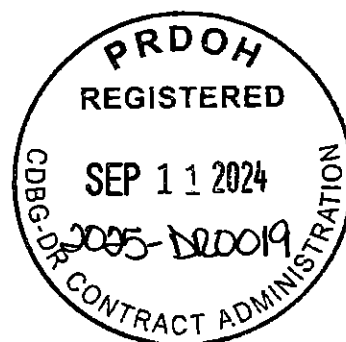




GOVERNMENT OF PUERTO RICO
DEPARTMENT OF HOUSING

**COMMUNITY DEVELOPMENT BLOCK GRANT – DISASTER RECOVERY (CDBG-DR) /
MITIGATION (CDBG-MIT)**

**AGREEMENT FOR
GEO/RAD SYSTEM PLANNING VENDOR SERVICES
BETWEEN THE
PUERTO RICO DEPARTMENT OF HOUSING
AND
ICF INCORPORATED, L.L.C.**



This **AGREEMENT FOR GEO/RAD SYSTEM PLANNING VENDOR SERVICES** (**Agreement** or **Contract**) is entered into in San Juan, Puerto Rico, this 10 of September, 2024, by and between the **PUERTO RICO DEPARTMENT OF HOUSING (PRDOH)**, a public agency created under Act No. 97 of June 10, 1972, as amended, 3 LPRA § 441, et seq., known as the "Organic Act of Department of Housing" with principal offices at 606 Barbosa Avenue, San Juan, Puerto Rico, herein represented by William O. Rodríguez Rodríguez, attorney, of legal age, single, and resident of Guaynabo, Puerto Rico, in his capacity as Secretary; and **ICF INCORPORATED, L.L.C. (CONTRACTOR)**, with principal offices in Reston, Virginia, USA, duly authorized to do business in Puerto Rico and existing in good standing, herein represented by Dorothy A. Shields, in her capacity as Senior Director- Contracts, of legal age, single, and resident of Fairfax, Virginia, USA, duly authorized by Corporate Resolution issued on February 12, 2024.

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WHEREAS, on September 2017, Hurricanes Irma and María made landfall in Puerto Rico causing catastrophic island-wide damage, knocking out power, water, and telecommunications for the entire island and its island municipalities. Hurricane María caused major structure and infrastructure damage to family homes, businesses and government facilities triggering the displacement of thousands of residents of the Island from their homes and jobs.

WHEREAS, under the Continuing Appropriations Act, 2018 and Supplemental Appropriations for Disaster Relief Requirements Act, 2017, signed into law on September 8, 2017 (Pub. L. 115-56), \$1.5 billion were allocated by the U.S. Department of Housing and Urban Development (**HUD**) for disaster recovery assistance to the Government of Puerto Rico under the Community Development Block Grant – Disaster Recovery (**CDBG-DR**) Program. These funds are intended to provide financial assistance to address unmet needs that arise and that are not covered by other sources of financial aid.

WHEREAS, on February 9, 2018, a Notice was published in the Federal Register, Vol. 83, No. 28 (83 FR 5844), that allocated \$1.5 billion for disaster recovery assistance to the Government of Puerto Rico.

WHEREAS, under the Bipartisan Budget Act of 2018, signed into law on February 9, 2018 (Pub. L. 115-123), an additional \$8.22 billion were allocated by HUD for disaster recovery assistance to the Government of Puerto Rico under CDBG-DR.

WHEREAS, pursuant to a letter dated February 23, 2018, sent by the former Governor of Puerto Rico to the Secretary of HUD, the PRDOH is the governmental agency designated as the grantee of the CDBG-DR funds allocated to the Government of Puerto Rico.

WHEREAS, on August 14, 2018, a Notice was published in the Federal Register Vol. 83, No. 157, (83 FR 40314) that made an additional allocation to Puerto Rico of \$8.22 billion for recovery. With these allocations of funding, the PRDOH aims to lead a transparent,

comprehensive recovery to benefit the residents of Puerto Rico. PRDOH holds accountability and is committed to the responsible, efficient, and transparent administration of CDBG-DR grant funding.

WHEREAS, On September 20, 2018, the Governor of Puerto Rico and the Secretary of HUD signed the Grant Agreement.

WHEREAS, under the Further Additional Supplemental Appropriations Act for Disaster Relief Requirements Act, 2018, (Division B, Subdivision 1 of the Bipartisan Budget Act of 2018, Pub. L. 115-123, approved February 9, 2018), \$8.285 billion were allocated by HUD for mitigation activities and assistance to the Government of Puerto Rico under the Community Development Block Grant – Mitigation (**CDBG-MIT**) Program. These funds are intended to provide financial assistance in areas impacted by recent disasters. Moreover, CDBG-MIT funds represent a unique and significant opportunity for Puerto Rico to carry out strategic and high-impact activities to mitigate disaster risks and reduce future losses.

WHEREAS, on August 30, 2019, a Notice was published in the Federal Register, Vol. 84, No. 169, (84 FR 45838), which described the grant requirements and procedures applicable to future allocations of CDBG-MIT funds to the Government of Puerto Rico.

WHEREAS, on May 12, 2021, the PRDOH Secretary and the Secretary of HUD signed Grant Agreement Number B-18-DP-72-0002; allowing PRDOH access to \$8,285,284,000 in CDBG-MIT funding, obligated under Pub. L. 115-123, as amended.

WHEREAS, the PRDOH is the government agency designated as the grantee of the CDBG-MIT funds allocated to the Government of Puerto Rico.

WHEREAS, the PRDOH is interested in contracting a System Planning Vendor Services firm to assist PRDOH with the establishment of the Puerto Rico Geospatial Framework Program (**GeoFrame**) of the CDBG-DR and the Risk and Asset Data (**RAD**) Collection Program of the CDBG-MIT. This firm will support PRDOH's objectives of ensuring compliance with all CDBG-DR/MIT, HUD, and applicable federal and local requirements, rules, and regulations, as well as in PRDOH's objectives of the Action Plan, as amended, and adequately coordinating and monitoring all CDBG-DR/MIT related activities.

WHEREAS, on April 10, 2023, the PRDOH issued a Request for Proposal "CDBG-DRMIT-RFP-2023-02" with CDBG-DR/MITS funds. This request was placed through the "Registro Unico de Subastas del Gobierno" (**RUS**, for its Spanish acronym) and the CDBG-DR Program website. Through this procurement process, PRDOH received five (5) proposals. The proposals were evaluated by an Evaluation Committee appointed pursuant to Administrative Order No. 23-37 dated June 26, 2023. The Evaluation committee evaluated the Proposals based on the criteria stated in the RFP.

WHEREAS, on June 23, 2023, the CONTRACTOR submitted a proposal, which fully complied with the requirements set forth by the PRDOH.

WHEREAS, the PRDOH desires to enter into an Agreement with **ICF Incorporated, L.L.C.** to secure its services and accepts the CONTRACTOR's Proposal and reasonable costs, and the CONTRACTOR by its acceptance of the terms and conditions of this Agreement is ready, willing, and able to provide the requested services contemplated under this Agreement.

NOW, THEREFORE, in consideration of the mutual promises and the terms and conditions set forth herein, the PRDOH and the CONTRACTOR agree as follows:

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I. TYPE OF CONTRACT

Contract Type: This is an hourly and unit-price contract. Under this Agreement, the CONTRACTOR shall submit monthly invoices to the PRDOH based on **Attachment C** (Compensation Schedule) and as the services are rendered. Any and all changes and/or modifications to this Agreement shall be in writing and must be signed by both Parties.

Attachments Incorporated: The following attachments are incorporated into this Agreement by reference and are hereby made part of this Agreement:

Attachment A	Proposal
Attachment B	Scope of Services
Attachment C	Compensation Schedule
Attachment D	Performance Requirements
Attachment E	Insurance Requirements
Attachment F	HUD General Provisions
Attachment G	Contractor Certification Requirement
Attachment H	Non-Conflict of Interest Certification

All Attachments hereto are fully incorporated herewith such that the terms and conditions of the Attachments shall be as binding as any terms and conditions of this executed written Agreement. The Agreement shall prevail if any inconsistency appears between the Attachments and this Agreement.

II. TERM OF AGREEMENT

- A.** This Agreement shall be in effect and enforceable between the Parties from the date of its execution. The Term of this Agreement will be for a performance period of **thirty-six (36) months**, ending on September, 09, 20²⁷.
- B. Contract Extensions:** PRDOH may, at its sole discretion, extend the Agreement's term for two (2) additional extensions of twelve (12) months, upon mutual written agreement of the Parties.
- C.** The term of this Agreement shall not exceed the lifetime of the initial Grant Agreement between PRDOH and HUD unless the term of the initial Grant Agreement is extended by HUD, in which case the Agreement nor extension shall not exceed said extended period.

III. SCOPE OF SERVICES

The CONTRACTOR will provide the services described in **Attachment B** (Scope of Services) of the Agreement. The Parties agree that the CONTRACTOR shall furnish all permits, consents, licenses, equipment, software, and supplies necessary to perform the Services, at the CONTRACTOR's sole cost.

IV. COMPENSATION AND PAYMENT

- A.** The PRDOH agrees to pay the CONTRACTOR for allowable Services rendered under this Agreement in accordance with the rates and amounts described in **Attachment C** (Compensation Schedule) of this Agreement.

- B.** The PRDOH will pay the CONTRACTOR, for allowable Services performed during the term of this Agreement, a maximum amount not to exceed **SIXTY-NINE MILLION EIGHT HUNDRED EIGHTY-ONE THOUSAND SIX HUNDRED NINETY-SIX DOLLARS AND SIXTY-THREE CENTS (\$69,881,696.63)**; Account Number: **mitp01rad-doh-na 6090-01-000; r01p03api-pba-na 6090-01-000; r02p03api-pba-na 6090-01-000**.
- C.** Such payment shall be compensation for all allowable Services required, performed, and accepted under this Agreement included in **Attachment B** (Scope of Services), **Attachment C** (Compensation Schedule), and **Attachment D** (Performance Requirements).
- D.** Any additional funds to complete the Services requested by the PRDOH to the CONTRACTOR will be subject to evaluation before acceptance as well as funds availability and will require a written amendment to this Agreement signed by both Parties.
- E.** The CONTRACTOR shall submit an invoice to PRDOH on a monthly basis. Said invoice must be submitted including all required invoice supporting documents, including but not limited to monthly reports, timesheets, invoice and photo evidence, expense plan and/or work projections. If PRDOH determines that the submitted invoice and supporting documents are acceptable, then the invoice will be approved for payment.
- F.** The Services rendered under the Agreement, shall be payable within **forty-five (45) business days** from the date the invoice is received and approved by a PRDOH representative for payment. If PRDOH raises any objections, PRDOH will return the invoice for corrections and the CONTRACTOR shall modify the invoice and return it within **five (5) business days**. Once the CONTRACTOR returns the modified invoice, the PRDOH shall resume and conclude the payment process within the next **forty-five (45) business days**, counted from receiving the duly modified invoice and approved by a PRDOH representative for payment.
- G.** An authorized representative of the PRDOH will review each invoice and, if adequate, will approve and process its payment. Payments to the CONTRACTOR shall be made by electronic funds transfer (**EFT**). PRDOH reserves the right to conduct any audits it deems necessary. The CONTRACTOR agrees to cooperate fully with any such audit or audits which includes, but is not limited to, after Agreement's expiration or termination. The CONTRACTOR acknowledges and accepts that they will comply with this cooperative action in accordance with CDBG-DR/MIT policies, guidelines, rules and regulations, which are herein included and made an integral part of this Agreement, as they may be updated time to time, as applicable.
- H.** While providing the Services under this Agreement, the CONTRACTOR must adhere to applicable requirements of the CDBG-DR/MIT grant. If the CONTRACTOR performs ineligible activities under the CDBG-DR/MIT grant or program, the CONTRACTOR cannot include them in the invoice for payment to the CONTRACTOR.
- I.** CONTRACTOR shall be liable to the PRDOH for any costs disallowed pursuant to financial and/or compliance audit(s) of funds received under this Agreement. CONTRACTOR shall reimburse such disallowed costs from funds other than those CONTRACTOR received under this Agreement. Disallowed costs refer to expenses that are not permitted or accepted under CDBG-DR/MIT guidelines, regulations, or agreements.

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- J. The CONTRACTOR acknowledges and agrees to repay any CDBG-DR/MIT funds used for ineligible costs. As per, CDBG-DR Recapture of Funds Policy, as found in the CDBG-DR Website (<https://recuperacion.pr.gov/welcome/index.html>), which are herein included and made an integral part of this Agreement, as they may be updated from time to time, and any local or federal regulation, as applicable.
- K. In order for the CONTRACTOR to receive payment for any work performed hereunder, the following certification must be included in each application for payment or invoice submitted to the PRDOH for payment:

"UNDER PENALTY OF ABSOLUTE NULLITY, I CERTIFY THAT NO PUBLIC OFFICIAL OF THE GOVERNMENT IS A PARTY TO OR HAS AN INTEREST IN THE PROFITS OR BENEFITS OF THE CONTRACT SUBJECT OF THIS INVOICE, AND IF THEY ARE PARTIES TO OR HAVE AN INTEREST IN THE PROFITS OR BENEFITS OF THE CONTRACT, A PRIOR WAIVER HAS BEEN OBTAINED. THE ONLY CONSIDERATION FOR SUPPLYING THE GOODS OR SERVICES UNDER THE CONTRACT HAS BEEN THE PAYMENT AGREED WITH THE AUTHORIZED REPRESENTATIVE OF THE GOVERNMENT. THE AMOUNT OF THE INVOICE IS FAIR AND CORRECT. THE WORK HAS BEEN PERFORMED, THE PRODUCTS HAVE BEEN DELIVERED, AND THE SERVICES HAVE BEEN PROVIDED, AND NO PAYMENT HAS BEEN RECEIVED."

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V. REIMBURSABLE EXPENSES

The PRDOH will not reimburse any costs incurred by the CONTRACTOR not included in the approved Proposal or in an executed written amendment.

VI. ADDITIONAL SERVICES

Should additional services be needed by the PRDOH, such additional services shall be agreed upon by the Parties in a written document signed by both Parties, prior to the issuance of a notice to proceed with the performance of such additional services.

VII. OWNERSHIP AND USE OF DOCUMENTS

- A. With the exception of the CONTRACTOR's working papers, pre-existing software and pre-existing intellectual property developed or created with no connection to the Scope of Service and before the execution of this Agreement the CONTRACTOR acknowledges the PRDOH's ownership of all information drafts, documents, reports, papers, and other materials developed and prepared by the CONTRACTOR, its agents or representatives, for purposes of performing key obligations hereunder. In the event of any termination, which includes but is not limited to closeout process, the CONTRACTOR shall deliver such information, drafts, reports, papers and other materials to the PRDOH, in document form or as computer program data, and the CONTRACTOR recognizes the PRDOH's right to request such documentation or computer program data. If the CONTRACTOR fails to deliver said information, the PRDOH may seek a judicial order to enforce its rights.
- B. Proof of expenditures incurred by the CONTRACTOR on behalf of PRDOH must be made available to PRDOH. The CONTRACTOR agrees to maintain accurate records and files of all contract documents, correspondence, book estimates, bills, and other information related to the CONTRACTOR account. These documents shall be open for the PRDOH examination at all reasonable times during the term of this Agreement, and up to **five (5) years** from the closeout of the grant to the state concludes, or the period required by other local applicable laws and regulations.

VIII. WORK FOR HIRE

The CONTRACTOR expressly acknowledges and agrees that all proprietary materials prepared under this Agreement shall be considered "Work Made for Hire" as defined under the Copyright Act, as amended, 17 U.S.C. § 10, and must be the exclusive property of PRDOH. These materials shall include, but shall not be limited to, any and all deliverables resulting from the services or contemplated by the Agreement, all tangible results and proceeds of the Services, works in progress, records, diagrams, notes, drawings, specifications, schematics, documents, designs, improvements, inventions, discoveries, developments, trademarks, trade secrets, customer lists, codes, computer programs, databases, software, programs, middleware, applications, and solutions conceived, created, or discovered by the CONTRACTOR, whether independently or collaboratively, developed and resulting from the performance of services under this Agreement, which includes any CONTRACTOR's previous intellectual property which suffered derivatives, modifications, enhancements or improvements to comply with this Agreement and therefore, became PRDOH's intellectual property. These materials will encompass anything that may and/or has circumstantial, indirect, or direct connection with the Agreement and was developed specifically for this Agreement. However, this does not include Contractor's existing software and intellectual property but, will include any derivatives, modifications, enhancements or improvements made and/or generated to them under this Agreement.

The CONTRACTOR commits to exercising the standard of care ordinarily exercised by members of CONTRACTOR'S profession providing similar services in the same locality that a reasonably prudent person would have exercised in a similar situation, diligently safeguarding all proprietary materials, and indemnifying PRDOH for any fault or negligence on its part. Additionally, the CONTRACTOR pledges to cooperate with PRDOH in any claim they may have against a third party for the use of any proprietary materials.

The CONTRACTOR agrees that, under no circumstances, if the Images contain sensitive or confidential information, they shall not use these Images in their portfolio or for any other purpose that may compromise the confidentiality of the information. Images shall include, but shall not be limited to, any and all deliverables resulting from the Services described in **Attachment B** of this Agreement. The CONTRACTOR acknowledges and respects the need to maintain the confidentiality of such content and refrain from using it in any manner that could disclose or compromise this confidentiality.

IX. DOCUMENTATION AND RECORDKEEPING

- A. Records to be Maintained:** The CONTRACTOR shall maintain records of the state and units of general local government, including supporting documentation, which must be retained for **five (5) years** from the closeout of the grant to the state concludes, or the period required by other local applicable laws and regulations, whichever is greater. Such records include but are not limited to: Records providing a full description of each activity undertaken; Records demonstrating that each activity undertaken meets one of the National Objectives of the CDBG-DR/MIT program; Records required to determine the eligibility of activities; Records required to document the acquisition, improvement, use or disposition of real property acquired or improved with CDBG-DR/MIT assistance; Records documenting compliance with the fair housing and equal opportunity requirements of the CDBG-DR/MIT program regulations; Financial records as required by 24 C.F.R. § 570.506, and 2 C.F.R. part 200, including records necessary to demonstrate compliance with all applicable procurement requirements; and other records necessary to document compliance

with this Agreement, any other applicable Federal statutes and regulations, and the terms and conditions of PRDOH's Federal award.

- B. Access to Records:** The CONTRACTOR shall permit the PRDOH and auditors to have access to the CONTRACTOR's records and financial statements that pertain to this Agreement as necessary for the PRDOH to meet its audit requirements under the Federal award.
- C. Record Retention and Transmission of Records to the PRDOH:** Prior to closeout of this Agreement, the CONTRACTOR must transmit to the PRDOH records sufficient for the PRDOH to demonstrate and satisfy that all costs under this Agreement met the requirements of the Federal award.
- D. CONTRACTOR's Data and Privileged Information:** The CONTRACTOR is required to maintain confidential data demonstrating client eligibility for activities provided under this Agreement. Such data may include, but not be limited to, client name, address, income level or other basis for determining eligibility, and description of activities provided.
- E. PII Policy:** The CONTRACTOR must comply with the PRDOH CDBG-DR/MIT Personal Identifiable Information Policy, as found in the CDBG-DR/MIT Website (<https://recuperacion.pr.gov/welcome/index.html>), which is herein included and made an integral part of this Agreement, as it may be updated from time to time.

X. ACCESS TO RECORDS

- A.** The CONTRACTOR agrees to provide the Government of Puerto Rico, PRDOH, HUD's Secretary, the Comptroller General of the United States, or any of their authorized representative's access to any books, documents, papers, and records of the CONTRACTOR which are directly pertinent to this Agreement for the purposes of making audits, examinations, excerpts, and transcriptions. The access includes, but is not limited to, as contemplated in section "VIII. Work for Hire".
- B.** The CONTRACTOR agrees to permit any of the foregoing Parties to reproduce by any means whatsoever or to copy excerpts and transcriptions as reasonably needed.

XI. NON-DISCLOSURE AND CONFIDENTIALITY

- A. Confidential Information; Definition:** The term Confidential Information as used throughout this Section, means any information concerning PRDOH operations and that of its CONTRACTOR (e.g., the projects, computer processing systems, object and source codes and other PRDOH business and financial affairs). The term Confidential Information shall also be deemed to include all notes, analysis, compilation, studies, and interpretation or other documents prepared by CONTRACTOR, its agents, or representatives, in connection with PRDOH operations.
- B. Non-Disclosure:** CONTRACTOR agrees to take all reasonable steps or measures to keep confidential all Confidential Information and will not, at any time, present or future, without PRDOH express written authorization, signed by the Secretary of the PRDOH, use or sell, market or disclose any Confidential Information to any third party, contractor, corporation, or association for any purpose whatsoever. CONTRACTOR further agrees that, except as they relate to the normal course of the service, the CONTRACTOR will not make copies of the Confidential Information except upon PRDOH's express written authorization, signed by an authorized representative of PRDOH, and will not remove any copy or sample of Confidential Information without

prior signed written authorization from PRDOH. CONTRACTOR retains the right to control its work papers subject to these confidentiality provisions.

- C. Return Documents:** Upon receipt of written request from the PRDOH, CONTRACTOR will return to PRDOH all copies or samples of Confidential Information which, at the time of the notice are in CONTRACTOR's or its agent's possession. CONTRACTOR reserves the right to retain a set of its work papers.
- D. Equitable Relief:** The CONTRACTOR acknowledges and agrees that a breach of the provision of subparagraph B and C of this Section will cause PRDOH to suffer irreparable damage that could not be remedied or compensated adequately only by mere monetary retribution. The CONTRACTOR further agrees that money damages may not be a sufficient remedy for any breach of this Section. Accordingly, the CONTRACTOR agrees that PRDOH shall have the right to seek injunctive relief and the specific performance of the provisions of this Section to enjoin a breach or attempted breach of the provision hereof, such right being in addition to any and all other rights and remedies that are available to PRDOH by law, equity, or otherwise.

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XII. WARRANTY & PERFORMANCE WARRANTY

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A. Warranty

In accordance with **Attachment B** (Scope of Services), Section 10, it is the CONTRACTOR's obligation to provide maintenance for **three (3) years on-site next business day** guarantee period for all hardware and software. CONTRACTOR acknowledges and accepts that maintenance includes, but is not limited to, proceeding with the maintenance of the item based on the standards established in the profession of the contracted service.

