



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

**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: PR-WFT-00071D

HEROS Number: 900000010365402

State / Local Identifier:

Project Location: , Coamo, PR 00769

Additional Location Information:

The project is located at latitude 18.079658, longitude -66.356668 at the address given above. Tax ID Number: 345-033-046-10-001

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

This project entails the award of a Workforce Training Program (WFT) grant to Fundacion Biblioteca Rafael Hernandez Colon, Inc. at Calle Barbosa #3, Coamo, PR 00769. The goal of the WFT program is to prepare Puerto Rican residents with the skills required to gain employment in industries that will drive the Island's economy over the next decade. The grant includes one or more of the following: Phase I * Recruitment; * Screening and skills assessment of participants; * Training, instruction, and certification of participants; * Software and instructional materials for training and education; * Tuition, books, supplies, and other training materials; * Job placement activities; * Indirect costs; * Rent and utilities directly related to executing a training program; * Sub-recipient staff salaries, benefits, supplies and travel costs. The specific scope includes staffing, professional services, insurance, rent, transportation, diet & mileage, program outreach, office supplies including paper, pencils, pens, markers, printer ink, workshop materials, office materials including boards, files and office trash cans, indirect costs, office equipment including computers and printers, office furniture, safety equipment including harnesses, helmets, gloves, goggles, masks and earplugs, masonry equipment including shovels, wheelbarrows, chilliers, assorted palaustrines, hammers, fleets, trowels, rubber buckets, levels, measuring tapes, chalk lines, sponges and wood, carpentry/blacksmith equipment including bench saw, guillotine saws, hand saws, thick saws, fine saws, set of gauges, reciprocators, drills, hammers, bench sander, hand sander, routers, goat legs, workbenches, and architectural ornamentation team equipment. The scope of work will involve the intervention in exterior work on facades and architectural features. In doing so, there will be brick masonry restoration, ironwork and woodwork in doors and windows. Besides, there will be roof's rehabilitation and carpentry. The restoration work will be performed by students during workshops as part of the training curriculum. The restoration cost for work/labor is not included in the WFT budget. Only the cost to purchase the equipment/hire staffing to perform the renovations as part of the trainings is included in the WFT budget. Recently, before the ERR was completed, the applicant (Fundacion Biblioteca Rafael Hernandez Colon, Inc.) informed the program that waterproofing of the ceilings was performed at the site to preserve the historical and architectural value of the building. This activity is

considered exempt under 58.34(a)(10).

Level of Environment Review Determination:

Categorically Excluded per 24 CFR 58.35(a), and subject to laws and authorities at §58.5: 58.35(a)(3)(iii)

Funding Information

Grant Number	HUD Program	Program Name	
B-17-DM-72-0001	Community Planning and Development (CPD)	Community Development Block Grants (Disaster Recovery Assistance)	\$0.00
B-18-DE-72-0001	Community Planning and Development (CPD)	Community Development Block Grants (Disaster Recovery Assistance)	\$0.00
B-18-DP-72-0001	Community Planning and Development (CPD)	Community Development Block Grants (Disaster Recovery Assistance)	\$0.00
B-19-DP-78-0002	Community Planning and Development (CPD)	Community Development Block Grants (Disaster Recovery Assistance)	\$0.00

Estimated Total HUD Funded Amount: \$4,205,755.00

Estimated Total Project Cost [24 CFR 58.2 (a) (5)]: \$4,205,755.00

Mitigation Measures and Conditions [CFR 1505.2(c)]:


Summarized below are 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 or Condition	Comments on Completed Measures	Complete

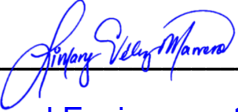
Determination:

<input type="checkbox"/>	This categorically excluded activity/project converts to EXEMPT per Section 58.34(a)(12), because it does not require any mitigation for compliance with any listed statutes or authorities, nor requires any formal permit or license; Funds may be committed and drawn down after certification of this part for this (now) EXEMPT project; OR
<input checked="" type="checkbox"/>	This categorically excluded activity/project cannot convert to Exempt status because one or more statutes or authorities listed at Section 58.5 requires formal consultation or mitigation. 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

<input type="checkbox"/>	This project is not categorically excluded OR, if originally categorically excluded, is now subject to a full Environmental Assessment according to Part 58 Subpart E due to extraordinary circumstances (Section 58.35(c)).
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Preparer Signature:  Date: 07/30/2024

Name / Title/ Organization: Ricardo Espiet Lopez / / Department of Housing - Puerto Rico

Responsible Entity Agency Official Signature:  Date: 07/30/2024

Name/ Title: Limary Vélez Marrero / Permits and Environmental Compliance Specialist

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

**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: PR-WFT-00071D

HEROS Number: 900000010365402

Responsible Entity (RE): Department of Housing - Puerto Rico, P.O. Box 21365 San
Juan PR, 00928

State / Local Identifier:

RE Preparer: Ricardo Espiet Lopez

Certifying Office Limary Velez Marrero
r:

Grant Recipient (if different than Responsible Entity):

Point of Contact:

Consultant (if applicable): HORNE LLP

Point of Contact: Justin Neely

Project Location: , Coamo, PR 00769

Additional Location Information:

The project is located at latitude 18.079658, longitude -66.356668 at the address given above. Tax ID Number: 345-033-046-10-001

Direct Comments to:

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

This project entails the award of a Workforce Training Program (WFT) grant to Fundacion Biblioteca Rafael Hernandez Colon, Inc. at Calle Barbosa #3, Coamo, PR 00769. The goal of the WFT program is to prepare Puerto Rican residents with the skills required to gain employment in industries that will drive the Island's economy over the next decade. The grant includes one or more of the following: Phase I * Recruitment; * Screening and skills assessment of participants; * Training, instruction, and certification of participants; * Software and instructional materials for training and education; * Tuition, books, supplies, and other training materials; * Job placement activities; * Indirect costs; * Rent and utilities directly related to executing a training program; * Sub-recipient staff salaries, benefits, supplies and travel costs. The specific scope includes staffing, professional services, insurance, rent, transportation, diet & mileage, program outreach, office supplies including paper, pencils, pens, markers, printer ink, workshop materials, office materials including boards, files and office trash cans, indirect costs, office equipment including computers and printers, office furniture, safety equipment including harnesses, helmets, gloves, goggles, masks and earplugs, masonry equipment including shovels, wheelbarrows, chilliers, assorted palaustrines, hammers, fleets, trowels, rubber buckets, levels, measuring tapes, chalk lines, sponges and wood, carpentry/blacksmith equipment including bench saw, guillotine saws, hand saws, thick saws, fine saws, set of gauges, reciprocators, drills, hammers, bench sander, hand sander, routers, goat legs, workbenches, and architectural ornamentation team equipment. The scope of work will involve the intervention in exterior work on facades and architectural features. In doing so, there will be brick masonry restoration, ironwork and woodwork in doors and windows. Besides, there will be roof's rehabilitation and carpentry. The restoration work will be performed by students during workshops as part of the training curriculum. The restoration cost for work/labor is not included in the WFT budget. Only the cost to purchase the equipment/hire staffing to perform the renovations as part of the trainings is included in the WFT budget. Recently, before the ERR was completed, the applicant (Fundacion Biblioteca Rafael Hernandez Colon, Inc.) informed the program that waterproofing of the ceilings was performed at the site to preserve the historical and architectural value of the building. This activity is considered exempt under 58.34(a)(10).

Maps, photographs, and other documentation of project location and description:

[PR-WFT-00071D Budget Details.xlsx](#)

[PR-WFT-00071D CASA BORELLI COAMO_SOW.pdf](#)

Level of Environmental Review Determination:

Categorically Excluded per 24 CFR 58.35(a), and subject to laws and authorities at 58.5:

Determination:

	This categorically excluded activity/project converts to EXEMPT per Section 58.34(a)(12), because it does not require any mitigation for compliance with any listed statutes or authorities, nor requires any formal permit or license; 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 status because one or more statutes or authorities listed at Section 58.5 requires formal consultation or mitigation. 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 not categorically excluded OR, if originally categorically excluded, is now subject to a full Environmental Assessment according to Part 58 Subpart E due to extraordinary circumstances (Section 58.35(c)).

Approval Documents:

[PR-WFT-00071D_Sig Page.pdf](#)
[00071D-SIG-PAGE.pdf](#)

7015.15 certified by Certifying Officer

on:

7015.16 certified by Authorizing Officer

on:

Funding Information

Grant / Project Identification Number	HUD Program	Program Name	Funding Amount
B-17-DM-72-0001	Community Planning and Development (CPD)	Community Development Block Grants (Disaster Recovery Assistance)	\$0.00
B-18-DE-72-0001	Community Planning and Development (CPD)	Community Development Block Grants (Disaster Recovery Assistance)	\$0.00
B-18-DP-72-0001	Community Planning and Development (CPD)	Community Development Block Grants (Disaster Recovery Assistance)	\$0.00
B-19-DP-78-0002	Community Planning and Development (CPD)	Community Development Block Grants (Disaster Recovery Assistance)	\$0.00

**Estimated Total HUD Funded,
Assisted or Insured Amount:** \$4,205,755.00

Estimated Total Project Cost: \$4,205,755.00

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

<p>Compliance Factors: Statutes, Executive Orders, and Regulations listed at 24 CFR §50.4, §58.5, and §58.6</p>	<p>Are formal compliance steps or mitigation required?</p>	<p>Compliance determination (See Appendix A for source determinations)</p>
<p>STATUTES, EXECUTIVE ORDERS, AND REGULATIONS LISTED AT 24 CFR §50.4 & § 58.6</p>		
<p>Airport Hazards Clear Zones and Accident Potential Zones; 24 CFR Part 51 Subpart D</p>	<p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>	<p>The project site is not within 15,000 feet of a military airport or 2,500 feet of a civilian airport. The nearest airport RPZ/CZ is approximately 70,814.3 feet away. The project is in compliance with Airport Hazards requirements.</p>
<p>Coastal Barrier Resources Act Coastal Barrier Resources Act, as amended by the Coastal Barrier Improvement Act of 1990 [16 USC 3501]</p>	<p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>	<p>This project is not located in a CBRS Unit. It is at 40,079.1 feet from a protected area. Therefore, this project has no potential to impact a CBRS Unit and is in compliance with the Coastal Barrier Resources Act.</p>
<p>Flood Insurance Flood Disaster Protection Act of 1973 and National Flood Insurance Reform Act of 1994 [42 USC 4001-4128 and 42 USC 5154a]</p>	<p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>	<p>Flood Map Number 72000C1705H, effective on 4/19/2005: The structure or insurable property is not located in a FEMA-designated Special Flood Hazard Area. While flood insurance may not be mandatory in this instance, HUD recommends that all insurable structures maintain flood insurance under the National Flood Insurance Program (NFIP). The project is in compliance with flood insurance requirements.</p>
<p>STATUTES, EXECUTIVE ORDERS, AND REGULATIONS LISTED AT 24 CFR §50.4 & § 58.5</p>		
<p>Air Quality Clean Air Act, as amended, particularly section 176(c) & (d); 40 CFR Parts 6, 51, 93</p>	<p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>	<p>Based on the project description, this project includes no activities that would require further evaluation under the Clean Air Act. The project is in compliance with the Clean Air Act.</p>

<p>Coastal Zone Management Act Coastal Zone Management Act, sections 307(c) & (d)</p>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<p>This project is not located in or does not affect a Coastal Zone as defined in the state Coastal Management Plan. The project is located 34,758.9 feet from the coastal zone. The project is in compliance with the Coastal Zone Management Act.</p>
<p>Contamination and Toxic Substances 24 CFR 50.3(i) & 58.5(i)(2)]</p>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<p>Site contamination was evaluated as follows: None of the above. On-site or nearby toxic, hazardous, or radioactive substances that could affect the health and safety of project occupants or conflict with the intended use of the property were not found. Radon testing indicated radon levels below 4.0 pCi/L. The project is in compliance with contamination and toxic substances requirements.</p>
<p>Endangered Species Act Endangered Species Act of 1973, particularly section 7; 50 CFR Part 402</p>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<p>This project will have No Effect on listed species based on a letter of understanding, memorandum of agreement, programmatic agreement, or checklist provided by local HUD office. This project is in compliance with the Endangered Species Act.</p>
<p>Explosive and Flammable Hazards Above-Ground Tanks)[24 CFR Part 51 Subpart C</p>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<p>Based on the project description the project includes no activities that would require further evaluation under this section. The project is in compliance with explosive and flammable hazard requirements.</p>
<p>Farmlands Protection Farmland Protection Policy Act of 1981, particularly sections 1504(b) and 1541; 7 CFR Part 658</p>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<p>This project does not include any activities that could potentially convert agricultural land to a non-agricultural use. The project is in compliance with the Farmland Protection Policy Act.</p>
<p>Floodplain Management Executive Order 11988, particularly section 2(a); 24 CFR Part 55</p>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<p>Flood Map Number 72000C1705H, effective on 4/19/2005:This project does not occur in the FFRMS floodplain. The project is in compliance with Executive Orders 11988 and 13690. PFIRMs in Puerto Rico were only developed for certain sections of the municipalities of Carolina, Canovanas, Loiza, San Juan and Trujillo Alto. The proposed project is located in the</p>

		municipality of Coamo; therefore, PFIRM information was not available for the area and therefore not considered in the review.
Historic Preservation National Historic Preservation Act of 1966, particularly sections 106 and 110; 36 CFR Part 800	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	(c. 1912) Based on Section 106 consultation the project will have No Adverse Effect on historic properties. Conditions: None. Upon satisfactory implementation of the conditions, which should be monitored, the project is in compliance with Section 106.
Noise Abatement and Control Noise Control Act of 1972, as amended by the Quiet Communities Act of 1978; 24 CFR Part 51 Subpart B	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Based on the project description, this project includes no activities that would require further evaluation under HUD's noise regulation. The project is in compliance with HUD's Noise regulation.
Sole Source Aquifers Safe Drinking Water Act of 1974, as amended, particularly section 1424(e); 40 CFR Part 149	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Based on the project description, the project consists of activities that are unlikely to have an adverse impact on groundwater resources. According to EPA, there are no sole source aquifers in Puerto Rico. The project is in compliance with Sole Source Aquifer requirements.
Wetlands Protection Executive Order 11990, particularly sections 2 and 5	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Based on the project description this project includes no activities that would require further evaluation under this section. The project is in compliance with Executive Order 11990.
Wild and Scenic Rivers Act Wild and Scenic Rivers Act of 1968, particularly section 7(b) and (c)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	This project is not within proximity of a NWSRS river. The project is located 205,465.4 feet from the nearest Wild and Scenic River. The project is in compliance with the Wild and Scenic Rivers Act.
HUD HOUSING ENVIRONMENTAL STANDARDS		
ENVIRONMENTAL JUSTICE		
Environmental Justice Executive Order 12898	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	No adverse environmental impacts were identified in the project's total environmental review. The project is in compliance with Executive Order 12898.

Mitigation Measures and Conditions [40 CFR 1505.2(c)]:

Summarized below are 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 or Condition	Comments on Completed Measures	Mitigation Plan	Complete
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Project Mitigation Plan

No mitigation required.

Supporting documentation on completed measures

APPENDIX A: Related Federal Laws and Authorities

Airport Hazards

General policy	Legislation	Regulation
It is HUD's policy to apply standards to prevent incompatible development around civil airports and military airfields.		24 CFR Part 51 Subpart D

1. To ensure compatible land use development, you must determine your site's proximity to civil and military airports. Is your project within 15,000 feet of a military airport or 2,500 feet of a civilian airport?

No

Based on the response, the review is in compliance with this section. Document and upload the map showing that the site is not within the applicable distances to a military or civilian airport below

Yes

Screen Summary

Compliance Determination

The project site is not within 15,000 feet of a military airport or 2,500 feet of a civilian airport. The nearest airport RPZ/CZ is approximately 70,814.3 feet away. The project is in compliance with Airport Hazards requirements.

Supporting documentation

[PR-WFT-00071D Airports.pdf](#)

Are formal compliance steps or mitigation required?

Yes

No

Coastal Barrier Resources

General requirements	Legislation	Regulation
HUD financial assistance may not be used for most activities in units of the Coastal Barrier Resources System (CBRS). See 16 USC 3504 for limitations on federal expenditures affecting the CBRS.	Coastal Barrier Resources Act (CBRA) of 1982, as amended by the Coastal Barrier Improvement Act of 1990 (16 USC 3501)	

1. Is the project located in a CBRS Unit?

No

Document and upload map and documentation below.

Yes

Screen Summary

Compliance Determination

This project is not located in a CBRS Unit. It is at 40,079.1 feet from a protected area. Therefore, this project has no potential to impact a CBRS Unit and is in compliance with the Coastal Barrier Resources Act.

Supporting documentation

[PR-WFT-00071D CBRS.pdf](#)

Are formal compliance steps or mitigation required?

Yes

No

Flood Insurance

General requirements	Legislation	Regulation
Certain types of federal financial assistance may not be used in floodplains unless the community participates in National Flood Insurance Program and flood insurance is both obtained and maintained.	Flood Disaster Protection Act of 1973 as amended (42 USC 4001-4128)	24 CFR 50.4(b)(1) and 24 CFR 58.6(a) and (b); 24 CFR 55.1(b).

1. Does this project involve financial assistance for construction, rehabilitation, or acquisition of a mobile home, building, or insurable personal property?

No. This project does not require flood insurance or is excepted from flood insurance.

✓ Yes

2. Upload a FEMA/FIRM map showing the site here:

[PR-WFT-00071D Flood Map.pdf](#)

The Federal Emergency Management Agency (FEMA) designates floodplains. The [FEMA Map Service Center](#) provides this information in the form of FEMA Flood Insurance Rate Maps (FIRMs). For projects in areas not mapped by FEMA, use the best available information to determine floodplain information. Include documentation, including a discussion of why this is the best available information for the site. Provide FEMA/FIRM floodplain zone designation, panel number, and date within your documentation.

Is the structure, part of the structure, or insurable property located in a FEMA-designated Special Flood Hazard Area?

✓ No

Based on the response, the review is in compliance with this section.

Yes

4. While flood insurance is not mandatory for this project, HUD strongly recommends that all insurable structures maintain flood insurance under the National Flood Insurance Program (NFIP). Will flood insurance be required as a mitigation measure or condition?

Yes

✓ No

Screen Summary

Compliance Determination

Flood Map Number 72000C1705H, effective on 4/19/2005: The structure or insurable property is not located in a FEMA-designated Special Flood Hazard Area. While flood insurance may not be mandatory in this instance, HUD recommends that all insurable structures maintain flood insurance under the National Flood Insurance Program (NFIP). The project is in compliance with flood insurance requirements.

Supporting documentation

Are formal compliance steps or mitigation required?

Yes

✓ No

Air Quality

General requirements	Legislation	Regulation
The Clean Air Act is administered by the U.S. Environmental Protection Agency (EPA), which sets national standards on ambient pollutants. In addition, the Clean Air Act is administered by States, which must develop State Implementation Plans (SIPs) to regulate their state air quality. Projects funded by HUD must demonstrate that they conform to the appropriate SIP.	Clean Air Act (42 USC 7401 et seq.) as amended particularly Section 176(c) and (d) (42 USC 7506(c) and (d))	40 CFR Parts 6, 51 and 93

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

Yes

No

Based on the response, the review is in compliance with this section.

Screen Summary

Compliance Determination

Based on the project description, this project includes no activities that would require further evaluation under the Clean Air Act. The project is in compliance with the Clean Air Act.

Supporting documentation

Are formal compliance steps or mitigation required?

Yes

No

Coastal Zone Management Act

General requirements	Legislation	Regulation
Federal assistance to applicant agencies for activities affecting any coastal use or resource is granted only when such activities are consistent with federally approved State Coastal Zone Management Act Plans.	Coastal Zone Management Act (16 USC 1451-1464), particularly section 307(c) and (d) (16 USC 1456(c) and (d))	15 CFR Part 930

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

Yes

No

Based on the response, the review is in compliance with this section. Document and upload all documents used to make your determination below.

Screen Summary

Compliance Determination

This project is not located in or does not affect a Coastal Zone as defined in the state Coastal Management Plan. The project is located 34,758.9 feet from the coastal zone. The project is in compliance with the Coastal Zone Management Act.

Supporting documentation

[PR-WFT-00071D CZM.pdf](#)

Are formal compliance steps or mitigation required?

Yes

No

Contamination and Toxic Substances

General Requirements	Legislation	Regulations
It is HUD policy that all properties that are being proposed for use in HUD programs be free of hazardous materials, contamination, toxic chemicals and gases, and radioactive substances, where a hazard could affect the health and safety of the occupants or conflict with the intended utilization of the property.		24 CFR 58.5(i)(2) 24 CFR 50.3(i)
Reference		
https://www.onecpd.info/environmental-review/site-contamination		

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

ASTM Phase I ESA

ASTM Phase II ESA

Remediation or clean-up plan

ASTM Vapor Encroachment Screening.

None of the above

* HUD regulations at 24 CFR § 58.5(i)(2)(ii) require that the environmental review for multifamily housing with five or more dwelling units or non-residential property include the evaluation of previous uses of the site or other evidence of contamination on or near the site.

For acquisition and new construction of multifamily and nonresidential properties HUD strongly advises the review include an ASTM Phase I Environmental Site Assessment (ESA) to meet real estate transaction standards of due diligence and to help ensure compliance with HUD's toxic policy at 24 CFR §58.5(i) and 24 CFR §50.3(i). Also note that some HUD programs require an ASTM Phase I ESA.

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

Provide a map or other documentation of absence or presence of contamination** and explain evaluation of site contamination in the Screen Summary at the bottom of this screen.

No

Explain:

Based on ECHO reports for the facilities, there is no impact for the intended use of this project. See attached table.

Yes

* This question covers the presence of radioactive substances excluding radon. Radon is addressed in the Radon Exempt Question.

** Utilize EPA's Enviromapper, NEPAAssist, or state/tribal databases to identify nearby dumps, junk yards, landfills, hazardous waste sites, and industrial sites, including EPA National Priorities List Sites (Superfund sites), CERCLA or state-equivalent sites, RCRA Corrective Action sites with release(s) or suspected release(s) requiring clean-up action and/or further investigation. Additional supporting documentation may include other inspections and reports.

3. Evaluate the building(s) for radon. Do all buildings meet any of the exemptions* from having to consider radon in the contamination analysis listed in CPD Notice [CPD-23-103](#)?

Yes

Explain:

✓ No

* Notes:

- Buildings with no enclosed areas having ground contact.
- Buildings containing crawlspaces, utility tunnels, or parking garages would not be exempt, however buildings built on piers would be exempt, provided that there is open air between the lowest floor of the building and the ground.
- Buildings that are not residential and will not be occupied for more than 4 hours per day.
- Buildings with existing radon mitigation systems - document radon levels are below 4 pCi/L with test results dated within two years of submitting the application for HUD assistance and document the system includes an ongoing maintenance plan that includes periodic testing to ensure the system continues to meet the current EPA recommended levels. If the project does not require an application, document test results dated within two years of the date the environmental review is certified. Refer to program office guidance to ensure compliance with program requirements.
- Buildings tested within five years of the submission of application for HUD assistance: test results document indoor radon levels are below current the EPA's recommended action levels of 4.0 pCi/L. For buildings with test data older than five years, any new environmental review must include a consideration of radon using one of the methods in Section A below.

4. Is the proposed project new construction or substantial rehabilitation where testing will be conducted but cannot yet occur because building construction has not been completed?

Yes

Compliance with this section is conditioned on post-construction testing being conducted, followed by mitigation, if needed. Radon test results, along with any needed mitigation plan, must be uploaded to the mitigation section within this screen.

No

5. Was radon testing or a scientific data review conducted that provided a radon concentration level in pCi/L?

Yes

No

If no testing was conducted and a review of science-based data offered a lack of science-based data for the project site, then document and upload the steps taken to look for documented test results and science-based data as well as the basis for the conclusion that testing would be infeasible or impracticable.

Explain:

File Upload:

Based on the response, the review is in compliance with this section. Continue to the Screen Summary at the bottom of this screen.

Non-radon contamination was found in a previous question.

6. How was radon data collected?

All buildings involved were tested for radon

A review of science-based data was conducted

Enter the Radon concentration value, in pCi/L, derived from the review of science-based data:

Provide the documentation* used to derive this value:

File Upload:

Based on the response, the review is in compliance with this section. Continue to the Screen Summary at the bottom of this screen.

Radon concentration value is greater than or equal to 4.0 pCi/L and/or non-radon contamination was found in a previous question. Continue to Mitigation.

* For example, if you conducted radon testing then provide a testing report (such as an ANSI/AARST report or DIY test) if applicable (note: DIY tests are not eligible for use in multifamily buildings), or documentation of the test results. If you conducted a scientific data review, then describe and cite the maps and data used and include copies of all supporting documentation. Ensure that the best available data is utilized, if conducting a scientific data review.

7. Were the radon test results for any dwelling unit tested at or above 4.0 pCi/L?

Yes

Radon Mitigation is required for the question to proceed.

Enter the total number of dwelling units tested:

How many dwelling units tested at or above 4.0 pCi/L:

Enter the highest radon test result value:

Document the test results for all dwelling units tested with a copy of the test results for all dwelling units or testing report(s) covering all units:

File Upload:

No

Provide a copy of the test results for all dwelling units tested or testing report(s) covering all units tested:

File Upload:

[PR-WFT-00071D -Short Term Radon Sampling Report.pdf](#)

Based on the response, the review is in compliance with this section. Continue to the Screen Summary at the bottom of this screen:

Non-radon contamination was found in a previous question.

Screen Summary

Compliance Determination

Site contamination was evaluated as follows: None of the above. On-site or nearby toxic, hazardous, or radioactive substances that could affect the health and safety of project occupants or conflict with the intended use of the property were not found. Radon testing indicated radon levels below 4.0 pCi/L. The project is in compliance with contamination and toxic substances requirements.

Supporting documentation

[PR-WFT-00071D Karst.pdf](#)

[PR-WFT-00071D Toxics\(1\).pdf](#)

[PR-WFT-00071D Toxics Table.pdf](#)

Are formal compliance steps or mitigation required?

Yes

No

Endangered Species

General requirements	ESA Legislation	Regulations
Section 7 of the Endangered Species Act (ESA) mandates that federal agencies ensure that 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”).	The Endangered Species Act of 1973 (16 U.S.C. 1531 <i>et seq.</i>); particularly section 7 (16 USC 1536).	50 CFR Part 402

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

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

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

Explain your determination:

This project clears via the project criteria 4 of the USFWS Blanket Clearance Letter. See attached Endangered Species Act self-certification form.

Based on the response, the review is in compliance with this section. Document and upload all documents used to make your determination below.

Yes, the activities involved in the project have the potential to affect species and/or habitats.

Screen Summary

Compliance Determination

This project will have No Effect on listed species based on a letter of understanding, memorandum of agreement, programmatic agreement, or checklist provided by local HUD office. This project is in compliance with the Endangered Species Act.

Supporting documentation

[PR-WFT-00071D Wetlands\(1\).pdf](#)

[PR-WFT-00071D Self-Certification PRDOH.pdf](#)

[PR-WFT-00071D Site Map.pdf](#)

[PR-WFT-00071D Endangered Species.pdf](#)

[USFWS End Species Blanket Clearance Letter.pdf](#)

Are formal compliance steps or mitigation required?

Yes

✓ No

Explosive and Flammable Hazards

General requirements	Legislation	Regulation
HUD-assisted projects must meet Acceptable Separation Distance (ASD) requirements to protect them from explosive and flammable hazards.	N/A	24 CFR Part 51 Subpart C

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

No

Yes

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

No

Based on the response, the review is in compliance with this section.

Yes

Screen Summary

Compliance Determination

Based on the project description the project includes no activities that would require further evaluation under this section. The project is in compliance with explosive and flammable hazard requirements.

Supporting documentation

Are formal compliance steps or mitigation required?

Yes

No

Farmlands Protection

General requirements	Legislation	Regulation
The Farmland Protection Policy Act (FPPA) discourages federal activities that would convert farmland to nonagricultural purposes.	Farmland Protection Policy Act of 1981 (7 U.S.C. 4201 et seq.)	7 CFR Part 658

1. Does your project include any activities, including new construction, acquisition of undeveloped land or conversion, that could convert agricultural land to a non-agricultural use?

Yes

No

If your project includes new construction, acquisition of undeveloped land or conversion, explain how you determined that agricultural land would not be converted:

Based on the response, the review is in compliance with this section. Document and upload all documents used to make your determination below.

Screen Summary

Compliance Determination

This project does not include any activities that could potentially convert agricultural land to a non-agricultural use. The project is in compliance with the Farmland Protection Policy Act.

Supporting documentation

[PR-WFT-00071D Farmlands.pdf](#)

Are formal compliance steps or mitigation required?

Yes

No

Floodplain Management

General Requirements	Legislation	Regulation
Executive Order 11988, Floodplain Management, requires Federal activities to avoid impacts to floodplains and to avoid direct and indirect support of floodplain development to the extent practicable.	Executive Order 11988 * Executive Order 13690 * 42 USC 4001-4128 * 42 USC 5154a * only applies to screen 2047 and not 2046	24 CFR 55

1. Does this project meet an exemption at 24 CFR 55.12 from compliance with HUD's floodplain management regulations in Part 55?

Yes

(a) HUD-assisted activities described in 24 CFR 58.34 and 58.35(b).

(b) HUD-assisted activities described in 24 CFR 50.19, except as otherwise indicated in § 50.19.

(c) The approval of financial assistance for restoring and preserving the natural and beneficial functions and values of floodplains and wetlands, including through acquisition of such floodplain and wetland property, where a permanent covenant or comparable restriction is place on the property's continued use for flood control, wetland projection, open space, or park land, but only if:

(1) The property is cleared of all existing buildings and walled structures; and

(2) The property is cleared of related improvements except those which:

(i) Are directly related to flood control, wetland protection, open space, or park land (including playgrounds and recreation areas);

(ii) Do not modify existing wetland areas or involve fill, paving, or other ground disturbance beyond minimal trails or paths; and

(iii) Are designed to be compatible with the beneficial floodplain or wetland function of the property.

(d) An action involving a repossession, receivership, foreclosure, or similar acquisition of property to protect or enforce HUD's financial interests under previously approved loans, grants, mortgage insurance, or other HUD assistance.

(e) Policy-level actions described at 24 CFR 50.16 that do not involve site-based decisions.

(f) A minor amendment to a previously approved action with no additional adverse impact on or from a floodplain or wetland.

(g) HUD's or the responsible entity's approval of a project site, an incidental portion of which is situated in the FFRMS floodplain (not including the floodway, LiMWA, or coastal high hazard area) but only if: (1) The proposed project site does not include any existing or proposed buildings or improvements that modify or occupy the FFRMS floodplain except de minimis improvements such as recreation areas and trails; and (2) the proposed project will not result in any new construction in or modifications of a wetland .

(h) Issuance or use of Housing Vouchers, or other forms of rental subsidy where HUD, the awarding community, or the public housing agency that administers the contract awards rental subsidies that are not project-based (i.e., do not involve site-specific subsidies).

(i) Special projects directed to the removal of material and architectural barriers that restrict the mobility of and accessibility to elderly and persons with disabilities.

Describe:

No

2. Does the project include a Critical Action? Examples of Critical Actions include projects involving hospitals, fire and police stations, nursing homes, hazardous chemical storage, storage of valuable records, and utility plants.

Yes

Describe:

No

3. Determine the extent of the FFRMS floodplain and provide mapping documentation in support of that determination

The extent of the FFRMS floodplain can be determined using a Climate Informed Science Approach (CISA), 0.2 percent flood approach (0.2 PFA), or freeboard value approach (FVA). For projects in areas without available CISA data or without FEMA Flood Insurance Rate Maps (FIRMs), Flood Insurance Studies (FISs) or Advisory Base Flood Elevations (ABFEs), use the best available information¹ to determine flood elevation. Include documentation and an explanation of why this is the best available information² for the site. Note that newly constructed and substantially improved³ structures must be elevated to the FFRMS floodplain regardless of the approach chosen to determine the floodplain.

Select one of the following three options:

CISA for non-critical actions. If using a local tool, data, or resources, ensure that the FFRMS elevation is higher than would have been determined using the 0.2 PFA or the FVA.

- ✓ 0.2-PFA. Where FEMA has defined the 0.2-percent-annual-chance floodplain, the FFRMS floodplain is the area that FEMA has designated as within the 0.2-percent-annual-chance floodplain.

FVA. If neither CISA nor 0.2-PFA is available, for non-critical actions, the FFRMS floodplain is the area that results from adding two feet to the base flood elevation as established by the effective FIRM or FIS or — if available — a FEMA-provided preliminary or pending FIRM or FIS or advisory base flood elevations, whether regulatory or informational in nature. However, an interim or preliminary FEMA map cannot be used if it is lower than the current FIRM or FIS.

¹ Sources which merit investigation include the files and studies of other federal agencies, such as the U. S. Army Corps of Engineers, the Tennessee Valley Authority, the Soil Conservation Service and the U. S. Geological Survey. These agencies have prepared flood hazard studies for several thousand localities and, through their technical assistance programs, hydrologic studies, soil surveys, and other investigations have collected or developed other floodplain information for numerous sites and areas. States and communities are also sources of information on past flood 'experiences within their boundaries and are particularly knowledgeable about areas subject to high-risk flood hazards such as alluvial fans, high velocity flows, mudflows and mudslides, ice jams, subsidence and liquefaction.

