ECo and can solely be used as an instrument of the Architect, Landscape Architect or Engineers' service as reference for this project.

ECo, the signing Architect, Landscape Architect or Engineer, and Eco's Consultants shall be deemed the author(s) of these documents and shall retain all common and statutory laws, including reserved and copyright(s). The full and/or partial reproduction of these drawings may only be done with the express written consent of the Architect, Landscape Architect or Engineer.

Only use documents with a "FOR CONSTRUCTION ONLY" stamp and sealed and signed by the designer.

Yo, Edmundo Colon Arizmendi PE, con licencia número 7812, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

No.	Description	Date

ECo
Landscape + Architecture + Engineering
103 Calle Isabel Andreu Aguilar, 4to Piso, San Juan, PR 00918
787-764-0610 eco-designstudio.com

General Demolition Plan

TB Roundabouts: PR-CRP-000973

Ave. Sabana Seca Int. Calle Dr. Villalobos, Levittown

Autonomous Municipality of Toa Baja

Seal:

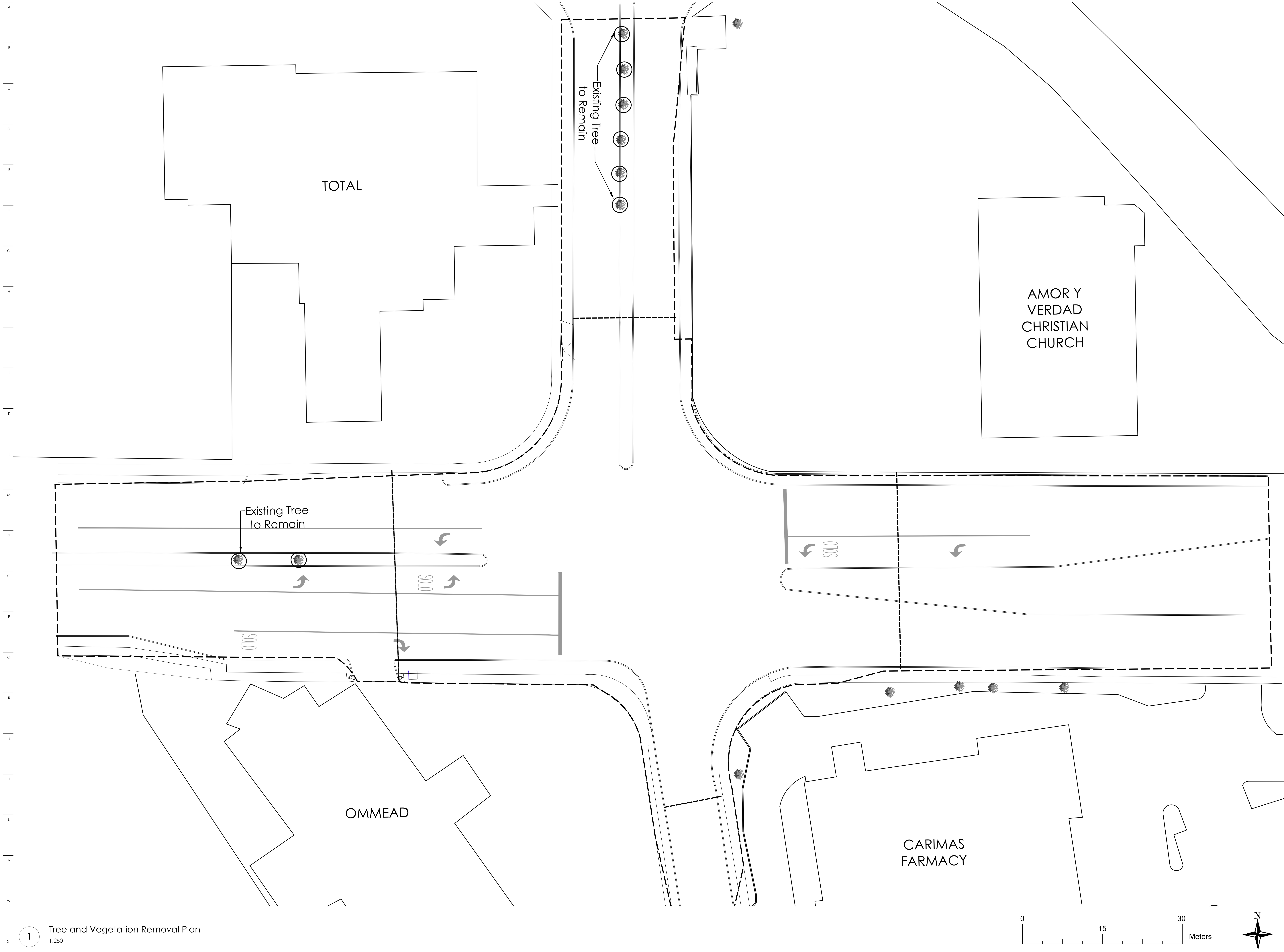
SIGNING ARCH
License #

File Name:
2023.04-Rotondas Toa Baja-Geometry-PR-CRP-000973

Date	Scale
09/19/2023	1:250

Sheet
CI-103

Project #	PR-CRP: 000973
Drawn by	DBM
Checked by	ECA



1 Tree and Vegetation Removal Plan
1:250

General Notes

IMPORTANT INFORMATION FOR THE CONTRACTOR

Contractor shall verify al dimensions, levels and condition on-site before commencing any and all work. Any discrepancy, error or omission in these plans shall be notified to the Architect, Landscape Architect or Engineer who stamps and signs these drawings so that proper corrections to the documents can be made.

Do not take any measurements from the physical drawings.

All drawings, specifications and other documents are property of ECo and can solely be used as an instrument of the Architect, Landscape Architect or Engineers' service as reference for this project.

Only use documents with a “FOR CONSTRUCTION ONLY” stamp and sealed and signed by the designer.

Yo, Edmundo Colon Arizmendi PE, con licencia número 7812, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

No.	Description	Date

ECo
Landscape + Architecture + Engineering
103 Calle Isabel Andreu Aguilar, 4to Piso, San Juan, PR 00918
787-764-0610 eco-designstudio.com

Tree & Vegetation Removal Plan

TB Roundabouts: PR-CRP-000973

Ave. Sabana Seca Int. Calle Dr. Villalobos, Levittown

Autonomous Municipality of Toa Baja

Seal:

SIGNING ARCH
License #

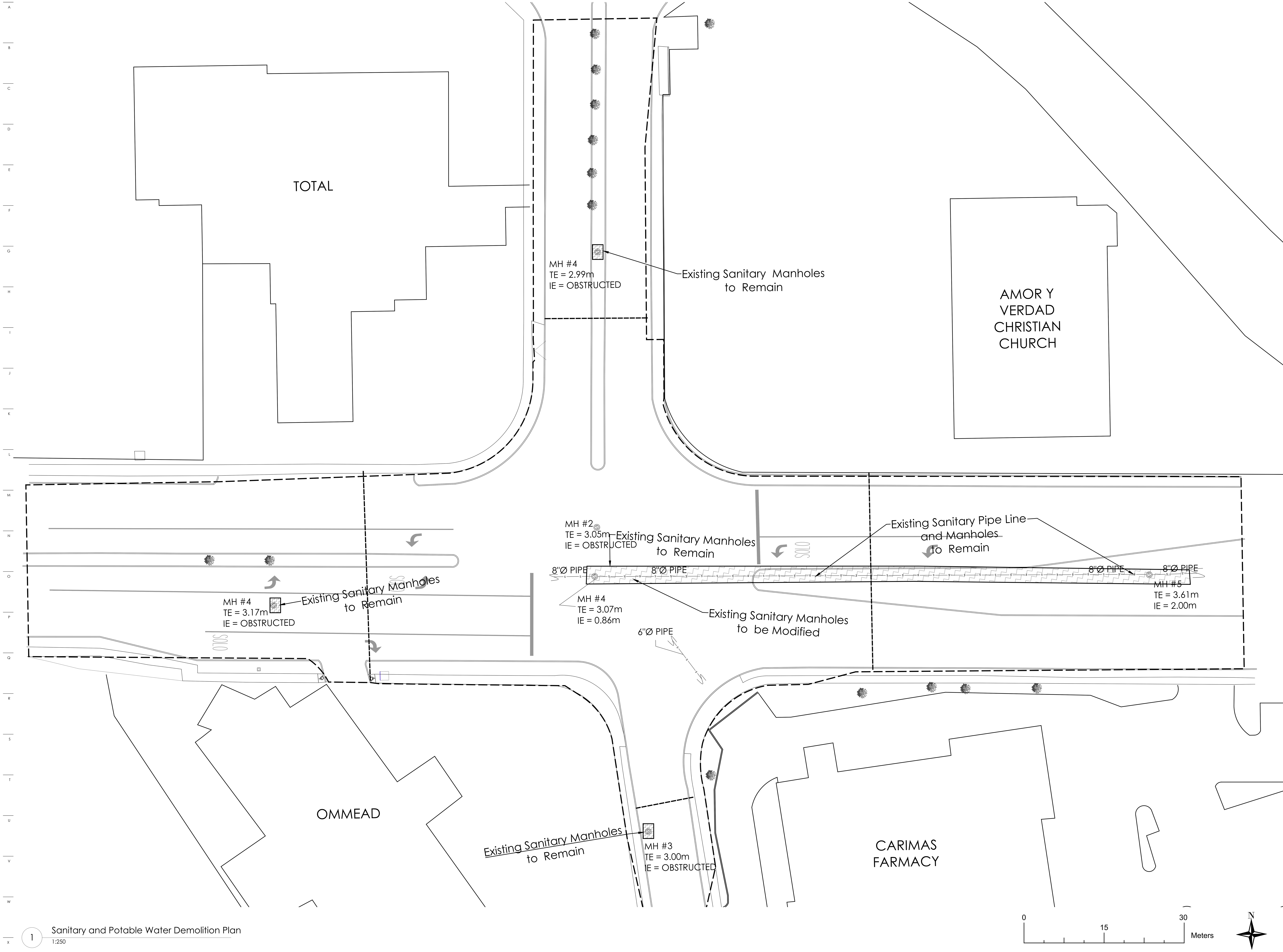
File Name:
2023.04-Rotondas Toa Baja-Geometry-PR-CRP-000973

Date	Scale
09/19/2023	1:250

Sheet

CI-104

Project #	PR-CRP: 000973
Drawn by	DBM
Checked by	ECA



1 Sanitary and Potable Water Demolition Plan
1:250

General Notes

IMPORTANT INFORMATION FOR THE CONTRACTOR

Contractor shall verify al dimensions, levels and condition on-site before commencing any and all work. Any discrepancy, error or omission in these plans shall be notified to the Architect, Landscape Architect or Engineer who stamps and signs these drawings so that proper corrections to the documents can be made.

Do not take any measurements from the physical drawings.

All drawings, specifications and other documents are property of ECo and can solely be used as an instrument of the Architect, Landscape Architect or Engineers' service as reference for this project.

Only use documents with a “FOR CONSTRUCTION ONLY” stamp and sealed and signed by the designer.

Yo, Edmundo Colon Arizmendi PE, con licencia número 7812, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

No.	Description	Date

ECo
Landscape + Architecture + Engineering
103 Calle Isabel Andreu Aguilar, 4to
Piso, San Juan,PR 00918
787-764-0610 eco-designstudio.com

Sanitary & Potable Water Improvement Plan

TB Roundabouts: PR-CRP-000973

Ave. Sabana Seca Int. Calle Dr. Villalobos, Levittown

Autonomous Municipality of Toa Baja

Seal:

SIGNING ARCH
License #

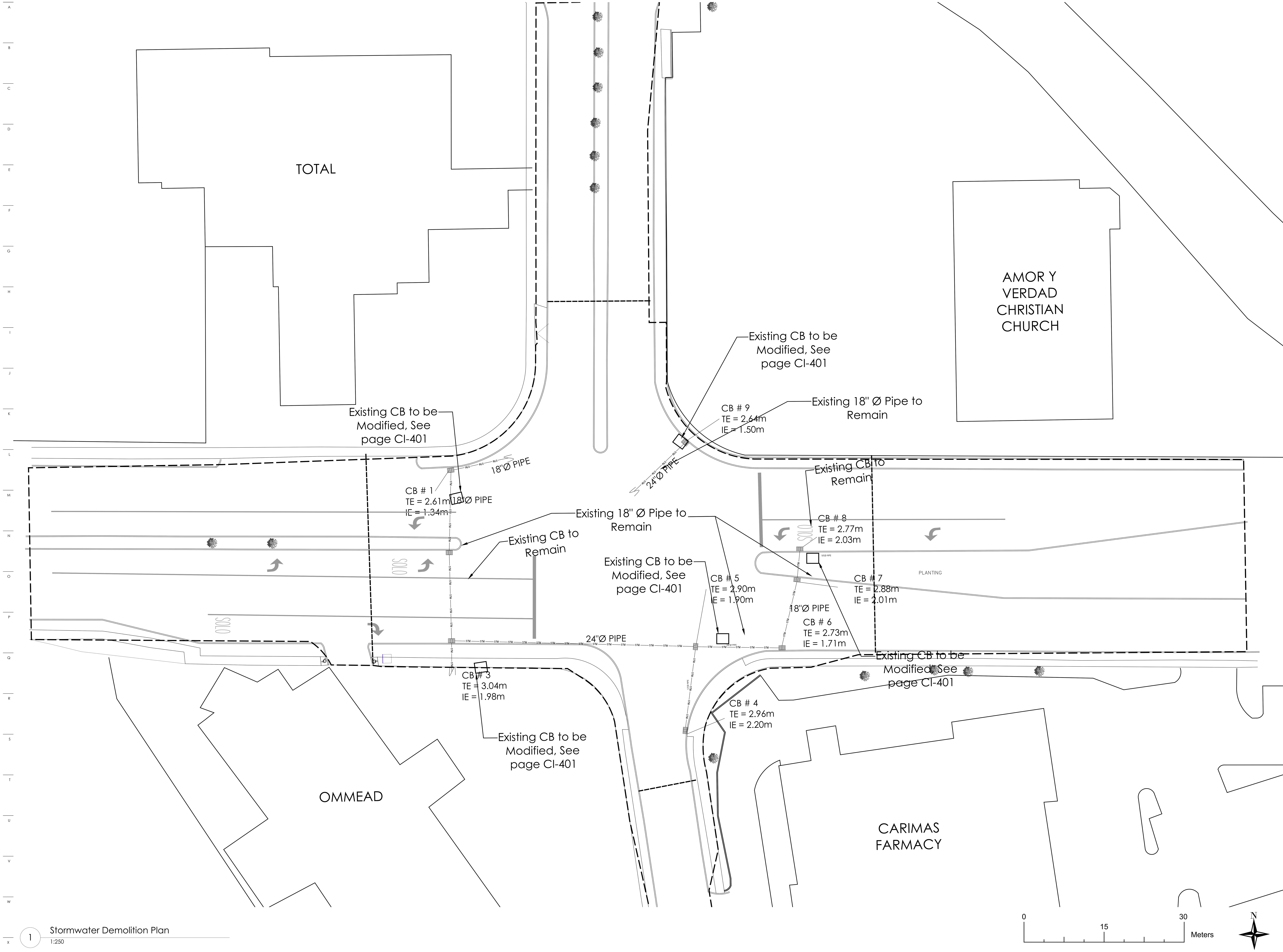
File Name:
2023.04-Rotondas Toa Baja-Geometry-PR-CRP-000973

Date	Scale
09/19/2023	1:250

Sheet

CI-105

Project #	PR-CRP: 000973
Drawn by	DBM
Checked by	ECA



1 Stormwater Demolition Plan
1:250

General Notes

IMPORTANT INFORMATION FOR THE CONTRACTOR

Contractor shall verify al dimensions, levels and condition on-site before commencing any and all work. Any discrepancy, error or omission in these plans shall be notified to the Architect, Landscape Architect or Engineer who stamps and signs these drawings so that proper corrections to the documents can be made.

Do not take any measurements from the physical drawings.

All drawings, specifications and other documents are property of ECo and can solely be used as an instrument of the Architect, Landscape Architect or Engineers' service as reference for this project.

ECo, the signing Architect, Landscape Architect or Engineer, and Eco's Consultants shall be deemed the author(s) of these documents and shall retain all common and statutory laws, including reserved and copyright(s). The full and/or partial reproduction of these drawings may only be done with the express written consent of the Architect, Landscape Architect or Engineer.

Only use documents with a "FOR CONSTRUCTION ONLY" stamp and sealed and signed by the designer.

Yo, Edmundo Colon Arizmendi PE, con licencia número 7812, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

No.	Description	Date

ECo
LANDSCAPE + ARCHITECTURE + ENGINEERING

103 Calle Isabel Andreu Aguilar, 4to Piso, San Juan, PR 00918
787-764-0610 eco-designstudio.com

Stormwater Improvement Plan
TB Roundabouts: PR-CRP-000973
Ave. Sabana Seca Int. Calle Dr. Villalobos, Levittown
Autonomous Municipality of Toa Baja

Seal:

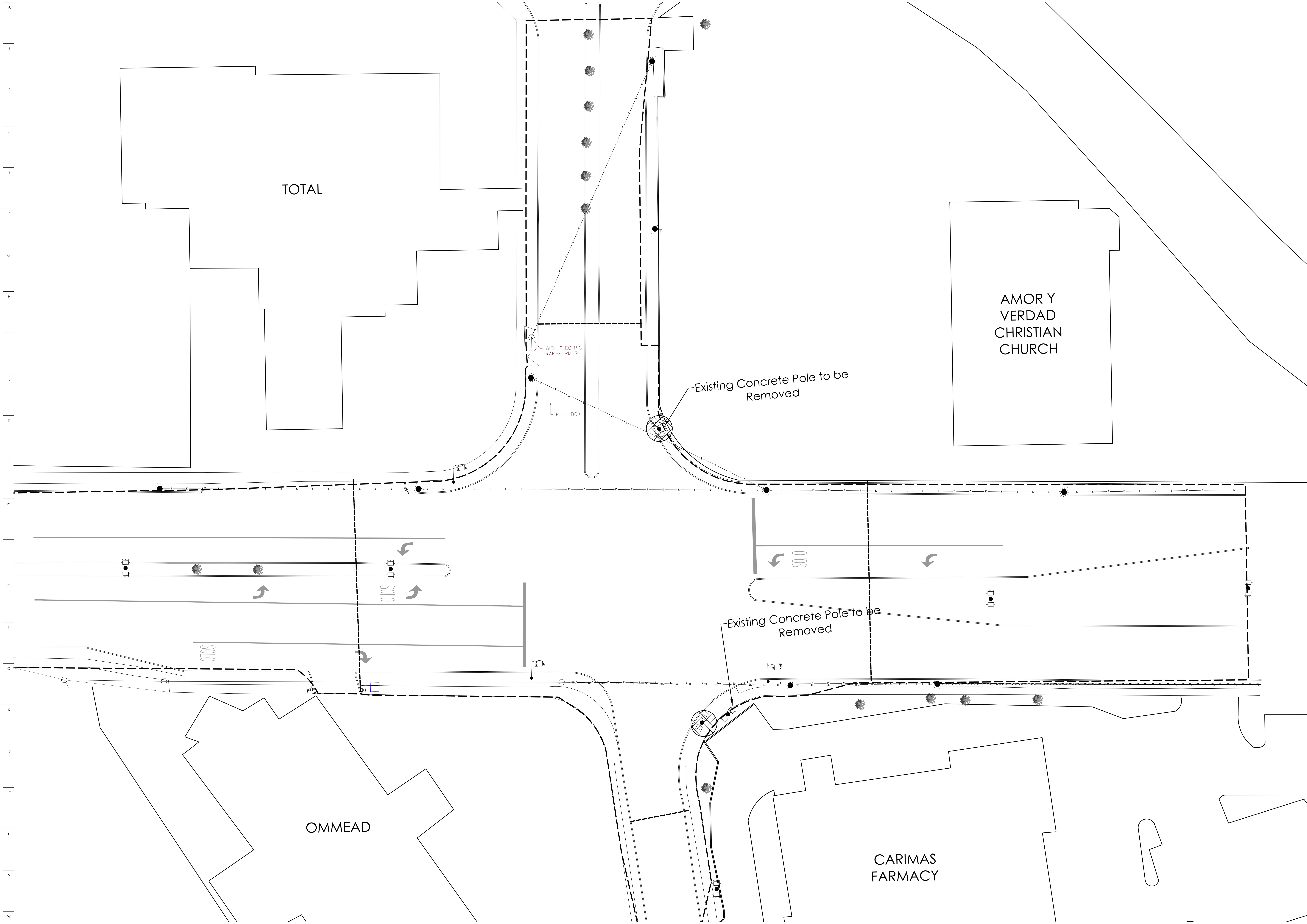
SIGNING ARCH
License #

File Name: 2023.04-Rotondas Toa Baja-Geometry-PR-CRP-000973

Date: 09/19/2023
Scale: 1:250

Sheet
CI-106

Project #: PR-CRP: 000973
Drawn by: DBM
Checked by: ECA



0 15 30
Meters

N

1 Electrical Demolition Plan
1:250

General Notes

IMPORTANT INFORMATION FOR THE CONTRACTOR

Contractor shall verify al dimensions, levels and condition on-site before commencing any and all work. Any discrepancy, error or omission in these plans shall be notified to the Architect, Landscape Architect or Engineer who stamps and signs these drawings so that proper corrections to the documents can be made.

Do not take any measurements from the physical drawings.

Only use documents with a "FOR CONSTRUCTION ONLY" stamp and sealed and signed by the designer.

Yo, Edmundo Colon Arizmendi PE, con licencia número 7812, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

No.	Description	Date

ECo
Landscape + Architecture + Engineering
103 Calle Isabel Andreu Aguilar, 4to Piso, San Juan,PR 00918
787-764-0610 eco-designstudio.com

Electrical Demolition Plan

TB Roundabouts: PR-CRP-000973

Ave. Sabana Seca Int. Calle Dr. Villalobos, Levittown

Autonomous Municipality of Toa Baja

Seal:

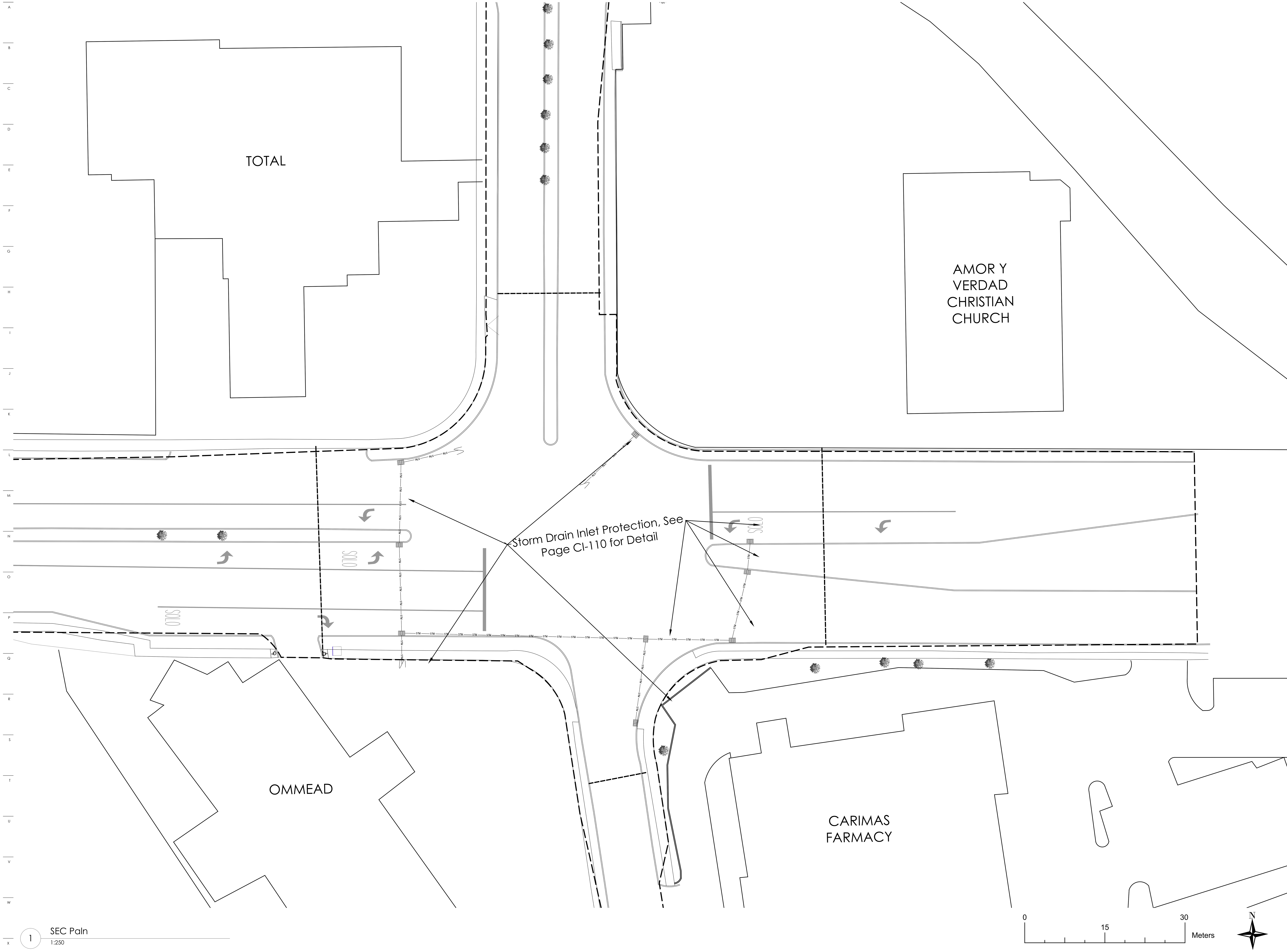
SIGNING ARCH
License #

File Name: 2023.04-Rotondas Toa Baja-Geometry-PR-CRP-000973

Date: 09/19/2023
Scale: 1:250

Sheet: CI-107

Project #: PR-CRP: 000973
Drawn by: DBM
Checked by: ECA



1 SEC Paln
1:250

General Notes

IMPORTANT INFORMATION FOR THE CONTRACTOR

Contractor shall verify al dimensions, levels and condition on-site before commencing any and all work. Any discrepancy, error or omission in these plans shall be notified to the Architect, Landscape Architect or Engineer who stamps and signs these drawings so that proper corrections to the documents can be made.

Do not take any measurements from the physical drawings.

All drawings, specifications and other documents are property of ECo and can solely be used as an instrument of the Architect, Landscape Architect or Engineers' service as reference for this project.

ECo, the signing Architect, Landscape Architect or Engineer, and Eco's Consultants shall be deemed the author(s) of these documents and shall retain all common and statutory laws, including reserved and copyright(s). The full and/or partial reproduction of these drawings may only be done with the express written consent of the Architect, Landscape Architect or Engineer.

Only use documents with a "FOR CONSTRUCTION ONLY" stamp and sealed and signed by the designer.

Yo, Edmundo Colon Arizmendi PE, con licencia número 7812, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

No.	Description	Date

ECo
Landscape + Architecture + Engineering
103 Calle Isabel Andreu Aguilar, 4to Piso, San Juan,PR 00918
787-764-0610 eco-designstudio.com

TB Roundabouts: PR-CRP-000973

Ave. Sabana Seca Int. Calle Dr. Villalobos, Levittown

Autonomous Municipality of Toa Baja

SEC Plan

Seal:

SIGNING ARCH
License #

File Name: 2023.04-Rotondas Toa Baja-Geometry-PR-CRP-000973

Date 09/19/2023

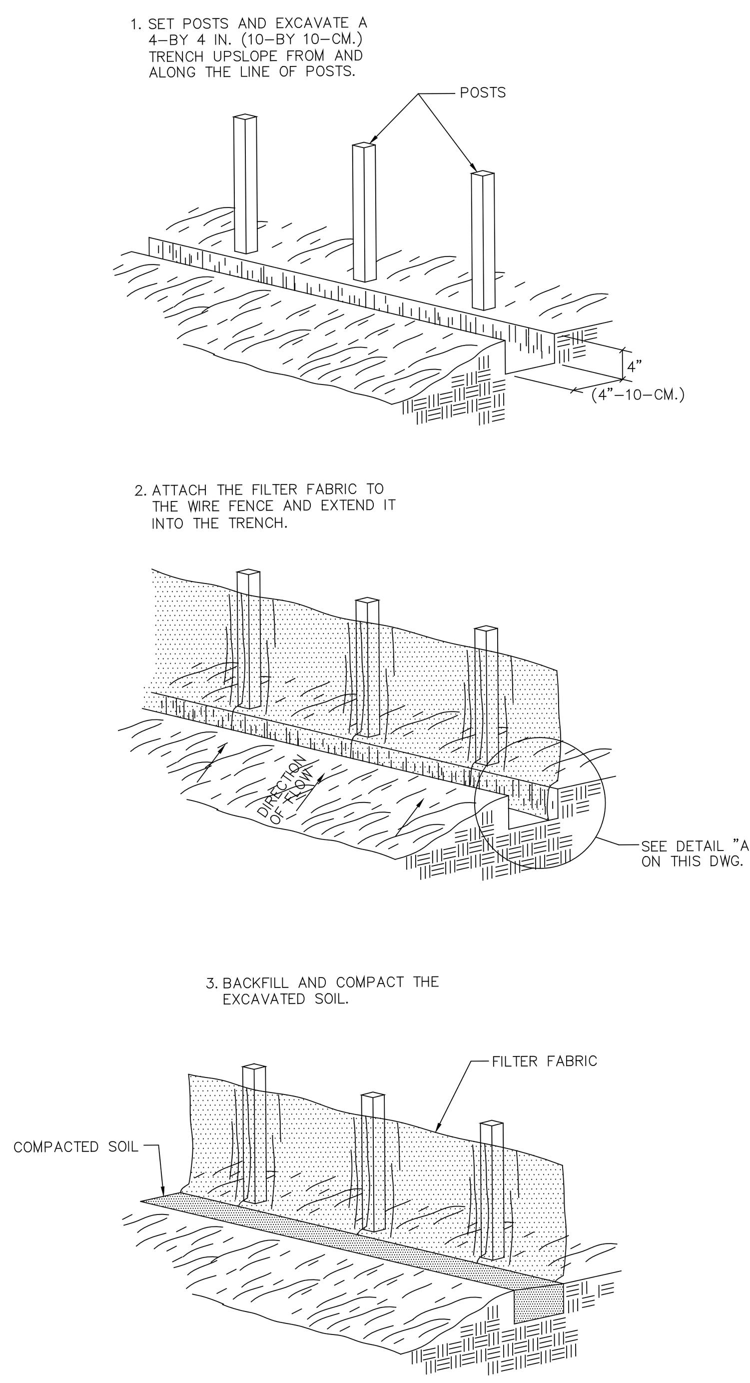
Scale 1:250

Sheet CI-109

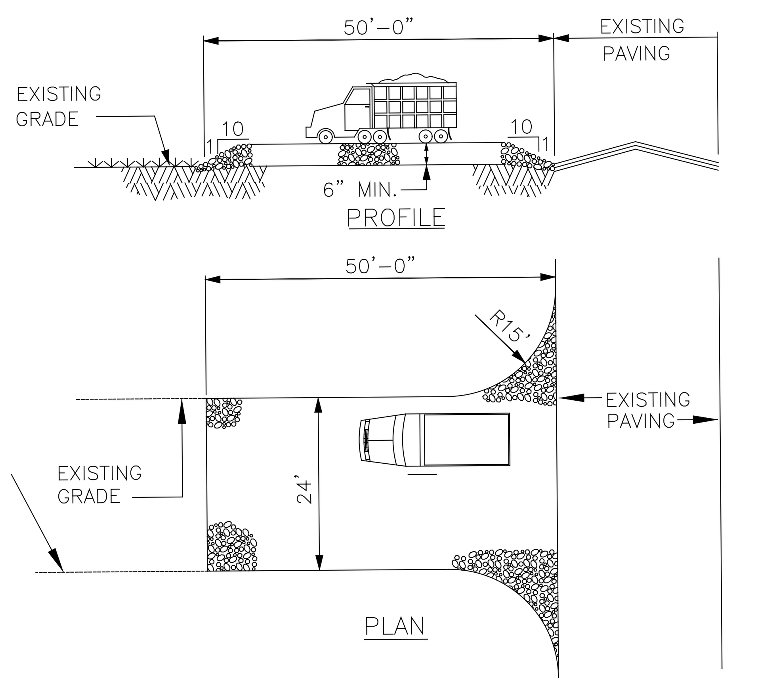
Project # PR-CRP: 000973

Drawn by DBM

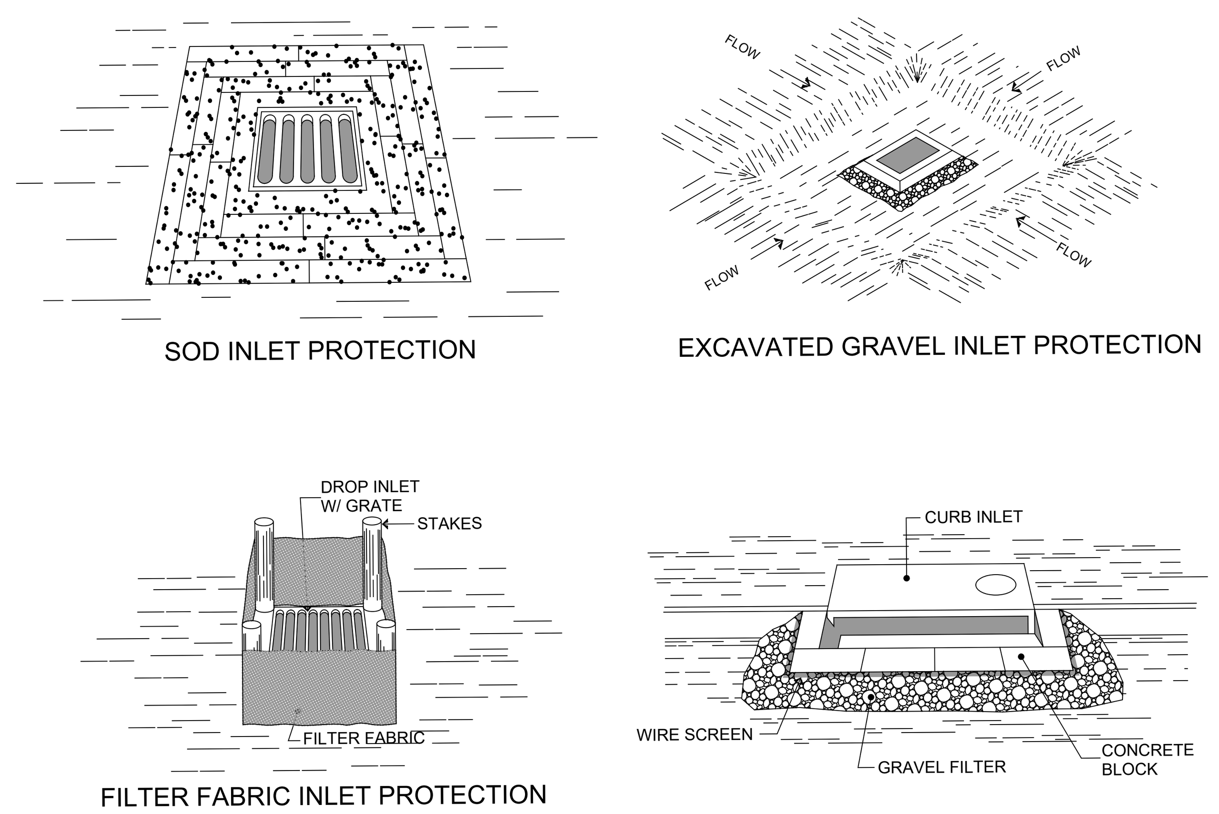
Checked by ECA



SILT FENCE INSTALLATION DETAIL
NOT TO SCALE



STABILIZED CONSTRUCTION ENTRANCE
NOT TO SCALE



SOD INLET PROTECTION

EXCAVATED GRAVEL INLET PROTECTION

FILTER FABRIC INLET PROTECTION

STORM DRAIN TYPICAL INLET PROTECTION DETAILS
N.T.S.

* SEE NOTE 10 ON THIS DWG.

PROJECT SIGN DETAIL
NOT TO SCALE

1 SEC Details
NTS

STABILIZED CONSTRUCTION ENTRANCE NOTES:

1. PROVIDE APPROPRIATE TRANSITION BETWEEN STABILIZED CONSTRUCTION ENTRANCE AND EXIST. PAVEMENT.
2. STONE SIZE: USE AASHTO M-43 SIZE No. 2 STONE.

CONCRETE WASHOUT NOTES:

1. A CONCRETE WASHOUT STATION SHALL BE PLACED AT EACH PROJECT ENTRANCE.
2. CONCRETE WASHOUT FACILITIES SHOULD NEVER BE PLACED WITHIN 50 FEET OF STORM DRAINS, OPEN DITCHES OR WATERBODIES.
3. CHECK ALL CONCRETE WASHOUT FACILITIES DAILY TO DETERMINE IF THEY HAVE BEEN FILLED TO 75 PERCENT CAPACITY, WHICH IS WHEN MATERIALS NEED TO BE REMOVED.
4. BOTH ABOVE- AND BELOW- GROUND SELF-INSTALLED WASHOUT SHOULD BE INSPECTED DAILY TO ENSURE THAT PLASTIC LININGS ARE INTACT AND SIDEWALLS HAVE NOT BEEN DAMAGED BY CONSTRUCTION ACTIVITIES.
5. REMOVE LIQUIDS OR COVER THE STRUCTURES BEFORE PREDICTED RAINSTORMS TO PREVENT OVERFLOWS.
6. WHEN REMOVING MATERIALS FROM THE CONCRETE WASHOUT, BUILD A NEW STRUCTURE OR, IF THE PREVIOUS STRUCTURE IS STILL INTACT, INSPECT THE STRUCTURE FOR SIGNS OF WEAKENING OF DAMAGE AND MAKE ANY NECESSARY REPAIRS. LINE THE STRUCTURE WITH NEW PLASTIC THAT IS FREE OF HOLES OR TEARS AND REPLACED SIGNAGE IF NECESSARY. IT IS VERY IMPORTANT THAT NEW PLASTIC IS USED AFTER EVERY CLEANING BECAUSE PUMPS AND CONCRETE REMOVAL EQUIPMENT CAN DAMAGE THE EXISTING LINER.
7. CONCRETE WASHOUTS ARE DESIGNED TO PROMOTE EVAPORATION WHERE FEASIBLE. HOWEVER, IF STORED LIQUIDS HAVE NOT EVAPORATED AND THE WASHOUT IS NEARING CAPACITY, VACUUM AND DISPOSE OF THEM IN AN APPROVED MANNER.
8. INSPECTOR SHOULD ALSO NOTE WHETHER THE FACILITIES ARE BEING USED REGULARY; IF DRIVERS HAVE WASHED OUT THEIR CHUTES OR HOPPERS IN OTHER LOCATIONS, YOU MAY NEED TO PROVIDE MORE EDUCATION, INSTALL ADDITIONAL SIGNAGE, OR PLACE ADDITIONAL WASHOUT IN MORE CONVENIENT LOCATIONS.

