Kimley»Horn
Puerto Rico, LLC

MEMORANDUM

To: Mr. Efran Paredes
Infinigen Renewables, LLC
53 Palmeras St, Ste. 701,
San Juan, Puerto Rico 00901

From: Emanuelle D. Rodríguez Muñiz, P.E. (FL, PR)
Kimley-Horn and Associates, Inc.

Date: December 11, 2023

Subject: Yabucoa Solar Farm
Visual Impact Assessment

Emanuelle D. Rodríguez Muñiz
Ingeniero Licenciado
Lic. 27884 PE
Puerto Rico
Fecha de Expiración: 2026-11-12

Introduction

Kimley-Horn has been retained to perform a Visual Impact Assessment (VIA) for a proposed 32.1 mega-volt amp (MVA) photovoltaic solar farm in Yabucoa, Puerto Rico, a city located 30 miles southeast of San Juan. The proposed solar farm will be situated on one (1) 48,497,793.33 square meter (sqm) parcel split into 6 zones. A detailed project map is included in **Attachment A**. The project zones delineate smaller sections within the larger parcel that will be developed as part of the proposed solar farm. The land area of each project zone is as follows:

- Zone 1: 113,036.56 sqm
- Zone 2: 47,711.81 sqm
- Zone 3: 67,246.43 sqm
- Zone 4: 16,090.91 sqm
- Zone 5: 34,483.74 sqm
- Zone 6: 63,591.24 sqm

Yabucoa is a small-to-medium-sized city with nearly 33,000 inhabitants as of 2020 data. The proposed project site is 2 miles from the city center of Yabucoa and is situated in the valley between the communities of El Negro and Comunas near Playa Yabucoa and Playa Lucía. Yabucoa is generally 30 miles in straight-line distance from Puerto Rico's capital city, San Juan; and lies closest to the metropolitan area of Caguas. **Attachment B** shows an area map, including the Yabucoa Valley region and island of Puerto Rico.

This VIA Memorandum analyzed the overall visual impact the proposed solar farm may have, gave context to the project site and current conditions, and described any mitigation plans to be put in place, if any.

Existing Visual Conditions

The natural landscape of the area is characterized by common tropical to sub-tropical terrain, geographical features, and flora. West of the project site is a valley, which extends to the Limones community and is bounded by the Comunas community to the north and the city of Yabucoa to the south. Satellite imagery

and Puerto Rican government maps indicate much of the land in the aforementioned valley is used for agricultural purposes. To the east of the project site is the Caribbean Sea. As a whole, the area is characterized by greenery and swaths of untouched forest.

Adjacent to the Yabucoa Harbor, an existing oil-refining company operates in the area bounded by the PR-53 and PR-9914 roadways. The oil-refining site is approximately 552,000 sqm, with 35-40 industrial oil tanks ranging in size from 15 to 75 feet radii and approximately 30 feet in height. Approaching the oil-refining site from the northern direction, the oil storage tanks are visible beginning at the PR-53 and PR-906 intersection. Approaching the site from the south, the tanks are visible beginning at the PR-901 and PR-9901 intersection.

Image 1: Existing Oil Refining and Storage Site

The proposed project site is bisected by PR-9914. The northern portion of the site, where zone 1 will be constructed, is adjacent to the existing oil refining plant. This ~113,036 sqm zone (zone 1) is undeveloped and consists of a sole grassy area. South of PR-9914, the largest area of the proposed project site will hold zones 2, 3, 4, 5, and 6. The area has been listed on Federal Emergency Management Agency (FEMA) flood maps as a flood zone, with existing wetlands to the west. Similar as zone 1, these zones are undeveloped and consists of a sole grassy area. This area has a land use designation of SRC (Suelo Rustico Común) with some areas designated as SREP-A (Suelo Especialmente Protegido – Agricola).

Assessment Methodology

Kimley-Horn employed the use of guidelines established for VIAs by the US Department of Transportation (USDOT) Federal Highway Administration (FHWA). The first critical phase of drafting a VIA is deciding the level of VIA needed. Using the FHWA VIA scoping questionnaire, it was concluded that a VIA Memorandum would be sufficiently encompassing and descriptive of all impacts, areas of visual effect, landscape constraints, and public opinion. The FHWA VIA guidelines further outline the criteria for a VIA Memorandum as a project that has no public controversy; minor visual impact; travelers and neighbors as the primarily impacted viewer groups; low viewer sensitivity, compatibility with local plans; no impact on scenic resources; and unlikely legal challenges.

FHWA also identifies three main stakeholders to be considered for every type of VIA: Environment, People, and the intersection of the two. As a result, a layered analysis of the ‘environmental’ stakeholder group was conducted. Considerations such as the landscape constraints, visual resources, compatibility of the project with the natural environment, and mitigatory practices were examined. The ‘people’ stakeholders reflect the community and any other group that may be affected by the proposed project. Through this lens, perceptions of the impact of the project are analyzed. Finally, the convergence of the aforementioned analyses culminates in the ‘intersection’ stakeholder group. This frame of reference is used to consider

topics such as area of visual effect (AVE), visual quality, degree of impact, and visual preferences. Throughout the VIA, emphasis is placed on pragmatic qualitative engineering judgment. **Attachment C** includes a copy of the project via scoping questionnaire, showing a 'score' reflecting the need for a VIA memorandum.