² If you are using best available information, select the FVA option below and provide supporting documentation in the screen summary. Contact your [local environmental officer](#) with additional compliance questions.

³ Substantial improvement means any repair or improvement of a structure which costs at least 50 percent of the market value of the structure before repair or improvement or results in an increase of more than 20 percent of the number of dwelling units. The full definition can be found at [24 CFR 55.2\(b\)\(12\)](#).

5. Does your project occur in the FFRMS floodplain?

Yes

No

Screen Summary

Compliance Determination

Flood Map Number 72000C1705H, effective on 4/19/2005: This project does not occur in the FFRMS floodplain. The project is in compliance with Executive Orders 11988 and 13690. PFIRMs in Puerto Rico were only developed for certain sections of the municipalities of Carolina, Canovanas, Loiza, San Juan and Trujillo Alto. The proposed project is located in the municipality of Coamo; therefore, PFIRM information was not available for the area and therefore not considered in the review.

Supporting documentation

[PR-WFT-00071D ABFE.pdf](#)

Are formal compliance steps or mitigation required?

Yes

No

Historic Preservation

General requirements	Legislation	Regulation
Regulations under Section 106 of the National Historic Preservation Act (NHPA) require a consultative process to identify historic properties, assess project impacts on them, and avoid, minimize, or mitigate adverse effects	Section 106 of the National Historic Preservation Act (16 U.S.C. 470f)	36 CFR 800 “Protection of Historic Properties” https://www.govinfo.gov/content/pkg/CFR-2012-title36-vol3/pdf/CFR-2012-title36-vol3-part800.pdf

Threshold

Is Section 106 review required for your project?

No, because the project consists solely of activities listed as exempt in a Programmatic Agreement (PA). (See the PA Database to find applicable PAs.)
 No, because the project consists solely of activities included in a No Potential to Cause Effects memo or other determination [36 CFR 800.3(a)(1)].

- ✓ Yes, because the project includes activities with potential to cause effects (direct or indirect).

Step 1 – Initiate Consultation

Select all consulting parties below (check all that apply):

- ✓ State Historic Preservation Offer (SHPO) Completed

Indian Tribes, including Tribal Historic Preservation Officers (THPOs) or Native Hawaiian Organizations (NHOs)

Other Consulting Parties

Describe the process of selecting consulting parties and initiating consultation here:

Only SHPO was consulted a No Adverse Effect was determined and no Tribal Lands were identified.

Document and upload all correspondence, notices and notes (including comments and objections received below).

Was the Section 106 Lender Delegation Memo used for Section 106 consultation?

- Yes
- No

Step 2 – Identify and Evaluate Historic Properties

1. **Define the Area of Potential Effect (APE), either by entering the address(es) or uploading a map depicting the APE below:**

Casa Borelli, located at Calle Barbosa #3 in Coamo

In the chart below, list historic properties identified and evaluated in the APE. Every historic property that may be affected by the project should be included in the chart.

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

Address / Location / District	National Register Status	SHPO Concurrence	Sensitive Information
Calle Barbosa #3	Eligible	Yes	✓ Not Sensitive

Additional Notes:

2. **Was a survey of historic buildings and/or archeological sites done as part of the project?**

- Yes
- ✓ No

Step 3 –Assess Effects of the Project on Historic Properties

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

Choose one of the findings below - No Historic Properties Affected, No Adverse Effect, or Adverse Effect; and seek concurrence from consulting parties.

No Historic Properties Affected

✓ No Adverse Effect

Based on the response, the review is in compliance with this section.

Document reason for finding:

The restoration of Casa Borelli will return the Neoclassical residence to its original appearance after years of deterioration. All repairs will be completed in kind, and the handpainted murals and original wallpaper will also be restored.

Does the No Adverse Effect finding contain conditions?

Yes (check all that apply)

✓ No

Based on the response, the review is in compliance with this section. Document and upload concurrence(s) or objection(s) below.

Adverse Effect

Screen Summary**Compliance Determination**

(c. 1912) Based on Section 106 consultation the project will have No Adverse Effect on historic properties. Conditions: None. Upon satisfactory implementation of the conditions, which should be monitored, the project is in compliance with Section 106.

Supporting documentation

[PR-WFT-00071D Historic.pdf](#)

[PRDOH_WFT Program_PR-WFT-00071D_Coamo_SHPO Consultation Package_No Adverse Effect.pdf](#)

Are formal compliance steps or mitigation required?

Yes

No

Noise Abatement and Control

General requirements	Legislation	Regulation
HUD's noise regulations protect residential properties from excessive noise exposure. HUD encourages mitigation as appropriate.	Noise Control Act of 1972 General Services Administration Federal Management Circular 75-2: "Compatible Land Uses at Federal Airfields"	Title 24 CFR 51 Subpart B

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

New construction for residential use

Rehabilitation of an existing residential property

A research demonstration project which does not result in new construction or reconstruction

An interstate land sales registration

Any timely emergency assistance under disaster assistance provision or appropriations which are provided to save lives, protect property, protect public health and safety, remove debris and wreckage, or assistance that has the effect of restoring facilities substantially as they existed prior to the disaster

None of the above

Screen Summary

Compliance Determination

Based on the project description, this project includes no activities that would require further evaluation under HUD's noise regulation. The project is in compliance with HUD's Noise regulation.

Supporting documentation

Are formal compliance steps or mitigation required?

Yes

No

Sole Source Aquifers

General requirements	Legislation	Regulation
The Safe Drinking Water Act of 1974 protects drinking water systems which are the sole or principal drinking water source for an area and which, if contaminated, would create a significant hazard to public health.	Safe Drinking Water Act of 1974 (42 U.S.C. 201, 300f et seq., and 21 U.S.C. 349)	40 CFR Part 149

1. Does the project consist solely of acquisition, leasing, or rehabilitation of an existing building(s)?

Yes

Based on the response, the review is in compliance with this section.

No

Screen Summary

Compliance Determination

Based on the project description, the project consists of activities that are unlikely to have an adverse impact on groundwater resources. According to EPA, there are no sole source aquifers in Puerto Rico. The project is in compliance with Sole Source Aquifer requirements.

Supporting documentation

[PR-WFT-00071D Sole Source Aquifers.pdf](#)

Are formal compliance steps or mitigation required?

Yes

No

Wetlands Protection

General requirements	Legislation	Regulation
Executive Order 11990 discourages direct or indirect support of new construction impacting wetlands wherever there is a practicable alternative. The Fish and Wildlife Service's National Wetlands Inventory can be used as a primary screening tool, but observed or known wetlands not indicated on NWI maps must also be processed Off-site impacts that result in draining, impounding, or destroying wetlands must also be processed.	Executive Order 11990	24 CFR 55.20 can be used for general guidance regarding the 8 Step Process.

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

No

Based on the response, the review is in compliance with this section.

Yes

Screen Summary

Compliance Determination

Based on the project description this project includes no activities that would require further evaluation under this section. The project is in compliance with Executive Order 11990.

Supporting documentation

[PR-WFT-00071D Wetlands.pdf](#)

Are formal compliance steps or mitigation required?

Yes

No

Wild and Scenic Rivers Act

General requirements	Legislation	Regulation
The Wild and Scenic Rivers Act provides federal protection for certain free-flowing, wild, scenic and recreational rivers designated as components or potential components of the National Wild and Scenic Rivers System (NWSRS) from the effects of construction or development.	The Wild and Scenic Rivers Act (16 U.S.C. 1271-1287), particularly section 7(b) and (c) (16 U.S.C. 1278(b) and (c))	36 CFR Part 297

1. Is your project within proximity of a NWSRS river?

No

Yes, the project is in proximity of a Designated Wild and Scenic River or Study Wild and Scenic River.

Yes, the project is in proximity of a Nationwide Rivers Inventory (NRI) River.

Screen Summary

Compliance Determination

This project is not within proximity of a NWSRS river. The project is located 205,465.4 feet from the nearest Wild and Scenic River. The project is in compliance with the Wild and Scenic Rivers Act.

Supporting documentation

[PR-WFT-00071D Wild and Scenic.pdf](#)

Are formal compliance steps or mitigation required?

Yes

No

Environmental Justice

General requirements	Legislation	Regulation
Determine if the project creates adverse environmental impacts upon a low-income or minority community. If it does, engage the community in meaningful participation about mitigating the impacts or move the project.	Executive Order 12898	

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

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

Yes

No

Based on the response, the review is in compliance with this section.

Screen Summary

Compliance Determination

No adverse environmental impacts were identified in the project's total environmental review. The project is in compliance with Executive Order 12898.

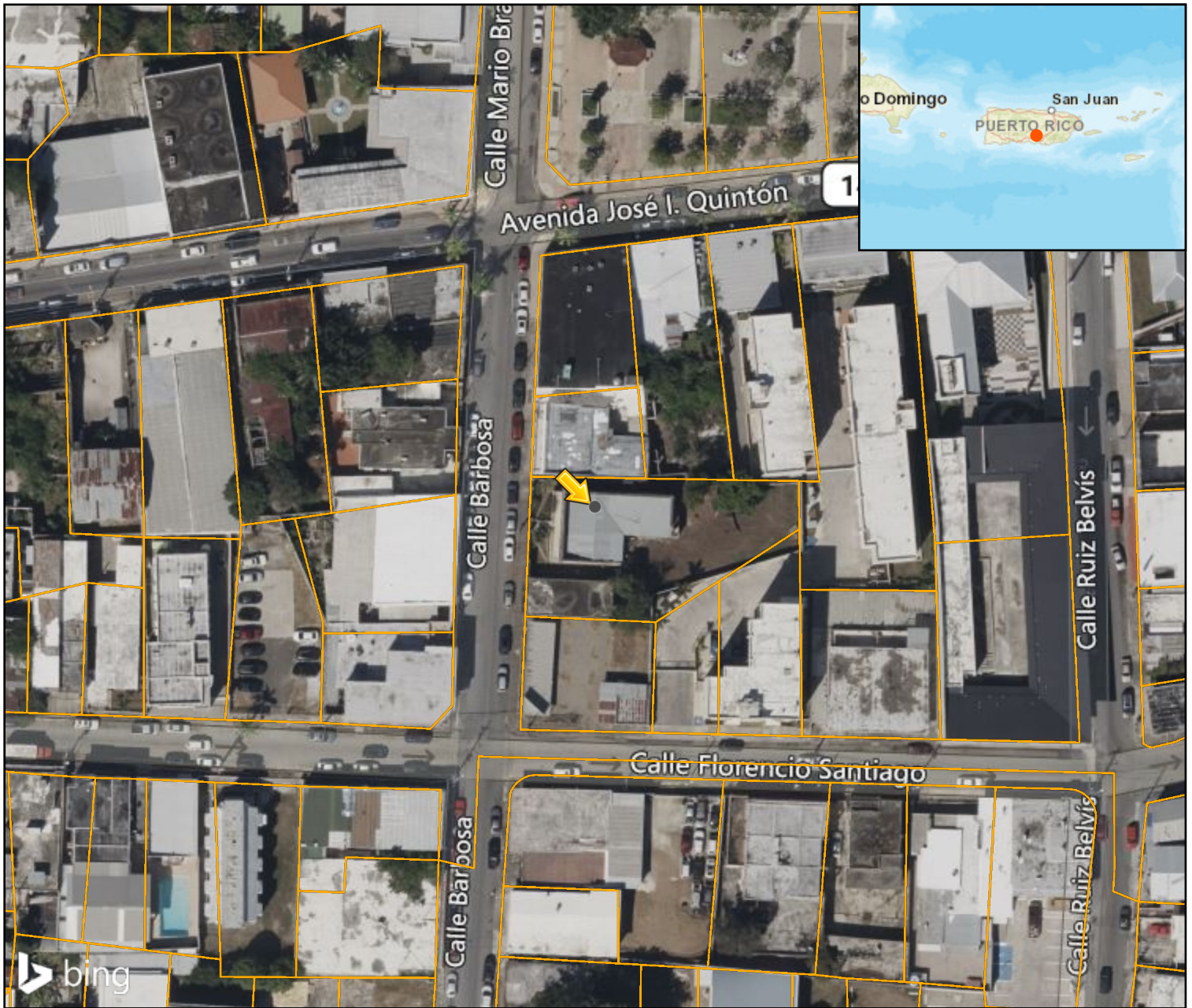
Supporting documentation

Are formal compliance steps or mitigation required?

Yes

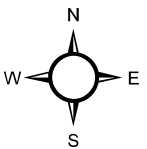
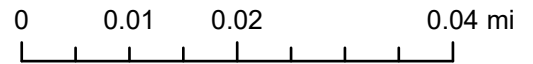
No

PR-WFT-00071D ABFE



Legend

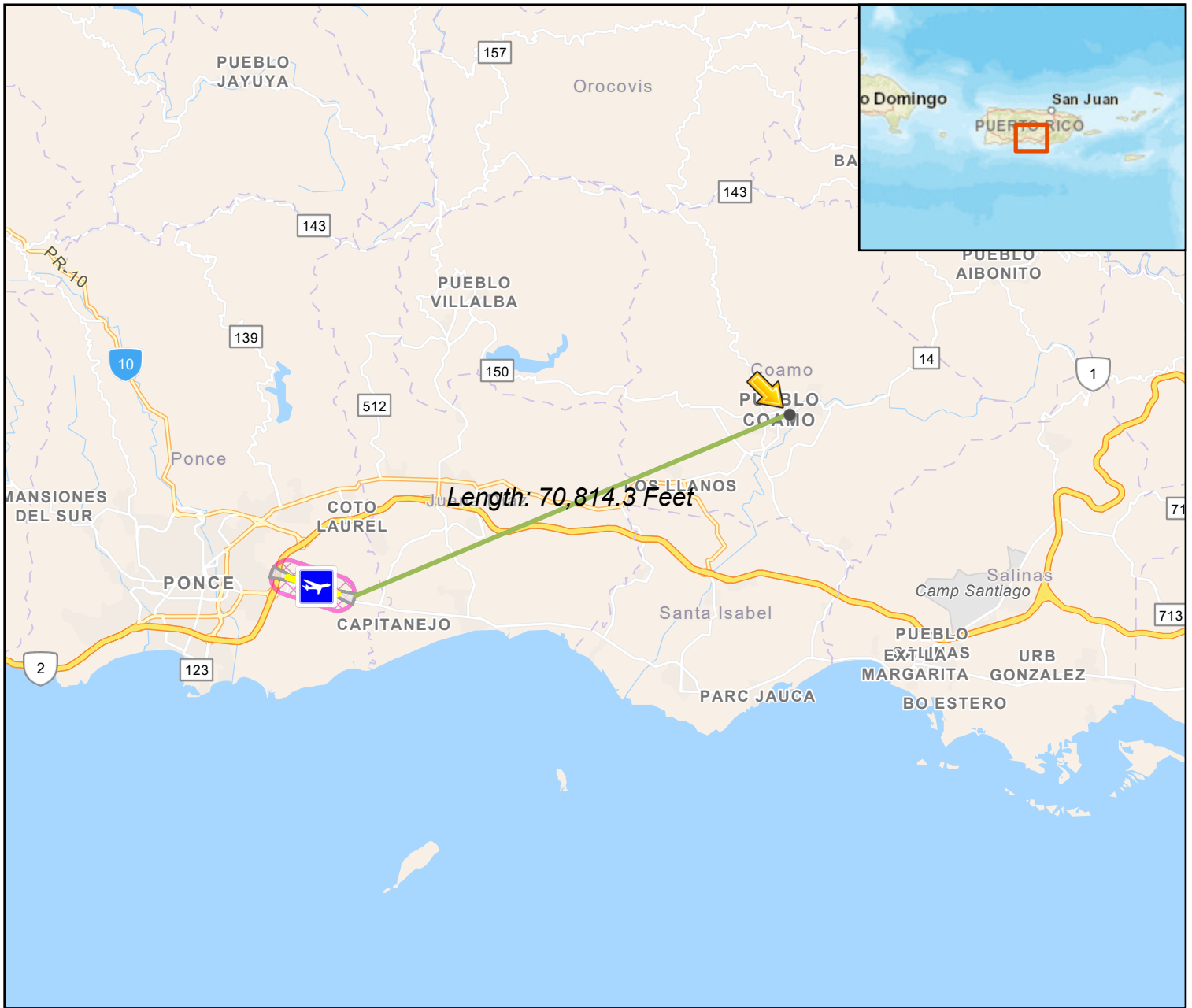
- Parcels
- A
- AO
- AE
- Coastal A Zone
- VE
- 0.2% Annual Chance Flood Zone
- AE-Floodway
- Coastal A Zone and Floodway
- Zone/BFE Boundary
- 1% Annual Chance Flood
- 0.2% Annual Chance Flood
- Limit of Moderate Wave Action (LiMWA)
- Advisory Base Flood Elevation (zoom to make visible)
- Streamline (zoom in to make visible)



FEMA Map Service

ABFE 1PCT

PR-WFT-00071D Airports

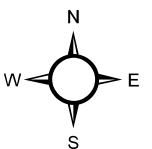
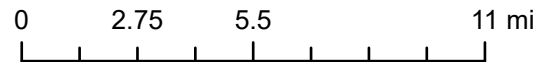


Legend

- Civilian Airports 2,500ft Buffer
- Runway Protection Zones
- Airport Runways

Category

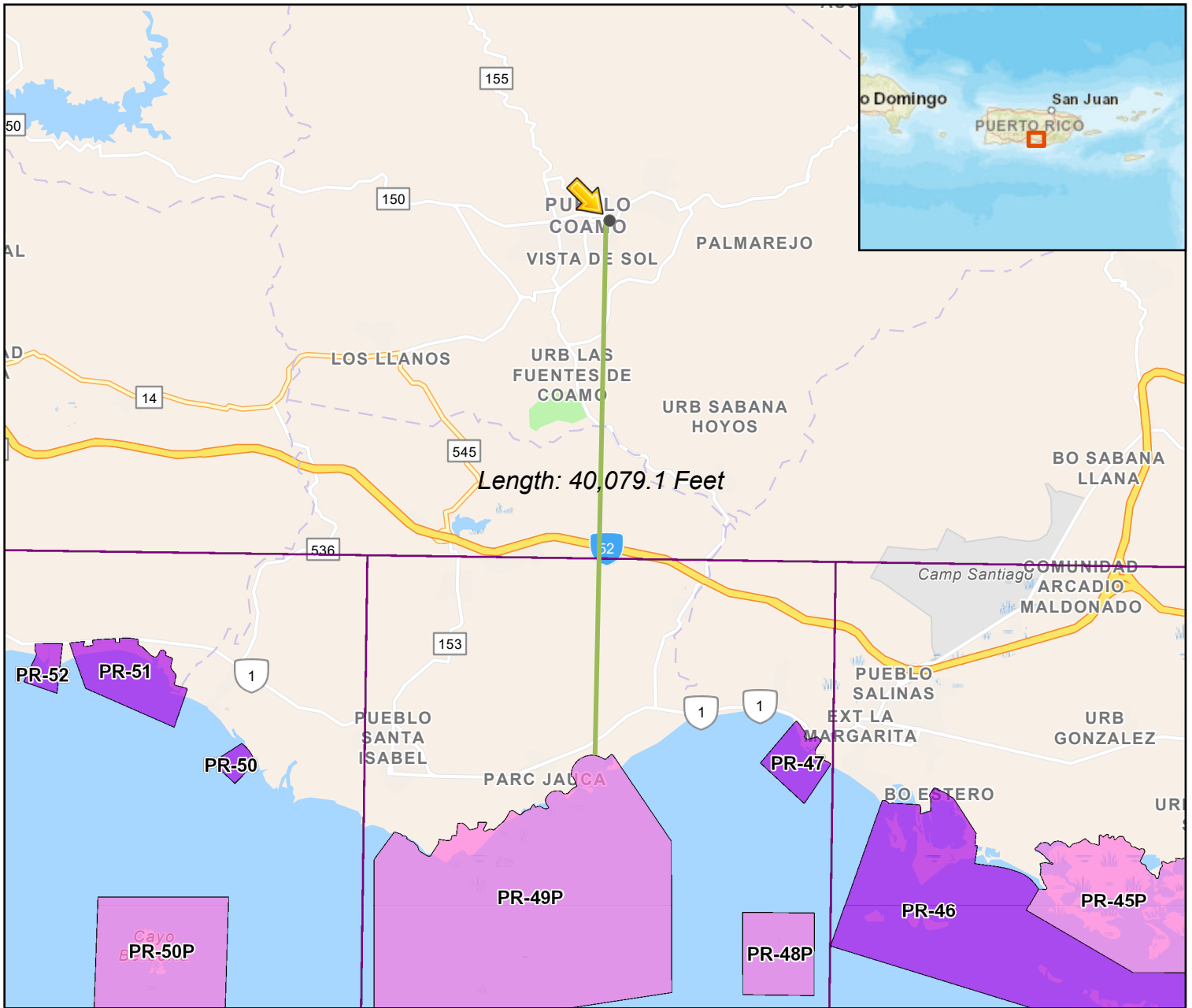
- Major



Runway Protection Zones

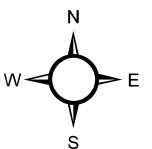
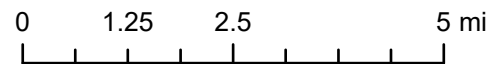
Major Civil and Military Airports

PR-WFT-00071D CBRS



Legend

- CBRS Map Panels
- Otherwise Protected Area
- System Unit
- CBRS Prohibitions



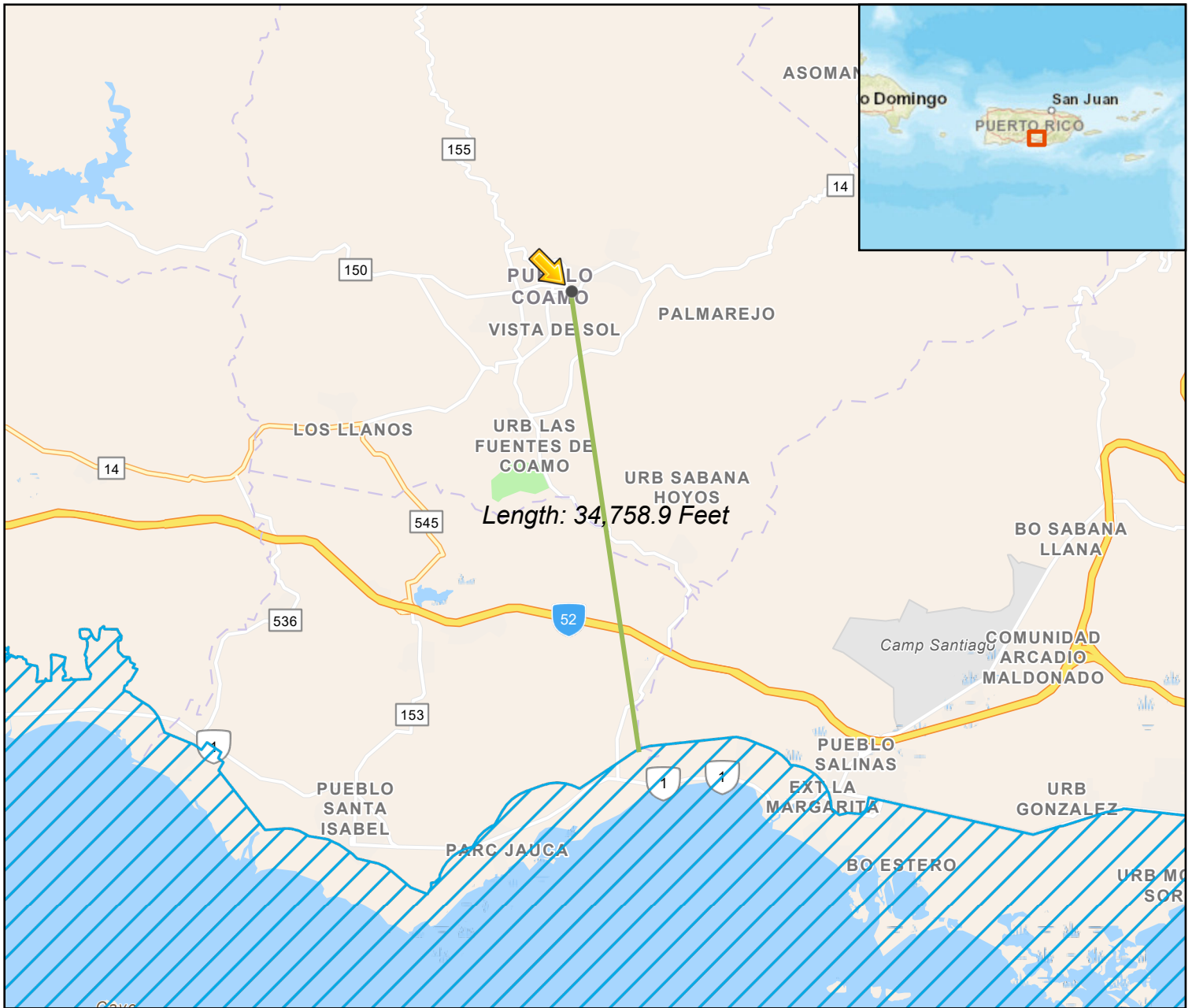
U.S. Fish and Wildlife Service

Coastal Barrier Resources Act Program

<https://fwsprimary.wim.usgs.gov/CBRSMapper-v2/>

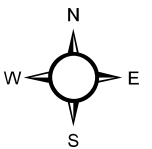
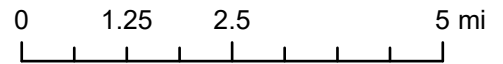
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PR-WFT-00071D CZM



Legend

 Coastal Zone Management Act Boundary



NOAA

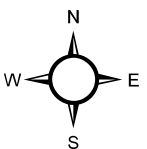
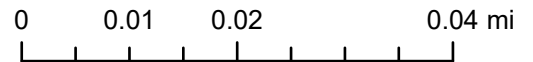
Coastal Zone Management Act

PR-WFT-00071D Farmlands



Legend

- Prime Farmland
- Farmland of Local Importance
- Farmland of Statewide Importance
- Farmland of Unique Importance
- Not Prime Farmland



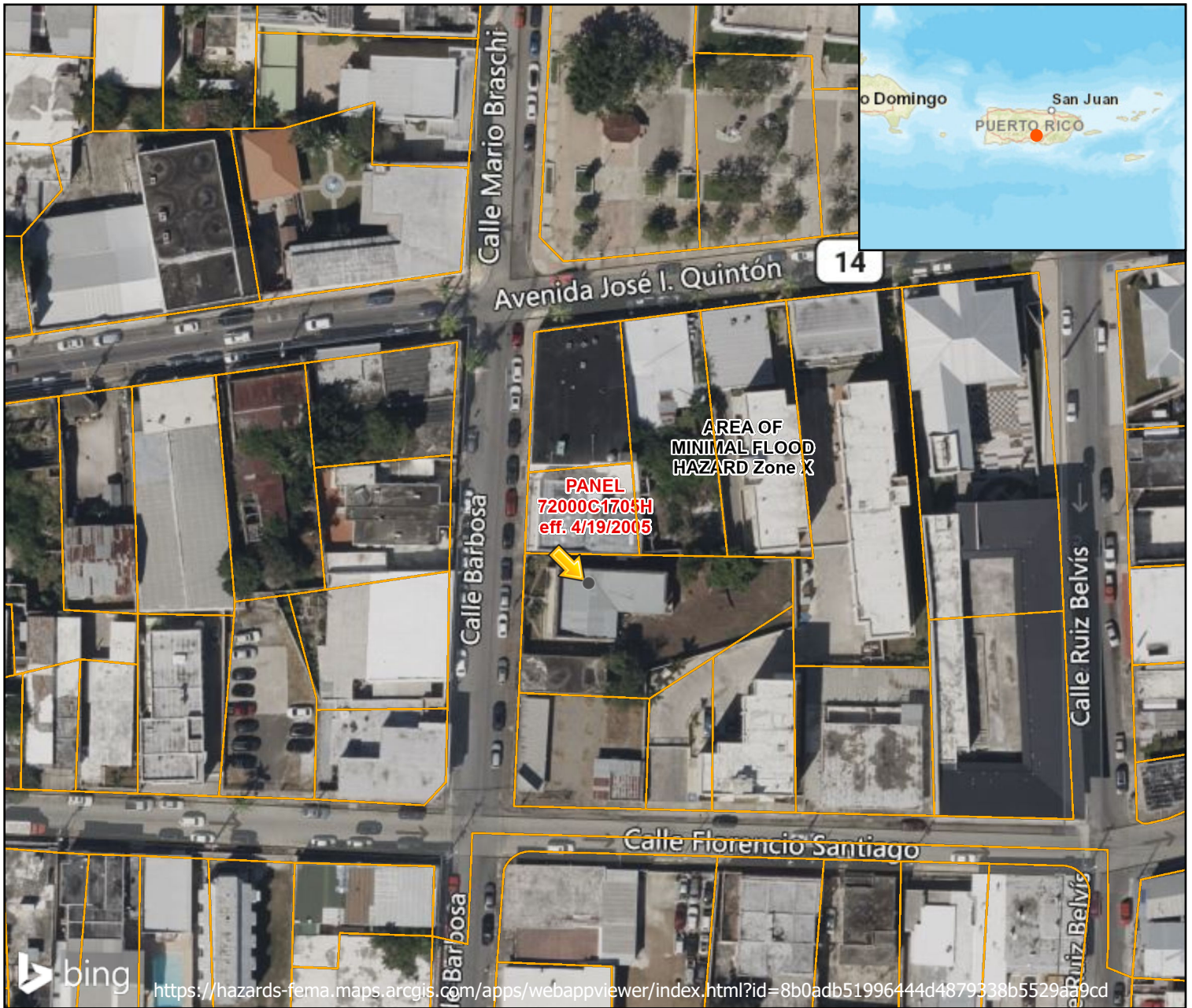
USGS USA Soils

Farmland dataset









<https://arcgis.horne.com/portal/apps/experiencebuilder/experience/?id=883eb165a91d411996af67b92f45a429>

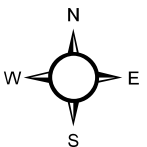
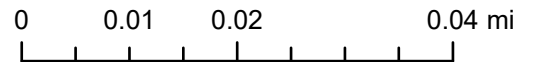
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PR-WFT-00071D Flood Map



Legend

-  1% Annual Chance Flood Hazard
-  Regulatory Floodway
-  Special Floodway
-  Area of Undetermined Flood Hazard
-  0.2% Annual Chance Flood Hazard
-  Future Conditions 1% Annual Chance Flood Hazard
-  Area with Reduced Risk Due to Levee
-  FEMA Floodzone Panels - Effective



FEMA Map Service

Flood Insurance Rate Maps

PR-WFT-00071D Historic



Legend

- National Historic Landmark
- National Register of Historic Places
- Removed from National Register of Historic Places

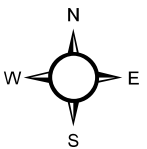
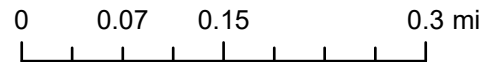
National Register Of Historic Places Points

- National Historic Landmark
- National Register of Historic Places
- Removed from National Register of Historic Places

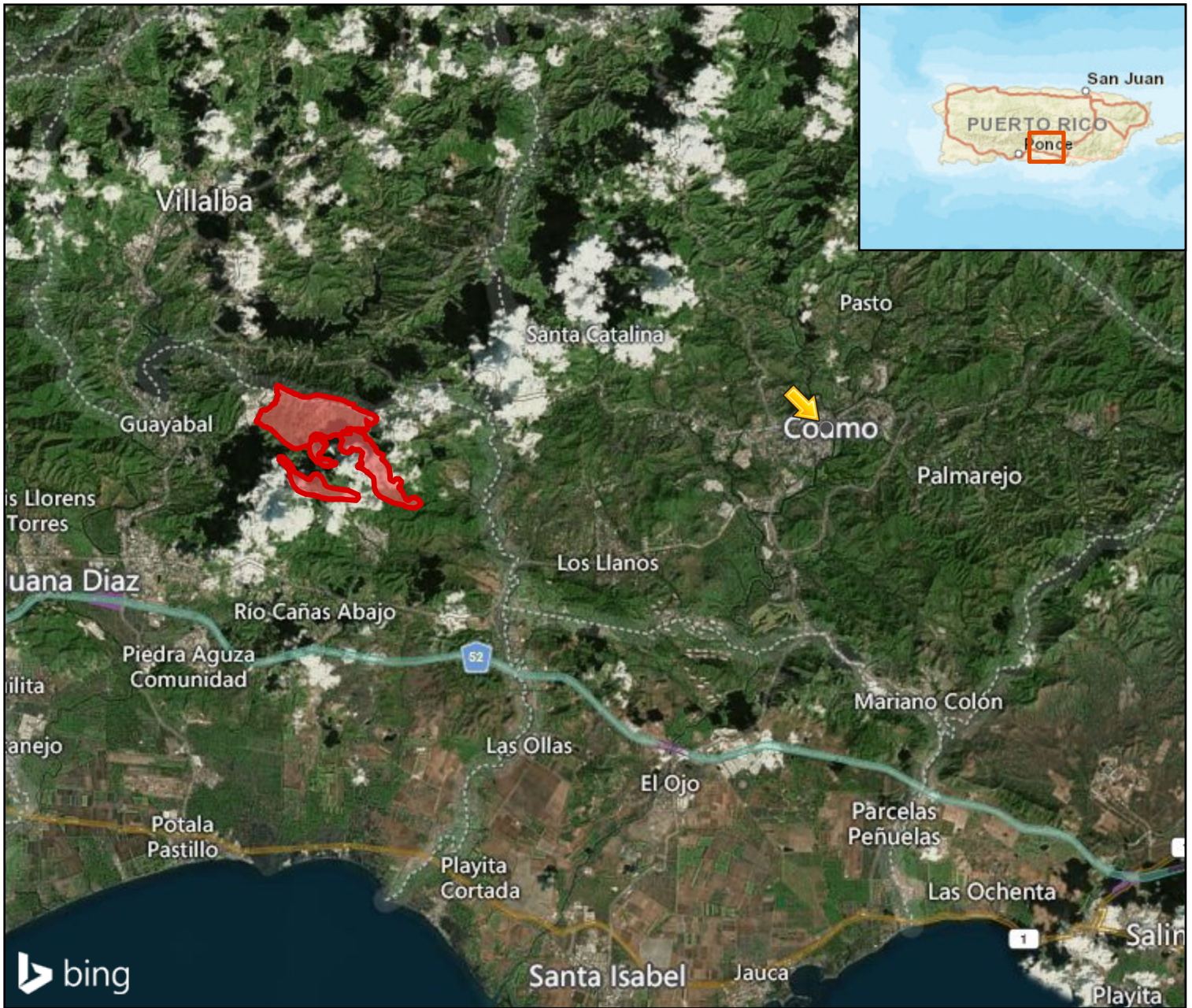
National Register of Historic Places Polygons