The period of **three (3) years** commences upon the execution of this Agreement and shall remain enforceable during the term of this Agreement. In the event that the Parties agree in writing to extend this Agreement, the **three (3) years** period will also be extended for the duration of the extension stated in said amendment, and thereafter.

Likewise, in accordance with **Attachment B** (Scope of Services), Section 10, it is CONTRACTOR's obligation to replace all defective items within **three (3) days** at no additional cost to PRDOH.

The CONTRACTOR acknowledges and accepts that all software and hardware components delivered under this Agreement will be free from defects in materials and workmanship and will function as specified in this Agreement, including, but not limited to, **Attachment B** (Scope of Services), Program Guidelines and Action Plan, as applicable. As an exception, once the software and hardware have been handed off to PRDOH, the CONTRACTOR's obligation to provide maintenance shall not apply if any software or hardware components have been affected by actions performed by individuals or teams not affiliated with the CONTRACTOR. The handoff process must comply with the requirements outlined in this Agreement and must be formally certified in writing by PRDOH. Failure to comply with the process will automatically void this exception, without any additional processes and/or requirements.

CONTRACTOR acknowledges and accepts that defective items include, but are not limited to, all deliverables that do not comply with the **Attachment B** (Scope of Services), this Agreement, and its Attachments.

This clause "**A. Warranty**", does not render unenforceable any provision included in this Agreement and Attachments, nor does it limit PRDOH's rights.

B. Performance Warranty

CONTRACTOR acknowledges and accepts to comply with **Attachment D**

(Performance Requirements), which includes, but is not limited to, the following:

- (a) CONTRACTOR warrants that it will perform all work and provide all Deliverables under this Contract in a manner consistent with the degree of care and skill ordinarily exercised by members of the same profession currently practicing under similar circumstances.
- (b) CONTRACTOR warrants that all Deliverables it completes under this Contract shall: meet or exceed the standards of CONTRACTOR's trade, profession, or industry; and meet or exceed the specifications set forth in the Attachments to this Agreement and be fit for ordinary use, of good quality, and with no significant defects that affect its use or execution.
- (c) If CONTRACTOR submits Deliverables that do not meet specifications, fails to complete Deliverables timely, or fails to perform its obligation under this Contract, PRDOH may require CONTRACTOR, at its sole expense, if applicable, to:
 - 1. repair or replace Deliverables that do not meet specifications;
 - 2. refund payment for Deliverables that do not meet specifications and accept the return of such Deliverables;
 - 3. pay liquidated damages for any past due Deliverable; and
 - 4. take necessary action to ensure that future performance and Deliverables meet specifications and conform to the Contract.

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XIII. TERMINATION

- A. Termination for Cause or Default:** The PRDOH may terminate this Agreement, in whole or in part, because of CONTRACTOR's failure to fulfill any of its obligations. The PRDOH shall terminate this Agreement by delivering to the CONTRACTOR a **thirty (30) calendar day** notice of termination specifying the extent to which the performance of the service under this Agreement is terminated, the reason therefor and the effective date of termination. CONTRACTOR shall, upon written notice, be provided a **ten (10) calendar day** opportunity to cure the alleged defect that resulted in the perceived default. If the defect is not cured within that period of time, CONTRACTOR shall immediately discontinue all such services being terminated and deliver to the PRDOH all information, notes, drafts, documents, analysis, reports, compilations, studies and other materials accumulated or generated in performing the services contemplated in this Agreement, whether completed or in process. Notwithstanding the above, the CONTRACTOR shall not be relieved of liability to the PRDOH for damage sustained to PRDOH CDBG-DR/MIT Program by virtue of any breach of the Agreement by the CONTRACTOR. The PRDOH may withhold any payments to the CONTRACTOR, for the purpose of off-set or partial payment, as the case may be, of amounts owed to the PRDOH by the CONTRACTOR. PRDOH shall make payment, in accordance with the terms of this Agreement, of any amounts due to CONTRACTOR for allowable services rendered prior to the termination notice.
- B. Termination for Convenience:** The PRDOH may terminate this Agreement, in whole or in part, whenever the PRDOH determines that such termination is necessary or convenient to the Agency. The PRDOH will terminate this Agreement by delivering to the CONTRACTOR a **thirty (30) calendar days'** notice of termination specifying the extent to which the performance of the work under this Agreement is terminated, and the effective date of termination. Upon receipt of such notice, the CONTRACTOR shall immediately discontinue all services affected and deliver to the PRDOH all information, studies and other materials property of the PRDOH. In the event of termination by Notice, the PRDOH shall only be liable for payment of services rendered up to and including the effective date of termination, taking into account the CONTRACTOR's obligation to immediately discontinue all affected services upon

receipt of the termination notice. PRDOH shall make payment, in accordance with the terms of this Agreement, of any amounts due to CONTRACTOR for allowable Services rendered prior to the termination notice.

C. Termination by Unilateral Abandonment: The PRDOH will consider this Agreement immediately terminated, in the event that the CONTRACTOR unilaterally and without prior notice, chooses to abandon (in any shape, form or fashion according to what PRDOH deduces) cease and desist in the specific performance of its general and particular duties and responsibilities as agreed in this Agreement. Upon the knowledge of such event, the PRDOH will not be held liable and will immediately, automatically and retroactively deduct from any future payment otherwise due CONTRACTOR for services rendered under this Agreement, an amount adequate to cover damages resulting from CONTRACTOR'S abandonment. The PRDOH will not be compelled to continue the performance of this Agreement, should the CONTRACTOR breach this Agreement by unilateral abandonment. For the purposes of this Section, Abandonment shall mean that CONTRACTOR voluntarily and intentionally disavows its contractual duties in a manner that is overt and without question a relinquishment of said contractual duties.

D. Unilateral Termination: The PRDOH may terminate this Agreement, in whole or in part, at PRDOH's sole discretion, with or without cause, at any time. The PRDOH will terminate this Agreement by delivering to the CONTRACTOR a **thirty (30) calendar days'** notice of termination specifying the extent to which the performance of the work under this Agreement is terminated, and the effective date of termination. Upon receipt of such notice, the CONTRACTOR shall immediately discontinue all services affected and deliver to the PRDOH all information, studies and other materials property of the PRDOH. In the event of termination by Notice, the PRDOH shall only be liable for payment of services rendered up to and including the effective date of termination, taking into account the CONTRACTOR's obligation to immediately discontinue all affected services upon receipt of the termination notice..

E. Suspension: The PRDOH may suspend this Agreement in whole or in part at any time for the PRDOH's convenience. The PRDOH shall give the CONTRACTOR **five (5) business days'** written notice of such suspension. Upon receipt of said notice the CONTRACTOR shall immediately discontinue all Services affected. In the event of termination/suspension by Notice, the PRDOH shall only be liable for payment of services rendered up to and including the effective date of termination, taking into account the CONTRACTOR's obligation to immediately discontinue all affected services upon receipt of the termination/suspension notice.

F. Immediate Termination: In the event the CONTRACTOR is subjected to a criminal or civil action, suit, proceeding, inquiry or court of applicable jurisdiction, or any governmental agency, or the CONTRACTOR shall be subject to an order, judgment, or opinion, issued by any federal or local authority, a court of applicable jurisdiction, or any governmental agency, in connection with the execution, delivery, and performance by the CONTRACTOR of this Agreement or the CONTRACTOR of this Agreement has been noncompliant, breach, inaccuracy of any representation, warranties, covenants, or the certifications provided herein, whether the noncompliance, breach or inaccuracy takes place before or after the execution of this Agreement, the PRDOH shall have the right to the immediate termination of this Agreement notwithstanding, any provisions to the contrary herein. This Section will apply, but is not limited to, in the event of any judgment that may obligate the PRDOH to terminate the Agreement pursuant to Act Number 2 of January 2, 2018, as amended, known as the Anti-Corruption Code for the New Puerto Rico.

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G. Period of Transition: Upon termination or expiration of this Agreement, and for **one hundred and eighty (180)** calendar days, with the option of extending for **two (2)** additional terms of **ninety (90)** consecutive calendar days thereafter (the Transition Period), CONTRACTOR agrees to make himself available to assist the PRDOH with the transition of services assigned to CONTRACTOR by the PRDOH. CONTRACTOR shall provide to the PRDOH the assistance reasonably requested to facilitate the orderly transfer of responsibility for performance of the Services to the PRDOH or a third party designated by the PRDOH. PRDOH reserves the right to provide for the execution of a Transition Services Agreement for the Transition Period. In such instance, the CONTRACTOR will be paid at a reasonable, agreed upon, hourly rate for any work performed for the PRDOH during the Transition Period. Transition Services Agreement for the Transition Period must be in writing, signed by both Parties, and executed before the expiration of this Agreement. Moreover, during that Transition Period, all finished or unfinished records (files, data, work product) connected with this Agreement will be turned over to PRDOH.

XIV. PENALTIES AND LIQUIDATED DAMAGES

A. Penalties

1. In the event the CONTRACTOR is determined to have engaged in any proscribed conduct or otherwise is in default as to any applicable term, condition, or requirement of this Agreement, at any time following the Effective Date of the Agreement, the CONTRACTOR agrees that PRDOH may impose sanctions against the CONTRACTOR for any default in accordance with **Attachment B** (Scope of Services) and **Attachment D** (Performance Requirements) and this Section. Refer to all required provisions set forth at 2 C.F.R. § 200.326 and 24 C.F.R. § 570.489(g), if applicable, and the Contract and Subrecipient Agreement Manual, Section 2, Subsection 2.4.1(a), as found in the CDBG-DR/MIT Website (<https://recuperacion.pr.gov/welcome/index.html>) which is herein included and made an integral part of this Agreement, as it may be updated from time to time.
2. If the CONTRACTOR fails to comply with federal and/or local statutes, regulations or the terms and conditions of the Agreement, PRDOH may take one or more of the following actions:
 - i. Temporarily withhold cash payments pending correction of the deficiency by the CONTRACTOR.
 - ii. Disallow all or part of the cost of the activity or action not in compliance .
 - iii. Initiate suspension or debarment proceedings as authorized under 2 C.F.R. part 180.
 - iv. Withhold further Federal awards for the project or program.
 - v. Take other remedies that may be legally available.

B. Liquidated damages

Task Priority	Liquidated Damages for each calendar day	Maximum Amount of Liquidated Damages per occurrence, deliverable, and task
Priority 1	\$500.00	\$15,000.00
Priority 2	\$750.00	\$22,500.00
Priority 3	\$1,000.00	\$30,000.00

The CONTRACTOR shall pay to PRDOH, as liquidated damages as established in the table above established in this Contract between PRDOH and the Contractor, in accordance with **Attachment B** (Scope of Services) and **Attachment D** (Performance Requirements). Said sum, in view of the difficulty of accurately ascertaining the loss which PRDOH will suffer by reason of delay in the completion of the work hereunder, is hereby fixed and agreed as the liquidated damages that PRDOH will suffer by reason of such demagnification, or the CONTRACTOR's obligation to indemnify the PRDOH pursuant to this Contract, or to any other remedy provided for in this Contract or by Law. Liquidated damages may be assessed at the sole discretion of PRDOH. For the purpose of applying and calculating such liquidated damages, a grace period of **ten (10) business days** shall be observed. The PRDOH may deduct and retain out of the monies which may become due hereunder, the amount of any such liquidated damages; and in case the amount which may become due hereunder shall be less than the amount of liquidated damages due to the PRDOH per the formula above, the CONTRACTOR shall be liable to pay the difference.

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XV. LIABILITY

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In no event, the PRDOH shall be liable for any indirect, incidental, special, or consequential damages, or damages for loss of profits, revenue, data, or use, incurred by either party or any third party, whether in an action in Agreement or tort, even if the other party or any person has been advised of the possibility of such damages. Third parties operating under this program, with their agency, will have their own general civil and criminal liability imposed by law towards the PRDOH, the CONTRACTOR, and any citizen.

The CONTRACTOR shall carry the insurances as required by law (if applicable), as set forth below. The CONTRACTOR shall furnish PRDOH certificates of insurance.

XVI. INSURANCE

A. Required Coverage

The CONTRACTOR shall keep in force and effect for the period beginning from the execution of the Agreement and ending at the completion of all services to be provided hereunder which are included in **Attachment B** (Scope of Services) and **Attachment D** (Performance Requirements), insurance policies in compliance with the Insurance Requirements, attached hereto and made an integral part hereof as **Attachment E** (Insurance Requirements). The CONTRACTOR shall comply with all other reasonable insurance requirements **as determined** by the PRDOH and as may be imposed from time to time to comply with HUD and CDBG-DR/MIT laws and regulations, as applicable.

Upon the execution of this Agreement, the CONTRACTOR shall furnish PRDOH with original and two (2) certified copies of the insurance policies described in **Attachment E** (Insurance Requirements) and any other evidence PRDOH may request as to the policies' full force and effect.

Any deductible amount, under any of the policies, will be assumed in whole by the CONTRACTOR for any and all losses, claims, expenses, suits, damages, costs, demands or liabilities, joint and several of whatever kind and nature arising from the Agreement resulting from this solicitation by and between the CONTRACTOR and PRDOH.

PRDOH shall not be held responsible under any circumstances for payments of any nature regarding deductibles of any Commercial Liability Policies for the aforementioned Agreement.

B. Endorsements

Each insurance policy maintained by the CONTRACTOR must be endorsed as follows:

1. PRDOH, Government of Puerto Rico, HUD and its officers, agents and employees are named as additional insured (except Worker's Compensation) but only with respect to liability arising out of tasks performed for such insured by or on behalf of the named insured.
2. To provide waiver of subrogation coverage for all insurance policies provided or herein in favor of PRDOH and its respective officers, agents and employees.
3. The insurer shall be required to give PRDOH written notice at least **thirty (30) calendar days** in advance of the effectiveness of any cancellation in any such policies.

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The CONTRACTOR shall furnish to PRDOH, prior to commencement of the work, certificates of insurance from insurers with a rating by the A.M. Best Co. of B+ and five (5) or over on all policies, reflecting policies in force, and shall also provide certificates evidencing all renewals of such policies. Insurers shall retain an A.M. Best Co. rating of B+ and five (5) or over on all policies throughout the term of this Agreement and all policy periods required herein. The insurance company must be authorized to do business in Puerto Rico and be in good standing. The CONTRACTOR is solely responsible for reviewing whether the insurance company complies with the requirements included in this section.

C. Related Requirements

The CONTRACTOR shall furnish original Certificates of Insurance evidencing the required coverage to be in force on the Effective Date of Agreement. In the case of Payment and Performance Bond, Certificate of Authority, Power of Attorney and Power of Attorney License issued by the Commissioner of Insurance shall be furnished. THE REQUIRED DOCUMENTATION MUST BE RECEIVED PRIOR TO THE CONTRATOR COMMENCING WORK. NO CONTRACTOR OR ITS AUTHORIZED REPRESENTATIVES ARE TO BEGIN THEIR RESPONSIBILITIES UNDER THE AGREEMENT PRIOR TO FULL COMPLIANCE WITH THIS REQUIREMENT AND NOTIFICATION FROM PRDOH TO PROCEED.

Renewal Certificates of Insurance or such similar evidence is to be received by the Contract Administration of the Legal Division and/or the Finance area of the CDBG-DR/MIT program within two weeks of expiration of insurance coverage. At PRDOH's option, non-compliance will result in one or more of the following actions: (1) The PRDOH will purchase insurance on behalf of the CONTRACTOR and will charge back all cost to the CONTRACTOR; (2) all payments due the CONTRACTOR will be held until the CONTRACTOR has complied with the Agreement; and/or (3) The CONTRACTOR will be assessed **Five Thousand Dollars (\$5,000.00) for every day of non-compliance**. The receipt of any certificate does not constitute agreement by PRDOH that the insurance requirements in the Agreement have been fully met or that the insurance policies indicated on the certificate are in compliance with the requirements of the Agreement. The insurance policies shall provide for **thirty (30) calendar days'** written notice to be given to PRDOH in advance of the effectiveness in the event coverage is substantially changed, cancelled or non-renewed.

The CONTRACTOR shall require all subcontractors or consultants to maintain in force all insurance policies and/or bonds necessary to cover their individual participation in the

risk or risks related to the subcontracted work or service to be rendered. The CONTRACTOR may provide the coverage for any or all of its subcontractors and if so, the evidence of insurance submitted shall so stipulate and adhere to the same requirements and conditions as outlined above.

The CONTRACTOR expressly understands and agrees that whenever the CONTRACTOR is covered by other primary, excess, or excess contingent insurance that, any insurance or self-insurance program maintained by PRDOH shall apply in excess of and will not contribute with insurance provided by the CONTRACTOR under this Agreement.

XVII. HOLD HARMLESS

The CONTRACTOR and its affiliates, its successors and assignees will indemnify the PRDOH from any damages and/or losses against personal injuries or property damage **suffered by PRDOH or third party** resulting from any act of negligence, omission or intention by the CONTRACTOR and its affiliates in connection with this Agreement.

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XVIII. FORCE MAJEURE

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In the event of a fire, flood, earthquake, natural disaster, hurricane, riot, act of governmental authority in its sovereign capacity, pandemic officially declared by the Government of Puerto Rico, or declared by the United States of America, strike, labor dispute or unrest, embargo, war, insurrection or civil unrest, any Force Majeure including inclement weather, herein collectively referred to as Force Majeure during the term of this Agreement, neither the PRDOH nor the CONTRACTOR shall be liable to the other party for nonperformance during the conditions created by such event. The party claiming Force Majeure shall exercise due diligence to prevent, eliminate, or overcome such Force Majeure event where it is possible to do so and shall resume performance at the earliest possible date.

The CONTRACTOR shall notify the PRDOH in writing as soon as possible, but in any event within **ten (10) business days** of the occurrence of the Force Majeure event and describe in reasonable detail the nature of the Force Majeure event, how the non-performance or delay relates to or arises from the Force Majeure event, its anticipated duration and any action taken to minimize its effect. The CONTRACTOR may be entitled to reasonable adjustments in schedules, among other measures, in the foregoing circumstances. If non-performance continues for more than **thirty (30) business days**, since the occurrence of the Force Majeure without reasonable justification, the PRDOH may terminate this Agreement immediately upon written notification to the CONTRACTOR.

XIX. CONFLICTS OF INTEREST

The CONTRACTOR must comply with the ethics requirements set forth herein including, but not limited to federal and local regulations, and warrant that to the best of its knowledge and belief and except as otherwise disclosed, it does not have any organizational conflict of interest which is defined as a situation in which the nature of the work under a PRDOH contract and CONTRACTOR'S organizational, financial, contractual or other interest are such that:

- a) Award of the Agreement may result in an unfair competitive advantage; or
- b) The CONTRACTOR's objectivity in performing the contract work may be impaired.

The CONTRACTOR agrees that if after execution of this Agreement he or she discovers an organizational conflict of interest with respect to this Agreement, it shall make an immediate (within the next **seventy-two consecutive (72) hours**) and full disclosure in writing to the Contracting Officer, which shall include a description of the action, which the CONTRACTOR has taken or intends to take to eliminate or neutralize the conflict. The CONTRACTOR will disclose the details of any existing or future contractual agreement to provide services to third parties participating or for the purpose to participate in disaster recovery programs or projects in Puerto Rico. The PRDOH may, however, terminate the Agreement for the convenience of PRDOH if it would be in its best interest.

In the event the CONTRACTOR was aware of an organizational conflict of interest before the execution of this Agreement and did not disclose the conflict to the Contracting Officer, the PRDOH may terminate the Agreement for default.

The provisions of this clause shall be included in all subcontracts and/or consulting agreements wherein the work to be performed is similar to the services provided by the CONTRACTOR. The CONTRACTOR shall include in such subcontracts and consulting agreements any necessary provision to eliminate or neutralize conflicts of interest.

XX. INDEPENDENT CONTRACTOR

The relationship of the CONTRACTOR to PRDOH shall be that of an independent CONTRACTOR rendering professional services. Neither the CONTRACTOR nor any personnel of the CONTRACTOR shall have any authority to execute contractual agreements or make commitments on behalf of PRDOH. Nothing contained herein shall be deemed to create the relationship of employer/employee, principal/agent, joint venture or partner between the CONTRACTOR and PRDOH. Further, the CONTRACTOR recognizes that in view of its status as an independent CONTRACTOR, neither it nor its employees or subcontractors will be entitled to participate in or receive any fringe benefits normally granted to PRDOH employees under such programs, including, but not limited to, worker's compensation, voluntary disability, travel accident insurance, medical/dental insurance, life insurance, long-term disability, holiday pay, sick pay, salary continuation pay, leaves of absence (paid or unpaid), pension plan and savings plan.

The CONTRACTOR shall have exclusive control over its employees and subcontractors (and the CONTRACTOR's employees and subcontractors are herein, collectively, referred to as the "CONTRACTOR Personnel"), its labor and employee relations, and its policies relating to wages, hours, working conditions and other employment conditions. The CONTRACTOR has the exclusive right to hire, transfer, suspend, lay off, recall, promote, discipline, discharge, and adjust grievances with its CONTRACTOR Personnel. The CONTRACTOR is solely responsible for all salaries and other compensation of its CONTRACTOR Personnel who provide Services.

The CONTRACTOR is solely responsible for making all deductions and withholdings from its employees' salaries and other compensation and paying all contributions, taxes and assessments, including union payments. The CONTRACTOR shall be responsible for and shall defend, indemnify and hold harmless PRDOH, and its agents, officers, directors, employees, representatives, CONTRACTOR's, successors and assigns against all costs, expenses and liabilities, including without limitation reasonably prudent attorneys' fees relative to the situation, in connection with the CONTRACTOR's employment and/or hiring of any CONTRACTOR Personnel providing any of the Services, including without limitation: (i) payment when due of wages and benefits, (ii) withholding of all payroll taxes, including but not limited to, unemployment insurance, workers' compensation, FICA and FUTA, (iii) compliance with the Immigration Reform Control Act, and (iv) compliance with any other

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applicable laws relating to employment of any CONTRACTOR Personnel of, and/or hiring by, CONTRACTOR in connection with the Services.

XXI. NOTICES

All notices required or permitted to be given under the Agreement shall be in writing, and shall be deemed given when delivered by hand, via email, or sent by registered or certified mail, return receipt requested, to the address as follows:

To: PRDOH

William O. Rodríguez Rodríguez, Esq.
Secretary
Puerto Rico Department of Housing
606 Barbosa Ave.
Juan C. Cordero Dávila Bldg.
San Juan, PR 00918

To: CONTRACTOR

Dorothy A. Shields
Senior Director-Contracts
ICF INCORPORATED, LLC
1902 Reston Metro Plaza,
Reston, VA, 20190
Dotti.shields@icf.com with a copy to
notices@icf.com

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XXII. THIRD PARTIES

Nothing contained in this Agreement shall create a contractual relationship with, or a cause of action of a third party against either the PRDOH or the CONTRACTOR.