Area of Visual Effect (AVE)

Not all land within the proposed project site will be developed into a solar farm. Required setbacks for the property line, wetland, and floodplain reduce the size of the construction area. At the end of project construction, the project parcel (Parcel ID# 377-000-003-09-000) will only be developed by ±7%, as the total area of the six (6) project zones equates to ±342,160.69 sqm.

Across the six zones of the project site, the main visual alteration will be that of the solar panels. The solar panels used widely across the renewable energy industry will be installed in an array with groups of panels placed together. Elevated at a height no more than 3 to 5 feet off the ground, the advantage of solar farms is that nearly all mechanical components necessary for the function of the panels are buried underground, away from the view. Electrical transmission lines, inverters, and other electrical cables will not visually burden the surrounding communities or travelers in the area.

Reflectivity off of the surface of solar panels is often a concern for the potential of excessive nuisance glare. The photovoltaic solar panels to be installed at the proposed project site can be oriented differently depending on the angle of the sun. Photovoltaic solar panels are designed to harness the power of the sun at any angle, though operate best when the sun's light is as perpendicular as possible to the solar panel. Glare does not occur when the sun's light is falling perpendicular to the solar panels, since this is the time when the panels' low albedo properties allow them to absorb the sunlight most efficiently. Some solar farms, which have static solar panels orientated in a singular direction, do create glare, but the dynamic nature of the Yabucoa solar farm panels will prevent this issue from arising. Little to no reflective glare is anticipated from the proposed solar panels. Furthermore, the Yabucoa area is predominantly rural-to-suburban, where no large skyscrapers or structures exist that could augment any glare coming off of the solar farm. The area also does not have any general aviation or major commercial airports, where the solar panels could pose harm to aircraft flying overhead.

Viewshed Analysis

Static Viewsheds

FHWA defines a static viewshed as a point of visual reference that can be seen from an observer standpoint of 360 degrees. In the case of the proposed Yabucoa solar farm, visual reference to the site can only be established from a single observer standpoint of ~180 degrees, the average human field of view within physiological limits. North, south, and easterly observation points will provide a sweeping view of the project site; while a westward observation point on the western side of the project would not permit a view of the project site.

Dynamic Viewsheds

A dynamic viewshed is defined as a view that is observable along multiple points of a moving path. An example of this, which is relevant to the proposed project, would be a driver's view of the solar farm along multiple roadways near the populated Yabucoa area. Note that dynamic view sheds can appear and disappear along a singular pathway (i.e., a driver establishing visual reference with a point, losing that visual reference as they ascend a hill, and re-establishing the visual reference descending the hill). Approaching

the project site from the north, the PR-906 and PR-53 intersection is the first point wherein a traveler would be able to locate the project site visually. Continuing the drive south towards the project site, drivers will lose visual contact with the site when crossing the geographic trough at the Ramón Luis Cruz Dávila Bridge, due to a row of tall shrubs blocking the forward view. Visual contact is reestablished at the KM 42.2-kilometer marker.

Image 2: Southbound Viewshed Along PR-53 Roadway

Approaching the site from the south along PR-901, the first dynamic viewshed would be at the Ruinas de la Hacienda La Lucía cultural and historic site and continue until the PR-901/9914/53 roundabout.

The western approach using PR-901 has no dynamic viewsheds, as the road gradually slopes upwards from a geographical low point stretching back to the PR-3 and PR-901 intersection near the city center of Yabucoa. There is no eastern approach to the project site, and therefore, no dynamic viewshed to account for.

Restricted Viewsheds

Restricted viewsheds are defined as visual reference points that have the potential to be impacted by vegetation or natural conditions. As is common in all of Puerto Rico and the Caribbean, though there are periods of intense sunlight and clear skies, prolonged rain showers and thunderstorms are equally as common. Rainfall events have the potential to greatly reduce the visibility in the area around Yabucoa, particularly since the proposed project sites lie in a valley near the seashore. Low-level fog and precipitation will reduce the area of visual effect (AVE), particularly with travelers passing by the site in vehicles.

Image 3: Restricted Viewshed Along PR-901 Roadway

As stated in the aforementioned section about dynamic viewsheds, there is existing shrubbery along PR-53. These shrubs, combined with the trough created by the creek the Ramón Luis Cruz Dávila Bridge crosses, create a restricted viewshed. The Yabucoa valley region is predominately agricultural in its quotidian use, and therefore has low-laying grasses and natural vegetation, with the occasional tropical flora in the area.

Public Opinion

Residents of the El Negro community in Yabucoa are largely accustomed to the AVE the oil refining site has created and are arguably the residents of the region who would have the most unrestricted view of the proposed solar farm. Though most residents would have a view of the solar farm, the much larger visual burden would remain that of the existing oil refining site. **Attachment D** shows a photo rending using drone imagery of the area to be constructed under the project zones.