CES PLAN GENERAL NOTES

1. THE CONTRACTOR SHALL PROTECT ALL CATCH BASINS, SWALES AND CHANNELS NEAR THE PROJECT AREA THAT COULD BE POTENTIALLY, IMPACTED PRIOR TO START ANY EXCAVATION. ALL MEASURES CAN BE REMOVED WHEN THE LOCAL CONSTRUCTION BE COMPLETED.
2. ALL DISTURBED AREAS SHALL BE PROTECTED BY THE CES PLAN MEASURES EVEN THOUGH CONSTRUCTION ONLY INCLUDES PART OF THE PARCEL.
3. CONTRACTOR SHALL INSPECT SEDIMENT BARRIERS AFTER EACH RAIN EVENT. REPAIRS SHALL BE DONE AS SOON AS POSSIBLE. SEDIMENT SHALL BE REMOVED FROM THE BARRIERS WHEN THEY REACH HALF THE HEIGHT OF THE BARRIER.
4. THE CONTRACTOR SHALL MAINTAIN THE INTEGRITY OF THE STABILIZED CONSTRUCTION ENTRANCE.
5. THE CONTRACTOR SHALL MAINTAIN A WATER TANK TRUCK TO SPRAY IT AROUND THE WORKING AREAS WHEN NEEDED OR WHEN THE PROJECT INSPECTOR REQUIRES IT. A WATER HOSE WILL BE INSTALLED NEAR STABILIZED CONSTRUCTION ENTRANCE TO WASH THE CONSTRUCTION VEHICLES WHEELS.
6. THE CONTRACTOR SHALL STRICTLY FOLLOW THE GUIDELINES STATED AT THE CES PLAN APPROVED BY THE ENVIRONMENTAL QUALITY BOARD.
7. THE CONTRACTOR SHALL DISPOSE ALL WASTE MATERIALS AT AN APPROVED LANDFILL.
8. THE CONTRACTOR SHALL RESTORE PAVED AREAS AND RE-SEED GRASS AREAS AS SOON AS POSSIBLE OR AS INSTRUCTED BY THE PROJECT INSPECTOR.
9. ANY MODIFICATION PROPOSAL TO THE CES PLAN SHALL BE CONSULTED WITH THE DESIGNER IN ORDER TO AMMEND THE APPROVED PLAN.
10. A SIGN SHALL BE INSTALLED AT EACH PROJECT ENTRANCE AS PER CONSOLIDATED GENERAL PERMIT CONDITION NUMBER 2.

General Notes

IMPORTANT INFORMATION FOR THE CONTRACTOR

Contractor shall verify al dimensions, levels and condition on-site before commencing any and all work. Any discrepancy, error or omission in these plans shall be notified to the Architect, Landscape Architect or Engineer who stamps and signs these drawings so that proper corrections to the documents can be made.

Do not take any measurements from the physical drawings.

Only use documents with a "FOR CONSTRUCTION ONLY" stamp and sealed and signed by the designer.

Yo, Edmundo Colon Arizmendi PE, con licencia número 7812, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

No.	Description	Date

ECo
LANDSCAPE + ARCHITECTURE + ENGINEERING
103 Calle Isabel Andreu Aguilar, 4to Piso, San Juan,PR 00918
787-764-0610 eco-designstudio.com

SEC Details

TB Roundabouts: PR-CRP-000973
Ave. Sabana Seca Int. Calle Dr. Villalobos, Levittown
Autonomous Municipality of Toa Baja

Seal:

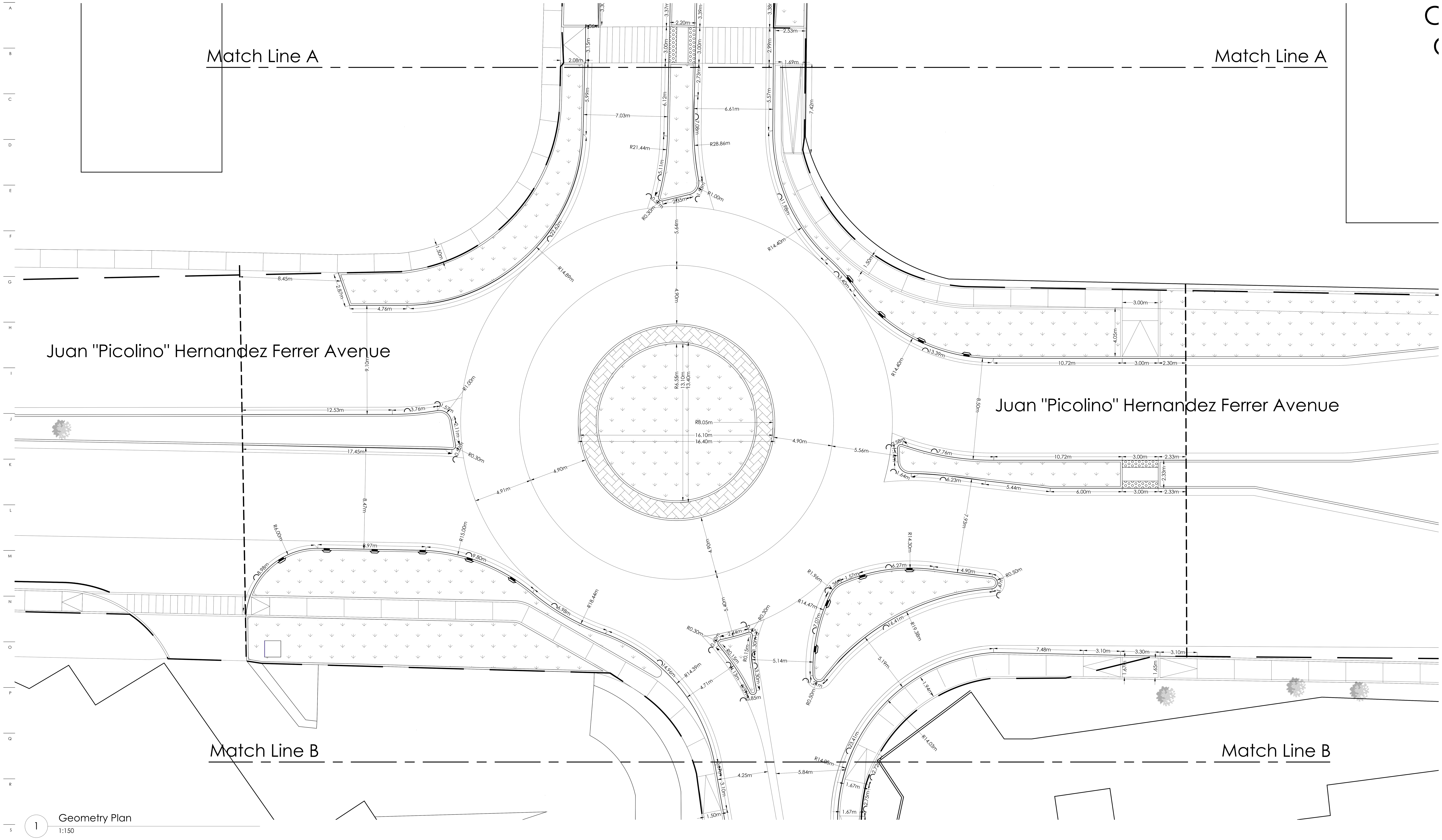
SIGNING ARCH
License #

File Name: 2023.04-Rotondas Toa Baja-Geometry-PR-CRP-000973

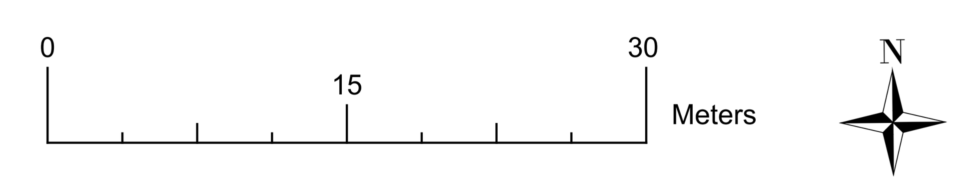
Date	Scale
09/19/2023	NTS

Sheet
CI-110

Project #	PR-CRP: 000973
Drawn by	DBM
Checked by	ECA



1 Geometry Plan
1:150



General Notes

IMPORTANT INFORMATION FOR THE CONTRACTOR

Contractor shall verify al dimensions, levels and condition on-site before commencing any and all work. Any discrepancy, error or omission in these plans shall be notified to the Architect, Landscape Architect or Engineer who stamps and signs these drawings so that proper corrections to the documents can be made.

Do not take any measurements from the physical drawings.

All drawings, specifications and other documents are property of ECo and can solely be used as an instrument of the Architect, Landscape Architect or Engineers' service as reference for this project.

Only use documents with a "FOR CONSTRUCTION ONLY" stamp and sealed and signed by the designer.

Yo, Edmundo Colon Arizmendi PE, con licencia número 7812, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

No.	Description	Date

ECo
Landscape + Architecture + Engineering
103 Calle Isabel Andreu Aguilar, 4to Piso, San Juan,PR 00918
787-764-0610 eco-designstudio.com

Geometry Plan

TB Roundabouts: PR-CRP-000973

Ave. Sabana Seca Int. Calle Dr. Villalobos, Levittown

Autonomous Municipality of Toa Baja

Seal:

SIGNING ENGR
License #

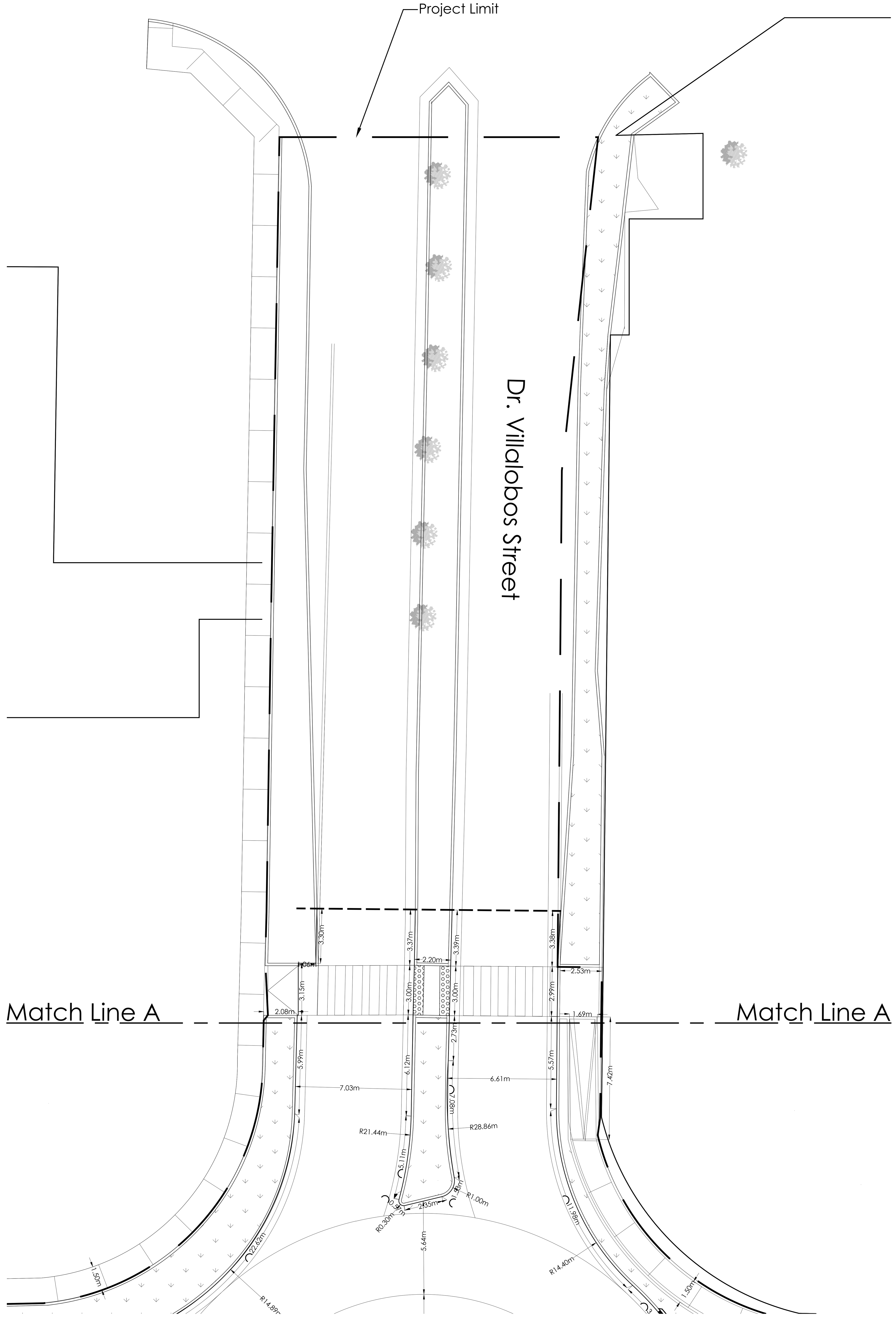
File Name:
2023.04-Rotondas Toa Baja-Geometry-PR-CRP-000973

Date	Scale
09/19/2023	1:150

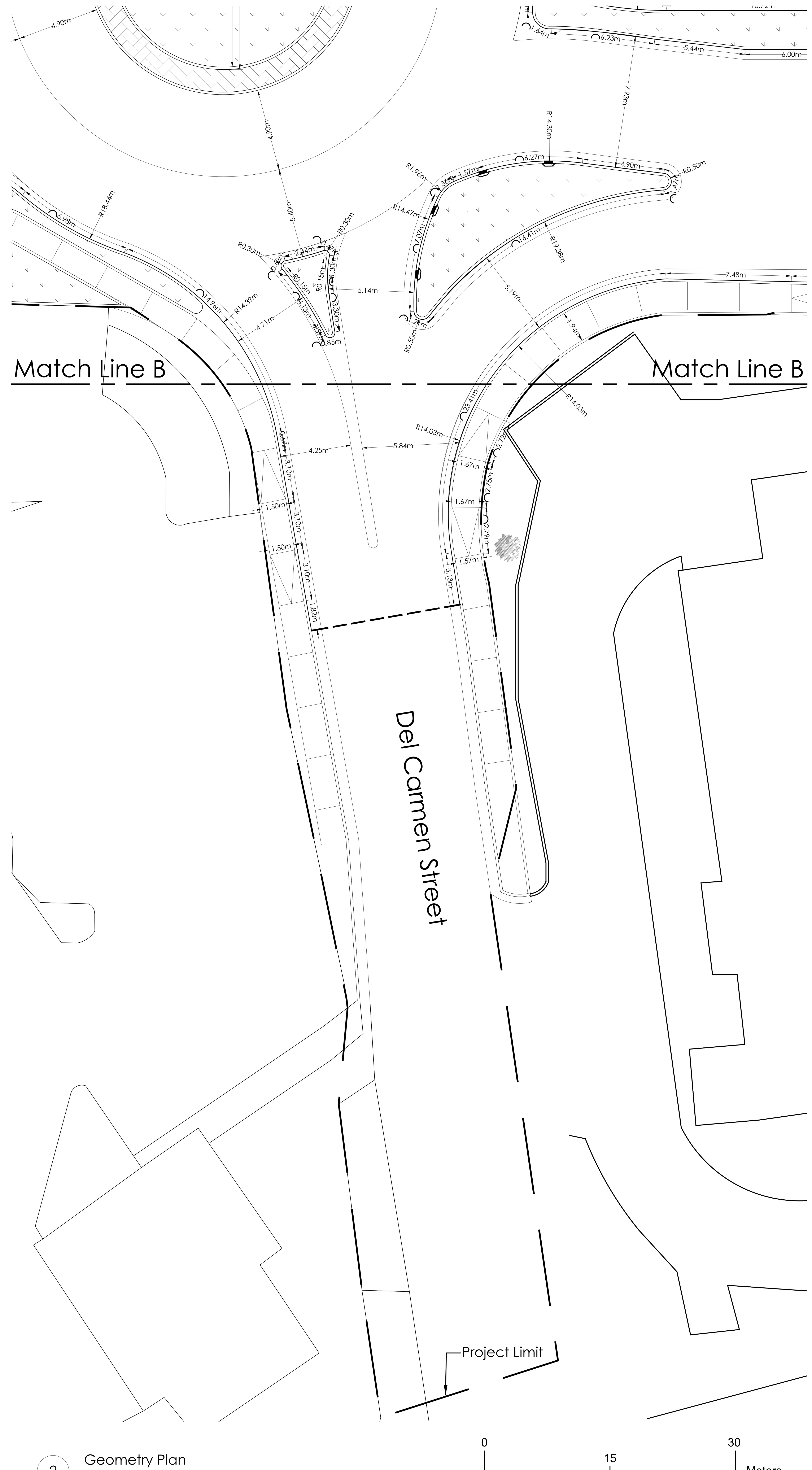
Sheet

CI-200

Project #	PR-CRP: 000973
Drawn by	DBM
Checked by	ECA



1 Geometry Plan
1:150



2 Geometry Plan
1:150

General Notes

IMPORTANT INFORMATION FOR THE CONTRACTOR

Contractor shall verify al dimensions, levels and condition on-site before commencing any and all work. Any discrepancy, error or omission in these plans shall be notified to the Architect, Landscape Architect or Engineer who stamps and signs these drawings so that proper corrections to the documents can be made.

Do not take any measurements from the physical drawings.

All drawings, specifications and other documents are property of ECo and can solely be used as an instrument of the Architect, Landscape Architect or Engineers' service as reference for this project.

ECo, the signing Architect, Landscape Architect or Engineer, and Eco's Consultants shall be deemed the author(s) of these documents and shall retain all common and statutory laws, including reserved and copyright(s). The full and/or partial reproduction of these drawings may only be done with the express written consent of the Architect, Landscape Architect or Engineer.

Only use documents with a "FOR CONSTRUCTION ONLY" stamp and sealed and signed by the designer.

Yo, Edmundo Colon Arizmendi PE, con licencia número 7812, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

No.	Description	Date

ECo
Landscape + Architecture + Engineering
103 Calle Isabel Andreu Aguilar, 4to Piso, San Juan,PR 00918
787-764-0610 eco-designstudio.com

Geometry Plan

TB Roundabouts: PR-CRP-000973

Ave. Sabana Seca Int. Calle Dr. Villalobos, Levittown

Autonomous Municipality of Toa Baja

Seal:

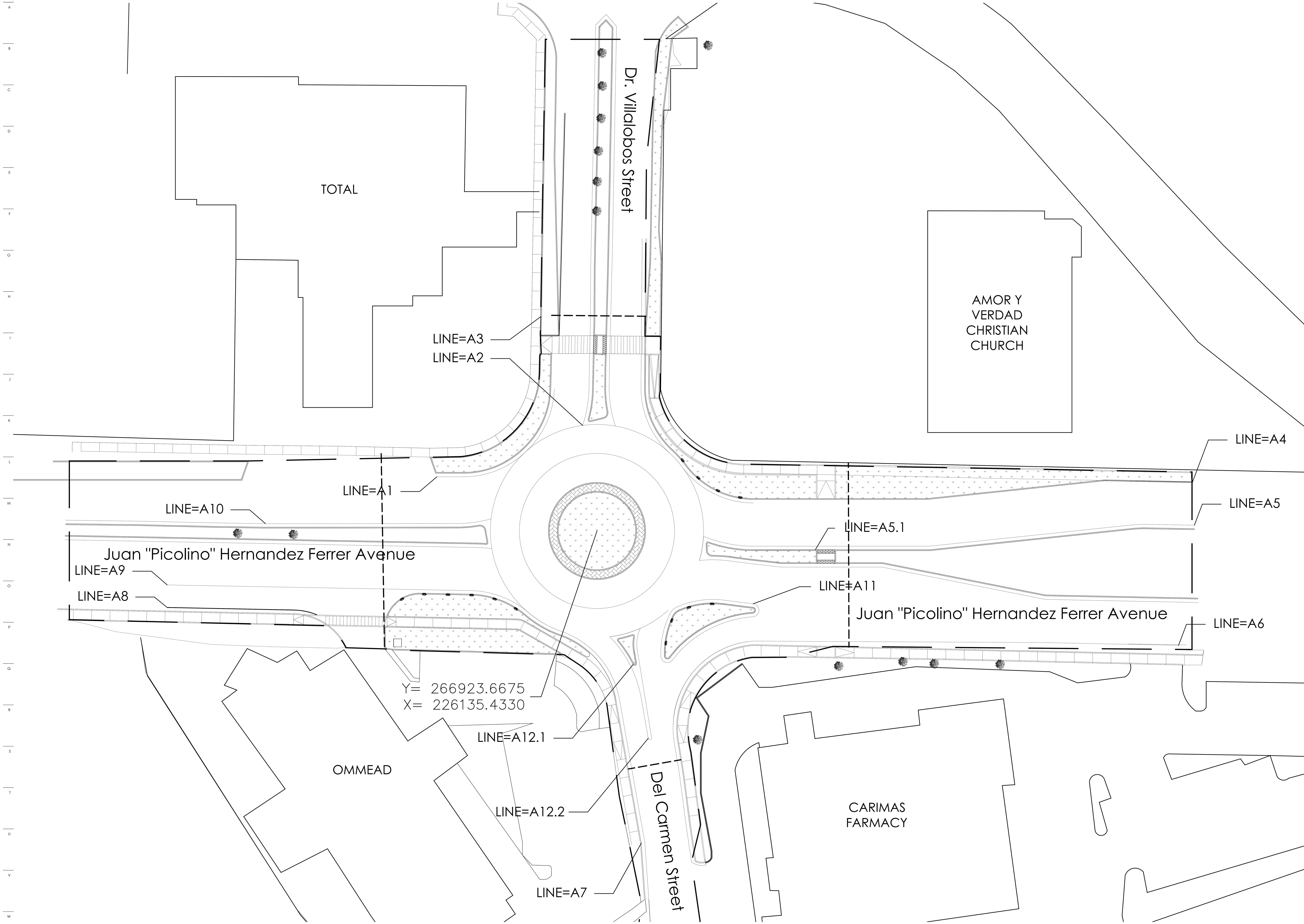
SIGNING ENGR
License #

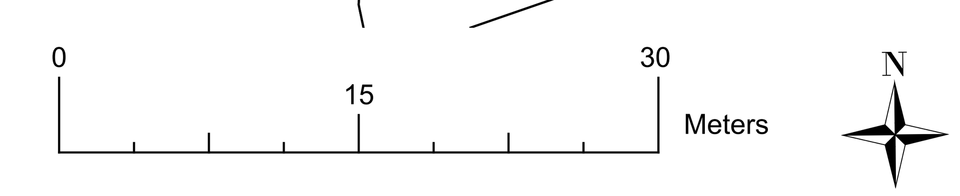
File Name: 2023.04-Rotondas Toa Baja-Geometry-PR-CRP-000973

Date: 09/19/2023
Scale: 1:150

Sheet: CI-203

Project #: PR-CRP: 000973
Drawn by: DBM
Checked by: ECA





1 Geometry Aligments
1:275

General Notes

IMPORTANT INFORMATION FOR THE CONTRACTOR

Contractor shall verify al dimensions, levels and condition on-site before commencing any and all work. Any discrepancy, error or omission in these plans shall be notified to the Architect, Landscape Architect or Engineer who stamps and signs these drawings so that proper corrections to the documents can be made.

Do not take any measurements from the physical drawings.

Only use documents with a “FOR CONSTRUCTION ONLY” stamp and sealed and signed by the designer.

Yo, Edmundo Colon Arizmendi PE, con licencia número 7812, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

No.	Description	Date

ECo
Landscape + Architecture + Engineering

103 Calle Isabel Andreu Aguilar, 4to Piso, San Juan,PR 00918
787-764-0610 eco-designstudio.com

Geometry Alignments

TB Roundabouts: PR-CRP-000973

Ave. Sabana Seca Int. Calle Dr. Villalobos, Levittown

Autonomous Municipality of Toa Baja

Seal:

SIGNING ENGR
License #

File Name: 2023.04-Rotondas Toa Baja-Geometry-PR-CRP-000973

Date	Scale
09/19/2023	1:275

Sheet

CI-202

Project #	PR-CRP: 000973
Drawn by	DBM
Checked by	ECA

LINE=A1

Station	Northing	Easting	Bearing	Distance
0+00.000	266932.824	226108.391		
0+04.550	266932.824	226112.941	PC E	4.550
RADIUS: 15.141	PI-Dist: 5.957	DELTA: 42.5721	LENGTH: 11.351	
0+15.901	266936.921	226123.244	PT N 68d19'00" E	
0+16.011	266936.996	226123.325	PC N 47d23'42" E	0.110
RADIUS: 15.000	PI-Dist: 6.410	DELTA: 46.1634	LENGTH: 12.115	
0+28.126	266947.713	226128.234	PT N 24d36'28" E	
0+34.058	266953.644	226128.386	N 01d28'11" E	5.932

LINE=A2

Station	Northing	Easting	Bearing	Distance
0+00.000	266941.504	226133.013		
0+06.189	266947.578	226134.077	N 09d56'09" E	6.189
0+08.025	266949.413	226134.114	N 01d09'09" E	1.836
0+17.915	266959.301	226134.324	N 01d13'18" E	9.890
0+26.943	266968.329	226134.372	N 00d18'08" E	9.028
0+52.400	266993.780	226134.906	N 01d12'05" E	25.457
0+67.805	267009.183	226135.210	N 01d07'48" E	15.406
0+70.320	267010.968	226136.981	N 44d45'59" E	2.515
0+72.992	267008.952	226138.733	S 41d00'15" E	2.672
0+88.969	266992.978	226138.444	S 01d02'18" W	15.977
1+12.275	266969.676	226138.003	S 01d04'60" W	23.306
1+31.072	266950.885	226137.522	S 01d28'05" W	18.797
1+33.908	266948.049	226137.490	PC S 00d38'41" W	2.836
RADIUS: 20.368	PI-Dist: 3.415	DELTA: 19.0210	LENGTH: 6.767	
1+40.676	266941.396	226138.547	PT S 09d01'47" E	
1+40.676	266941.396	226138.547	PC N 00d00'00" W	0.000
RADIUS: 18.000	PI-Dist: 2.801	DELTA: 17.4125	LENGTH: 5.558	
1+46.233	266941.504	226133.013	PT N 88d52'57" W	

LINE=A3

Station	Northing	Easting	Bearing	Distance
0+00.000	266959.881	226125.929		
0+02.941	266956.941	226125.853	PC S 01d28'46" W	2.941
RADIUS: 0.306	PI-Dist: 0.298	DELTA: 88.3149	LENGTH: 0.472	
0+03.413	266956.644	226126.158	PT S 45d44'06" E	
0+06.021	266956.644	226128.766	PC N 89d59'60" E	2.608
RADIUS: 0.306	PI-Dist: 0.297	DELTA: 88.1726	LENGTH: 0.471	
0+06.492	266956.941	226129.071	PT N 45d36'54" E	
0+22.729	266973.173	226129.487	N 01d28'11" E	16.237
0+43.819	266994.255	226130.028	N 01d28'11" E	21.089

LINE=A4

Station	Northing	Easting	Bearing	Distance
0+00.000	266931.954	226236.011		
0+08.099	266932.103	226227.914	PC N 88d56'53" W	8.099
RADIUS: 20.000	PI-Dist: 1.233	DELTA: 7.0326	LENGTH: 2.463	
0+10.562	266931.996	226225.454	PT S 87d31'25" W	
0+43.895	266928.509	226192.304	PC S 83d59'42" W	33.333
RADIUS: 20.000	PI-Dist: 1.049	DELTA: −6.0018	LENGTH: 2.096	
0+45.991	266928.399	226190.212	PT S 86d59'51" W	
0+74.319	266928.399	226161.884	PC W	28.328
RADIUS: 15.000	PI-Dist: 7.524	DELTA: −53.164	LENGTH: 13.948	
0+88.267	266934.430	226149.861	PT N 63d21'40" W	
0+88.267	266934.430	226149.861	PC N 00d00'00" W	0.000
RADIUS: 18.000	PI-Dist: 1.648	DELTA: 10.2754	LENGTH: 3.288	
0+91.555	266936.872	226147.666	PT N 41d57'17" W	
0+91.555	266936.872	226147.666	PC N 00d00'00" W	0.000
RADIUS: 15.000	PI-Dist: 6.628	DELTA: −47.403	LENGTH: 12.482	
1+04.037	266948.004	226142.860	PT N 23d20'56" W	
1+29.155	266973.122	226143.075	N 00d29'22" E	25.119

LINE=A5

Station	Northing	Easting	Bearing	Distance
0+00.000	266911.576	226237.000		
0+25.856	266912.110	226211.149	N 88d49'00" W	25.856
0+53.966	266917.565	226183.573	N 78d48'32" W	28.110
0+70.965	266917.565	226166.575	W	16.999
0+76.445	266918.187	226161.131	N 83d29'15" W	5.479
0+79.763	266918.619	226157.840	PC N 82d30'56" W	3.319
RADIUS: 21.700	PI-Dist: 2.573	DELTA: 13.3135	LENGTH: 5.123	
0+84.886	266918.683	226152.729	PT N 89d16'41" W	
0+84.886	266918.683	226152.729	PC N 00d00'00" W	0.000
RADIUS: 18.000	PI-Dist: 2.086	DELTA: 13.1322	LENGTH: 4.154	
0+89.041	266922.772	226153.411	PT N 09d27'48" E	
0+89.041	266922.772	226153.411	PC N 00d00'00" W	0.000
RADIUS: 22.300	PI-Dist: 4.402	DELTA: 22.1953	LENGTH: 8.692	
0+97.732	266921.099	226161.884	PT S 78d50'03" E	
1+26.443	266921.099	226190.594	PC E	28.710
RADIUS: 20.000	PI-Dist: 1.049	DELTA: 6.0018	LENGTH: 2.096	
1+28.539	266921.209	226192.687	PT N 86d59'51" E	
1+61.805	266924.689	226225.770	PC N 83d59'42" E	33.266
RADIUS: 19.999	PI-Dist: 1.233	DELTA: −7.0327	LENGTH: 2.463	
1+64.268	266924.796	226228.230	PT N 87d31'25" E	
1+72.367	266924.647	226236.327	S 88d56'53" E	8.099

LINE=A5.1

Station	Northing	Easting	Bearing	Distance
0+00.000	266920.499	226172.309		
0+10.425	266920.499	226161.884	PC W	10.425
RADIUS: 22.900	PI-Dist: 3.919	DELTA: −19.252	LENGTH: 7.763	
0+18.188	266921.803	226154.268	PT N 80d17'17" W	
0+18.188	266921.803	226154.268	PC N 00d00'00" W	0.000
RADIUS: 0.300	PI-Dist: 0.440	DELTA: 111.241	LENGTH: 0.583	
0+18.772	266921.509	226153.869	PT S 53d43'17" W	
0+19.913	266920.369	226153.908	PC S 01d58'52" E	1.141
RADIUS: 1.000	PI-Dist: 0.970	DELTA: 88.1641	LENGTH: 1.541	
0+21.453	266919.404	226154.912	PT S 46d07'13" E	
0+21.453	266919.404	226154.912	PC N 00d00'00" W	0.000
RADIUS: 22.300	PI-Dist: 1.509	DELTA: −7.4440	LENGTH: 3.014	
0+24.468	266919.214	226157.918	PT S 86d23'13" E	
0+33.221	266918.165	226166.609	S 83d07'10" E	8.754
0+38.921	266918.165	226172.309	PC E	5.700
RADIUS: 0.300	PI-Dist: 0.300	DELTA: 90.0000	LENGTH: 0.471	
0+39.392	266918.465	226172.609	PT N 45d00'00" E	
0+41.127	266920.199	226172.609	PC N 00d00'00" W	1.734
RADIUS: 0.300	PI-Dist: 0.300	DELTA: 90.0000	LENGTH: 0.471	
0+41.598	266920.499	226172.309	PT N 45d00'00" W	

LINE=A6

Station	Northing	Easting	Bearing	Distance
0+00.000	266904.343	226233.656		
0+22.677	266904.811	226210.984	N 88d49'00" W	22.677
0+71.796	266905.063	226161.865	PC N 89d42'24" W	49.120
RADIUS: 9.831	PI-Dist: 0.468	DELTA: 5.2710	LENGTH: 0.936	
0+72.732	266904.975	226160.934	PT S 84d38'08" W	
0+72.732	266904.975	226160.934	PC N 00d00'00" W	0.000
RADIUS: 14.715	PI-Dist: 9.985	DELTA: 68.1913	LENGTH: 17.546	
0+90.278	266893.865	226148.703	PT S 47d44'56" W	
0+90.278	266893.865	226148.703	PC N 00d00'00" W	0.000
RADIUS: 14.922	PI-Dist: 3.016	DELTA: 22.5110	LENGTH: 5.952	
0+96.229	266887.956	226148.479	PT S 02d09'45" W	
1+01.689	266882.568	226149.358	S 09d15'50" E	5.460
1+10.466	266873.865	226150.493	S 07d25'43" E	8.776
1+16.646	266867.751	226151.395	PC S 08d23'26" E	6.180
RADIUS: 2.828	PI-Dist: 1.394	DELTA: 52.2829	LENGTH: 2.590	
1+19.236	266867.233	226153.841	PT S 78d02'33" E	

LINE=A7

Station	Northing	Easting	Bearing	Distance
0+00.000	266870.925	226142.918		
0+24.508	266895.057	226138.642	PC N 10d02'52" W	24.508
RADIUS: 14.389	PI-Dist: 8.184	DELTA: 59.1536	LENGTH: 14.882	
0+39.390	266906.011	226129.563	PT N 39d39'07" W	
0+39.390	266906.011	226129.563	PC N 00d00'00" W	0.000
RADIUS: 18.412	PI-Dist: 3.574	DELTA: −21.580	LENGTH: 7.059	
0+46.449	266909.445	226123.444	PT N 60d41'58" W	
0+46.449	266909.445	226123.444	PC N 00d00'00" W	0.000
RADIUS: 15.000	PI-Dist: 5.341	DELTA: 39.1145	LENGTH: 10.261	
0+56.711	266912.997	226114.030	PT N 69d19'51" W	
0+65.113	266913.154	226105.629	PC N 88d55'43" W	8.402
RADIUS: 6.000	PI-Dist: 6.000	DELTA: 90.0000	LENGTH: 9.425	
0+74.537	266907.267	226099.518	PT S 46d04'17" W	

LINE=A8

Station	Northing	Easting	Bearing	Distance
0+00.000	266910.743	226062.840		
0+21.359	266910.309	226084.194	PC S 88d50'05" E	21.359
RADIUS: 10.750	PI-Dist: 2.059	DELTA: −21.411	LENGTH: 4.069	
0+25.428	266909.490	226088.155	PT S 78d19'04" E	

LINE=A9

Station	Northing	Easting	Bearing	Distance
0+00.000	266914.554	226062.840		
0+51.210	266913.596	226114.041	PC S 88d55'43" E	51.210
RADIUS: 15.600	PI-Dist: 5.554	DELTA: −39.114	LENGTH: 10.672	
0+61.882	266909.903	226123.832	PT S 69d19'51" E	

LINE=A10

Station	Northing	Easting	Bearing	Distance
0+00.000	266924.924	226079.423		
0+32.304	266924.924	226111.727	PC E	32.304
RADIUS: 21.700	PI-Dist: 2.966	DELTA: 15.3401	LENGTH: 5.896	
0+38.200	266925.720	226117.550	PT N 82d12'60" E	
0+38.200	266925.720	226117.550	PC N 00d00'00" W	0.000
RADIUS: 17.952	PI-Dist: 2.549	DELTA: 16.0953	LENGTH: 5.065	
0+43.264	266920.674	226117.684	PT S 01d30'41" E	
0+43.264	266920.674	226117.684	PC N 00d00'00" W	0.000
RADIUS: 22.930	PI-Dist: 1.278	DELTA: 6.2246	LENGTH: 2.553	
0+45.817	266920.877	226115.140	PT N 85d26'26" W	
1+15.394	266922.178	226045.576	N 88d55'43" W	69.576

LINE=A11

Station	Northing	Easting	Bearing	Distance
0+00.000	266909.174	226161.778		
0+13.878	266903.429	226149.480	S 64d57'39" W	13.878
0+15.936	266901.840	226148.173	PC S 39d26'31" W	2.058
RADIUS: 1.100	PI-Dist: 2.894	DELTA: −138.22	LENGTH: 2.657	
0+18.593	266902.497	226146.224	PT N 71d22'06" W	
0+18.593	266902.497	226146.224	PC N 00d00'00" W	0.000
RADIUS: 15.000	PI-Dist: 3.756	DELTA: −28.070	LENGTH: 7.361	
0+25.954	266909.628	226147.724	PT N 11d52'49" E	
0+25.954	266909.628	226147.724	PC N 00d00'00" W	0.000
RADIUS: 2.531	PI-Dist: 0.930	DELTA: −40.212	LENGTH: 1.783	
0+27.737	266910.838	226148.983	PT N 46d07'01" E	
0+27.737	266910.838	226148.983	PC N 00d00'00" W	0.000
RADIUS: 15.000	PI-Dist: 4.187	DELTA: −31.112	LENGTH: 8.166	
0+35.902	266911.976	226156.967	PT N 81d53'24" E	
0+39.278	266911.536	226160.314	S 82d30'54" E	3.376
0+40.797	266911.364	226161.823	PC S 83d29'16" E	1.519
RADIUS: 1.100	PI-Dist: 11.746	DELTA: −169.17	LENGTH: 3.250	
0+44.047	266909.174	226161.778	PT S 01d09'43" W	

1 Geometry Aligments Tables

NTS

General Notes

IMPORTANT INFORMATION FOR THE CONTRACTOR

Contractor shall verify al dimensions, levels and condition on-site before commencing any and all work. Any discrepancy, error or omission in these plans shall be notified to the Architect, Landscape Architect or Engineer who stamps and signs these drawings so that proper corrections to the documents can be made.
Do not take any measurements from the physical drawings.
All drawings, specifications and other documents are property of ECo and can solely be used as an instrument of the Architect, Landscape Architect or Engineers' service as reference for this project.