XXIII. SUBCONTRACTS

A. General: All subcontracts shall contain the applicable provisions described in **Attachment F** (HUD General Provisions), as well as applicable provisions set forth in 2 C.F.R. § 200.101. PRDOH shall review subcontracts as part of the compliance, monitoring, and oversight process performed by PRDOH or upon request.

B. Specific Requirements: All subcontracts must contain provisions specifying:

- i. That the work performed by the subcontractor be in accordance with the applicable terms of this Agreement between PRDOH and CONTRACTOR;
- ii. That nothing contained in such subcontract agreement shall impair the rights of PRDOH;
- iii. That nothing contained herein, or under this Agreement will create any contractual relation between the subcontractor and PRDOH;
- iv. That the subcontractor specifically agrees to be bound by the confidentiality provision regarding Personal Identifiable Information set forth in this Agreement;
- v. That CONTRACTOR will be responsible for ensuring all subcontract work is performed consistent with federal and state regulations and/or policies to be eligible for reimbursement of the approved work; and
- vi. All Federal flow down provisions are included in the subcontract agreement per Federal guidelines.

- C. Monitoring:** CONTRACTOR shall diligently monitor all subcontracted Services. If CONTRACTOR discovers any areas of noncompliance, CONTRACTOR shall provide to PRDOH summarized written reports supported with documented evidence of corrective action.
- D. Content:** CONTRACTOR shall cause all the applicable provisions of this Agreement to be included in, and made a part of, any subcontract executed in the performance of this Agreement.
- E. Notification:** Within **three (3) business days** of its execution, the CONTRACTOR shall notify the Contract Administration Area of PRDOH CDBG-DR/MIT Legal Division and provide a copy of all subcontracts related to this Agreement and CDBG-DR/MIT funds, as well as any other subcontracts listed in **Attachment G** (Contractor Certification Requirement). The CONTRACTOR is in charge of obtaining all certifications from the subcontractors listed in Article XXIV of this Agreement that are required for technical, professional, or consulting services, as well as submitting them with the copy of the subcontract and adhering to all other requirements set forth in Circular Letter 1300-16-16 from the Puerto Rico Department of Treasury. Technical, professional, or consulting services that are employed to carry out the terms of this Agreement are referred to as subcontractors for the purposes of this article if they spend at least 25% of their time on it.

XXIV. CERTIFICATION OF COMPLIANCE WITH LEGAL REQUIREMENTS

Given that the Agreement involves funds for which HUD is the oversight agency, the CONTRACTOR agrees to carry out its obligations under this Agreement in compliance with all the requirements described in **Attachment F** (HUD General Provisions), **Attachment G** (Contractor Certification Requirement) and following provisions:

- A. Compliance with Act No. 173:** The CONTRACTOR hereby certifies that in signing this Agreement it is in compliance with Act No. 173 of August 12, 1988, as amended, known as the "Board of Examiners of Engineers, Architects, Surveyors, and Landscape Architects of Puerto Rico Act", 20 LPRA §§ 711-711z to exercise the profession of engineering, architecture, surveying or landscaping architecture in Puerto Rico, is registered in the official Register of the Board, and is an active member, and hold a license issued by the College of Engineers and Surveyors of Puerto Rico or the College of Architects and Landscape Architects of Puerto Rico, as applicable.
- B. Compliance with Executive Order No. 24:** Pursuant to Executive Order No.24 of June 18, 1991, the CONTRACTOR certifies and guarantees that at the signing of this Agreement it has filed all the necessary and required income tax returns to the Government of Puerto Rico for the last **five (5) years**. The CONTRACTOR further certifies that it has complied and is current with the payment of any and all income taxes that are or were due, to the Government of Puerto Rico. The CONTRACTOR expressly agrees that the conditions outlined throughout this Section are essential requirements of this Agreement; thus, should any one of these representations, warrants, and certifications be incorrect, inaccurate or misleading, in whole or in part, there shall be sufficient cause for PRDOH to render this Agreement null and void and the CONTRACTOR reimburse to PRDOH all money received under this Agreement. The CONTRACTOR shall hand out, to the satisfaction of the PRDOH and whenever requested by the PRDOH during the term of this Agreement, the necessary documentation to support its compliance of this clause. The CONTRACTOR will be given a specific amount of time by the PRDOH to produce said documents. During

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the term of this Agreement, the CONTRACTOR agrees to pay and/or to remain current with any repayment plan agreed to by the CONTRACTOR with the Government of Puerto Rico.

- C. Compliance with Executive Order 52:** Pursuant to Executive Order No. 52 of August 28, 1992, amending Executive Order No. 1991-24, the CONTRACTOR certifies and warrants that at the time of signing this Agreement, it has made all payments required for unemployment benefits, workmen's compensation and social security for chauffeurs, whichever is applicable, or that in lieu thereof, has subscribed a payment plan in connection with any such unpaid items and is in full compliance with the terms thereof. The CONTRACTOR expressly agrees that the conditions outlined throughout this Section are essential requirements of this Agreement; thus, should any one of these representations, warrants, and certifications be incorrect, inaccurate or misleading, in whole or in part, there shall be sufficient cause for PRDOH to render this Agreement null and void and the CONTRACTOR reimburse to PRDOH all money received under this Agreement. The CONTRACTOR accepts and acknowledges its responsibility for requiring and obtaining a similar warranty and certification from each and every subcontractor whose service the CONTRACTOR has secured in connection with the services to be rendered under this Agreement and shall forward evidence to PRDOH as to its compliance with this requirement.

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The CONTRACTOR acknowledges and accepts that, as applicable, if it owns contributions under the Employment Security, Temporary Disability Benefits, and Social Security for Chauffeurs laws, and is not enrolled in a payment plan, PRDOH is authorized to make payments to the Department of Labor and Human Resources from any funds owed to the CONTRACTOR until the debt is settled.

- D. Compliance with Circular Letter No. 1300-16-16 of the Puerto Rico Department of Treasury:** The CONTRACTOR accepts and acknowledges its responsibility of acquiring the certifications required in the Puerto Rico Department of Treasury Circular Letter No. 1300-16-16 issued on January 19, 2016. All certifications must be submitted during their term of validity, in accordance with applicable laws. Certifications expired or issued more than **sixty (60) calendar days** prior to the contract date will not be accepted. The last payment to be made under the contract will only be issued if the 'Debt Certifications' by the Puerto Rico Department of Treasury indicate that the CONTRACTOR has no debt with the Department of Treasury. The CONTRACTOR agrees to cancel any debt that cannot be clarified with the Department of the Treasury through a withholding made by PRDOH from the payments to which it is entitled to receive under the contract.

- E. Social Security and Income Tax Retentions:** The CONTRACTOR will be responsible for rendering and paying the Federal Social Security and Income Tax Contributions for any amount owed as a result of the income from this Agreement.

- F. Government of Puerto Rico Municipal Tax Collection Center (CRIM, for its Spanish acronym):** The CONTRACTOR certifies and guarantees that at the signing of this Agreement it has no current debt with regards to property taxes that may be registered with the Government of Puerto Rico's Municipal Tax Collection Center. The CONTRACTOR further certifies to be current with the payment of any and all property taxes that are or were due to the Government of Puerto Rico. The CONTRACTOR shall hand out, to the satisfaction of the PRDOH and whenever requested by the PRDOH during the term of this Agreement, the necessary documentation to support its compliance of this clause. The CONTRACTOR will deliver upon request any documentation requested under this clause as per request of PRDOH. During the Term of this Agreement, the CONTRACTOR agrees to pay and/or to remain current with

any repayment plan agreed to by the CONTRACTOR with the Government of Puerto Rico with regards to its property taxes.

G. Income Tax Withholding: The PRDOH shall retain the corresponding amount from all payments made to the CONTRACTOR, as required by the Puerto Rico Internal Revenue Code. The PRDOH will advance such withholdings to the Government of Puerto Rico's Treasury Department (known in Spanish as *Departamento de Hacienda del Gobierno de Puerto Rico*). The PRDOH will adjust such withholdings provided the CONTRACTOR produces satisfactory evidence of partial or total exemption from withholding. PRDOH hereby acknowledges and confirms that CONTRACTOR is an agent and acting on behalf of PRDOH for purposes of the sales and use tax exemption provided to the Government of Puerto Rico pursuant to the provisions of Section 4030.08 of the Internal Revenue Code for a New Puerto Rico (13 L.P.R.A. § 32058)

H. Compliance with Act No. 45 of April 18, 1935, as amended, 11 LPRA § 1, et seq.: The CONTRACTOR certifies and guarantees that at the signing of this Agreement has valid insurance issued by the State Insurance Fund Corporation (CFSE, for its Spanish Acronym), as established by Act No. 45, *supra*, known as the "Puerto Rico Workers' Accident Compensation Act".

I. Government of Puerto Rico's Agency for the Collection of Child Support (ASUME, for its Spanish acronym): The CONTRACTOR certifies and guarantees that at the signing of this Agreement that the CONTRACTOR nor any of its Partners, if applicable, have any debt or outstanding debt collection legal procedures with regards to child support payments that may be registered with the Government of Puerto Rico's Child Support Administration. The CONTRACTOR hereby certifies that it is a limited liability company organized and existing in good standing under the laws of the Government of Puerto Rico. The CONTRACTOR shall present, to the satisfaction of PRDOH, the necessary documentation to substantiate the same. The CONTRACTOR will be given a specific amount of time by PRDOH to deliver said documents.

J. Compliance with Act No. 168-2000, as amended, 8 LPRA § 711, et seq.: The CONTRACTOR is in full compliance with Act No. 168-2000, as amended, known as "Act for the Improvement of Elderly Support of Puerto Rico."

K. Compliance with Act No. 1-2012, as amended, 3 LPRA § 1854, et seq.: The PRDOH and the CONTRACTOR hereby certify that in signing this Agreement they are in compliance with Act No. 1-2012, as amended, known as the "Puerto Rico Government Ethics Act of 2011", in connection with the possibility of a conflict of interest.

L. Clause of Governmental Ethics Certification of Absence of Conflict of Interests: The CONTRACTOR certifies that: (1) No public servant of this executive agency has a pecuniary interest in this contract, purchase or commercial transaction. (2) No public servant of this executive agency has requested me or accepted from me, directly or indirectly, for him (her), for any member of his family unit or for any person, gifts, bonuses, favors, services, donations, loans or anything else of monetary value. (3) No public servant (s) requested or accepted any good of economic value, linked to this transaction, from any person of my entity as payment for performing the duties and responsibilities of their employment. (4) No public servant has requested from me, directly or indirectly, for him (her), for any member of her family unit, or for any other person, business or entity, some of economic value, including gifts, loans, promises, favors or services in exchange for the performance of said public servant is influenced in my favor or of my entity. (5) I have no kinship relationship, within the fourth degree of consanguinity and second by affinity, with any public servant who has the power

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to influence and participate in the institutional decisions of this executive agency.

M. Ethics: CONTRACTOR also acknowledges receipt and agrees to obey the Anticorruption Code for the New Puerto Rico, Act No. 2-2018, as amended, 3 LPRA § 1881, et seq., known in Spanish as "Código Anticorrupción para el Nuevo Puerto Rico".

N. Non-Conviction: The CONTRACTOR certifies that it has not been convicted nor accused of a felony or misdemeanor against the government, public faith and function, or that involves public property or funds, either federal or local in origin. Furthermore, CONTRACTOR also certifies that:

1. It has not been convicted, nor has pleaded guilty at a state or federal bar, in any jurisdiction of the United States of America, of crimes consisting of fraud, embezzlement or misappropriation of public funds, as stated in Act No. 2 of January 2, 2018, as amended, known as the Anti-Corruption Code for the New Puerto Rico, which prohibits the award of Offers or government contracts to those convicted of fraud, misappropriation of public fund.
2. It understands and accepts that any guilty plea or conviction for any of the crimes specified in Article 3 of said Act, will also result in the immediate cancellation of any contracts in force at the time of conviction, between the undersigned and whichever Government Agencies, Instrumentalities, Public Corporations, Municipalities and the Legislative or Judicial Branches.
3. It declares under oath the above mentioned in conformity with what is established as in Act No. 2 of January 2, 2018, as amended, known as the "Anti-Corruption Code for the New Puerto Rico", which prohibits awarding Offers for government contracts, to those convicted of fraud, embezzlement or misappropriation of public funds.
4. The CONTRACTOR represents and guarantees that none of its employees, vice president, director, chief executive officer, or member of an officer's board or board of director, or individuals serving equivalent functions for the CONTRACTOR have been convicted of a felony or misdemeanor as described in this sub-section. Moreover, the CONTRACTOR agrees to notify PRDOH should any employee vice president, director, chief executive officer, or member of an officer's board or board of director, or individuals serving equivalent functions for the CONTRACTOR is convicted of a felony or misdemeanor as described in this sub-section after the date of this Agreement. Said notice shall be made within **ten (10) business days** from the time of the conviction.

O. Other payments or compensation: The CONTRACTOR certifies that it does not receive payment or compensation for regular services rendered as an official or public employee to another government entity, agency, public corporation or municipality, and knows the ethical standards of his profession and assumes responsibility for his actions.

P. Consequences of Non-Compliance: The CONTRACTOR expressly agrees that the conditions outlined throughout this Section are essential requirements of this Agreement; thus, should any one of these representations, warrants, and certifications be incorrect, inaccurate or misleading, in whole or in part, there shall be sufficient cause for PRDOH to render this Agreement null and void, and the CONTRACTOR reimburse to PRDOH all money received under this Agreement.

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Q. Non-Conflict of Interest Certification: The CONTRACTOR shall comply with **Attachment H** (Non-Conflict of Interest Certification), attached herein and made an integral part of this Agreement, which outlines several situations that may reasonably be considered as conflicts of interest. The aforementioned certification aids PRDOH, in its role as grantee, to identify, evaluate, disclose, and manage apparent potential, or actual conflicts of interest related to CDBG-DR and CDBG-MIT-funded projects, activities, and/or operations.

R. Compliance with PRITS Administrative Order (PRITS-2023-001) Act No. 75 of July 25, 2019, as amended, "Puerto Rico Innovation and Technology Service Act of 2019": The PRDOH hereby certifies that it received the approval of the Puerto Rico Innovation and Technology Service (PRITS) to execute this Agreement and that it complies with Act No. 75-2019, as amended. The CONTRACTOR, seller, or provider of the good or service object of the current invoice or contract, consents and agrees that PRITS may contact them and request any and/or all information regarding the goods and/or services offered to the Government of Puerto Rico, sans the intervention or consent of the contracting agency or acquirer.

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The CONTRACTOR or Supplier certifies the current contract will in no way impact and/or adversely influence the current contractual agreements with any other instrumentality or entity of the Government of Puerto Rico. The CONTRACTOR particularly represents that the current contract or purchase order will not, in any way, negatively affect other obligations of the CONTRACTOR or Supplier, its affiliates, subsidiaries, and/or related entities with the Government of Puerto Rico. Adverse impact includes, but is not limited to, price, rate, time of execution, duplicity of goods or services provided to the Government of Puerto Rico. If at any moment the CONTRACTOR or Supplier becomes aware of a possible adverse impact, it must notify PRDOH of the current situation. PRDOH, in turn, is authorized to contact the Government of Puerto Rico's component which is related to the adverse situation to assess a solution. The result of the assessment may include, the contract or purchase order remaining unaltered, or being amended or rescinded, thus, remaining the CONTRACTOR or Supplier responsible for any impairment that the Government of Puerto Rico suffers. If, due to the CONTRACTOR'S or Supplier's negligence, intention, omission or non-compliance, they allow the adverse situation to materialize. The CONTRACTOR or Supplier proactively agrees to not enter into additional contracts or purchase orders with the Government of Puerto Rico if it can reasonably foresee the lack or decrease of capacity to assume new contractual responsibilities or compliance with the Purchase Order. The latter, if by not being proactive, the CONTRACTOR or Supplier, with the responsibilities or compliance adversely affect the obligations assumed through Contract or Purchase Order.

XXV. ACT NO. 18 OF OCTOBER 30, 1975, as amended, 2 L.P.R.A. §§ 97-98

The Parties to this Agreement agree that its effective date will be subject to the due registration and remittance to the Office of the Comptroller of Puerto Rico. No rendering or consideration subject matter of this Agreement will be required before its registration at the Office of the Comptroller of Puerto Rico pursuant to Act No. 18 of October 30, 1975, as amended. The CONTRACTOR will be responsible for ensuring that this Agreement has been registered before the rendering of services by requesting a copy of the registered Agreement with its proper number and date of registry. No services under this Agreement will continue to be delivered after its termination date unless at the expiration date, an amendment signed by both Parties and duly registered exists. No services performed in violation of this provision will be paid. The party violating this clause will be doing so without any legal authority, this action will be deemed as *ultra vires*.

XXVI. MEMORANDUM NO. 2021-003; CIRCULAR LETTER 001-2021 OF THE OFFICE OF THE CHIEF OF STAFF OF THE GOVERNOR (SECRETARÍA DE LA GOBERNACIÓN) & THE OFFICE OF MANAGEMENT AND BUDGET (OFICINA DE GERENCIA Y PRESUPUESTO)

- A. Interagency Services Clause:** Both contracting Parties acknowledge and agree that Services retained may be provided to any entity of the Executive Branch with which the contracting entity makes an interagency agreement or by direct provision of the Office of the Chief of Staff of the Governor (Secretario de la Gobernación). These Services will be performed under the same terms and conditions in terms of hours of work and compensation set forth in this Agreement. For purposes of this clause, the term "Executive Branch entity" includes all agencies of the Government of Puerto Rico, as well as public instrumentalities and public corporations and the Office of the Governor.
- B. Termination Clause:** The Chief of Staff (Secretario de la Gobernación) of the Governor shall have the power to terminate this Agreement at any time.
- C. Contract Review Policy of the Financial Supervision and Administration Board for Puerto Rico:** The Parties acknowledge that the CONTRACTOR has submitted the certification entitled "Contractor Certification Requirement" required in accordance with the Contract Review Policy of the Financial Oversight and Management Board (FOMB) for Puerto Rico, effective as of November 6, 2017, as amended on October 30, 2020, signed by the Contractor's Executive Director (or another official with an equivalent position or authority to issue such certifications). A signed copy of the "Contractor's Certification Requirement" is included as **Attachment G** (Contractor Certification Requirement) to this contract.

XXVII. MEMORANDUM NO. 2021-029; CIRCULAR LETTER NO. 013-2021 OF THE OFFICE OF THE CHIEF OF STAFF OF THE GOVERNOR (SECRETARÍA DE LA GOBERNACIÓN) & THE OFFICE OF MANAGEMENT AND BUDGET (OFICINA DE GERENCIA Y PRESUPUESTO):

- A.** The PRDOH certifies that the CONTRACTOR was selected as the provider of the services described in this Agreement, pursuant to Executive Order No. 2021-029.
- B.** The Parties certify that they acknowledge the provisions stated in Executive Order No. 2021-029 and CC 013-2021. Any failure to comply with the requirements set forth in Executive Order No. 2021-029 and CC 013-2021 will result in the termination of this Agreement.
- C.** The CONTRACTOR certifies that it has informed PRDOH of any current contractual relationship with any government entities of the Government of Puerto Rico. Accordingly, the CONTRACTOR certifies, as of the date hereof, that it is in a contractual relationship with the following entities of the Government of Puerto Rico: Puerto Rico Department of Housing (PRDOH), Puerto Rico Central Office for Recovery, Reconstruction and Resiliency, a division with the Puerto Rico Public Private Partnerships Authority (P3A), and the Puerto Rico Department of Economic Development and Commerce. The CONTRACTOR also certifies that said entities are all the entities of the Government of Puerto Rico with which they maintain a contractual relationship. In addition, the CONTRACTOR recognizes and accepts that omitting any information regarding any current contractual relationship with any governmental entity could result in the termination of this Agreement if so, required by PRDOH.

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- D. The CONTRACTOR certifies that it has informed PRDOH whether or not the entity is a public corporation whose shares are exchanged in a stock exchange properly regulated. In the event that the CONTRACTOR certifies that it is not a public corporation that exchanges shares in a stock change, the CONTRACTOR certifies it has completed the applicable certification as stated in CC-013-2021.

XXVIII. COMPLIANCE WITH THE FINANCIAL OVERSIGHT AND MANAGEMENT BOARD FOR PUERTO RICO (FOMB) POLICY: REVIEW OF CONTRACTS, AS MODIFIED ON APRIL 30, 2021, REGARDING PROFESSIONAL SERVICES

The FOMB Policy requires that all agreements that contemplate recurring professional services that may be performed by appropriately trained government staff include a provision of compliance with the adequate transfer of skills and technical knowledge to the pertinent public sector personnel. This requirement shall not apply to contracts that contemplate non-recurring professional services or specialized professional services that may not be performed by existing staff at the applicable governmental entity, including as a result of independence requirements.

Accordingly, given that the agreements under CDBG-DR are non-recurring professional services or specialized professional services, the PRDOH certifies that the transfer of skills and technical knowledge required by the Certified Fiscal Plan is inapplicable given the non-recurring or specialized nature of the contracted services.

As mentioned before, HUD allocated funds for disaster recovery assistance to the Government of Puerto Rico under the CDBG-DR Program. These funds are intended to provide financial assistance to address unmet needs that arise and that are not covered by other sources of financial aid. In addition, with these allocations of funding under the Grant Agreement, the PRDOH will conduct a comprehensive recovery to benefit the residents of Puerto Rico.

XXIX. COMPLIANCE WITH THE FINANCIAL OVERSIGHT AND MANAGEMENT BOARD FOR PUERTO RICO (FOMB) POLICY, REVIEW OF CONTRACTS

As part of the PRDOH contract process, and pursuant to Section 204(b)(2) of the "Puerto Rico Oversight, Management, and Economic Stability Act," 48 U.S.C. §2101, *et seq.*, also known as "PROMESA", the Financial Oversight and Management Board for Puerto Rico (FOMB) require approval of certain contracts and amendments to assure that they "promote market competition" and "are not inconsistent with the approved fiscal plan." For the approval process, the FOMB requests, among other information, the Contractor Certification Requirement for its evaluation.