- Traditional Urban Centers

National Register of Historic Places

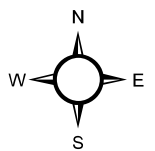
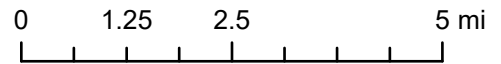


PR-WFT-00071D Karst



Legend

- Restricted Karst Buffer Zone 50m
- Restricted Karst Limit



MIPR - PR Planning Board

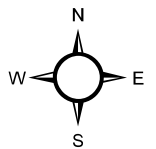
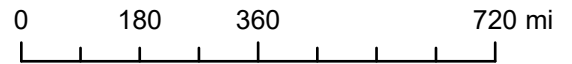
Karst Zone

PR-WFT-00071D Sole Source Aquifers



Legend

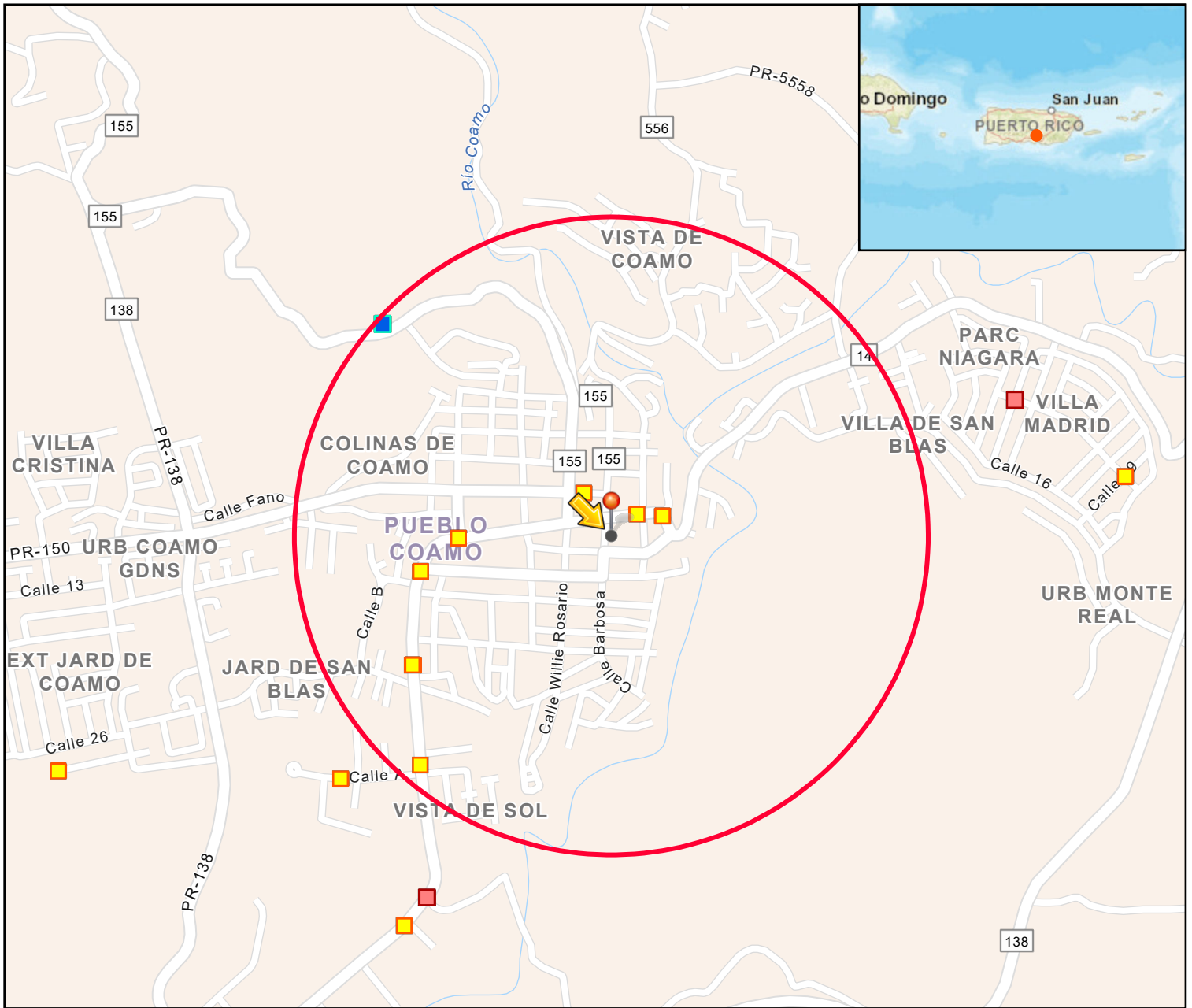
 Sole Source Aquifers - EPA August 2019



Sole Source Aquifers

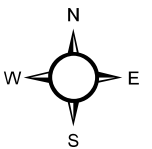
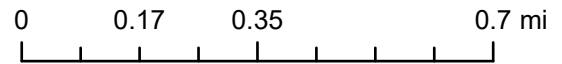
EPA

PR-WFT-00071D Toxics



Legend

- Toxic Substances Control Act
- ◆ Brownfields
- Hazardous waste
- ◆ Air pollution
- Water dischargers
- Toxic releases
- ⊙ Superfund
- 3,000 ft buffer



Envirofacts Facility Locations

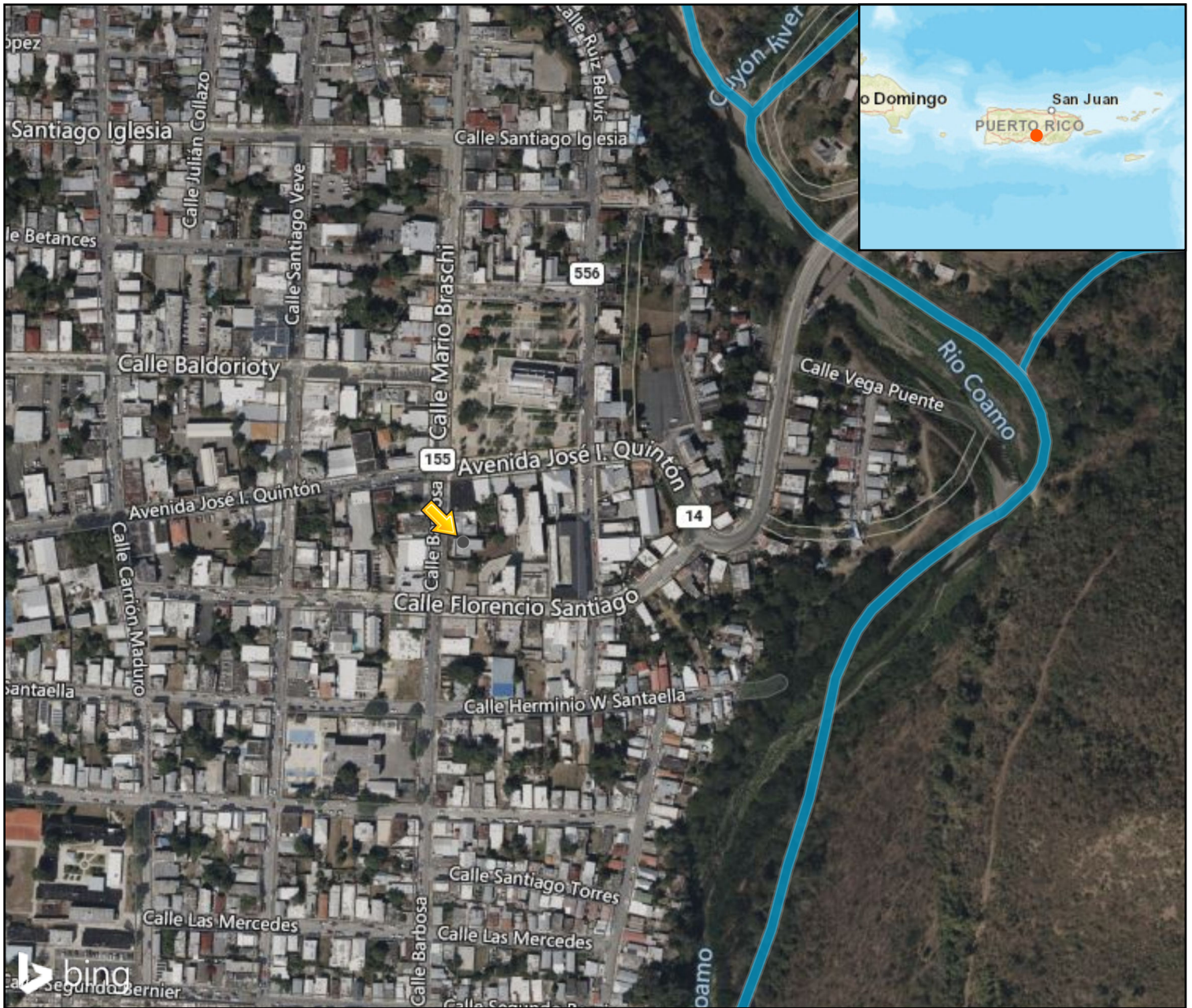
EPA

<https://ejscreen.epa.gov/mapper/>

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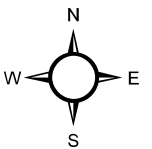
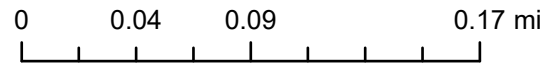


PR-WFT-00071D Wetlands



Legend

 Riverine



National Wetlands Inventory

U.S. Fish and Wildlife Service

<https://fwsprimary.wim.usgs.gov/wetlands/apps/wetlands-mapper/>

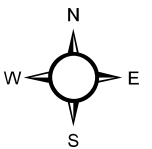
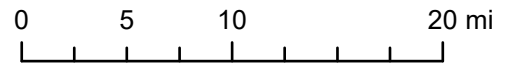
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PR-WFT-00071D Wild and Scenic



Legend

— Wild and Scenic Rivers



National Wild and Scenic River System

National Park Service



Self-Certification

<http://www.fws.gov/caribbean/ES/Index.html>

Endangered Species Act Certification


The U.S. Fish and Wildlife Service, Caribbean Ecological Services Field Office developed a Blanket Clearance Letter in compliance with Endangered Species Act of 1973, as amended, and the Fish and Wildlife Coordination Act for federally funded projects.

The Service determined that projects in compliance with the following criteria are not likely to adversely affect federally-listed species.

Puerto Rico Department of Housing (PRDOH) certifies that the following project **Fundación Biblioteca Rafael Hernández Colón, Inc. (PR-WFT-00071D)** consisting of restoration work on the building (masonry, ironwork, woodwork, roof rehabilitation, and carpentry), located at Calle Barbosa #3, Coamo, PR 00769, complies with:

Check	Project Criteria
<input type="checkbox"/>	1. Street resurfacing.
<input type="checkbox"/>	2. Construction of gutters and sidewalks along existing roads.
<input type="checkbox"/>	3. Reconstruction or emergency repairs of existing buildings, facilities and homes.
<input checked="" type="checkbox"/>	4. Rehabilitation of existing occupied single-family homes, and buildings; provided that equipment storage or staging areas are not located on vacant property harboring a wetland and/or forested vegetation and that the lighting associated to the new facilities is not visible directly or indirectly from a beach.
<input type="checkbox"/>	5. Demolition of dilapidated single-family homes or buildings; provided that the demolition debris is disposed in certified receiving facilities; equipment storage or staging areas are not located on vacant property harboring a wetland and/or forested vegetation.
<input type="checkbox"/>	6. Rebuilding of demolished single-family homes or buildings, provided that the new construction is within the existing footprint of the previous

	structure and/or within pre- existing grassed or paved areas, and that the lighting associated to the new facilities are not visible directly or indirectly from a beach.
<input type="checkbox"/>	7. Activities within existing Right of Ways (ROWs) of roads, bridges and highways, when limited to actions that do not involve cutting native vegetation or mayor earth moving; and are not located within, or adjacent to, drainages, wetlands, or aquatic systems. These activities include the installation of potable water and sanitary pipelines.
<input type="checkbox"/>	8. Improvements to existing recreational facilities, including the installation of roofs to existing basketball courts, provided that the lighting associated to the facilities are not visible directly or indirectly from the beach.
<input type="checkbox"/>	9. Construction of electric underground systems in existing towns and communities, provided that the property is not a wetland area and the lighting associated to the facilities are not visible directly or indirectly from the beach.
<input type="checkbox"/>	10. Construction of facilities on vacant properties covered with grasses in urban areas, provided that the lighting associated to the facilities are not visible directly or indirectly from the beach.
<input type="checkbox"/>	11. Construction of houses, buildings or acquiring lands in urban areas covered by grass for relocation of low-income families and/or facilities that have been affected by weather conditions.



Ángel G. López-Guzmán
Deputy Director

Permits and Environmental Compliance Division

Office of Disaster Recovery

Address: P.O. Box 21365 San Juan, PR 00928

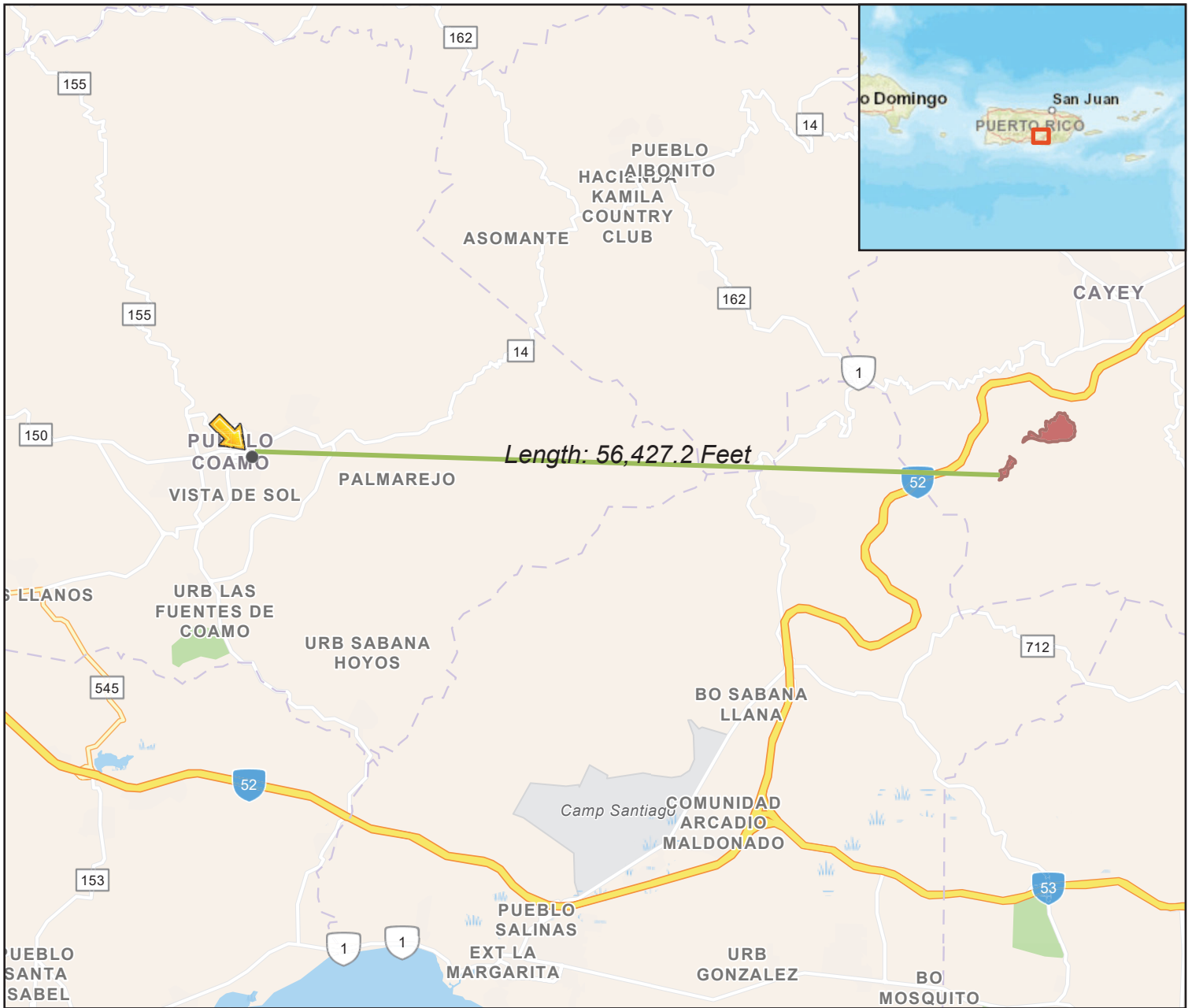
Telephone and Ext: 787-274-2527 ext. 4320

Email: environmentcdba@vivienda.pr.gov



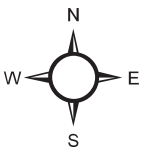
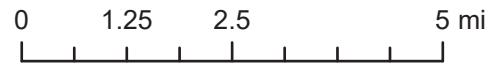
Date

PR-WFT-00071D End. Species



Legend

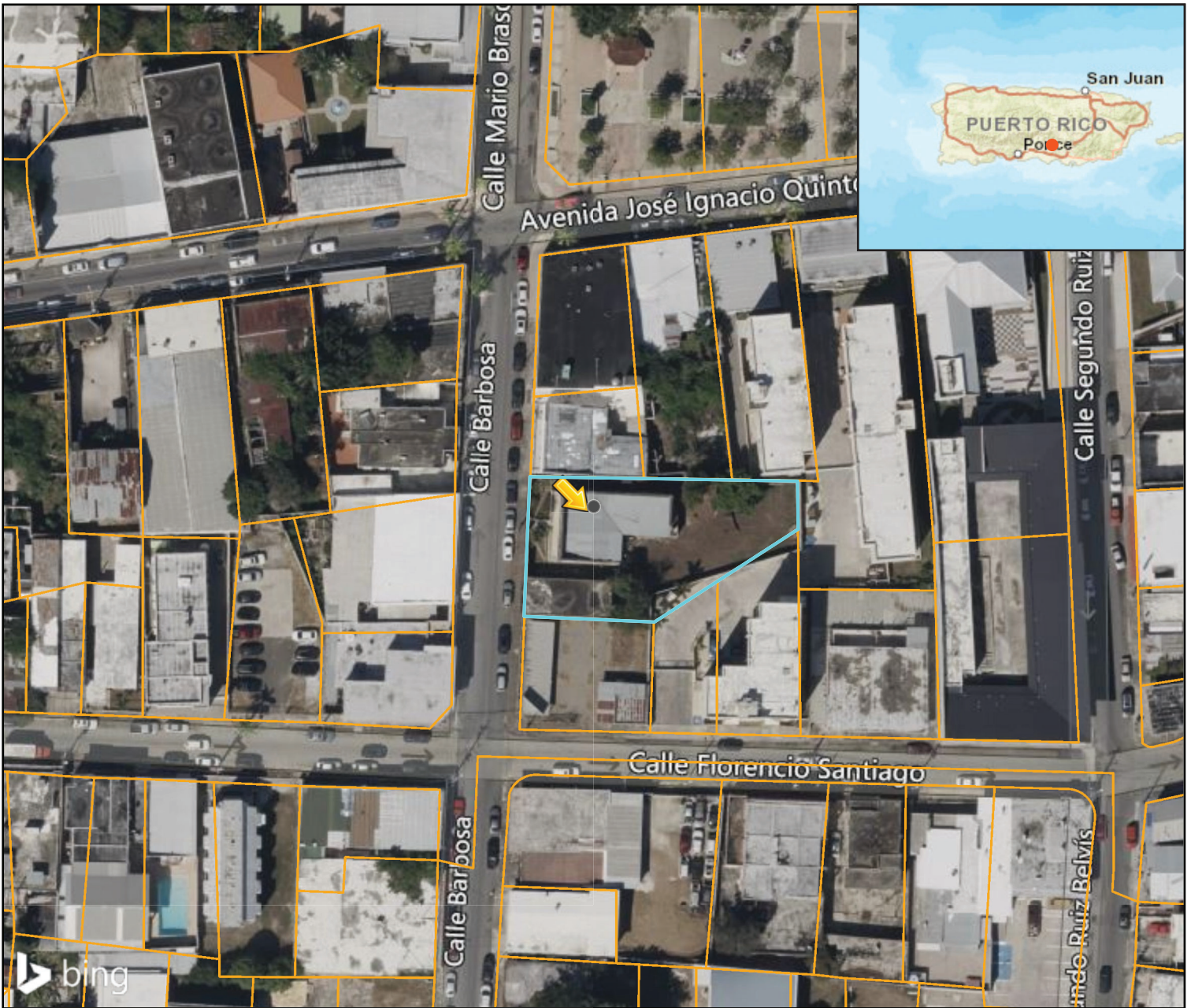
 USFWS Critical Habitat - Polygon Features - Final (agency service)



Endangered Species Habitat

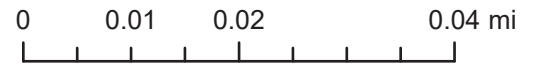
U.S. Fish and Wildlife Service

PR-WFT-00071D Site Map



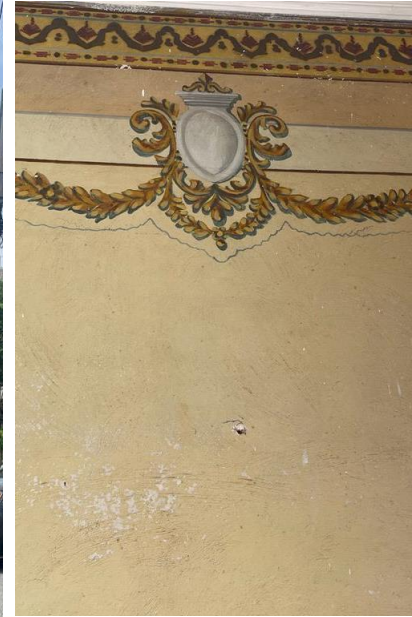
Legend

 Parcels



ESCUELA TALLER DEL SUR

CASA BORELLI BARBOSA #3, COAMO. PUERTO RICO



TRABAJOS DE RESTAURACION EN LA CASA BORELLI POR LA ESCUELA TALLER DEL SUR
SCOPE OF WORKS FOR THE RESTORATION OF CASA BORELLI BY THE ESCUELA TALLER DEL SUR

DOCUMENTO PREPARADO POR:

DOCUMENT PREPARED BY:

ARQ. PABLO OJEDA O'NEILL

M.ARCH, AADIPLI. BUILD. CONS

FAAR'96

ESCUELA TALLER DEL SUR

CASA BORELLI BARBOSA #3 COAMO.

LISTADO DE INTERVENCIONES POR SECTORES POR LA ESCUELA TALLER DEL SUR
RESTORATION/ INTERVENTION LIST BY ROOMS AND AREAS

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1

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SCOPE OF WORKS AND LEGEND

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SCHEMATIC PLAN BORELI HOUSE

7

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CURRICULO ESCUELA TALLER DEL SUR

ESCUELA TALLER DEL SUR CURRICULUM

ANEJO 1/ATTACHMENT1

INTRODUCCION

INTRODUCTION

Este documento resume las actividades a ser realizadas por la Escuela Taller del Sur en su primer proyecto, la Casa Borelli. Se ha aplicado la leyenda de actividades en cada espacio de la casa, con fotos acompañantes. El proyecto de la Casa Borelli es uno interdisciplinario que pretende capacitar a los participantes en los diversos gremios que se relacionan íntimamente al proceso de restauración y recuperación patrimonial.



This document resumes all the activities to be carried out by the Escuela Taller del Sur in its first project, Borelli House. Each item in the legend has been applied to each space of the house, including photographs of each room. The Borelli Project is an interdisciplinary one that pursue a thorough training of its participants, focused on each trade that is related to the restoration process and heritage recovery.

ESCUELA TALLER DEL SUR

CASA BORELLI BARBOSA #3 COAMO.

LISTADO DE INTERVENCIONES POR SECTORES POR LA ESCUELA TALLER DEL SUR
RESTORATION/ INTERVENTION LIST BY ROOMS AND AREAS

La siguiente leyenda es aplicable a cada espacio de la Casa Boreli. En la misma se describen las tareas a ser realizadas en cada área a ser intervenida por la Escuela Taller.

The following legend applies to each space of the Borelli House. It describes the scope of work to be considered in each space by the Escuela Taller.

LEYENDA/LEGEND

1. TALLER DE ALBANILERIA/MAMPOSTERIA/ *BRICK MASONRY WORKSHOP*

**1.A- MUROS EN MAMPOSTERIA DE LADRILLOS
ENCALADOS, MORTEROS./ *BRICK MASONRY WALLS,
PLASTERWORK / MORTARS***

**1.B- MUROS O ELEMENTOS EN HORMIGON/*SUELOS*
*REINFORCED CONCRETE ELEMENTS/FLOORS***

2. TALLER DE HERRERIA ORNAMENTAL/ESTRUCTURAL/ *ORNAMENTAL /STRUCTURAL IRINWORK WORKSHOP*

**2.A- RESTAURACION HERRERIA DE BARANDAS Y VERJAS ANTIGUAS
*RESTORATION OF ORIGINAL IRONWORK/FENCES/RAILINGS***

**2.B- RESTAURACION DE PANOS DE REJAS EN VENTANAS
*RESTORATION OF ORIGINAL IRONWORK/WINDOWS***

**2.C- NUEVAS REJAS/PUERTAS EN HIERRO
*RESTORATION OF ORIGINAL IRONWORK/DOORS***

3. TALLER DE CARPINTERIA/EBANISTERIA
CARPENTRY AND WOODWORK WORKSHOP

3.A- REPARACION DE ESTRUCTURAS TECHOS Y PISOS
HOUSE ROOFS. STRUCTURAL REPAIRS

3.B- RESTAURACION PUERTAS/VENTANAS
DOORS AND WINDOWS RESTORATION.

3.C- RESTAURACION DE MARCOS Y MONTANTES CALADOS
DOORS, WINDOWS'FRAMES/ GINGERBREAD RESTORATION

3.D- RESTAURACION PLAFONES/MOLDURAS Y CORNISAS
INERIOR CEILLINGS/ CORNICES /MOULDINGS RESTORATION

3.E- RESTAURACION DE PISOS DE MADERA
FLOORS'TIMBER FRAMES AND WOOF FLOORING RESTORATION

3.F- BARANDAS/BALAUSTRAS
WOOS RAILLINGS AND BALUSTERS RESTORATION

4. TALLER DE ORNAMENTACION ARQUITECTONICA
ARCHITECTURAL ORNAMENTATION WORKSHOP

4.A- ORNAMENTOS NEOCLASICOS EN YESERIA.
MENSULAS, CORNISAS.
NEOCLASSIC ORNAMENTS/ CORNICES/ BRACKETS RESTORATION

4.B- ORNAMENTACION JAMBAS DE PUERTAS Y VENTANAS
DOORS AND WINDOWS FENESTRATION RESTORATION

4.C- PINTURAS MURALES/EMPAPELADO HISTORICO

ESCUELA TALLER DEL SUR

CASA BORELLI BARBOSA #3 COAMO.