Only use documents with a "FOR CONSTRUCTION ONLY" stamp and sealed and signed by the designer.

Yo, Edmundo Colon Arizmendi PE, con licencia número 7812, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

No.	Description	Date

ECo
LANDSCAPE + ARCHITECTURE + ENGINEERING
103 Calle Isabel Andreu Aguilar, 4to Piso, San Juan,PR 00918
787-764-0610 eco-designstudio.com

Geometry Alignment Tables

TB Roundabouts: PR-CRP-000973

Ave. Sabana Seca Int. Calle Dr. Villalobos, Levittown

Autonomous Municipality of Toa Baja

Seal:

SIGNING ARCH
License #

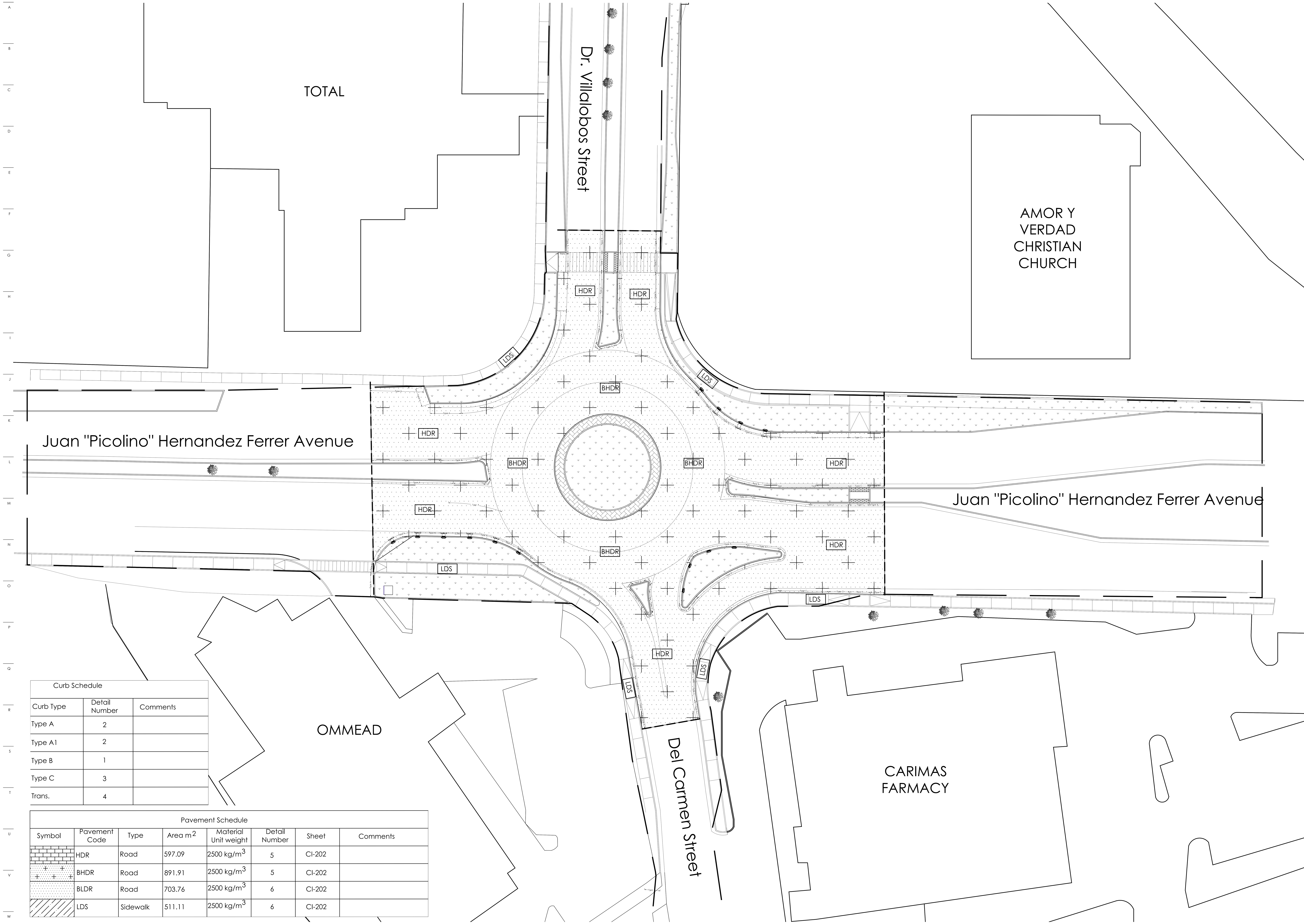
File Name: 2023.04-Rotondas Toa Baja-Geometry-PR-CRP-000973

Date: 09/19/2023
Scale: NTS

Sheet

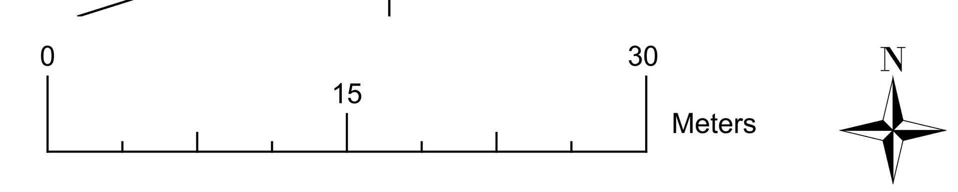
CI-203

Project #: PR-CRP: 000973
Drawn by: JFV
Checked by: ECA



Curb Schedule		
Curb Type	Detail Number	Comments
Type A	2	
Type A1	2	
Type B	1	
Type C	3	
Trans.	4	

Pavement Schedule							
Symbol	Pavement Code	Type	Area m^2	Material Unit weight	Detail Number	Sheet	Comments
	HDR	Road	597.09	2500 kg/m^3	5	CI-202	
	BHDR	Road	891.91	2500 kg/m^3	5	CI-202	
	BLDR	Road	703.76	2500 kg/m^3	6	CI-202	
	LDS	Sidewalk	511.11	2500 kg/m^3	6	CI-202	



1 Pavement & Curb Schedule
1:250

General Notes

IMPORTANT INFORMATION FOR THE CONTRACTOR

Contractor shall verify al dimensions, levels and condition on-site before commencing any and all work. Any discrepancy, error or omission in these plans shall be notified to the Architect, Landscape Architect or Engineer who stamps and signs these drawings so that proper corrections to the documents can be made.

Do not take any measurements from the physical drawings.

Only use documents with a "FOR CONSTRUCTION ONLY" stamp and sealed and signed by the designer.

Yo, Edmundo Colon Arizmendi PE, con licencia número 7812, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

No.	Description	Date

ECo
Landscape + Architecture + Engineering

103 Calle Isabel Andreu Aguilar, 4to Piso, San Juan,PR 00918
787-764-0610 eco-designstudio.com

Pavement & Curb Schedule

TB Roundabouts: PR-CRP-000973

Ave. Sabana Seca Int. Calle Dr. Villalobos, Levittown

Autonomous Municipality of Toa Baja

Seal:

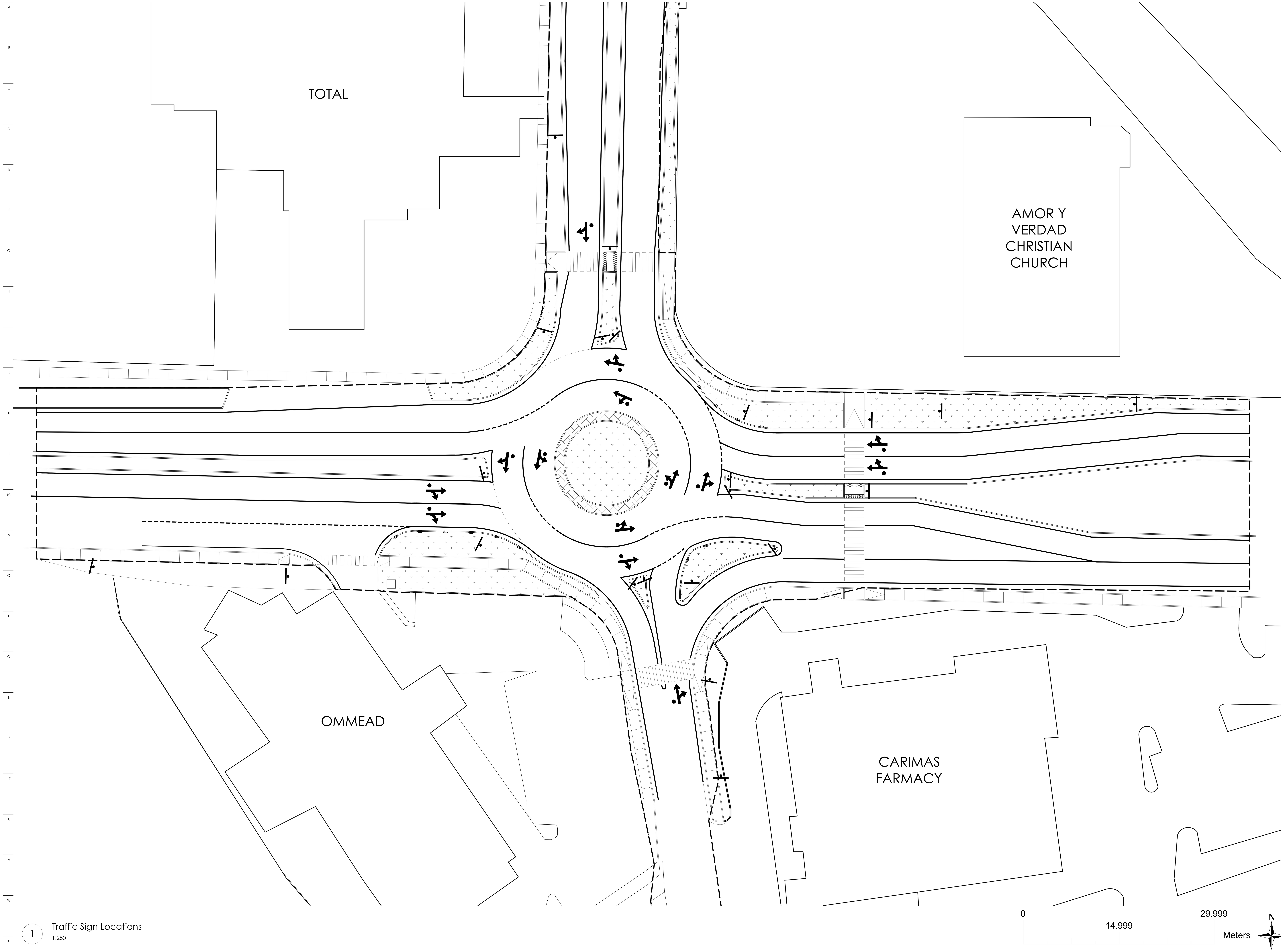
SIGNING ENGR
License #

File Name: 2023.04-Rotondas Toa Baja-Geometry-PR-CRP-000973

Date: 09/19/2023
Scale: 1:250

Sheet: CI-204

Project #: PR-CRP: 000973
Drawn by: DBM
Checked by: ECA



1 Traffic Sign Locations
1:250

General Notes

IMPORTANT INFORMATION FOR THE CONTRACTOR

Contractor shall verify al dimensions, levels and condition on-site before commencing any and all work. Any discrepancy, error or omission in these plans shall be notified to the Architect, Landscape Architect or Engineer who stamps and signs these drawings so that proper corrections to the documents can be made.

Do not take any measurements from the physical drawings.

All drawings, specifications and other documents are property of ECo and can solely be used as an instrument of the Architect, Landscape Architect or Engineers' service as reference for this project.

ECo, the signing Architect, Landscape Architect or Engineer, and Eco's Consultants shall be deemed the author(s) of these documents and shall retain all common and statutory laws, including reserved and copyright(s). The full and/or partial reproduction of these drawings may only be done with the express written consent of the Architect, Landscape Architect or Engineer.

Only use documents with a “FOR CONSTRUCTION ONLY” stamp and sealed and signed by the designer.

Yo, Edmundo Colon Arizmendi PE, con licencia número 7812, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

No.	Description	Date

ECo
Landscape + Architecture + Engineering
103 Calle Isabel Andreu Aguilar, 4to Piso, San Juan,PR 00918
787-764-0610 eco-designstudio.com

Pavement Markings & Traffic Signs

TB Roundabouts: PR-CRP-000973

Ave. Sabana Seca Int. Calle Dr. Villalobos, Levittown

Autonomous Municipality of Toa Baja

Seal:

SIGNING ARCH
License #

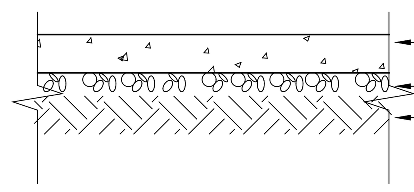
File Name:
2023.04-Rotondas Toa Baja-Geometry-PR-CRP-000973

Date	Scale
09/19/2023	1:250

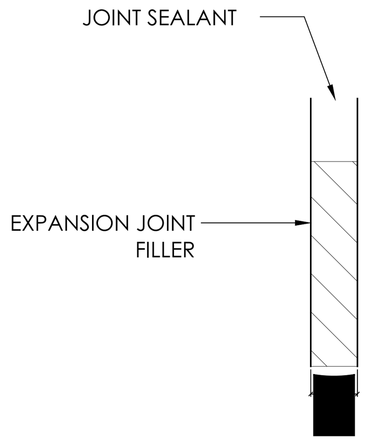
Sheet

CI-205

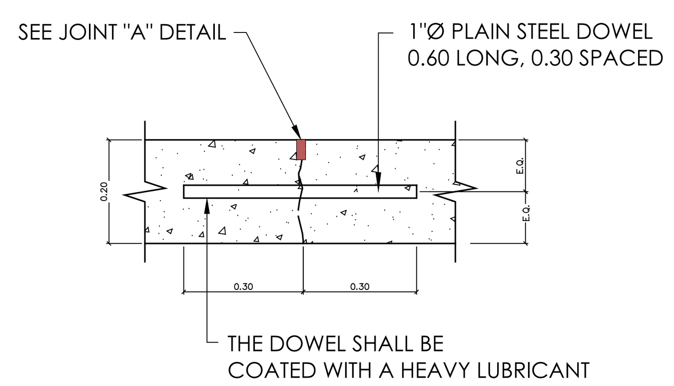
Project #	PR-CRP: 000973
Drawn by	JFV
Checked by	ECA



CONCRETE PAVEMENT DETAIL
NOT TO SCALE

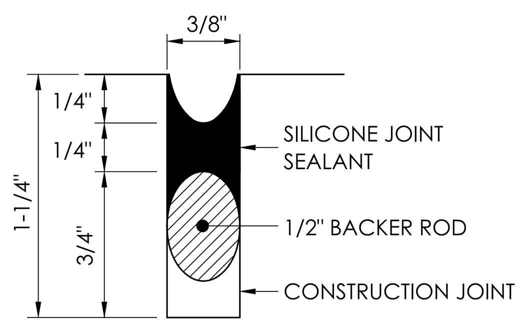


EXPANSION JOINT
NOT TO SCALE

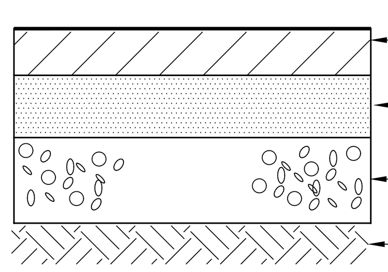


TRANSVERSE CONTRACTION JOINT

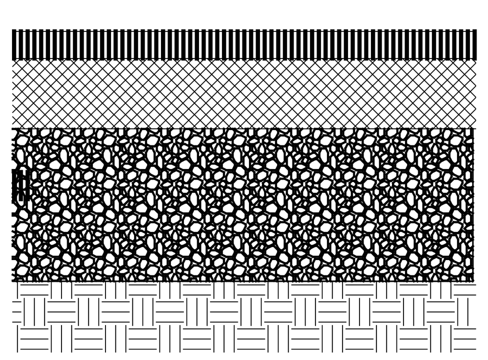
CONCRETE PAVEMENT JOINT DETAILS
NOT TO SCALE



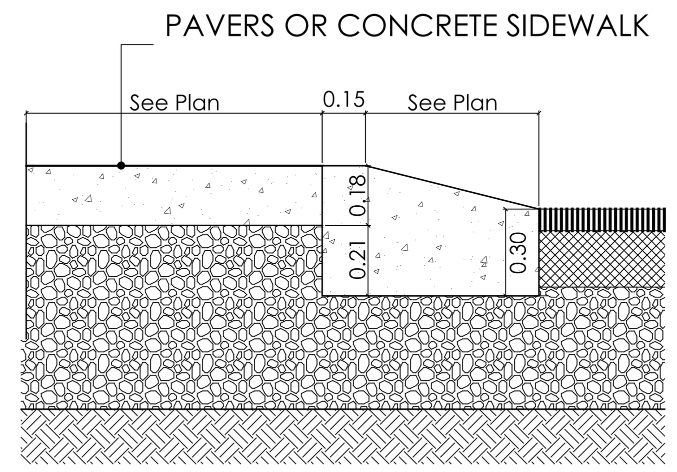
JOINT "A" DETAIL
NOT TO SCALE



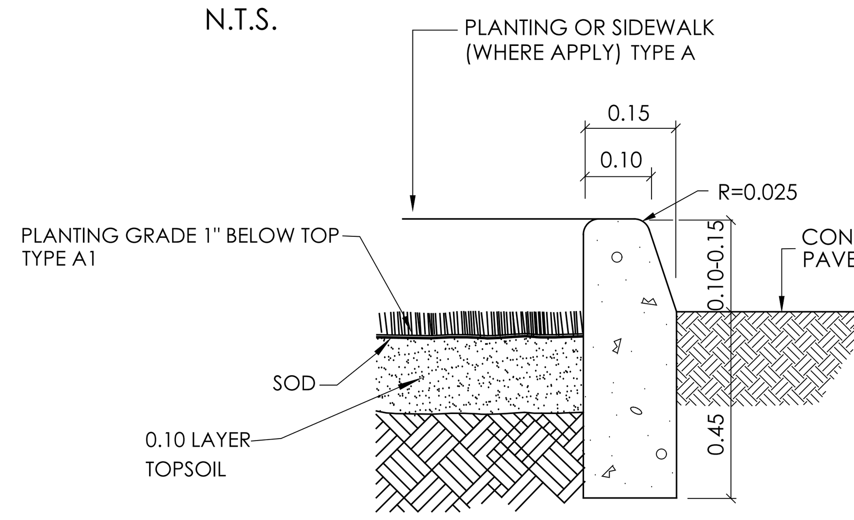
LIGHT DUTY ASPHALT PAVEMENT
NOT TO SCALE



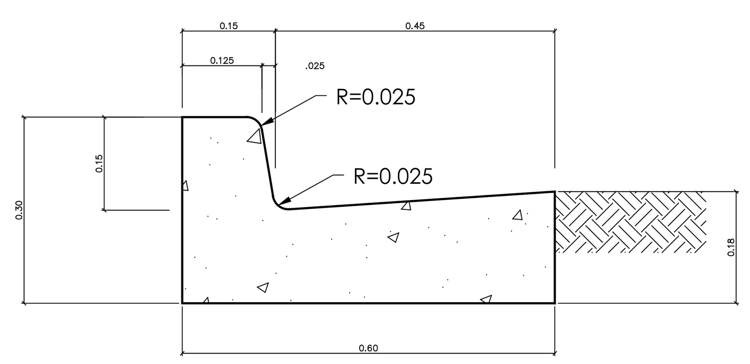
BITUMINOUS HEAVY DUTY PAVEMENT
ESCALA 1:200



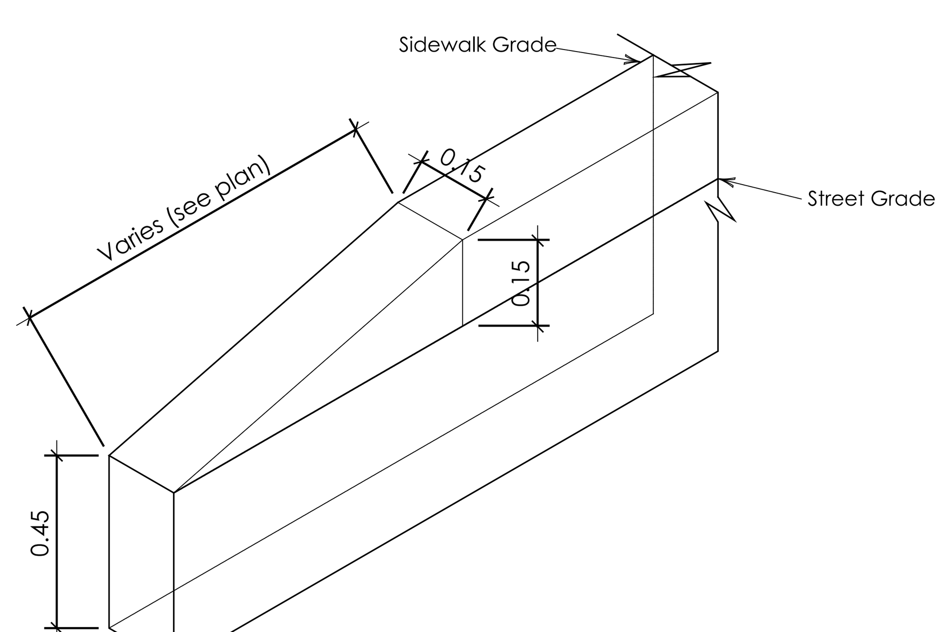
CURB RAMP DETAIL TYPE "B"
N.T.S.



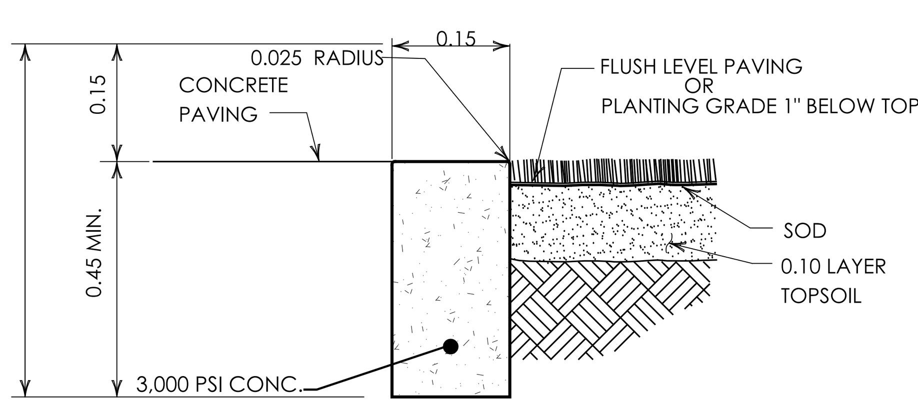
CONCRETE CURB DETAIL TYPE "A" & "A1"
NOT TO SCALE



TYPICAL CURB AND GUTTER DETAIL
NOT TO SCALE



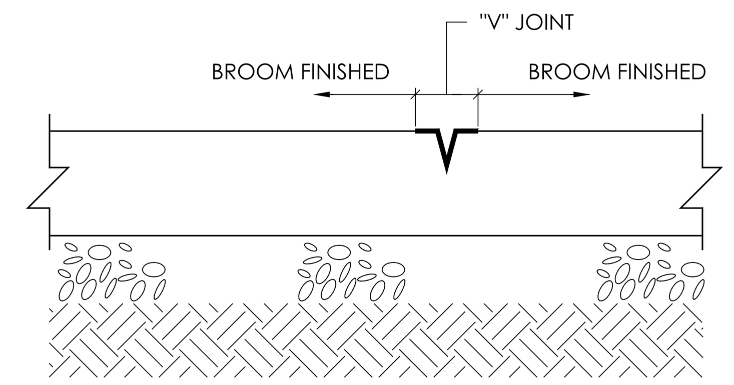
CURB TYPE "A" & "C" TRANSITION
N.T.S.



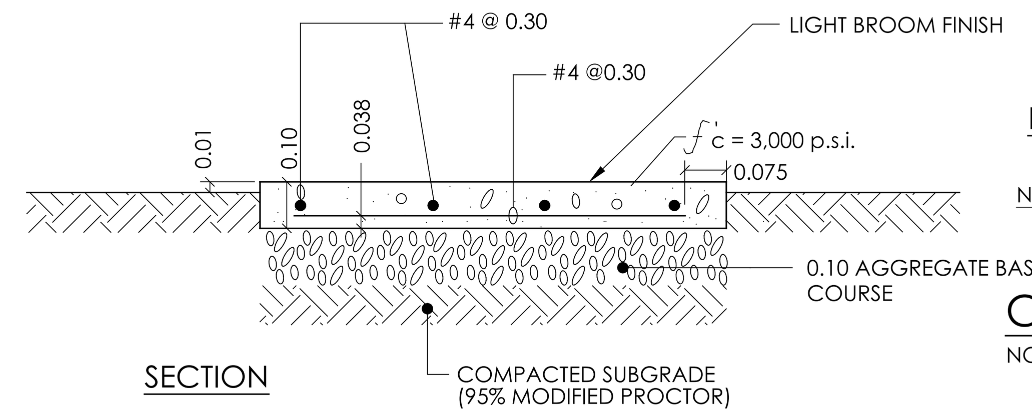
CURB TYPE "C"
N.T.S.

LEGEND:

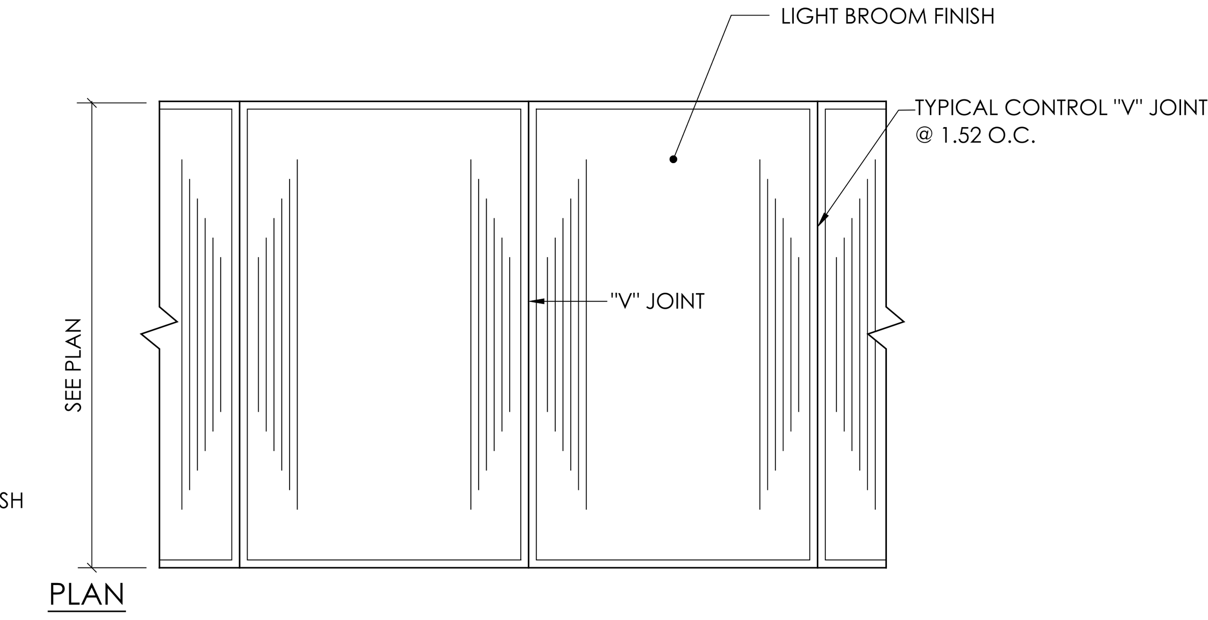
- BITUMINOUS LEVELING COURSE (HOT PLANT-MIX BITUMINOUS L-2 (75))
- BITUMINOUS BASE COURSE (HOT PLANT-MIX BITUMINOUS B-1 (75) OR SPB)
- BITUMINOUS SURFACE COURSE (FIRST LAYER) (HOT PLANT-MIX BITUMINOUS S-1 (75) OR SPS)
- BITUMINOUS SURFACE COURSE (SECOND LAYER) (HOT PLANT-MIX BITUMINOUS S-1 (75) OR SPS)



CONTROL "V" JOINT



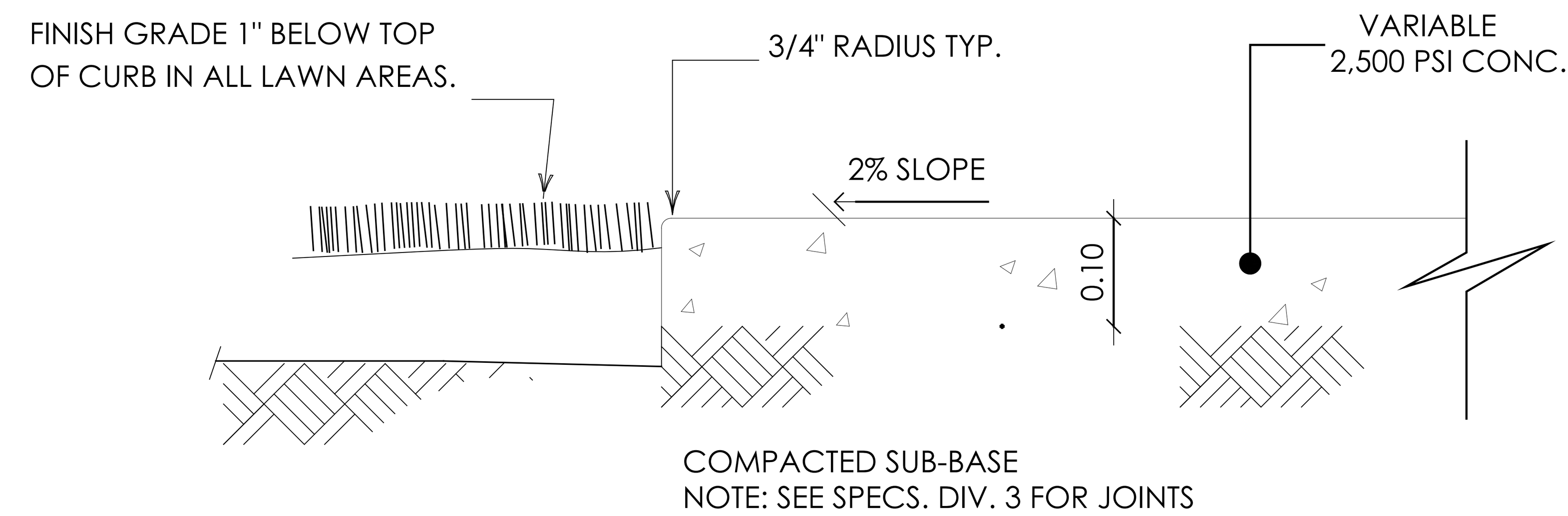
SECTION



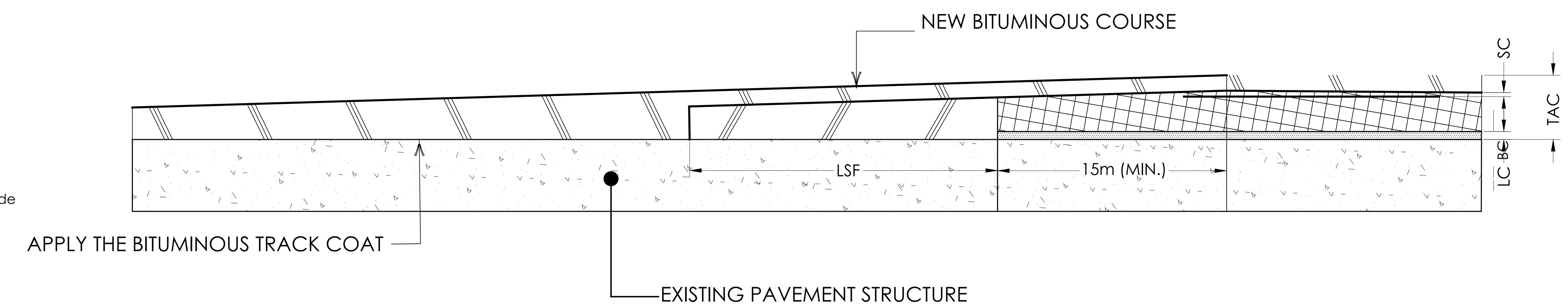
PLAN

NOTE: WHERE SIDEWALK ABUTS EXISTING OR PROPOSED FIXED OBJECTS (CURBS, CURB AND GUTTERS, CONCRETE PAVING, MANHOLES, OR BUILDINGS), INSTALL 12.7MM EXPANSION JOINT FILLER AND JOINT SEALANT.

CONCRETE SIDEWALK DETAIL
NOT TO SCALE



SIDEWALK DETAIL



SECTION TYPICAL NEW BITUMINOUS COURSE AND OVERLAY

TRANSITION TO CONCRETE PAVEMENTS AND STRUCTURES TYPE 14							
OVERALL THICKNESS	MINIMUM COURSE THICKNESS			MINIMUM TRANSITION LENGTHS			MINIMUM FIRST LAYER LENGTHS
TAC (INCHES)	TAC (INCHES)	TAC (INCHES)	TAC (INCHES)	TLL (METERS)	TLB (METERS)	TLS (METERS)	TFS (METERS)
2	N/A	N/A	2	0	0	25	N/A
3	1	N/A	2	15	0	35	N/A
4	2	N/A	2	25	0	45	N/A
5	N/A	3	2	0	35	55	20
6	N/A	4	2	0	45	65	25
7	1	4	2	15	55	75	30

LEGEND:
TAC = THICKNESS OF ALL BITUMINOUS COURSE
LC = THICKNESS OF BITUMINOUS LEVELING COURSE
BC = THICKNESS OF BITUMINOUS BASE COURSE
SC = THICKNESS OF BITUMINOUS SURFACE COURSE
TLL = TRANSITION LENGTH OF BITUMINOUS LEVELING COURSE
TLB = TRANSITION LENGTH OF BITUMINOUS BASE COURSE
TLS = TRANSITION LENGTH OF BITUMINOUS SURFACE COURSE
LFS = TRANSITION OF FIRST LAYER OF BITUMINOUS SURFACE COURSE

Notes:
1.GENERAL NOTES, PRODUCERS AND DETAILS FOR TRANSITION TO CONCRETE PAVEMENT AND STRUCTURES TYPE 14 ARE SHOWN ON SHEET MCPD-1.
2. THE PLACING SEQUENCE OF BITUMINOUS COURSES ARE SHOWN ON SHEET MCPD-21.
3. THE STRESS-RELIEVING INTERLAYER MEMBRANE SHALL BE INSTALLED OVER PAVEMENT CRACKS, AND LONGITUDINAL AND TRANSVERSE JOINTS.

General Notes

IMPORTANT INFORMATION FOR THE CONTRACTOR

Contractor shall verify al dimensions, levels and condition on-site before commencing any and all work. Any discrepancy, error or omission in these plans shall be notified to the Architect, Landscape Architect or Engineer who stamps and signs these drawings so that proper corrections to the documents can be made.

Do not take any measurements from the physical drawings.

Only use documents with a "FOR CONSTRUCTION ONLY" stamp and sealed and signed by the designer.