In compliance with the above, the CONTRACTOR represents and warrants that the information included in the Contractor Certification Requirement is complete, accurate and correct, and that any misrepresentation, inaccuracy or falseness in such Certification will render the contract null and void and the CONTRACTOR will have the obligation to reimburse immediately to the Commonwealth any amounts, payments or benefits received from the Commonwealth under the proposed Amendment and original Agreement.

XXX. COMPLIANCE WITH FEDERAL LAW, REGULATIONS, & EXECUTIVE ORDERS

The CONTRACTOR acknowledges that HUD financial assistance will be used to fund the Agreement only. Also, the CONTRACTOR shall comply with all applicable Federal, state and local laws, rules, regulations, and policies relating to CDBG-DR/MIT and CDBG Program services. This includes without limitation, applicable Federal Registers; 2 C.F.R.

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part 200 Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards; Housing and Community Development Act of 1974; 24 C.F.R. part 570 Community Development Block Grant; applicable waivers; Fair Housing Act, 24 C.F.R. Part 35, 24 C.F.R. Part 58, 24 C.F.R. Part 135; National Historic Preservation Act, and any other applicable state laws or regulations, including the requirements related to nondiscrimination, labor standards, and the environment; and Action Plan amendments and HUD's guidance on the funds. Also, the CONTRACTOR shall comply, without limitation, with those set forth in **Attachment F** (HUD General Provisions) and in compliance with all the requirements described in **Attachment G** (Contractor Certification Requirement).

XXXI. CDBG-DR POLICIES AND PROCEDURES

In addition to what is established in this Agreement, the CONTRACTOR shall comply with all CDBG-DR/MIT program specific and general policies and procedures, including, but not limited to, the Contract and Subrecipient Agreement Manual, OS&H Guideline, MWBE Policy, Procurement Manual for the CDBG-DR/MIT Program, URA & ADP Guidelines, Cross Cutting Guidelines, AFWAM Policy, Section 3 Policy, Personally Identifiable Information, Confidentiality, and Nondisclosure Policy and Conflict of Interest and Standards of Conduct Policy, as found in the CDBG-DR/MIT Website (<https://recuperacion.pr.gov/welcome/index.html>), which are herein included and made an integral part of this Agreement, as they may be updated from time to time, and reporting requirements as established by the PRDOH.

XXXII. BYRD ANTI-LOBBYING AMENDMENT, 31 U.S.C. § 1352

The CONTRACTOR certifies, to the best of his or her knowledge, that:

- A.** No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.
- B.** If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Forms-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.
- C.** The CONTRACTOR shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all sub recipients shall certify and disclose accordingly. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31, U.S.C. § 1352 (as amended by the Lobbying Disclosure Act of 1995). The CONTRACTOR acknowledges that any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for

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each such failure. The CONTRACTOR certifies or affirms the truthfulness and accuracy of each statement of its certification and disclosure, if any. In addition, the CONTRACTOR understands and agrees that the provisions of 31 U.S.C. §3801 et seq., apply to this certification and disclosure, if any.

XXXIII. EQUAL OPPORTUNITY

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- A. The CONTRACTOR will not discriminate against any employee or applicant for employment because of race, color, religion, sex, sexual orientation, gender identity or national origin. The CONTRACTOR will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex, or national origin. Such action shall include, but not be limited to the following: Employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The CONTRACTOR agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.
 - B. The CONTRACTOR will, in all solicitations or advertisements for employees placed by or on behalf of the CONTRACTOR, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, or national origin.
 - C. When applicable, the CONTRACTOR will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice to be provided advising the said labor union or workers' representatives of the CONTRACTOR's commitments under this Section and shall post copies of the notice in conspicuous places available to employees and applicants for employment.
 - D. The CONTRACTOR will comply with all provisions of Exec. Order No. 11246 of September 24, 1965, as amended by Exec. Order No. 11375 of October 13, 1967, and as supplemented by the rules, regulations, and relevant orders of the United States Secretary of Labor.
 - E. The CONTRACTOR will furnish all information and reports required by Exec. Order No. 11246 of September 24, 1965, as amended, and by rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the administering agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.
 - F. In the event of the CONTRACTOR's noncompliance with the nondiscrimination clauses of this Agreement or with any of the said rules, regulations, or orders, this Agreement may be canceled, terminated, or suspended in whole or in part and the CONTRACTOR may be declared ineligible for further Government contracts or federally assisted construction contracts in accordance with procedures authorized in Exec. Order No. 11246 of September 24, 1965, as amended, and such other sanctions as may be imposed and remedies invoked as provided in Exec. Order No. 11246 of September 24, 1965, as amended, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.
 - G. The CONTRACTOR will include the portion of the sentence immediately preceding

paragraph (A) and the provisions of paragraphs (A) through (F) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to Section 204 of Exec. Order No. 11246 of September 24, 1965, as amended, so that such provisions will be binding upon each subcontractor or vendor. The CONTRACTOR will take such action with respect to any subcontract or purchase order as the administering agency may direct as a means of enforcing such provisions, including sanctions for noncompliance. Provided, however, that in the event a CONTRACTOR becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the administering agency, the CONTRACTOR may request the United States to enter into such litigation to protect the interests of the United States.

XXXIV. SOLID WASTE DISPOSAL ACT

1) In the performance of this contract, the CONTRACTOR shall make maximum use of products containing recovered materials that are Environmental Protection Agency (EPA)- designated items unless the product cannot be acquired:

- a. Competitively within a timeframe providing for compliance with the contract performance schedule;
- b. Meeting contract performance requirements; or
- c. At a reasonable price.

2) Information about this requirement, along with the list of EPA- designated items, is available at EPA's Comprehensive Procurement Guidelines website, <https://www.epa.gov/smm/comprehensive-procurement-guideline-cpg-program>.

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3) CONTRACTOR must comply with section 6002 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act. The requirements of Section 6002 include:

- a. procuring only items designated in guidelines of the EPA at 40 C.F.R. part 247 that contain the highest percentage of recovered materials practicable, consistent with maintaining a satisfactory level of competition, where the purchase price of the item exceeds ten thousand dollars (\$10,000) or the value of the quantity acquired during the preceding fiscal year exceeded ten thousand dollars (\$10,000);
- b. procuring solid waste management services in a manner that maximizes energy and resource recovery; and
- c. establishing an affirmative procurement program for procurement of recovered materials identified in the EPA guidelines.

XXXV. DRUG FREE WORKPLACE

The CONTRACTOR should establish procedures and policies to promote a Drug-Free workplace. Further, the CONTRACTOR should notify all employees of its policy for maintaining a Drug-Free workplace, and the penalties that may be imposed for drug abuse violations occurring in the workplace. Further, the CONTRACTOR shall notify the PRDOH if any of its employees covered by this Agreement are convicted of a criminal drug offense in the workplace no later than **ten (10) calendar days** after such conviction.

XXXVI. SUSPENSION AND DEBARMENT

- A. This Agreement is a covered transaction for purposes of 2 C.F.R. part 180 and 2 C.F.R. part 2424. As such, the CONTRACTOR is required to verify that none of the CONTRACTOR, its principals (defined at 2 C.F.R. § 180.995), or its affiliates (defined at 2 C.F.R. § 180.905) are excluded (defined at 2 C.F.R. § 180.940) or disqualified

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(defined at 2 C.F.R. §180.935).

- B. The CONTRACTOR must comply with 2 C.F.R. part 180, subpart C, and 2 C.F.R. part 2424, and must include a requirement to comply with these regulations in any lower-tier covered transaction it enters into.
- C. This certification is a material representation of fact relied upon by PRDOH. If it is later determined that the CONTRACTOR did not comply with 2 C.F.R. part 180, subpart C and 2 C.F.R. part 2424, in addition to remedies available to PRDOH, the Federal Government may pursue available remedies, including but not limited to suspension and/or debarment.
- D. The CONTRACTOR agrees to comply with the requirements of 2 C.F.R. part 180, subpart C and 2 C.F.R. part 2424, while this Agreement is valid. The CONTRACTOR further agrees to include a provision requiring such compliance in its lower-tier covered transactions.

XXXVII. SYSTEM FOR AWARD MANAGEMENT (SAM) REGISTRATION

The CONTRACTOR certifies that it is cleared and eligible for award of a contract and is not suspended, debarred, or on a HUD-imposed limited denial of participation. Subsequently, the CONTRACTOR must be registered in the System for Award Management (**SAM**) and shall maintain its registration active during contract performance and through final payment. The CONTRACTOR is responsible during performance and through final payment for the accuracy and completeness of the data within SAM. Failure to maintain registration in SAM may impact obligations and payments under this Agreement, including but not limited to, termination of this Agreement.

XXXVIII. NO OBLIGATION BY THE FEDERAL GOVERNMENT

The Federal Government is not a party to this Agreement and is not subject to any obligations or liabilities to the non-Federal entity, CONTRACTOR, or any other party pertaining to any matter resulting from the Agreement.

XXXIX. PROGRAM FRAUD & FALSE OR FRAUDULENT STATEMENTS OR RELATED ACTS

The CONTRACTOR acknowledges that 31 U.S.C. Chapter 38 (Administrative Remedies for False Claims and Statements) applies to the CONTRACTOR's actions pertaining to this Agreement.

XL. BANKRUPTCY

In the event that CONTRACTOR files for bankruptcy protection, the Government of Puerto Rico and PRDOH may declare without notice this Agreement null and void or terminate this Agreement without notice.

XLI. ENTIRE AGREEMENT

This Agreement and all its attachments represent the entire and integrated agreement between PRDOH and the CONTRACTOR and supersede all prior negotiations, representations, agreements, and/or understandings of any kind. This Agreement may be amended only by a written document signed by both PRDOH and the CONTRACTOR.

XLII. MODIFICATION OF AGREEMENT

Any modification of this Agreement or additional obligation assumed by either party in

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connection with this Agreement shall be binding only if written and signed by both Parties, and its authorized representatives. Those amendments shall make specific reference to this Agreement, comply with programmatic policies, procedures, and guidelines. Such amendments shall not invalidate this Agreement, nor relieve or release the Parties from their obligations under this Agreement.

However, PRDOH reserves the right to notify in writing to CONTRACTOR any applicable policies, procedures, regulations, requirements, guidelines, or change in law, whether existing or to be established, as well as changes and/or amendments thereof, which would be applicable to this Agreement without representing a change that adversely impacts CONTRACTOR nor requires a formal amendment to this Agreement, and the notified policies, procedures, regulations, requirements, guidelines and laws shall be deemed incorporated by reference to this Agreement without the need of executing a separate written and signed amendment. Nevertheless, is the complete obligation of the CONTRACTOR to keep itself updated with the programmatic policies, procedures, guidelines, and applicable and/or governing law.

XLIII. BINDING EFFECT

This Agreement shall be binding upon and shall inure to the benefit of PRDOH and the CONTRACTOR, their successors and assigns.

The CONTRACTOR shall not assign this Agreement, in whole or in part, without the prior written consent of PRDOH, and any attempted assignment not in accordance herewith shall be null and void and of no force or effect.

XLIV. ASSIGNMENT OF RIGHTS

The rights of each party hereunder are personal to that party and may not be assigned or otherwise transferred to any other person, contractor, corporation, or other entity without the prior, express, and written consent of the other party.

XLV. NON-WAIVER

The failure or delay of either party to insist upon the performance of and/or the compliance with any of the terms and conditions of this Agreement shall not be construed as a waiver of such terms and conditions or the right to enforce compliance with such terms and conditions. The Parties expressly agree that no amendment of the Agreement or Change of Order shall be understood as a contractual novation of the Agreement, unless both Parties agree to the contrary in writing. The foregoing provision shall be equally applicable in such other cases where an extension of the Agreement is executed.

XLVI. ORDER OF PRECEDENCE

In the event of an inconsistency in this Agreement or if a conflict occurs between this Agreement and any Attachment, Appendix, Exhibit, or Schedule, unless otherwise specifically stated in those documents, the order of precedence shall be: Federal laws, regulations, and policies applicable to this Agreement, this Contract and **Attachment F** (HUD General Provisions), **Attachment B** (Scope of Services), **Attachment D** (Performance Requirements), **Attachment C** (Compensation Schedule), and lastly, **Attachment A** (Proposal).

XLVII. GOVERNING LAW JURISDICTION

This Agreement shall be governed by, interpreted, and enforced in accordance with the

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laws of the Government of Puerto Rico and any applicable federal laws and regulations. The Parties further agree to assert any claims or causes of action that may arise out of this Agreement in the Puerto Rico Court of First Instance, Superior Court of San Juan, Puerto Rico.

XLVIII. TIME OF ESSENCE

In this Agreement, unless otherwise specified, the calculation of days shall be conducted inclusively, with the first day being included and the last day being excluded. When referring to a period of 'X days', it shall be understood as a consecutive calendar day, unless is established otherwise.

If the last day of a period falls on weekend or legal holiday recognized in the jurisdiction of the Government of Puerto Rico, the period shall be extended to include the next business day. For purposes of computing deadlines or timeframes, a day shall be considered to commence at 12:00 a.m. and conclude at 11:59 p.m. local time at the location specified to execute the Agreement. In case of any ambiguity or dispute regarding the computation of days, the determination shall be made in accordance with the applicable laws of the jurisdiction of the Government of Puerto Rico.

Time shall be the essence in the performance of all obligations under this Agreement. Any deadlines, time frames, or dates specified herein must be strictly adhere to. Failure to meet any such deadlines shall be considered a material breach of this Agreement, entitling PRDOH and/or the Government of Puerto Rico to pursue all available remedies under law or equity.

XLIX. CONSOLIDATIONS, MERGERS, CHANGE OF NAME, OR DISSOLUTIONS

A. Consolidation or Merger

In the event that the signing party (e.g. Subrecipient, Contractor, or Subcontractor) of the Agreement with the PRDOH moves for a consolidation or merger with another entity (private or public), by its discretion or otherwise, written notice of such decision or event shall be delivered to the PRDOH Legal Division at contractscdbgdr@vivienda.pr.gov at **least fifteen (15) business days prior to the effective date** of the consolidation or merger. The notice shall include, but not limited to, a description of: the expected effective date of the consolidation or merger; name of each of the constituent entities moving to consolidate or merge into the single resulting or surviving entity; the proposed name of the resulting entity (in case of a consolidation) or the name of the surviving entity (in case of a merger) if necessary; reference to the projected capacity of the resulting or surviving entity to comply with the terms, conditions, obligations, tasks, services, and performance goals or requirements included in the Agreement as well as its Exhibits or Attachments; and a brief summary of the proposed plan to achieve the transition of duties (Scope of Work or Scope of Services), tasks, and performance goals or requirements to the resulting or surviving entity.

Upon the consolidation or the merger becoming effective, and supporting evidence of such event is notified to PRDOH, execution of an Amendment to the Agreement may follow. The Amendment would include, but not limited to, modifications to the clauses that refer to the identity, personal circumstances, address, and any other information related to the signing party deemed relevant by PRDOH for the execution of the Amendment. Additionally, the CONTRACTOR must deliver documents requested to satisfy any reasonable requirement made by PRDOH. These requests aim to ensure the compliance with local and federal regulations, as applicable **No amendment to the Agreement will be necessary if the Subrecipient, Contractor, or Subcontractor becomes the surviving entity following a merger.**

Failure to comply with any of the before mentioned conditions, may result in the

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activation of the termination clauses provided in the Agreement.

B. Change of Name

In the event that the signing party (e.g. Subrecipient, Contractor, or Subcontractor) of the Agreement with the PRDOH initiates a change of name process, written notice of such decision or event shall be delivered to the PRDOH Legal Division at contractscdbgdr@vivienda.pr.gov at **least fifteen (15) business days prior to the effective date of such event**. The notice shall include, but not limited to, a description of: the expected effective date of the change of name; the proposed name; inform of any change of address; and reference of any change in the capacity of the entity to comply with the terms, conditions, obligations, tasks, Services, and performance goals or requirements included in the Agreement, as well as its Exhibits or Attachments.

Upon the change of name becoming effective, and supporting evidence of such event is notified to PRDOH, execution of an Amendment to the Agreement may follow. The Amendment would include, but not limited to, modifications to the clauses that refer to the identity, personal circumstances, address, and any other information related to the signing party deemed relevant by PRDOH for the execution of the Amendment. Additionally, the CONTRACTOR must deliver documents requested to satisfy any reasonable requirement made by PRDOH. These requests aim to ensure the compliance with local and federal regulations, as applicable.

Failure to comply with any of the before-mentioned conditions, may result in the activation of the termination clauses provided in the Agreement.

C. Dissolution

In the event that the signing party (e.g. Subrecipient, Contractor, or Subcontractor) of the Agreement with the PRDOH moves for dissolution of the entity, written notice of such decision or event shall be delivered to the PRDOH Legal Division at contractscdbgdr@vivienda.pr.gov at **least fifteen (15) business days prior to the effective date of such event**. The notice shall include, but not limited to, a description of the expected effective date of the dissolution; and contact information of one or more of its directors, officials or agents. Upon dissolution, becoming effective, and supporting evidence of such event is notified to PRDOH, termination of the Agreement will follow. Consequently, the signing party acknowledges and agrees to provide to the PRDOH, after termination of the Agreement, the assistance reasonably requested to facilitate the orderly transfer of responsibility for performance of the tasks or Services to the PRDOH or a third party designated by the PRDOH. Moreover, all finished or unfinished records (files, data, work product) connected with this Agreement will be turned over to PRDOH following the Agreement termination.

L. HEADINGS

The titles to the paragraphs of this Agreement are solely for reference purposes and the convenience of the Parties and shall not be used to explain, modify, simplify, or aid in the interpretation of the provisions of this Agreement.

LI. FEDERAL FUNDING

The fulfillment of this Agreement is based on those funds being made available to the PRDOH as the lead administrative agency for Recovery. All expenditures under this Agreement must be made in accordance with this Agreement, the policies and procedures promulgated under the CDBG-DR/MIT Program, and any other applicable laws. Further, CONTRACTOR acknowledges that all funds are subject to recapture and repayment for non-compliance.

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LII. RECAPTURE OF FUNDS

PRDOH may recapture payments it makes to CONTRACTOR that (i) exceed the maximum allowable rates; (ii) are not allowed under applicable laws, rules, or regulations; or (iii) are otherwise inconsistent with this Agreement, including any unapproved expenditures. CONTRACTOR must refund such recaptured payments within **thirty (30) business days** after the PRDOH issues notice of recapture to CONTRACTOR.

LIII. OVERPAYMENT

CONTRACTOR shall be liable to the PRDOH for any costs disallowed pursuant to financial and/or compliance audit(s) of funds received under this Agreement. CONTRACTOR shall reimburse such disallowed costs from funds other than those CONTRACTOR received under this Agreement.

LIV. SEVERABILITY

If any provision of this Agreement shall operate or would prospectively operate to invalidate the Agreement in whole or in part, then such provision only shall be deemed severed and the remainder of the Agreement shall remain operative and in full effect.

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IV. COUNTERPARTS

This Agreement may be executed in any number of counterparts, each of whom shall be deemed to be an original, however, all of which together shall constitute one and the same instrument. If the Agreement is not executed by the PRDOH within **thirty (30) calendar days** of execution by the other party, this Agreement shall be null and void.

LVI. SURVIVAL OF TERMS AND CONDITIONS

The terms and conditions of this Agreement related to the following subjects shall survive the termination or expiration of this Agreement: interpretive provisions; consideration; warranties; general affirmations, federal assurances, federal and state certifications; CDBG-DR/MIT and state funding, recapture of CDBG-DR/MIT and/or state funds, overpayment of CDBG-DR/MIT and/or state funds; ownership and intellectual property, copyright; records retention methods and time requirements; inspection, monitoring and audit; confidentiality; public records; indemnification and liability; infringement of intellectual property rights; independent contractor relationship; compliance with laws; notices; choice of law and venue; severability; dispute resolution; consolidations, merger, change of name, and dissolution. Terms and conditions that, explicitly or by their nature, evidence the Parties' intent that they should survive the termination or expiration of this Agreement shall so survive.

[SIGNATURES ON THE FOLLOWING PAGE]

IN WITNESS THEREOF, the Parties hereto execute this Agreement in the place and on the date first above written.

ICF INCORPORATED, L.L.C.

William O. Rodríguez Rodríguez
William O. Rodríguez Rodríguez (Sep 10, 2024 13:17 EDT)

William O. Rodríguez Rodríguez, Esq.
Secretary

Dorothy A. Shields
Dorothy A. Shields (Sep 5, 2024 08:58 EDT)

Dorothy A. Shields
Senior Director, Contracts

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3 Executive Summary

Team ICF recognizes the critical role of the Puerto Rico Department of Housing (PRDOH) in shaping the future of Puerto Rico. As your partner, we offer more than just additional capacity. Our team is dedicated to collaborating with PRDOH in enhancing spatial data infrastructure (SDI), driving long-term technological advancements, ensuring data integrity, and overcoming barriers to accelerate resilience using geographic information systems (GIS). We are committed to providing highly skilled personnel who will exceed PRDOH's requirements and support the success of Community Development Block Grant Disaster Recovery (CDBG-DR) and Mitigation (CDBG-MIT) initiatives. To benefit PRDOH and the people of Puerto Rico, ICF brings a purposeful combination of knowledge, skills, and expertise to the GeoFrame (GEO)/Risk and Asset Data (RAD) Programs. Our deep understanding of the key challenges facing Puerto Rico and our direct experience with similar projects on a federal level will be integral to serving the diverse communities across Puerto Rico. These programs align with our mission of helping clients solve their most complex challenges, navigate change, and shape the future. They also allow us to use our wide-ranging expertise in disaster management, energy, water, public health, transportation, communications, finance, climate, and resiliency—fully supporting the needs of PRDOH under the umbrella of GIS administration.

As a trusted partner, Team ICF offers more than technical expertise. We consistently deliver on milestones, continuously learn and improve our work, and demand excellence from ourselves. We partner with our clients, sharing their aspirations and concerns. Our work approach focuses on addressing the limitations in managing spatial data in Puerto Rico, particularly in supporting future disaster response and recovery and building resilience at all levels, from individual households, to critical infrastructure systems, to state government institutions. Through the GEO/RAD Program, we aim to engage diverse stakeholders, collect accurate data, and provide decision support tools. Key deliverables will include the Puerto Rico Spatial Data Infrastructure Strategic Plan (PRSDISP); a centralized Puerto Rico Database Repository (PR Geodatabase 1.0), a Digital Twin Architecture, Design, and Implementation Plan for all municipalities; and a wide-ranging collection of aerial imagery and LIDAR, building information modeling (BIM), and mobile mapping data across the island. These deliverables will establish technical standards, fill data gaps, and improve decision-making through modeling and analytics. Team ICF's program leaders and technical staff will ensure stakeholder engagement, sound policy and technology approaches, and the use of innovation to accelerate delivery. We will prioritize creating fit-for-purpose data that can be used flexibly by multiple stakeholders and simplifying data maintenance to elevate data as a strategic asset. Our approach is based on the proven Methodology for Information Insights and Cloud Analytics (MIICA) framework, which we have successfully implemented in various information technology (IT) enterprise GIS modernization efforts.