Image 4: View from the Highest Point of the El Negro Community towards Project Site

In a larger sense, according to the U.S. Energy Information Administration (EIA), Puerto Rican residents pay some of the comparatively highest power bills in the entire United States. Though Puerto Rico is rich in natural resources, including solar potential, the infrastructure of the island's renewable energy sector has not been fully developed. Largely, the Puerto Rican people rely on oil and natural gas-fired power plants for energy, which pollutes their pristine environment and has been subject to hefty incremental service disruptions and pricing fluctuations. The energy crisis in Puerto Rico has made it such that the average energy bill on the island has nearly doubled for most customers since only two years ago, according to the EIA. As a result, there has been no public opposition to the proposed Yabucoa solar farm. Public opinion has largely swayed in favor of renewable energy as financial pressure has placed the advent of lower bills using solar power at the forefront of most Puerto Rican households. Particularly in more rural regions of Puerto Rico, where tourism is less, and the local economies are more reliant on agriculture, the proposition of the solar plant is an exciting endeavor for locals.

Further exemplification of positive public opinion is the public-private partnership that the Yabucoa solar farm has created. The land where the proposed project will be built is owned and managed by the Puerto Rican government's Bureau of Land Management (BLM) (Administración de Terrenos). The operating company, responsible for the operation and maintenance of the project has also been previously awarded contracts to develop solar farms across Puerto Rico, with many successful ventures in the northwestern portion of the island with their Oriana I and Oriana II solar farms positively affecting the communities of northwest Puerto Rico. It is our understanding that the Puerto Rican Electric Power Authority (PREPA) plans to partner with future solar farms in Puerto Rico.

Kimley»Horn
Puerto Rico, LLC

Mitigation and Enhancement

No viewshed mitigation or enhancements are likely necessary for the proposed Yabucoa solar farm. When contrasted against the existing oil refining site, the proposed Yabucoa solar farm is minimally visually invasive and remains in the foreground of the much larger and prominent oil storage tanks. While the existing storage tanks are likely painted white to reflect sunlight and prevent temperature spikes in the crude oil products stored inside the tanks, the white color is unnatural and draws attention to itself against the lush green background. The solar panels, much smaller in nature and darker in color, offer up a respite of clashing colors against the natural background of the region. While maintaining complimentary hues of grey, dark blue, and black; the colors of the solar panels integrate well into the surroundings. The aforementioned, combined with the existing vegetal buffer provided by trees and shrubs, will occlude the project from unaccounted AVEs.

Legal and Regulatory Context

There are no widespread laws in Puerto Rico regulating the use of solar panels in a commercial or industrial capacity. Small-scale projects, such as residential installations can at times be monitored by local entities; but legislation limiting or prohibiting commercial solar panel use does not exist. The only mention of solar panels in Puerto Rican law is in 23 L.P.R.A § 106, wherein the context of the law mostly sets strict regulations for solar panel manufacturers who must meet safety regulations before importing solar panels into the island.

PREPA and the project client have collaborated before with past solar farm projects in Puerto Rico. In addition, the land to be used in the proposed Yabucoa solar farm is stated owned and signifies a symbiotic relationship between the solar farm operator and the Puerto Rican people.

Field Observations

Field observations were performed within the AVE to conduct observation and document existing visual conditions. Site visits were conducted on the following dates to the proposed project site:

- Friday, November 3rd, 2023
- Wednesday, December 7th, 2023

Through the use of georeferenced high-definition photography of street-level AVEs and aerial photographic equipment, the project footprint was thoroughly analyzed for all conditions impacting the visual inventory of the Yabucoa region.

Employment of Geographical Information Systems

The geographical information systems software ArcGIS Pro was used to aid in the visualization of spatial data in the form of political maps. The advent of multi-layered maps to give context and scale to a project location allows for a more complete and thoughtful analysis for VIAs completed in tropical environments such as Puerto Rico that may have varied geographic features within a condensed location.

Recommendations

From an engineering standpoint, a primary concern for a solar farm constructed near an urban area would be the safety and efficiency of the operation. Advanced planning has made it so that the proposed Yabucoa solar farm has been designed taking all precautions necessary to protect the public and lessen any visual burden. The proposed 5-meter (16.4-feet) setback from the property line, combined with the ±5-meter buffer

from the setback to the first row of solar panels, creates a total 10-meter setback. The 10-meter buffer lessens the AVE by pushing back the panels from the visual field of reference. No recommendations are suggested as part of the proposed solar farm.

Conclusion

Kimley-Horn has been retained to analyze the visual impacts of the proposed Yabucoa solar farm with a total land area of ±338,160.69sqm located in southeast Puerto Rico. Comprised of 6 separate project zones, the solar farm will be constructed on a public land parcel owned and managed by the Puerto Rican BLM. The AVE for this proposed project is defined by segments on the southbound stretch of the PR-53 roadway, PR-901 roadway from the PR-9901 intersection northward, and high-vantage point areas of the El Negro community.

The assessment methodology of this VIA followed established FHWA guidelines for VIA memorandums. Using the chronological order provided by the FHWA, the level of VIA was established using the VIA questionnaire. The VIA decision matrix was also used to determine the relevant subsections of the report. As per FHWA's published VIA best practices for authors, Kimley-Horn assured relevant environmental engineering professionals were able to weigh in and quality control all data represented in the report.