Yo, Edmundo Colon Arizmendi PE, con licencia número 7812, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

No.	Description	Date

ECo
Landscape + Architecture + Engineering
103 Calle Isabel Andreu Aguilar, 4to
Piso, San Juan,PR 00918
787-764-0610 eco-designstudio.com

Typical Site Detail

TB Roundabouts: PR-CRP-000973

Ave. Sabana Seca Int. Calle Dr. Villalobos, Levittown

Autonomous Municipality of Toa Baja

Seal:

SIGNING ARCH
License #

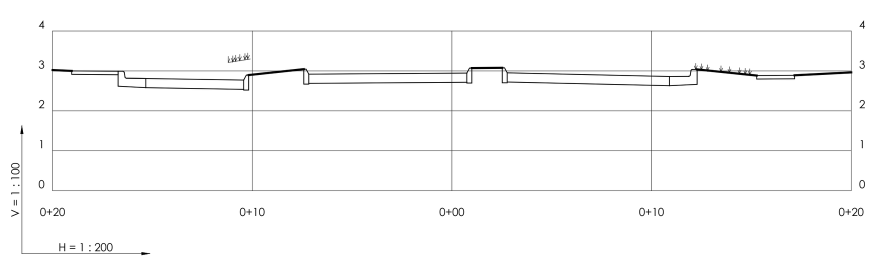
File Name:
2023.04-Rotondas Toa Baja-Geometry-PR-CRP-000973

Date	Scale
09/19/2023	1:400

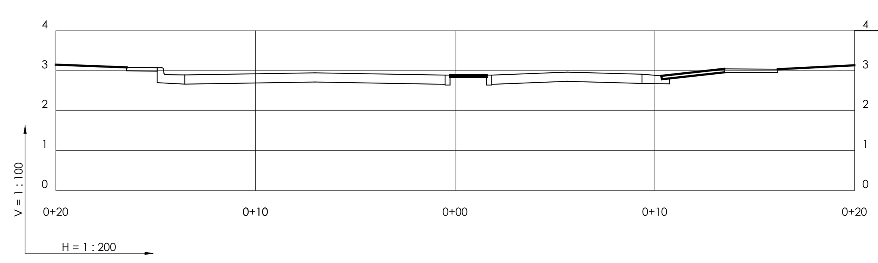
Sheet

CI-206

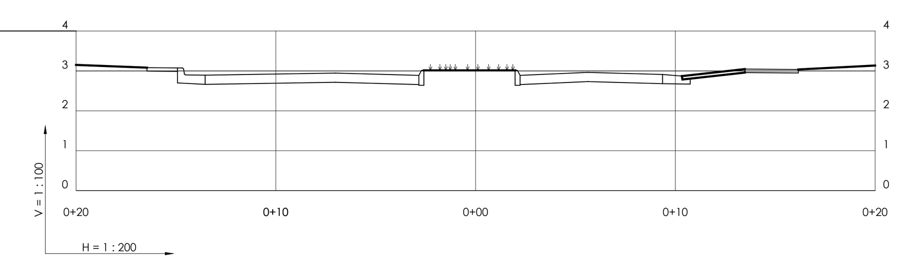
Project #	PR-CRP: 000973
Drawn by	DBM
Checked by	ECA



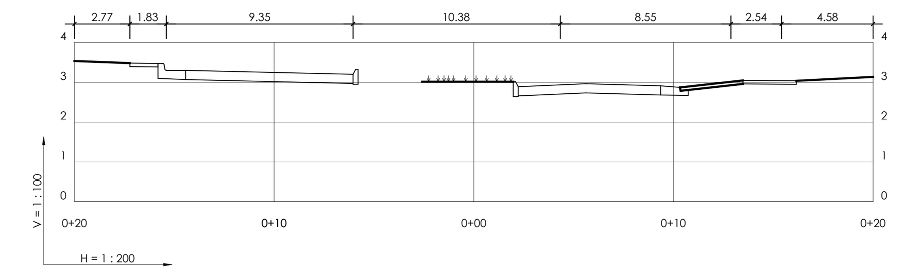
0+020.00 (1)



0+040.00 (2)

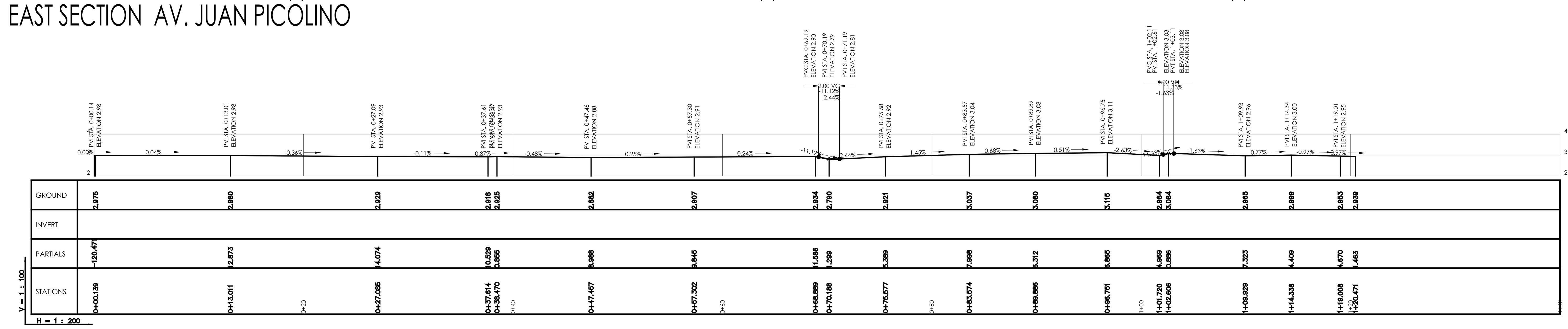


0+060.00 (3)

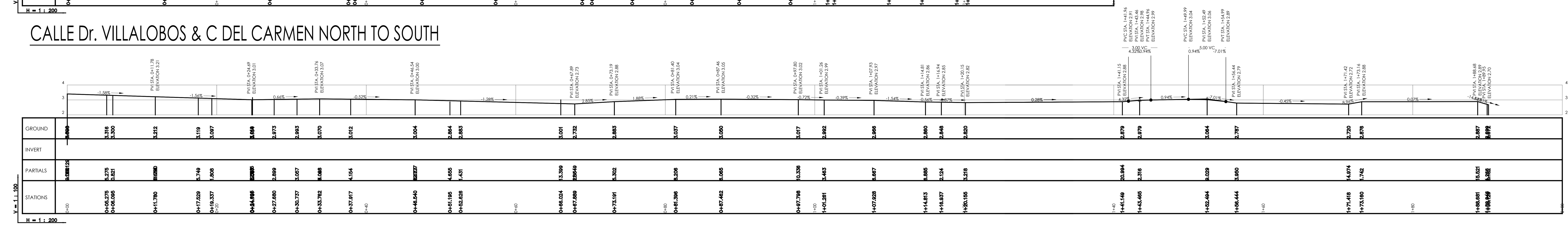


0+080.00 (4)

EAST SECTION AV. JUAN PICOLINO



CALLE Dr. VILLALOBOS & C DEL CARMEN NORTH TO SOUTH



AV. JUAN PICOLINO WEST TO EAST

AV. JUAN PICOLINO WEST TO EAST

General Notes

IMPORTANT INFORMATION FOR THE CONTRACTOR

Contractor shall verify al dimensions, levels and condition on-site before commencing any and all work. Any discrepancy, error or omission in these plans shall be notified to the Architect, Landscape Architect or Engineer who stamps and signs these drawings so that proper corrections to the documents can be made.
Do not take any measurements from the physical drawings.
All drawings, specifications and other documents are property of ECo and can solely be used as an instrument of the Architect, Landscape Architect or Engineers' service as reference for this project.
ECo, the signing Architect, Landscape Architect or Engineer, and Eco's Consultants shall be deemed the author(s) of these documents and shall retain all common and statutory laws, including reserved and copyright(s). The full and/or partial reproduction of these drawings may only be done with the express written consent of the Architect, Landscape Architect or Engineer.
Only use documents with a "FOR CONSTRUCTION ONLY" stamp and sealed and signed by the designer.

Yo, Edmundo Colon Arizmendi PE, con licencia número 7812, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

No.	Description	Date

ECo
LANDSCAPE + ARCHITECTURE + ENGINEERING
103 Calle Isabel Andreu Aguilar, 4to Piso. San Juan,PR 00918
787-764-0610 eco-designstudio.com

Sections & Profiles

TB Roundabouts: PR-CRP-000973

Ave. Sabana Seca Int. Calle Dr. Villalobos, Levittown

Autonomous Municipality of Toa Baja

Seal:

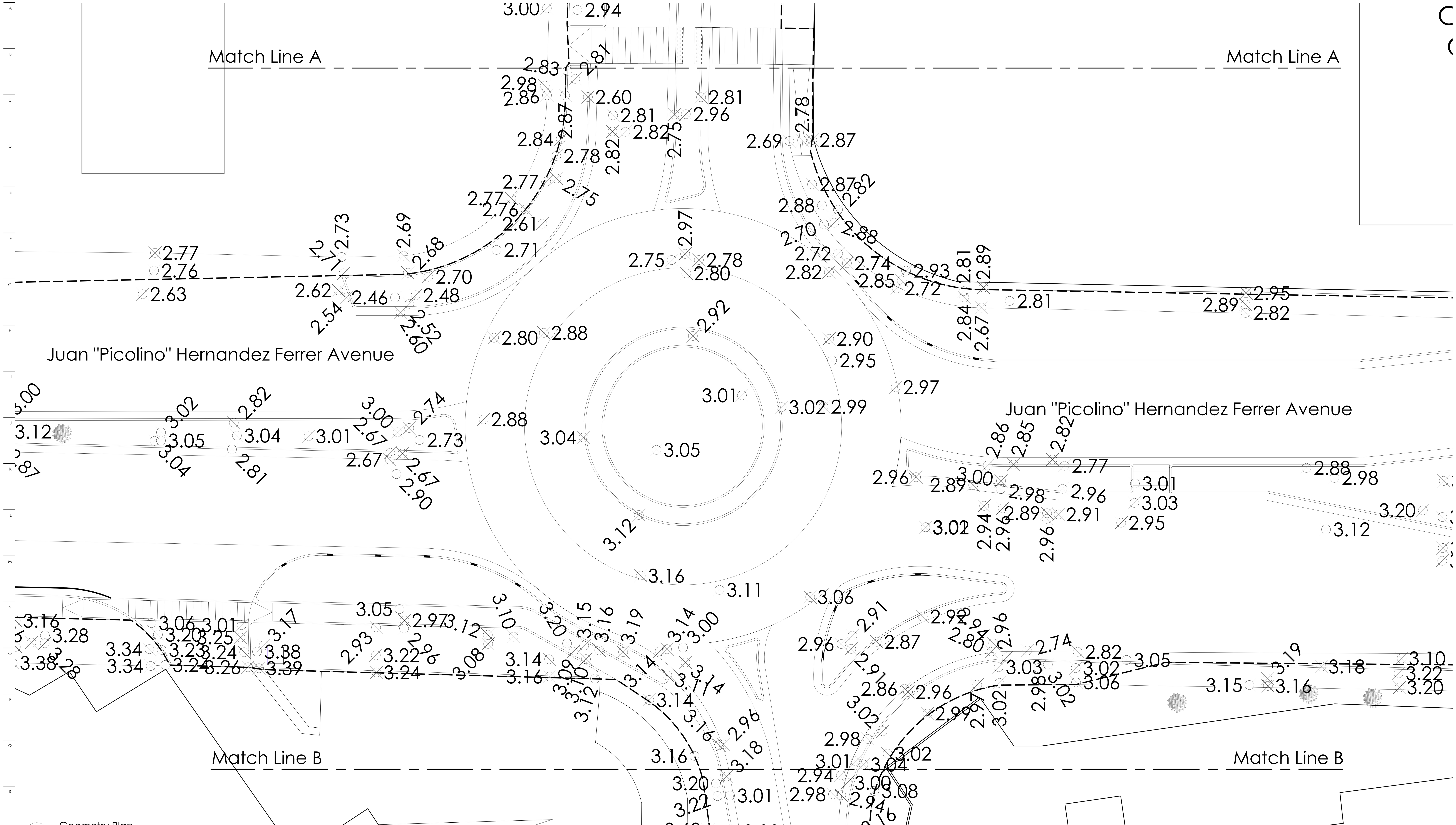
SIGNING ARCH
License #

File Name:
2023.04-Rotondas Toa Baja-Geometry-PR-CRP-000973

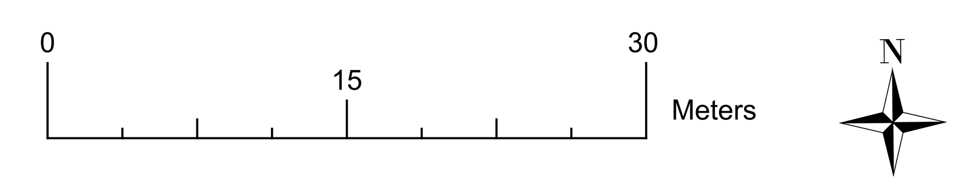
Date: 09/19/2023
Scale: 1:300

Sheet
CI-207

Project #: PR-CRP: 000973
Drawn by: JFV
Checked by: ECA



1 Geometry Plan
1:150



General Notes

IMPORTANT INFORMATION FOR THE CONTRACTOR

Contractor shall verify al dimensions, levels and condition on-site before commencing any and all work. Any discrepancy, error or omission in these plans shall be notified to the Architect, Landscape Architect or Engineer who stamps and signs these drawings so that proper corrections to the documents can be made.

Do not take any measurements from the physical drawings.

All drawings, specifications and other documents are property of ECo and can solely be used as an instrument of the Architect, Landscape Architect or Engineers' service as reference for this project.

Only use documents with a "FOR CONSTRUCTION ONLY" stamp and sealed and signed by the designer.

Yo, Edmundo Colon Arizmendi PE, con licencia número 7812, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

No.	Description	Date

ECo
Landscape + Architecture + Engineering
103 Calle Isabel Andreu Aguilar, 4to Piso, San Juan,PR 00918
787-764-0610 eco-designstudio.com

Grading Plan

TB Roundabouts: PR-CRP-000973

Ave. Sabana Seca Int. Calle Dr. Villalobos, Levittown

Autonomous Municipality of Toa Baja

Seal:

SIGNING ENGR
License #

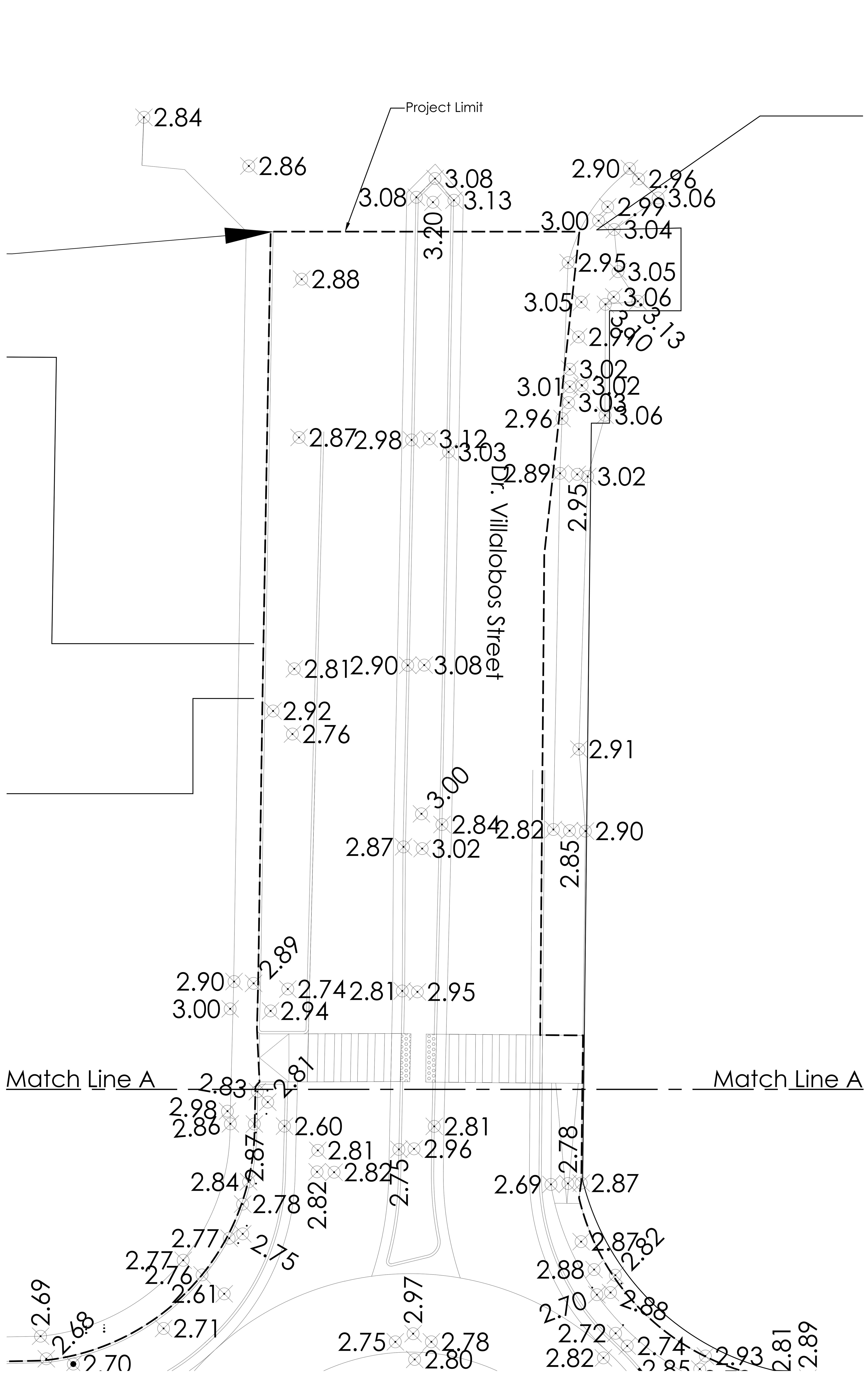
File Name: 2023.04-Rotondas Toa Baja-Geometry-PR-CRP-000973

Date	Scale
07/31/2023	1:150

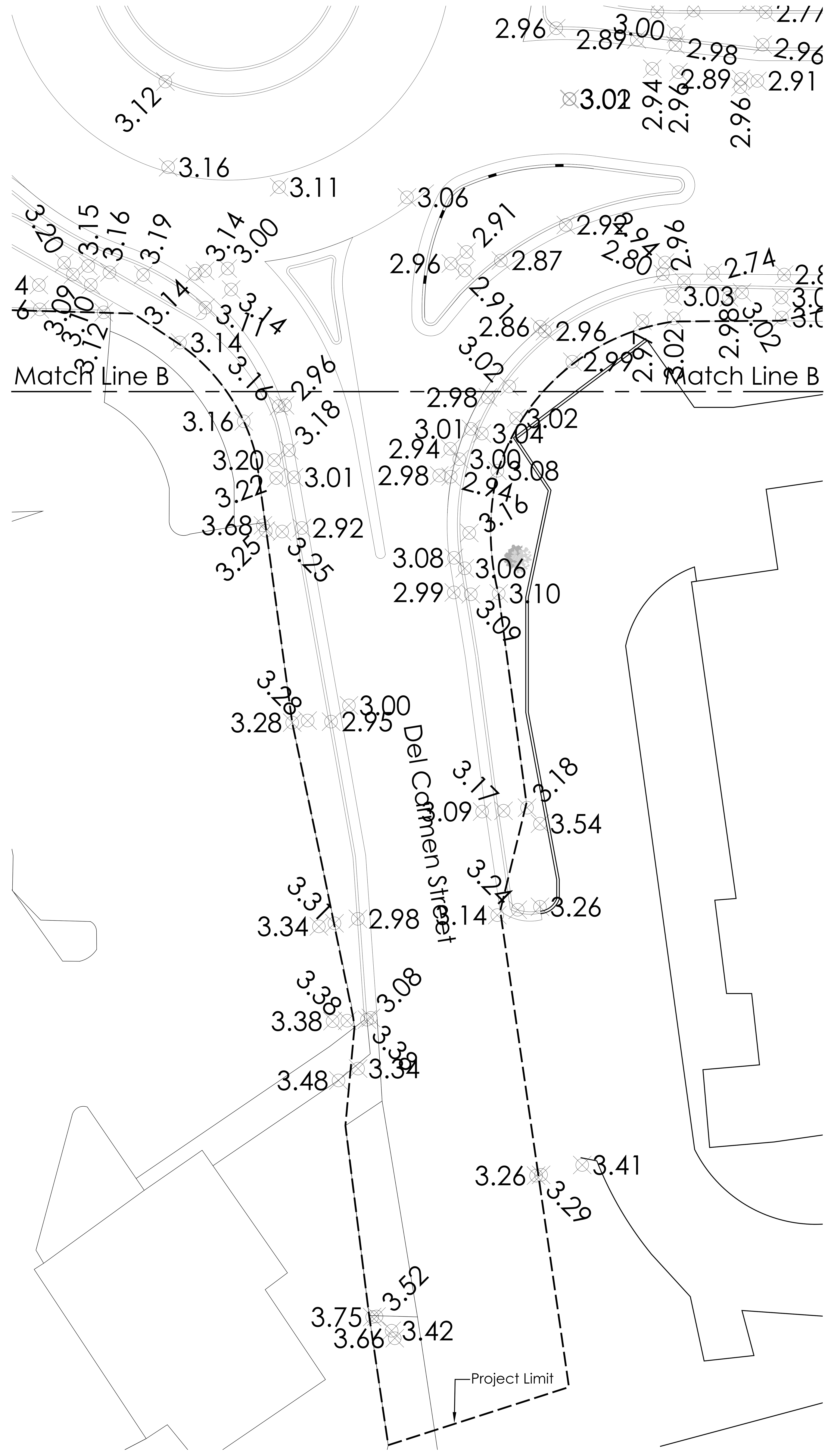
Sheet

CI-300

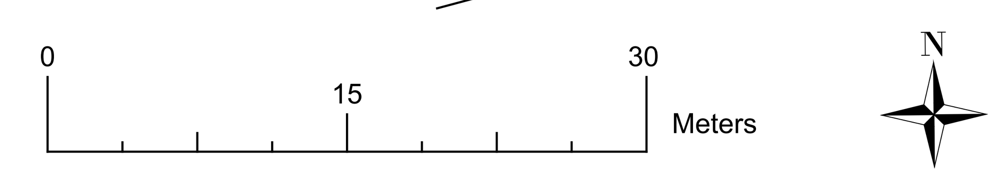
Project #	PR-CRP: 000973
Drawn by	DBM
Checked by	ECA



1 Grading Plan
1:150



2 Grading Plan
1:150



General Notes

IMPORTANT INFORMATION FOR THE CONTRACTOR

Contractor shall verify al dimensions, levels and condition on-site before commencing any and all work. Any discrepancy, error or omission in these plans shall be notified to the Architect, Landscape Architect or Engineer who stamps and signs these drawings so that proper corrections to the documents can be made.

Do not take any measurements from the physical drawings.

All drawings, specifications and other documents are property of ECo and can solely be used as an instrument of the Architect, Landscape Architect or Engineers' service as reference for this project.

Only use documents with a “FOR CONSTRUCTION ONLY” stamp and sealed and signed by the designer.

Yo, Edmundo Colon Arizmendi PE, con licencia número 7812, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

No.	Description	Date

ECo
LANDSCAPE + ARCHITECTURE + ENGINEERING

103 Calle Isabel Andreu Aguilar, 4to Piso, San Juan,PR 00918
787-764-0610 eco-designstudio.com

Grading Plan

TB Roundabouts: PR-CRP-000973

Ave. Sabana Seca Int. Calle Dr. Villalobos, Levittown

Autonomous Municipality of Toa Baja

Seal:

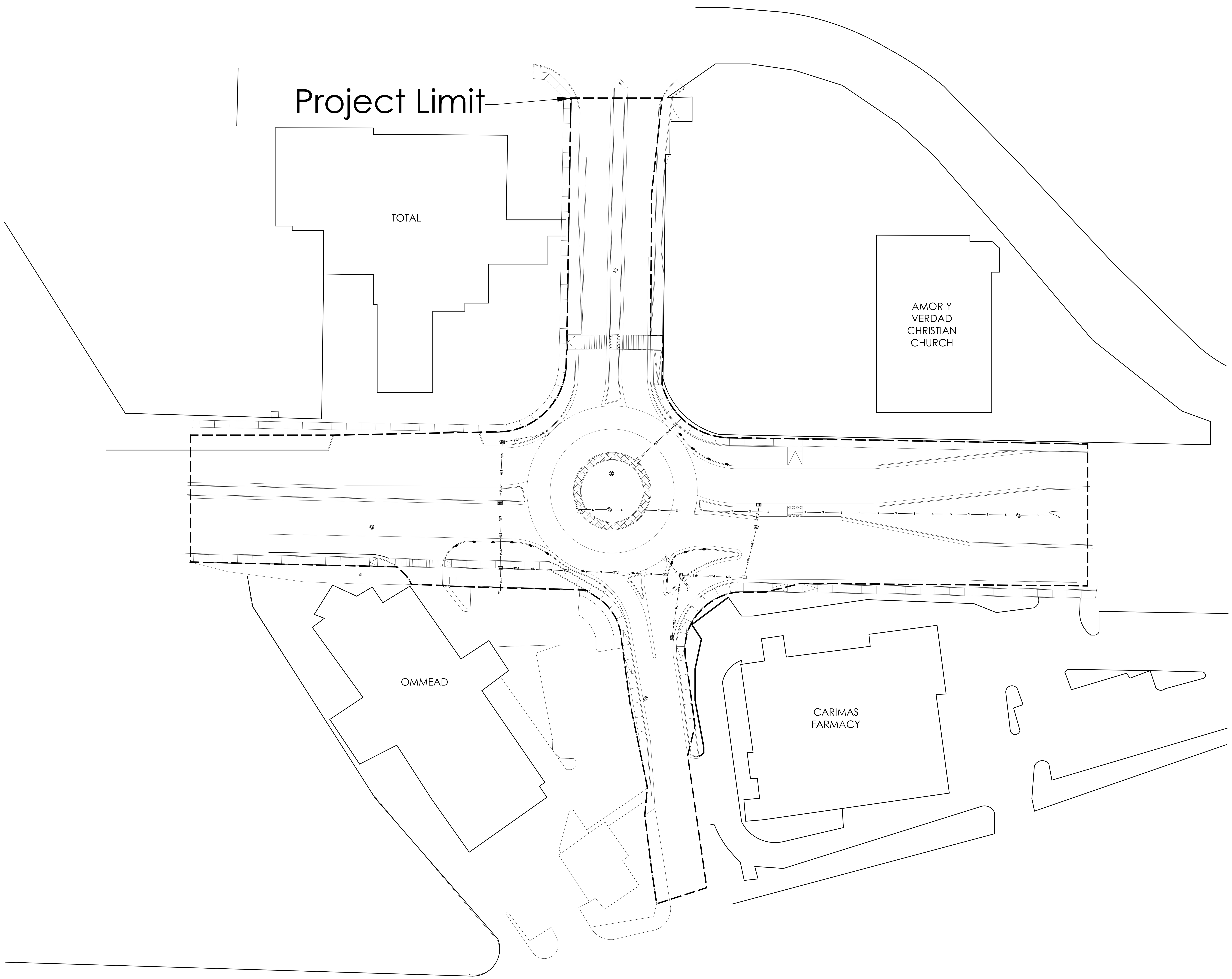
SIGNING ENGR
License #

File Name:
2023.04-Rotondas Toa Baja-Geometry-PR-CRP-000973

Date	Scale
07/31/2023	1:150

Sheet
CI-301

Project #	PR-CRP: 000973
Drawn by	DBM
Checked by	ECA



General Notes

IMPORTANT INFORMATION FOR THE CONTRACTOR

Contractor shall verify al dimensions, levels and condition on-site before commencing any and all work. Any discrepancy, error or omission in these plans shall be notified to the Architect, Landscape Architect or Engineer who stamps and signs these drawings so that proper corrections to the documents can be made.

Do not take any measurements from the physical drawings.

Only use documents with a "FOR CONSTRUCTION ONLY" stamp and sealed and signed by the designer.

Yo, Edmundo Colon Arizmendi PE, con licencia número 7812, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

No.	Description	Date

ECo
LANDSCAPE + ARCHITECTURE + ENGINEERING

103 Calle Isabel Andreu Aguilar, 4to Piso. San Juan,PR 00918
787-764-0610 eco-designstudio.com

Stormwater Plan

TB Roundabouts: PR-CRP-000973

Ave. Sabana Seca Int. Calle Dr. Villalobos, Levittown

Autonomous Municipality of Toa Baja

Seal:

SIGNING ARCH
License #

File Name: 2023.04-Rotondas Toa Baja-Geometry-PR-CRP-000973

Date: 09/19/2023
Scale: 1:400

Sheet: CI-400

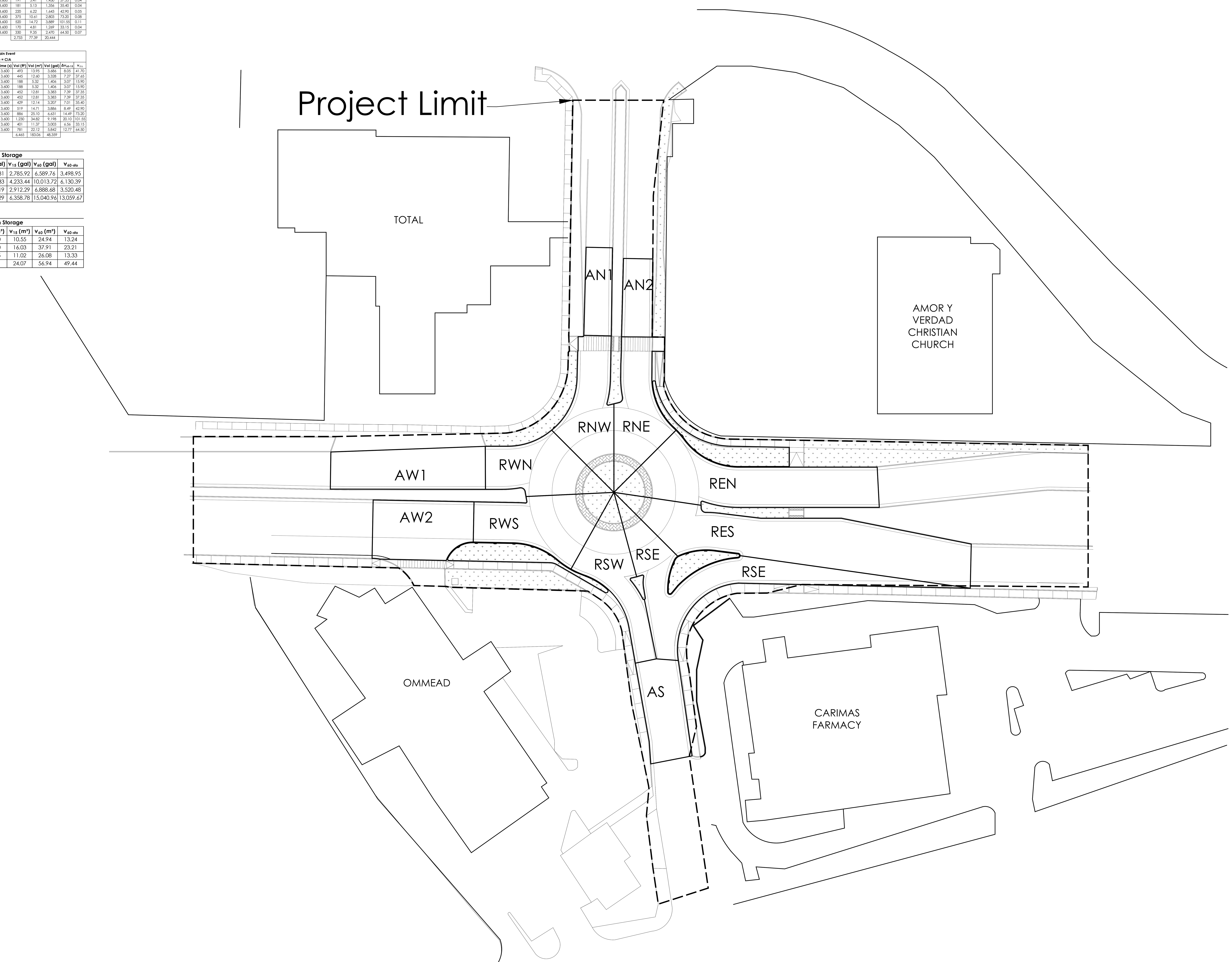
Project #: PR-CRP: 000973
Drawn by: JFV
Checked by: ECA

15-min 10-yr Rain Event Flow Rate: Q = CiA												
Zone		Area (m2)	Area (ac)	C	i (in/hr)	Q (cfs)	Time (s)	Vol (ft³)	Vol (m³)	Vol (gal)	$\forall_{sto}$	q (m³/s)
Approach	AW1	278	0.069	0.81	1.04	0.058	3,600	208	5.90	1,558	41.70	0.05
	AW1	251	0.062	0.81	1.04	0.052	3,600	188	5.33	1,407	37.65	0.04
	AN1	106	0.026	0.81	1.04	0.022	3,600	79	2.25	594	15.90	0.02
	AN2	106	0.026	0.81	1.04	0.022	3,600	79	2.25	594	15.90	0.02
Roundabout	RNW	249	0.062	0.83	1.04	0.053	3,600	191	5.41	1,430	37.35	0.04
	RNE	249	0.062	0.83	1.04	0.053	3,600	191	5.41	1,430	37.35	0.04
	RWN	236	0.058	0.83	1.04	0.050	3,600	181	5.13	1,356	35.40	0.04
	RWS	286	0.071	0.83	1.04	0.061	3,600	220	6.22	1,643	42.90	0.05
	REN	488	0.121	0.83	1.04	0.104	3,600	375	10.61	2,803	73.20	0.08
	RES	677	0.167	0.83	1.04	0.144	3,600	520	14.72	3,889	101.55	0.11
	RSW	221	0.055	0.83	1.04	0.047	3,600	170	4.81	1,269	33.15	0.04
	RSE	430	0.106	0.83	1.04	0.092	3,600	330	9.35	2,470	64.50	0.07
					Totals	0.759		2,733	77.39	20,444		

60-min 10-yr Rain Event Flow Rate: Q = CiA												
Zone		Area (m2)	Area (ac)	C	i (in/hr)	Q (cfs)	Time (s)	Vol (ft³)	Vol (m³)	Vol (gal)	$\Delta\forall_{60-15}$	$\forall_{sto}$
Approach	AW1	278	0.069	0.81	2.46	0.137	3,600	493	13.95	3,686	8.05	41.70
	AW1	251	0.062	0.81	2.46	0.124	3,600	445	12.60	3,328	7.27	37.65
	AN1	106	0.026	0.81	2.46	0.052	3,600	188	5.32	1,406	3.07	15.90
	AN2	106	0.026	0.81	2.46	0.052	3,600	188	5.32	1,406	3.07	15.90
Roundabout	RNW	249	0.062	0.83	2.46	0.126	3,600	452	12.81	3,383	7.39	37.35
	RNE	249	0.062	0.83	2.46	0.126	3,600	452	12.81	3,383	7.39	37.35
	RWN	236	0.058	0.83	2.46	0.119	3,600	429	12.14	3,207	7.01	35.40
	RWS	286	0.071	0.83	2.46	0.144	3,600	519	14.71	3,886	8.49	42.90
	REN	488	0.121	0.83	2.46	0.246	3,600	886	25.10	6,631	14.49	73.20
	RES	677	0.167	0.83	2.46	0.342	3,600	1,230	34.82	9,198	20.10	101.55
	RSW	221	0.055	0.83	2.46	0.112	3,600	401	11.37	3,003	6.56	33.15
	RSE	430	0.106	0.83	2.46	0.217	3,600	781	22.12	5,842	12.77	64.50
					Totals	1.796		6,465	183.06	48,359		

Rain Garden Storage						
Zone	Area (ft²)	Depth (ft)	$\forall_{sto}$ (gal)	$\forall_{15}$ (gal)	$\forall_{60}$ (gal)	$\forall_{60-sto}$
BSNW	839.59	0.49	3,090.81	2,785.92	6,589.76	3,498.95
BSNE	1054.86	0.49	3,883.33	4,233.44	10,013.72	6,130.39
BSSW	914.93	0.49	3,368.19	2,912.29	6,888.68	3,520.48
BSSE	538.20	0.49	1,981.29	6,358.78	15,040.96	13,059.67

Rain Garden Storage						
Zone	Area (m²)	Depth (m)	$\forall_{sto}$ (m³)	$\forall_{15}$ (m³)	$\forall_{60}$ (m³)	$\forall_{60-sto}$
BSNW	78	0.15	11.70	10.55	24.94	13.24
BSNE	98	0.15	14.70	16.03	37.91	23.21
BSSW	85	0.15	12.75	11.02	26.08	13.33
BSSE	50	0.15	7.50	24.07	56.94	49.44



General Notes

IMPORTANT INFORMATION FOR THE CONTRACTOR

Contractor shall verify al dimensions, levels and condition on-site before commencing any and all work. Any discrepancy, error or omission in these plans shall be notified to the Architect, Landscape Architect or Engineer who stamps and signs these drawings so that proper corrections to the documents can be made.

Do not take any measurements from the physical drawings.

Only use documents with a "FOR CONSTRUCTION ONLY" stamp and sealed and signed by the designer.

Yo, Edmundo Colon Arizmendi PE, con licencia número 7812, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

No.	Description	Date

ECo
Landscape + Architecture + Engineering

103 Calle Isabel Andreu Aguilar, 4to
Piso, San Juan,PR 00918
787-764-0610 eco-designstudio.com

Basin Areas

TB Roundabouts: PR-CRP-000973

Ave. Sabana Seca Int. Calle Dr. Villalobos, Levittown

Autonomous Municipality of Toa Baja

Seal:

SIGNING ARCH
License #

File Name: 2023.04-Rotondas Toa Baja-Geometry-PR-CRP-000973

Date: 09/19/2023

Scale: 1:400

Sheet: CI-401

Project #: PR-CRP: 000973

Drawn by: JFV

Checked by: ECA

General Notes

IMPORTANT INFORMATION FOR THE CONTRACTOR

Contractor shall verify al dimensions, levels and condition on-site before commencing any and all work. Any discrepancy, error or omission in these plans shall be notified to the Architect, Landscape Architect or Engineer who stamps and signs these drawings so that proper corrections to the documents can be made.

Do not take any measurements from the physical drawings.

Only use documents with a "FOR CONSTRUCTION ONLY" stamp and sealed and signed by the designer.