Team ICF demonstrates our strength to PRDOH for this effort via our robust stakeholder engagement approach, a proven track record in Puerto Rico, digital modernization proficiency, capacity to generate a holistic business vision, and our expertise in innovation and agile program management. Our primary focus is on expediting the development of the comprehensive PR Geodatabase. We recognize the significance of robust stakeholder engagement, seamless integration

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with PRDOH teams and workflows, and the empowerment of PRDOH to overcome challenges and provide vital support for mitigation and disaster response efforts. Team ICF's successful track record supporting Puerto Rico is evident through longstanding partnerships with prominent programs and offices such as the Central Office for Recovery, Reconstruction and Resiliency (COR3); the Home Repair, Reconstruction or Relocation Program (R3); the City Revitalization Program; and the Community Energy and Water Resilience Installations Program. These partnerships demonstrate our commitment to delivering results and fostering trust among stakeholders.

Our digital modernization expertise, backed by over 3,000 dedicated staff and our cutting-edge Puerto Rico Technology Center, equips us to offer innovative solutions, rigorous quality control (QC), and deep technical expertise. Our end-to-end vision and transparent pricing strategy tightly align with PRDOH's budget requirements, ensuring optimized services throughout the program's lifecycle. A key differentiator for Team ICF lies in our comprehensive expertise in GIS services encompassing geodatabase management, aerial imagery LIDAR, mobile mapping, and web-based geoportal development. Our technical skillsets, proactive approach, complex project experience, and communication outreach specialists will augment PRDOH's ability to effectively manage federal funds, bridge gaps in spatial data, and accelerate digital twin implementation.

Team ICF consists of the combined expertise of its key staff members and proven ability to find and retain top talent in Puerto Rico, resulting in a dynamic and competent team capable of delivering exceptional services to PRDOH. Our proposed key staff are either based in Puerto Rico or able to be 100% dedicated to this contract on-island. Key staff for the success of the GEO/RAD Program include **Jose Girot**, Project Director, with over 20 years of experience building coalitions of civilian, military, state, local government, and community members to support complex programs. **Rosa Archer Malpica**, with almost 20 years of experience working with and future GEO/RAD stakeholder agency data will serve as the GIS Lead, coordinating data collection, aggregation, and analysis. **James Valenza**, a Technical Lead with extensive GIS expertise in Puerto Rico, will oversee infrastructure, data, and remote sensing tasks. **William Hernández, PhD**, will serve as an on-island Program Consultant, facilitating engagement with Puerto Rico professional organizations, nongovernmental organizations (NGOs), and universities. The staff members within Team ICF exemplify the caliber of highly skilled and knowledgeable professionals PRDOH will have the opportunity to collaborate with, providing valuable contributions to our partnership. Together, we can achieve remarkable outcomes for Puerto Rico.

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5 Profile

Firm Description

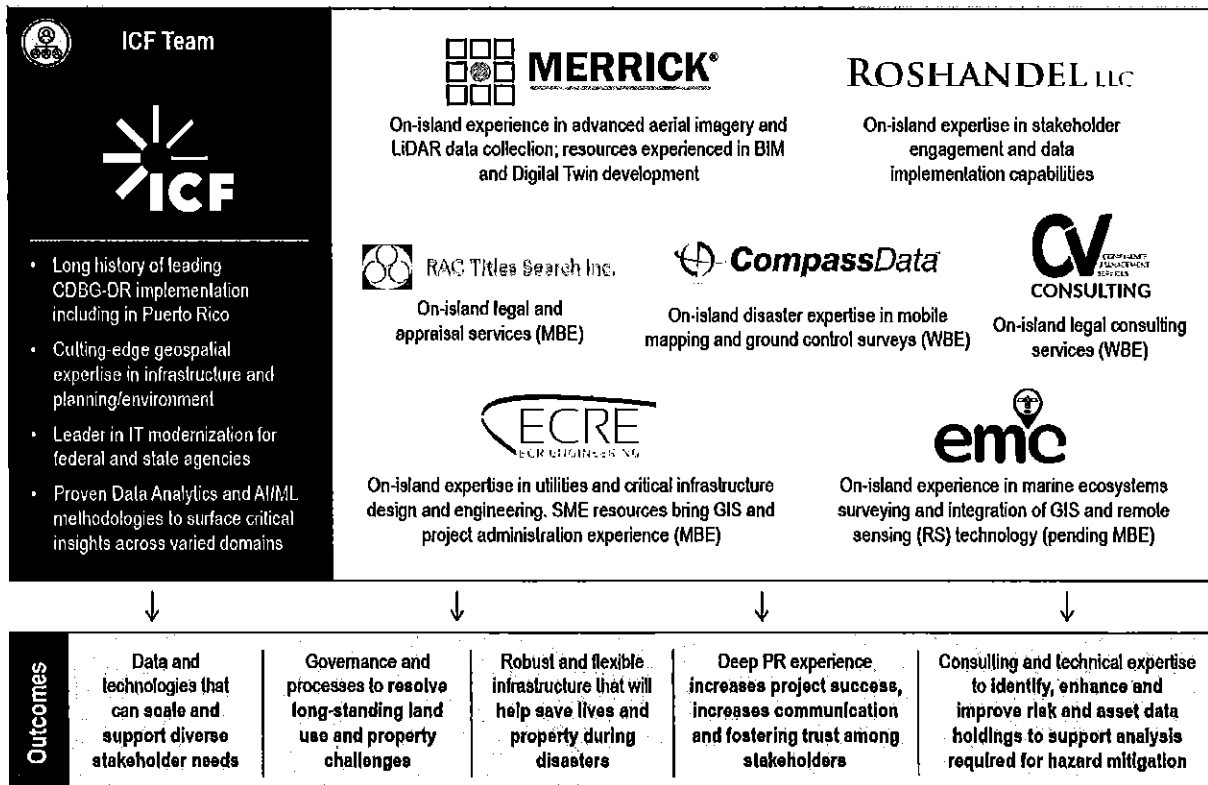
ICF International, parent company of ICF Incorporated, L.L.C. (ICF), the bidding entity for this proposal, was founded more than 50 years ago and offers PRDOH the resources of a global consulting services company comprising more than 9,000 individuals whose core mission is to build strong and resilient communities. Our business analysts and policy specialists work with subject matter experts (SMEs), technologists, and creatives, combining unmatched industry expertise with cutting-edge engagement capabilities to help government agencies solve their most complex challenges. ICF maintains a dedicated Puerto Rico Tech Center in San Juan, which serves as a hub for our team and is equipped with cutting-edge capabilities. Much of our recent work has focused on enabling Puerto Rico to smartly invest its limited recovery dollars to create a sustainable economic model for more resilient recovery.

Team ICF

Team ICF, which includes seven first-tier subcontractors, was built to provide PRDOH with the benefits of a deep bench of technology and engagement staff with extensive on-island experience. Team ICF is composed of firms that have all served Puerto Rico; understand the varied local conditions, data challenges, and local regulations; and bring unparalleled expertise across the 13 task areas. Together, our team offers PRDOH the blend of expertise in large-scale IT modernization with targeted data collection capabilities and a history of helping Puerto Rico's communities grow stronger and more resilient.

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First-Tier Subcontractors:



MERRICK®

Merrick is a \$200 million, 1,200-employee engineering, architecture, design-build, surveying, and geospatial solutions firm with expertise in geomatics including aerial LIDAR, digital orthophotography, GIS services, BIM, and digital twin development. For GEO/RAD, Merrick will oversee all aspects of high-resolution aerial imagery and planimetric data collection and will provide strategic consulting on the use of imagery data to support the development of a comprehensive cadaster and a digital twin architecture and design. Incorporated in 1959, the employee-owned company has since become a professional services leader and continues to remain a reflection of the founders' vision and entrepreneurial spirit. Today, the company serves domestic and international clients in the energy, national security, life sciences, and sustainable infrastructure markets. Since 1991, Merrick has been consistently ranked by *Engineering News-Record* magazine as one of the top 200 design firms in the United States and one of the top architecture firms. The firm maintains an active corporate social responsibility program and is committed to sustainable design and construction practices and serving tomorrow's needs. As part of its responsibility for administering the property tax mapping for most municipalities in Puerto Rico, the Center of Municipal Revenue Collection (CRIM) selected Merrick in 2016 to acquire new aerial photography and update selected planimetric features, which assisted in determining new property valuations/taxes.



CompassData

CompassData, Inc. (CDI) is an expert supplier of geospatial products and services specializing in high-precision and accurate survey and global navigation satellite system-based data collection, mobile mapping, aerial photography/LIDAR, processing and verification, and GIS integration. For GEO/RAD, CDI will lead all aspects of mobile mapping and 360-degree imagery collection and processing. CDI has performed geospatial work in more than 100 countries, mapping a variety of locations ranging from major urban settings to challenging riparian environments. CDI's data collection processes use standardized, industry-accepted processes for collection, analysis, and delivery of timely, concise, and user-friendly data. *CDI is a certified Women-owned Business Enterprise.*

ROSHANDEL LLC

Roshandel LLC was established by Mr. Ali Roshandel in San Juan in 2019. As an independent contractor, Mr. Roshandel provides technology and business integration consulting services. He possesses an extensive background and experience in large-scale government and private sector data warehousing and enterprise application implementation. For GEO/RAD, Mr. Roshandel will lead coordination between PRDOH, PRITs, and other GEO/RAD stakeholders to develop a robust PRSDISP and long-term GEO/RAD Business Plan. He focuses on strategic plan creation, collaborative design, and technological solutions development. Mr. Roshandel brings on-island experience having served as the SME/strategic plan and technology lead for the Code Enforcement Grant for the Puerto Rico Planning Board since 2019, focused on reducing and eradicating informal construction in Puerto Rico.

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Environmental Mapping Consultants (EMC) was established in 2008 and offers multidisciplinary skillset in coastal and marine ecosystems characterization and the surveying and integration of GIS and remote sensing technology. For GEO/RAD, **EMC will provide GIS and remote sensing experts and support stakeholder engagement.** The firm supports a variety of specialized computational tasks including image processing, GIS processing, modeling, statistical analysis, graphics/scientific visualization, and unmanned aerial systems mission planning and orthoimage development. EMC is a major provider in Puerto Rico of advanced high-resolution image processing, water quality ocean color algorithm development, and implementation of water optics for estimating environmental parameters. *"EMC is a pending certified Minority-owned Business Enterprise."*



ECR Engineering (ECRE), a certified Minority Business Enterprise (MBE) founded in 2012, focuses on the management of environmental affairs such as hazard analysis, environmental assessments, and daily and monthly regulatory compliance for municipal, state, federal, and industrial Projects. For GEO/RAD, **ECRE will provide GIS expertise.** ECRE has on-island expertise in utilities and critical infrastructure design and engineering. The firm also boasts land surveying, GIS, and project administration and management SMEs. *ECRE is a certified Minority-owned Business Enterprise.*



CMVR Consulting LLC provides compliance, program management and implementation, and financial and data management services for federally funded programs. CMVR Consulting brings experience in oversight, planning, administration, implementation, and execution of Federal Emergency Management Agency (FEMA)-administered programs, including Public Assistance (PA), Hazard Mitigation and Individual Assistance, and other HUD-administered CDBG program, as well as Federal Transit Administration and other federal grants in compliance with the federal and local regulations of the Commonwealth of Puerto Rico. **CMVR Consulting will provide legal consulting services for PRDOH.** *CMVR Consulting is a certified Women-owned Business Enterprise.*



RACTitles Search Inc.

RACTitles, established in 2000, provides title search services and legal consulting solutions. RACTitles provides consulting for owner title Insurance, with analysis based on state and federal public records, and has operations covering all geography of Puerto Rico and its special municipalities Vieques and Culebra. RACTitles has been supporting PRDOH with appraisal, uniform relocation assistance, and affidavit services since 2019 and legal counseling, closing services, and title search services in support of increased capacity R3. For GEO/RAD, **RACTitles will provide legal consulting and policy expertise.** *RACTitles is a certified Minority-owned Business Enterprise.*

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Secondary Subcontractors:

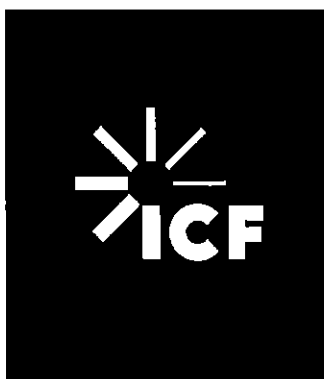
Our team also includes two secondary subcontractors, Esri and Geospatial Mapping Technologies (GMT). Esri, the leading GIS software vendor, will provide strategic GIS infrastructure and software support. GMT, a leading provider in Puerto Rico for advanced spatial analysis solutions, will provide GIS and remote sensing SMEs. Together, Team ICF offers PRDOH a blend of expertise in large-scale IT and GIS modernization, with targeted data collection capabilities and a history of helping Puerto Rico's communities grow stronger and more resilient. Team ICF provides PRDOH with the right partner to navigate people, processes, and technology enablement to deliver a comprehensive and sustainable SDI.

Expertise and Current Experience

PRDOH requires a partner capable of more than just data collection and storage. PRDOH needs a proven, highly skilled team with cutting-edge geospatial expertise to modernize the GIS infrastructure. Large geospatial technology development and data projects like the GEO/RAD Programs require a careful balance of local context, the incorporation of existing systems and engrained processes, and selective investment in cutting-edge technology—all while maintaining a level of simplicity in approach that allows stakeholders and the public to contribute. ICF's cross-cutting, multidisciplinary project teams know how to engage local firms with specialized expertise to achieve this balance while meeting PRDOH's capacity-building goals because we are already doing so in Puerto Rico. **Our expertise across these disciplines is illustrated in some of our current and relevant projects, as detailed below.**

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Digital Modernization Experts (GIS, Data, Analytics, and Planning)



CDBG-DR, CDBG-MIT, and FEMA Community Lifeline Experts



Climate and Hazard Experts



Stakeholder Engagement, Communication, and Media Experts

Digital Modernization Expertise (GIS, Data, Analytics, and Planning):

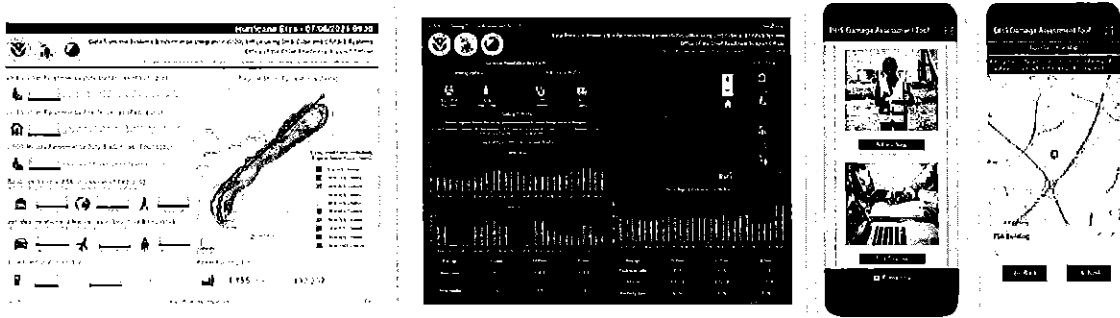
ICF brings more than 3,000 experts in GIS, cloud infrastructure, data science, and database administration to help strategize IT modernization, engage stakeholders, develop algorithms, and build web-based applications. We make the most of traditional GIS tools while identifying opportunities for innovation to cost-effectively achieve objectives. ICF is an Esri Silver Partner with ArcGIS Online and Release Ready specialty designations, and dozens of individual-level certifications in Esri desktop and enterprise/online environments. Our team has:

- Designed, deployed, and maintained an **Esri-based, full-stack GIS enterprise solution** for the Department of Homeland Security's (DHS's) real property and asset data office. ICF engaged a mix of stakeholders across 13 DHS agencies (e.g., FEMA, the U.S. Coast Guard, the U.S. Secret Service) to contribute millions of data records and



leverage a suite of self-service, web-based geoportal applications to help with decision-making in their daily work and during natural disaster response. As part of this work, ICF led the planning and implementation of the annual DHS Data Jam. These week-long workshops bring together data owners and consumers from across DHS agencies to receive training and provide feedback on a growing suite of integrated desktop, tablet, and mobile GIS tools.

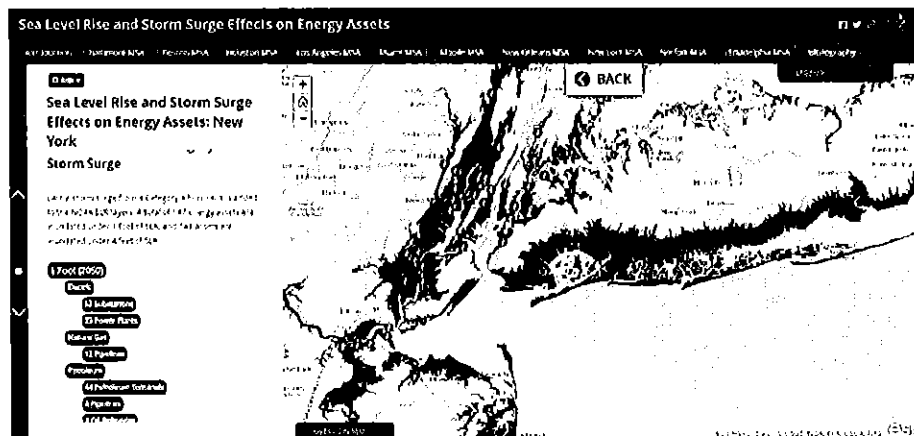
Our suite of GIS mapping applications, built in an Esri portal, allows 13 DHS agencies to manage people, property, and assets.



ICF built a public-facing Esri StoryMap to communicate potential coastal hazard impacts to the nation's critical energy infrastructure.

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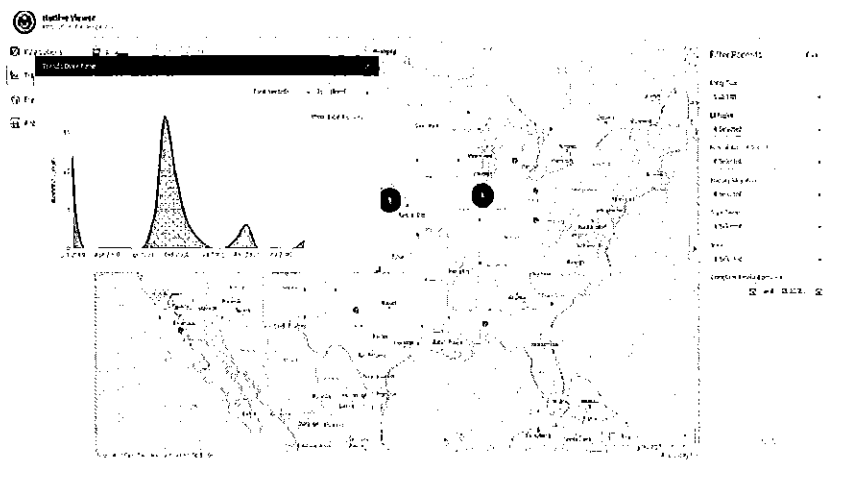


- Led a 3-year effort with the Department of Energy's (DOE's) Infrastructure Security and Energy Restoration Division using GIS tools to model and visualize hazards posed by sea level rise and tropical storm surge to critical energy infrastructure along the U.S. mainland Gulf and East Coasts. We also assessed elevated sea levels and intensified tropical storm surges under a range of future climate scenarios developed in collaboration with ICF's climate experts. Our DOE web application, built on Esri cloud technology, helps users visualize coastal risks under various scenarios.



- Designed and deployed a hub of data-driven self-service waste, fraud, and abuse tools for the U.S. Department of Health and Human Services (HHS) Office of Inspector General (OIG). ICF built a portfolio of self-service analytical capabilities, fed by curated and near-real-time data, to help data analysts and investigators protect the integrity of HHS programs and their beneficiaries by flagging likely instances of waste, fraud, and abuse. The suite of tools allows end users to drill into data and research trends. For example, our hotline dashboard allows us identify trends and hot-spot insights to support investigations, with actionable information such as geocoded addresses and downloadable outputs for evidence-based decision-making.

HHS OIG investigators use our collection of Esri web mapping tools to query and analyze trends in healthcare program data.



Non-sensitive dummy data utilized.