Static viewsheds, dynamic viewsheds, and restricted viewsheds were analyzed as part of this VIA. The project will not have any static viewsheds due to the proposed layouts. For a static viewshed to exist, a relative focal point must be visible from 360 degrees from a static viewpoint. Dynamic viewsheds exist mainly alongside the northern approach of PR-53. Topography along the southern approach of PR-53 creates a dynamic viewshed at the crest of the hill by the Comunas community that disappears by the trough at the Ramón Luis Cruz Dávila Bridge, only to reappear at kilometer marker 42.2. Restricted viewsheds are possible given the common meteorological conditions and native flora found across Puerto Rico.

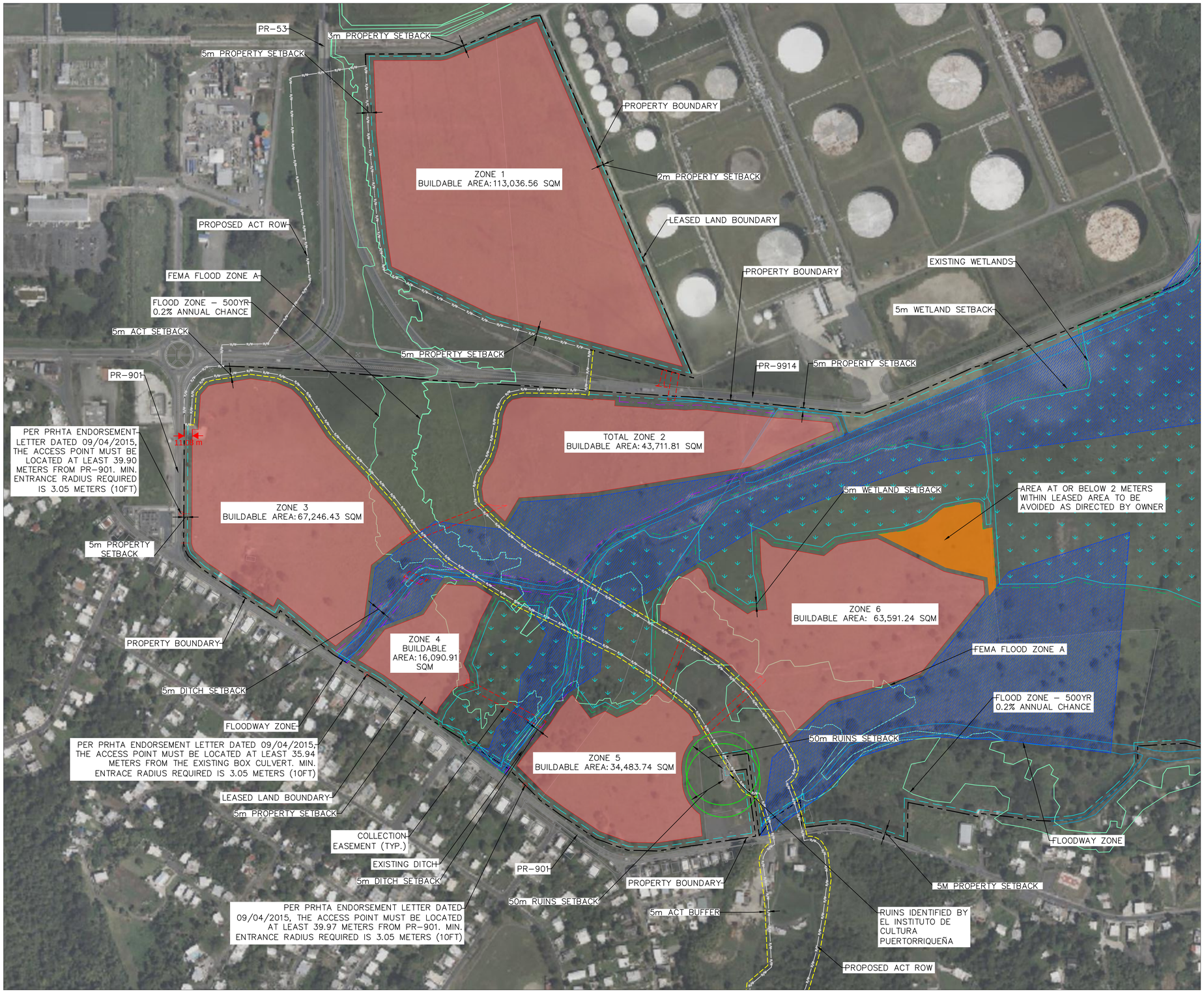
The proposed project site has received no opposition from the general public or any relevant governmental agency in Puerto Rico. The current socioeconomic situation in Puerto Rico regarding increasing energy costs has the island’s population generally supporting resolutions for renewable energy; a sentiment that is fortified by the public-private nature of this project. In addition, there are no widespread laws in Puerto Rico regulating the commercial use of solar panels.

The existing layout for the Yabucoa solar farm was designed by professionals in the civil and electrical engineering fields. While maintaining the highest degree of safety and functionality, the proposed solar farm has been engineered with the public interest in mind. The 10-meter buffer from the right-of-way line to the solar panels provides sufficient distance to reduce any visual impact. The design also accounts for necessary setbacks for wetlands and flood zones.