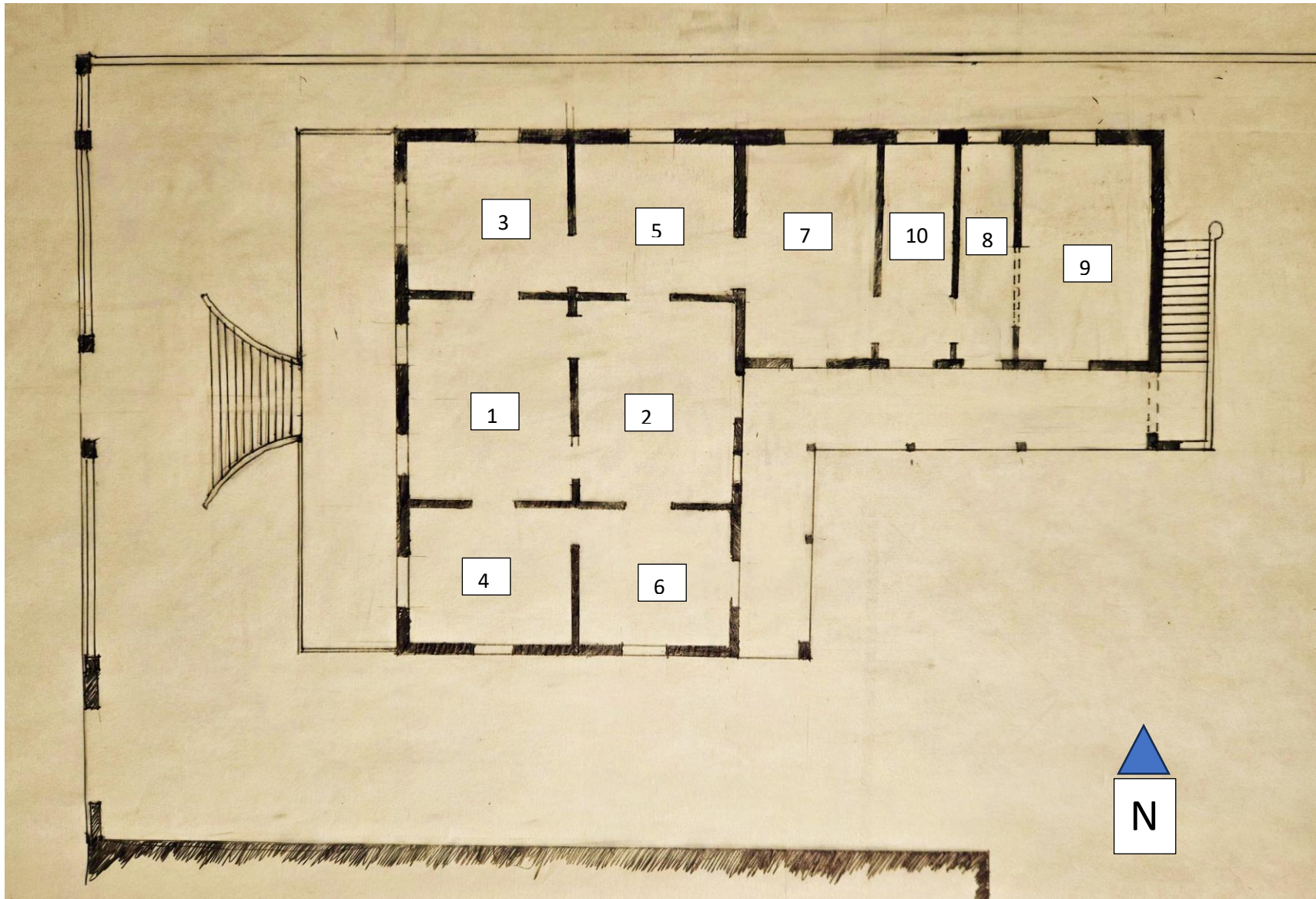
LISTADO DE INTERVENCIONES POR SECTORES POR LA ESCUELA TALLER DEL SUR
RESTORATION/ INTERVENTION LIST BY ROOMS AND AREAS

	PISOS <i>FLOORS</i>	PAREDES <i>WALLS</i>	PLAFONES <i>CEILINGS</i>	PUERTAS <i>DOORS</i>	VENTANAS <i>WINDOWS</i>	ELEMENTO ESPECIAL <i>SPECIAL COMPONENTS</i>
FACHADA OESTE <i>FRONT FACADE-WEST</i>	1.B	1.A; 4.A	-----	3.B; 3.C; 4.B	-----	-----
FACHADAS NORTE/SUR/ESTE` <i>NORTH /SOUTH/EAST FACADES</i>	-----	1.A	-----	-----	2.B; 2.C	-----
GALERIA TRASERA <i>MAIN GARDEN GALLERY</i>	1.B	1.A	3.D	3.B	-----	3.F; 3.A
VERJA PRINCIPAL PORTON COCHERA <i>FRONT FENCE AND CARRIAGE ENTRANCE</i>	-----	1.A; 2.A; 2.C	-----	2.C	-----	-----

CASA PRINCIPAL Y SUS ESPACIOS
MAIN HOUSE SPACES

	PISOS FLOORS	PAREDES WALLS	PLAFONES CEILINGS	PUERTAS DOORS	VENTANAS WINDOWS	ELEMENTO ESPECIAL SPECIAL COMPONENTS
1. SALA PRINCIPAL 1 MAIN LIVING ROOM 1	3.E	1.A	3.D	3.B; 3.C	-----	4.C
2. COMEDOR 2 DINNING ROOM 2	3.E	1.A	3.D	3.B; 3.C	-----	4.C
3. HABITACION 3 BEDROOM 3	3.E	1.A	3.D	3.B; 3.C	3.B; 3.C	-----
4. HABITACION 4 BEDROOM 4	3.E	1.A	3.D	3.B; 3.C	3.B; 3.C	-----
5. HABITACION 5 BEDROOM 5	3.E	1.A	3.D	3.B; 3.C	3.B; 3.C	-----
6. HABITACION 6 BEDROOM 6	3.E	1.A	3.D	3.B; 3.C	3.B; 3.C	-----
7. HABITACION 7 BEDROOM 7	3.E	1.A	3.D	3.B; 3.C	3.B; 3.C	-----

8. COCINA 8/9 <i>KITCHEN/PANTRY 8/9</i>	1.B	1.A	3.D	3.B; 3.C	3.B; 2.C
9. BANO 10 <i>BATHROOM 10</i>	1.B	1.A	3.D	3.B; 3.C	3.B; 2.C
10. SOTANO 11 <i>BASEMENT 11</i>	1.B	1.A	3.A	2.C	-----



CASA BORELLI, PLANTA ESQUEMATICA. NO A ESCALA /SCHEMATIC PLAN NOT TO SCALE

FACHADA OESTE

WEST FACADE

FACHADA OESTE
FRONT FACADE-WEST

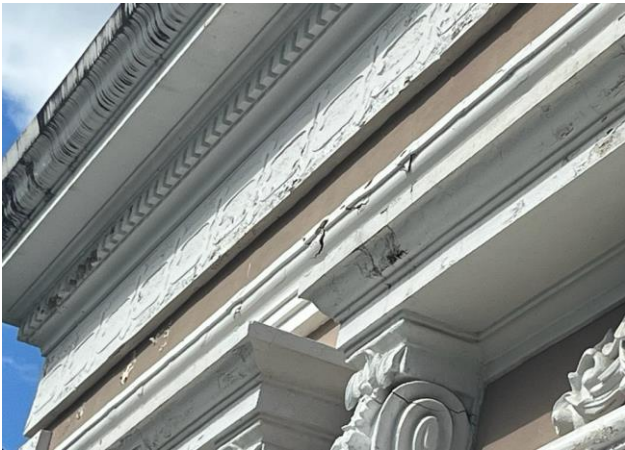
1.B

1.A; 4.A

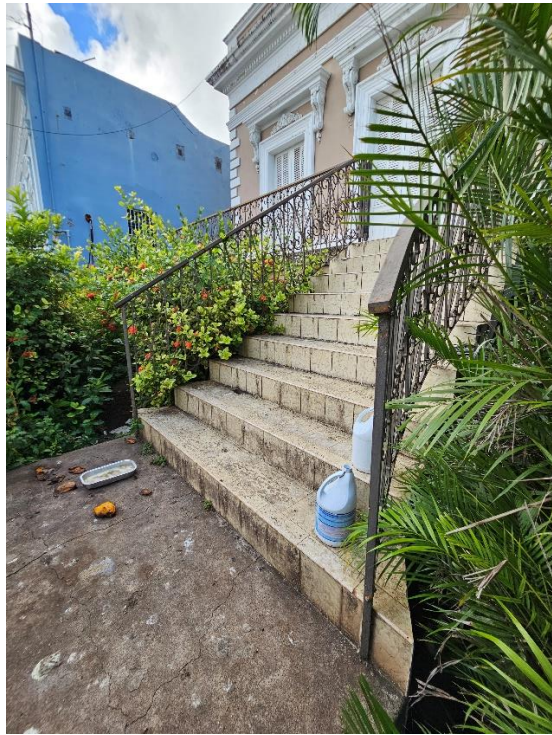
3.B; 3.C; 4.B



FACHADA OESTE/ WEST FACADE







FACHADAS NORTE/SUR/ESTE

NORTH/SOUTH/EAST FACADES

FACHADAS NORTE/SUR/ESTE` -----
NORTH /SOUTH/EAST FACADES

1.A

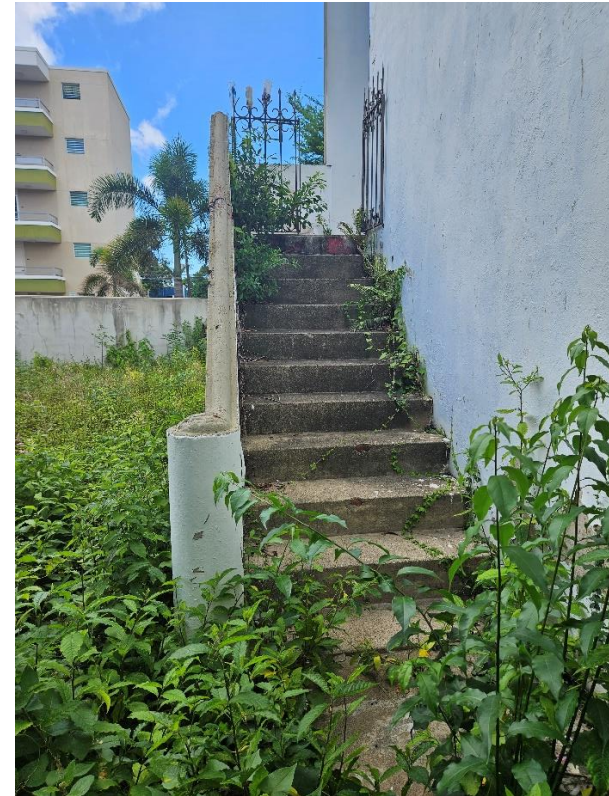
----- **2.B; 2.C** -----



FACHADA NORTE/*NORTH FAÇADE*



FACHADA ESTE/EAST FAÇADE





FACHADA SUR/*SOUTH FACADE*

GALERIA TRASERA

MAIN GARDEN GALLERY

GALERIA TRASERA
MAIN GARDEN GALLERY

1.B

1.A

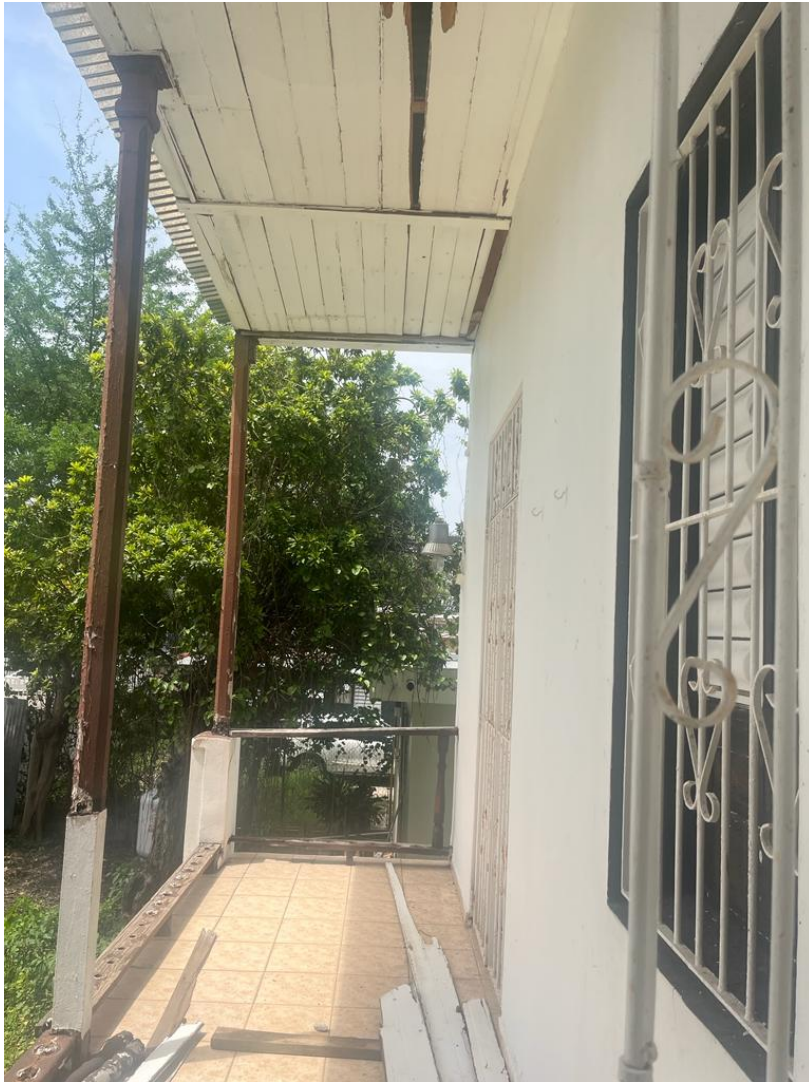
3.D

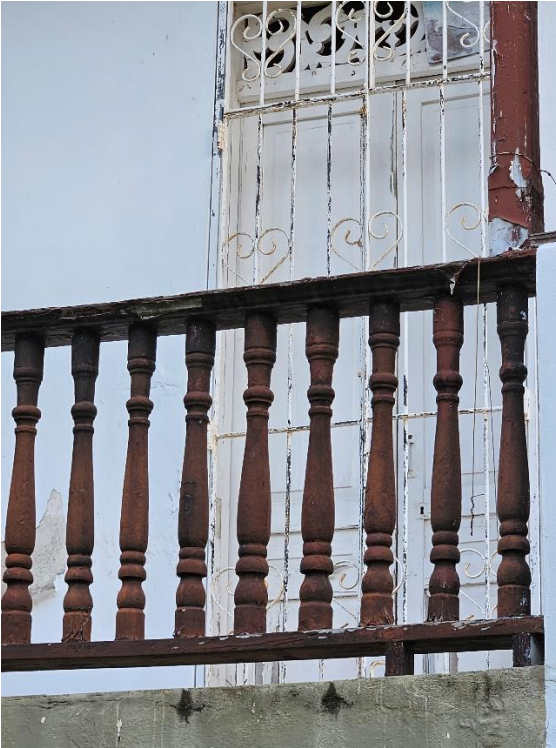
3.B

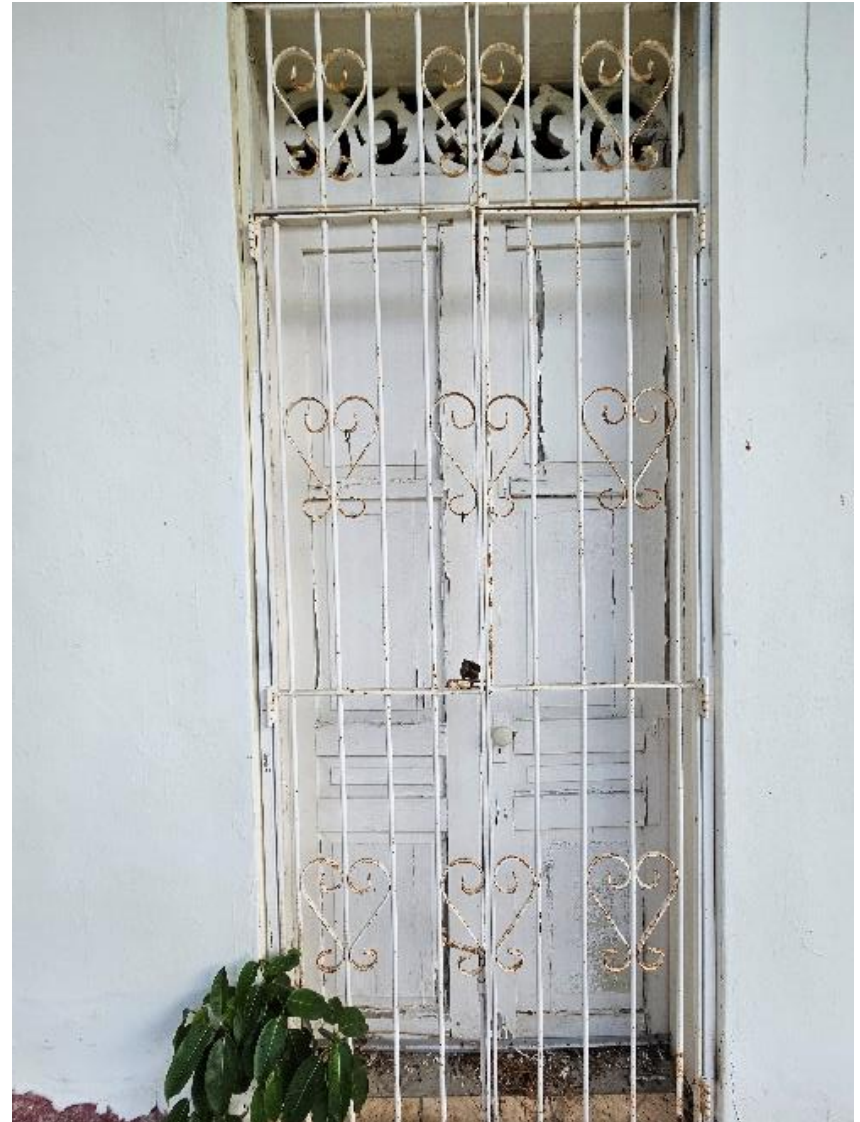
3.F; 3.A













VERJA PRINCIPAL PORTON COCHERA

FRONT FENCE AND CARRIAGE ENTRANCE

VERJA PRINCIPAL PORTON
COCHERA

1.A; 2.A; 2.C

2.C

FRONT FENCE AND CARRIAGE ENTRANCE





CASA PRINCIPAL Y SUS ESPACIOS

MAIN HOUSE SPACES

SALA PRINCIPAL

MAIN LIVING ROOM

SALA PRINCIPAL 1
MAIN LIVING ROOM 1

3.E

1.A

3.D

3.B; 3.C

4.C



RESTAURACION DE LAS PINTURAS MURAL/ *RESTORATION OF THE MURAL PAINTINGS*









COMEDOR 2

DINNING ROOM 2

COMEDOR 2
DINNING ROOM 2

3.E

1.A

3.D

3.B; 3.C

4.C









HABITACION 3

BEDROOM 3

HABITACION 3
BEDROOM 3

3.E

1.A

3.D

3.B; 3.C

3.B; 3.C





HABITACION 4

BEDROOM 4

HABITACION 4
BEDROOM 4

3.E

1.A

3.D

3.B; 3.C

3.B; 3.C





HABITACION 5

BEDROOM 5

HABITACION 5
BEDROOM 5

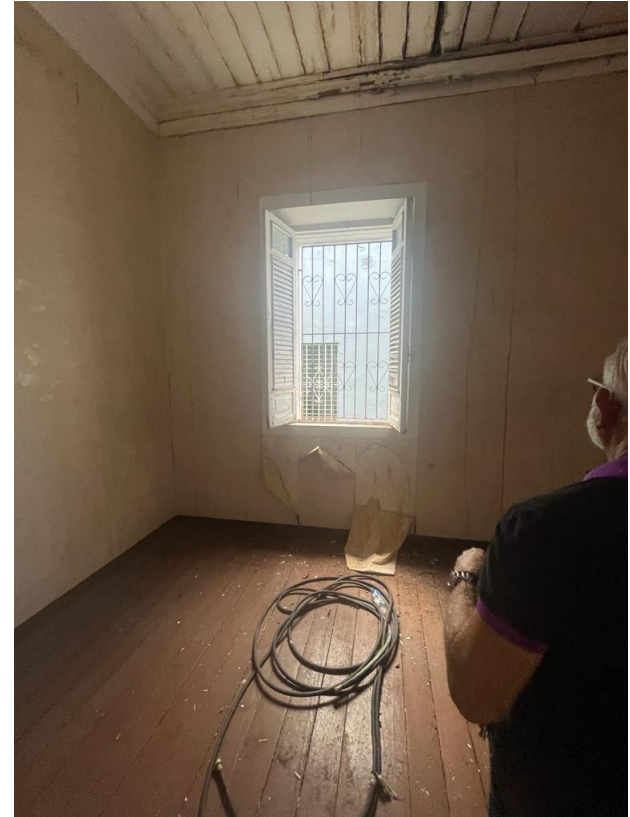
3.E

1.A

3.D

3.B; 3.C

3.B; 3.C



HABITACION 6

BEDROOM 6

HABITACION 6
BEDROOM 6

3.E

1.A

3.D

3.B; 3.C

3.B; 3.C





HABITACION 7

BEDROOM 7

HABITACION 7
BEDROOM 7

3.E

1.A

3.D

3.B; 3.C

3.B; 3.C



COCINA/ DESPENSA 8/9

KITCHEN/PANTRY 8/9

COCINA 8/9
KITCHEN/PANTRY 8/9

1.B

1.A

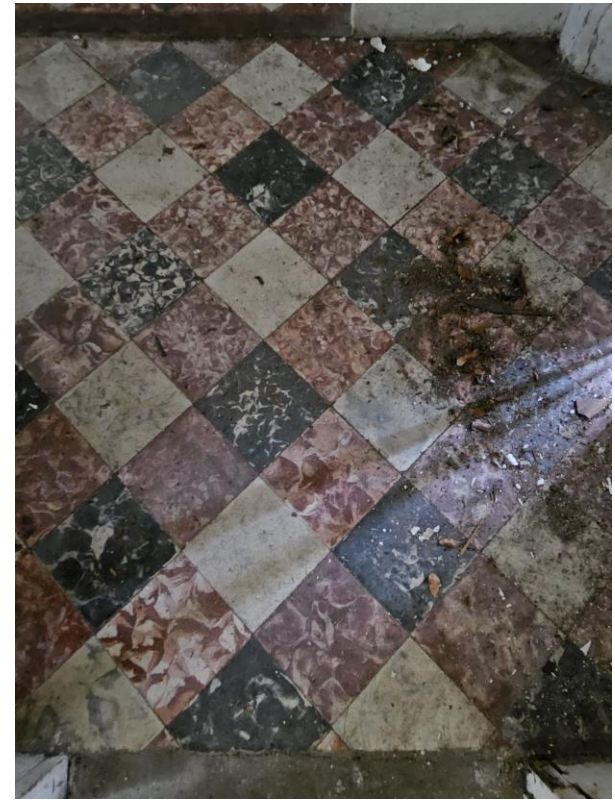
3.D

3.B; 3.C

3.B; 2.C







BANO 10

BATHROOM 10

BANO 10
BATHROOM 10

1.B

1.A

3.D

3.B; 3.C

3.B; 2.C







SOTANO 11
BASEMENT 11

SOTANO 11
BASEMENT 11

1.B

1.A

3.A

2.C







RESTAURACION DE LOS TECHOS Y PLAFONES

RESTORATION OF THE ROOF SYSTEM AND CEILINGS





Traditional Trades Apprenticeship Program



CURRICULUM AND COURSE DESCRIPTIONS



Prepared by:

Héctor J. Berdecía-Hernández, M.S., Assoc. AIA

Pablo Ojeda O'Neill, M.Arch, AA.Dipl.Build. Cons, FAAR'96

CURRICULUM - COURSES & SEMINARS



I. General Education Requirement Seminars

- History and Theory of Historic Preservation
- Traditional Building Technology in Puerto Rico and the Caribbean
- Building Archaeology

II. Specialized Trades

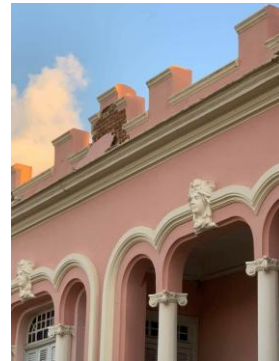
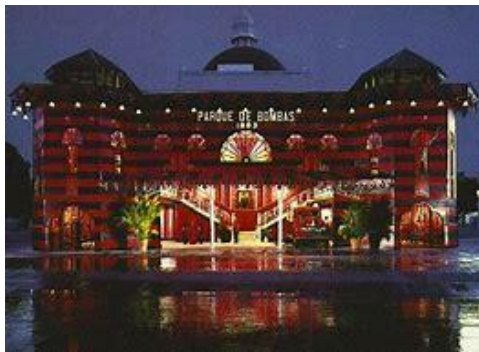
- Masonry: Brick and mortars
- Masonry: Concrete
- Architectural Carpentry
- Architectural Metals: Wrought & Cast-Iron
- Stained Glass
- Ornamental Plaster
- Special Architectural Finishes

IMPORTANT NOTE:

THE CURRICULUM THAT FOLLOWS IS FLEXIBLE ENOUGH TO BE CUSTOM TAILORED TO THE SPECIFIC NEEDS OF EACH PROPOSED PROGRAM. DEPENDING ON THE ALLOWED TIME FRAME



PUERTO RICO HAS A DIVERSE HISTORIC PATRIMONY THAT REFLECTS EVERY HISTORIC AND ARCHITECTURAL PERIOD



COURSE 1

MASONRY: BRICK AND MORTARS

1. Course Description

The Brick Masonry Specialty Course offers training in the traditional masonry trade through the intensive study of the conservation and restoration of historic buildings and monuments, with particular emphasis on brick masonry and traditional lime mortars, their applications and uses as a material (architectural and decorative), and as a construction system (structural and building envelope). Students will gain practical experience through projects and demonstrations both in the field and the Workshop. The course will focus on the traditional trade, current methods of repair, as well as identification and analysis, treatment strategies, and the understanding/evaluation of conditions associated with the deterioration of traditional brick and mortar masonry.

2. Certification

3. Term of Apprenticeship

The term of the occupation shall be six (6) months supplemented by the required hours of related technical instruction.

4. Apprentice Wage Schedule and Fringe Benefits

If the program includes wages and benefits for the students all apprentices shall be paid a progressively increasing schedule of wages and fringe benefits based on the progression and development of skills.

5. Schedule of Work Experience (See attached Work Process Schedule)

Apprenticeship Committees may add to the work processes prior to submitting these Standards to the appropriate Registration Official for approval.

6. Schedule of Related Instruction (See attached Related Classroom Instruction Outline)

Instruction can incorporate elements of both electronic media and traditional classroom including online training, distance learning, or independent study of established curriculum. Curricula modules are based on industry standardized applications of current construction practices. Modules are knowledge and skill based including a system for assessment. The assessment will include task objectives, procedures, review materials, and competency-based performance tests.

The related instruction outline may be modified to meet local needs.

BRICKLAYER WORK PROCESS SCHEDULE

This instruction and experience shall include the following operations, but not necessarily in the listed sequence. Time spent on specific operations need not be continuous.

Proper care and use of all tools of the occupation and safety	0
<ul style="list-style-type: none">- Traditional and contemporary Mason's tools – power and hand tools including Trowels, brick hammer, plumb rule, scaffolding, cuttings saws & welding equipment- Occupational Health and Safety procedures and equipment in the Construction site (OSHA based-practical)	
Mortars	0
<ul style="list-style-type: none">- Learning various types and consistencies of mortar according to job specifications and nature of the material to be used- Mortar formulations and materials selection- Using trowel in handling and spreading of mortar and proper consistency of mortar- Mixing mortars	
Brick Masonry I – Basic construction techniques	0
<ul style="list-style-type: none">- Laying out work from plans, blueprints and specifications- Proper preparation of foundation walls and bases for starting brick work- The selecting, cutting, shaping, and placing of brick tile and fire brick in proper position- Laying brick and tile to wood, metal, or other types of fixtures and frames- Claddings- Stretching line to guide courses of masonry units- Aligning courses vertically and horizontally- Removing excess mortar	
Brick Masonry III – Intermediate construction techniques	0
<ul style="list-style-type: none">- Building party walls- Laying brick to form arches and designs- Setting and anchoring keystones- Advanced laying techniques- Working with joints	
Brick Masonry III – Advanced construction techniques	0
<ul style="list-style-type: none">- Building cupolas, furnaces linings, bakers' ovens, kilns, circular stairways, windows, and other special architectural structures	
Specialized construction techniques – Decorative elements	0
Repairing, remodeling, and renovating brick work	0
<ul style="list-style-type: none">- Pointing brick, cutting and raking joints- Cleaning methods and treatments- Coatings and other finishes- Structural and non-structural repairs- Restoration and maintenance- Caulking	
Checking and inspecting finished work	0
<ul style="list-style-type: none">- Supervision of site works- Construction Inspection and Quality Control	
TOTAL HOURS	-----

BRICKLAYER RELATED CLASSROOM INSTRUCTION

Note: Due to regional and local code differences and climate conditions, duration of instructional competencies/modules are suggested estimates only.

Introduction to Masonry	0
Basic Safety (OSHA Based) & First aid	0
Use of Brick and Mortars in Historic Architecture - Case Studies	0
The Mason's Profession - from Past to Present	0
Mason's Vocabulary in Spanish and English	0
Materials and their properties	0
- Clays as a construction material, their characteristics, and properties	
- Lime and mortars as a building material and their properties	
Introduction to the brick manufacturing process and materials selection	0
Brick masonry as a construction technology	0
- Masonry Units and Installation Techniques	
- Grout and Other Reinforcement	
- Metal Work in Masonry	
- Construction Techniques and Moisture Control	
Agents and processes of deterioration on brick masonry and their identification	0
Building Archaeology	0
- Basic forensic investigation and conditions assessments	
History and Theory of Historic Preservation	0
Traditional Building Technologies in Puerto Rico and the Spanish Caribbean	0
Specifications and construction drawings for Brick Masonry	0
- Introduction to Blueprints	
- Skecthing	
Introduction to Construction Math	0
- Construction geometry	
- Structures and calculations for brick masonry	
- Estimating materials	
Project planning	0
Business Administration	0
TOTAL HOURS	<hr/>

COURSE 2

MASONRY: CONCRETE

1. Course Description

Since its introduction as a construction technology in the early 1900s, reinforced concrete took over the Puerto Rican architecture and became the island's 'vernacular' construction material up to the present. In this sense, Portland cement and concrete technologies define the island's 20th-century architectural heritage. The Concrete Masonry Specialty Course offers training in the traditional and contemporary trade of concrete masonry construction through the intensive study of historic buildings and monuments, with particular emphasis on concrete technologies and derived materials (types of cement, aggregates, additives, admixtures), its uses and applications as a material (architectural and decorative) and as a construction system (structural and building envelope). Students will gain practical experience through projects and demonstrations both in field projects and the Workshop. The course will focus on special methods of repair, replication, restoration, and cleaning, as well as the identification and analysis, treatment strategies, and the understanding/evaluation of conditions associated with the deterioration of historical and contemporary concrete systems in the Caribbean tropical environment.

2. Certification as:

3. Term of Apprenticeship

The term of the occupation shall be six (6) months supplemented by the required hours of related technical instruction.

4. Apprentice Wage Schedule and Fringe Benefits

If the program includes wages and benefits for the students all apprentices shall be paid a progressively increasing schedule of wages and fringe benefits based on the progression and development of skills.

5. Schedule of Work Experience (See attached Work Process Schedule)

Apprenticeship Committees may add to the work processes prior to submitting these Standards to the appropriate Registration Official for approval.

6. Schedule of Related Instruction (See attached Related Classroom Instruction Outline)

Instruction can incorporate elements of both electronic media and traditional classroom including online training, distance learning, or independent study of established curriculum.

Curricula modules are based on industry standardized applications of current construction practices. Modules are knowledge and skill based including a system for assessment. The assessment will include task objectives, procedures, review materials, and competency-based performance tests.

The related instruction outline may be modified to meet local needs prior to submitting these Standards to the appropriate Registration Official for approval

CEMENT MASON WORK PROCESS SCHEDULE

This instruction and experience shall include the following operations, but not necessarily in the listed sequence. Time spent on specific operations need not be continuous.

Proper care and use of all tools of the occupation and safety	0
<ul style="list-style-type: none">- Traditional and contemporary Mason's tools – power and hand tools including Trowels, brick hammer, plumb rule, scaffolding, cuttings saws & welding equipment- Occupational Health and Safety procedures and equipment in the Construction site (OSHA based-practical)	
Portland Cement Mortars	0
<ul style="list-style-type: none">- Learning various types and consistencies of mortar according to job specifications and nature of the material to be used- Materials selection- Portland cement mortar formulations and materials selection- Using trowel in handling and spreading of mortar and proper consistency of mortar- Mixing mortars	
Concrete Masonry I – Basic construction techniques	0
<ul style="list-style-type: none">- Laying out work from plans, blueprints, construction documents & specifications- Site preparation, soil condition and subgrade preparation- Setting screed and formwork- Materials selection for Concrete mixes, formulation and applications- Instrument (Transit & Laser)	
Brick Masonry II– Intermediate construction techniques	0
<ul style="list-style-type: none">- Special tools- Curing and protection- Joints- Specifications and testing- Sidewalks, patio drives, curbs, & curb and gutters- Surface detailing, surface defects	
Brick Masonry III – Advanced construction techniques	0
<ul style="list-style-type: none">- Placing and finishing concrete- Stucco and other concrete finishes- Finishing floors- Waterproofing- Shotcreting- Epoxies	
Specialized construction techniques – Decorative Concrete	0
<ul style="list-style-type: none">- Exposed aggregate finishes- Staining and Acid etching- Abrasive blasting- Polished concrete	
Repairing & restoring concrete	0
<ul style="list-style-type: none">- Cleaning methods and treatments- Coatings- Specialized methods in concrete repair and restoration- Structural and non-structural repairs- Restoration and maintenance- Caulking	

- Checking and inspecting finished work
- Supervision of site works
- Construction Inspection and Quality Control

0

TOTAL HOURS

CEMENT MASON CLASSROOM INSTRUCTION

Note: Due to regional and local code differences and climate conditions, duration of instructional competencies/modules are suggested estimates only.

Introduction to Masonry	0
Basic Safety (OSHA Based) & First aid	0
Portland Cement and Concrete in Historic Architecture - Case Studies	0
The Mason's Profession - from Past to Present	0
Mason's terminology in Spanish and English	0
Materials and their properties	0
- Lime and types of cement as construction materials, their characteristics, and properties	
- Types of aggregates, additives, and admixtures for concrete, their characteristics, and properties	
- Iron, Steel, ferrous metals, their characteristics, properties, and application as reinforcement for reinforced concrete systems	
Reinforced concrete and other concrete construction technologies	0
- Masonry Units and Installation Techniques	
- Reinforcement	
- Metal Work in Masonry	
- Construction techniques and Moisture Control	
Agents and processes of deterioration on reinforced concrete and their identification	0
Building Archaeology	0
- Basic forensic investigation and conditions assessments	
History and Theory of Historic Preservation	0
Traditional Building Technologies in Puerto Rico and the Spanish Caribbean	0
Specifications and construction drawings for Concrete systems	0
- Introduction to Blueprints	
- Skecthing	
Introduction to Construction Math	0
- Construction geometry	
- Structures and calculations for Concrete	
- Estimating materials	
Project planning	0
Business Administration	0
TOTAL HOURS	<hr/>

COURSE 3

CARPENTER (ARCHITECTURAL CARPENTRY)

1. Course Description

Wood was the primary construction material used through Puerto Rico before the 20th Century, and it composes a significant amount of the built heritage on the island. The specialty course in Wood-Architectural Carpentry offers training in the traditional craft of carpentry through the intensive study - theoretical and practical - of the artisan traditions and the conservation-restoration of Wood as an organic material with particular emphasis on traditional architecture, its applications, and uses as a material (architectural and decorative), and as a constructive-structural system. Students will gain practical experience through projects and demonstrations both in the field and the Workshop. The course will focus on the current methods of repair, treatment and stabilization, finishing, the use of tools in carpentry and joinery, the identification and analysis of the material, and the understanding/evaluation of the conditions associated with the bio-deterioration of Wood in the Caribbean.

2. Certification as:

3. Term of Apprenticeship

The term of the occupation shall be six (6) months.

4. Apprentice Wage Schedule and Fringe Benefits

If the program includes wages and benefits for the students all apprentices shall be paid a progressively increasing schedule of wages and fringe benefits based on the progression and development of skills.

5. Schedule of Work Experience (See attached Work Process Schedule)

Apprenticeship Committees may add to the work processes prior to submitting these Standards to the appropriate Registration Official or approval.

6. Schedule of Related Instruction (See attached Related Classroom Instruction Outline)

Instruction can incorporate elements of both electronic media and traditional classroom including online training, distance learning, or independent study of established curriculum.

Curricula modules are based on industry standardized applications of current construction practices. Modules are knowledge and skill based including a system for assessment. The

assessment will include task objectives, procedures, review materials, and competency-based performance tests.

The related instruction outline may be modified to meet local needs prior to submitting these Standards to the appropriate Registration Official for approval

CARPENTER WORK PROCESS SCHEDULE

This instruction and experience shall include the following operations, but not necessarily in the listed sequence. Time spent on specific operations need not be continuous.