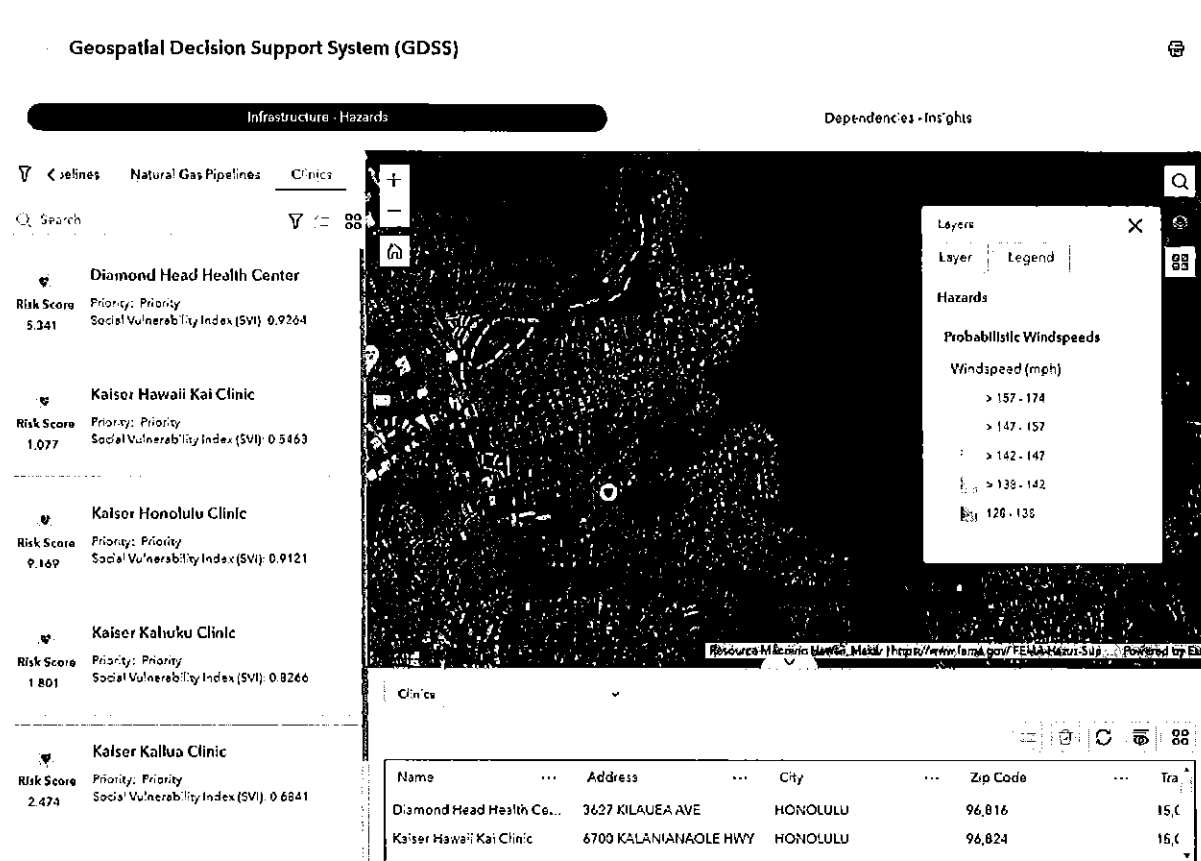
- Collected and analyzed GIS and tabular data on critical infrastructure and community lifeline key facilities for the Hawai'i State Energy Office. As part of the project, ICF is designing and building a Geospatial Decision Support System (GDSS)- a secure, web-based mapping application that lets emergency managers and state energy experts understand vulnerabilities to natural hazards and dependencies within the state's electric, petroleum, and natural gas energy grid. The GDSS also includes data about critical facilities (e.g., hospitals, police/fire stations, water treatment) and includes information about the populations they serve and their reliance on vulnerable elements of the energy grid. ICF's GIS developers are building the GDSS in HSEO's secure, Esri Enterprise environment.

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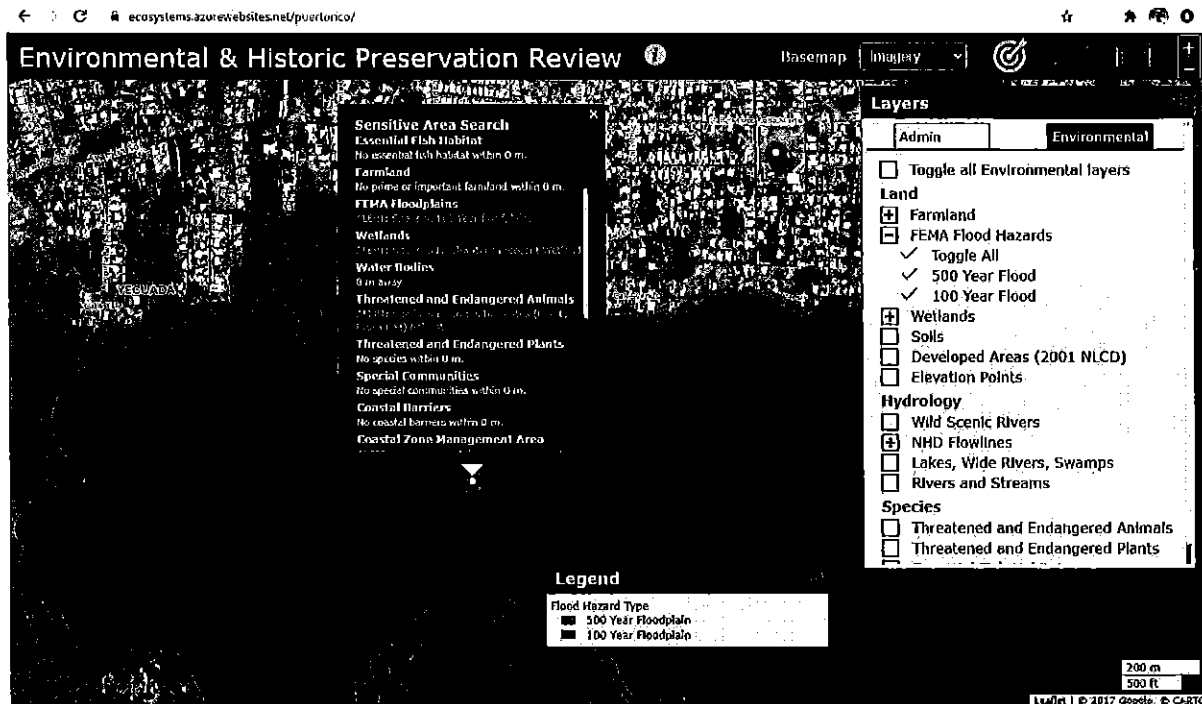
ICF is building an interactive decision-support tool in HSEO's Esri Enterprise environment to support disaster planning, response, and mitigation for vulnerable community lifeline facilities and critical energy infrastructure.



- Designed and launched a custom GIS application for our ongoing support to Puerto Rico's COR3 to help FEMA streamline the environmental and historic preservation review process for recovery activities after Hurricanes Maria and Irma. ICF's custom mapping capability gave stakeholders, reviewers, and members of the public easy access to required information; the tool won a 2019 *Environmental Business Journal* award for Information Technology. More information on our custom tool, WayPoint, is available at <https://www.icf.com/technology/waypoint>.



Our Puerto Rico Environmental & Historic Preservation Review tool lets users input locations on the fly to generate reports.

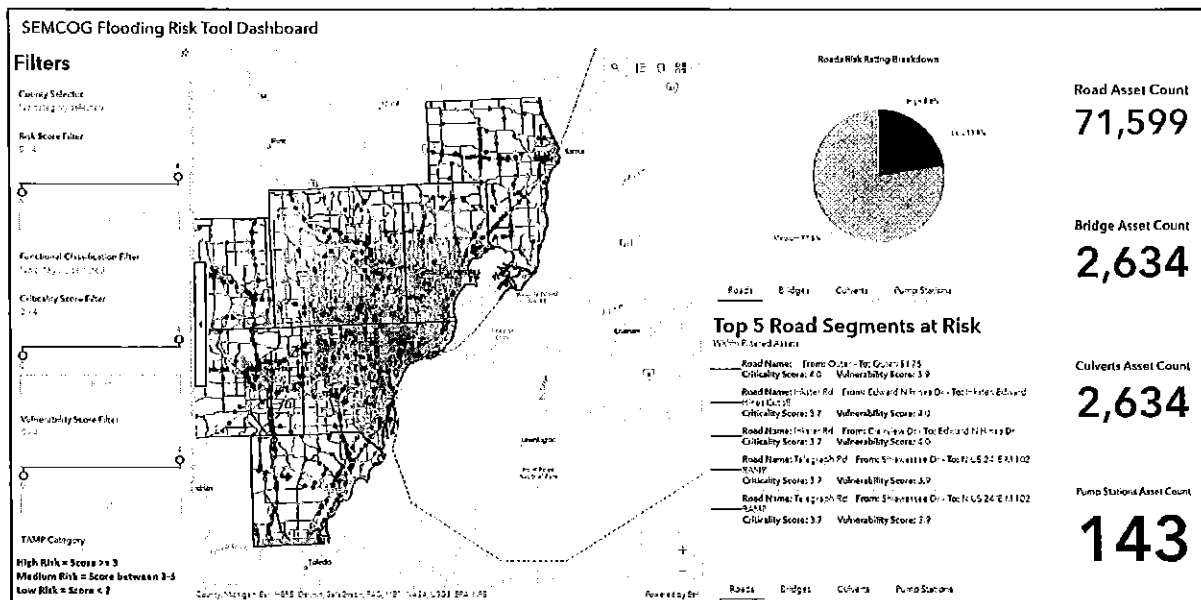


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- As part of a \$20M contract, led a modernization effort for an Azure migration, application modernization and custom reporting dashboards for the Ontario Energy Board. This Azure based system is responsible for supporting the entire Ontario Electricity Support Program that provides on-going monthly bill payment support for low-income families.
- Architected and implemented an Azure Cloud infrastructure for the California State Lottery, as part of a \$43M contract. The project included implementing a large data management and web-based system hosted in an Azure Cloud environment, with front-end connections to the California lottery public website. ICF continues to provide on-going operations and maintenance support.
- Developed a repeatable, scalable decision-support tool for the Southeast Michigan Council of Governments (SEMCOG) to identify the vulnerability of transportation assets to extreme precipitation events and to leverage high-resolution LIDAR data to determine flood risk in urban settings. The risk assessment tool was developed using Esri desktop GIS and the Python scripting language, allowing SEMCOG to conduct the assessment on its own in the future based on updates to model inputs, including asset locations and characteristics. The output of the tool was a series of indicator scores for asset exposure, sensitivity, and criticality designed to help understand opportunities to increase resilience through mitigation activities. The final deliverable of the project included a comprehensive geodatabase of assets and indicator scores, a series of GIS-based models that were able to be run and managed independently by SEMCOG staff, and training/documentation for SEMCOG staff on how to update and run the tool.

Our GIS-based risk assessment identifying roads, bridges, culverts, and pump stations at greatest risk of flooding allowed us to build an interactive GIS dashboard for SEMCOG and regional stakeholders to view assessment results.



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CDBG-DR, CDBG-MIT, and FEMA Community Lifeline Expertise:

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Our disaster management experts "wrote the book" on disaster recovery. Since 1997, we have designed and implemented dozens of programs focused on technical assistance (TA), training, grant application processing, and financial management support for more than 80

Our Puerto Rico Drone Inspection Tracker facilitates the overlay of high-resolution drone imagery with other relevant structure, system, and property data.

Our Puerto Rico Drone Inspection Tracker facilitates the overlay of high-resolution drone imagery with other relevant structure, system, and property data.



support for more than 80 disaster events across 29 states and territories. We bring firsthand knowledge of recovery work happening in Puerto Rico after Hurricanes Irma and Maria, the earthquakes, and Hurricane Fiona. We have demonstrated we can build local capacity and engage

local experts to enhance resilience; for example, we hired more than 300 Puerto Ricans and awarded more than \$20 million of work to local subcontractors as part of our work with COR3.



Climate and Hazard Expertise:

Our climate, adaptation, and resilience experts provide expertise in climate modeling, hazard analysis, and asset vulnerability assessment. We have developed and honed a repeatable approach to modeling the interrelated complexities of multihazard exposure, vulnerability, and adaptive capacity in understanding threats to build assets and prioritizing mitigation activities. Through interactive stakeholder workshops, we facilitate discussions among federal, state, and local municipalities to build a common understanding of how to better prepare for future disasters. Our team has:

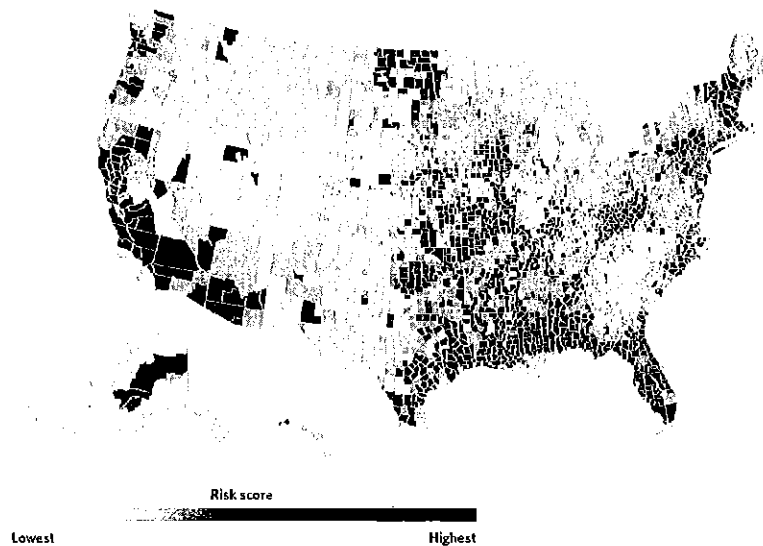
- Analyzed the outcomes of dozens of hypothetical flood hazard mitigation project outcomes (e.g., public investment in street raising, increased drainage, increased pump capacity and private investments) for the City of Miami Beach and evaluated the effects of overall flood reduction on property values, insurance premiums, city operational costs, and more. Concise communication materials convey the results of the business case analysis to support the city in making decisions for further investment in flood mitigation.
- Analyzed national public-school data and developed indicators of their flood risk potential as well as dimensions of students' social vulnerability for The Pew Charitable Trusts (Pew). ICF collaborated closely with Pew to conduct and publicize research on the compounding flood risks to community infrastructure, including a national-level screen of U.S. public schools at risk of flooding. We also developed an interactive dashboard and map series to allow for easy understanding of municipalities and counties most at risk. More information about this work is available at <https://www.pewtrusts.org/en/research-and-analysis/issue-briefs/2017/08/flooding-threatens-public-schools-across-the-country>.

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Our GIS analysis of vulnerable populations at risk of flooding is used to advocate for investment in mitigation.

School Flood Risk Is Distributed Widely Across the U.S.
Overall composite flood risk scores



Schools in every state across the country face flood risks. Counties along the Atlantic Coast, Gulf Coast, and Mississippi River corridor and in southwestern Arizona have the highest composite flood risk scores nationwide. Counties in Alaska, Michigan, and the Mountain West have the lowest.

Note: Counties with no shading in this figure were either not included within the Federal Emergency Management Agency Flood National Hazard Layer data set or within National Center for Education Statistics database.

Source: ICF

© 2017 The Pew Charitable Trusts



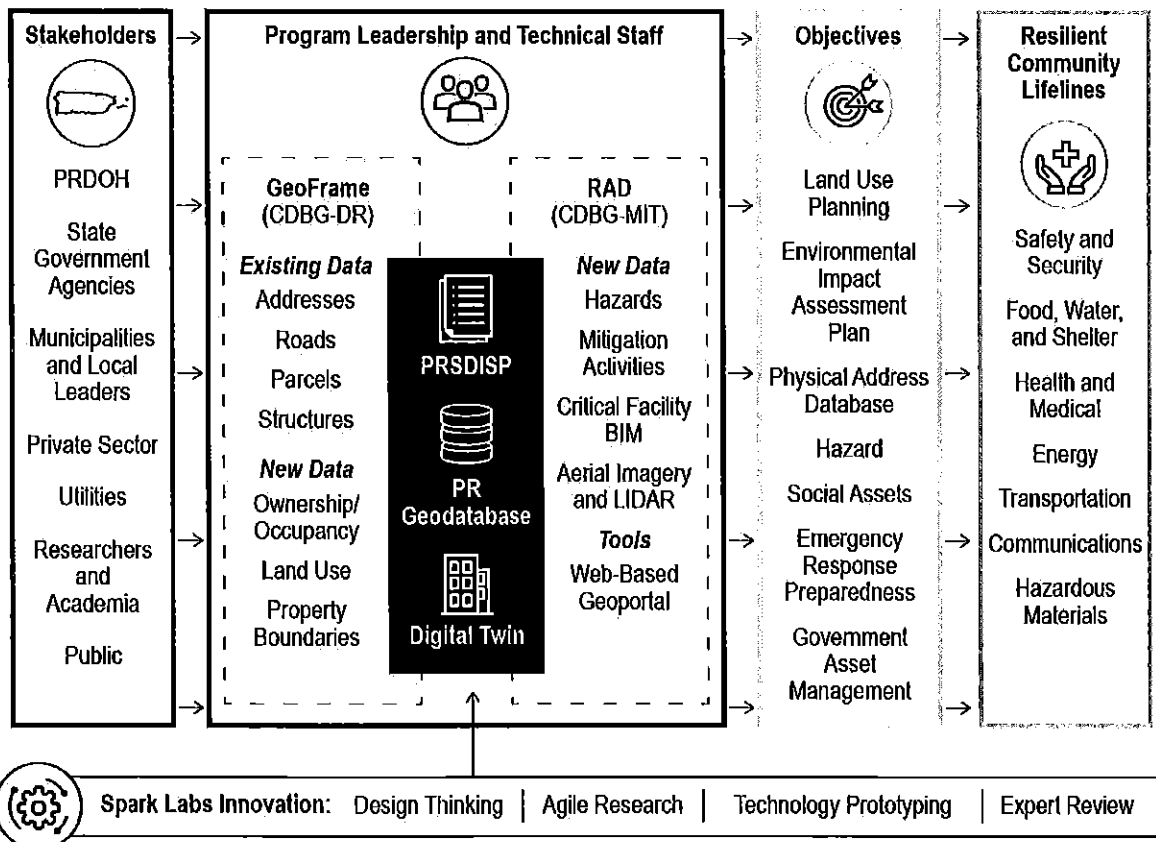
8 Work Approach

Understanding of PRDOH's Needs

In 2017, Hurricanes Irma and Maria exposed limitations in Puerto Rico's approach to managing spatial data that adversely impacted effective disaster response and recovery. Since then, additional tropical storms and climate-intensified natural hazards have further highlighted the fragile nature of Puerto Rico's systems—from policy to the built environment and the various types of infrastructure necessary to support critical community lifelines across the island.

At the same time, PRDOH and its partners have embarked on an ambitious effort to plan and implement dozens of CDBG-DR and CDBG-MIT programs designed to increase the resilience of infrastructure, communities, and households. Puerto Rico's GEO/RAD Program provides a tremendous opportunity to secure a foundation for investment in resilience, capturing accurate data about communities and infrastructure and providing decision support tools. GEO/RAD will also help address long-standing challenges with unregistered housing and incomplete address data. Our understanding of core program elements is shown below.

Team ICF's program leaders and technical staff will engage a diverse set of stakeholders in executing the GEO/RAD Program's tasks, driving objectives that lead to resilient communities and community lifelines.





To be successful, GEO/RAD must integrate the perspectives of diverse **stakeholders**. Data collection is key—Puerto Rico has a wealth of existing data; however, these data are often siloed. **GeoFrame** seeks to organize this data, considering regional nuances to identify gaps. As data are compiled, three core deliverables will take shape:

- The **PRSDISP** will define technical standards, roles and responsibilities, and the SDI needed to sustain GEO/RAD.
- A centralized **PR Geodatabase** will be used to manage and distribute population, community, infrastructure, property, and imagery data and must be scalable and flexible to support evolving needs.
- A **digital twin** system for all 78 municipalities, fed by the data repository, will eventually serve as a comprehensive modeling system, integrating advanced sensor and cloud analytics capabilities for fully informed decisions.

Grounded in these core deliverables, the **RAD** program will execute data production to fill gaps and provide analytical tools to improve decision-making. Throughout GEO/RAD, our **program leadership and technical staff** will reinforce best practices that will become embedded in the fabric of Puerto Rico's institutions. The program also demands the use of **innovation** to accelerate delivery. Executed successfully, these elements will allow PRDOH to achieve GEO/RAD's stated **goals and objectives**, from the establishment of a complete physical address database to less waste, fraud, and abuse. All of Puerto Rico's citizens stand to gain immensely through stronger households, communities, and community lifelines that are resilient to future economic challenges, hazards, and climate threats.

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Why Team ICF?



Intimate familiarity with GEO/RAD stakeholders.

We're confident in our ability to accelerate program implementation because we already know GEO/RAD core stakeholders. Since 2018, ICF has provided federal grant management, project formulation, technical assistance, and recovery program support for Puerto Rico's state agencies and all 78 municipalities. Our key staff have a long history of working with and for these agencies as well as utilities, universities, and private sector partners critical for success.



Recognized leaders in digital modernization for federal and state agencies.

Our deep bench of 3,000+ technologists bring a proven track record executing complex enterprise modernizations with GIS, cloud, and big data. In the last 3 years, we have deployed 10+ large data management and web-based data visualization solutions involving cloud-based GIS and sensitive data. We are pioneering cost-effective methods of integrating remote sensing, indoor GIS/BIM data, and advanced AI/ML models for efficient data production. ICF maintains a dedicated Puerto Rico Technology Center in San Juan, which serves as a local hub for our team's cutting-edge capabilities.



Uniquely positioned to help PRDOH create a holistic vision for GEO/RAD.

With 25 years of experience in FEMA and HUD-funded disaster relief programs, Team ICF possesses the expertise and tools to successfully manage complex, multimillion-dollar programs. From day one, Team ICF will prioritize lock-step coordination with PRDOH to develop an efficient plan that aligns with a future digital twin. We will ensure PRDOH receives the highest level of service—beginning with the right mix of technical and domain staff, from climate resilience to expertise in all seven FEMA Community Lifelines.



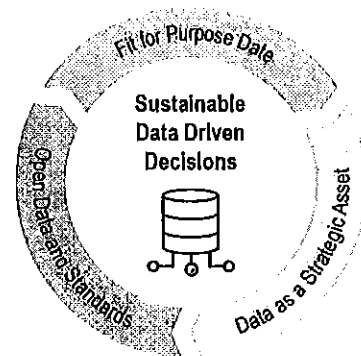
Award winning experts in innovation and agile program management.

Team ICF brings an unparalleled ability to help PRDOH unlock value in GEO/RAD through targeted innovation and agile program management approaches. We invest in innovative methodologies and tools that accelerate transformational initiatives. We have assembled a team of local partners who understand and share our passion for innovative thinking. Team ICF can rapidly scale talented teams of experts and onboard new talent to exceed the needs of PRDOH. ICF was recently recognized as a leading industry innovator in public sector IT transformation by *Washington Technology*.