Yo, Edmundo Colon Arizmendi PE, con licencia número 7812, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

No.	Description	Date

ECo

LANDSCAPE + ARCHITECTURE + ENGINEERING

103 Calle Isabel Andreu Aguilar, 4to Piso, San Juan,PR 00918
787-764-0610 eco-designstudio.com

Stormwater Profiles

TB Roundabouts: PR-CRP-000973

Ave. Sabana Seca Int. Calle Dr. Villalobos, Levittown

Autonomous Municipality of Toa Baja

Seal:

SIGNING ARCH
License #

File Name: 2023.04-Rotondas Toa Baja-Geometry-PR-CRP-000973

Date	Scale
09/19/2023	1:400

Sheet

CI-402

Project # PR-CRP: 000973

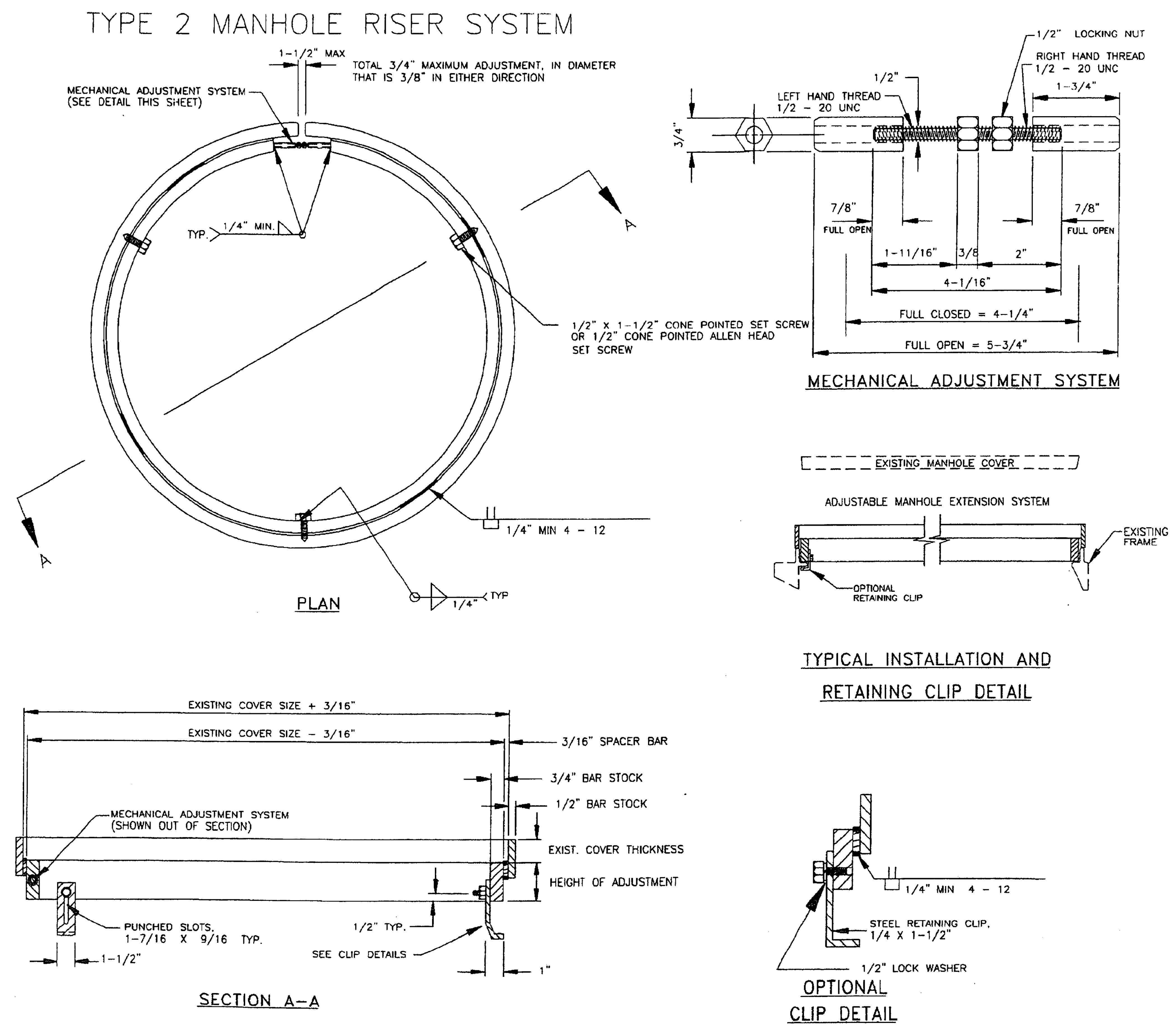
Drawn by JFV

Checked by ECA

0 15 30 Meters

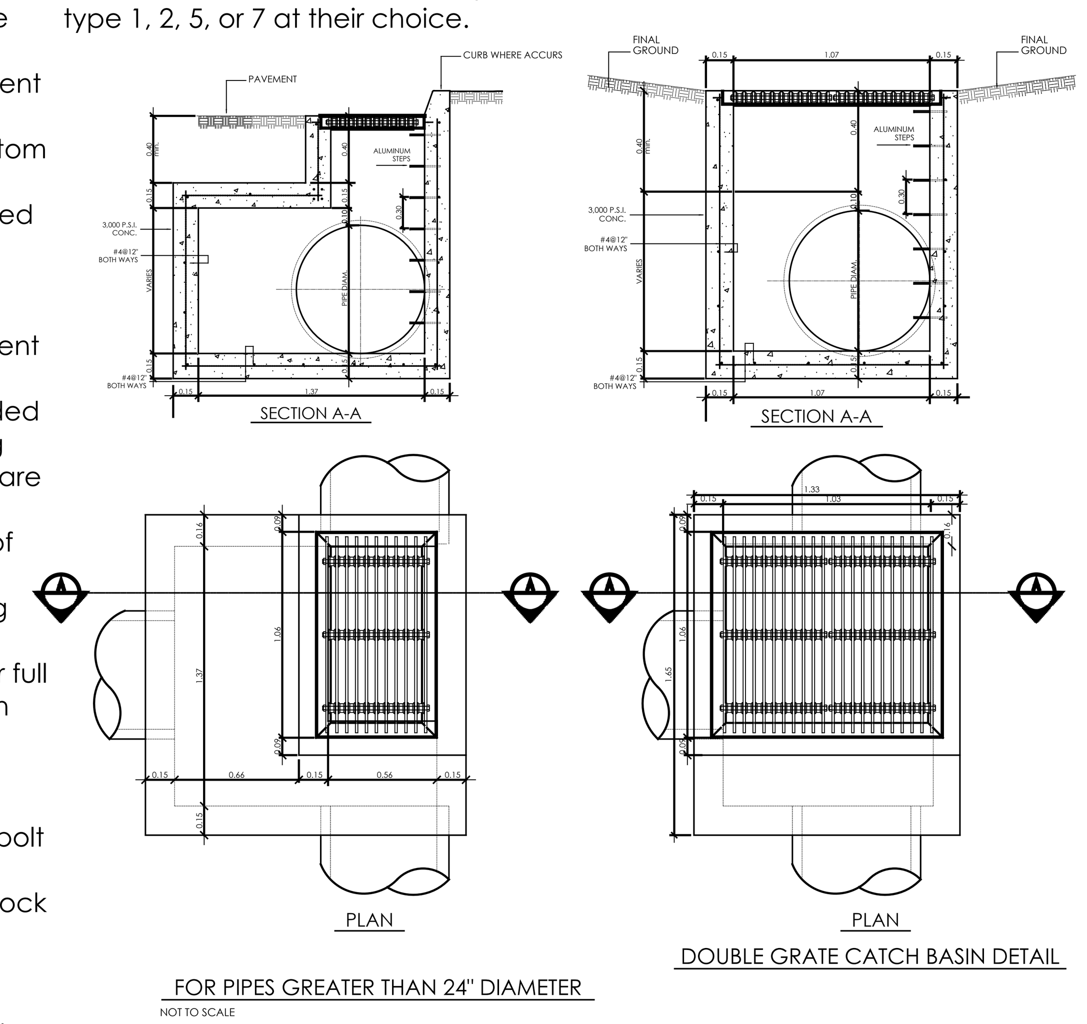
N

TYPE 2 MANHOLE RISER SYSTEM

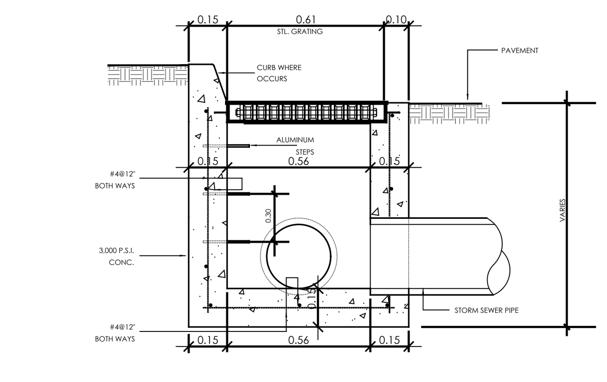


1 Type 2 Manhole Riser Detail
NOT TO SCALE

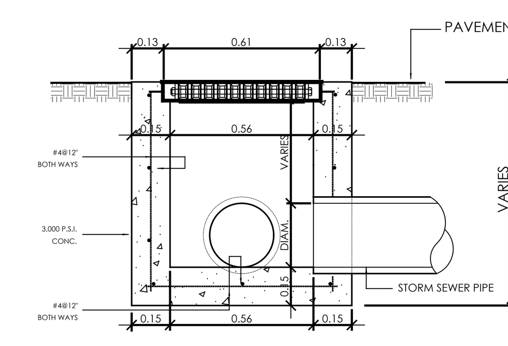
1. All components are manufactured from US made Carbon Steel meeting or exceeding the minimum requirements of ASTM A-36.
2. Top and bottom rings are welded as shown.
3. Bolt studs and nuts are made from type 304 stainless steel.
4. This system is used when the rise is thicker than the lid.
5. Minimum height of adjustment is manhole lid thickness + ¼".
6. Each adjustment ring is custom fabricated from measurements provided with each order. Required measurements include:
a. Existing manhole cover diameter and thickness
b. Required height of adjustment from top of existing lid to finished elevation. Maximum recommended height of adjustment for repaving projects is 6'. Height adjustments are available in ¼" increments.
c. Required length and type of retainer clip.
d. Width and height of existing casting bearing surface
7. During installation check for full bearing of lower frame section on existing casting.
8. Risers shall be coated with black asphalt bituminous paint.
9. Available options in lieu of bolt studs for attaching retaining clip include drilled and tapped bar stock with 1/2" diameter – 1" long stainless-steel bolt.
10. It shall be a subsidiary obligation of the contractor to take all necessary measurement of the existing manhole cover and frame that will allow the appropriate fabrication of the adjustment ring. The excavation and replacement of the existing pavement structure shall be a subsidiary obligation of the contract.
11. Unless otherwise indicated in the contract the contractor may use type 1, 2, 5, or 7 at their choice.



8 Double & Single Grate Details
NOT TO SCALE

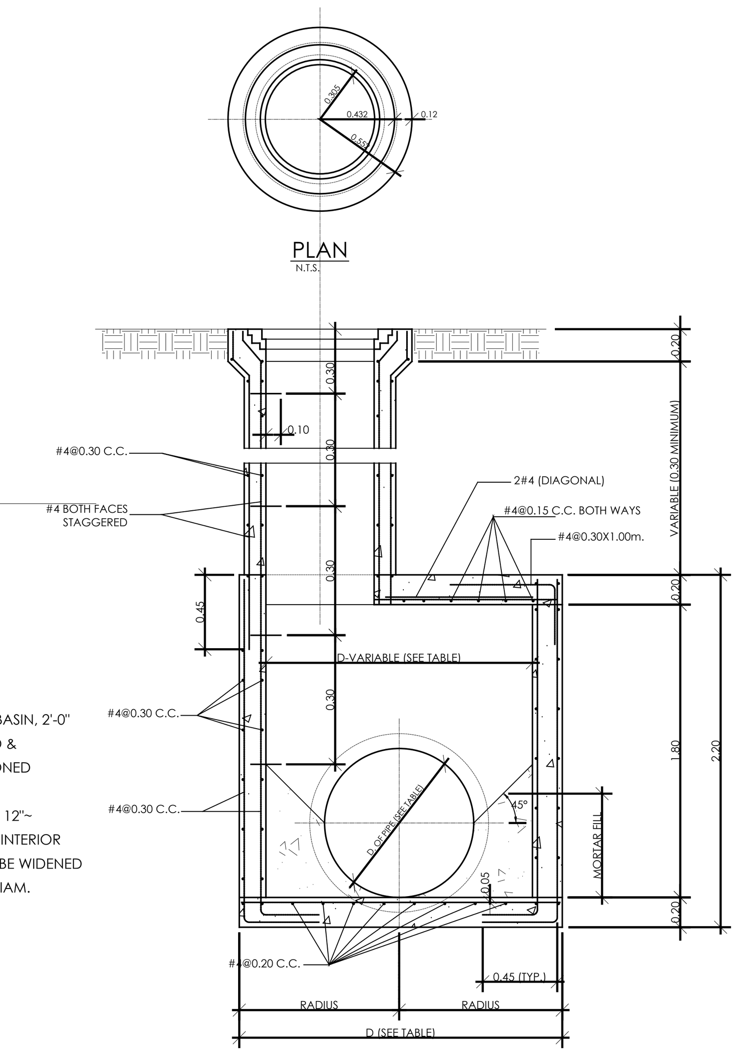


12 Inlet Type II Detail
NOT TO SCALE



NOTES:
FOR CONTINUOS CATCH BASIN, 2'-0" WIDE SHALL BE STABLISHED & GRATING SHALL BE SECTIONED 2'-0" LONG MAX.
WHEN PIPES BIGGER THAN 12"- CONNECT C.B. WALL, THE INTERIOR DIMENSION OF C.B. MUST BE WIDENED 12" IN ADDITION TO PIPE DIAM.

13 Inlet Type I Detail
NOT TO SCALE



14 Section View of Manhole
NOT TO SCALE

General Notes

IMPORTANT INFORMATION FOR THE CONTRACTOR

Contractor shall verify al dimensions, levels and condition on-site before commencing any and all work. Any discrepancy, error or omission in these plans shall be notified to the Architect, Landscape Architect or Engineer who stamps and signs these drawings so that proper corrections to the documents can be made.

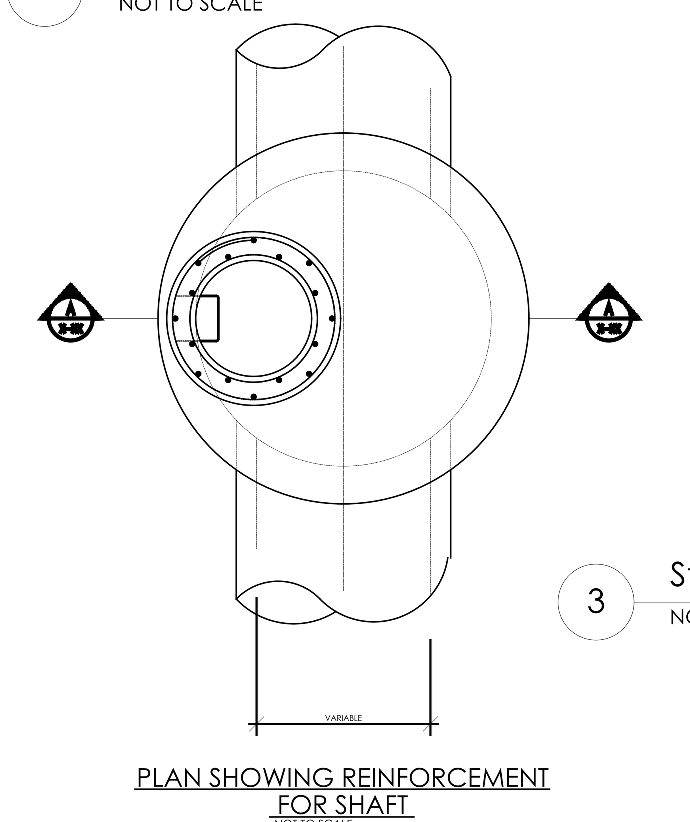
Do not take any measurements from the physical drawings.

All drawings, specifications and other documents are property of ECo and can solely be used as an instrument of the Architect, Landscape Architect or Engineers' service as reference for this project.

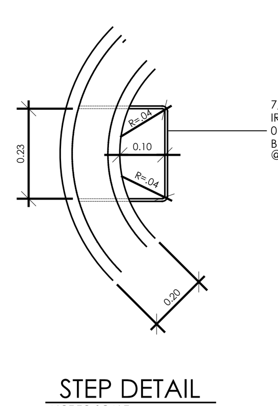
Only use documents with a "FOR CONSTRUCTION ONLY" stamp and sealed and signed by the designer.

Yo, Edmundo Colon Arizmendi PE, con licencia número 7812, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

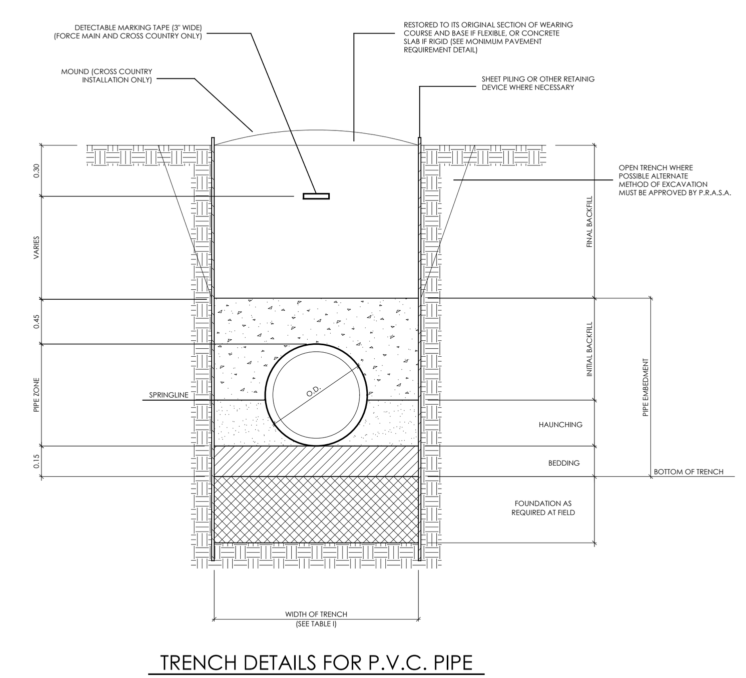
No.	Description	Date



2 Shaft Reinforcement Plan
NOT TO SCALE



3 Step Detail
NOT TO SCALE



6 Trench Details for P.V.C. Pipe
NOT TO SCALE

TABLE 1 WIDTH OF TRENCH	
DIAMETER (INCHES)	* WIDTH OF TRENCH AT TOP OF PIPE (INCHES)
4"-15"	O.D. + 24"
16"-27"	O.D. + 36"

NOTE:
* WHENEVER MOVABLE SHEET PILING OR OTHER TRENCH PROTECTION IS USED BELOW THE TOP OF THE PIPE, THE CLEAR DISTANCE BETWEEN THE OUTSIDE FACE OF THE PIPE AND THE MOVABLE TRENCH SUPPORT SHALL BE NOT LESS THAN 2.5 X OUTSIDE PIPE DIAMETER.

NOTES :

FOUNDATION AND BEDDING

1-MATERIALS AS CLASSIFIED BY U.S.C.S. AS PER A.S.T.M. D-2487 SOILS CLASSES I-II-III WHERE CRUSHER GRAVEL OR CRUSHER STONE IS USED IT SHALL AS PER A.S.T.M. C-33 GRADATION NO. 67
2-FILL MATERIAL SHALL BE PLACED IN 0.15 m. LAYERS.
3-COMPACT TO 90% OF MAX. COMPACTION AS PER A.S.T.M. D-698 FOR COHESIVE SOILS OR SENSIFY TO 70% OF MAX. RELATIVE DENSITY AS PER A.S.T.M. D-2049 FOR GRANULAR SOILS TEST SHALL BE PERFORMED AT 50 m. INTERVARLS.

HAUNCHING

1-SAME MATERIALS AS FOR FOUNDATION AND BEDDING.
2-FILL MATERIAL SHALL BE PLACED IN 15 m. LAYERS.
3-COMPACT : ______________
(TO BE DETERMINED BY DESIGNER)

INITIAL BACKFILL CROSS COUNTRY

1-PREVIOUS EXCAVATED MATERIAL FREE FROM BOULDERS AND STONES LARGER THAN 2".
2-FILL MATERIAL SHALL BE PLACED IN 0.30 m. LAYERS.
3-COMPACTION EFFORT NOT REQUIRED OTHR THAN OBTAINED BY SPREADING AND LEVELLING BACKFILL MATERIAL ROLLING EQUIPMENT NOT ALLOWED FOR WORKING BACKFILL MATERIAL IN THIS SECTOR OF TRENCH.

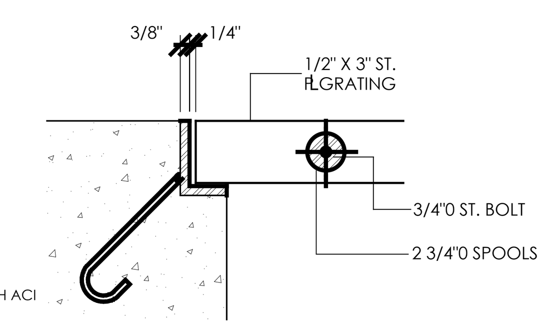
FINAL BACKFILL-CROSS COUNTRY :

1-PREVIOUS EXCAVATED MATERIAL.
2-FILL MATERIAL SHALL BE LOOSELY PLACED IN 0.90 m. LAYERS.
3-COMPACTION AS OBTAINED BY ROLLING WITH THE PLACEMENT EQUIPMENT.
4-MOUND THE SURFACE AND FILL AND MAINTAIN ALL SUNKEN TRENCHES UNTIL FINAL ACCEPTANCE OF THE PROJECT.

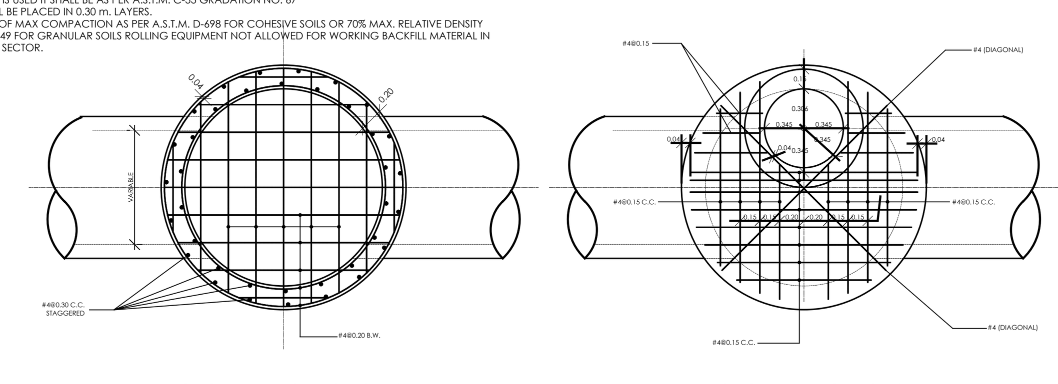
INITIAL AND FINAL BACKFILL-UNDER ROADS, STREETS, WALKS, APPRONS AND OTHERS IMPROVED SURFACES :

1-ANY MATERIAL AS CLASSIFIED BY U.S.C.S. AS PER A.S.T.M. D-2487 SOIL CLASSES I-II-III-IV, WHERE CRUSHED GRAVEL OR CRUSHED STONE IS USED IT SHALL BE AS PER A.S.T.M. C-33 GRADATION NO. 67
2-FILL MATERIAL SHALL BE PLACED IN 0.30 m. LAYERS.
3-COMPACT TO 90% OF MAX COMPACTION AS PER A.S.T.M. D-698 FOR COHESIVE SOILS OR 70% MAX. RELATIVE DENSITY AS PER A.S.T.M. D-2049 FOR GRANULAR SOILS ROLLING EQUIPMENT NOT ALLOWED FOR WORKING BACKFILL MATERIAL IN THE INITIAL BACKFILL SECTOR.

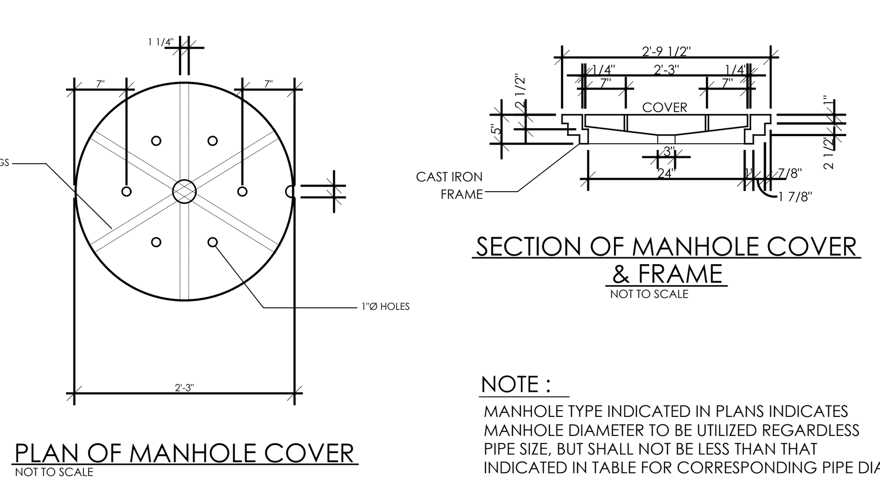
NOTES:
1. CONCRETE STRENGTH 3,000 P.S.I. AT 28 DAY.
2. REINFORCING STEEL ASTM A615, GRADE 60.
3. CONCRETE COVER FOR REINFORCEMENT AS FOLLOWS: a)BOTTOM SLAB..................3" (SIDE & BOTTOM)
4. WELDING AS PER AWS.
5. ALL DETAILING AND CONSTRUCTION TO COMPANY WITH ACI BUILDING CODE (LATEST).
6. ALTERNATE SPOOLS MADE OF ALUMINUM 212 AND UNDER SPECIFICATION ASTM B-179-73 CAN BE USED (LATEST EDITION).



9 Grate Anchor Detail
NOT TO SCALE



10 Slab Reinforcement for Manholes
NOT TO SCALE

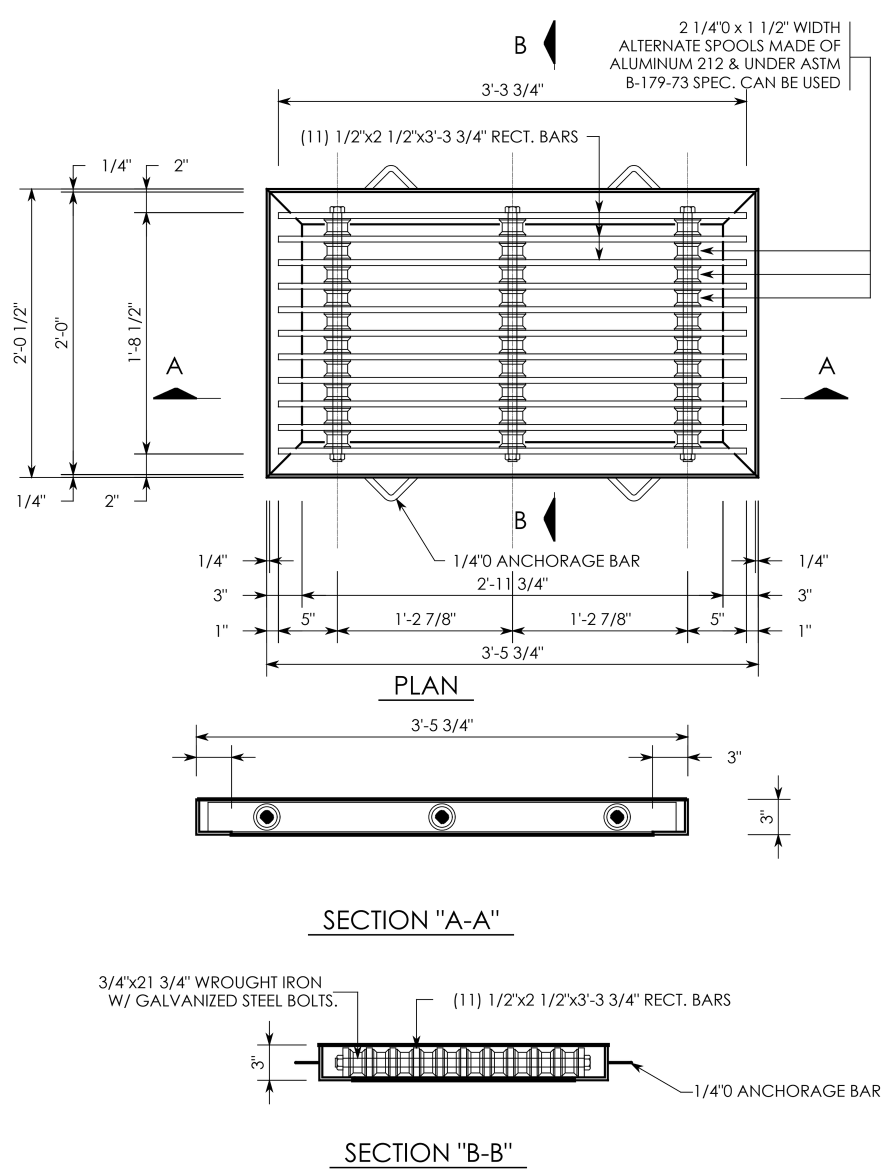


NOTE :
MANHOLE TYPE INDICATED IN PLANS INDICATES MANHOLE DIAMETER TO BE UTILIZED REGARDLESS PIPE SIZE, BUT SHALL NOT BE LESS THAN THAT INDICATED IN TABLE FOR CORRESPONDING PIPE DIAM.

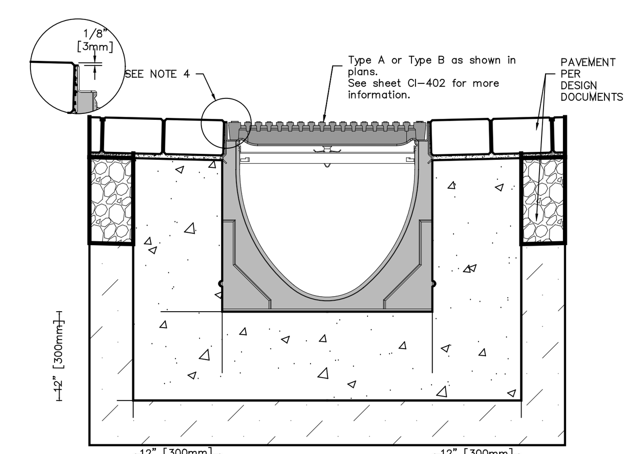
4 Manhole Cover Details
NOT TO SCALE

MAXIMUM SEWERS FOR MANHOLES		
TYPE	MANHOLE DIAM. m.	MAX. PIPE INCHES
1	1.20	30"
2	1.50	36"
3	1.75	42"
4	2.00	48"
5	2.20	54"
6	2.45	60"
7	2.70	66"
8	2.95	72"

5 Manhole Cover Diameters
NOT TO SCALE



7 Grating Detail
NOT TO SCALE



NOTES:
1. IT IS NECESSARY TO ENSURE MINIMUM DIMENSIONS SHOWN ARE SUITABLE FOR EXISTING GROUND CONDITIONS.
ENGINEERING ADVICE MAY BE REQUIRED.
2. MINIMUM CONCRETE STRENGTH OF 4,000 PSI IS RECOMMENDED. CONCRETE SHOULD BE VIBRATED TO ELIMINATE AIR POCKETS.
3. EXPANSION AND CONTRACTION CONTROL JOINTS AND REINFORCEMENT ARE RECOMMENDED TO PROTECT CHANNEL AND CONCRETE SURROUND. ENGINEERING ADVICE MAY BE REQUIRED.
4. THE FINISHED LEVEL OF THE CONCRETE SURROUND MUST BE APPROX. 1/8" [3mm] ABOVE THE TOP OF THE CHANNEL EDGE.
5. CONCRETE BASE THICKNESS SHOULD MATCH SLAB THICKNESS. ENGINEERING ADVICE MAY BE REQUIRED TO DETERMINE PROPER LOAD CLASS.
6. REFER TO ACO'S LATEST INSTALLATION INSTRUCTIONS FOR FURTHER DETAILS.

SPECIFICATION CLAUSE

TYPE - A

ACO DRAIN
KLASSIK DRAIN KS300 12" Internal Width Class A Type 847D - Stainless Steel Longitudinal Grate (ADA) Part No. 142223

TYPE - B

ACO DRAIN
POWERDRAIN-S300K iron edged channels / 12 inch nominal (300 mm) internal width Trench System: S300K TRENCH SYSTEM. PowerLok grate SK3 ductile iron Longitudinal Grate Class E Part No. 96833

GENERAL
THE SURFACE DRAINAGE SYSTEM SHALL BE POLYMER CONCRETE KS300 CHANNEL SYSTEM WITH STAINLESS STEEL EDGE RAILS AS MANUFACTURED BY ACO POLYMER PRODUCTS, INC.

MATERIALS
CHANNELS SHALL BE MANUFACTURED FROM POLYESTER RESIN POLYMER CONCRETE WITH AN INTEGRALLY CAST-IN STAINLESS STEEL EDGE RAIL. MINIMUM PROPERTIES OF POLYMER CONCRETE WILL BE AS FOLLOWS:

COMPRESSIVE STRENGTH:	14,000 PSI
FLEXURAL STRENGTH:	4,000 PSI
TENSILE STRENGTH:	1,500 PSI
WATER ABSORPTION:	0.07%
FROST PROOF	YES
DILUTE ACID AND ALKALI RESISTANT	YES
B117 SALT SPRAY TEST COMPLIANT	YES

THE SYSTEM SHALL BE 12" (300mm) NOMINAL INTERNAL WIDTH WITH A 14.2" (390mm) OVERALL WIDTH AND A BUILT-IN SLOPE OF 0.5%. CHANNEL INVERT SHALL HAVE DEVELOPED "V" SHAPE. ALL CHANNELS SHALL BE INTERLOCKING WITH A MALE/FEMALE JOINT.

THE COMPLETE DRAINAGE SYSTEM SHALL BE BY ACO POLYMER PRODUCTS, INC. ANY DEVIATION OR PARTIAL SYSTEM DESIGN AND/OR IMPROPER INSTALLATION WILL VOID ANY AND ALL WARRANTIES PROVIDED BY ACO POLYMER PRODUCTS, INC.

CHANNEL SHALL WITHSTAND LOADING TO PROPER LOAD CLASS AS OUTLINED BY EN 1433. GRATE TYPE SHALL BE APPROPRIATE TO MEET THE SYSTEM LOAD CLASS SPECIFIED AND INTENDED APPLICATION. GRATES SHALL BE SECURED USING 'QUICKLOK' BOLTLESS LOCKING SYSTEM. CHANNEL AND GRATE SHALL BE CERTIFIED TO MEET THE SPECIFIED EN 1433 LOAD CLASS. THE SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS.

11 Linear Drain Detail
NOT TO SCALE

103 Calle Isabel Andreu Aguilar, 4to
Piso, San Juan,PR 00918
787-764-0610 eco-designstudio.com

Stromwater Typical Details
TB Roundabouts: PR-CRP-000973
Ave. Sabana Seca Int. Calle Dr. Villalobos, Levittown
Autonomous Municipality of Toa Baja

Seal:

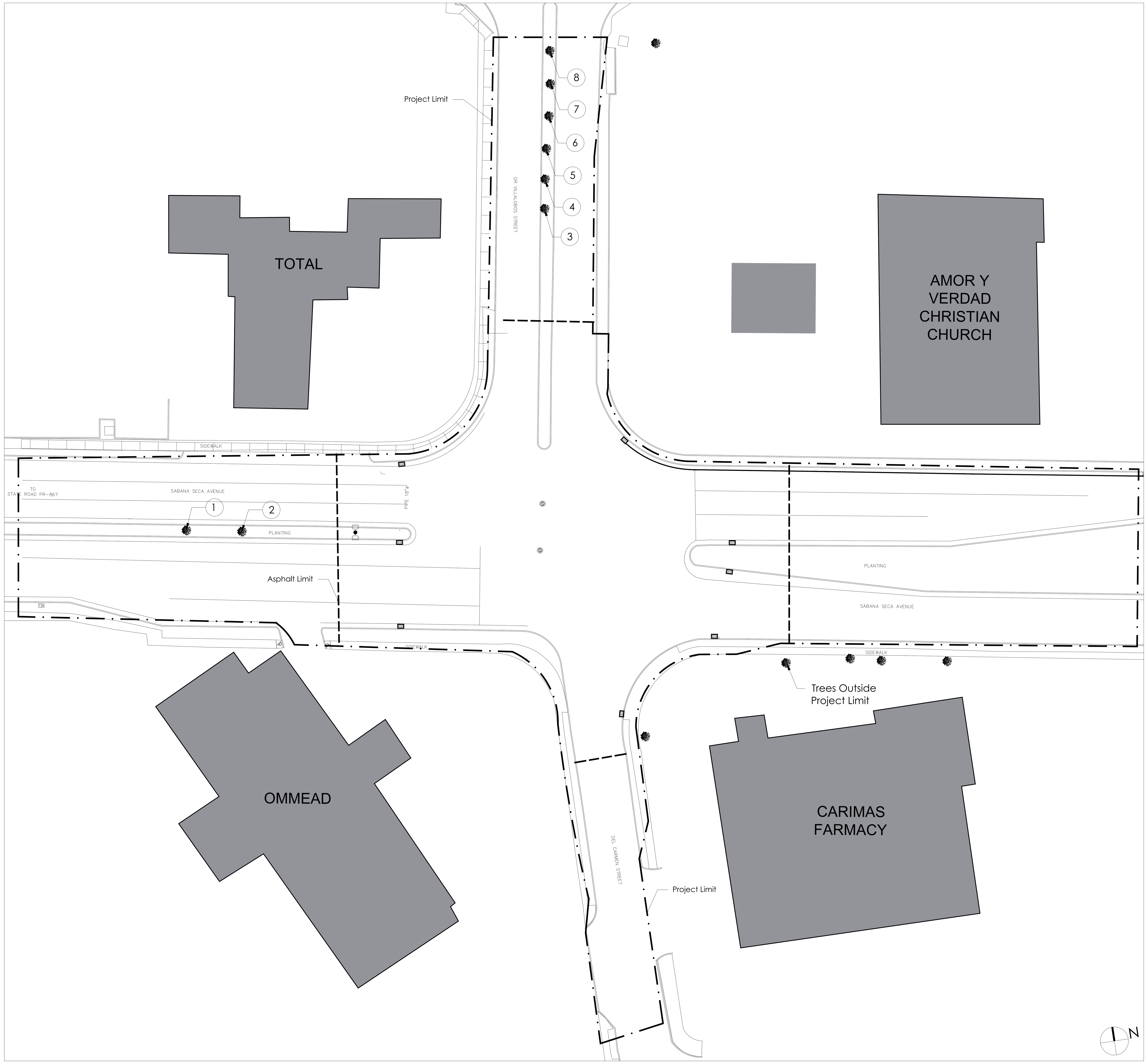
SIGNING ENG
License #

File Name:
2023.04-Rotondas Toa Baja-Geometry-PR-CRP-000973

Date	Scale
09/19/2023	1:200

Sheet
CI-403

Project #	PR-CRP: 000973
Drawn by	ERCI
Checked by	ECA



1 Existing Tree Inventory and Removal Plan
SCALE: 1'-0"=1/32"

TREE INVENTORY

REF	Common Name	Latin Name	Height	DBH	Action	Note	Req. Replacement
1	Roble Nativo	Tabebuia heterophylla	14	8	Conserve		--
2	Reina de Flores	Lagerstroemia speciosa	20	14	Conserve		--
3	Ucar	Bucida buceras	20	14	Conserve		--
4	Ucar	Bucida buceras	20	14	Conserve		--
5	Ucar	Bucida buceras	20	14	Conserve		--
6	Ucar	Bucida buceras	20	14	Conserve		--
7	Ucar	Bucida buceras	20	14	Conserve		--
8	Ucar	Bucida buceras	20	14	Conserve		--

TREE INVENTORY SUMMARY

Common Name	Latin Name	Quantity	Remove	Conserve	Req. Replacement
Roble Nativo	Tabebuia heterophylla	1		1	0
Reina de Flores	Lagerstroemia speciosa	1		1	0
Ucar	Bucida buceras	6		6	0

General Notes

IMPORTANT INFORMATION FOR THE CONTRACTOR

Contractor shall verify al dimensions, levels and condition on-site before commencing any and all work. Any discrepancy, error or omission in these plans shall be notified to the Architect, Landscape Architect or Engineer who stamps and signs these drawings so that proper corrections to the documents can be made.