Proper care and use of all tools of the occupation and safety	0
- Traditional and contemporary tools of the Carpenter and Woodworker – power and hand tools	
- Occupational Health and Safety procedures and equipment in the Construction site (OSHA based-practical)	
Architectural Carpentry I – Basic	0
- Building materials, fasteners and adhesives	
- Layout & Planning	
- Selecting and preparing Wood for construction works	
- Wood worker machines	
- Basic installations & assemblies	
Architectural Carpentry II – Intermediate	0
- Rigging	
- Architectural wood elements: floors, walls, roofs, ceilings	
- Architectural wood elements: balconies, stairs, balusters	
- Paints, Coatings, and other wood finishes	
Architectural Carpentry III - Specialized construction techniques and decorative elements in Wood	0
Industry-standard products and procedures	0
Maintenance and repair	0
- Treatments and insect repellents	
- Cleaning methods and treatments	
- Repairs & restoration	
- Testing	
Checking and inspecting finished work	0
- Supervision of site works	
- Construction Inspection and Quality Control	
TOTAL HOURS	<hr/>

CARPENTER RELATED CLASSROOM INSTRUCTION

Note: Due to regional and local code differences and climate conditions, duration of instructional competencies/modules are suggested estimates only.

Introduction to Carpentry and Wood	0
Basic Safety (OSHA Based) & First aid	0
OSHA 30-hour Course	0
Use of Wood in Historic Architecture - Case Studies	0
The Carpenter's Profession - from Past to Present	0
Terminology of the Carpenter in Spanish and English	0
Wood as a building material - trees, wood types, characteristics, and their properties	0
Seminar on the study of the woods of Puerto Rico and the Caribbean region	0
Introduction to wood as a construction technology	0
- Structure	
- Thermal and moisture protection	
Advanced construction systems – Floors, Walls, Roofs	0
Fungi, insects, bacteria, and deterioration processes of Wood and their identification	0
Building Archaeology	0
- Basic forensic investigation – Dendrochronology and other identification methods	
Conditions Assessment	0
History and Theory of Historic Preservation	0
Traditional Building Technologies in Puerto Rico and the Spanish Caribbean	0
Specifications and construction drawings for Wood construction	0
- Introduction to Blueprints	
- Skecthing	
Introduction to Construction Math	0
- Construction geometry	
- Structures and calculations for Wood	
- Estimating materials	
Project planning	0
Business Administration	0
TOTAL HOURS	<hr/>

COURSE 4

ARCHITECTURAL METALS: WROUGHT & CAST-IRON

1. Course Description

Metal has been used throughout history for various purposes: adornments, weapons, axes, household objects, and even tools to master other materials. Ornamental wrought iron, doors, fences, balconies, railings, and many other decorative elements are architectural elements seen in the Puerto Rican built heritage. The specialty courses in Wrought and Cast-Iron offers training in the traditional craft of blacksmithing through the intensive study - theoretical and practical- of the artisan traditions and the conservation-restoration of iron and ferrous metals, their uses and applications as an ornamental material in buildings, monuments, and sites. Students will gain practical experience through projects and demonstrations in both the field and the Workshop. The course will focus on traditional and contemporary methods in blacksmithing such as forging, types of welding, repair techniques, preventive treatments, and stabilization methods, special installations, paints, coatings and finishes, associated materials, the use of tools and related machinery. The course will also address the documentation, identification, and analysis of metals, and the comprehension/evaluation of conditions associated with the deterioration of iron and ferrous metals such as corrosion.

2. Certification as:

3. Term of Apprenticeship

The term of the occupation shall be six (6) months supplemented by the required hours of related technical instruction.

4. Apprentice Wage Schedule and Fringe Benefits

If the program includes wages and benefits for the students all apprentices shall be paid a progressively increasing schedule of wages and fringe benefits based on the progression and development of skills.

5. Schedule of Work Experience (See attached Work Process Schedule)

Apprenticeship Committees may add to the work processes prior to submitting these Standards to the appropriate Registration Official for approval.

6. **Schedule of Related Instruction** (See attached Related Classroom Instruction Outline)

Instruction can incorporate elements of both electronic media and traditional classroom including online training, distance learning, or independent study of established curriculum.

Curricula modules are based on industry standardized applications of current construction practices. Modules are knowledge and skill based including a system for assessment. The assessment will include task objectives, procedures, review materials, and competency-based performance tests.

The related instruction outline may be modified to meet local needs prior to submitting these Standards to the appropriate Registration Official for approval

ARCHITECTURAL & ORNAMENTAL IRONWORKER WORK PROCESS SCHEDULE

This instruction and experience shall include the following operations, but not necessarily in the listed sequence. Time spent on specific operations need not be continuous.

Proper care and use of all tools of the occupation and safety	0
- Tools and machines for Ironworking	
- Operating layout instruments	
- Hazardous material training	
- Occupational Health and Safety procedures and equipment in the Construction site (OSHA based-practical)	
Architectural and ornamental construction	0
- Basic traditional forging techniques and methods	
- Cutting	
- Selection of materials	
- Welding practice and types, differences and costs	
- Assemblies	
Rigging and cranes	0
- Equipment	
- Procedures	
Design, specifications, and construction drawings for ornamental ironworking	0
- Sketching	
- Blueprints & construction documents	
Advanced Ironworking – Advanced installation techniques and methods, tools and welding techniques	0
- Structural steel erection	
- Coatings, painting, and other finishes	
Ironworking - special ornamental applications and sculptures	0
Industry-standard products and procedures	
Cleaning methods and treatments	0
Repairs, restoration, and maintenance	0
Checking and inspecting finished work	0
- Supervision of site works	
- Construction Inspection and Quality Control	
TOTAL HOURS	<hr/>

ARCHITECTURAL & ORNAMENTAL IRONWORKER CLASSROOM INSTRUCTION

Note: Due to regional and local code differences and climate conditions, duration of instructional competencies/modules are suggested estimates only.

Basic Safety & First aid	0
OSHA 30-hour safety course	0
Materials and its properties	0
- Introduction to architectural metals, their characteristics, and properties	
- Types of iron, ferrous metals, their characteristics and properties	
Use of metals in Historic Architecture - Case Studies	0
Use of iron and other ferrous metals in Historic Architecture - Case Studies	0
Basic metallurgy	0
The Blacksmith's/Ironworker Profession - from Past to Present	6
The Ironworking terminology in Spanish and English	0
Iron, ferrous metals and their applications in industrial design	0
Iron, ferrous metals and their applications in architectural elements	0
Corrosion and other deterioration processes on ferrous metals and their identification	0
Conditions Assessment	0
Building Archaeology	0
- Basic forensic investigation and conditions assessments	
History and Theory of Historic Preservation	0
Traditional Building Technologies in Puerto Rico and the Spanish Caribbean	0
Specifications and construction drawings for Brick Masonry	0
- Introduction to Blueprints	
- Sketching	
Introduction to Construction Math	0
- Metrics for Ironworkers	
- Construction geometry	
- Calculations for ironwork projects	
- Estimating materials	
Project planning	0
Business Administration	0
TOTAL HOURS	<hr/>

COURSE 5

Stained Glass

1. Course Description

The Stained Glass specialty course offers training in the traditional craft of glassmaking by the intensive study -theoretical and practical- of the artisan traditions and the conservation-restoration of architectural glass, with an emphasis on traditional Puerto Rican architecture, its uses, and applications as an architectural and decorative material. Students will gain practical experience through projects and demonstrations in both the field and the Workshop. The course will provide an overview of the processes of glass and stained-glass manufacturing, training on current methods of repair, treatment and stabilization, protective systems, finishes, installations, materials, and the use of workshop tools. The course will also cover the documentation, identification, and analysis of the material, and the comprehension/evaluation of the conditions associated with the deterioration of historic glass and stained glass.

2. Certification as:

3. Term of Apprenticeship

The term of the occupation shall be three (6) months

4. Apprentice Wage Schedule and Fringe Benefits

If the program includes wages and benefits for the students all apprentices shall be paid a progressively increasing schedule of wages and fringe benefits based on the progression and development of skills.

5. Schedule of Work Experience (See attached Work Process Schedule)

Apprenticeship Committees may add to the work processes prior to submitting these Standards to the appropriate Registration Official for approval.

6. Schedule of Related Instruction (See attached Related Classroom Instruction Outline)

Instruction can incorporate elements of both electronic media and traditional classroom including online training, distance learning, or independent study of established curriculum.

Curricula modules are based on industry standardized applications of current construction practices. Modules are knowledge and skill based including a system for assessment. The assessment will include task objectives, procedures, review materials, and competency-

based performance tests.

The related instruction outline may be modified to meet local needs prior to submitting these Standards to the appropriate Registration Official for approval

GLAZIER WORK PROCESS SCHEDULE

This instruction and experience shall include the following operations, but not necessarily in the listed sequence. Time spent on specific operations need not be continuous.

Occupational Health and Safety procedures and equipment in the Construction site (OSHA based)	0
- Care and use of ladders, scaffolds, stages and man lifts	
Traditional and contemporary Glassmaking Tools	0
- Proper mechanical and manual glass handling techniques	
- Optical instruments	
Materials selection and quality	0
- Types of glass	
- Handling glass manually and mechanically	
Design, specifications, and construction drawings	0
- Sketching & takeoffs	
- Blueprints	
Glass cutting techniques	0
Stained glass construction techniques and assemblies	0
- Proper rigging and hoisting procedures	
- Re-glazing techniques	
- Installation procedures	
Types of historical and contemporary glass supports and their characteristics	0
- Aluminum fabrication, entrances and hardware, installation of mechanical fasters	
- Wood	
Inspection and supervision of materials, equipment, and works	0
Architectural Stained Glass - Advanced techniques & assembly	0
- Advanced rigging and Hoisting	
Special Topics in Stained Glass	0
- coatings, enamels, and other finishes	
- sealants	
Industry-standard products and procedures	0
Cleaning methods and treatments	0
Repairs, maintenance, conservation, and restoration	0

TOTAL HOURS

GLAZIER RELATED CLASSROOM INSTRUCTION

Note: Due to regional and local code differences and climate conditions, duration of instructional competencies/modules are suggested estimates only.

Introduction to the trade: Architectural Glass	0
Basic Safety (OSHA Based) & First aid	0
History of the use of glass and glass in Historic Architecture - Case Studies	0
Glass as a construction material, types, characteristics, and properties	0
The Glazier's Profession - from Past to Present	0
Introduction to Traditional glass fabrication process	0
Glass and its applications to industrial design	0
The technical Vocabulary of Glassmaking in Spanish and English	0
Glass, types of stained glass, and their applications as traditional architectural elements	0
Construction math	0
- Measurements	
- Basic construction geometry	
- Calculations for materials	
- Estimates	
Deterioration agents and processes on glass and their identification	0
Conditions Assessments	0
Building Archaeology	0
- Basic forensic investigation and conditions assessments	
History and Theory of Historic Preservation	0
Traditional Building Technologies in Puerto Rico and the Spanish Caribbean	0
Project planning	0
Business Administration	0
- Contract documents	

TOTAL HOURS

COURSE 6

ORNAMENTAL PLASTER

1. Course Description

The art of applying plaster for decorative architectural elements, stuccoes, and sculptures is one of the lost traditional construction trades in Puerto Rico. However, it is still present in many historic buildings around the Island. The Ornamental Plaster specialty course offers training through intensive study -theoretical and practical- of the artisan traditions and the conservation-restoration of architectural ornamental plasterwork, its uses, and applications as an architectural and decorative material. Students will gain practical experience through projects and demonstrations in both the field and the Workshop. The course will focus on current and traditional manufacturing, molding and casting methods, mortars and associated materials, repair techniques, treatment and stabilization, installations, coatings, and special finishes and necessary tools. The course will also address the documentation, identification, and analysis of materials, and the comprehension/evaluation of conditions associated with the deterioration of lime, gypsum, and associated materials.

2. Certification as:

3. Term of Apprenticeship

The term of the occupation shall be six (6) months supplemented by the required hours of related technical instruction.

4. Apprentice Wage Schedule and Fringe Benefits

If the program includes wages and benefits for the students all apprentices shall be paid a progressively increasing schedule of wages and fringe benefits based on the progression and development of skills.

6th 1000 hours = 90 percent of journeyworker's rate and fringe benefit payments

5. Schedule of Work Experience (See attached Work Process Schedule)

Apprenticeship Committees may add to the work processes prior to submitting these Standards to the appropriate Registration Official for approval.

6. **Schedule of Related Instruction** (See attached Related Classroom Instruction Outline)

Instruction can incorporate elements of both electronic media and traditional classroom including online training, distance learning, or independent study of established curriculum.

Curricula modules are based on industry standardized applications of current construction practices. Modules are knowledge and skill based including a system for assessment. The assessment will include task objectives, procedures, review materials, and competency-based performance tests.

The related instruction outline may be modified to meet local needs prior to submitting these Standards to the appropriate Registration Official for approval

PLASTERER WORK PROCESS SCHEDULE

This instruction and experience shall include the following operations, but not necessarily in the listed sequence. Time spent on specific operations need not be continuous.

Proper care and use of all tools of the occupation and safety	0
- Traditional and contemporary tools for plastering and ornamental finishes – Plastering and common tools, browning and finishing machines, etc.	
- Occupational Health and Safety procedures and equipment in the Construction site (OSHA based-practical)	
Mortars	0
- Learning various types and consistencies of traditional mortars according to job specifications and nature of the material to be used	
- Mortar formulations and materials selection	
- Use of trowel in handling and spreading of mortar and proper consistency of mortar	
- Mixing mortars	
Making molds, templates and modeling techniques	0
Types of surfaces and their preparation: Masonry, Wood, laths & others	0
Introduction to ornamental plaster - Basic techniques and application methods	0
- Layout and methodology	
- Applications in interiors and exteriors	
- Application of scratch, brown and finish coats	
- Lining, Dotting, Screeding	
- White Coating	
Specifications and construction drawings for ornamental plasterwork	0
- Sketches	
- Blueprints	
Advanced plastering - techniques, application & installation methods	0
- Sandfinishing and Texture finishing	
- Acoustical plastering	
- Veneers	
Specialized ornamental techniques – special textures, aggregates, and special applications	0
Coatings and other finishes	0
Checking and inspecting finished work	0
- Supervision of site works	
- Construction Inspection and Quality Control	
Industry-standard products and procedures	0
Cleaning methods and treatments repairs	0
Restoration and maintenance	0

TOTAL HOURS

PLASTERER RELATED CLASSROOM INSTRUCTION

Note: Due to regional and local code differences and climate conditions, duration of instructional competencies/modules are suggested estimates only.

OSHA Construction Safety – 30 hours course	0
CPR/First Aid	0
Scaffold Safety Qualification	0
Use of mortars and plaster in Historic Architecture - Case Studies	0
The Plasterer and Mason's Profession - from Past to the Present	0
Mason's terminology in Spanish and English	
Materials and their properties	0
- Lime as a construction material, characteristics, and properties	
- Gypsum as a construction material, characteristics, and properties	
- Portland Cement as a construction material, characteristics, and properties	
Agents and deterioration processes on ornamental plasterwork and their identification	0
Building Archaeology	0
- Basic forensic investigation and conditions assessments	
History and Theory of Historic Preservation	0
Traditional Building Technologies in Puerto Rico and the Spanish Caribbean	0
Conditions Assessment	0
Math for construction	0
- Measurements	
- Calculations for ornamental plastering projects	
- Basic geometry	
- Estimations	
Project planning	0
Business Administration	0
TOTAL HOURS	<hr/>

COURSE 7

SPECIAL ARCHITECTURAL FINISHES

1. Course Description

Architectural finishes are among the most ephemeral and vulnerable of all building materials. They are subject to environmental conditions and frequent taste changes, and as a result, they are often covered or disappear altogether. The Special Architectural Finishes course offers training through the intensive study -theoretical and practical- of the artisan traditions and the conservation-restoration of different architectural finishes, their applications, and architectural and decorative uses. Students will gain practical experience through projects and demonstrations in both field projects and the Workshop. The course will focus on current methods of replicating traditional faux finishes, mural paint, pigments, coatings, additives, associated materials, applications, repair techniques, treatments and stabilization, and the use of traditional and contemporary tools. The course will also address the documentation, identification, and scientific analysis of materials, and the comprehension/evaluation of the conditions associated with the deterioration of architectural finishes in the Caribbean tropics.

2. Certification as:

3. Term of Apprenticeship

The term of the occupation shall be six (6) months with a supplemented by the required hours of related technical instruction.

4. Apprentice Wage Schedule and Fringe Benefits

If the program includes wages and benefits for the students all apprentices shall be paid a progressively increasing schedule of wages and fringe benefits based on the progression and development of skills.

5. Schedule of Work Experience (See attached Work Process Schedule)

Apprenticeship Committees may add to the work processes prior to submitting these Standards to the appropriate Registration Official for approval.

6. Schedule of Related Instruction (See attached Related Classroom Instruction Outline)

Instruction can incorporate elements of both electronic media and traditional classroom including online training, distance learning, or independent study of established curriculum.

Curricula modules are based on industry standardized applications of current construction practices. Modules are knowledge and skill based including a system for assessment. The assessment will include task objectives, procedures, review materials, and competency-

based performance tests.

The related instruction outline may be modified to meet local needs prior to submitting these Standards to the appropriate Registration Official for approval

ARCHITECTURAL COATINGS FINISHER WORK PROCESS SCHEDULE

This instruction and experience shall include the following operations, but not necessarily in the listed sequence. Time spent on specific operations need not be continuous.

Proper care and use of all tools of the occupation and safety	0
- Traditional and contemporary tools for ornamental finishes & wall paintings -power and hand tools including brushes, rollers and trowels, scaffolding, ladder, sprays, etc.	
- Occupational Health and Safety procedures and equipment in the Construction site (OSHA based-practical)	
Paints	0
- Types of pigments, binders and paints according to job specifications and nature of the material to be used	
Solvents	
- Paint formulations and materials selection	
- Mixing paints	
- Types of application	
Architectural Finishes I – Basic techniques	0
- Laying out work from plans, blueprints and construction specifications	
- Materials selection	
- Mixes, molds and preparation processes	
- Types of paint applications	
- Mural painting	
- Types of substrates and their proper preparation	
- Clean up and Touch-up	
Foux finishes	0
- Gilding, characteristics, properties, and applications	
- Sgraffito, characteristics, properties, and applications	
- Marbling, characteristics, properties, and applications	
- Wood graining, characteristics, properties, and applications	
- Parchment finishes, characteristics, properties, and applications	
Wallpaper, characteristics, properties, and applications	0
Architectural Finishes II – Advanced techniques and application methods	0
- Application of materials	
Industry-standard products and procedures	
Treatments: restoring and conserving Finishes	0
- Repair & Restoration	
- Maintenance	
- Replications	
- Restoration and cleaning treatments on Mural paints	
Checking and inspecting finished work	0
- Supervision of site works	
- Construction Inspection and Quality Control	

TOTAL HOURS

ARCHITECTURAL COATINGS FINISHER CLASSROOM INSTRUCTION

Note: Due to regional and local code differences and climate conditions, duration of instructional competencies/modules are suggested estimates only.

Introduction to Ornamental Finishes in Architecture - Overview	0
Basic Safety (OSHA Based) & First aid	0
Types of Finishes in Historic Architecture - Case Studies	0
Theory of Color	0
Terminology for traditional architectural finishes in Spanish and English	0
Paints - Materials and their properties	0
- Types of pigments, characteristics and properties	
- Organic and inorganic media/binders, characteristics and properties	
- Organic and inorganic coatings, characteristics and properties	
Agents and processes of deterioration on ornamental finishes and their identification	0
Conditions Assessments	0
Building Archaeology	0
- Basic & intermediate forensic investigation	
History and Theory of Historic Preservation	0
Traditional Building Technologies in Puerto Rico and the Spanish Caribbean	0
Specifications and construction drawings for Architectural Finishes	0
- Introduction to Blueprints	
- Skecthing	
Introduction to Construction Math	0
- Construction geometry	
- Estimating materials	
Project planning	0
Business Administration	0
TOTAL HOURS	<hr/>



GOVERNMENT OF PUERTO RICO
STATE HISTORIC PRESERVATION OFFICE

Executive Director | Carlos A. Rubio-Cancela | carubio@prshpo.pr.gov

Monday, October 23, 2023

Lauren Bair Poche

Historic Preservation Senior Manager
HORNE Puerto Rico
10000 Perkins Rowe, Suite 610 Bldg G
Baton Rouge, LA 70810

SHPO: 10-11-23-03 **PR-WFT-00071D** RESTORATION OF CASA BORELLI, CALLE BARBOSA #3, COAMO, PUERTO RICO

Dear Ms. Poche,

The SHPO has received and reviewed the above referenced project in accordance with 54 USC 306108 (commonly known as Section 106 of the National Historic Preservation Act, as amended) and 36 CFR Part 800: *Protection of Historic Properties*. The State Historic Preservation Officer (SHPO) is to advise and assist federal agencies and other responsible entities when identifying historic properties, assessing effects upon them, and considering alternatives to avoid or reduce the project's effects.

Our records support your finding that the proposed undertaking will have **no adverse effect** upon historic properties.

If you have any questions or comments regarding this matter or require our further assistance, do not hesitate to contact our Office.

Sincerely,

Carlos A. Rubio-Cancela
State Historic Preservation Officer

CARC/GMO





October 20, 2022

Arch. Carlos A. Rubio Cancela

Executive Director

State Historic Preservation Officer

Cuartel de Ballajá Bldg.

San Juan, Puerto Rico

Re: Authorization to Submit Documents

Dear Arch. Rubio Cancela:

The U.S. Department of Housing (HUD) approved the allocations of Community Development Block Grant (CDBG-DR) funds on February 9, 2018. It also approved the allocation of Community Development Block Grant Mitigation (CDBG-MIT) funds on January 27, 2020. The purpose of these allocations is to address unsatisfied needs as a result of Hurricanes Irma and Maria in September 2017; and to carry out strategic and high-impact activities to mitigate disaster risks and reduce future losses.

To comply with the environmental requirements established by HUD, the Department of Housing of Puerto Rico (PRDOH) contracted Horne Federal LLC to provide environmental registry review services, among others, that will support the objectives of the agenda for both CDBG-DR and CDBG -MIT Programs.

In line to expedite the processes, Horne Federal LLC, is authorized to submit to the State Historic Preservation Officer, documentation of projects related to both the CDBG-DR and CDBG-MIT on behalf of PRDOH.

Cordially,

Juan C. Pérez Bofill, P.E. M.Eng

Director of Disaster Recovery

CDBG DR-MIT

October 11, 2023

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 Program: Workforce Training Program (WFT)

Case PR-WFT-00071D, Restoration of Casa Borelli, Calle Barbosa #3, Coamo, Puerto Rico – Coamo Traditional Urban Center – *No Adverse Effect*

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 PRDOH contracted Horne Federal, LLC (HORNE) to provide environmental records review services that will support their objectives for CDBG-DR.

On behalf of PRDOH and the Workforce Training Program (WFT), we are submitting documentation for the restoration of Casa Borelli, a historic property eligible for listing in the National Register of Historic Places, that is within the Coamo Traditional Urban Center and Coamo Historic Zone at Casa Barbosa #3. This project is proposed by the Fundación Biblioteca Rafael Hernández Colón, Inc. and the Escuela Taller de las Artes de la Construcción de Ponce y Sur de Puerto Rico. The full scope of the project is described in the submitted documentation, which includes mapping, photographs, and five attachments that are supporting documents for the consultation. Based on the provided documentation, the Program requests a concurrence with a determination that no adverse effect to historic properties is appropriate for this undertaking.

We look forward to your response. Please contact me with any questions or concerns by email at lauren.poche@horne.com or phone at 225-405-7676.


Kindest regards,

A handwritten signature in cursive script that reads 'Lauren B. Poche'.

Lauren Bair Poche, M.A.

Architectural Historian, Historic Preservation Senior Manager

Attachments

PUERTO RICO 2017 DISASTER RECOVERY, CDBG-DR PROGRAM WORKFORCE TRAINING (WFT) PROGRAM Section 106 NHPA Effect Determination	
Subrecipient: Fundación Biblioteca Rafael Hernández Colón, Inc.	
Program ID Number: PR-WFT-00071D	
Project Name: Restoration of Casa Borelli	

Project Location: Calle Barbosa #3, Coamo, Puerto Rico 00769	
Project Coordinates: 18.079639, -66.356674	
TPID (Número de Catastro): 345-033-046-10	
Type of Undertaking: <input checked="" type="checkbox"/> Substantial Repair/Improvements <input type="checkbox"/> New Construction	
Construction Date (AH est.): ca. 1912	Property Size (acres): 0.25


SOI-Qualified Architect/Architectural Historian: Lauren Bair Poche, M.A.	
Date Reviewed: 10/6/2023	
SOI-Qualified Archaeologist: n/a	
Date Reviewed: n/a	

In compliance with Section 106 of the National Historic Preservation Act (NHPA), the Program is responsible for identifying historic properties listed in the National Register of Historic Places (NRHP) and any properties not listed that would be considered eligible for listing that are located within the geographic area of potential effects (APE) of the proposed project and assessing the potential effects of its undertakings on these historic properties.

Project Description (Undertaking)

The proposed undertaking for this project consists of the restoration of Casa Borelli, located at Calle Barbosa #3, in the municipality of Coamo. **The Rafael Hernandez Colon Foundation and the Escuela Taller de las Artes de la Construccion de Ponce y Sur de Puerto Rico will be restoring the 1912 residence through workshops that will serve to train students through a Traditional Trades Apprenticeship Program.** The information provided in this undertaking section is taken from the supporting document “*Scope of Works for the Restoration of Casa Borelli by the Escuela Taller del Sur*” prepared by Architect Pablo Ojeda O’Neill M. Arch, AADIPLI. BUILD. CONS. FAAR’96. **The residence will be repaired in-kind per the Secretary of the Interior’s Standards for Rehabilitation.**


The 1912 Neoclassical residence has an L-shaped plan with the rear extension offset to the north, or left side of the building. A review of aerial imagery on Google Earth Pro indicates the roof has a side gable low pitch roof on the front of the house and what appears to be a shed roof on the rear extension that slopes in towards the courtyard behind the house. The entire building is elevated on tapered piers that rest on a poured concrete floor, with wide masonry walls. It is difficult to discern how high the house is elevated, however from

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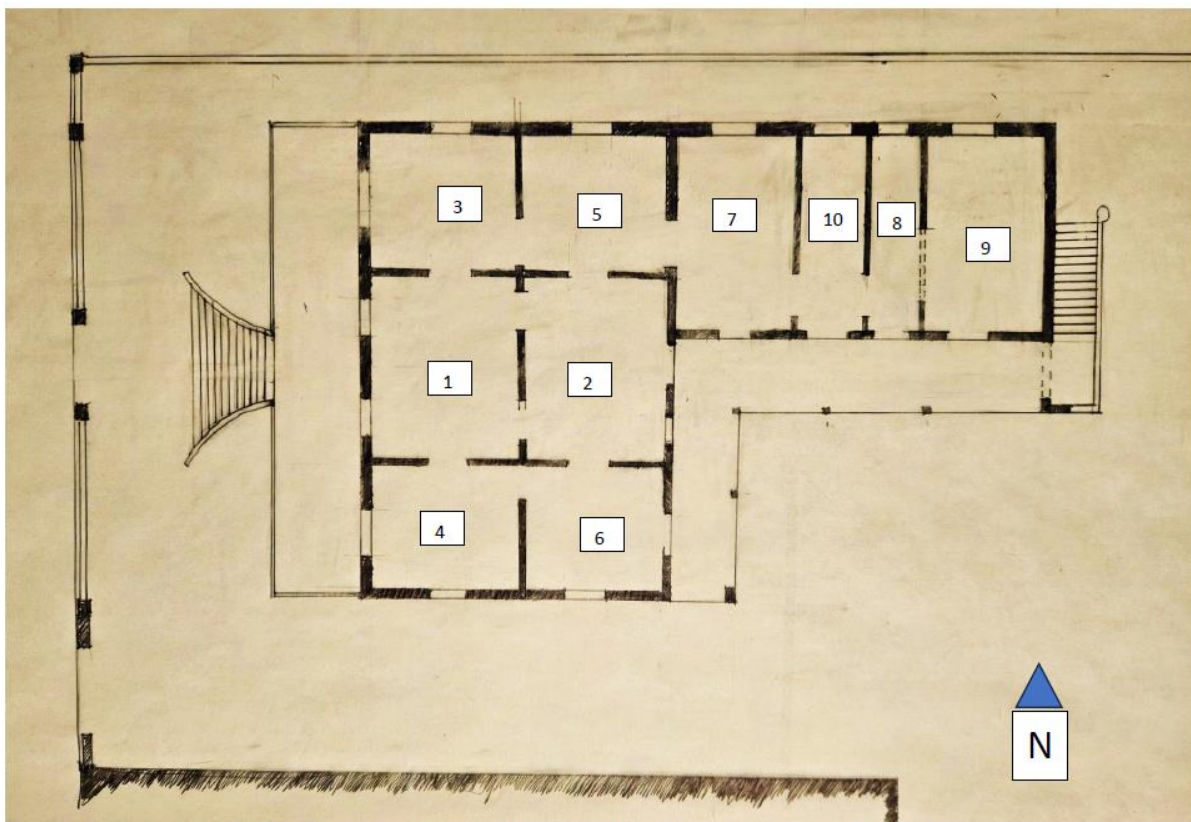
the outside it appears to be approximately five feet. A concrete and decorative metal fence delineates the property boundary along the sidewalk, with a double gate entrance in front of the stairs leading to the balcony and a solid metal gate on the south side of the property, framed by a concrete entrance.

The front of the home displays the hallmark character defining features of an early twentieth century Criollo Neoclassical residence in Puerto Rico. Four openings are evenly spaced across the façade. These are all double wood doors with louvers on the upper two-thirds and panels on the bottom third. Wide moldings frame each pair of doors with entablatures supported by decorative brackets at the very top and Neoclassical garland centered between the entablatures and each door opening. Slightly above this, a simple entablature spans the length of the façade, creating a visual divide between the entrances into the home and a more elaborate entablature with a cornice, frieze, and architrave. The frieze has distinctive dentil molding while the architrave has a decorative molded pattern. The façade is finished with a straight parapet divided into two main inset sections that have an eye-like molded decoration. These two sections are marked by a narrow center band with a star. This is mirrored on each end of the residence. A deep, full width balcony spans the façade, enclosed with a decorative wrought iron railing. Tapered stairs are centered on the balcony and flanked by matching metal railings. The pattern from the railing is mirrored as a security gate across the main entrance. The balcony floor and stairs are covered in a simple ceramic square tile

The secondary sides of the residence are simple and unassuming, with no decoration. The left, or north elevation, has six window openings while the right, or south elevation, has two window openings. These are filled with paired wood louver windows with glass panes at the very top; these all swing inward and are behind decorative metal rejas that mimic the pattern seen on the front of the house. An L-shaped balcony with a concrete deck is on the back of the house; this is accessed from the interior of the home as well as a set of masonry stairs on the back elevation of the rear extension. A metal roof with a wood ceiling protects the porch from the elements. The porch roof is supported by six decorative narrow posts with a wood balustrade remaining between most of the posts. Two double doors flank a small window along the west end of the porch, with four sets of double doors along the rear extension. The wood louvers in at least one door and the window have been replaced with aluminum жалюзи. Decorative carved wood transoms are still present among several of these entrances. Each entrance, and the windows, are protected by simple metal rejas.

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The plan of the residence can be classified as Scema Three, Plan III/2 Four Opening per Carol F. Jopling's *Puerto Rican Houses in Sociohistorical Perspective* (p. 68). This is characterized by a full-width balcony, and the interior divided into three sections. These typically have the sala and comedor in the center rooms, which are flanked by dormitories. Casa Borelli displays this layout, with an additional four rooms on the rear extension of the home (see Figure 1). These rooms are are: (1) Sala Principal/Main Living Room, (2) Comedor/Dining Room, (3-7) Bedrooms, (8/9) Cocina/Kitchen-Pantry, and (10) Bathroom.



CASA BORELLI, PLANTA ESQUEMATICA. NO A ESCALA / SCHEMATIC PLAN NOT TO SCALE

Figure 1, Casa Borelli Schematic Plan from the applicant provided scope of work.

Crown molding and tongue in groove wood ceilings are throughout the home, along with the wood floors in the front part of the house. Each doorway has paired wood panel doors topped with carved wood transoms and entablatures. Some of the exterior doors and windows have had the wood louvers replaced with aluminum jalousies. Decorative murals

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are on the walls of the sala principal; per Jorge Rigau in his book *Puerto Rico 1900*, the painted interiors of the home are attributed to Juan N. Ríos, a set designer from the La Perla Theater in Ponce (page 224). A fabric wallpaper with a floral design indicative of the Neoclassical style is in the comedor. At least one of the bedrooms also has wallpaper present, although the pattern cannot be determined from the provided photographs.

The rear extension of the home has concrete floors. The first bedroom in this section of the house has a painted concrete tile floor with a floral design. Behind this bedroom is the home's only bathroom with a painted concrete tile floor that has a three-dimensional geometric pattern reminiscent of art by M.C. Escher. The walls of the bathroom are clad in square tiles with a floral medallion design from the floor to approximately 5 feet. The toilet and a wall-affixed sink are still present; it is unknown when these were installed in the house. The lone window in the bathroom is wood casement window divided into three glass panes on each section. The last room in the house is the pantry and kitchen. This space has been stripped of all cabinetry and appliances, has ceramic floor with a diagonal pattern. A large arched opening separates the two spaces. Interestingly, the door openings between the rooms in this section of the house are considerably lower than the doorways in the front of the house, maybe 6 feet in height.