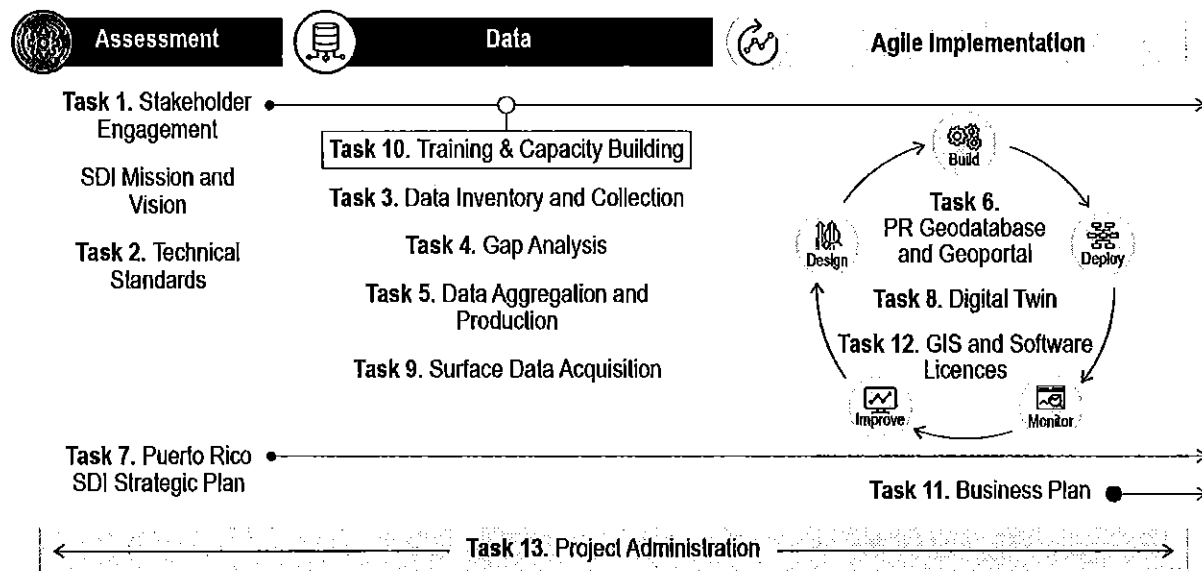
Team ICF's High-Level Approach

The need for improvement in geospatial data is not unique to Puerto Rico; states and cities across the United States struggle to maintain geospatial data that are highly reliable and adaptable for unanticipated needs. Fortunately, advances across the geospatial landscape are changing the economics of data production. For example, **open data and standards** and the proliferation of community-led volunteer geographic information are leading to new sources of **low-cost data** that are worth exploring for GEO/RAD. We will also emphasize the creation of **fit-for-purpose data** that meets requirements and can be used flexibly by stakeholders in many useful ways. Further, we will emphasize approaches that simplify the maintenance of high-quality data and metadata, elevating **data as a strategic asset**. The result will be **data that drives decisions** and has flexibility and scalability that can be maintained for decades to come.



This focus on data will be woven throughout Team ICF's high-level GEO/RAD Program execution approach, shown below. Our approach is predicated on our existing MIICA framework, tailored to meet the specific needs of GEO/RAD. We have successfully used our MIICA process as a blueprint for dozens of large federal and state-level enterprise GIS and data modernization efforts.

Team ICF's MIICA framework ensures a systematic approach to assessment, data, and implementation tasks.



In subsequent sections, we will detail activities and approach central to each of the task areas. At a high level, our MIICA process for GEO/RAD will emphasize several core considerations:

- **Stakeholder engagement will be continuous** throughout the GEO/RAD Program, ensuring that all task activities are firmly rooted and reassessed against the evolving needs of stakeholders.



- **Stakeholder engagement and training/capacity building activities will be coupled**, accelerating the strengthening of institutions and partner agencies for long-term sustainment of GEO/RAD.
- **Technology Implementation will be Agile (collaborative and continuous)** to maximize value for PRDOH and stakeholders/partners.

For outputs from all tasks (1–13) referenced below, we will upload draft and final deliverables to a secure location agreed upon with PRDOH where documents, artifacts, and deliverables can be updated in real time for quick access.

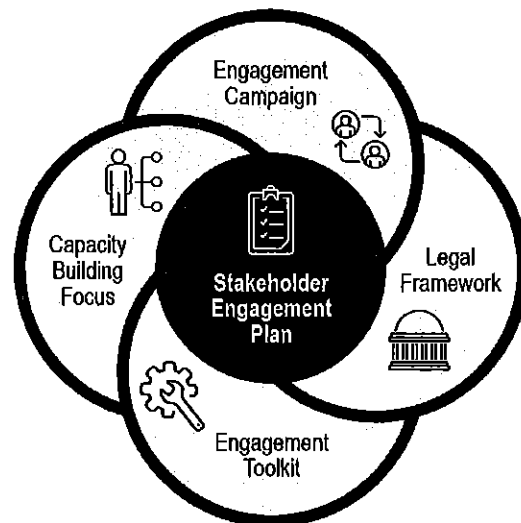
Task 1: Stakeholder Engagement

Task 1 Work Approach. To be successful, GEO/RAD will require buy-in and long-term commitment from the many public and private partners. Stakeholders will need to understand from the start how the program benefits them. Team ICF's existing relationships with government agencies, municipalities, private-sector entities, NGOs, and universities make us a trusted partner that can navigate the complex forces at work across the island to accelerate GEO/RAD delivery.

Task 1.1: Perform Stakeholder/Partner Analysis and Conduct Ongoing Engagement

Our MIICA framework starts with a series of assessment activities to establish a clear program vision and understand existing data and infrastructure. Team ICF will work with PRDOH to identify stakeholders and analyze their needs, including state agencies involved in land use, planning/permitting, and emergency management and response and those that support community lifelines. Representatives of Puerto Rico's 78 municipalities will be key, as they will have cadaster data and information on community lifeline facilities. Stakeholders will also include private-sector entities, including utilities, infrastructure owners, and insurance companies. Universities, NGOs, and professional organizations will bring specialized data modeling expertise and innovative approaches. Beyond these stakeholders, GEO/RAD will need buy-in from the citizens that the program is intended to serve, especially those in marginalized and vulnerable communities.

With initial stakeholders identified, we will develop a **Stakeholder Engagement Plan (Deliverable 1A)** to guide long-term, two-way relationship building. We propose to establish 12 GEO/RAD stakeholder Engagement Teams, each consisting of an engagement specialist, a legal expert, and two to three GIS and data technical staff. Stakeholders will be grouped by region (for municipalities) or by GEO/RAD role and functional area (for state agencies or other stakeholders) and assigned an Engagement Team. These teams will ensure continuous engagement throughout GEO/RAD.





Our Stakeholder Engagement Plan will be designed around four core concepts: a strong engagement campaign, a robust legal framework, an evolving Engagement Toolkit, and a focus on capacity building through engagement.

Engagement Campaign. A robust engagement campaign will raise awareness about GEO/RAD and help establish conditions for success. Team ICF will work with PRDOH to design and implement an engagement campaign, including a website, information materials in English and Spanish, in-person community meetings, and a social media marketing campaign. We will also identify community-based NGOs with an understanding of specific regional challenges and opportunities. Our existing understanding of on-island CDBG-DR and CDBG-MIT programs will enable us to align GEO/RAD messaging with a broader awareness of related programs, accelerating overall outcomes.

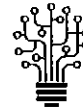
Legal Framework. Next, we will bring together stakeholder representatives and facilitate a series of interactive sessions to communicate core elements of the GEO/RAD Program and establish a shared program vision and expectations. Fundamental to our direct engagement with stakeholders will be a solid legal framework to ensure a transparent understanding of roles and responsibilities and provide firm protection assurances for data that contain personally identifying information or have business sensitivities. Where appropriate, we will implement memoranda of understanding (MOUs) to further define points of contact, communication channels, and data protection mechanisms. Establishing a strong legal framework for engagement will set the stage for a long-term PRSDISP in Task 7.

Engagement Toolkit. To accelerate engagement, we will develop an Engagement Toolkit for use in meetings and by stakeholders on their own. For example, we will develop workshop templates that systematically capture existing data, known gaps in information, limitations or unique challenges, and specific pain points. We will develop checklists to guide data collection processes and secure exchange of data. For municipalities, we will provide talking points and fact sheets for effective communication with community members. As the program progresses, we will develop case studies and share best practices uncovered across the program. Materials developed for the Engagement Toolkit will be made available on the GEO/RAD website for easy access.

Capacity Building Focus. To stay engaged over the long term, stakeholders will need to understand the value of active GEO/RAD participation for them. To achieve this, our approach to stakeholder engagement will involve introduction

Where We've Done This

Team ICF brings deep experience engaging directly with GEO/RAD stakeholders to build consensus and successfully execute projects. ICF's portfolio of on-island projects includes extensive engagement and outreach with PRDOH, FEMA, and all 78 municipalities. Team partner Merrick has conducted comprehensive data production on-island. Team partner ECRE works primarily on-island, partnering with critical infrastructure and utility owners to conduct hazard analyses and environmental assessments. Team partner Roshandel LLC leads outreach and serves as a technical advisor for the Planning Board on behalf of a major code enforcement grant program.



Innovation and Technology

Team ICF will deliver innovation for stakeholders via our Spark Labs toolkit. Our Spark Labs toolkit provides a suite of frameworks, methodologies, and shared tools focused on HCD techniques to help organizations identify priorities for change and create a roadmap for transformative innovation through design thinking and rapid research. Our approach will build innovation capacity for PRDOH and stakeholders that will extend well beyond GEO/RAD.

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of the training and capacity building process (Task 10) early in the program. For each stakeholder, we will quickly identify targeted technical capacity building opportunities. As the program progresses, this will transition to ongoing learning opportunities, collaboration and knowledge sharing across stakeholder groups, and monitoring of activities that identify and quickly address common gaps or challenges for stakeholders.

The artifacts produced as part of stakeholder engagement, including stakeholder mapping, the legal framework, established MOUs, and ongoing engagement metrics will be delivered to PRDOH in a **Stakeholder Analysis Report (Deliverable 1B)**, which will be updated quarterly.

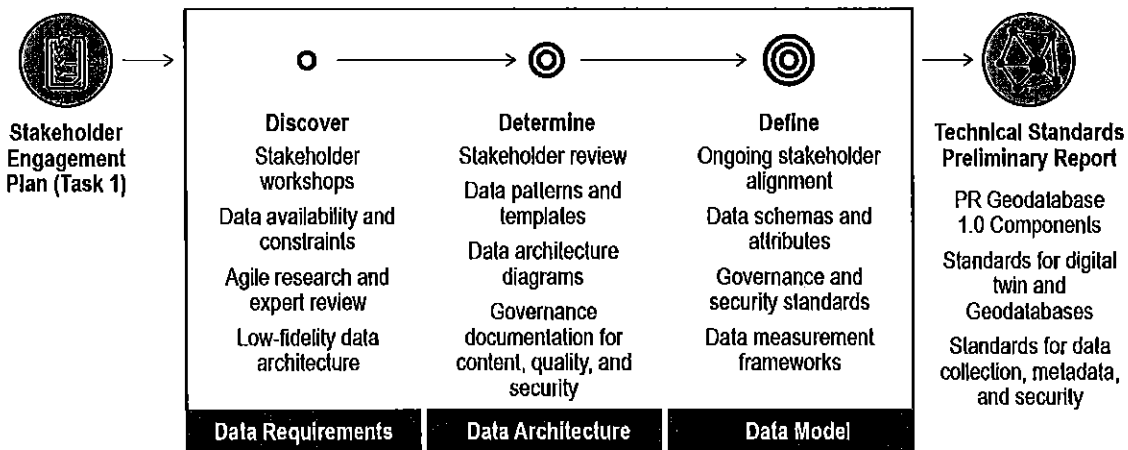
Task 1: Program Leaders and Technical Staff

Task 1 will be led by Team ICF's Engagement Lead, Ms. Cortés Virella, who brings over 10 years of experience supporting complex engagement projects in Puerto Rico, including work with state governments and municipalities and support for recovery projects through FEMA. She will be supported by our Legal Consultant Lead, Ms. Valentín Rivera. We have allocated eight staff, including legal and GIS specialists, across our Engagement Teams to support Task 1.

Task 2: Technical Standards

Task 2 Work Approach. PRDOH is embracing the future by giving priority to digital twin, internet of things (IoT), deep learning, and AI in the development of technical standards for GEO/RAD. Team ICF is fully committed to supporting this vision by designing GEO/RAD technical standards and schemas that accommodate traditional 2D and 3D GIS data layers and provide a strategic framework for handling emerging spatial data sources and technologies. Task 2 will involve defining and documenting data and metadata standards necessary for the PR Geodatabase in a **Technical Standards Preliminary Report (Deliverable 2A)**. Our Task 2 approach, shown below, is based upon our Discover, Determine, and Define process for requirements gathering.

Team ICF's standards creation process relies on tight stakeholder feedback loops to align data models to needs.



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Task 2.1: Define the PR Geodatabase 1.0 Components and Standards for the Digital Twin, Models, and Associated Geodatabases

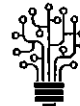
Our approach will start with the **Discover** phase, where we will leverage Task 1 stakeholder engagement activities to clarify existing data availability and constraints, ensuring that we build on what already exists to accelerate progress. Our team of GIS specialists, who are familiar with Puerto Rico's spatial data challenges, will supplement their expertise with domain-specific knowledge from Team ICF's deep bench of advisory SMEs (e.g., land use and planning, energy, transportation) to begin assembling a comprehensive list of data and attributes necessary for GEO/RAD and digital twin models. Our unified Stakeholder Engagement and Technical Teams will work with municipalities to identify local policies and inconsistencies in existing data from, for example, locality-specific property registration and titling practices that have resulted in significant data variations from region to region.

In the **Determine** phase, we will identify common templates and existing industry standards for GEO/RAD's diverse datasets, including structures, parcels, land use, hazards, and special populations. We will apply our knowledge of best practices for geodatabase design to define a logical and physical architecture and a scalable schema for the PR Geodatabase. These standards will draw on recommendations from the Federal Geographic Data Committee's (FGDC's) geospatial standards for implementing the national SDI and industry-established best practices for speed and performance. We will also consider data sources (e.g., IoT, LIDAR, BIM) and how modeling (e.g., AI, deep learning) will support fast and accurate data generation and cleaning. By defining the four Vs of each dataset—velocity, veracity, volume, and variety—our GIS Architect will begin to identify the most appropriate standards for each data source.

In the **Define** phase, we will establish GEO/RAD data schemas and associated attributes. For each dataset, we will define data quality/accuracy requirements for existing data and collection measurement frameworks for data to be collected. We will work with PRDOH and the Puerto Rico Innovation and Technology Service (PRITS) to recommend GIS governance standards, including for people (e.g., designated data owners and stewards), processes (e.g., tracking data lineage across the data lifecycle), and technology (e.g., tools for optimizing data management and tracking).

Where We've Done This

ICF led work to establish a Data Analytics CoE at HUD. ICF delivered an agency-wide Data Governance Charter, initiated a 3-year plan for establishing a chief data officer position, evaluated, and set standards for data collection and processing to support AI/ML modeling, and developed a roadmap for maturing the collection of consistent, high-quality data across the agency through standards and best practices.



Innovation and Technology

As part of our Agile implementation approach, Team ICF will follow lean software development concepts that maximize value to PRDOH through resource and process optimization. For establishing technical standards, we will "build quality in" but also "defer commitment" to ensure the collection of fit-for-purpose data that meet all GEO/RAD requirements without over-engineering standards too early in the program.

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Task 2.2: Define Data Collection, Metadata, and Security Standards

Data collection, metadata, and security standards are critical to ensuring data can be confidently leveraged as a strategic asset. For data precision and recency recommendations, we will research and recommend a set of standards that balance cost (e.g., latest, most accurate, highest resolution) against a less rigid standard that will still satisfy GEO/RAD's needs. In addition to existing PRITS standards for accessibility, interface design, and cybersecurity, we will recommend quality and collection standards for each dataset and attribute, starting with existing standards, per the table below.

Data Collection Standards	Data Content Standards
Digital Orthoimagery, FGDC-STD-008-1999	Geopolitical Entities, Names, and Codes, Version 2 (ISO 3166)
Remote Sensing Swath Data, FGDC-STD-009-1999	Cadastral, FGDC-STD-003
Acquisition and Processing Extensions (ISO 19115-2)	Landmark/Postal, FGDC-STD-016-2011
Geospatial Positioning Accuracy, FGDC-STD-007	Real Property Asset, FGDC-STD-019-2014
USGS LIDAR Base Specification 2022 Revision A	Utilities, FGDC-STD-010-2000
Time-Space-Position Information, Version 2.0	Soil Geographic, FGDC-STD-006
Metadata Standards	Security and Development Standards
FGDC CSDGM (FGDC-STD-001)	NIST 800-53 Cybersecurity Guidelines (Revision 4)
Core Content (ISO 19115/-1)	Federal Information Security Management Act (2002, 2014)
Feature Catalog (19110)	ITIL Version 4/IT Service Management
Data Quality (19157)	IPv6 Network Compliance (USGv6 Profiles, NIST 500-267)
Project Open Data Schema (DCAT 1.1)	Azure Well-Architected Framework
Remote Sensing Metadata, FGDC-STD-012-2002	Esri Best Practices

Task 2 Program Leaders and Technical Staff

Task 2 will be led by Team ICF's Technical Lead, Mr. Valenza, and supported by the GIS Lead, Ms. Archer Malpica, Remote Sensing Lead, Mr. Roldan, and Digital/Twin BIM Lead, Mr. Smith. We have allocated nine staff across our Technical Team to support Task 2. This senior Technical Team brings the diverse data expertise and familiarity with existing PRITS and industry technical standards to establish key GEO/RAD data and technology specifications.

Task 3: Data Inventory and Collection

Task 3 Work Approach. A significant amount of data already exists at state and federal agencies, municipalities, universities, and NGOs. These data, while sometimes incomplete and out-of-date, provide a valuable starting point for GEO/RAD. Task 3 will focus on cataloging, collecting, assessing, and organizing data into the PR Geodatabase 1.0.

Task 3.1: Consolidate Existing Cadastral and Geospatial Data

To ensure success, our Engagement Teams will collaborate closely with state agencies and municipalities to identify, consolidate, and integrate existing cadastral and geospatial data into a single repository. We also recommend exploring

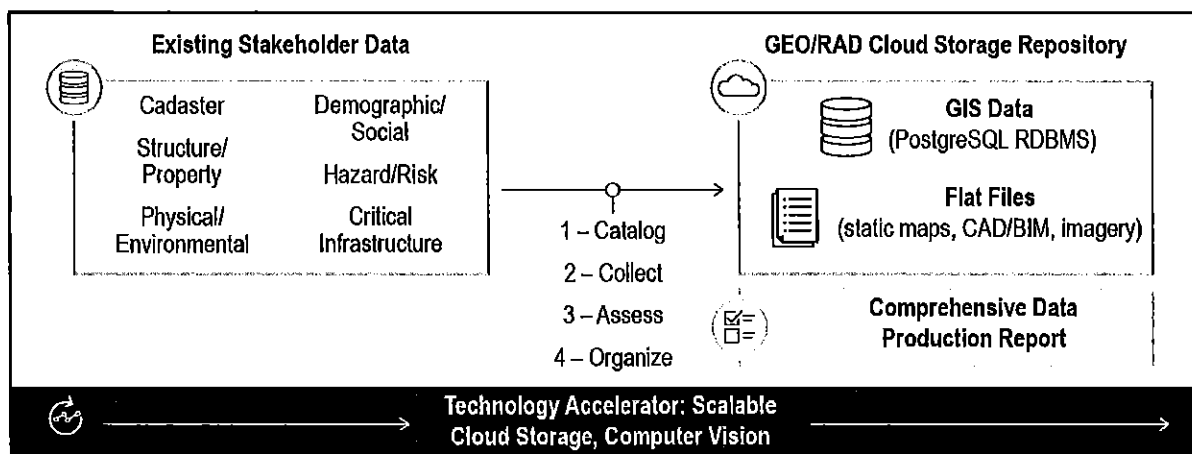


existing data that may reside at federal government agencies. The table below shows the primary agencies we will engage to inventory and collect existing data for Puerto Rico. Many of these agencies have existing land use and cadaster data at a statewide level that will provide a critical foundation for GEO/RAD's GIS database.

Team ICF will help PRDOH quickly inventory and collect existing data from authoritative sources.	
Agencies that maintain land use and cadaster data	Other relevant agencies with critical data
<ul style="list-style-type: none">Junta de PlanificaciónCRIMDepartamento de Justicia de Puerto RicoDepartamento De Recursos Naturales y AmbientalesDepartamento de Agricultura de Puerto RicoDepartamento de la ViviendaAutoridad de Energía EléctricaAutoridad de Acueductos y Alcantarillados de Puerto RicoNegociado de TelecomunicacionesCOR3	<ul style="list-style-type: none">Colegio de Ingenieros y Agrimensores de Puerto RicoUniversidad de Puerto RicoAgencia Estatal para el Manejo de Emergencias y Administración de DesastresICPROficina Estatal de Conservación HistóricaPuerto Rico Chief Information OfficerDepartamento de Transportación y Obras Públicas/Autoridad de Carreteras y TransportaciónUSDA/Natural Resources Conservation ServiceU.S. Geological Survey (USGS)

Our Engagement Teams will also work closely with municipalities to inventory and collect the key data they have. We anticipate local datasets will require substantial effort to analyze and aggregate but that they will serve as key sources of data, especially for information on current and historic parcels, zoning, land use, and future planning. Our high-level process for executing Task 3 is shown below.

Team ICF's data inventory and collection process uses blended Engagement Teams to accelerate assessment.



Catalog. Team ICF will start by cataloging existing stakeholder data. We will create and manage an online inventory of the catalogued datasets, including basic data details and metadata. We will also evaluate datasets compiled by third parties on-island. For example, we will incorporate address datasets maintained by entities like Puerto Rico-based TRackit L.L.C., with whom we maintain a close relationship. As part of the cataloging process, our GIS specialists will perform an initial quality assessment of each dataset to help with later prioritization in areas such as geographic completeness, attribute completeness, recency, and attribute quality.



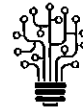
Collect. Next, we will collect data from stakeholders under the framework of the MOU established in Task 1. We propose using a scalable Azure Cloud-based storage repository as the initial landing spot for all data collected in Task 3. This will provide a flexible, cost-effective mechanism for ingesting a large variety of existing data, including flat files and object data types like computer-aided design (CAD)/BIM data formats and scanned paper maps. In the same cloud storage repository, we will deploy a spatially enabled open-source relational database management system (RDBMS) to organize modern GIS datasets and transactional data from real estate and property source systems. This cloud-based approach will facilitate quick and efficient creation of separate, stakeholder-specific repositories for exchange and enable role-based access for securely storing sensitive data.

Assess. Once captured, our GIS specialists will work to further assess and analyze source data and information. For example, we will georeference scanned paper maps and perform character recognition on PDF documents. We will also update the live data inventory to include additional details on data completeness and quality. Our GIS specialists across Engagement Teams will work closely to identify and compare similar or overlapping datasets to better inform and accelerate subsequent efforts for data consolidation.