This report finds that the affected visual areas outlined in the aforementioned sections will not receive a visual burden large enough to warrant any mitigation as part of the FHWA VIA guidelines on mitigation and enhancement. The proposed solar farm will be constructed in the foreground of an existing oil storage and refining site that casts a larger AVE than any other existing man-made structure or project in the region.

ATTACHMENT A

Site Plan



NORTH

150.00 m

0 50 100 150

GRAPHIC SCALE 1:2500

LEGEND:

- PROPERTY LINE
- PROPERTY LINE SETBACK
- 5m WETLAND SETBACK
- PRHTA/DTOP ROW
- PRHTA/DTOP 5m SETBACK
- COLLECTION EASEMENT
- EXISTING DITCH
- 5m DITCH SETBACK
- 50m RUINS SETBACK
- GEOTECH CONSTRAINT
- BUILDABLE AREA
- WETLANDS – DELINEATION COMPLETED BY REFORESTA, INC. AS INCLUDED ON REPORT DATED JULY 9, 2014.
- FLOODWAY AS SHOWN ON HYDROLOGIC AND HYDRAULIC STUDY CROSS SECTIONS SITE PLAN, DATED MARCH 16, 2023.

No.	REVISIONS	DATE

Kimley»Horn
Puerto Rico, LLC.
MILLENIUM PARK PLAZA, SUITE 435, 15 CALLE 2
GUAYNABO, PUERTO RICO, 00968
PHONE: 787-772-7575
WWW.KIMLEY-HORN.COM

This document, together with the concepts and designs presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.