The restoration of Casa Borelli will be accomplished through several workshops: (1) a Brick Masonry Workshop that will focus on brick masonry walls, plasterwork, mortars, and reinforced concrete elements/floors; (2) an Ornamental/Structural Ironwork Workshop that will focus on the restoration of the original ironwork/fences/railings, original ironwork/windows, original ironwork/doors; (3) a Carpentry and Woodwork Shop focuses on the roof and structural repairs, door and window restoration, door/window frame and gingerbread restoration, interior ceilings/cornice/moldings restoration, wood flooring and timber frame restoration, and wood railings and baluster restoration; and (4) Architectural Ornamentation Workshop which focuses on Neoclassical ornaments/cornices/brackets restoration, doors and windows fenestration restoration, and historic mural/wallpaper restoration.

Exterior interventions will be as follows:

- 1) Front façade (west elevation) / Fachada Oeste. See *Scope of Work*, pages 8-11.
 - a. Floors
 - i. Repairs to the reinforced concrete elements and floors


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- b. Walls
 - i. Repairs to the brick masonry walls, plasterwork/mortars.
 - ii. Restoration of neoclassical ornaments, cornices and brackets.
- c. Doors
 - i. Restoration of the doors, frames, and door fenestration.
- 2) Secondary elevations (north, south, and east elevations) / Fachadas Norte-Sur-Este. See *Scope of Work, pages 12-14.*
 - a. Walls
 - i. Repairs to the brick masonry walls, plasterwork/mortars.
 - b. Windows
 - i. Restoration of the original ironwork over the windows and doors.
- 3) Main Garden Gallery (rear porch) / Galeria Trasera. See *Scope of Work, pages 15-20 and 49-50.*
 - a. Floors
 - i. Repairs to the reinforced concrete elements and floors.
 - b. Walls
 - i. Repairs to the brick masonry walls, plasterwork/mortars .
 - c. Ceilings
 - i. Restoration of the wood ceiling, cornices, and moldings.
 - d. Doors
 - i. Restoration of the doors and frames.
 - e. Special Components
 - i. Repairs to the house roof and associated structural repairs.
 - ii. Restoration of the wood railings and balusters.
- 4) Front Fence and Carriage Entrance / Verja Principal Porton Cochera. See *Scope of Work, pages 21-22.*
 - a. Walls
 - i. Repairs to the brick masonry walls, plasterwork/mortars.
 - ii. Restoration of the original ironwork for the railings and fences.
 - iii. Restoration of the original iron doors at the carriage entrance.
 - b. Doors
 - i. Restoration of the original ironwork/doors (front gate).


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The scope of work addresses illustrates the interventions needed throughout the ten rooms in the house. Please note the numbers refer to the schematic plan on page 3 of this document):


- 1) Main Living Room 1 / Sala Principal 1. *See Scope of Work, pages 23-27.*
 - a. Floors
 - i. Restoration of the wooden floors and timber framing.
 - b. Walls
 - i. Repairs to the brick masonry walls, plasterwork/mortars.
 - c. Ceilings
 - i. Restoration of the interior ceilings, cornices, and moldings.
 - d. Doors
 - i. Restoration of the doors, frames, and door fenestration.
 - e. Special Components
 - i. Restoration of historic mural paintings and wallpaper.
- 2) Dining Room 2 / Comedor 2. *See Scope of Work, PDF pages 28-31.*
 - a. Floors
 - i. Restoration of the wooden floors and timber framing.
 - b. Walls
 - i. Repairs to the brick masonry walls, plasterwork/mortars.
 - c. Ceilings
 - i. Restoration of the interior ceilings, cornices, and moldings.
 - d. Doors
 - i. Restoration of the doors, frames, and door fenestration.
 - e. Special Components
 - i. Restoration of the historic mural paintings and wallpaper.
- 3) Bedroom 3 / Habitación 3. *See Scope of Work, PDF pages 32-33.*
 - a. Floors
 - i. Restoration of the wooden floors and timber framing.
 - b. Walls
 - i. Repairs to the brick masonry walls, plasterwork/mortars.
 - c. Ceilings
 - i. Restoration of the interior ceilings, cornices, and moldings.
 - d. Doors
 - i. Restoration of the doors, frames, and door fenestration.
 - e. Windows

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- i. Restoration of the windows, frames, and window fenestration.
- 4) Bedroom 4 / Habitación 4. See *Scope of Work, PDF pages 34-35*.
 - a. Floors
 - i. Restoration of the wooden floors and timber framing.
 - b. Walls
 - i. Repairs to the brick masonry walls, plasterwork/mortars.
 - c. Ceilings
 - i. Restoration of the interior ceilings, cornices, and moldings.
 - d. Doors
 - i. Restoration of the doors, frames, and door fenestration.
 - e. Windows
 - i. Restoration of the windows, frames, and window fenestration.
- 5) Bedroom 5 / Habitación 5. See *Scope of Work, PDF pages 36*.
 - a. Floors
 - i. Restoration of the wooden floors and timber framing.
 - b. Walls
 - i. Repairs to the brick masonry walls, plasterwork/mortars.
 - c. Ceilings
 - i. Restoration of the interior ceilings, cornices, and moldings.
 - d. Doors
 - i. Restoration of the doors, frames, and door fenestration.
 - e. Windows
 - i. Restoration of the windows, frames, and window fenestration.
- 6) Bedroom 6 / Habitación 6. See *Scope of Work, PDF pages 37-38*.
 - a. Floors
 - i. Restoration of the wooden floors and timber framing.
 - b. Walls
 - i. Repairs to the brick masonry walls, plasterwork/mortars.
 - c. Ceilings
 - i. Restoration of the interior ceilings, cornices, and moldings.
 - d. Doors
 - i. Restoration of the doors, frames, and door fenestration.
 - e. Windows
 - i. Restoration of the windows, frames, and window fenestration.
- 7) Bedroom 7 / Habitación 7. See *Scope of Work, PDF pages 39*.

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- a. Floors
 - i. Restoration of the wooden floors and timber framing.
 - b. Walls
 - i. Repairs to the brick masonry walls, plasterwork/mortars.
 - c. Ceilings
 - i. Restoration of the interior ceilings, cornices, and moldings.
 - d. Doors
 - i. Restoration of the doors, frames, and door fenestration.
 - e. Windows
 - i. Restoration of the windows, frames, and window fenestration.
- 8) Kitchen and Pantry 8/9 / Cocina 8/9. See *Scope of Work, PDF pages 40-42.*
- a. Floors
 - i. Repairs to the reinforced concrete elements/floors
 - b. Walls
 - i. Repairs to the brick masonry walls, plasterwork/mortars.
 - c. Ceilings
 - i. Restoration of the interior ceilings, cornices, and moldings.
 - d. Doors
 - i. Restoration of the doors, frames, and door fenestrations.
 - e. Windows
 - i. Restoration of the windows and frames.
 - ii. Restoratoin of the original ironwork for the doors.
- 9) Bathroom 10 / Baño 10. See *Scope of Work, PDF pages 43-45.*
- a. Floors
 - i. Repairs to the reinforced concrete elements/floors
 - b. Walls
 - i. Repairs to the brick masonry walls, plasterwork/mortars.
 - c. Ceilings
 - i. Restoration of the interior ceilings, cornices, and moldings.
 - d. Doors
 - i. Restoration of the doors, frames, and door fenestrations.
 - e. Windows
 - i. Restoration of the windows, frames, and window fenestrations.
- 10) Basement 11 / Sotano 11. See *Scope of Work, PDF pages 46-48.*
- a. Floors

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- i. Repairs to the reinforced concrete elements/floors
- b. Walls
 - i. Repairs to the brick masonry walls, plasterwork/mortars.
- c. Ceilings
 - i. Structural repairs to the wooden beams
- d. Doors
 - i. Restoration of the original ironwork for the doors.

At this time, the included Scope of Work is what the applicant has prepared and provided to the Workforce Training Program. Included in the Scope of Work is an overview of the Traditional Trades Apprenticeship Program Curriculum and Course Descriptions offered by the Escuela Taller Del Sur; this overview is authored by Héctor J. Berdecía-Hernández, M.S. Assoc. AIA and Pablo Ojeda O'Neill, M.Arch, AA.Dipl.Build. Cons, FAAR'96.

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 determined that the Direct APE for this project is Casa Borelli, located at Calle Barbosa #3 in Coamo. All activities as described in the scope of work are limited to the property fence/walls along the boundaries and the building itself; it does not include any ground disturbance. The Indirect/Visual APE is defined as the viewshed of the proposed project and includes the Coamo Traditional Urban Center and Historic Zone. Buildings in the Indirect/Visual APE are a mix of residential and commercial buildings, contributing structures to the traditional urban center, ranging in age from the late nineteenth century to the mid-twentieth century.

Identification of Historic Properties - Archaeology

No ground disturbance is anticipated for this project.

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

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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 within the boundaries of the National Register of Historic Places (NRHP)-eligible Coamo Traditional Urban Center and Coamo Historic Zone.

A review of available data has determined that six properties listed in the National Register of Historic Places are within ¼ mile of the project area.

- Carretera Central, listed on May 2, 2019. Eligible under Criterion A and C. Located 0.03 miles north of the project area.
- Residencia Picó Pomar, listed on July 12, 1988. Eligible under Criteria C. 0.04 miles to the north-northwest.
- Casa Blanca, listed April 28, 1992. Eligible under Criteria C. Located 0.05 miles to the northwest of the project area.
- Iglesia de San Blas de Illescas de Coamo, listed on December 10, 1994. Eligible under Criteria C. Located 0.08 miles to the north-northeast of the project area.
- Ermita Nuestra Señora de Valvanera, listed on March 31, 1986. Eligible under Criteria A. Located 0.16 miles west of the project area of the project area.
- Puento Padre Ingio, listed on July 19, 1995. Eligible under Criteria C. *Also known as the Puende de Coamo (#174), Num. Resolución 2001-(RS)-23-JP-SH on May 16, 2001.* Located 0.21 miles to the northeast of the project area.

Fifteen historically significant properties within ¼ mile of the project area are eligible or potentially eligible for listing in the NRHP.

- Coamo Plaza, 0.03 miles north of the project area.
- Coamo Alcadía, 0.07 miles north-northwest of the project area. Designed by Manuel V. Domenech, constructed circa 1850. Spanish Revival elements.
- Restaurante la Gota de Rojas, 0.07 miles northeast of the project area. Constructed circa 1933. Prairie architectural style.
- 22 Ruiz Belvis Street, 0.07 miles to the east of the project area. Construction date unknown. Neoclassical architecture.
- Logia Masónica Fiat Lux Núm. 27, 0.08 miles northwest of the project area. Constructed circa 1895. Neoclassical architecture.
- Zayas Gas Service Station, 0.08 miles northeast of the project area. Constructed circa 1920-1935. Art Deco elements.
- Farmacia Betances, 0.09 miles north-northwest of the project area. Constructed circa 1888. Neoclassical elements.


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- Escuela Jose Ramon Rodriguez, 0.10 miles southwest of the project area. Constructed circa 1946. Elements of Neo mannerism and Moderne architecture.
- Casa en Calle Herminio Santaella, 0.10 miles southwest of the project area. Late 19th century. Neoclassical elements.
- Teatro Hollywood, 0.10 miles northwest of the project area. Circa 1918, restored in 2012. Art Deco elements.
- El Casino, 0.13 miles west-northwest of the project area. Constructed circa 1882.
- Comercial De Jesús, 0.16 miles northwest of the project area. Constructed circa 1915, Neoclassical architecture.
- Primera Iglesia Bautista de Coamo. 0.16 miles west-northwest of the project area. Constructed circa 1902. Gothic architecture.
- Casa en Calle Willie Rosario 35, 0.16 miles southwest of the project area. Constructed circa 1950. Wood Criollo with Spanish Revival elements.
- Cemeterio Municipal, Civil y Católico, 0.24 miles southeast of the project area.

The project area is situated in the eastern section of Coamo, just a half block south of the town plaza on the eastern side of Calle Barbosa. Coamo is the third oldest town in Puerto Rico, founded in 1570 after San Juan and San Germán. A sketch of Coamo from 1884 (below) shows the project area as developed, although per the provided date of construction from the applicant, this would have been a previous structure on the property.

Croquis de Coamo, 1884




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A review of the available aerial imagery for this area shows Casa Borelli is in place by the mid-1930s, with the current footprint visible. An examination of the footprints of the surrounding buildings shows that all of the current buildings on the west side of the street were in place by 1937. On the east side, the only difference between the image below and modern day is the lots to the south of the project area. The small, one-story commercial building to its immediate south, currently Ocattio Baking, can be clearly seen on imagery from 1968, but was not present in 1958. At the southern end of the east side of the block, the properties seen in the 1937 imagery were demolished between 1977 and 1994. Since 1994, the property has been an undeveloped lot, likely used for local parking.

Historic Aerial Imagery, Coamo Town Center, 1937.




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Casa Borelli clearly retains all seven aspects of its historic integrity. It regains its integrity of location as it has never been moved. It retains its integrity of setting as almost all of the buildings in the immediate vicinity with the exception of the commercial building to the immediate south have been in place since the at least 1937, per the earliest aerial imagery. It is possible that some of those buildings were present in 1884 when that sketch of Coamo was made. The residence retains its integrity of design as the building has not changed in at least 90 years. Even if the rear concrete section is not original to the house, it itself has become historically significant.

The residence retains its integrity of materials as the only noticeable replacement items were the small number of aluminum jalousies inserted into wood door and window frames to replace the former wooden louvers; the only significant missing items are the original kitchen cabinetry and sink. This goes hand in hand with its workmanship, which has also been retained and preserved over the years. The house retains its integrity of feeling and association as due to its preservation and retention of its materials and workmanship, is easily recognizable and feels like an early twentieth century Neoclassical residence.

The residence is a contributing resource to the Coamo Traditional Urban Center and Coamo Historic Zone. It is eligible for listing in the National Register of Historic Places under at minimum Criteria C in the area of architecture as an excellent example of an early twentieth century Puerto Rican Neoclassical residence. It may also be eligible under Criteria B for its association with the Ponce La Perla Theater set designer, Juan N. Ríos although additional research would be needed to confirm or rule out that possibility.

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Determination


The following historic properties have been identified within the APE:

- Direct Effect:
 - Casa Borelli, the subject property, is a contributing resource to the Coamo Traditional Urban Center and Coamo Historic Zone.
- Indirect Effect:
 - Historic properties that the project will have an indirect effect on consist of the contributing resources along Calle Barbosa, the Coamo Traditional Urban Center, and the Coamo Historic Zone.

Based on the results of our historic property identification efforts, the Program has determined that project actions will not adversely affect the historic properties that compose the Area of Potential Effect.

The residence is a contributing resource to the Coamo Traditional Urban Center and Coamo Historic Zone. It is eligible for listing in the National Register of Historic Places under at minimum Criteria C in the area of architecture as an excellent example of an early twentieth century Puerto Rican Neoclassical residence. It may also be eligible under Criteria B for its association with the Ponce La Perla Theater set designer, Juan N. Ríos although additional research would be needed to confirm or rule out that possibility.

The restoration of Casa Borelli will return the Neoclassical residence to its original appearance after years of deterioration. All repairs will be completed in kind, and the hand-painted murals and original wallpaper will also be restored. As such, the Program requests concurrence that a determination of No Adverse Effect to Historic Properties is appropriate for this undertaking.

PUERTO RICO 2017 DISASTER RECOVERY, CDBG-DR PROGRAM WORKFORCE TRAINING (WFT) PROGRAM Section 106 NHPA Effect Determination	 GOVERNMENT OF PUERTO RICO DEPARTMENT OF HOUSING
Subrecipient: Fundación Biblioteca Rafael Hernández Colón, Inc.	
Program ID Number: PR-WFT-00071D	
Project Name: Restoration of Casa Borelli	

Recommendation

The Puerto Rico Department of Housing requests that the Puerto Rico SHPO concur that the following determination is appropriate for the undertaking (Choose One):

- No Historic Properties Affected
- No Adverse Effect
 Condition (if applicable): n/a
- Adverse Effect
 Proposed Resolution (if applicable)

This Section is to be Completed by SHPO Staff Only

The Puerto Rico State Historic Preservation Office has reviewed the above information and: <input type="checkbox"/> Concurs with the information provided. <input type="checkbox"/> Does not concur with the information provided.	
Comments: 	
Carlos Rubio-Cancela State Historic Preservation Officer	Date:



Subrecipient: Fundación Biblioteca Rafael Hernández Colón, Inc.

Program ID Number: PR-WFT-00071D

Project Name: Restoration of Casa Borelli

Area of Potential Effect Map



PUERTO RICO 2017 DISASTER RECOVERY, CDBG-DR PROGRAM

WORKFORCE TRAINING (WFT) PROGRAM

Section 106 NHPA Effect Determination



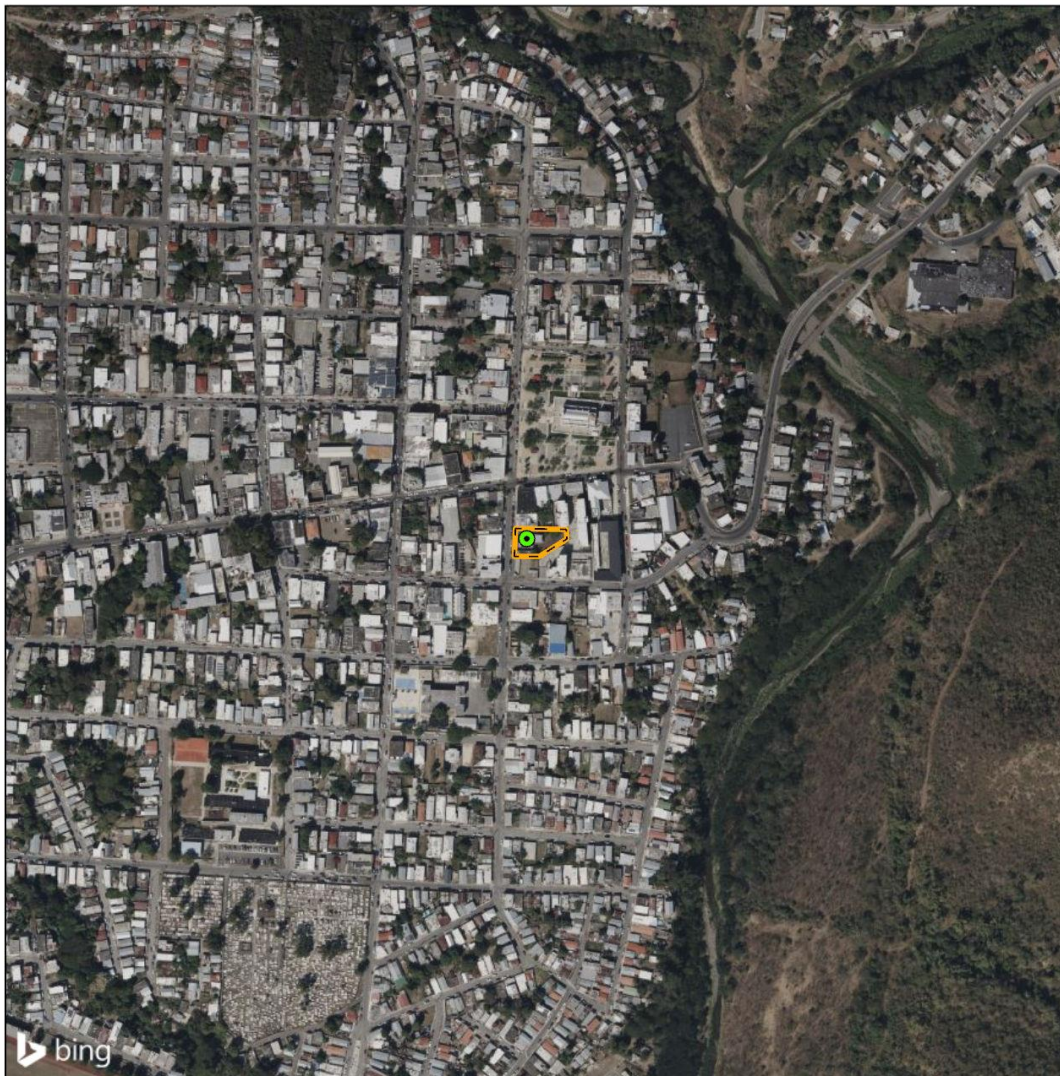
GOVERNMENT OF PUERTO RICO
DEPARTMENT OF HOUSING

Subrecipient: Fundación Biblioteca Rafael Hernández Colón, Inc.

Program ID Number: PR-WFT-00071D

Project Name: Restoration of Casa Borelli

Project Location - Aerial Map



Calle Barbosa #3, Coamo, Puerto Rico

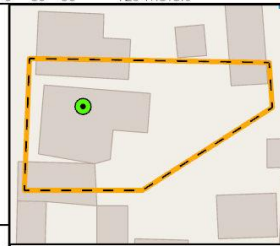


0 130 260 520 Feet
0 30 60 120 Meters



Legend

-  PR-WFT-00071D
-  CRIM Parcel Boundary



Name: WGS 1984 Web Mercator Auxiliary Sphere

Scale: 1:5,000

PUERTO RICO 2017 DISASTER RECOVERY, CDBG-DR PROGRAM

WORKFORCE TRAINING (WFT) PROGRAM

Section 106 NHPA Effect Determination



GOVERNMENT OF PUERTO RICO
DEPARTMENT OF HOUSING

Subrecipient: Fundación Biblioteca Rafael Hernández Colón, Inc.

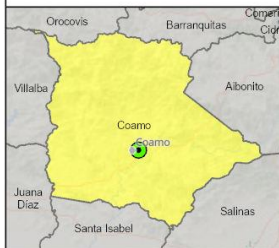
Program ID Number: PR-WFT-00071D

Project Name: Restoration of Casa Borelli

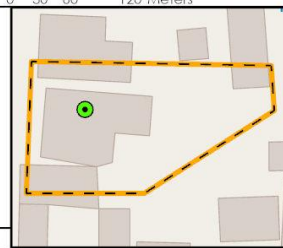
Project Location - USGS Topographic Map



Calle Barbosa #3, Coamo, Puerto Rico



- Legend
- PR-WFT-00071D
 - ▭ CRIM Parcel Boundary



Name: WGS 1984 Web Mercator Auxiliary Sphere

Scale: 1:5,000

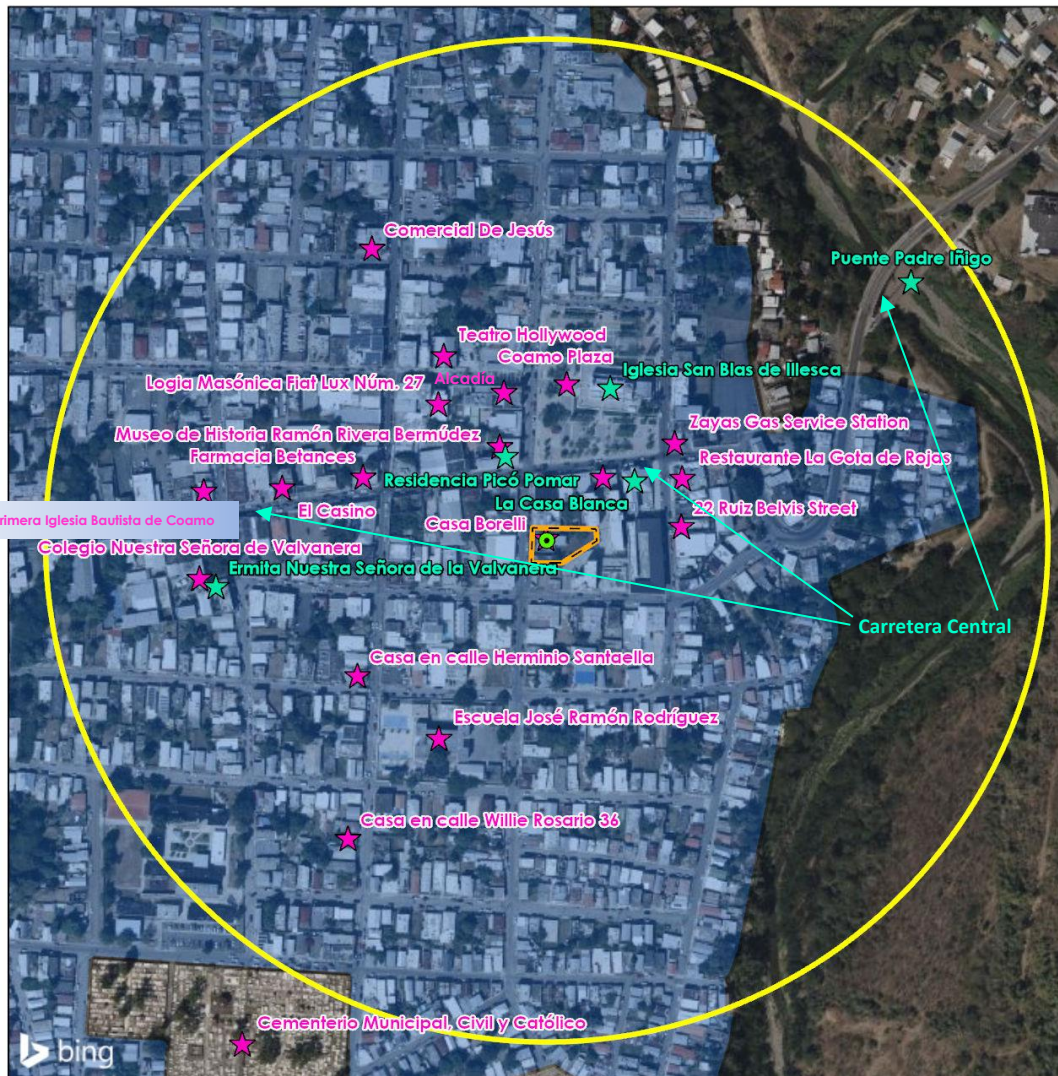


Subrecipient: Fundación Biblioteca Rafael Hernández Colón, Inc.

Program ID Number: PR-WFT-00071D

Project Name: Restoration of Casa Borelli

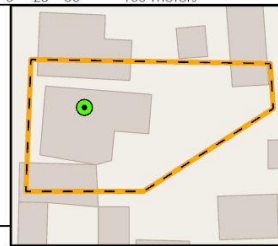
Project Location with Recorded Historic Properties - Aerial Map



Calle Barbosa #3, Coamo, Puerto Rico



- Legend
- PR-WFT-00071D
 - ★ NRHP Eligible Properties
 - ★ NRHP Properties
 - CRIM Parcel Boundary
 - Quarter-Mile Buffer
 - Traditional Urban Centers
 - Coamo Centros Urbanos



Name: WGS 1984 Web Mercator Auxiliary Sphere Scale: 1:4,000

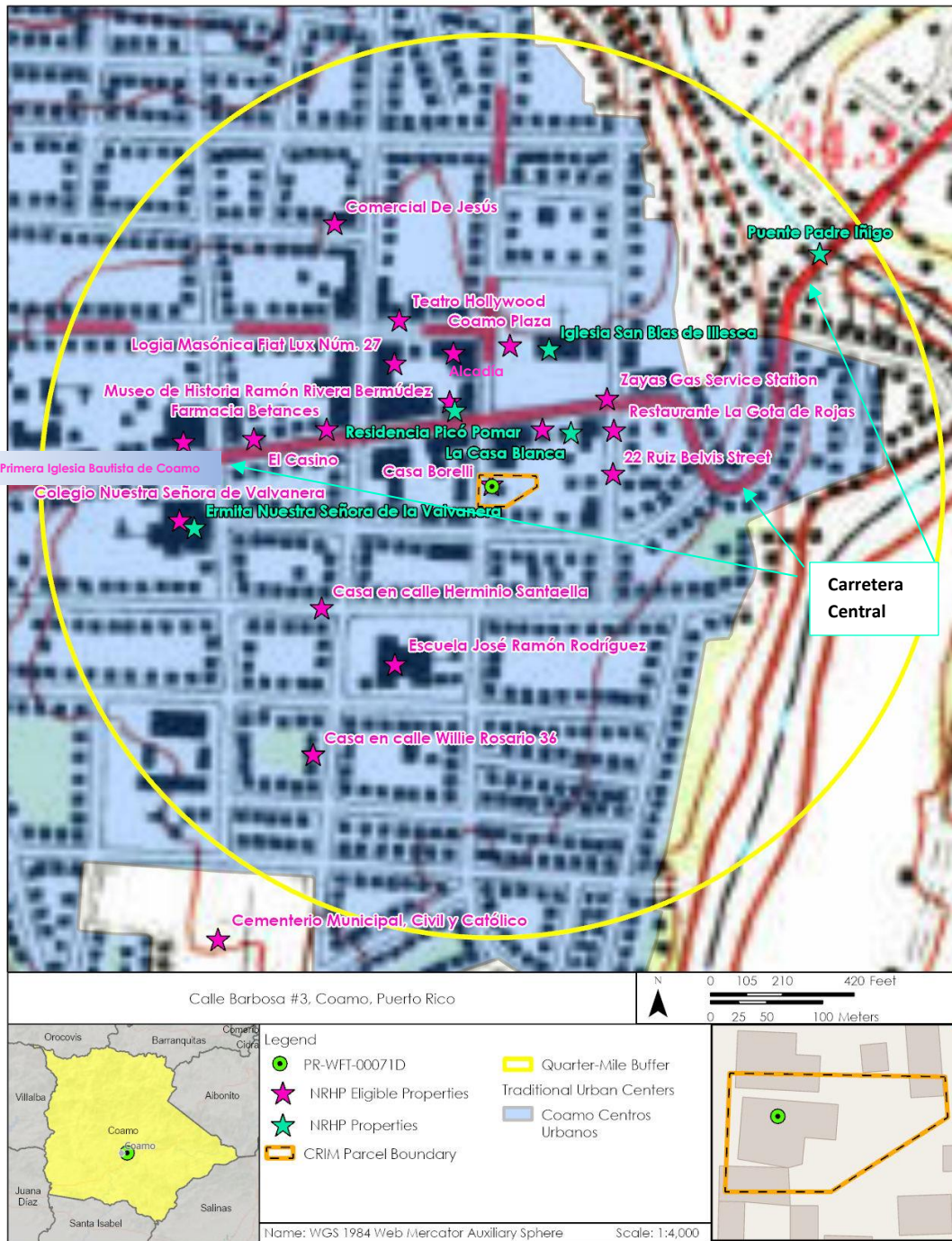



Subrecipient: Fundación Biblioteca Rafael Hernández Colón, Inc.

Program ID Number: PR-WFT-00071D

Project Name: Restoration of Casa Borelli

**Project Location with Recorded Historic Properties -
USGS Topographic Map**



PUERTO RICO 2017 DISASTER RECOVERY, CDBG-DR PROGRAM WORKFORCE TRAINING (WFT) PROGRAM Section 106 NHPA Effect Determination	
Subrecipient: Fundación Biblioteca Rafael Hernández Colón, Inc.	
Program ID Number: PR-WFT-00071D	
Project Name: Restoration of Casa Borelli	

Attachment

Scope of Works for the Restoration of Casa Borelli by the Escuela Taller del Sur

Prepared by

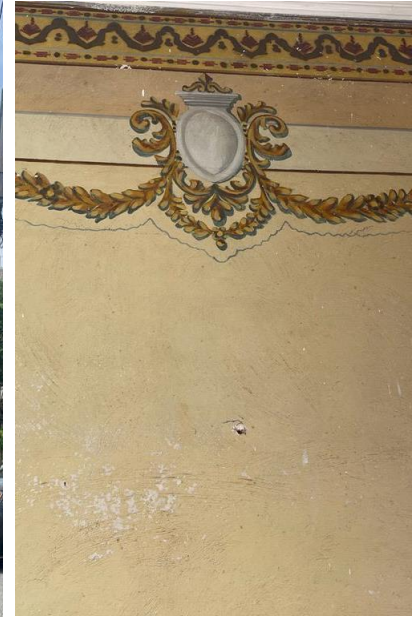
Arq. Pablo Ojeda O'Neill

M. Arch, AADIPLI. Build. Cons.

FAAR'96

ESCUELA TALLER DEL SUR

CASA BORELLI BARBOSA #3, COAMO. PUERTO RICO



TRABAJOS DE RESTAURACION EN LA CASA BORELLI POR LA ESCUELA TALLER DEL SUR
SCOPE OF WORKS FOR THE RESTORATION OF CASA BORELLI BY THE ESCUELA TALLER DEL SUR

DOCUMENTO PREPARADO POR:

DOCUMENT PREPARED BY:

ARQ. PABLO OJEDA O'NEILL

M.ARCH, AADIPLI. BUILD. CONS

FAAR'96

ESCUELA TALLER DEL SUR

CASA BORELLI BARBOSA #3 COAMO.