Do not take any measurements from the physical drawings.

Only use documents with a "FOR CONSTRUCTION ONLY" stamp and sealed and signed by the designer.

Yo, Edmundo Colon Izquierdo, con licencia número 19992, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

No.	Description	Date

ECo
LANDSCAPE + ARCHITECTURE + ENGINEERING

103 Calle Isabel Andreu Aguilar, 4to Piso, San Juan,PR 00918
787-764-0610 eco-designstudio.com

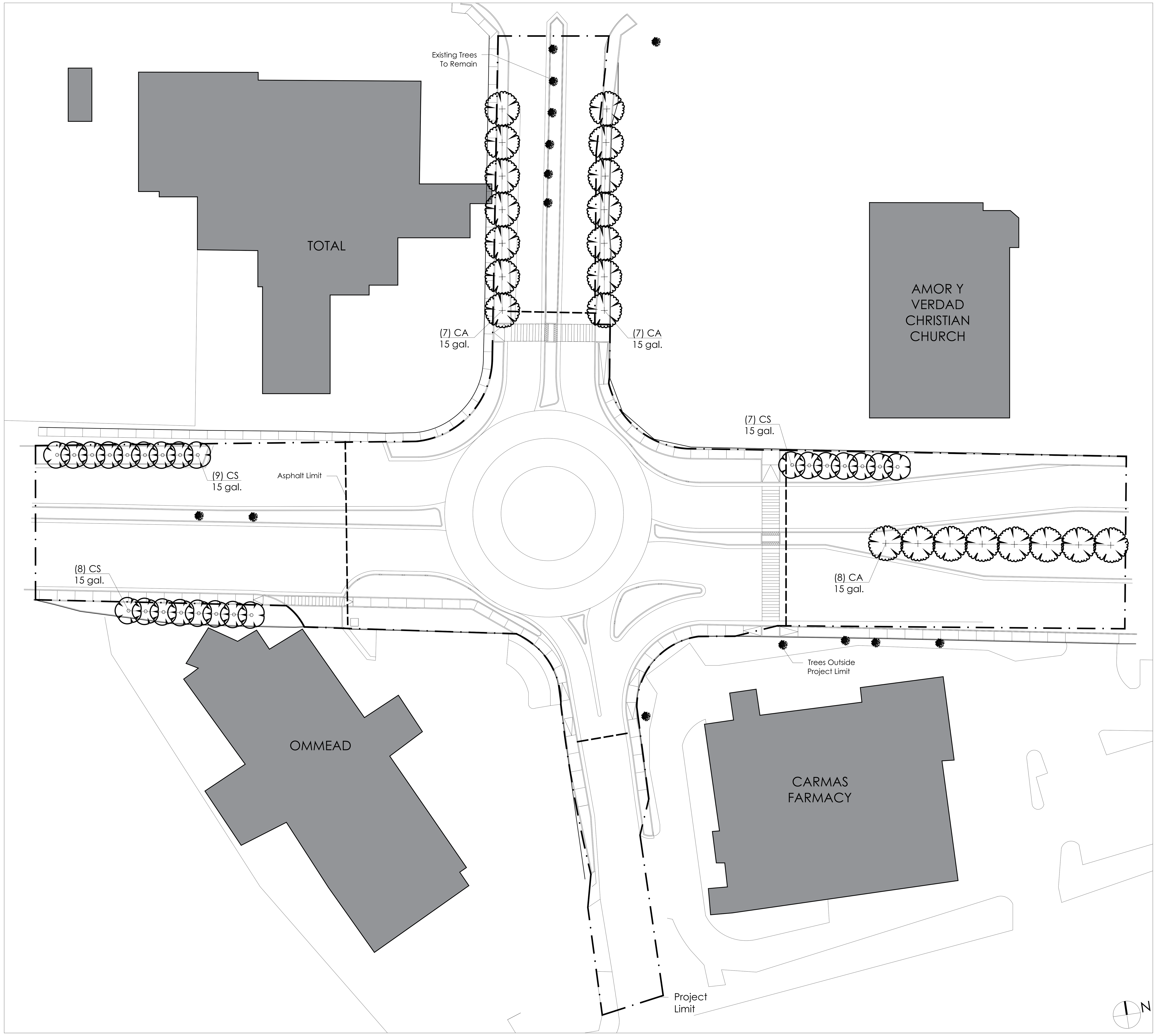
Existing Tree Inventory and Removal Plan
T.B. Roundabout PR-CRP-000973
Ave. Sabana Seca Int. Dr. Villalobos, Levittown, Toa Baja, P.R.
Autonomous Municipio de Toa Baja

Seal:

SIGNING ARCH
License #

Yo, Edmundo Colón Izquierdo, con licencia número 19992, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

File Name: 2022.04-Rotondas Toa Baja
Date 09/19/2023
Scale Scale:1'-0"=1/32"
Sheet
LA-200
Project # 2022.04
Drawn by MEG
Checked by ERCI



1 Tree Mitigation Plan

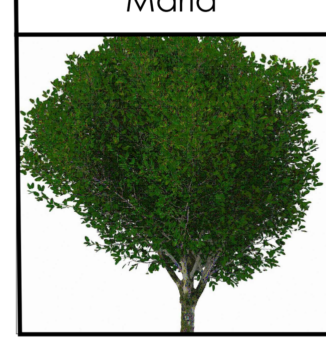
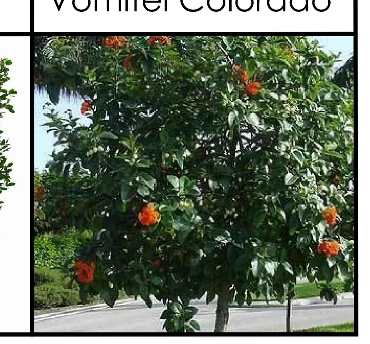
SCALE: 1'-0"=1/32"

PLANT SCHEDULE

TREES	CODE	BOTANICAL / COMMON NAME	SIZE	CONTAINER	QTY
	CA	Calophyllum antillanum / Maria	15 gal.	Pot	22
	CS	Cordia sebestena / Orange Geiger Tree	15 gal.	Pot	24

NOTE TO CONTRACTOR:
-41 trees are requiried for mitigation compliance.
-13 trees are proposed for roundabout design.

TREES

Maria	Vomitel Colorado
	

General Notes

IMPORTANT INFORMATION FOR THE CONTRACTOR

Contractor shall verify al dimensions, levels and condition on-site before commencing any and all work. Any discrepancy, error or omission in these plans shall be notified to the Architect, Landscape Architect or Engineer who stamps and signs these drawings so that proper corrections to the documents can be made.

Do not take any measurements from the physical drawings.

All drawings, specifications and other documents are property of ECo and can solely be used as an instrument of the Architect, Landscape Architect or Engineers' service as reference for this project.

ECo, the signing Architect, Landscape Architect or Engineer, and Eco's Consultants shall be deemed the author(s) of these documents and shall retain all common and statutory laws, including reserved and copyright(s). The full and/or partial reproduction of these drawings may only be done with the express written consent of the Architect, Landscape Architect or Engineer.

Only use documents with a "FOR CONSTRUCTION ONLY" stamp and sealed and signed by the designer.

Yo, Edmundo Colon Izquierdo, con licencia número 19992, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

No.	Description	Date

ECo
LANDSCAPE + ARCHITECTURE + ENGINEERING

103 Calle Isabel Andreu Aguilar, 4to
Piso, San Juan,PR 00918
787-764-0610 eco-designstudio.com

Tree Mitigation Plan

T.B. Roundabout PR-CRP-000973

Ave. Sabana Seca Int. Dr. Villalobos, Levittown, Toa Baja, P.R.

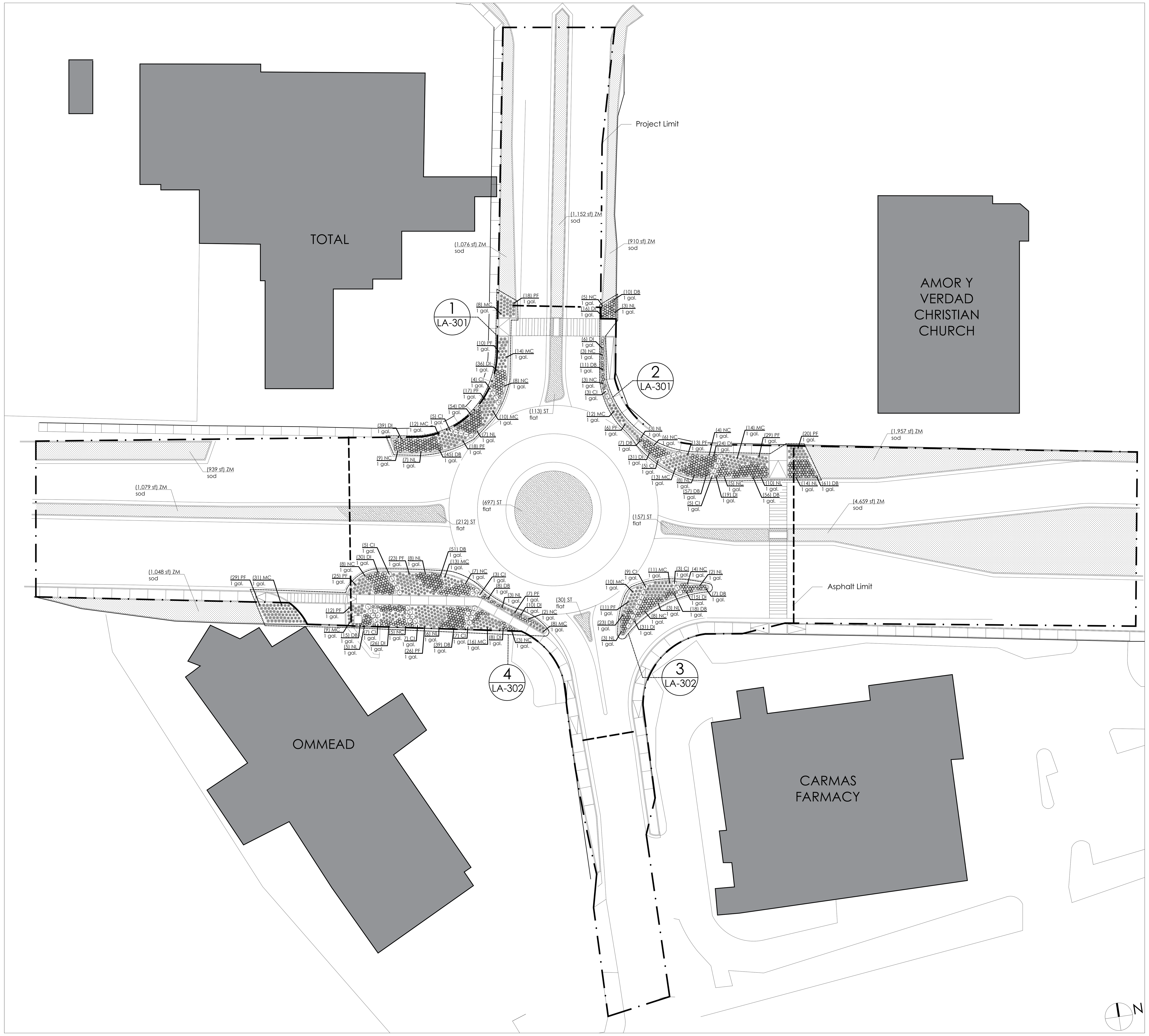
Autonomous Municipio de Toa Baja

Seal:

SIGNING ARCH
License #

Yo, Edmundo Colón Izquierdo, con licencia número 19992, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

File Name:	2022.04-Rotondas Toa Baja
Date 09/19/2023	Scale Scale:1'-0"=1/32"
Sheet	LA-201
Project #	2022.04
Drawn by	MEG
Checked by	ERCI



1 PLANTING SCOPE AREA
SCALE: 1/32"=1'-0"

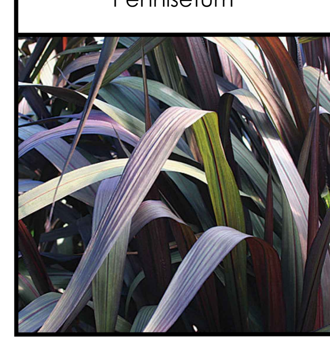
Planting Notes

1. The work shall be constructed and maintained in accordance with these plans, irrigation and landscape standard drawings, approved materials list, as well as these standard planting notes.
2. Exact location of plant materials shall be reviewed by the landscape architect in the field prior to installation. The landscape architect reserves the right to adjust plants to exact location in field.
3. Contractor shall be responsible for verifying all plant counts and square footages. Quantities shown on plans take precedence over written quantities in "planting legends"
4. Provide matching forms and sizes for all plant materials within each species and size designated in the drawings.
5. The Contractor shall provide positive drainage in all landscape areas
6. The Contractor shall schedule inspections forty eight (48) hours in advance of the work being ready for inspection. If the work is not ready for inspection on the scheduled date and time the contractor shall reschedule the inspection as above.
7. Planting inspections are required for the following:
   - 7.1. Plant material layout prior to planting.
   - 7.2. Plant material quality prior to planting.
   - 7.3. Pre-maintenance period plant material inspection (punch list developed).
   - 7.4. Pre-maintenance period final punch list completion inspection.

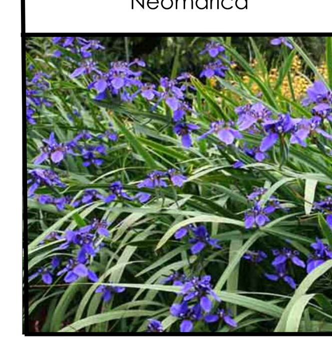
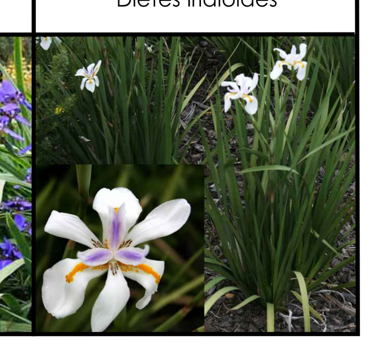
GRASS MIX#1:

Dietes Bicolor	Irises Yellow
	

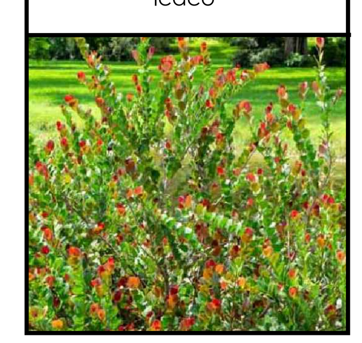
GRASS MIX #3

Pennisetum	Muhly Grass
	

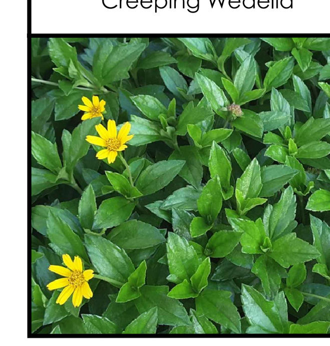
GRASS MIX #2

Neomarica	Dietes Iridioides
	

SHRUBS

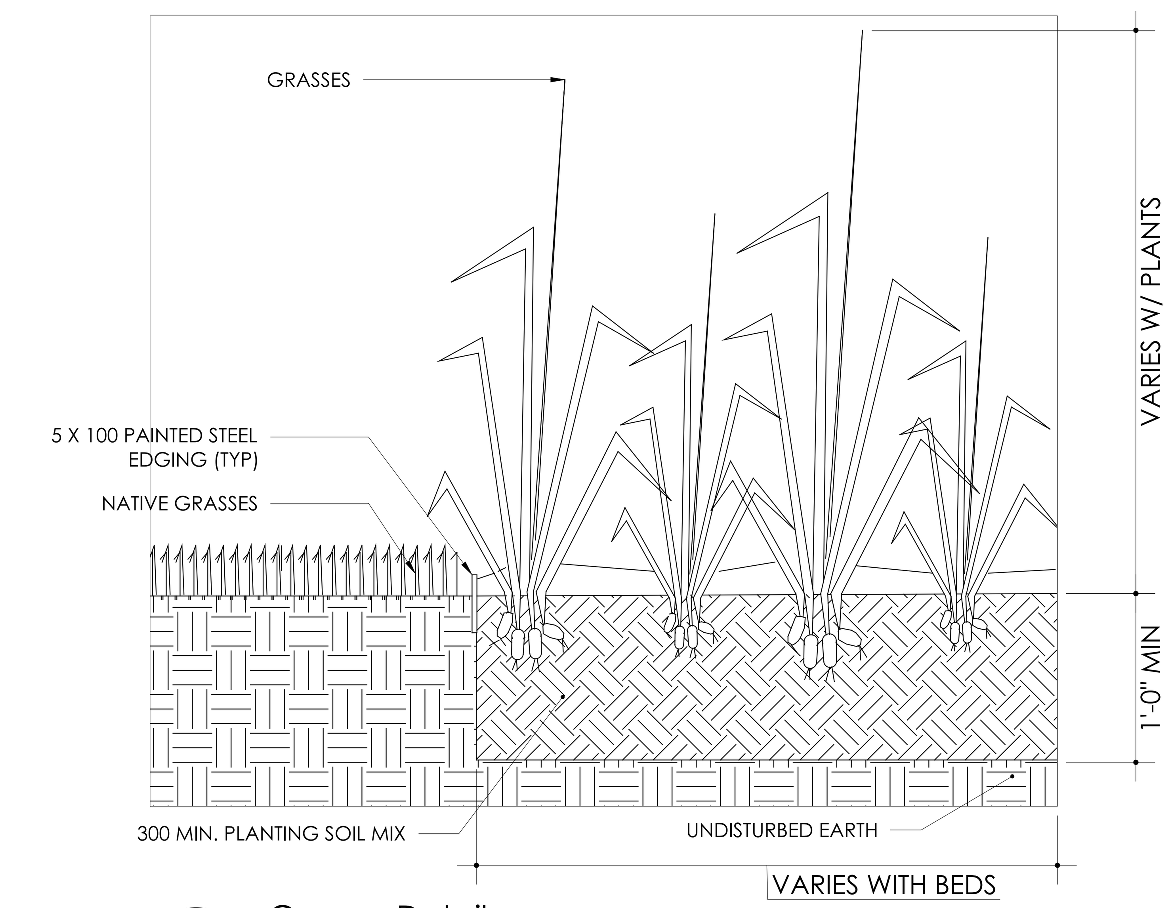
Icaco


GROUND COVERS

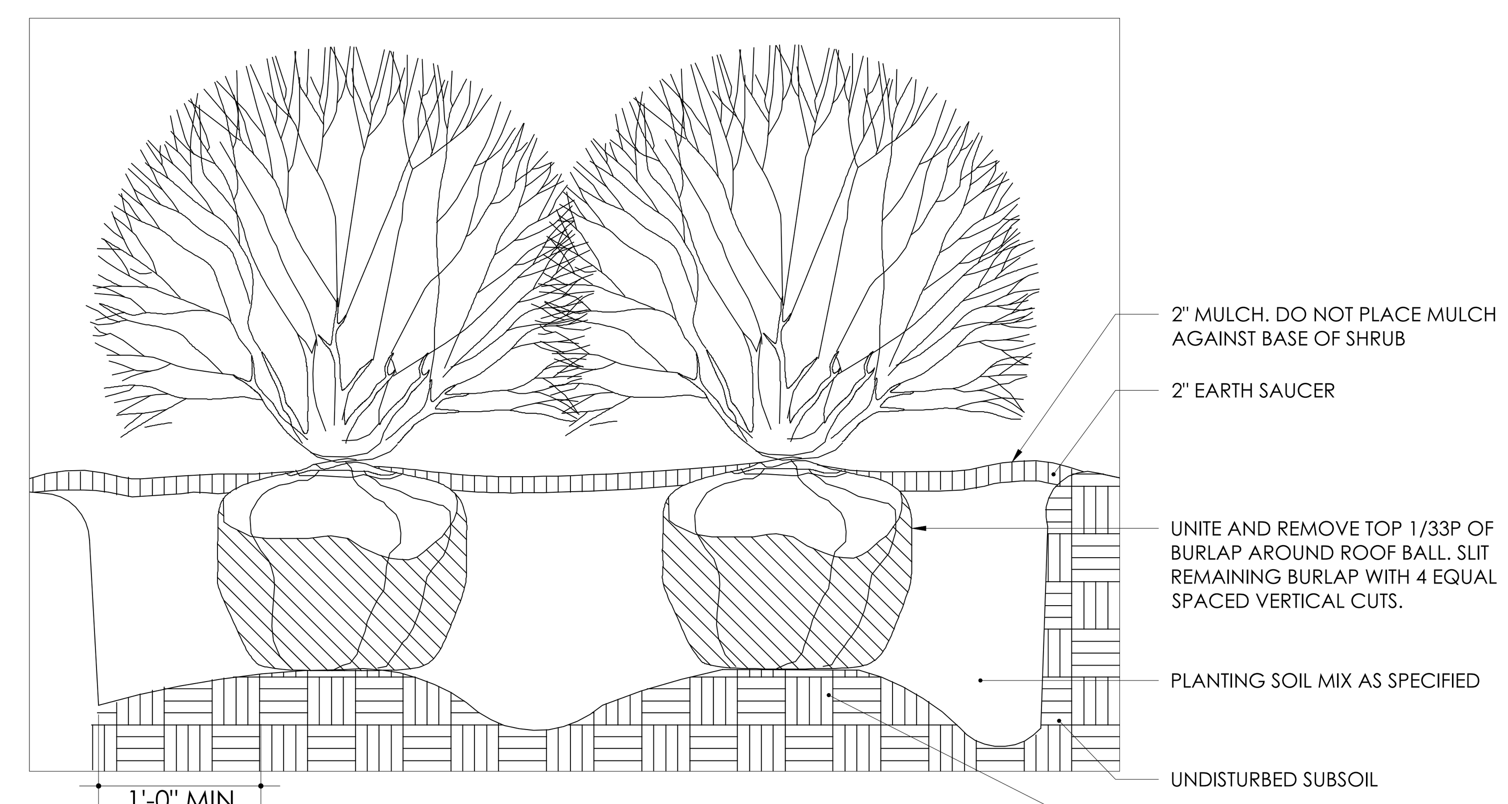
Creeping Wedelia	Inchplant
	

PLANT SCHEDULE

SHRUBS	CODE	BOTANICAL / COMMON NAME	SIZE	SPACING	QTY
	CI	Chrysobalanus icaco / Coco Plum	1 gal.	36" o.c.	63
	DB	Dietes bicolor / Bicolor Iris	1 gal.	18" o.c.	522
	DI	Dietes iridioides / Fortnight Lily	1 gal.	18" o.c.	364
	MC	Muhlenbergia capillaris / Pink Muhly Grass	1 gal.	18" o.c.	251
	NC	Neomarica caerulea / Blue Walking Iris	1 gal.	18" o.c.	82
	NL	Neomarica longifolia / Yellow Walking Iris	1 gal.	18" o.c.	96
	PF	Pennisetum setaceum / Fountain Grass	1 gal.	18" o.c.	296
GROUND COVERS	CODE	BOTANICAL / COMMON NAME	SIZE	SPACING	QTY
	ST	Sphagneticola trilobata / Creeping Wedelia	flat	18" o.c.	1907
	ZM	Zoysia matrella / Manila Grass	sod		12,820 sf



2 Grasses Detail
NTS



3 Shrub Detail
NTS

General Notes

IMPORTANT INFORMATION FOR THE CONTRACTOR

Contractor shall verify al dimensions, levels and condition on-site before commencing any and all work. Any discrepancy, error or omission in these plans shall be notified to the Architect, Landscape Architect or Engineer who stamps and signs these drawings so that proper corrections to the documents can be made.

Do not take any measurements from the physical drawings.

Only use documents with a "FOR CONSTRUCTION ONLY" stamp and sealed and signed by the designer.

Yo, Edmundo Colón Izquierdo, con licencia número 19992, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

No.	Description	Date

ECo
LANDSCAPE + ARCHITECTURE + ENGINEERING
103 Calle Isabel Andreu Aguilar, 4to Piso, San Juan,PR 00918
787-764-0610 eco-designstudio.com

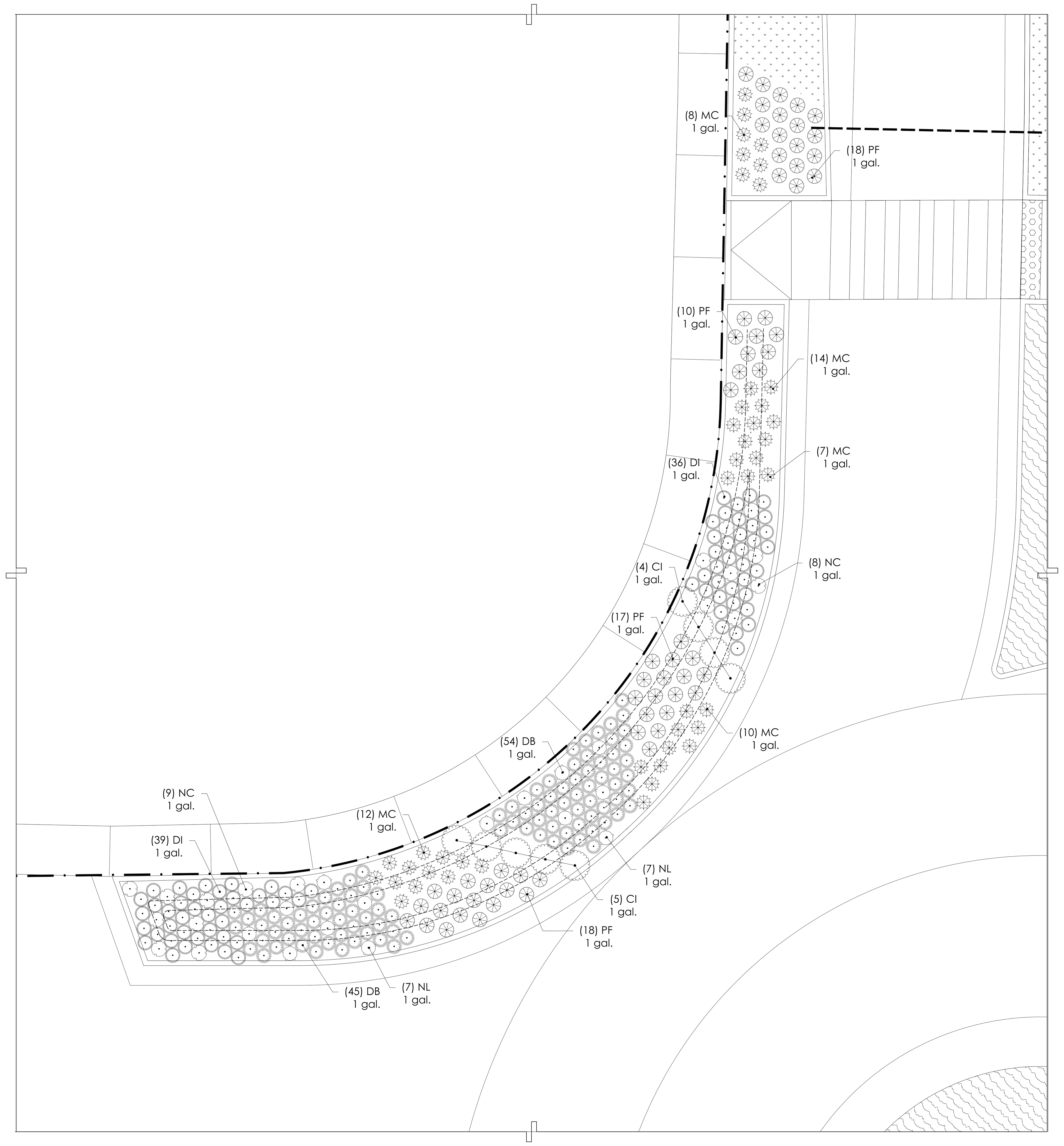
Yo, Edmundo Colón Izquierdo, con licencia número 19992, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

Planting Scope Area + Details
T.B. Roundabout PR-CRP-000973
Ave. Sabana Seca Int. Dr. Villalobos, Levittown, Toa Baja, P.R.
Autonomous Municipio de Toa Baja

Seal:

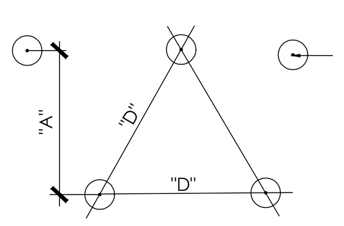
SIGNING ARCH
License #

File Name:	2022.04-Rotondas Toa Baja
Date 09/19/2023	Scale Scale:1'-0"=1/32"
Sheet	LA-300
Project #	2022.04
Drawn by	MOS
Checked by	ERCI

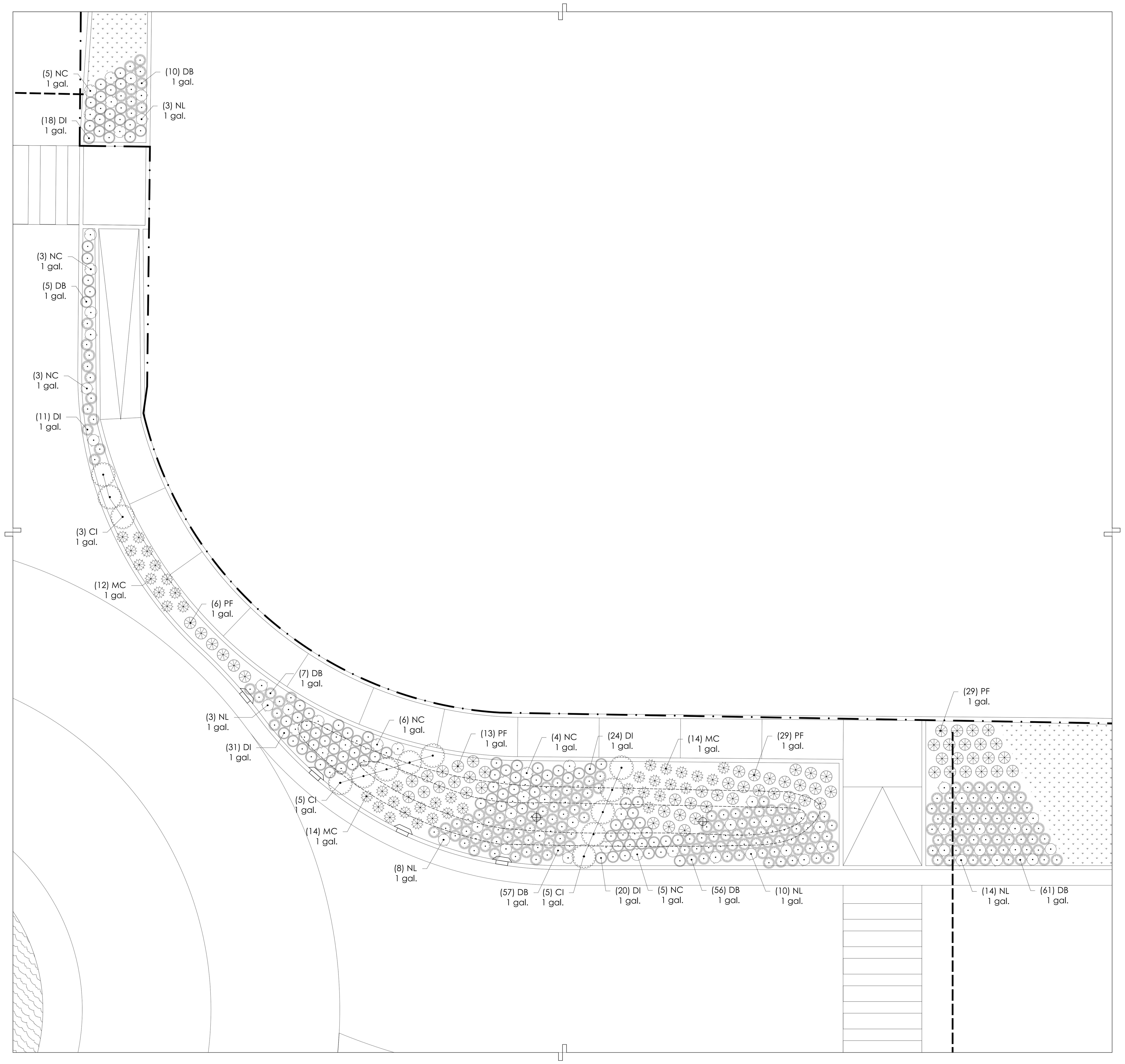


1 PLANTING SCOPE AREA
SCALE: 1/8"=1'-0"
N

Planting Type	Plant Spacing "D"	Row "A"
1	36" O.C.	31" O.C.
2	18" O.C.	15" O.C.
3	18" O.C.	15" O.C.
4	18" O.C.	15" O.C.
5	18" O.C.	15" O.C.
6	18" O.C.	15" O.C.
7	18" O.C.	15" O.C.
8	12" O.C.	10" O.C.
9	12" O.C.	10" O.C.



SHRUB SPACING DETAIL N.T.S.



2 PLANTING SCOPE AREA
SCALE: 1/8"=1'-0"
N

General Notes

IMPORTANT INFORMATION FOR THE CONTRACTOR

Contractor shall verify al dimensions, levels and condition on-site before commencing any and all work. Any discrepancy, error or omission in these plans shall be notified to the Architect, Landscape Architect or Engineer who stamps and signs these drawings so that proper corrections to the documents can be made.

Do not take any measurements from the physical drawings.

All drawings, specifications and other documents are property of ECo and can solely be used as an instrument of the Architect, Landscape Architect or Engineers' service as reference for this project.

Only use documents with a "FOR CONSTRUCTION ONLY" stamp and sealed and signed by the designer.