LUIS G. COSTA, P.E.
PR LICENSE NUMBER
27300

KHPR PROJECT	YABUCOA
DATE	11/02/2023
SCALE	AS SHOWN
DESIGNED BY	LGC
DRAWN BY	DAD
CHECKED BY	LGC

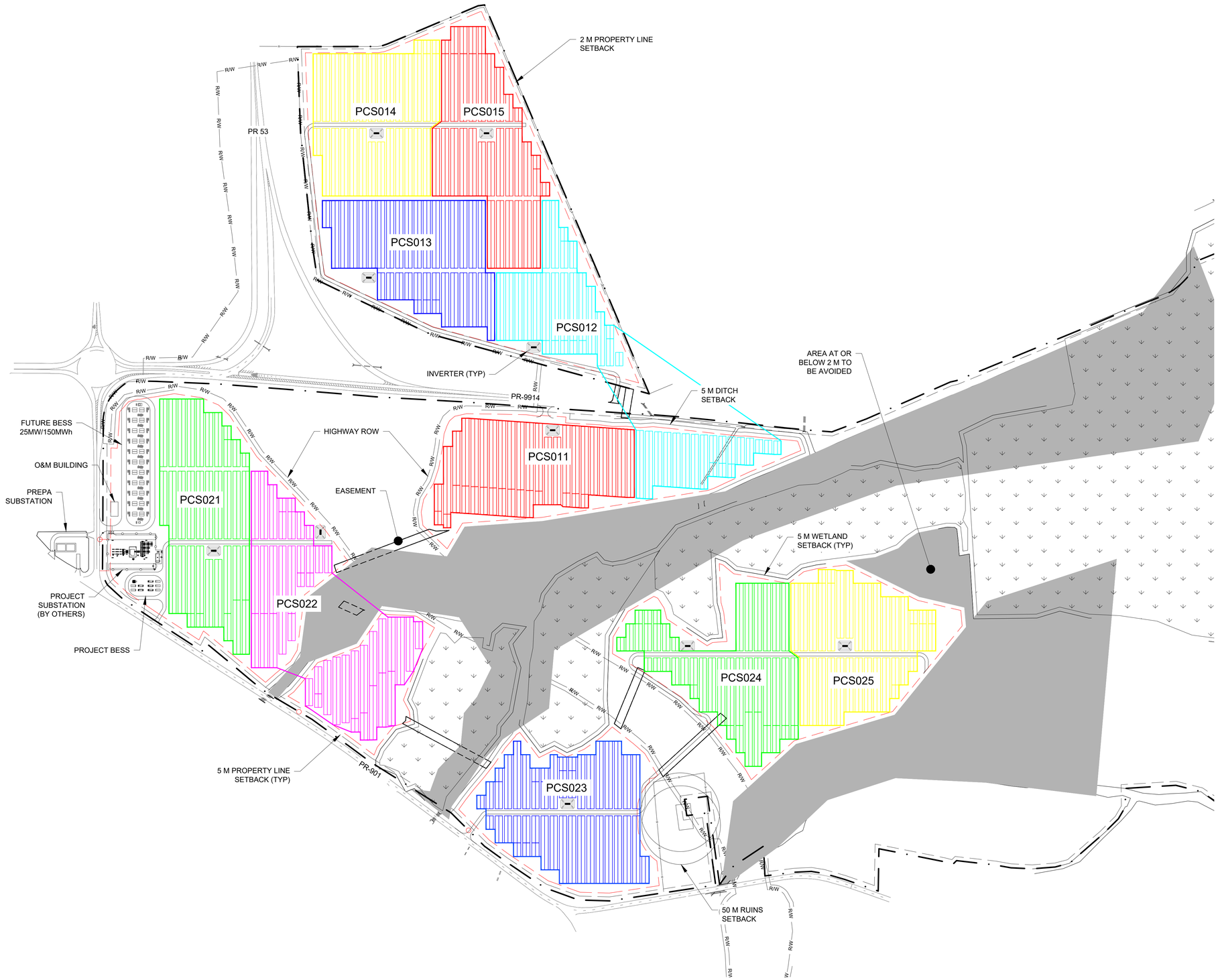
CONSTRAINTS EXHIBIT

YABUCOA SOLAR

YABUCOA PUERTO RICO

SHEET NUMBER
EX-1

Plotted By:DaCuson, Danny Sheet Set:#### Layout:SITE PLAN November 02, 2023 07:25:14pm K:\BED_ENG\PR078901 - Yabucoa Solar CONST\2 Design\CAD\Plansheets\Exhibits\EX-1 BUILDABLE AREA EXHIBIT.dwg



OVERALL SITE PLAN

200' 100' 0 200' 400' 600'

SCALE: 1"=200'

LEGEND

- PROPERTY BOUNDARY
- BUILDABLE AREA
- FENCE
- FLOODWAY
- WETLAND

PROJECT SUMMARY	
AC CAPACITY @ POI (kW):	32,100
AC CAPACITY INV NAMEPLATE (kVA):	42,000
DC CAPACITY @ STC (kW):	43,295
DC/AC RATIO @ POI:	1.35
INVERTER LOADING RATIO	1.03
INVERTER MODEL #:	PE FS4200M
INVERTER (kW AC) @ 40° C:	4,200
INVERTER TOTAL QUANTITY:	10
MODULE MODEL:	CS6W-545MB-AG
MODULE WATTAGE (W)	545
MODULE TOTAL QUANTITY:	79,440
MODULES PER STRING:	30
NUMBER OF STRINGS:	2,648
RACKING MANUFACTURER:	GAMECHANGE
TILT ANGLE (deg)	5
ROW SPACING (ft/m):	38.21/11.65
GROUND COVER RATIO:	79.1%
PLANT CONTROLLER LIMIT TO 32.1MW	