LISTADO DE INTERVENCIONES POR SECTORES POR LA ESCUELA TALLER DEL SUR
RESTORATION/ INTERVENTION LIST BY ROOMS AND AREAS

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INTRODUCCION

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1

AMBITO DE LA INTERVENCION Y LEYENDA

SCOPE OF WORKS AND LEGEND

2

PLANO ESQUMATICO DE LA CASA BORELI

SCHEMATIC PLAN BORELI HOUSE

7

FOTOGRAFIAS POR ESPACIOS

PHOTOGRAPHS PER SPACES

8

CURRICULO ESCUELA TALLER DEL SUR

ESCUELA TALLER DEL SUR CURRICULUM

ANEJO 1/ATTACHMENT1

INTRODUCCION

INTRODUCTION

Este documento resume las actividades a ser realizadas por la Escuela Taller del Sur en su primer proyecto, la Casa Borelli. Se ha aplicado la leyenda de actividades en cada espacio de la casa, con fotos acompañantes. El proyecto de la Casa Borelli es uno interdisciplinario que pretende capacitar a los participantes en los diversos gremios que se relacionan íntimamente al proceso de restauración y recuperación patrimonial.



This document resumes all the activities to be carried out by the Escuela Taller del Sur in its first project, Borelli House. Each item in the legend has been applied to each space of the house, including photographs of each room. The Borelli Project is an interdisciplinary one that pursue a thorough training of its participants, focused on each trade that is related to the restoration process and heritage recovery.

ESCUELA TALLER DEL SUR

CASA BORELLI BARBOSA #3 COAMO.

LISTADO DE INTERVENCIONES POR SECTORES POR LA ESCUELA TALLER DEL SUR
RESTORATION/ INTERVENTION LIST BY ROOMS AND AREAS

La siguiente leyenda es aplicable a cada espacio de la Casa Boreli. En la misma se describen las tareas a ser realizadas en cada área a ser intervenida por la Escuela Taller.

The following legend applies to each space of the Borelli House. It describes the scope of work to be considered in each space by the Escuela Taller.

LEYENDA/LEGEND

1. TALLER DE ALBANILERIA/MAMPOSTERIA/ *BRICK MASONRY WORKSHOP*

**1.A- MUROS EN MAMPOSTERIA DE LADRILLOS
ENCALADOS, MORTEROS./ *BRICK MASONRY WALLS,
PLASTERWORK / MORTARS***

**1.B- MUROS O ELEMENTOS EN HORMIGON/SUELOS
*REINFORCED CONCRETE ELEMENTS/FLOORS***

2. TALLER DE HERRERIA ORNAMENTAL/ESTRUCTURAL/ *ORNAMENTAL /STRUCTURAL IRINWORK WORKSHOP*

**2.A- RESTAURACION HERRERIA DE BARANDAS Y VERJAS ANTIGUAS
*RESTORATION OF ORIGINAL IRONWORK/FENCES/RAILINGS***

**2.B- RESTAURACION DE PANOS DE REJAS EN VENTANAS
*RESTORATION OF ORIGINAL IRONWORK/WINDOWS***

**2.C- NUEVAS REJAS/PUERTAS EN HIERRO
*RESTORATION OF ORIGINAL IRONWORK/DOORS***

3. TALLER DE CARPINTERIA/EBANISTERIA
CARPENTRY AND WOODWORK WORKSHOP

3.A- REPARACION DE ESTRUCTURAS TECHOS Y PISOS
HOUSE ROOFS. STRUCTURAL REPAIRS

3.B- RESTAURACION PUERTAS/VENTANAS
DOORS AND WINDOWS RESTORATION.

3.C- RESTAURACION DE MARCOS Y MONTANTES CALADOS
DOORS, WINDOWS'FRAMES/ GINGERBREAD RESTORATION

3.D- RESTAURACION PLAFONES/MOLDURAS Y CORNISAS
INERIOR CEILLINGS/ CORNICES /MOULDINGS RESTORATION

3.E- RESTAURACION DE PISOS DE MADERA
FLOORS'TIMBER FRAMES AND WOOF FLOORING RESTORATION

3.F- BARANDAS/BALAUSTRAS
WOOS RAILLINGS AND BALUSTERS RESTORATION

4. TALLER DE ORNAMENTACION ARQUITECTONICA
ARCHITECTURAL ORNAMENTATION WORKSHOP

4.A- ORNAMENTOS NEOCLASICOS EN YESERIA.
MENSULAS, CORNISAS.
NEOCLASSIC ORNAMENTS/ CORNICES/ BRACKETS RESTORATION

4.B- ORNAMENTACION JAMBAS DE PUERTAS Y VENTANAS
DOORS AND WINDOWS FENESTRATION RESTORATION

4.C- PINTURAS MURALES/EMPAPELADO HISTORICO

ESCUELA TALLER DEL SUR

CASA BORELLI BARBOSA #3 COAMO.

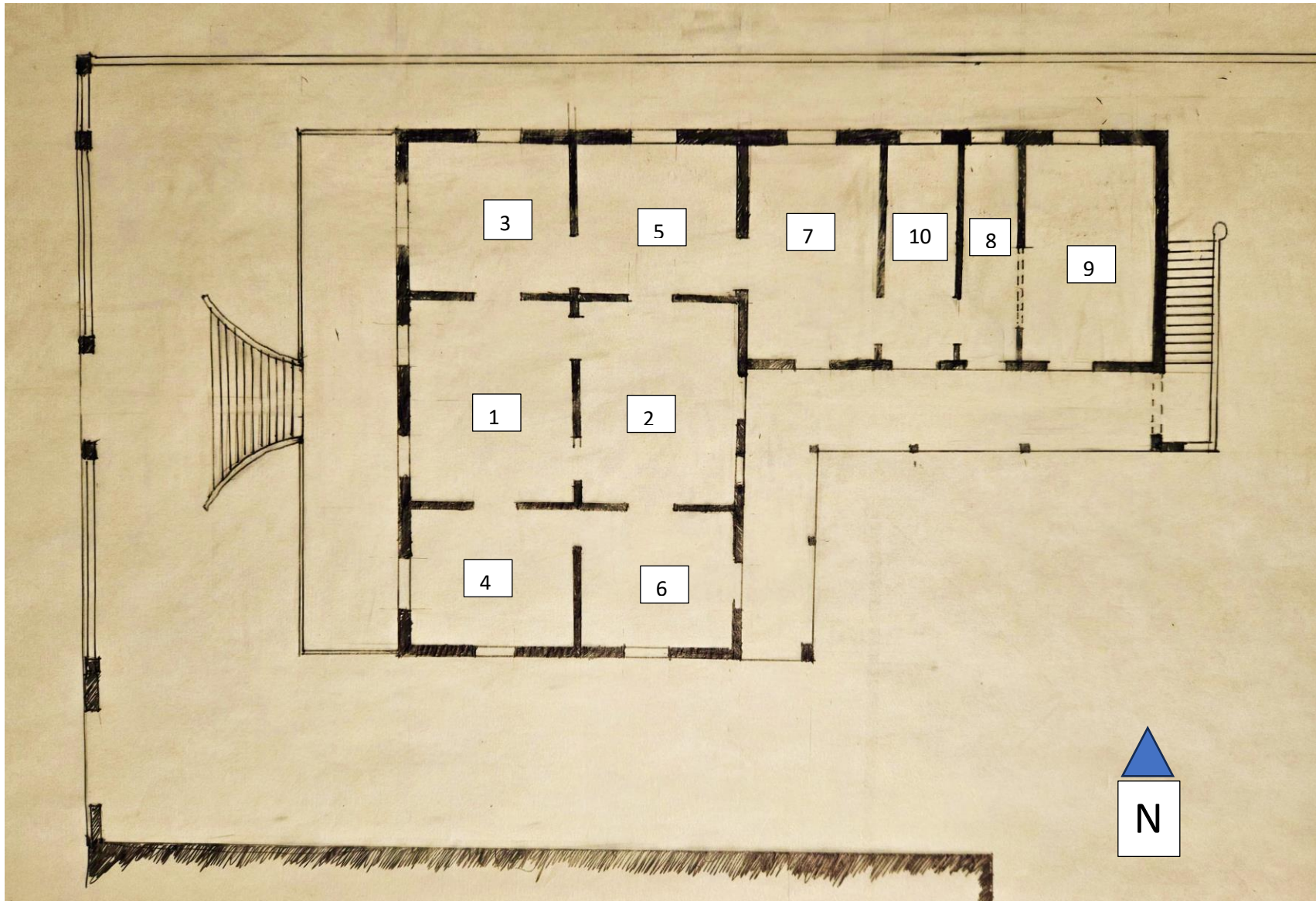
LISTADO DE INTERVENCIONES POR SECTORES POR LA ESCUELA TALLER DEL SUR
RESTORATION/ INTERVENTION LIST BY ROOMS AND AREAS

	PISOS <i>FLOORS</i>	PAREDES <i>WALLS</i>	PLAFONES <i>CEILINGS</i>	PUERTAS <i>DOORS</i>	VENTANAS <i>WINDOWS</i>	ELEMENTO ESPECIAL <i>SPECIAL COMPONENTS</i>
FACHADA OESTE <i>FRONT FACADE-WEST</i>	1.B	1.A; 4.A	-----	3.B; 3.C; 4.B	-----	-----
FACHADAS NORTE/SUR/ESTE` <i>NORTH /SOUTH/EAST FACADES</i>	-----	1.A	-----	-----	2.B; 2.C	-----
GALERIA TRASERA <i>MAIN GARDEN GALLERY</i>	1.B	1.A	3.D	3.B	-----	3.F; 3.A
VERJA PRINCIPAL PORTON COCHERA <i>FRONT FENCE AND CARRIAGE ENTRANCE</i>	-----	1.A; 2.A; 2.C	-----	2.C	-----	-----

CASA PRINCIPAL Y SUS ESPACIOS
MAIN HOUSE SPACES

	PISOS FLOORS	PAREDES WALLS	PLAFONES CEILINGS	PUERTAS DOORS	VENTANAS WINDOWS	ELEMENTO ESPECIAL SPECIAL COMPONENTS
1. SALA PRINCIPAL 1 MAIN LIVING ROOM 1	3.E	1.A	3.D	3.B; 3.C	-----	4.C
2. COMEDOR 2 DINNING ROOM 2	3.E	1.A	3.D	3.B; 3.C	-----	4.C
3. HABITACION 3 BEDROOM 3	3.E	1.A	3.D	3.B; 3.C	3.B; 3.C	-----
4. HABITACION 4 BEDROOM 4	3.E	1.A	3.D	3.B; 3.C	3.B; 3.C	-----
5. HABITACION 5 BEDROOM 5	3.E	1.A	3.D	3.B; 3.C	3.B; 3.C	-----
6. HABITACION 6 BEDROOM 6	3.E	1.A	3.D	3.B; 3.C	3.B; 3.C	-----
7. HABITACION 7 BEDROOM 7	3.E	1.A	3.D	3.B; 3.C	3.B; 3.C	-----

8.	COCINA 8/9 <i>KITCHEN/PANTRY 8/9</i>	1.B	1.A	3.D	3.B; 3.C	3.B; 2.C
9.	BANO 10 <i>BATHROOM 10</i>	1.B	1.A	3.D	3.B; 3.C	3.B; 2.C
10.	SOTANO 11 <i>BASEMENT 11</i>	1.B	1.A	3.A	2.C	-----



CASA BORELLI, PLANTA ESQUEMATICA. NO A ESCALA /SCHEMATIC PLAN NOT TO SCALE

FACHADA OESTE

WEST FACADE

FACHADA OESTE
FRONT FACADE-WEST

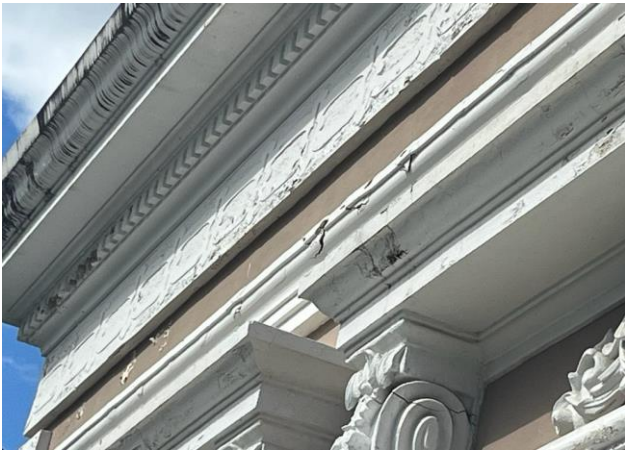
1.B

1.A; 4.A

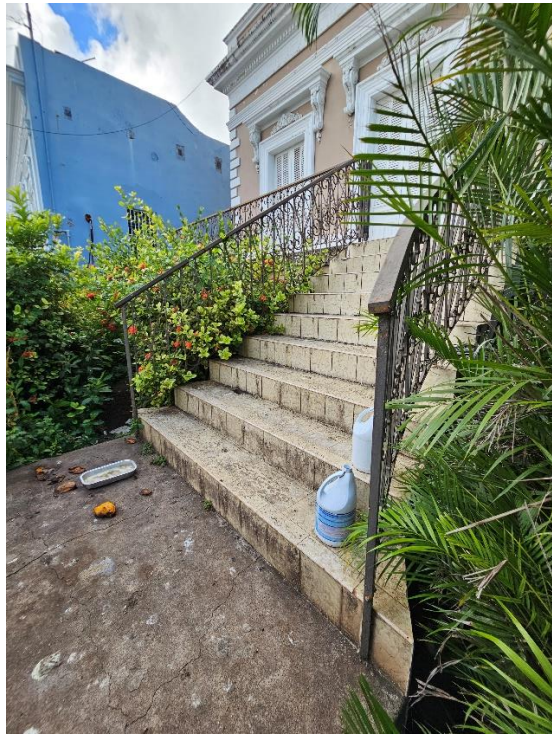
3.B; 3.C; 4.B



FACHADA OESTE/ WEST FACADE







FACHADAS NORTE/SUR/ESTE

NORTH/SOUTH/EAST FACADES

FACHADAS NORTE/SUR/ESTE` -----
NORTH /SOUTH/EAST FACADES

1.A

----- **2.B; 2.C** -----



FACHADA NORTE/*NORTH FAÇADE*



FACHADA ESTE/EAST FAÇADE





FACHADA SUR/*SOUTH FACADE*

GALERIA TRASERA

MAIN GARDEN GALLERY

GALERIA TRASERA
MAIN GARDEN GALLERY

1.B

1.A

3.D

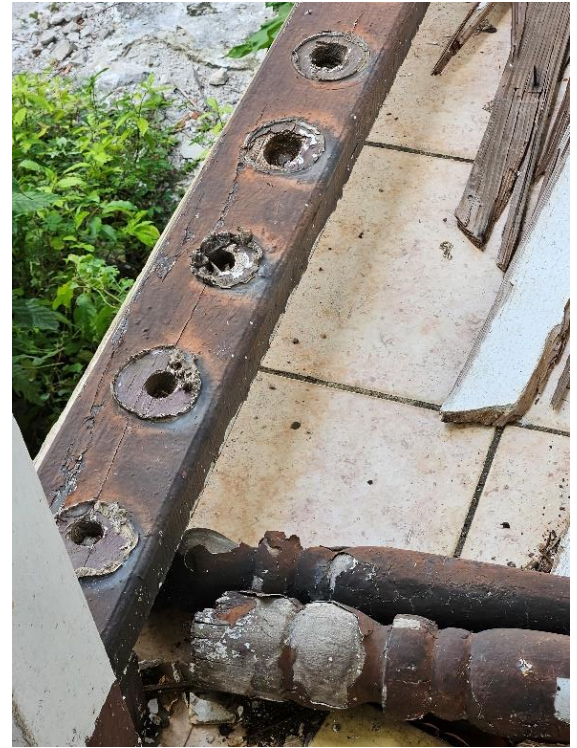
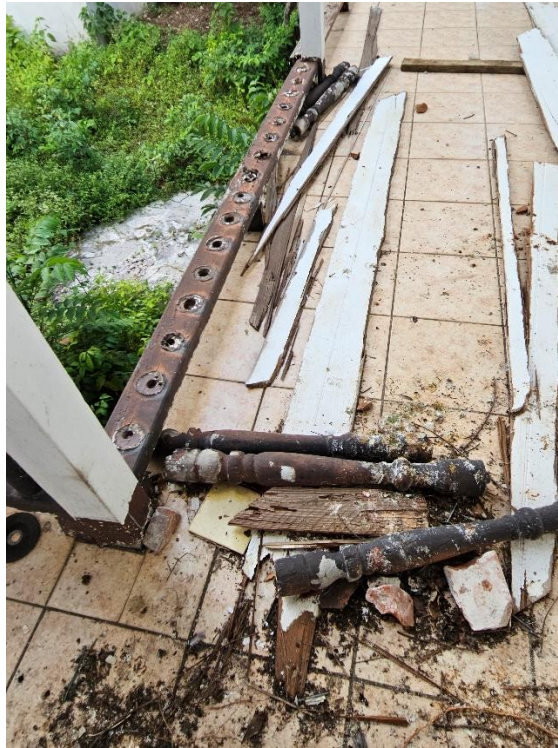
3.B

3.F; 3.A













VERJA PRINCIPAL PORTON COCHERA

FRONT FENCE AND CARRIAGE ENTRANCE

VERJA PRINCIPAL PORTON
COCHERA

1.A; 2.A; 2.C

2.C

FRONT FENCE AND CARRIAGE ENTRANCE





CASA PRINCIPAL Y SUS ESPACIOS
MAIN HOUSE SPACES

SALA PRINCIPAL
MAIN LIVING ROOM

SALA PRINCIPAL 1
MAIN LIVING ROOM 1

3.E

1.A

3.D

3.B; 3.C

4.C



RESTAURACION DE LAS PINTURAS MURAL/ *RESTORATION OF THE MURAL PAINTINGS*









COMEDOR 2

DINNING ROOM 2

COMEDOR 2
DINNING ROOM 2

3.E

1.A

3.D

3.B; 3.C

4.C









HABITACION 3

BEDROOM 3

HABITACION 3
BEDROOM 3

3.E

1.A

3.D

3.B; 3.C

3.B; 3.C





HABITACION 4

BEDROOM 4

HABITACION 4
BEDROOM 4

3.E

1.A

3.D

3.B; 3.C

3.B; 3.C





HABITACION 5

BEDROOM 5

HABITACION 5
BEDROOM 5

3.E

1.A

3.D

3.B; 3.C

3.B; 3.C



HABITACION 6

BEDROOM 6

HABITACION 6
BEDROOM 6

3.E

1.A

3.D

3.B; 3.C

3.B; 3.C





HABITACION 7

BEDROOM 7

HABITACION 7
BEDROOM 7

3.E

1.A

3.D

3.B; 3.C

3.B; 3.C



COCINA/ DESPENSA 8/9

KITCHEN/PANTRY 8/9

COCINA 8/9
KITCHEN/PANTRY 8/9

1.B

1.A

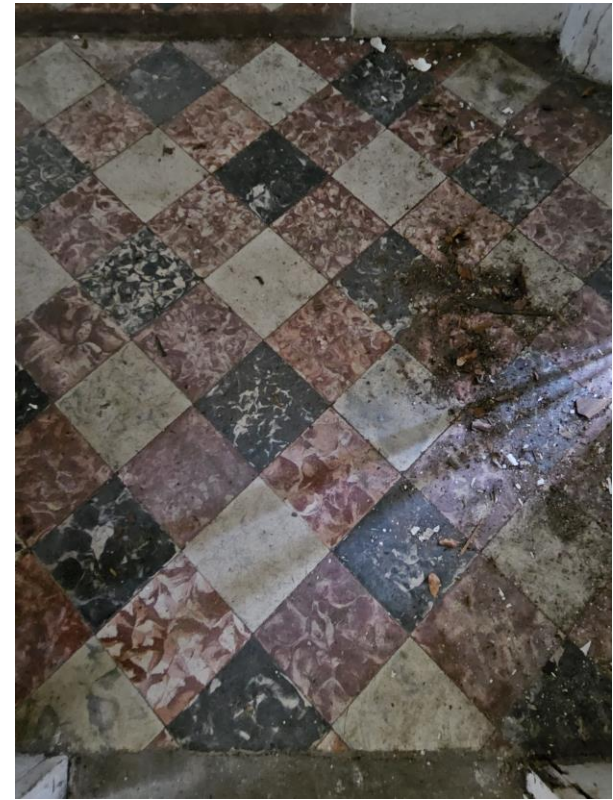
3.D

3.B; 3.C

3.B; 2.C







BANO 10

BATHROOM 10

BANO 10
BATHROOM 10

1.B

1.A

3.D

3.B; 3.C

3.B; 2.C







SOTANO 11

BASEMENT 11

SOTANO 11
BASEMENT 11

1.B

1.A

3.A

2.C







RESTAURACION DE LOS TECHOS Y PLAFONES

RESTORATION OF THE ROOF SYSTEM AND CEILINGS





Traditional Trades Apprenticeship Program



CURRICULUM AND COURSE DESCRIPTIONS



Prepared by:

Héctor J. Berdecía-Hernández, M.S., Assoc. AIA

Pablo Ojeda O'Neill, M.Arch, AA.Dipl.Build. Cons, FAAR'96

CURRICULUM - COURSES & SEMINARS



I. General Education Requirement Seminars

- History and Theory of Historic Preservation
- Traditional Building Technology in Puerto Rico and the Caribbean
- Building Archaeology

II. Specialized Trades

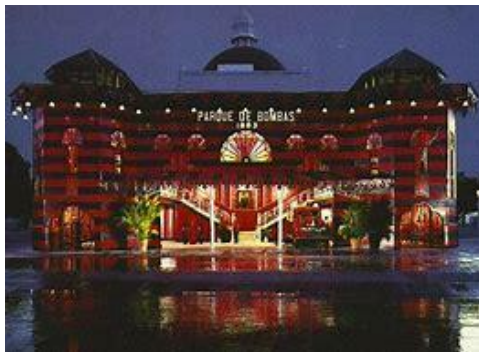
- Masonry: Brick and mortars
- Masonry: Concrete
- Architectural Carpentry
- Architectural Metals: Wrought & Cast-Iron
- Stained Glass
- Ornamental Plaster
- Special Architectural Finishes

IMPORTANT NOTE:

THE CURRICULUM THAT FOLLOWS IS FLEXIBLE ENOUGH TO BE CUSTOM TAILORED TO THE SPECIFIC NEEDS OF EACH PROPOSED PROGRAM. DEPENDING ON THE ALLOWED TIME FRAME



PUERTO RICO HAS A DIVERSE HISTORIC PATRIMONY THAT REFLECTS EVERY HISTORIC AND ARCHITECTURAL PERIOD



COURSE 1

MASONRY: BRICK AND MORTARS

1. Course Description

The Brick Masonry Specialty Course offers training in the traditional masonry trade through the intensive study of the conservation and restoration of historic buildings and monuments, with particular emphasis on brick masonry and traditional lime mortars, their applications and uses as a material (architectural and decorative), and as a construction system (structural and building envelope). Students will gain practical experience through projects and demonstrations both in the field and the Workshop. The course will focus on the traditional trade, current methods of repair, as well as identification and analysis, treatment strategies, and the understanding/evaluation of conditions associated with the deterioration of traditional brick and mortar masonry.

2. Certification

3. Term of Apprenticeship

The term of the occupation shall be six (6) months supplemented by the required hours of related technical instruction.

4. Apprentice Wage Schedule and Fringe Benefits

If the program includes wages and benefits for the students all apprentices shall be paid a progressively increasing schedule of wages and fringe benefits based on the progression and development of skills.

5. Schedule of Work Experience (See attached Work Process Schedule)

Apprenticeship Committees may add to the work processes prior to submitting these Standards to the appropriate Registration Official for approval.

6. Schedule of Related Instruction (See attached Related Classroom Instruction Outline)

Instruction can incorporate elements of both electronic media and traditional classroom including online training, distance learning, or independent study of established curriculum. Curricula modules are based on industry standardized applications of current construction practices. Modules are knowledge and skill based including a system for assessment. The assessment will include task objectives, procedures, review materials, and competency-based performance tests.

The related instruction outline may be modified to meet local needs.

BRICKLAYER WORK PROCESS SCHEDULE

This instruction and experience shall include the following operations, but not necessarily in the listed sequence. Time spent on specific operations need not be continuous.

Proper care and use of all tools of the occupation and safety	0
<ul style="list-style-type: none">- Traditional and contemporary Mason's tools – power and hand tools including Trowels, brick hammer, plumb rule, scaffolding, cuttings saws & welding equipment- Occupational Health and Safety procedures and equipment in the Construction site (OSHA based-practical)	
Mortars	0
<ul style="list-style-type: none">- Learning various types and consistencies of mortar according to job specifications and nature of the material to be used- Mortar formulations and materials selection- Using trowel in handling and spreading of mortar and proper consistency of mortar- Mixing mortars	
Brick Masonry I – Basic construction techniques	0
<ul style="list-style-type: none">- Laying out work from plans, blueprints and specifications- Proper preparation of foundation walls and bases for starting brick work- The selecting, cutting, shaping, and placing of brick tile and fire brick in proper position- Laying brick and tile to wood, metal, or other types of fixtures and frames- Claddings- Stretching line to guide courses of masonry units- Aligning courses vertically and horizontally- Removing excess mortar	
Brick Masonry III – Intermediate construction techniques	0
<ul style="list-style-type: none">- Building party walls- Laying brick to form arches and designs- Setting and anchoring keystones- Advanced laying techniques- Working with joints	
Brick Masonry III – Advanced construction techniques	0
<ul style="list-style-type: none">- Building cupolas, furnaces linings, bakers' ovens, kilns, circular stairways, windows, and other special architectural structures	
Specialized construction techniques – Decorative elements	0
Repairing, remodeling, and renovating brick work	0
<ul style="list-style-type: none">- Pointing brick, cutting and raking joints- Cleaning methods and treatments- Coatings and other finishes- Structural and non-structural repairs- Restoration and maintenance- Caulking	
Checking and inspecting finished work	0
<ul style="list-style-type: none">- Supervision of site works- Construction Inspection and Quality Control	
TOTAL HOURS	-----

BRICKLAYER RELATED CLASSROOM INSTRUCTION

Note: Due to regional and local code differences and climate conditions, duration of instructional competencies/modules are suggested estimates only.

Introduction to Masonry	0
Basic Safety (OSHA Based) & First aid	0
Use of Brick and Mortars in Historic Architecture - Case Studies	0
The Mason's Profession - from Past to Present	0
Mason's Vocabulary in Spanish and English	0
Materials and their properties	0
- Clays as a construction material, their characteristics, and properties	
- Lime and mortars as a building material and their properties	
Introduction to the brick manufacturing process and materials selection	0
Brick masonry as a construction technology	0
- Masonry Units and Installation Techniques	
- Grout and Other Reinforcement	
- Metal Work in Masonry	
- Construction Techniques and Moisture Control	
Agents and processes of deterioration on brick masonry and their identification	0
Building Archaeology	0
- Basic forensic investigation and conditions assessments	
History and Theory of Historic Preservation	0
Traditional Building Technologies in Puerto Rico and the Spanish Caribbean	0
Specifications and construction drawings for Brick Masonry	0
- Introduction to Blueprints	
- Skecthing	
Introduction to Construction Math	0
- Construction geometry	
- Structures and calculations for brick masonry	
- Estimating materials	
Project planning	0
Business Administration	0
TOTAL HOURS	<hr/>

COURSE 2

MASONRY: CONCRETE

1. Course Description

Since its introduction as a construction technology in the early 1900s, reinforced concrete took over the Puerto Rican architecture and became the island's 'vernacular' construction material up to the present. In this sense, Portland cement and concrete technologies define the island's 20th-century architectural heritage. The Concrete Masonry Specialty Course offers training in the traditional and contemporary trade of concrete masonry construction through the intensive study of historic buildings and monuments, with particular emphasis on concrete technologies and derived materials (types of cement, aggregates, additives, admixtures), its uses and applications as a material (architectural and decorative) and as a construction system (structural and building envelope). Students will gain practical experience through projects and demonstrations both in field projects and the Workshop. The course will focus on special methods of repair, replication, restoration, and cleaning, as well as the identification and analysis, treatment strategies, and the understanding/evaluation of conditions associated with the deterioration of historical and contemporary concrete systems in the Caribbean tropical environment.

2. Certification as:

3. Term of Apprenticeship

The term of the occupation shall be six (6) months supplemented by the required hours of related technical instruction.

4. Apprentice Wage Schedule and Fringe Benefits

If the program includes wages and benefits for the students all apprentices shall be paid a progressively increasing schedule of wages and fringe benefits based on the progression and development of skills.

5. Schedule of Work Experience (See attached Work Process Schedule)

Apprenticeship Committees may add to the work processes prior to submitting these Standards to the appropriate Registration Official for approval.

6. Schedule of Related Instruction (See attached Related Classroom Instruction Outline)

Instruction can incorporate elements of both electronic media and traditional classroom including online training, distance learning, or independent study of established curriculum.

Curricula modules are based on industry standardized applications of current construction practices. Modules are knowledge and skill based including a system for assessment. The assessment will include task objectives, procedures, review materials, and competency-based performance tests.

The related instruction outline may be modified to meet local needs prior to submitting these Standards to the appropriate Registration Official for approval

CEMENT MASON WORK PROCESS SCHEDULE

This instruction and experience shall include the following operations, but not necessarily in the listed sequence. Time spent on specific operations need not be continuous.

Proper care and use of all tools of the occupation and safety	0
<ul style="list-style-type: none">- Traditional and contemporary Mason's tools – power and hand tools including Trowels, brick hammer, plumb rule, scaffolding, cuttings saws & welding equipment- Occupational Health and Safety procedures and equipment in the Construction site (OSHA based-practical)	
Portland Cement Mortars	0
<ul style="list-style-type: none">- Learning various types and consistencies of mortar according to job specifications and nature of the material to be used- Materials selection- Portland cement mortar formulations and materials selection- Using trowel in handling and spreading of mortar and proper consistency of mortar- Mixing mortars	
Concrete Masonry I – Basic construction techniques	0
<ul style="list-style-type: none">- Laying out work from plans, blueprints, construction documents & specifications- Site preparation, soil condition and subgrade preparation- Setting screed and formwork- Materials selection for Concrete mixes, formulation and applications- Instrument (Transit & Laser)	
Brick Masonry II– Intermediate construction techniques	0
<ul style="list-style-type: none">- Special tools- Curing and protection- Joints- Specifications and testing- Sidewalks, patio drives, curbs, & curb and gutters- Surface detailing, surface defects	
Brick Masonry III – Advanced construction techniques	0
<ul style="list-style-type: none">- Placing and finishing concrete- Stucco and other concrete finishes- Finishing floors- Waterproofing- Shotcreting- Epoxies	
Specialized construction techniques – Decorative Concrete	0
<ul style="list-style-type: none">- Exposed aggregate finishes- Staining and Acid etching- Abrasive blasting- Polished concrete	
Repairing & restoring concrete	0
<ul style="list-style-type: none">- Cleaning methods and treatments- Coatings- Specialized methods in concrete repair and restoration- Structural and non-structural repairs- Restoration and maintenance- Caulking	

- Checking and inspecting finished work
- Supervision of site works
- Construction Inspection and Quality Control

0

TOTAL HOURS

CEMENT MASON CLASSROOM INSTRUCTION

Note: Due to regional and local code differences and climate conditions, duration of instructional competencies/modules are suggested estimates only.

Introduction to Masonry	0
Basic Safety (OSHA Based) & First aid	0
Portland Cement and Concrete in Historic Architecture - Case Studies	0
The Mason's Profession - from Past to Present	0
Mason's terminology in Spanish and English	0
Materials and their properties	0
- Lime and types of cement as construction materials, their characteristics, and properties	
- Types of aggregates, additives, and admixtures for concrete, their characteristics, and properties	
- Iron, Steel, ferrous metals, their characteristics, properties, and application as reinforcement for reinforced concrete systems	
Reinforced concrete and other concrete construction technologies	0
- Masonry Units and Installation Techniques	
- Reinforcement	
- Metal Work in Masonry	
- Construction techniques and Moisture Control	
Agents and processes of deterioration on reinforced concrete and their identification	0
Building Archaeology	0
- Basic forensic investigation and conditions assessments	
History and Theory of Historic Preservation	0
Traditional Building Technologies in Puerto Rico and the Spanish Caribbean	0
Specifications and construction drawings for Concrete systems	0
- Introduction to Blueprints	
- Skecthing	
Introduction to Construction Math	0
- Construction geometry	
- Structures and calculations for Concrete	
- Estimating materials	
Project planning	0
Business Administration	0
TOTAL HOURS	<hr/>

COURSE 3

CARPENTER (ARCHITECTURAL CARPENTRY)

1. Course Description

Wood was the primary construction material used through Puerto Rico before the 20th Century, and it composes a significant amount of the built heritage on the island. The specialty course in Wood-Architectural Carpentry offers training in the traditional craft of carpentry through the intensive study - theoretical and practical - of the artisan traditions and the conservation-restoration of Wood as an organic material with particular emphasis on traditional architecture, its applications, and uses as a material (architectural and decorative), and as a constructive-structural system. Students will gain practical experience through projects and demonstrations both in the field and the Workshop. The course will focus on the current methods of repair, treatment and stabilization, finishing, the use of tools in carpentry and joinery, the identification and analysis of the material, and the understanding/evaluation of the conditions associated with the bio-deterioration of Wood in the Caribbean.