Yo, Edmundo Colón Izquierdo, con licencia número 19992, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

No.	Description	Date

ECo
Landscape + Architecture + Engineering

103 Calle Isabel Andreu Aguilar, 4to Piso, San Juan,PR 00918
787-764-0610 eco-designstudio.com

Planting Details

T.B. Roundabout PR-CRP-000973

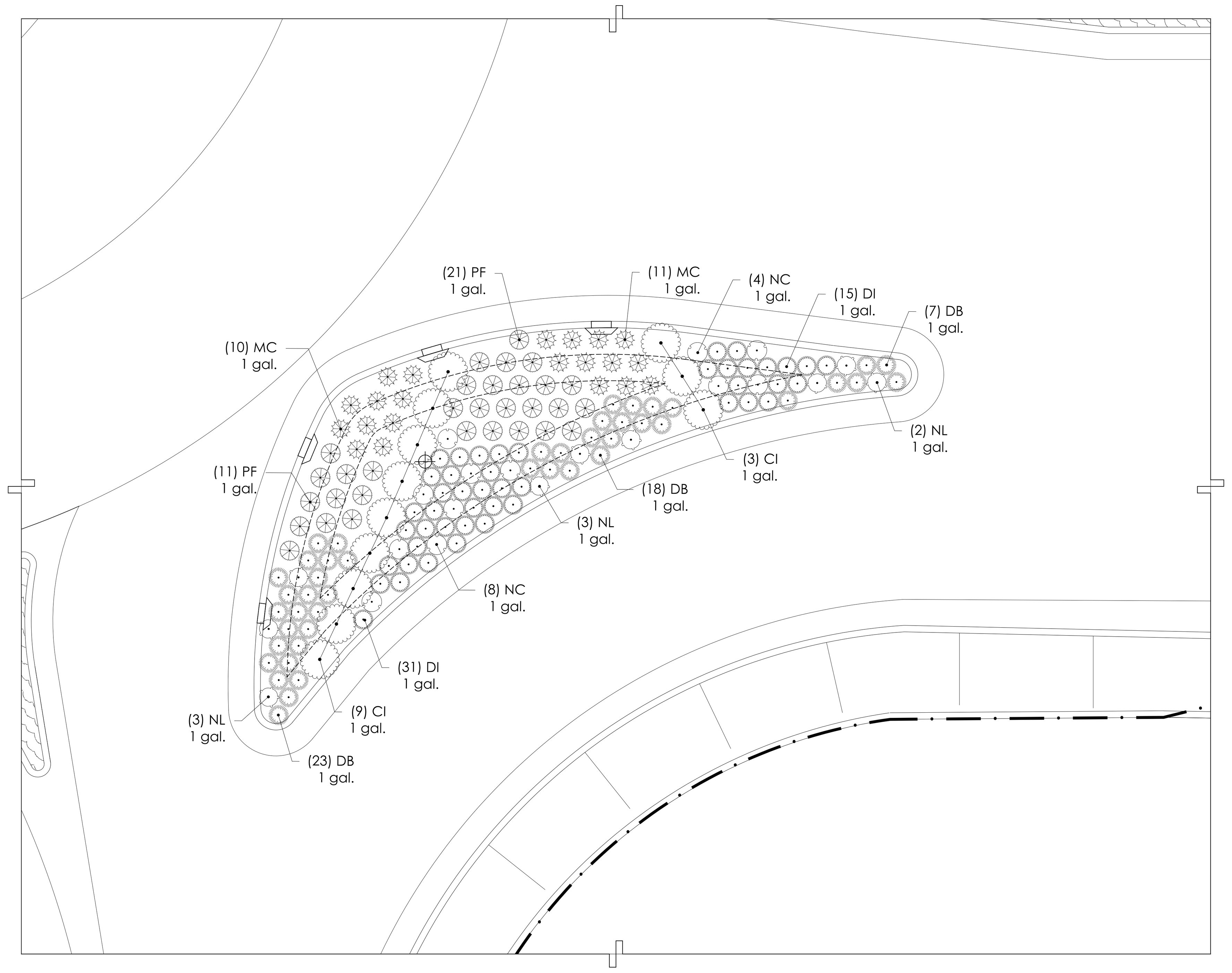
Ave. Sabana Seca Int. Dr. Villalobos, Levittown, Toa Baja, P.R.
Autonomous Municipio de Toa Baja

Seal:

SIGNING ARCH
License #

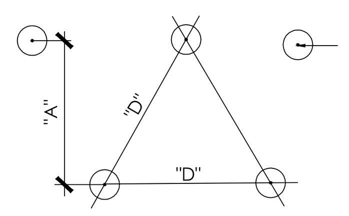
Yo, Edmundo Colón Izquierdo, con licencia número 19992, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

File Name:	2022.04-Rotondas Toa Baja
Date 09/19/2023	Scale Scale:1'-0"=1/8"
Sheet	LA-301
Project #	2022.04
Drawn by	MOS
Checked by	ERCI

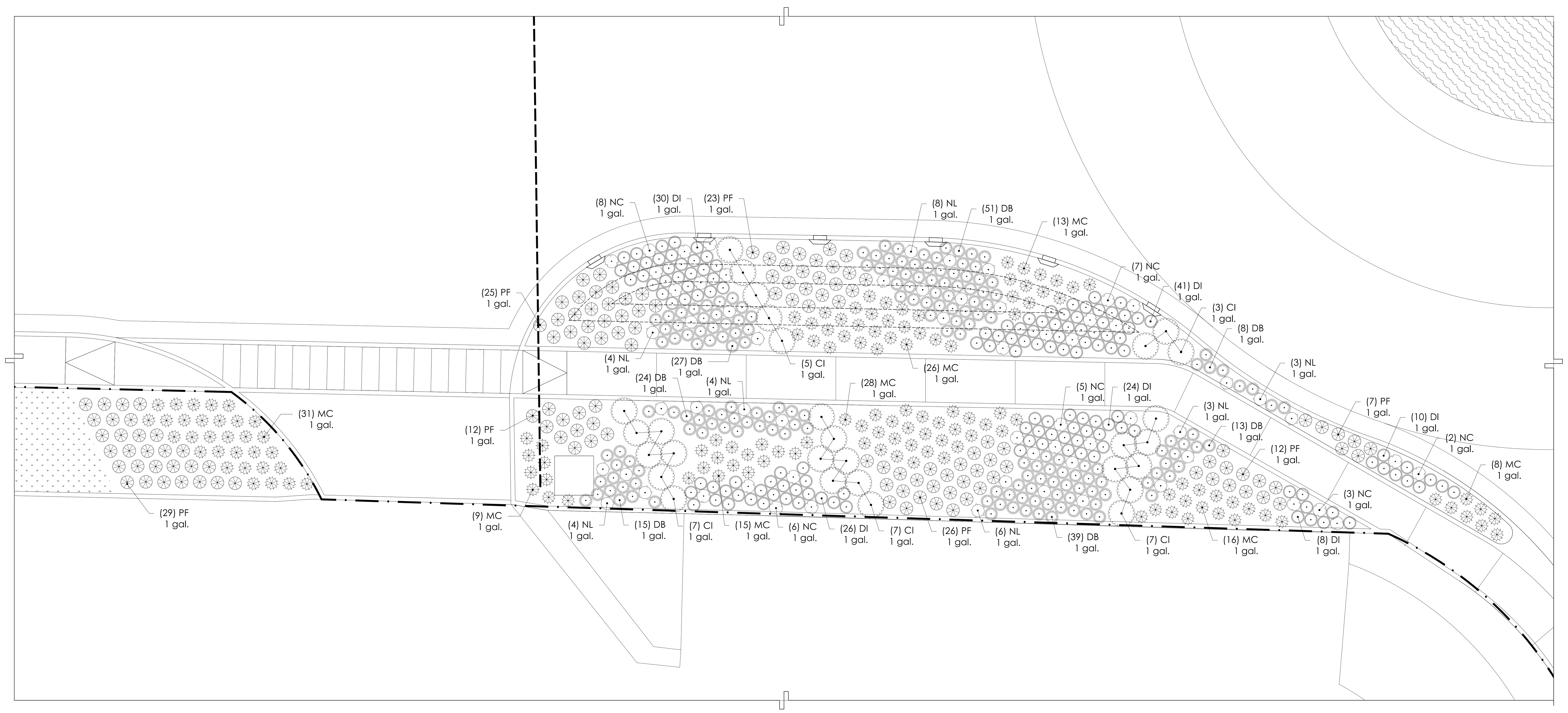


3 PLANTING SCOPE AREA
SCALE: 1/8"=1'-0"
N

Planting Type	Plant Spacing "D"	Row "A"
1	36" O.C.	31" O.C.
2	18" O.C.	15" O.C.
3	18" O.C.	15" O.C.
4	18" O.C.	15" O.C.
5	18" O.C.	15" O.C.
6	18" O.C.	15" O.C.
7	18" O.C.	15" O.C.
8	12" O.C.	10" O.C.
9	12" O.C.	10" O.C.



SHRUB SPACING DETAIL N.T.S.



4 PLANTING SCOPE AREA
SCALE: 1/8"=1'-0"
N

General Notes

IMPORTANT INFORMATION FOR THE CONTRACTOR

Contractor shall verify al dimensions, levels and condition on-site before commencing any and all work. Any discrepancy, error or omission in these plans shall be notified to the Architect, Landscape Architect or Engineer who stamps and signs these drawings so that proper corrections to the documents can be made.

Do not take any measurements from the physical drawings.

All drawings, specifications and other documents are property of ECo and can solely be used as an instrument of the Architect, Landscape Architect or Engineers' service as reference for this project.

Only use documents with a "FOR CONSTRUCTION ONLY" stamp and sealed and signed by the designer.

Yo, Edmundo Colón Izquierdo, con licencia número 19992, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

No.	Description	Date

ECo
LANDSCAPE + ARCHITECTURE + ENGINEERING
103 Calle Isabel Andreu Aguilar, 4to
Piso, San Juan,PR 00918
787-764-0610 eco-designstudio.com

Planting Details

T.B. Roundabout PR-CRP-000973

Ave. Sabana Seca Int. Dr. Villalobos, Levittown, Toa Baja, P.R.

Autonomous Municipio de Toa Baja

Seal:

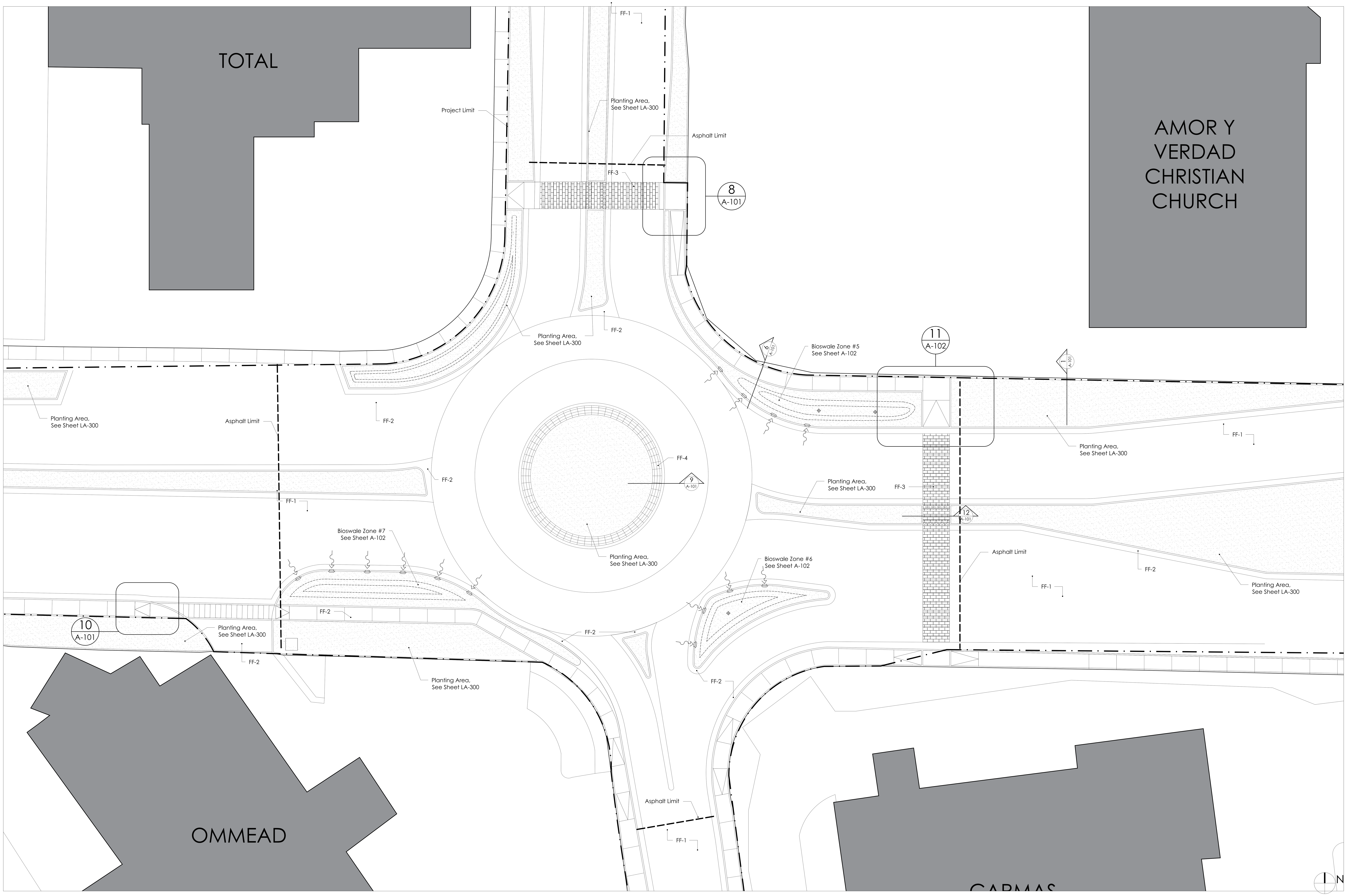
SIGNING ARCH
License #

Yo, Edmundo Colón Izquierdo, con licencia número 19992, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

File Name: 2022.04-Rotondas Toa Baja
Date 09/19/2023
Scale: Scale:1'-0"=1/8"
Sheet

LA-302

Project # 2022.04
Drawn by MOS
Checked by ERCI



1 Floor Pattern Plan

SCALE: 1'-0"=1/16"

LEGEND:

FLOOR FINISHES	TYPES	SQFT APROX.
FF-1	ASPHALT	
FF-2	CONCRETE SLAB	
FF-3	CONCRETE PAVERS	1,176 sqft
FF-4	PAVERS SOLEADOS	585 sqft
PLANTING ZONE	MIX#1, MIX #2, MIX #3	13,693 sqft

General Notes

IMPORTANT INFORMATION FOR THE CONTRACTOR

Contractor shall verify al dimensions, levels and condition on-site before commencing any and all work. Any discrepancy, error or omission in these plans shall be notified to the Architect, Landscape Architect or Engineer who stamps and signs these drawings so that proper corrections to the documents can be made.

Do not take any measurements from the physical drawings.

All drawings, specifications and other documents are property of ECo and can solely be used as an instrument of the Architect, Landscape Architect or Engineers' service as reference for this project.

Only use documents with a "FOR CONSTRUCTION ONLY" stamp and sealed and signed by the designer.

Yo, Edmundo Colón Izquierdo, con licencia número 19992, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

No.	Description	Date

ECo
Landscape + Architecture + Engineering

103 Calle Isabel Andreu Aguilar, 4to
Piso, San Juan,PR 00918
787-764-0610 eco-designstudio.com

Floor Pattern Plan

T.B. Roundabout PR-CRP-000973

Ave. Sabana Seca Int. Dr. Villalobos, Levittown, Toa Baja, P.R.

Autonomous Municipio de Toa Baja

Seal:

Edmundo Colón Izquierdo
License # 19992

File Name: 2022.04-Rotondas Toa Baja

Date 09/19/2023

Scale Scale:1'-0"=1/16"

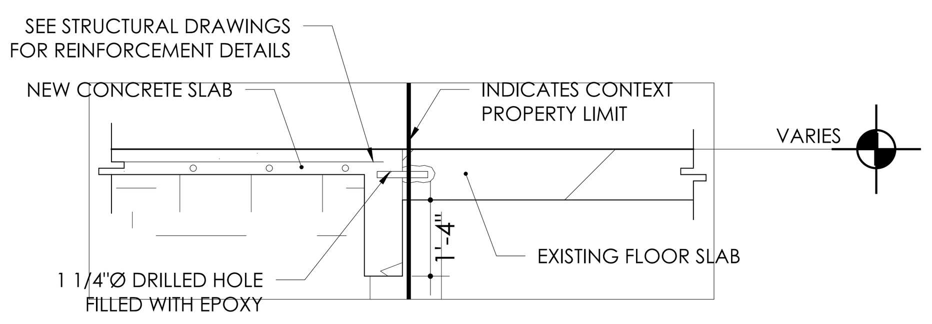
Sheet

LA-100

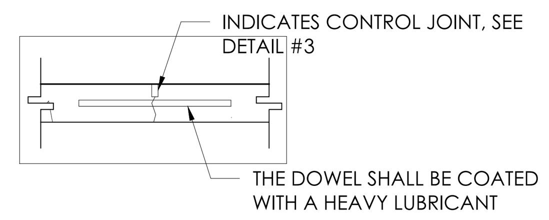
Project # 2022.04

Drawn by MOS

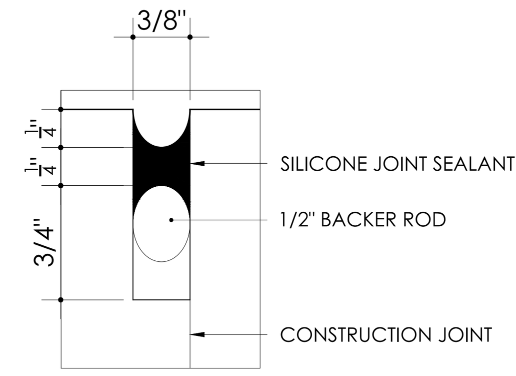
Checked by ERCI



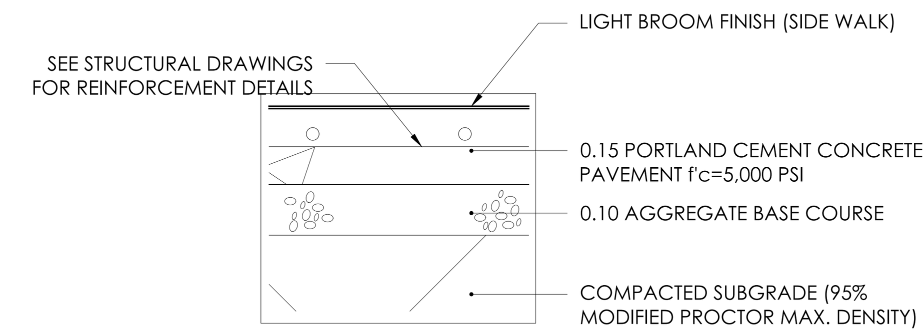
1 Existing & New Concrete Connection Detail
SCALE: 1/2"=1'-0"



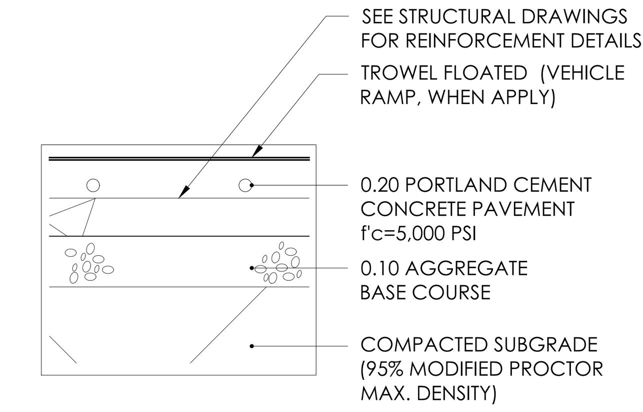
2 Concrete Joint Detail
SCALE: 1/2"=1'-0"



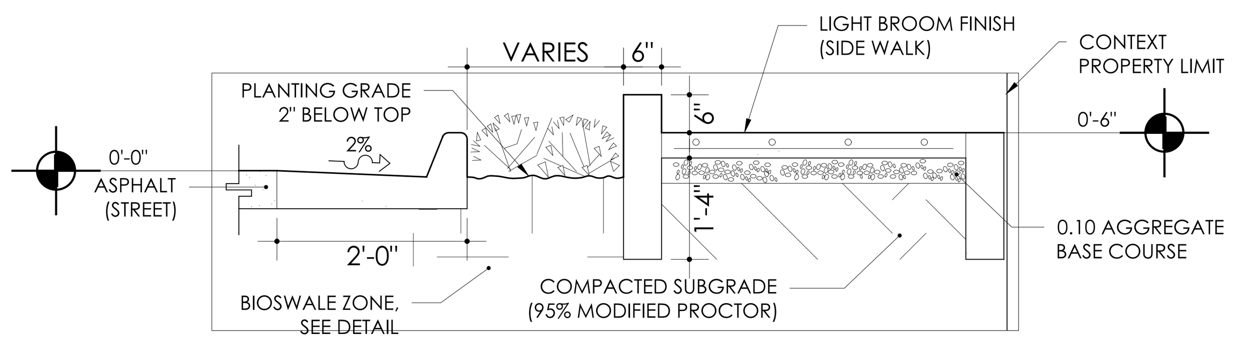
3 Joint Detail
SCALE: 1'-0"=1'-0"



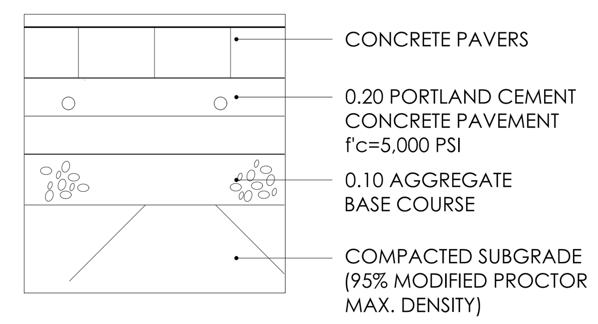
4 Light Duty Concrete Pavement-MKD-LD
NOT TO SCALE



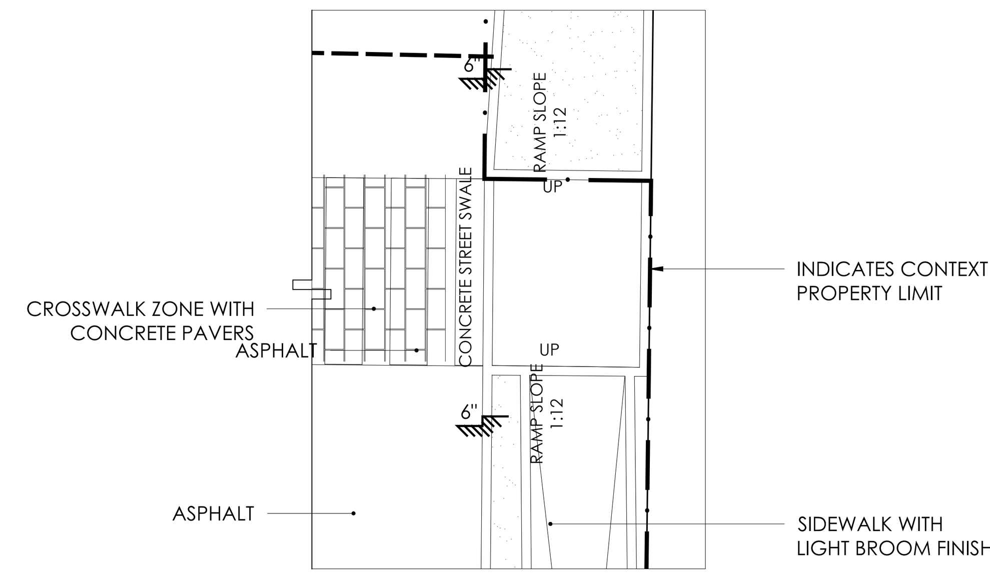
5 Heavy Duty Concrete Pavement-MKD-HD
NOT TO SCALE



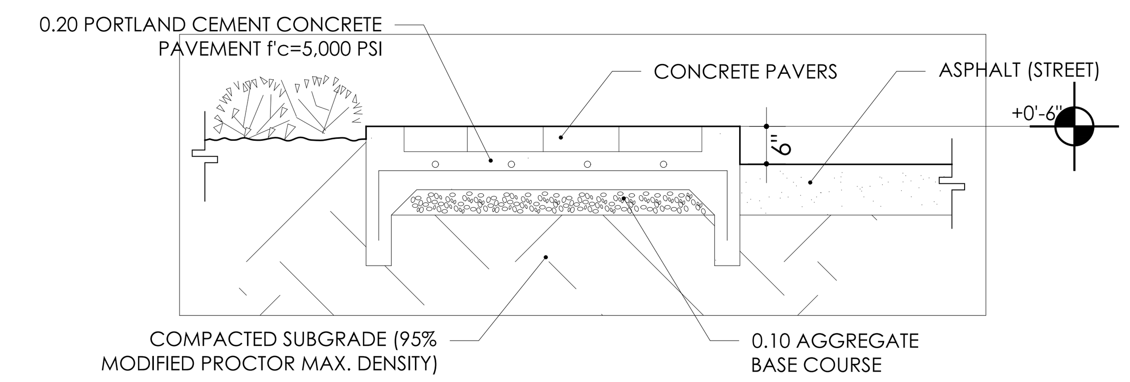
6 Side Walk Section Light Duty-MKD-LDS
NOT TO SCALE



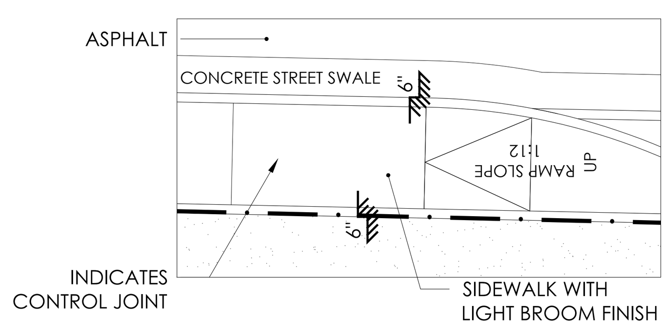
7 Heavy Duty Concrete Paverst-MKD-HD
NOT TO SCALE



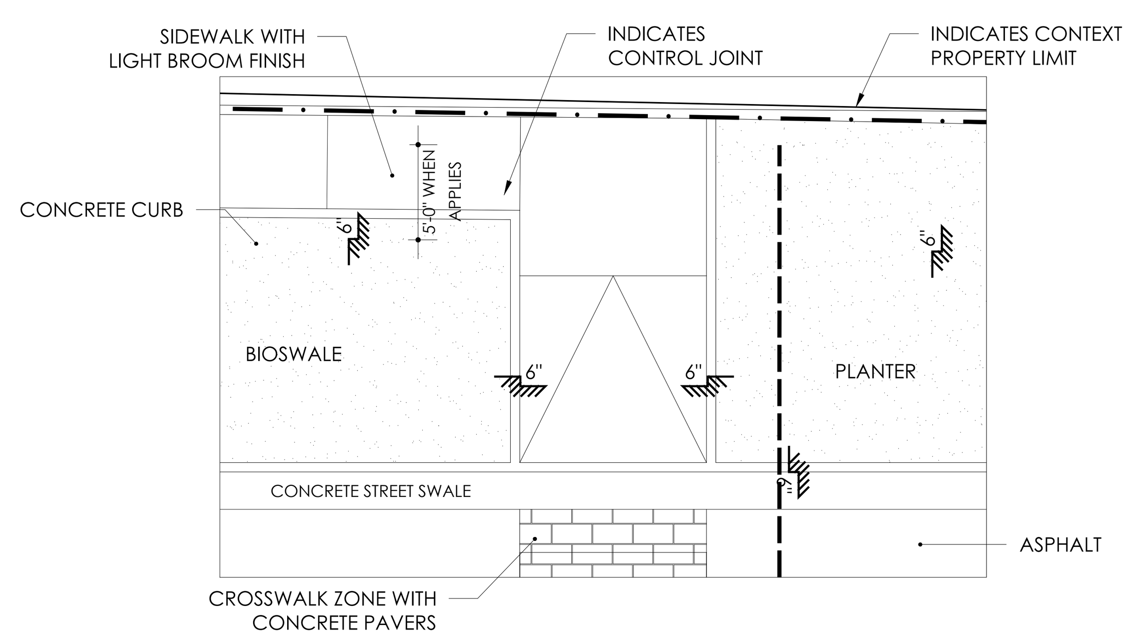
8 Ramp Section Heavy Duty MKD-HD
SCALE: 1/8"=1'-0"



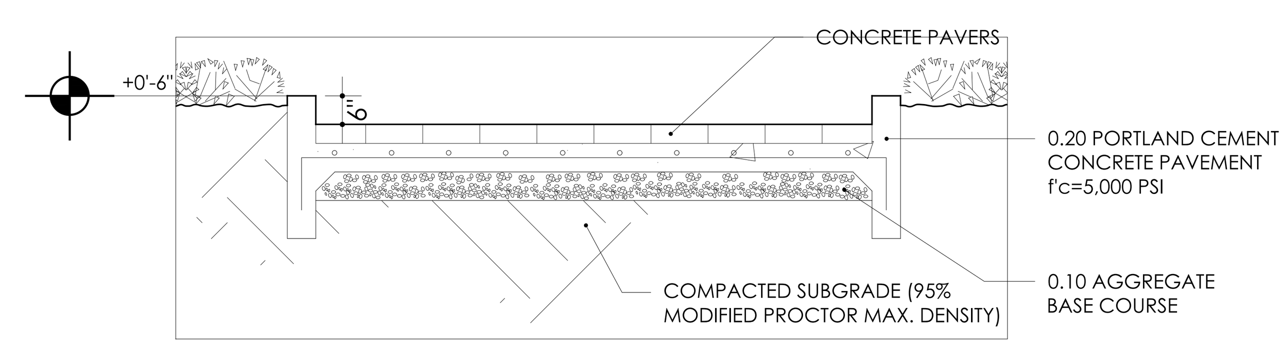
9 Roundabout Center Section Heavy Duty MKD-HD
SCALE: 1/2"=1'-0"



10 Handicapped Ramp Detail-Top View
SCALE: 3/8"=1'-0"



11 Handicapped Ramp Detail-Top View
SCALE: 1/8"=1'-0"



13 Crosswalk Type B Section Heavy Duty
SCALE: 3/8"=1'-0"

General Notes

IMPORTANT INFORMATION FOR THE CONTRACTOR

Contractor shall verify al dimensions, levels and condition on-site before commencing any and all work. Any discrepancy, error or omission in these plans shall be notified to the Architect, Landscape Architect or Engineer who stamps and signs these drawings so that proper corrections to the documents can be made.

Do not take any measurements from the physical drawings.

Only use documents with a “FOR CONSTRUCTION ONLY” stamp and sealed and signed by the designer.

Yo, Edmundo Colón Izquierdo, con licencia número 19992, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

No.	Description	Date

ECo
Landscape + Architecture + Engineering

103 Calle Isabel Andreu Aguilar, 4to Piso, San Juan, PR 00918
787-764-0610 eco-designstudio.com

Ground Floor Details
T.B. Roundabout PR-CRP-000973
Ave. Sabana Seca Int. Dr. Villalobos, Levittown, Toa Baja, P.R.
Autonomous Municipio de Toa Baja

Seal:

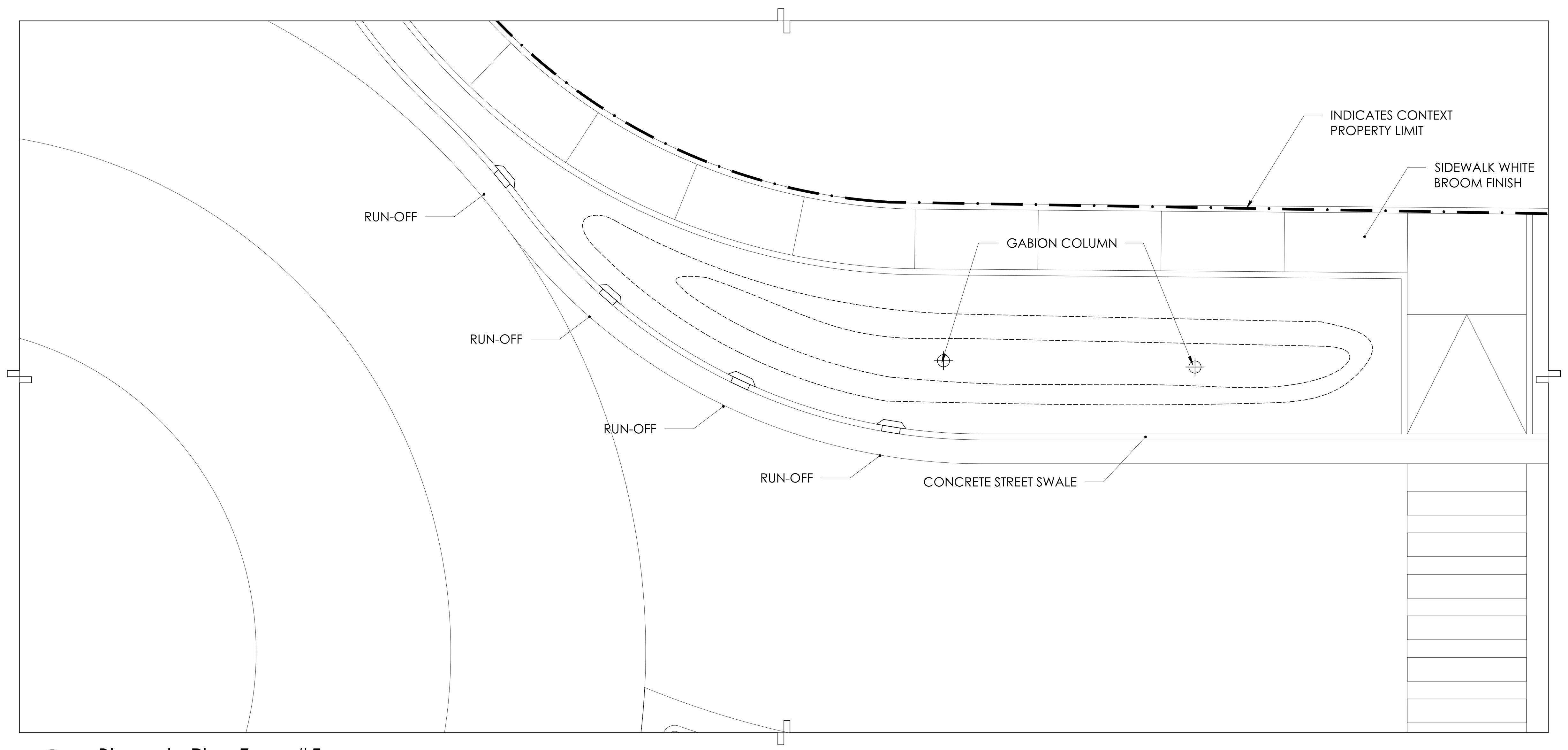
SIGNING ARCH
License #

File Name: 2022.04-Rotondas Toa Baja

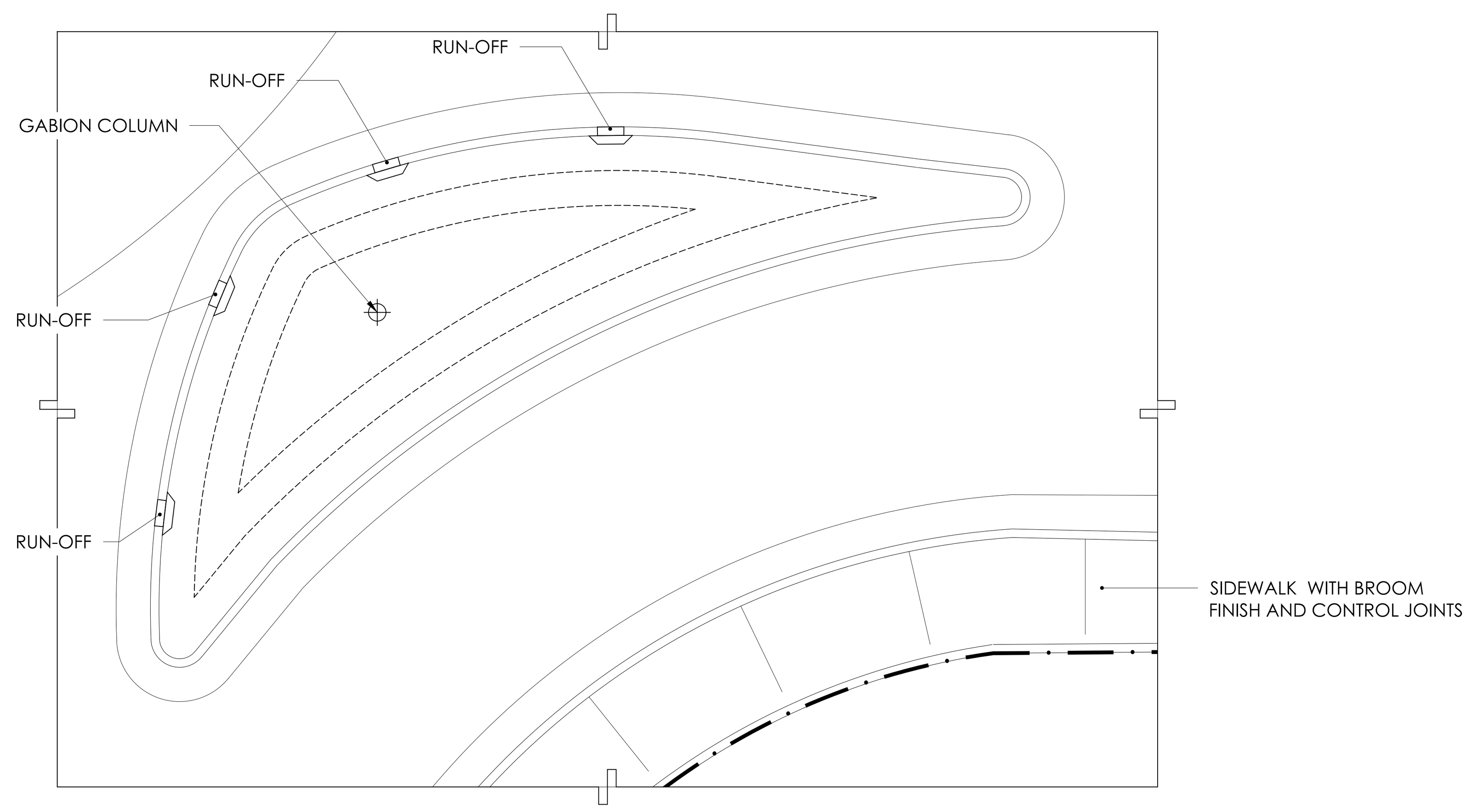
Date 09/19/2023
Scale Scale:1'-0"=1/16"

Sheet
A-101

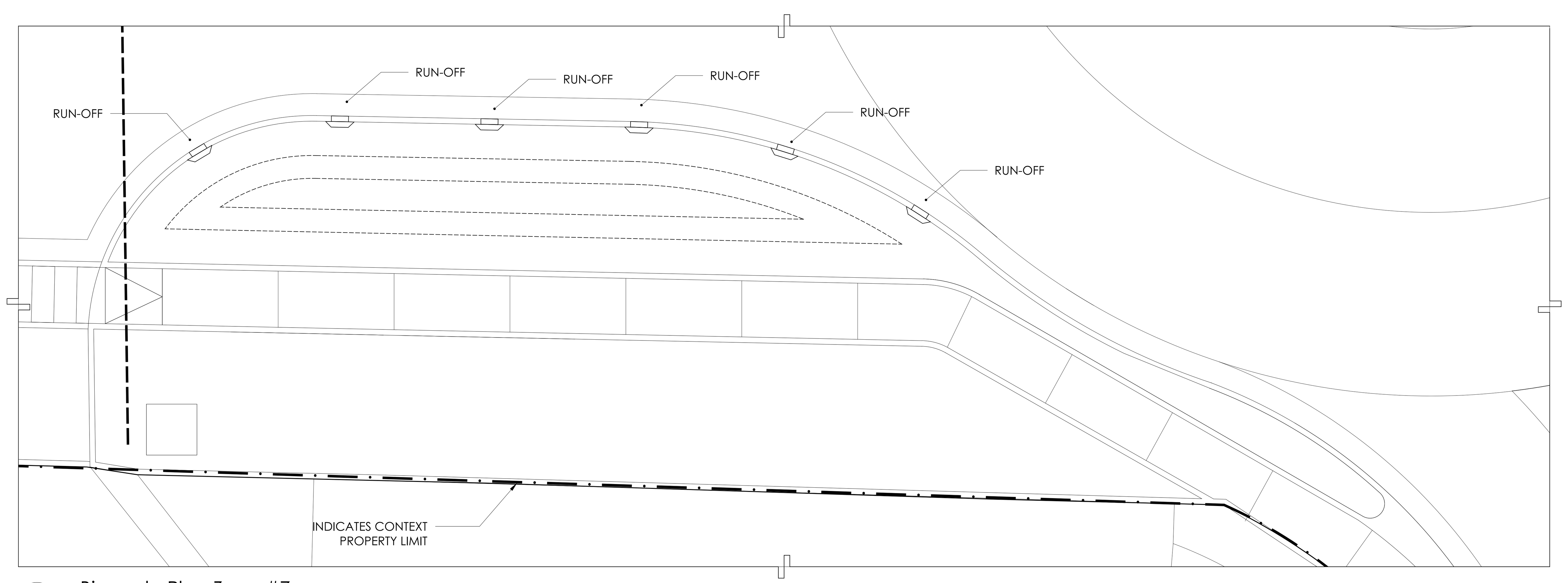
Project # 2022.04
Drawn by MOS
Checked by ERCI



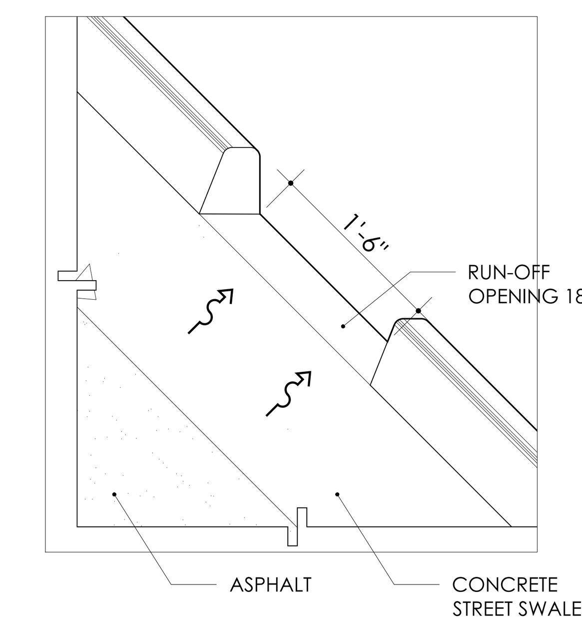
1 Bioswale Plan Zone #5
SCALE: 3/32"=1'-0"



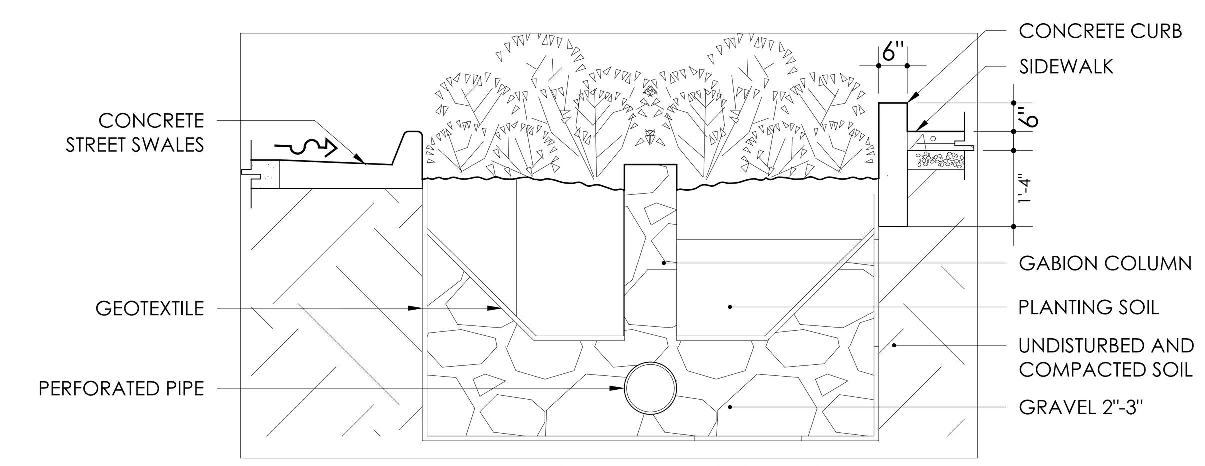
2 Bioswale Plan Zone #6
SCALE: 3/32"=1'-0"



3 Bioswale Plan Zone #7
SCALE: 3/32"=1'-0"



4 Run-Off Detail
NOT TO SCALE



5 KEY PLAN-BIOSWALE LOCATIONS
NOT TO SCALE

General Notes

IMPORTANT INFORMATION FOR THE CONTRACTOR

Contractor shall verify al dimensions, levels and condition on-site before commencing any and all work. Any discrepancy, error or omission in these plans shall be notified to the Architect, Landscape Architect or Engineer who stamps and signs these drawings so that proper corrections to the documents can be made.