FastGrid, LLC
225 E Germann Road
Suite 310
Gilbert, AZ 85297

REV	DESCRIPTION	DATE
A	30% DESIGN	11/22/2023

PROJECT NAME:
YABUCOA
PV SOLAR POWER
GENERATION FACILITY

PROJECT ADDRESS:
YABUCOA
PUERTO RICO

SEAL: PRELIMINARY

DATE: 11/22/2023

PROJECT #: 230144.12

DRAWN BY: LP

CHECKED BY: TG

SHEET NAME: OVERALL SITE PLAN

SHEET #: E-1000

REV #: A

PRELIMINARY - NOT FOR CONSTRUCTION

PLOT DATE: Wednesday, November 22, 2023

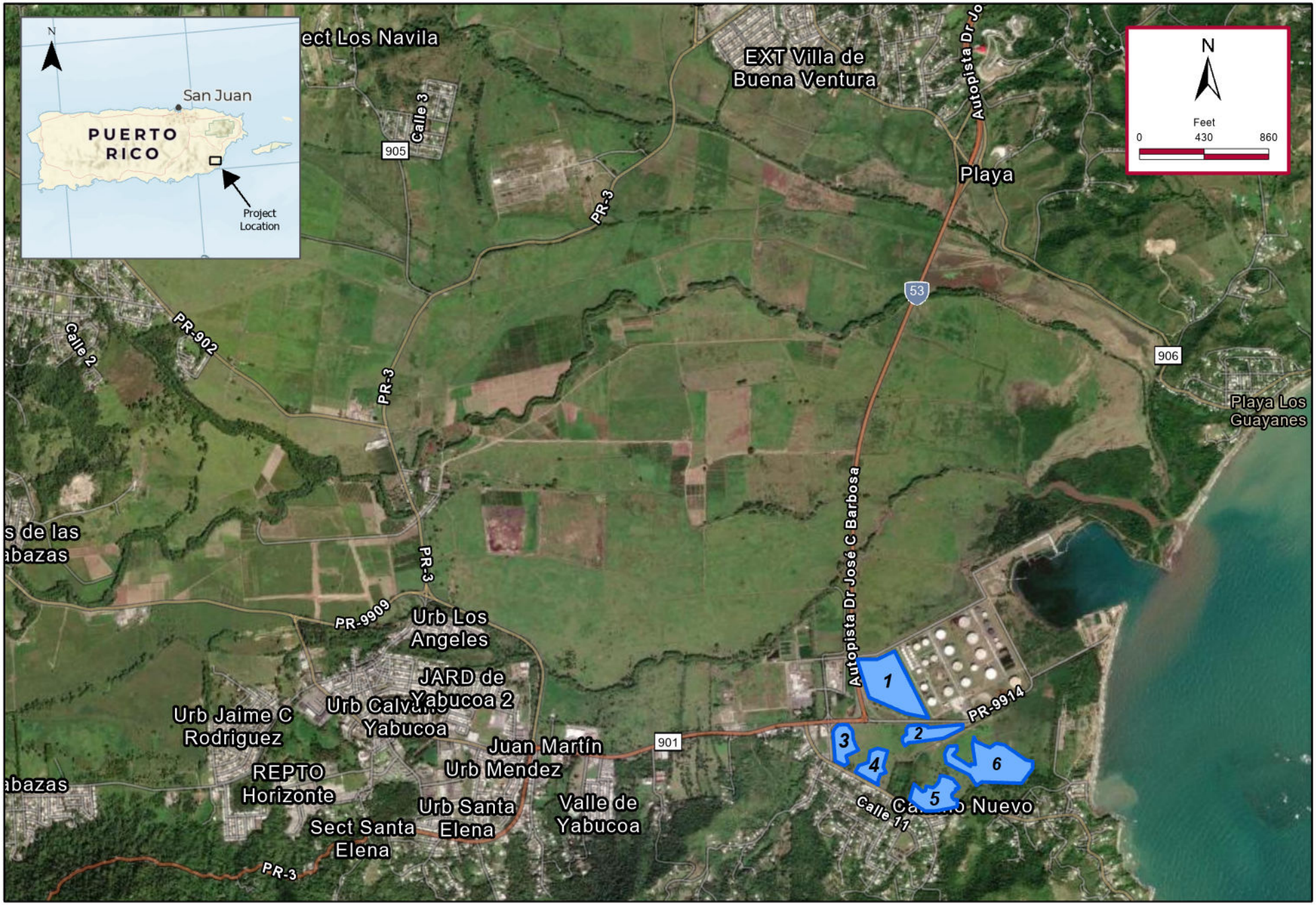
PLOT BY: Nick Kasidiaris

SAVED BY: nick.kasidiaris

LOCATION: S:_09_PROJECTS\230144.12 - ARCLIGHT - YABUCOA EOR\02 ENGINEERING*DWG\E-1000 OVERALL SITE PLAN

ATTACHMENT B

Area Map



© 2023 Kimley-Horn and Associates, Inc. All Rights Reserved.

LOCATION MAP
DECEMBER 11 2023

YABUCOA
Puerto Rico

Kimley»Horn
Expect More. Experience Better.

ATTACHMENT C

VIA Scoping Questionnaire

Appendix C. VIA Scoping Questionnaire

The following ten questions can be used to determine the appropriate level of effort for assessing the impacts on visual quality that may result from a proposed highway project. The first set of five questions is concerned with environmental compatibility impacts on the visual resources of the affected environment. The second set of five questions deals with the sensitivity of the affected population of viewers to those impacts.

Consider each of the ten questions on the questionnaire and select the response that most closely applies to the project in question. Each response has a corresponding point value. After the questionnaire is completed the total score will represent the type of VIA document suitable for the project.

It is important that this scoring system be used as a preliminary guide only. Although these questions provide some guidelines for determining if a VIA is necessary, it should not, by itself, be considered definitive. If there is any hint that visual issues may be a factor in assessing impacts, it is recommended that a VIA be conducted. Although the total score will direct the user toward a particular level of VIA documentation, circumstances may necessitate selecting a different level of analysis and documentation based on previous experience, local concerns, or professional judgment. This checklist is meant to assist the writer of the VIA to understand the degree and breadth of the possible visual issues. The goal is to develop an analysis and document strategy that is appropriately thorough, efficient, and defensible.

Visual Impact Assessment Scoping Questionnaire

Project Name:	Site Visit Date: Day, 00/00/0000
Location:	Time: 0:00 a.m. / p.m.
Special Conditions/Notes:	Conducted By:

Environmental Compatibility

1. *Will the project result in a noticeable change in the physical characteristics of the existing environment?*
(Consider all project components and construction impacts - both permanent and temporary, including landform changes, structures, noise barriers, vegetation removal, railing, signage, and contractor activities.)

☐ High level of permanent change (3) ☐ Moderate level of permanent change (2)

☑ Low level of permanent or temporary change (1) ☐ No Noticeable Change (0)

2. *Will the project complement or contrast with the visual character desired by the community?*
(Evaluate the scale and extent of the project features compared to the surrounding scale of the community. Is the project likely to give an urban appearance to an existing rural or suburban community? Do you anticipate that the change will be viewed by the public as positive or negative? Research planning documents, or talk with local planners and community representatives to understand the type of visual environment local residents envision for their community.)

☐ Low Compatibility (3) ☑ Moderate Compatibility (2)

☐ High compatibility (1)

3. *What level of local concern is there for the types of project features (e.g., bridge structures, large excavations, sound barriers, or median planting removal) and construction impacts that are proposed?*
(Certain project improvements can be of special interest to local citizens, causing a heightened level of public concern, and requiring a more focused visual analysis.)

☐ High concern (3) ☐ Moderate concern (2)

☐ Low concern (1) ☑ Negligible Project Features (0)

4. *Is it anticipated that to mitigate visual impacts, it may be necessary to develop extensive or novel mitigation strategies to avoid, minimize, or compensate for adverse impacts or will using conventional mitigation strategies, such as landscape or architectural treatment adequately mitigate adverse visual impacts?*

☐ Extensive Non-Conventional Mitigation Likely (3) ☐ Some non-conventional Mitigation Likely (2)

☐ Only Conventional Mitigation Likely (1) ☑ No Mitigation Likely (0)

5. *Will this project, when seen collectively with other projects, result in an aggregate adverse change (cumulative impacts) in overall visual quality or character?*
(Identify any projects [both state and local] in the area that have been constructed in recent years and those currently planned for future construction. The window of time and the extent of area applicable to possible cumulative impacts should be based on a reasonable anticipation of the viewing public's perception.)