2. Certification as:

3. Term of Apprenticeship

The term of the occupation shall be six (6) months.

4. Apprentice Wage Schedule and Fringe Benefits

If the program includes wages and benefits for the students all apprentices shall be paid a progressively increasing schedule of wages and fringe benefits based on the progression and development of skills.

5. Schedule of Work Experience (See attached Work Process Schedule)

Apprenticeship Committees may add to the work processes prior to submitting these Standards to the appropriate Registration Official or approval.

6. Schedule of Related Instruction (See attached Related Classroom Instruction Outline)

Instruction can incorporate elements of both electronic media and traditional classroom including online training, distance learning, or independent study of established curriculum.

Curricula modules are based on industry standardized applications of current construction practices. Modules are knowledge and skill based including a system for assessment. The

assessment will include task objectives, procedures, review materials, and competency-based performance tests.

The related instruction outline may be modified to meet local needs prior to submitting these Standards to the appropriate Registration Official for approval

CARPENTER WORK PROCESS SCHEDULE

This instruction and experience shall include the following operations, but not necessarily in the listed sequence. Time spent on specific operations need not be continuous.

Proper care and use of all tools of the occupation and safety	0
- Traditional and contemporary tools of the Carpenter and Woodworker – power and hand tools	
- Occupational Health and Safety procedures and equipment in the Construction site (OSHA based-practical)	
Architectural Carpentry I – Basic	0
- Building materials, fasteners and adhesives	
- Layout & Planning	
- Selecting and preparing Wood for construction works	
- Wood worker machines	
- Basic installations & assemblies	
Architectural Carpentry II – Intermediate	0
- Rigging	
- Architectural wood elements: floors, walls, roofs, ceilings	
- Architectural wood elements: balconies, stairs, balusters	
- Paints, Coatings, and other wood finishes	
Architectural Carpentry III - Specialized construction techniques and decorative elements in Wood	0
Industry-standard products and procedures	0
Maintenance and repair	0
- Treatments and insect repellents	
- Cleaning methods and treatments	
- Repairs & restoration	
- Testing	
Checking and inspecting finished work	0
- Supervision of site works	
- Construction Inspection and Quality Control	
TOTAL HOURS	<hr/>

CARPENTER RELATED CLASSROOM INSTRUCTION

Note: Due to regional and local code differences and climate conditions, duration of instructional competencies/modules are suggested estimates only.

Introduction to Carpentry and Wood	0
Basic Safety (OSHA Based) & First aid	0
OSHA 30-hour Course	0
Use of Wood in Historic Architecture - Case Studies	0
The Carpenter's Profession - from Past to Present	0
Terminology of the Carpenter in Spanish and English	0
Wood as a building material - trees, wood types, characteristics, and their properties	0
Seminar on the study of the woods of Puerto Rico and the Caribbean region	0
Introduction to wood as a construction technology	0
- Structure	
- Thermal and moisture protection	
Advanced construction systems – Floors, Walls, Roofs	0
Fungi, insects, bacteria, and deterioration processes of Wood and their identification	0
Building Archaeology	0
- Basic forensic investigation – Dendrochronology and other identification methods	
Conditions Assessment	0
History and Theory of Historic Preservation	0
Traditional Building Technologies in Puerto Rico and the Spanish Caribbean	0
Specifications and construction drawings for Wood construction	0
- Introduction to Blueprints	
- Skecthing	
Introduction to Construction Math	0
- Construction geometry	
- Structures and calculations for Wood	
- Estimating materials	
Project planning	0
Business Administration	0
TOTAL HOURS	<hr/>

COURSE 4

ARCHITECTURAL METALS: WROUGHT & CAST-IRON

1. Course Description

Metal has been used throughout history for various purposes: adornments, weapons, axes, household objects, and even tools to master other materials. Ornamental wrought iron, doors, fences, balconies, railings, and many other decorative elements are architectural elements seen in the Puerto Rican built heritage. The specialty courses in Wrought and Cast-Iron offers training in the traditional craft of blacksmithing through the intensive study - theoretical and practical- of the artisan traditions and the conservation-restoration of iron and ferrous metals, their uses and applications as an ornamental material in buildings, monuments, and sites. Students will gain practical experience through projects and demonstrations in both the field and the Workshop. The course will focus on traditional and contemporary methods in blacksmithing such as forging, types of welding, repair techniques, preventive treatments, and stabilization methods, special installations, paints, coatings and finishes, associated materials, the use of tools and related machinery. The course will also address the documentation, identification, and analysis of metals, and the comprehension/evaluation of conditions associated with the deterioration of iron and ferrous metals such as corrosion.

2. Certification as:

3. Term of Apprenticeship

The term of the occupation shall be six (6) months supplemented by the required hours of related technical instruction.

4. Apprentice Wage Schedule and Fringe Benefits

If the program includes wages and benefits for the students all apprentices shall be paid a progressively increasing schedule of wages and fringe benefits based on the progression and development of skills.

5. Schedule of Work Experience (See attached Work Process Schedule)

Apprenticeship Committees may add to the work processes prior to submitting these Standards to the appropriate Registration Official for approval.

6. **Schedule of Related Instruction** (See attached Related Classroom Instruction Outline)

Instruction can incorporate elements of both electronic media and traditional classroom including online training, distance learning, or independent study of established curriculum.

Curricula modules are based on industry standardized applications of current construction practices. Modules are knowledge and skill based including a system for assessment. The assessment will include task objectives, procedures, review materials, and competency-based performance tests.

The related instruction outline may be modified to meet local needs prior to submitting these Standards to the appropriate Registration Official for approval

ARCHITECTURAL & ORNAMENTAL IRONWORKER WORK PROCESS SCHEDULE

This instruction and experience shall include the following operations, but not necessarily in the listed sequence. Time spent on specific operations need not be continuous.

Proper care and use of all tools of the occupation and safety	0
- Tools and machines for Ironworking	
- Operating layout instruments	
- Hazardous material training	
- Occupational Health and Safety procedures and equipment in the Construction site (OSHA based-practical)	
Architectural and ornamental construction	0
- Basic traditional forging techniques and methods	
- Cutting	
- Selection of materials	
- Welding practice and types, differences and costs	
- Assemblies	
Rigging and cranes	0
- Equipment	
- Procedures	
Design, specifications, and construction drawings for ornamental ironworking	0
- Sketching	
- Blueprints & construction documents	
Advanced Ironworking – Advanced installation techniques and methods, tools and welding techniques	0
- Structural steel erection	
- Coatings, painting, and other finishes	
Ironworking - special ornamental applications and sculptures	0
Industry-standard products and procedures	
Cleaning methods and treatments	0
Repairs, restoration, and maintenance	0
Checking and inspecting finished work	0
- Supervision of site works	
- Construction Inspection and Quality Control	
TOTAL HOURS	<hr/>

ARCHITECTURAL & ORNAMENTAL IRONWORKER CLASSROOM INSTRUCTION

Note: Due to regional and local code differences and climate conditions, duration of instructional competencies/modules are suggested estimates only.

Basic Safety & First aid	0
OSHA 30-hour safety course	0
Materials and its properties	0
- Introduction to architectural metals, their characteristics, and properties	
- Types of iron, ferrous metals, their characteristics and properties	
Use of metals in Historic Architecture - Case Studies	0
Use of iron and other ferrous metals in Historic Architecture - Case Studies	0
Basic metallurgy	0
The Blacksmith's/Ironworker Profession - from Past to Present	6
The Ironworking terminology in Spanish and English	0
Iron, ferrous metals and their applications in industrial design	0
Iron, ferrous metals and their applications in architectural elements	0
Corrosion and other deterioration processes on ferrous metals and their identification	0
Conditions Assessment	0
Building Archaeology	0
- Basic forensic investigation and conditions assessments	
History and Theory of Historic Preservation	0
Traditional Building Technologies in Puerto Rico and the Spanish Caribbean	0
Specifications and construction drawings for Brick Masonry	0
- Introduction to Blueprints	
- Sketching	
Introduction to Construction Math	0
- Metrics for Ironworkers	
- Construction geometry	
- Calculations for ironwork projects	
- Estimating materials	
Project planning	0
Business Administration	0
TOTAL HOURS	<hr/>

COURSE 5

Stained Glass

1. Course Description

The Stained Glass specialty course offers training in the traditional craft of glassmaking by the intensive study -theoretical and practical- of the artisan traditions and the conservation-restoration of architectural glass, with an emphasis on traditional Puerto Rican architecture, its uses, and applications as an architectural and decorative material. Students will gain practical experience through projects and demonstrations in both the field and the Workshop. The course will provide an overview of the processes of glass and stained-glass manufacturing, training on current methods of repair, treatment and stabilization, protective systems, finishes, installations, materials, and the use of workshop tools. The course will also cover the documentation, identification, and analysis of the material, and the comprehension/evaluation of the conditions associated with the deterioration of historic glass and stained glass.

2. Certification as:

3. Term of Apprenticeship

The term of the occupation shall be three (6) months

4. Apprentice Wage Schedule and Fringe Benefits

If the program includes wages and benefits for the students all apprentices shall be paid a progressively increasing schedule of wages and fringe benefits based on the progression and development of skills.

5. Schedule of Work Experience (See attached Work Process Schedule)

Apprenticeship Committees may add to the work processes prior to submitting these Standards to the appropriate Registration Official for approval.

6. Schedule of Related Instruction (See attached Related Classroom Instruction Outline)

Instruction can incorporate elements of both electronic media and traditional classroom including online training, distance learning, or independent study of established curriculum.

Curricula modules are based on industry standardized applications of current construction practices. Modules are knowledge and skill based including a system for assessment. The assessment will include task objectives, procedures, review materials, and competency-

based performance tests.

The related instruction outline may be modified to meet local needs prior to submitting these Standards to the appropriate Registration Official for approval

GLAZIER WORK PROCESS SCHEDULE

This instruction and experience shall include the following operations, but not necessarily in the listed sequence. Time spent on specific operations need not be continuous.

Occupational Health and Safety procedures and equipment in the Construction site (OSHA based)	0
- Care and use of ladders, scaffolds, stages and man lifts	
Traditional and contemporary Glassmaking Tools	0
- Proper mechanical and manual glass handling techniques	
- Optical instruments	
Materials selection and quality	0
- Types of glass	
- Handling glass manually and mechanically	
Design, specifications, and construction drawings	0
- Sketching & takeoffs	
- Blueprints	
Glass cutting techniques	0
Stained glass construction techniques and assemblies	0
- Proper rigging and hoisting procedures	
- Re-glazing techniques	
- Installation procedures	
Types of historical and contemporary glass supports and their characteristics	0
- Aluminum fabrication, entrances and hardware, installation of mechanical fasters	
- Wood	
Inspection and supervision of materials, equipment, and works	0
Architectural Stained Glass - Advanced techniques & assembly	0
- Advanced rigging and Hoisting	
Special Topics in Stained Glass	0
- coatings, enamels, and other finishes	
- sealants	
Industry-standard products and procedures	0
Cleaning methods and treatments	0
Repairs, maintenance, conservation, and restoration	0

TOTAL HOURS

GLAZIER RELATED CLASSROOM INSTRUCTION

Note: Due to regional and local code differences and climate conditions, duration of instructional competencies/modules are suggested estimates only.

Introduction to the trade: Architectural Glass	0
Basic Safety (OSHA Based) & First aid	0
History of the use of glass and glass in Historic Architecture - Case Studies	0
Glass as a construction material, types, characteristics, and properties	0
The Glazier's Profession - from Past to Present	0
Introduction to Traditional glass fabrication process	0
Glass and its applications to industrial design	0
The technical Vocabulary of Glassmaking in Spanish and English	0
Glass, types of stained glass, and their applications as traditional architectural elements	0
Construction math	0
- Measurements	
- Basic construction geometry	
- Calculations for materials	
- Estimates	
Deterioration agents and processes on glass and their identification	0
Conditions Assessments	0
Building Archaeology	0
- Basic forensic investigation and conditions assessments	
History and Theory of Historic Preservation	0
Traditional Building Technologies in Puerto Rico and the Spanish Caribbean	0
Project planning	0
Business Administration	0
- Contract documents	

TOTAL HOURS

COURSE 6

ORNAMENTAL PLASTER

1. Course Description

The art of applying plaster for decorative architectural elements, stuccoes, and sculptures is one of the lost traditional construction trades in Puerto Rico. However, it is still present in many historic buildings around the Island. The Ornamental Plaster specialty course offers training through intensive study -theoretical and practical- of the artisan traditions and the conservation-restoration of architectural ornamental plasterwork, its uses, and applications as an architectural and decorative material. Students will gain practical experience through projects and demonstrations in both the field and the Workshop. The course will focus on current and traditional manufacturing, molding and casting methods, mortars and associated materials, repair techniques, treatment and stabilization, installations, coatings, and special finishes and necessary tools. The course will also address the documentation, identification, and analysis of materials, and the comprehension/evaluation of conditions associated with the deterioration of lime, gypsum, and associated materials.

2. Certification as:

3. Term of Apprenticeship

The term of the occupation shall be six (6) months supplemented by the required hours of related technical instruction.

4. Apprentice Wage Schedule and Fringe Benefits

If the program includes wages and benefits for the students all apprentices shall be paid a progressively increasing schedule of wages and fringe benefits based on the progression and development of skills.

6th 1000 hours = 90 percent of journeyworker's rate and fringe benefit payments

5. Schedule of Work Experience (See attached Work Process Schedule)

Apprenticeship Committees may add to the work processes prior to submitting these Standards to the appropriate Registration Official for approval.

6. Schedule of Related Instruction (See attached Related Classroom Instruction Outline)

Instruction can incorporate elements of both electronic media and traditional classroom including online training, distance learning, or independent study of established curriculum.

Curricula modules are based on industry standardized applications of current construction practices. Modules are knowledge and skill based including a system for assessment. The assessment will include task objectives, procedures, review materials, and competency-based performance tests.

The related instruction outline may be modified to meet local needs prior to submitting these Standards to the appropriate Registration Official for approval

PLASTERER WORK PROCESS SCHEDULE

This instruction and experience shall include the following operations, but not necessarily in the listed sequence. Time spent on specific operations need not be continuous.

Proper care and use of all tools of the occupation and safety	0
- Traditional and contemporary tools for plastering and ornamental finishes – Plastering and common tools, browning and finishing machines, etc.	
- Occupational Health and Safety procedures and equipment in the Construction site (OSHA based-practical)	
Mortars	0
- Learning various types and consistencies of traditional mortars according to job specifications and nature of the material to be used	
- Mortar formulations and materials selection	
- Use of trowel in handling and spreading of mortar and proper consistency of mortar	
- Mixing mortars	
Making molds, templates and modeling techniques	0
Types of surfaces and their preparation: Masonry, Wood, laths & others	0
Introduction to ornamental plaster - Basic techniques and application methods	0
- Layout and methodology	
- Applications in interiors and exteriors	
- Application of scratch, brown and finish coats	
- Lining, Dotting, Screeding	
- White Coating	
Specifications and construction drawings for ornamental plasterwork	0
- Sketches	
- Blueprints	
Advanced plastering - techniques, application & installation methods	0
- Sandfinishing and Texture finishing	
- Acoustical plastering	
- Veneers	
Specialized ornamental techniques – special textures, aggregates, and special applications	0
Coatings and other finishes	0
Checking and inspecting finished work	0
- Supervision of site works	
- Construction Inspection and Quality Control	
Industry-standard products and procedures	0
Cleaning methods and treatments repairs	0
Restoration and maintenance	0

TOTAL HOURS

PLASTERER RELATED CLASSROOM INSTRUCTION

Note: Due to regional and local code differences and climate conditions, duration of instructional competencies/modules are suggested estimates only.

OSHA Construction Safety – 30 hours course	0
CPR/First Aid	0
Scaffold Safety Qualification	0
Use of mortars and plaster in Historic Architecture - Case Studies	0
The Plasterer and Mason's Profession - from Past to the Present	0
Mason's terminology in Spanish and English	
Materials and their properties	0
- Lime as a construction material, characteristics, and properties	
- Gypsum as a construction material, characteristics, and properties	
- Portland Cement as a construction material, characteristics, and properties	
Agents and deterioration processes on ornamental plasterwork and their identification	0
Building Archaeology	0
- Basic forensic investigation and conditions assessments	
History and Theory of Historic Preservation	0
Traditional Building Technologies in Puerto Rico and the Spanish Caribbean	0
Conditions Assessment	0
Math for construction	0
- Measurements	
- Calculations for ornamental plastering projects	
- Basic geometry	
- Estimations	
Project planning	0
Business Administration	0
TOTAL HOURS	<hr/>

COURSE 7

SPECIAL ARCHITECTURAL FINISHES

1. Course Description

Architectural finishes are among the most ephemeral and vulnerable of all building materials. They are subject to environmental conditions and frequent taste changes, and as a result, they are often covered or disappear altogether. The Special Architectural Finishes course offers training through the intensive study -theoretical and practical- of the artisan traditions and the conservation-restoration of different architectural finishes, their applications, and architectural and decorative uses. Students will gain practical experience through projects and demonstrations in both field projects and the Workshop. The course will focus on current methods of replicating traditional faux finishes, mural paint, pigments, coatings, additives, associated materials, applications, repair techniques, treatments and stabilization, and the use of traditional and contemporary tools. The course will also address the documentation, identification, and scientific analysis of materials, and the comprehension/evaluation of the conditions associated with the deterioration of architectural finishes in the Caribbean tropics.

2. Certification as:

3. Term of Apprenticeship

The term of the occupation shall be six (6) months with a supplemented by the required hours of related technical instruction.

4. Apprentice Wage Schedule and Fringe Benefits

If the program includes wages and benefits for the students all apprentices shall be paid a progressively increasing schedule of wages and fringe benefits based on the progression and development of skills.

5. Schedule of Work Experience (See attached Work Process Schedule)

Apprenticeship Committees may add to the work processes prior to submitting these Standards to the appropriate Registration Official for approval.

6. Schedule of Related Instruction (See attached Related Classroom Instruction Outline)

Instruction can incorporate elements of both electronic media and traditional classroom including online training, distance learning, or independent study of established curriculum.

Curricula modules are based on industry standardized applications of current construction practices. Modules are knowledge and skill based including a system for assessment. The assessment will include task objectives, procedures, review materials, and competency-

based performance tests.

The related instruction outline may be modified to meet local needs prior to submitting these Standards to the appropriate Registration Official for approval

ARCHITECTURAL COATINGS FINISHER WORK PROCESS SCHEDULE

This instruction and experience shall include the following operations, but not necessarily in the listed sequence. Time spent on specific operations need not be continuous.

Proper care and use of all tools of the occupation and safety	0
- Traditional and contemporary tools for ornamental finishes & wall paintings -power and hand tools including brushes, rollers and trowels, scaffolding, ladder, sprays, etc.	
- Occupational Health and Safety procedures and equipment in the Construction site (OSHA based-practical)	
Paints	0
- Types of pigments, binders and paints according to job specifications and nature of the material to be used	
Solvents	
- Paint formulations and materials selection	
- Mixing paints	
- Types of application	
Architectural Finishes I – Basic techniques	0
- Laying out work from plans, blueprints and construction specifications	
- Materials selection	
- Mixes, molds and preparation processes	
- Types of paint applications	
- Mural painting	
- Types of substrates and their proper preparation	
- Clean up and Touch-up	
Foux finishes	0
- Gilding, characteristics, properties, and applications	
- Sgraffito, characteristics, properties, and applications	
- Marbling, characteristics, properties, and applications	
- Wood graining, characteristics, properties, and applications	
- Parchment finishes, characteristics, properties, and applications	
Wallpaper, characteristics, properties, and applications	0
Architectural Finishes II – Advanced techniques and application methods	0
- Application of materials	
Industry-standard products and procedures	
Treatments: restoring and conserving Finishes	0
- Repair & Restoration	
- Maintenance	
- Replications	
- Restoration and cleaning treatments on Mural paints	
Checking and inspecting finished work	0
- Supervision of site works	
- Construction Inspection and Quality Control	

TOTAL HOURS

ARCHITECTURAL COATINGS FINISHER CLASSROOM INSTRUCTION

Note: Due to regional and local code differences and climate conditions, duration of instructional competencies/modules are suggested estimates only.

Introduction to Ornamental Finishes in Architecture - Overview	0
Basic Safety (OSHA Based) & First aid	0
Types of Finishes in Historic Architecture - Case Studies	0
Theory of Color	0
Terminology for traditional architectural finishes in Spanish and English	0
Paints - Materials and their properties	0
- Types of pigments, characteristics and properties	
- Organic and inorganic media/binders, characteristics and properties	
- Organic and inorganic coatings, characteristics and properties	
Agents and processes of deterioration on ornamental finishes and their identification	0
Conditions Assessments	0
Building Archaeology	0
- Basic & intermediate forensic investigation	
History and Theory of Historic Preservation	0
Traditional Building Technologies in Puerto Rico and the Spanish Caribbean	0
Specifications and construction drawings for Architectural Finishes	0
- Introduction to Blueprints	
- Skecthing	
Introduction to Construction Math	0
- Construction geometry	
- Estimating materials	
Project planning	0
Business Administration	0
TOTAL HOURS	<hr/>



Short Term Radon Sampling Report

Project:

Casa Borelli located at #3 Barbosa Street
in Coamo, Puerto Rico 00769

Client:

Mr. Eddie Torres Vázquez
Manager
Fundación Biblioteca Rafael Hernandez Colón

ZEM-24251

July 2024

Prepared By:

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Appendix A: Certifications, Licenses, and Accreditations

Appendix B: Project Photographs

Appendix C: Laboratory Results

Section 1: Executive Summary

1.1 Introduction

A Radon Gas Short Term Test was conducted between July 12, 2024 and July 15, 2024 at Casa Borelli located at #3 Barbosa Street in Coamo, Puerto Rico 00769. Sampling and results included in this report comprise selective representative areas of the facilities, in addition to duplicates and blanks for quality purposes. The property is a Historic Property with one level of approximately 1,600 ft² and a semi-basement of approximately 1,200ft² per information provided by the Client.

The purpose of conducting the radon sampling was to identify if the aforementioned location has elevated radon concentrations and to determine if radon mitigation is necessary in order to protect current or future occupants. Radon is a colorless and odorless naturally-occurring radioactive gas, identified as a human carcinogen. Prolonged exposure to elevated radon concentrations causes an increased risk of lung cancer. Average indoor radon concentration for America's homes is about 1.3 pCi/L and the average concentration of radon in outdoor air is 0.4 pCi/L or 1/10th of EPA's 4 pCi/L action level. The only way to determine whether elevated concentrations of radon are present in any building or structure is to test it. Short-term measurements can be simple, produce results quickly, and allow the Owners to make decisions about radon reduction that are cost-effective and protective of human health. Puerto Rico State Radon Office is under the Puerto Rico Department of Health, Radiological Health Division

The survey was performed in accordance with American Association of Radon Scientists and Technologists (AARST) Consortium on National Radon Standards for conducting measurements of radon and radon decay products ANSI/AARST MAH 2023. Radon Short Term test was performed on the facilities for a period of no less than 48 hours. Short-Term Pro Chek Foil Bag Test Kit for radon in air were used (NRPP Device code 8201), and were sent for analysis to Air Chek Labs in North Carolina (NRPP Id # 101138AL; NRSB Pro Chek 10334; NYS DOH ELAP Id No: 11441).

Results revealed Radon in Air concentrations of <0.3 pCi/L (picocuries per liter) in all samples collected, therefore radon concentration in air revealed levels below the EPA action level of 4.0 pCi/L.

Section 2: Radon Sampling Report

2.1 Overview of the Evaluation

The survey was performed in accordance with the American Association of Radon Scientists and Technologists Consortium on National Radon Standards - Radon Short Test Protocol. As stated on the referred standard, a short-term test should be conducted for no less than two days and up to 90 days, exposure time will vary depending on the sampling device and building conditions. Short-Term Pro Chek Foil Bag Test Kit for radon in air were used (NRPP Device code 8201), which requires a minimum exposure of at least 48 hours and no longer than 96 hours. The devices were sent for analysis to Air Chek Labs in North Carolina. Air Chek Labs are certified by the National Radon Proficiency Program (NRPP Id # 101138AL), the National Radon Safety Board (NRSB Pro Chek 10334) and accredited by the National Environmental Laboratory Accreditation Program (NYS DOH ELAP Id No: 11441).

2.2 Sampling Procedures

Short-term test sampling for indoor Radon gas level was conducted at Casa Borelli located at #3 Barbosa Street in Coamo, Puerto Rico 00769.

One device was deployed at the semi-basement of approximately 1,200 ft². In addition to one duplicate sample and one blank sample for a total of three devices.

Each Pro Chek Foil Bag Test Kit for radon in air was identified by their specific test kit number. The devices were located in an area where the detectors would not be disturbed during the measurement period of at least 48 hours. Each measurement location was selected following the ANSI/AARST established protocols.

Each device was located at a minimum of 3 feet from exterior doors and windows or other potential openings to the outdoors; at least 20 inches (1.6 ft) from the floor; no less than 1 foot below the ceiling; at least 4 inches from other objects (less than 4 inches is permitted for detectors that are not affected by near proximity to other objects); and no more than 8 inches from each other when duplicates.

As stated in the test kit manual, the devices were hanged within the normal breathing zone (2 to 6 feet from the floor). The devices were carefully packed and sealed in plastic bags after at least 48 hours of exposure (for example of sampling placement refer to Appendix B: Project Photographs).

The samples were sent to Air Chek Labs in North Carolina. Air Chek Labs are certified by the National Radon Proficiency Program (NRPP Id # 101138AL), the National Radon Safety Board (NRSB Pro Chek 10334) and accredited by the National Environmental Laboratory Accreditation Program (NYS DOH ELAP Id No: 11441). The chain of custody for test devices was submitted to the laboratory electronically and is available upon request.

2.3 Results Presentation and Recommendations

Radon concentration in air revealed levels below the EPA action level of 4.0 pCi/L in all sampled locations. All devices revealed concentrations of < 0.3 pCi/L. One (1) blank sample was collected, which revealed concentrations below the minimum detectable concentration of <0.3 pCi/L. Valid measurements were achieved at all test locations.

Responsible care requires repeating initial testing procedures at least every 5 years and in conjunction with any sale of a building. Radon testing should also be conducted when any of the following circumstances occur:

- a new addition is constructed or alterations for building reconfiguration or rehabilitation occur;
- a ground contact area not previously tested is occupied, or a building is newly occupied;
- significant openings to soil occur due to:
 - groundwater or slab surface water control systems that are altered or added (e.g., sumps, perimeter drain tile, shower/tub retrofits, etc.) or,
 - natural settlement causing major cracks to develop;
- earthquakes or construction blasting, fracking or formation of sink holes nearby; or
- a mitigation system is altered, modified or repaired.

2.4 Conditions and Limitations—Disclaimer

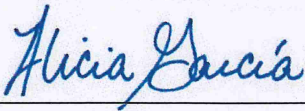
Zimmetry Environmental Management Corp. has performed this Radon gas short-term test following the client's requirements. ZEM conducted the test on a thorough and professional manner consistent with commonly accepted industry standards. The Preparer cannot guarantee and does not warrant that this evaluation has identified all adverse environmental factors and/or conditions affecting this property on the date of the evaluation. Radon levels can vary greatly from building to building on the same area.

In certain instances, radon level variations may occur when measurements are performed in different seasons or under different weather conditions, initial and follow-up tests may vary by a considerable amount. Radon levels can vary significantly between seasons, so different values are to be expected. ZEM had no control over the subject building or sampling devices during the test device exposure period, the client was informed about environmental conditions required during testing.

The results reported and conclusions reached by the Preparer are solely for the benefit of the Owner and occupants. The results and opinions in this report are based solely on the conditions found at the property on the date of the evaluation and are valid only on that date. The Preparer assumes no obligation to advise the client of any changes in any real or potential radon hazards at this structure beyond the date of the property evaluation. It is the Clients responsibility to identify and comply with local statutes regarding obligations that may exist for disclosing test results to occupants and affected third parties.

2.5 Radon Sampling Report Certification

Zimmetry Environmental Management Corp. has performed this Radon gas short-term test in a thorough and professional manner consistent with commonly accepted industry standards. The inspection was conducted between July 12, 2024 and July 15, 2024 by Radon Measurement Professional and Industrial Hygienist, Alicia García, ID 112001 RT, qualified by experience, education and training in radon measurement techniques.



Alicia García, MS
Radon Measurement Professional, ID 112001 RT
Industrial Hygienist

Section 3: Appendices

Appendix A: Certifications, Licenses, and Accreditations

Appendix B: Project Photographs

Appendix C: Laboratory Results

APPENDIX A

Certifications, Licenses and Accreditations

National Radon Proficiency Program



Alicia Garcia

Radon Measurement Professional


ID Number: #112001-RMP Valid 2023-03-31 - 2025-03-31

To confirm validity of this certification call 828-348-0185. Verification of adherence to state and local regulations is advised. See reverse for specific certification designations.



APPENDIX B

Project Photographs

Photo No. 1544	Date: 7/12/2024	
<p>Description:</p> <p>Short-Term Pro Chek Foil Bag Test Kit sample placement.</p>		

Photos are for reference only and may not include all sampling locations.

APPENDIX C

Laboratory Results

P9297 / ALICIA GARCIA / ZIMMETRY ENVIRONMENTAL MGMT CORP

Kit Number	Start Date	Start Time	End Date	End Time	Temp.	Facility	Building	Room	Project ID	Floor	Result
7500615	2024-07-12	10:00 am	2024-07-15	10:00 am	86	CASA BORELLI		OPEN AREA	ZEM-24251	0	< 0.3
7500618	2024-07-12	10:00 am	2024-07-15	10:00 am	86	CASA BORELLI		OPEN AREA	ZEM-24251	0	< 0.3
7500619	2024-07-12	10:00 am	2024-07-15	10:00 am	86	CASA BORELLI		BLANK	ZEM-24251	0	< 0.3

Air Chek 1936 Butler Bridge Rd, Mills River, NC 28759-3892 Phone: (828) 684-0893 Fax: (828) 684-8498

CaseID	Registry_ID	PGM_SYS_ID	Name	Location	Municipio	Latitude	Longitude	Type	Report	Distance	Impact
PR-WFT-0007ID	110014362144	PRN008009706	NEW YORK DRY CLEANER	19 JOSE I QUINTO	COAMO	18.080212	-66.355968	RCRA	https://echo.epa.gov/detailed-facility-report?fid=110014362144&ej_type=sup&ej_compare=US	316.4358049	No
PR-WFT-0007ID	110044306453	PRR000023556	MUNICIPIO DE COAMO TEATRO HOLLYWOOD	6 BALDORIO TY ST	COAMO	18.08076	-66.35742	RCRA	https://echo.epa.gov/detailed-facility-report?fid=110044306453&ej_type=sup&ej_compare=US	479.5492394	No
PR-WFT-0007ID	110006434055	PRR000010587	FRANCISCO SANCHEZ SS	JOSE I QUINTON 135	COAMO	18.080163	-66.35527	RCRA	https://echo.epa.gov/detailed-facility-report?fid=110006434055&ej_type=sup&ej_compare=US	519.2223337	No
PR-WFT-0007ID	110044306444	PRR000023549	MUNICIPIO DE COAMO ESCUELA DE BELLAS ARTES	73 JOSE I QUINTON ST	COAMO	18.07959	-66.36083	RCRA	https://echo.epa.gov/detailed-facility-report?fid=110044306444&ej_type=sup&ej_compare=US	1445.630177	No
PR-WFT-0007ID	110042424132	PRR000023317	TOTAL PETROLEUM PUERTO RICO CORP - SERVICE STATION 215642	95 CALLE JOSE QUINTON	COAMO	18.07873	-66.36186	RCRA	https://echo.epa.gov/detailed-facility-report?fid=110042424132&ej_type=sup&ej_compare=US	1833.931443	No
PR-WFT-0007ID	110043650607	PRR000023822	PAINT PRO	132 JOSE I QUINTON ST	COAMO	18.07631	-66.36206	RCRA	https://echo.epa.gov/detailed-facility-report?fid=110043650607&ej_type=sup&ej_compare=US	2231.362093	No
PR-WFT-0007ID	110070595515	PRR000026518	PAINT PRO INC	CALLE JOSE A QUINTON #132	COAMO	18.076311	-66.362088	RCRA	https://echo.epa.gov/detailed-facility-report?fid=110070595515&ej_type=sup&ej_compare=US	2239.330258	No
PR-WFT-0007ID	110007819156	PRR000005645	SHELL CO PR SS 3646 COOP LA CANDELARIA	RD PR 14 KM 32.5	COAMO	18.073724	-66.361871	RCRA	https://echo.epa.gov/detailed-facility-report?fid=110007819156&ej_type=sup&ej_compare=US	2810.23064	No
PR-WFT-0007ID	110009700314	PRD980534614	PRASA COAMO FILTER PLANT	CARR 155 KM 1.1	COAMO	18.085149	-66.362896	RCRA	https://echo.epa.gov/detailed-facility-report?fid=110009700314&ej_type=sup&ej_compare=US	2942.61191	No
PR-WFT-0007ID	110009700314	PRD022764	PRASA COAMO WTP	ROAD 155 HM 1	COAMO	18.085149	-66.362896	NPDES	https://echo.epa.gov/detailed-facility-report?fid=110009700314&ej_type=sup&ej_compare=US	2942.61191	No