Do not take any measurements from the physical drawings.

Only use documents with a “FOR CONSTRUCTION ONLY” stamp and sealed and signed by the designer.

Yo, Edmundo Colón Izquierdo, con licencia número 19992, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del reglamento conjunto y las disposiciones aplicables de los reglamentos y códigos de las agencias, juntas reglamentadoras o corporaciones públicas con jurisdicción. Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPE y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPE.

No.	Description	Date

ECo
LANDSCAPE + ARCHITECTURE + ENGINEERING

103 Calle Isabel Andreu Aguilar, 4to Piso, San Juan,PR 00918
787-764-0610 eco-designstudio.com

Bioswale Plan & Details

T.B. Roundabout PR-CRP-000973

Ave. Sabana Seca Int. Dr. Villalobos, Levittown, Toa Baja, P.R.

Autonomous Municipio de Toa Baja

Seal:

SIGNING ARCH
License #

File Name: 2022.04-Rotondas Toa Baja

Date 09/19/2023

Scale Scale:1'-0"=1/32"

Sheet

A-102

Project # 2022.04

Drawn by MOS

Checked by ERCI

Appendix L:
Sole Source Aquifer
Maps

Sole Source Aquifer Map

PR-CRP-000948: Intersection of Juan “Picolino” Hernández Ferrer Ave. and Rufino Ramirez St., Toa Baja PR (18.437412°, -66.167189°)
PR-CRP-000964: Intersection of Juan “Picolino” Hernández Ferrer Ave. and Dr. Álvarez Chanca Ave., Toa Baja PR (18.437677˚, -66.180319˚)
PR-CRP-000973: Intersection of Juan “Picolino” Hernández Ferrer Ave. and Del Carmen St., Toa Baja PR (18.437799°, -66.185903°)

October 1, 2024

Prepared by ICF

*Please note that the Sole Source Aquifer layer is not visible at the scale required to display Puerto Rico and the State of Florida on the same map. The nearest Sole Source Aquifer to the project location is 1,023.12 miles (approximately 5,402,073.6 feet) away in Cross Key, Florida.

1:1,155,581

0 5 10 20 mi

0 15 30 60 km

Earthstar Geographics, Esri, TomTom, Garmin, Foursquare, SafeGraph, FAO, METI/NASA, USGS, NPS, USFWS

Sole Source Aquifer Map

PR-CRP-000948: Intersection of Juan “Picolino” Hernández Ferrer Ave. and Rufino Ramirez St., Toa Baja PR (18.437412°, -66.167189°)
PR-CRP-000964: Intersection of Juan “Picolino” Hernández Ferrer Ave. and Dr. Álvarez Chanca Ave., Toa Baja PR (18.437677˚, -66.180319˚)
PR-CRP-000973: Intersection of Juan “Picolino” Hernández Ferrer Ave. and Del Carmen St., Toa Baja PR (18.437799°, -66.185903°)

October 1, 2024

Prepared by ICF

*Please note that the Sole Source Aquifer layer is not visible at the scale required to display Puerto Rico and the State of Florida on the same map. The nearest Sole Source Aquifer to the project location is 1,023.12 miles (approximately 5,402,073.6 feet) away in Cross Key, Florida, marked by a red dot on the map.

1:9,244,649

0 70 140 280 mi

0 115 230 460 km

Earthstar Geographics, Esri, TomTom, Garmin, FAO, NOAA, USGS, EPA

Appendix M:
Wetland Maps

PR-CRP-000948 Wetland Map

Address: Intersection of Juan “Picolino” Hernández Ferrer Ave. and Rufino Ramirez St., Toa Baja PR
Coordinates: 18.437412°, -66.167189°

U.S. Fish and Wildlife Service
National Wetlands Inventory

July 30, 2024

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.

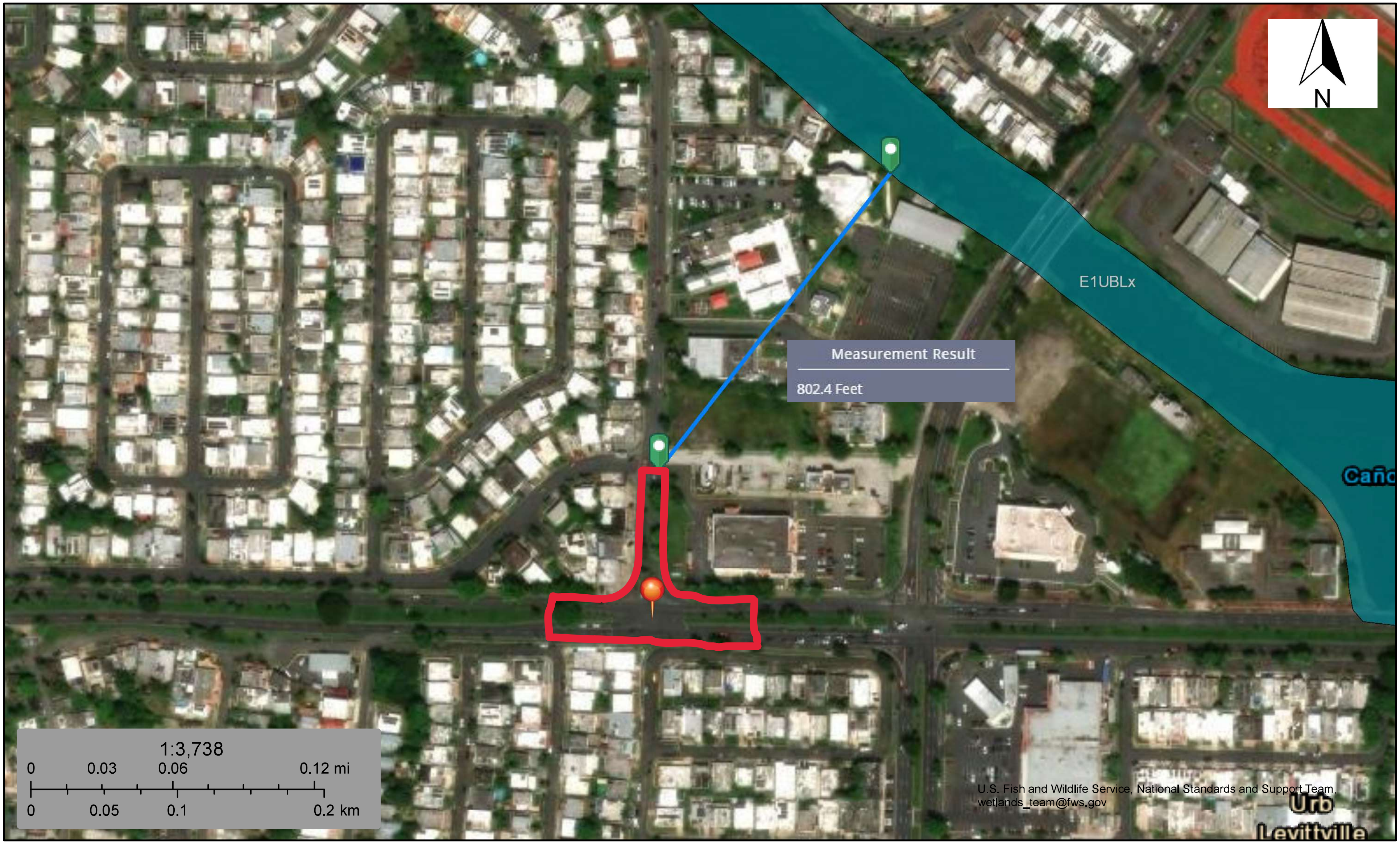
Prepared by ICF

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

PR-CRP-000964 Wetland Map

Address: Intersection of Juan "Picolino" Hernández Ferrer Ave. and Dr. Álvarez Chanca Ave., Toa Baja PR
Coordinates: 18.437677˚, -66.180319˚

U.S. Fish and Wildlife Service
National Wetlands Inventory



July 30, 2024

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.

Prepared by ICF

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

PR-CRP-000973 Wetland Map

Address: Intersection of Juan “Picolino” Hernández Ferrer Ave. and Del Carmen St., Toa Baja PR
Coordinates: 18.437799°, -66.185903°

U.S. Fish and Wildlife Service
National Wetlands Inventory

July 30, 2024

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.

Prepared by ICF

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

Appendix N:
Wild and Scenic River Map

Wild and Scenic Rivers Map

PR-CRP-000948: Intersection of Juan “Picolino” Hernández Ferrer Ave. and Rufino Ramirez St., Toa Baja PR (18.437412°, -66.167189°)
PR-CRP-000964: Intersection of Juan “Picolino” Hernández Ferrer Ave. and Dr. Álvarez Chanca Ave., Toa Baja PR (18.437677˚, -66.180319˚)
PR-CRP-000973: Intersection of Juan “Picolino” Hernández Ferrer Ave. and Del Carmen St., Toa Baja PR (18.437799°, -66.185903°)

October 1, 2024

Project 1

Wild and Scenic Rivers

1:288,895

0 2.25 4.5 9 mi

0 3.75 7.5 15 km

Earthstar Geographics, Esri, TomTom, Garmin, Foursquare, SafeGraph, METI/NASA, USGS, NPS, USFWS

Prepared by ICF

Appendix O:
Site Inspection Report

Site Inspection Report

Project Name: Rotonda Ave. Sabana Seca int. Calle Rufino Ramírez (PR-CRP-000948) / Rotonda Ave. Sabana Seca int. Ave. Dr. Diego Alvarez Chanca (PR-CRP-000964) / Rotonda Ave. Sabana Seca int. Calle Dr. Villalobos (PR-CRP-000973), Levittown	
Address: Municipality of Toa Baja, PR	
Enviro. Site Inspection Report Preparer: ICF	**Enviro. Site Inspection Report Prepared Date: 11/7/2024**
Program Type: City Revitalization Program (CRP)	**HUD Program:** Community Development Block Grant – Disaster Recovery (CDBG-DR)
Project Description: The project includes various improvements to three intersections along Juan "Picolino" Hernández Ferrer Avenue (Sábana Seca Avenue) in Levittown, Toa Baja.	

General Property Conditions: The project area is a paved segment of road along Juan "Picolino" Hernández Ferrer Avenue (Sábana Seca Avenue) in Levittown, Toa Baja. There were no general safety or environmental hazards on or adjacent to the project area.

Environmental Observations:

Wetlands:

1. **Is there any evidence of wetlands on or adjacent to the subject property?** ☒ Yes/ ☐ No

   There is a retaining pond adjacent to the Rotonda Ave. Sabana Seca and Calle Rufino Ramírez intersection. (PR-CRP-000948). This retaining pond is identified as an Estuarine and Marine Deepwater wetland (E1UBLx) by the USFWS National Wetlands Inventory mapper. On the mapper, this wetland is shown extending slightly into the project area. However, this area is already developed with sidewalks, curbs, and an asphalt road. The project will not expand beyond the footprint of the existing intersection further into the wetland and therefore there will be no direct or indirect impacts to the wetland.

Endangered Species:

1. **Are there any signs of relevant Threatened or Endangered Species?** ☐ Yes/ ☒ No

   According to the US Fish and Wildlife Service's (USFWS) Information for Planning and Consulting (IPaC) tool, the following listed species may occur within or near the proposed project site:
   Endangered:
   - Puerto Rican Boa (Chilabothrus inornatus)

   Threatened:
   - Roseate Tern (Sterna dougallii dougallii)
   - Palo De Rosa (Ottoschulzia rhodoxylon)

   No critical habitats or threatened or endangered species were found in the project area.

Contamination and Toxic Substances:

1. **Are there any signs the property is or was used for commercial or industrial purposes?** ☒ Yes/ ☐ No

   The project area itself is limited to the existing segments of road, but is adjacent to several commercial properties along the roadway. There are 15 EPA-regulated facilities located within the buffer zone (3000-ft) of the proposed project as identified by NEPAssist, though none of the facilities have an identified compliance violation. The facilities will not be impacted, nor will the project development and intended use be impacted by these facilities, as there will be no ground disturbance outside of existing roadways.

2. **Are there any above ground storage tanks (including 55-gallon drums) located on or adjacent to the subject property?** ☒ Yes/ ☐ No

   There are water cisterns on several structures visible from the project area. However, there are no ASTs on or adjacent to the project area could impact the project.

3. **Are there any signs of underground storage tanks (USTs) on or adjacent to the project area?** ☒ Yes/ ☐ No

   There are USTs for petroleum storage at the gas stations adjacent to the project area.

4. **Is there any evidence or indication of leaking electrical equipment (such as transformer, capacitor, or hydraulic equipment) present on site?** ☐ Yes/ ☒ No

5. **Is there a debris pile on or adjacent to the subject property?** ☐ Yes/ ☒ No

6. **Is there any evidence of corrosion, rust, or leaks, such as surface staining, distressed vegetation, visible spill or pungent, foul or noxious odor?** ☐ Yes/ ☒ No

PUERTO RICO 2017 DISASTER RECOVERY, CDBG-DR PROGRAM CITY REVITALIZATION PROGRAM (CITY-REV)	GOVERNMENT OF PUERTO RICO DEPARTMENT OF HOUSING
Subrecipient: Municipio de Toa Baja	
Project Name: PR-CPR-000948 Rotonda Avenida Sábana Seca intersección con la Calle Rufino Ramírez; PR-CPR-000964 Rotonda Avenida Sábana Seca intersección con la Avenida Dr Diego Álvarez Chanca; PR-CPR-000973 Rotonda Avenida Sábana Seca intersección con la Calle Dr Villalobos.	**Project ID**: PR-CPR-000948, PR-CPR-000964; PR-CPR-000973

PR-CRP-000948

Photo #1	**Description (include direction):** Looking northeast towards project 000948 roundabout location.
Date:17/07/24	

Photo #:2	**Description (include direction):** Looking southeast towards project 000948 roundabout location.
Date: 17/07/24	

PUERTO RICO 2017 DISASTER RECOVERY, CDBG-DR PROGRAM CITY REVITALIZATION PROGRAM (CITY-REV)	GOVERNMENT OF PUERTO RICO DEPARTMENT OF HOUSING
Subrecipient: Municipio de Toa Baja	
Project Name: PR-CPR-000948 Rotonda Avenida Sábana Seca intersección con la Calle Rufino Ramírez; PR-CPR-000964 Rotonda Avenida Sábana Seca intersección con la Avenida Dr Diego Álvarez Chanca; PR-CPR-000973 Rotonda Avenida Sábana Seca intersección con la Calle Dr Villalobos.	**Project ID**: PR-CPR-000948, PR-CPR-000964; PR-CPR-000973

PR-CRP-000948

Photo #3 **Date:17/07/24**	**Description (include direction):** Looking southwest towards project 000948 roundabout location.

Photo #4 **Date: 17/07/24**	**Description (include direction):** Looking northwest towards project 000948 roundabout location.

PUERTO RICO 2017 DISASTER RECOVERY, CDBG-DR PROGRAM CITY REVITALIZATION PROGRAM (CITY-REV)	GOVERNMENT OF PUERTO RICO DEPARTMENT OF HOUSING
Subrecipient: Municipio de Toa Baja	
Project Name: PR-CPR-000948 Rotonda Avenida Sábana Seca intersección con la Calle Rufino Ramírez; PR-CPR-000964 Rotonda Avenida Sábana Seca intersección con la Avenida Dr Diego Álvarez Chanca; PR-CPR-000973 Rotonda Avenida Sábana Seca intersección con la Calle Dr Villalobos.	**Project ID**: PR-CPR-000948, PR-CPR-000964; PR-CPR-000973

PR-CRP-000948

Photo #5 **Date:17/07/24**	**Description (include direction):** Looking northeast from corner of intersection, towards houses within the APE limit.

Photo #6 **Date: 17/07/24**	**Description (include direction):** Looking northwest from corner of intersection, towards houses within the APE limit.

PUERTO RICO 2017 DISASTER RECOVERY, CDBG-DR PROGRAM CITY REVITALIZATION PROGRAM (CITY-REV)	GOVERNMENT OF PUERTO RICO DEPARTMENT OF HOUSING
Subrecipient: Municipio de Toa Baja	
Project Name: PR-CPR-000948 Rotonda Avenida Sábana Seca intersección con la Calle Rufino Ramírez; PR-CPR-000964 Rotonda Avenida Sábana Seca intersección con la Avenida Dr Diego Álvarez Chanca; PR-CPR-000973 Rotonda Avenida Sábana Seca intersección con la Calle Dr Villalobos.	**Project ID**: PR-CPR-000948, PR-CPR-000964; PR-CPR-000973

PR-CRP-000948

Photo #7 **Date:17/07/24**	**Description (include direction):** Looking east from project's limit in the center of intersection.

Photo #8 **Date: 17/07/24**	**Description (include direction):** Looking southeast from corner of intersection, towards houses within the APE limit.

PR-CRP-000948

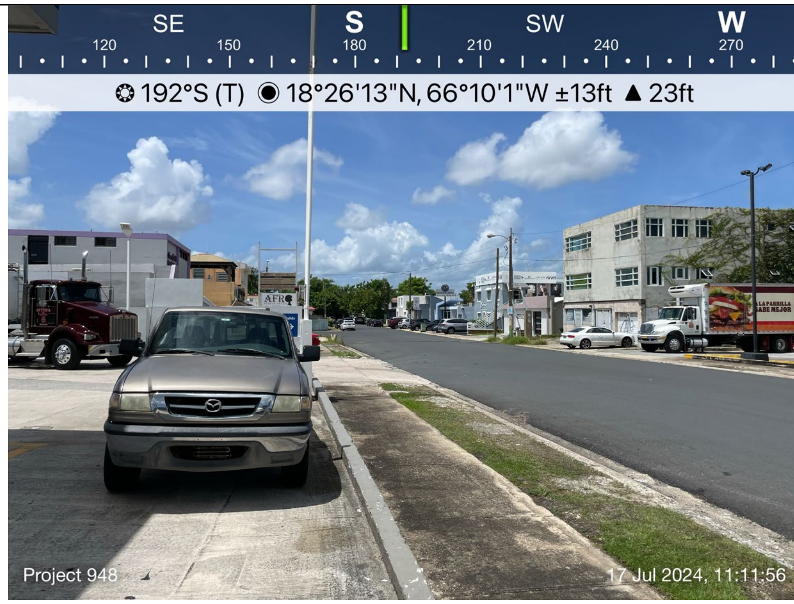


Photo #9	**Description (include direction):** Looking southwest from corner of intersection, towards houses within the APE limit.
Date:17/07/24	

Photo #10	**Description (include direction):** Looking west from project's limit in the center of intersection.
Date: 17/07/24	

PR-CRP-000948

Photo #11	**Description (include direction):** Looking southeast towards intersection, from houses within the APE limit.
Date:17/07/24	

Photo #12	**Description (include direction):** Looking southeast towards intersection, from houses within the APE limit.
Date: 17/07/24	

PUERTO RICO 2017 DISASTER RECOVERY, CDBG-DR PROGRAM CITY REVITALIZATION PROGRAM (CITY-REV)	GOVERNMENT OF PUERTO RICO DEPARTMENT OF HOUSING
Subrecipient: Municipio de Toa Baja	
Project Name: PR-CPR-000948 Rotonda Avenida Sábana Seca intersección con la Calle Rufino Ramírez; PR-CPR-000964 Rotonda Avenida Sábana Seca intersección con la Avenida Dr Diego Álvarez Chanca; PR-CPR-000973 Rotonda Avenida Sábana Seca intersección con la Calle Dr Villalobos.	**Project ID**: PR-CPR-000948, PR-CPR-000964; PR-CPR-000973

PR-CRP-000948

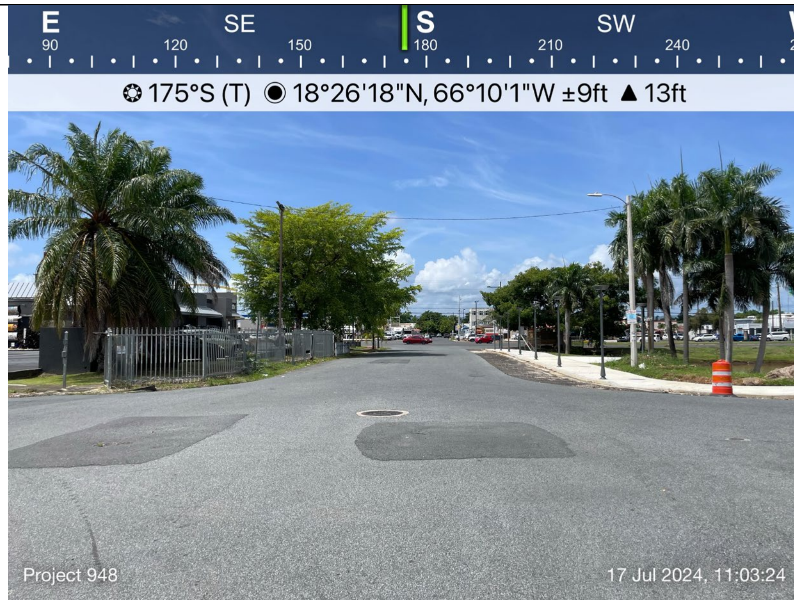


Photo #13 **Date:17/07/24**	**Description (include direction):** Looking south from project's limit towards roundabout location.

Photo #14 **Date: 17/07/24**	**Description (include direction):** Looking north from project's limit towards roundabout location.

PUERTO RICO 2017 DISASTER RECOVERY, CDBG-DR PROGRAM **CITY REVITALIZATION PROGRAM (CITY-REV)**	GOVERNMENT OF PUERTO RICO DEPARTMENT OF HOUSING
Subrecipient: Municipio de Toa Baja	
Project Name: PR-CPR-000948 Rotonda Avenida Sábana Seca intersección con la Calle Rufino Ramírez; PR-CPR-000964 Rotonda Avenida Sábana Seca intersección con la Avenida Dr Diego Álvarez Chanca; PR-CPR-000973 Rotonda Avenida Sábana Seca intersección con la Calle Dr Villalobos.	**Project ID**: PR-CPR-000948, PR-CPR-000964; PR-CPR-000973

PR-CRP-000973

Photo #1	**Description (include direction):** Looking northeast towards project 000973 roundabout location.
Date: 17/07/24	

Photo #2	**Description (include direction):** Looking southeast towards project 000973 roundabout location.
Date: 17/07/24	

Puerto Rico 2017 Disaster Recovery, CDBG-DR Program **City Revitalization Program (City-Rev)**	GOVERNMENT OF PUERTO RICO DEPARTMENT OF HOUSING
Subrecipient: Municipio de Toa Baja	
Project Name: PR-CPR-000948 Rotonda Avenida Sábana Seca intersección con la Calle Rufino Ramírez; PR-CPR-000964 Rotonda Avenida Sábana Seca intersección con la Avenida Dr Diego Álvarez Chanca; PR-CPR-000973 Rotonda Avenida Sábana Seca intersección con la Calle Dr Villalobos.	**Project ID**: PR-CPR-000948, PR-CPR-000964; PR-CPR-000973

PR-CRP-000973

Photo #3 **Date: 17/07/24**	**Description (include direction):** Looking southwest towards project 000973 roundabout location.

Photo #4 **Date: 17/07/24**	**Description (include direction):** Looking northwest towards project 000973 roundabout location.

PUERTO RICO 2017 DISASTER RECOVERY, CDBG-DR PROGRAM CITY REVITALIZATION PROGRAM (CITY-REV)	GOVERNMENT OF PUERTO RICO DEPARTMENT OF HOUSING
Subrecipient: Municipio de Toa Baja	
Project Name: PR-CPR-000948 Rotonda Avenida Sábana Seca intersección con la Calle Rufino Ramírez; PR-CPR-000964 Rotonda Avenida Sábana Seca intersección con la Avenida Dr Diego Álvarez Chanca; PR-CPR-000973 Rotonda Avenida Sábana Seca intersección con la Calle Dr Villalobos.	**Project ID**: PR-CPR-000948, PR-CPR-000964; PR-CPR-000973

PR-CRP-000973

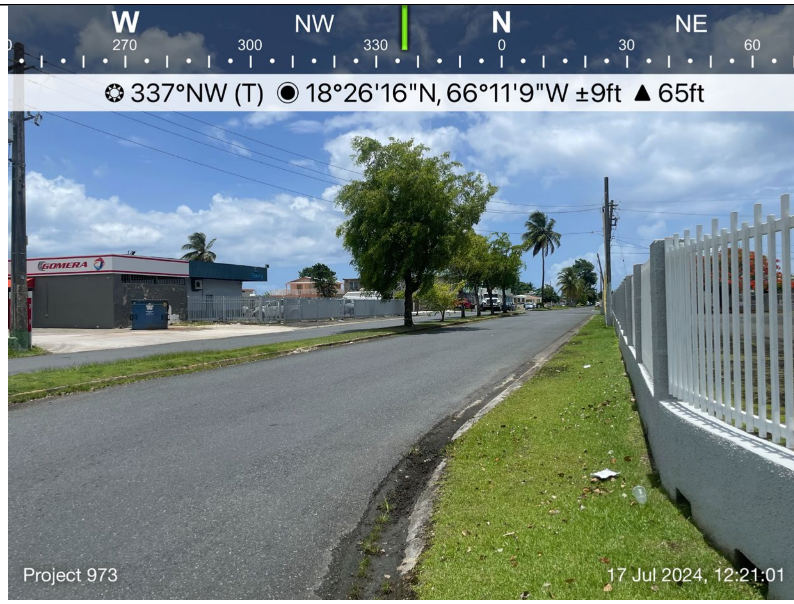


Photo #5 **Date: 17/07/24**	**Description (include direction):** Looking northwest from corner of intersection, towards houses within the APE limi**t.**

Photo #6 **Date: 17/07/24**	**Description (include direction):** Looking east from project's limit in the center of intersection.

Puerto Rico 2017 Disaster Recovery, CDBG-DR Program City Revitalization Program (City-Rev)	Government of Puerto Rico Department of Housing
Subrecipient: Municipio de Toa Baja	
Project Name: PR-CPR-000948 Rotonda Avenida Sábana Seca intersección con la Calle Rufino Ramírez; PR-CPR-000964 Rotonda Avenida Sábana Seca intersección con la Avenida Dr Diego Álvarez Chanca; PR-CPR-000973 Rotonda Avenida Sábana Seca intersección con la Calle Dr Villalobos.	**Project ID**: PR-CPR-000948, PR-CPR-000964; PR-CPR-000973

PR-CRP-000973

Photo #7	**Description (include direction):** Looking west from project's limit in the center of intersection.
Date: 17/07/24	

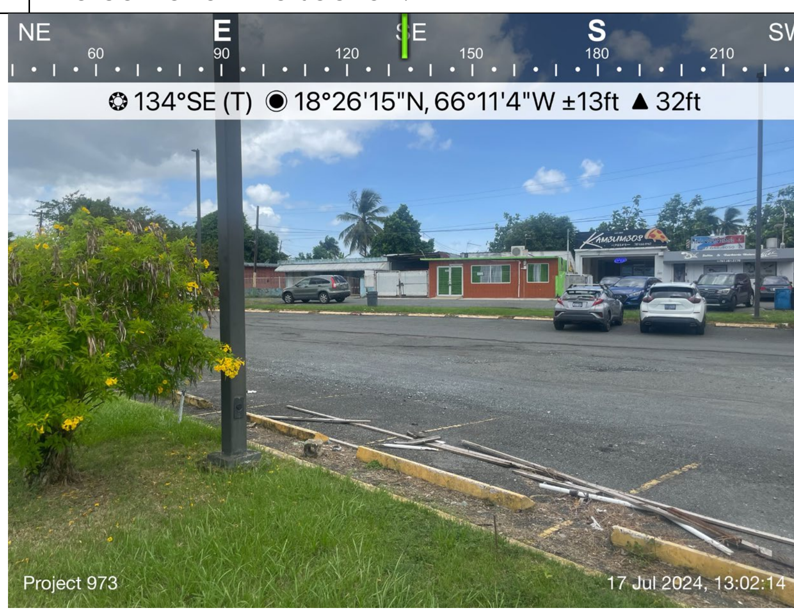


Photo #8	**Description (include direction):** View from Juan Picolino Hernández Avenue, looking southeast towards Marginal Este Street.
Date: 17/07/24	

PR-CRP-000973

Photo #9 **Date: 17/07/24**	**Description (include direction):** Looking south from project's APE limit towards roundabout location.

Photo #10 **Date: 17/07/24**	**Description (include direction):** Looking north from project's limit towards roundabout location.

Puerto Rico 2017 Disaster Recovery, CDBG-DR Program **City Revitalization Program (City-Rev)**	GOVERNMENT OF PUERTO RICO DEPARTMENT OF HOUSING
Subrecipient: Municipio de Toa Baja	
Project Name: PR-CPR-000948 Rotonda Avenida Sábana Seca intersección con la Calle Rufino Ramírez; PR-CPR-000964 Rotonda Avenida Sábana Seca intersección con la Avenida Dr Diego Álvarez Chanca; PR-CPR-000973 Rotonda Avenida Sábana Seca intersección con la Calle Dr Villalobos.	**Project ID**: PR-CPR-000948, PR-CPR-000964; PR-CPR-000973

PR-CRP-000973

Photo #1 **Date: 17/07/24**	**Description (include direction):** Looking northeast towards project 000973 roundabout location.

Photo #2 **Date: 17/07/24**	**Description (include direction):** Looking southeast towards project 000973 roundabout location.

PUERTO RICO 2017 DISASTER RECOVERY, CDBG-DR PROGRAM CITY REVITALIZATION PROGRAM (CITY-REV)	GOVERNMENT OF PUERTO RICO DEPARTMENT OF HOUSING
Subrecipient: Municipio de Toa Baja	
Project Name: PR-CPR-000948 Rotonda Avenida Sábana Seca intersección con la Calle Rufino Ramírez; PR-CPR-000964 Rotonda Avenida Sábana Seca intersección con la Avenida Dr Diego Álvarez Chanca; PR-CPR-000973 Rotonda Avenida Sábana Seca intersección con la Calle Dr Villalobos.	**Project ID**: PR-CPR-000948, PR-CPR-000964; PR-CPR-000973

Photo #3	**Description (include direction):** Looking southwest towards project 000973 roundabout location.
Date: 17/07/24	

Photo #4	**Description (include direction):** Looking northwest towards project 000973 roundabout location.
Date: 17/07/24	

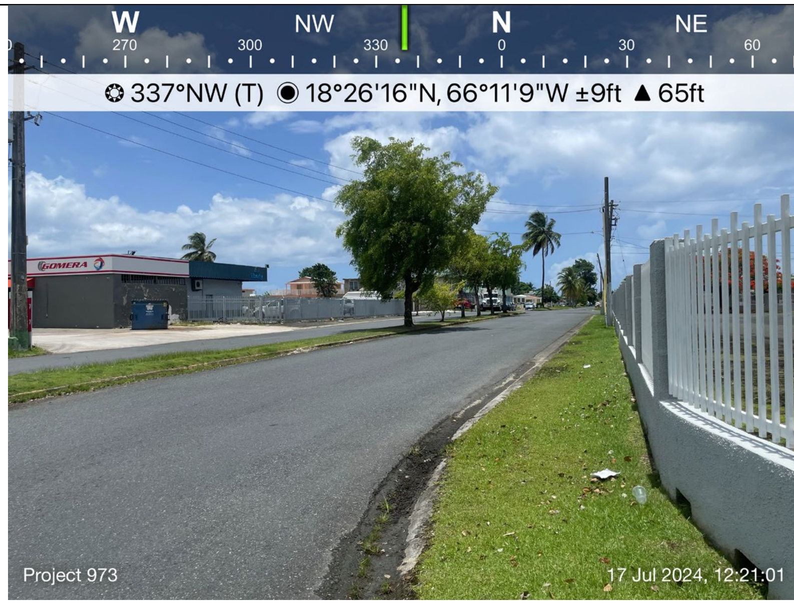


Photo #5 **Date: 17/07/24**	**Description (include direction):** Looking northwest from corner of intersection, towards houses within the APE limit**.**

Photo #6 **Date: 17/07/24**	**Description (include direction):** Looking east from project's limit in the center of intersection.

PR-CRP-000973

Photo #7 **Date: 17/07/24**	**Description (include direction):** Looking west from project's limit in the center of intersection.

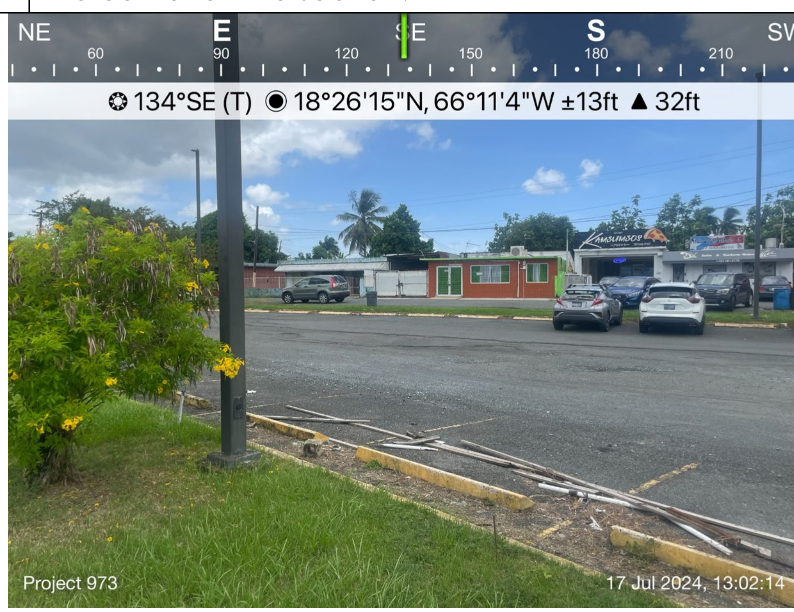


Photo #8 **Date: 17/07/24**	**Description (include direction):** View from Juan Picolino Hernández Avenue, looking southeast towards Marginal Este Street.

PR-CRP-000973

Photo #9	**Description (include direction):** Looking south from project's APE limit towards roundabout location.
Date: 17/07/24	

Photo #10	**Description (include direction):** Looking north from project's limit towards roundabout location.
Date: 17/07/24	