☐ Cumulative Impacts likely: 0-5 years (3) ☐ Cumulative Impacts likely: 6-10 years (2)

☑ Cumulative Impacts unlikely (1)

Viewer Sensitivity

1. *What is the potential that the project proposal may be controversial within the community, or opposed by any organized group?*
(This can be researched initially by talking with the state DOT and local agency management and staff familiar with the affected community's sentiments as evidenced by past projects and/or current information.)

☐ High Potential (3) ☐ Moderate Potential (2)

☐ Low Potential (1) ☑ No Potential (0)

2. *How sensitive are potential viewer-groups likely to be regarding visible changes proposed by the project?*
(Consider among other factors the number of viewers within the group, probable viewer expectations, activities, viewing duration, and orientation. The expected viewer sensitivity level may be scoped by applying professional judgment, and by soliciting information from other DOT staff, local agencies and community representatives familiar with the affected community's sentiments and demonstrated concerns.)

☐ High Sensitivity (3) ☐ Moderate Sensitivity (2)

☑ Low Sensitivity (1)

3. *To what degree does the project's aesthetic approach appear to be consistent with applicable laws, ordinances, regulations, policies or standards?*

☐ Low Compatibility (3) ☐ Moderate Compatibility (2)

☑ High compatibility (1)

4. *Are permits going to be required by outside regulatory agencies (i.e., Federal, State, or local)?*
(Permit requirements can have an unintended consequence on the visual environment. Anticipated permits, as well as specific permit requirements - which are defined by the permitter, may be determined by talking with the project environmental planner and project engineer. Note: coordinate with the state DOT representative responsible for obtaining the permit prior to communicating directly with any permitting agency. Permits that may benefit from additional analysis include permits that may result in visible built features, such as infiltration basins or devices under a storm water permit or a retaining wall for wetland avoidance or permits for work in sensitive areas such as coastal development permits or on Federal lands, such as impacts to Wild and Scenic Rivers.)

☑ Yes (3) ☐ Maybe (2)

☐ No (1)

5. *Will the project sponsor or public benefit from a more detailed visual analysis in order to help reach consensus on a course of action to address potential visual impacts?*
(Consider the proposed project features, possible visual impacts, and probable mitigation recommendations.)

☐ Yes (3) ☐ Maybe (2)

☑ No (1)

Determining the Level of Visual Impact Assessment

Total the scores of the answers to all ten questions on the Visual Impact Assessment Scoping Questionnaire. Use the total score from the questionnaire as an indicator of the appropriate level of VIA to perform for the project. Confirm that the level suggested by the checklist is consistent with the project teams' professional judgments. If there remains doubt about whether a VIA needs to be completed, it may be prudent to conduct an Abbreviated VIA. If there remains doubt about the level of the VIA, begin with the simpler VIA process. If visual impacts emerge as a more substantial concern than anticipated, the level of VIA documentation can always be increased.

The level of the VIA can initially be based on the following ranges of total scores:

☐ **Score 25-30**
An *Expanded VIA* is probably necessary. It is recommended that it should be proceeded by a formal visual scoping study prior to beginning the VIA to alert the project team to potential highly adverse impacts and to develop new project alternatives to avoid those impacts. These technical studies will likely receive state-wide, even national, public review. Extensive use of visual simulations and a comprehensive public involvement program would be typical.

☐ **Score 20-24**
A *Standard VIA* is recommended. This technical study will likely receive extensive local, perhaps state-wide, public review. It would typically include several visual simulations. It would also include a thorough examination of public planning and policy documents supplemented with a direct public engagement processes to determine visual preferences.

☐ **Score 15-19**
An *Abbreviated VIA* would briefly describe project features, impacts and mitigation requirements. Visual simulations would be optional.

An Abbreviated VIA would receive little direct public interest beyond a summary of its findings in the project's environmental documents. Visual preferences would be based on observation and review of planning and policy documents by local jurisdictions.

☒ **Score 10-14**

A *VIA Memorandum* addressing minor visual issues that indicates the nature of the limited impacts and any necessary mitigation strategies that should be implemented would likely be sufficient along with an explanation of why no formal analysis is required.

☐ **Score 6-9**

No noticeable physical changes to the environment are proposed and no further analysis is required. Print out a copy of this completed questionnaire for your project file to document that there is no effect. A *VIA Memorandum* may be used to document that there is no effect and to explain the approach used for the determination.

ATTACHMENT D

Project Spatial Visualization

Attachment D: Project Spatial Visualization
Facing: West/Northwest

December 2023
Project No.: PR8206000.1.100

Kimley»Horn
© 2023 Kimley-Horn and Associates, Inc.
1530 Cornerstone Blvd, Suite 200, Daytona Beach, FL, 32117
Phone: (386)-271-0273

Aerial imagery provided by: Kimley-Horn