Organize. As the final step of our process, we will consolidate source data into an organized **Complete Electronic File and RDBMS With All Consolidated Data (Deliverable 3A)**, adhering as much as possible to the schemas established as part of Task 2. For all datasets, we will update metadata in accordance with our recommended metadata standard and capture the data lineage and transformations applied by our GIS team. Stakeholders will be provided with a license (if required) to access the Interim GIS database, using role-based access control to secure sensitive data. All data will be owned by the Government of Puerto Rico and will be made accessible to relevant entities and stakeholders based on PRITS data sharing policies. The full data inventory will be made available to PRDOH and PRITS as the **Comprehensive Report on Consolidated Data (Deliverable 3B)**.

Where We've Done This

At DHS, ICF is supporting a 10-year enterprise GIS effort to support asset management and disaster response. The project started with an effort to collect, inventory, and organize millions of data records across DHS's thirteen agencies, including FEMA and the U.S. Coast Guard. ICF's GIS and database specialists automated processes to standardize and integrate the data into a consolidated geodatabase and use data pipelines to update the data each quarter.



Innovation and Technology

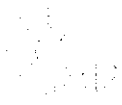
Modern, cloud-native data processing tools are automating the process of assessing data quality and building data models. Team ICF's proposed GEO/RAD architecture includes Azure Data Factory to automate data quality assessments, metadata generation, and data cataloging. Our approach also enables advanced techniques like computer vision, driven by deep learning, to ensure accurate extraction from paper maps and images for seamless integration into the PR Geodatabase 1.0.

Task 3 Program Leaders and Technical Staff

Task 3 will be led by our Planning Lead, Mr. Carrasquillo Medrano, with support from our Engagement Lead and Engagement Team staff. Mr. Carrasquillo Medrano brings over 10 years of experience working with Puerto Rico's existing planning and mitigation data. Our Geodatabase/ArcSDE Lead, Mr. Colon, will oversee efforts to compile these data in a standard, electronic format. We have allocated 37 staff across our Technical Team to support Task 3.

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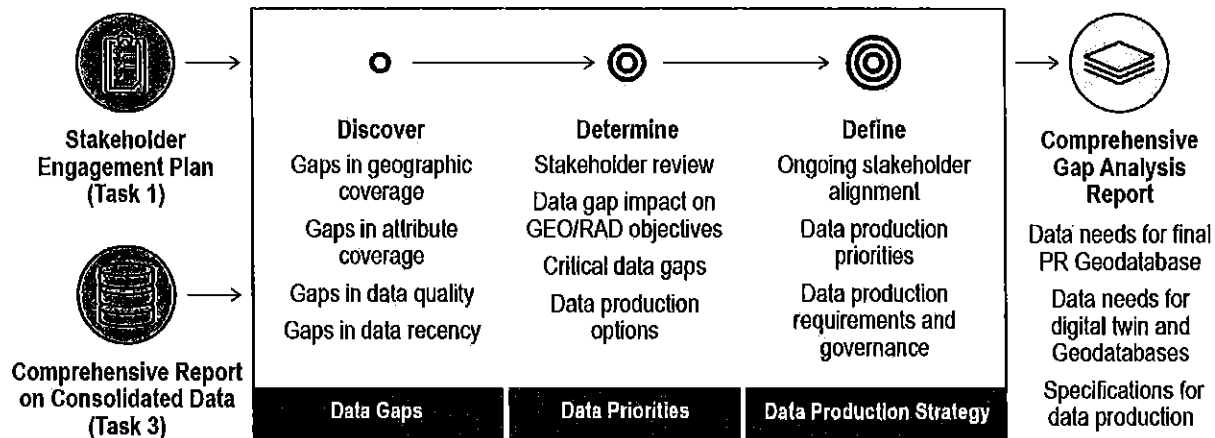
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Task 4: Gap Analysis

Task 4 Work Approach. Conducting a thorough gap analysis is critical to ensuring that subsequent data production activities are appropriately prioritized. Critical data gaps must be effectively identified and closed to ensure that stakeholder decisions based on GEO/RAD data can be made with confidence and that the digital twin envisioned for the island provides real value. Our approach to Task 4 is based upon our Discover, Determine, and Define process, tailored for delivering the Comprehensive Gap Analysis Report as shown below.

Team ICF's gap analysis process will result in optimized fit-for-purpose data production specifications.



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Task 4.1: Identify Spatial and Quality Gaps In Existing Datasets

Our approach will start with a **Discover** phase, where we will compare the Task 2 Technical Standards Report and Task 3 Comprehensive Report on Consolidated Data to identify data gaps. Using desktop and web GIS tools, our team of GIS specialists with domain-specific knowledge will evaluate each collected dataset and compare it to the established quality standards, deciding whether the needed data can be derived from existing data or whether a gap exists. They will also evaluate the geographic coverage and recency of datasets. In cases where aggregated datasets have different vintages, we will use the data lineage to capture detailed information on exactly what data production is required to close a gap, as this can provide significant cost savings.

Where We've Done This

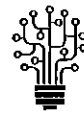
At NYSDOT, ICF is leading a \$69 million program that includes GIS and data analytics for wide-ranging, transportation-based initiatives, including marketing, outreach, transportation demand modeling, and infrastructure analysis. Our GIS experts conducted a data needs assessment, inventoried existing data, and identified gaps, then produced spatial and tabular data from existing and new sources. Data are stored in a cloud-based data lake with access provided to end users through web-based tools.

In the **Determine** phase, we will work collaboratively with PRITS and PRDOH to review the identified data gaps and assess their impact on desired program outcomes. For each dataset, we will score geographic coverage and attribute values along key dimensions and as defined by standards to help clearly communicate the most critical gaps. We will also create a series of maps showing gaps by region to help PRDOH and stakeholders visually understand gaps. For identified data gaps, we will propose options for closing the gap and estimate the level of effort, cost, and data quality improvement. We recommend developing a backlog of specific data production needs organized as a matrix against data production options. For example, we will explore the availability of third-party datasets, like OSM, that are validated and can be integrated to help fill small gaps at a significantly lower cost.

Task 4.2: Develop Prioritized Data Production Strategy

In the **Define** phase, we will work directly with PRITS and PRDOH to review the backlog of data production needs and assign priorities using the four-step MoSCoW (must have, should have, could have, will not have) prioritization process. Using the prioritized backlog, Team ICF will recommend a GEO/RAD data production strategy to close data gaps. We will look for opportunities to close gaps through low-cost production methods, such as by applying ML algorithms to existing data to infer additional attributes. The data production strategy will consider timeline concerns for supporting the final PR Geodatabase 1.0 and the digital twin model.

The output of the data production strategy development process will be the **Comprehensive Gap Analysis Report (Deliverable 4A)**. It will include identification of the data gaps and their criticality, an alternative analysis of options for data production, and the final, PRDOH-approved data production strategy with a clear indication of how planned data production activities will close data gaps. In line with our fit-for-purpose data approach, we will offer alternatives for production methods if they can be performed at a significantly lower cost while still providing strong data confidence for decision-making.



Innovation and Technology

ICF will evaluate open-source data from the volunteered geographic data platform OSM to fill specific PR Geodatabase gaps, including working with the Universidad de Puerto Rico—Río Piedras OSM YouthMappers chapter to strengthen ongoing data production efforts. Team ICF brings existing relationships with the NGOs Humanitarian OpenStreetMap Team and OpenStreetMap US. The map below shows the extensive, existing critical infrastructure, structure, and land use data already in OSM for just one community—Yabucoa, in southeast Puerto Rico.

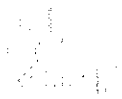


Task 4 Program Leaders and Technical Staff

Task 4 will be led by our GIS Lead, **Ms. Archer Malpica**, who brings almost 20 years of experience assessing Puerto Rico's critical infrastructure and community lifeline GIS data. She will be supported by our Remote Sensing Lead, **Mr. Roldán**, to evaluate existing imagery and LIDAR data, and Team ICF's on-island GIS specialists. We have allocated 39 staff across our Technical Team to support Task 4.

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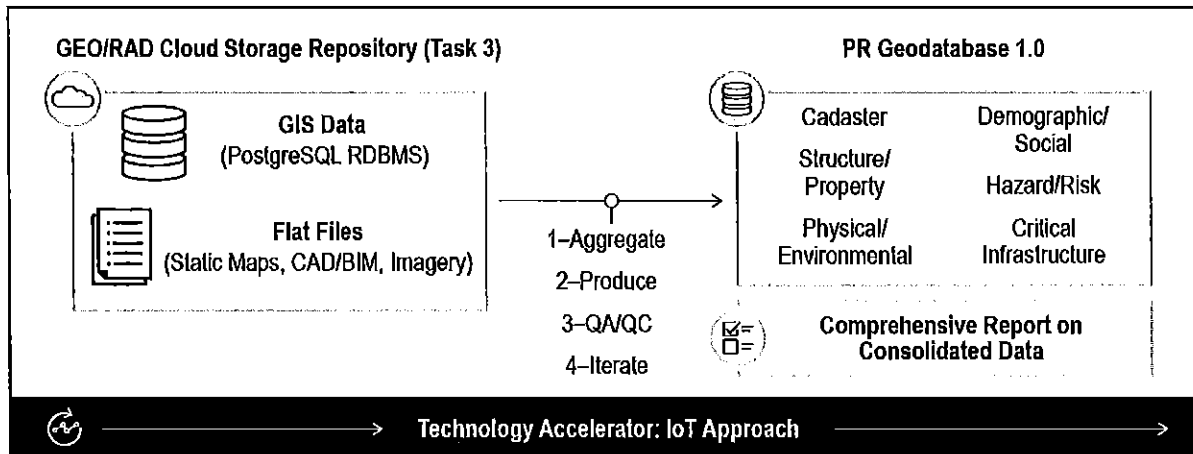
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Task 5: Data Aggregation and Production

Task 5 Work Approach. After conducting the gap analysis, our team will reexamine the collected data. Our goal will be to accelerate the organization of data into logical structures to enable efficient loading into the PR Geodatabase 1.0. Our approach will consider future requirements for data enumeration, digital twin incorporation, and aerial/mobile data collection. Our high-level process for executing Task 5 is shown below.

Team ICF's data aggregation and production process will populate the PR Geodatabase with high-quality data.



Task 5.1: Execute the Data Aggregation and Production

Aggregate. Team ICF recognizes the need to balance stakeholder priorities in the process of data aggregation. To address this, we will facilitate a working group meeting involving GEO/RAD stakeholders. This meeting will serve as a platform to review and address concerns and strategies emerging from the gap analysis across various data sources, including physical, environmental, social, and hazard/risk data. Our approach to data aggregation will focus on specific tasks aimed at unifying these diverse data sources into coherent and logical structures. These tasks will include merging adjacent or overlapping data from different spatial or temporal resolutions, harmonizing attribute fields among interconnected datasets, and aligning coordinate systems.

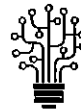
Produce. PRDOH will need to collect significant additional data to close gaps in the PR Geodatabase 1.0, including thousands of unregistered structures and more accurate data on critical infrastructure locations. Pending further assessment in line with GEO/RAD's vision, our proposed approach will be to use a mix of data collection techniques, including enumeration for unregistered structures, and remote sensing techniques to achieve a fit-for-purpose approach focused on tenure. These efforts will supplement existing data to help eliminate gaps in SDI identified by GEO/RAD participants. Datasets produced will adhere to requirements outlined by our experienced requirements collection teams. Through the GEO/RAD Program site, Team ICF will provide twice-monthly updates on data production efforts and updates to maps to show outstanding gaps.

Conduct Quality Assurance (QA) and QC. The technical standards established in Task 2 will form the basis for a robust set of QA and QC measures documented in a QA/QC Plan. This plan will be key to ensuring confident decision-making by GEO/RAD partners. Our approach to QA/QC builds on best practices for data quality from the Data Management Book of Knowledge, supplemented with standards for spatial data quality from FGDC's Geospatial Data Act. Our GIS Technical Lead and GIS specialists will oversee procedures to quantify, document, and address data quality issues. We will build a set of data quality dashboards to help PRDOH and PRITS leadership measure and track data quality trends and quickly pinpoint opportunities to improve. Where issues are identified, we will build reusable tools to correct erroneous data or fill missing attributes.

Iterate. PRDOH can benefit by adopting a smart data aggregation and production approach associated with IoT. Challenges in generating data across the island include data corruption, misalignment, and outdated information, especially with real-time data streams. Our cloud and IoT domain experts will recommend an optimized strategy for continuously updating datasets and successfully incorporating them into the PR Geodatabase. We will employ proven IoT tactics like sensor aggregation, data filtering and compression, and time synchronization. Leveraging these tactics will allow Team ICF to iteratively update data and scale data collection and analysis across diverse data sources, resulting in a **Complete Electronic File of Data Collected, Aggregated, and Produced (Deliverable 5A)**. By documenting and organizing relevant data and metadata for Task 5, we will also provide PRDOH with a **Comprehensive Report on Data Collected, Aggregated, and Produced (Deliverable 5B)**. This document will be used for tracking data progress.

Where We've Done This

ICF's GIS experts are leading efforts to assess and improve data quality for the U.S. Department of Transportation's (DOT's) National Transportation Atlas Database, a collection of more than 60 national spatial datasets produced quarterly from state data. We also work directly with the partner data providers to help them improve data quality in the agency source systems. As a result, DOT can deliver high-quality open datasets to other agencies and researchers while reducing the cost and level of effort needed for states to maintain their data. As a result, DOT can deliver high-quality open datasets to other agencies and researchers while reducing the cost and level of effort needed for states to maintain their data.



Innovation and Technology

Team ICF's proposed GEO/RAD architecture includes a collection of cloud-native tools that support ready integration of IoT and other real-time, streaming sensor data. For example, our core data processing tool, Azure Data Factory, can use the low-cost, on-demand Azure Stream Analytics engine to ingest streaming data for automated data updates. It can also be seamlessly extended to support IoT devices using the Azure IoT Platform.

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Task 5.2: Oversee and Support Other Data Aggregation and Production Efforts

As requested by PRDOH, Team ICF will work with partners and stakeholders to support other data aggregation and production efforts to ensure data are interoperable with GEO/RAD and avoid duplication of effort. Team ICF has proven experience supporting diverse clients with data aggregation and production, including providing guidance and technical support to maintain data standards. GEO/RAD will benefit from tapping into Team ICF's existing relationships across the island, accelerating the ability to resolve issues and synchronize data collection activities.

Task 5 Program Leaders and Technical Staff

Task 5 will be led by our Technical Lead, Mr. Valeriza, with support from our Geodatabase/ArcSDE Lead, Mr. Colon, and our GIS Architect, Mr. Snyder. Our Technical Advisory SMEs will provide additional support for data production strategies and AI/ML modeling. Mr. Valeriza brings almost 20 years of experience aggregating and producing complex GIS datasets. We have allocated 38 staff across our Technical Team to support Task 5.

Task 6: Puerto Rico Geodatabase 1.0 and Web-Based Geoportal with Data Access and Analysis and Visualization Tools

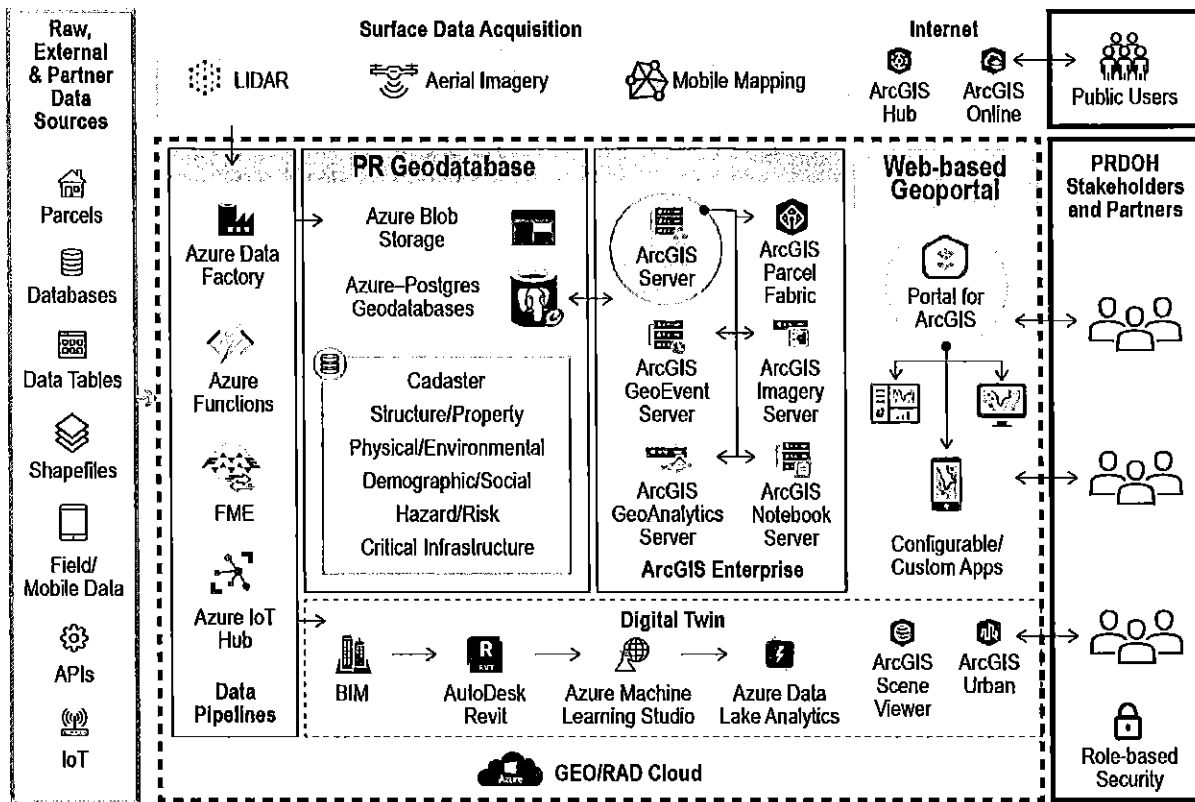
Task 6 Work Approach. For Task 6, Team ICF will compile and organize all data produced through Task 5, including physical, social, environmental, and hazard/risk data and deliver the PR Geodatabase 1.0 and the Web-based Geoportal facilitating data access, analysis, and visualization.

Task 6.1: Develop Puerto Rico Geodatabase 1.0 and Web-Based Geoportal

Below is Team ICF's proposed notional GEO/RAD architecture. This architecture aligns with Team ICF's Task 12 GIS and software license recommendations and is based on existing GIS technology in the Puerto Rico government, our understanding of GEO/RAD requirements, and our experience designing and implementing similar complex enterprise GIS solutions for other clients. We will hone this notional architecture through development of the Task 7 PRSDISP Plan and provide a complete GIS software recommendation for review and approval by PRITS and PRDOH prior to implementing.

Our proposed architecture is oriented around ArcGIS Enterprise, deployed in an Azure GEO/RAD cloud-hosting environment. We propose an open-source Azure PostgreSQL RDBMS database for the PR Geodatabase and ArcGIS Hub for centralized access to the web-based Geoportal. To further reduce costs and better support emerging technology capabilities, we have proposed a closely coupled, low-cost Azure cloud-native architecture for orchestration. For example, we recommend the use of Azure Data Factory and cost efficient serverless Azure Functions for creating data pipelines, and a virtual network/firewall for providing high security for sensitive data.

Team ICF's architecture is designed to maximize GEO/RAD capability at the lowest total cost of ownership.



Our proposed hybrid infrastructure will be:

- **Highly Interoperable.** Our proposed data and infrastructure technologies align with those in use across the island.
- **Highly Scalable.** Cloud-native applications scale on demand, with costs only incurred for actual usage.
- **Highly Resilient.** Built-in redundancy and disaster recovery tools ensure data and applications always work.
- **Highly Secure.** Data encryption, role-based security, and continuous monitoring tools ensure protection of data.

The core of our notional architecture is focused on storing and maintaining the components of the PR Geodatabase and facilitating access to the data access, analysis, and visualization tools of the GEO/RAD web-based Geoportal.

Puerto Rico Geodatabase. The PR Geodatabase is central to the architecture of the overall system and will provide data and map services for applications and for digital twin modeling. It will need to accept data edits/revisions provided through web-based Geoportal applications and be instantly accessible as a system of record for emergency response. It will include all existing data consolidated cleanly into individual layers,

Where We've Done This

As part of ICF's enterprise GIS support to DHS, our GIS analysts and developers have built a suite of dynamic, web-based GIS desktop and mobile applications, organized through a seamless portal interface. Hundreds of users across the 13 DHS component agencies can explore core agency data, visualize ongoing disaster, and hazard impacts to assets across the country, perform advanced analysis to improve decisions, and identify possible waste, fraud, and abuse.



including physical address points and environmental, social, and hazard/risk data. Data schemas will be organized in line with the technical standards documented in Task 2.

By utilizing Esri's ArcGIS Enterprise solution with a spatially enabled PostgreSQL RDBMS database, the PR Geodatabase will scale as new features, attributes, and data are added through later tasks. It will be deployed to a secure, accessible hosting infrastructure. For accessibility, ICF will work with PRDOH and stakeholders to identify which datasets should be publicly available and will make those datasets searchable using Esri's ArcGIS Open Data capability.

Web-based Geoportal with data access, analysis, and visualization tools. Following our MIICA Agile implementation approach, ICF will design and develop, in conjunction with program stakeholders, a web-based Geoportal that allows program stakeholders to view geospatial data through web-based mapping applications hosted in ArcGIS Portal that will result in a **Dynamic, Interactive Mapping Portal Powered by Geodatabase 1.0 (Deliverable 6A)**. The applications will allow users to visualize, query, perform simple analysis, and create reports of various datasets in the GIS database. Our recommendation, based on our understanding of PRDOH's requirements, is to develop a family of closely related web-based applications that will be accessible through a single portal and built using the same core Esri web application capabilities. Our approach will allow for additional applications to be developed as needs evolve and within hours for new disaster responses.



Innovation and Technology

Team ICF's innovative, hybrid GEO/RAD architecture provides flexibility to cost-effectively meet diverse requirements while capitalizing on technology opportunities offered by open-source tools and COTS products from Esri and Azure. For example, the PR Geodatabase and web-based Geoportal will be developed using Esri's ArcGIS Enterprise suite of tools but hosted on Azure infrastructure in an open-source PostgreSQL database. The Geoportal will primarily consist of Esri applications but have the option to include a mixed stack of tools to meet unique needs.

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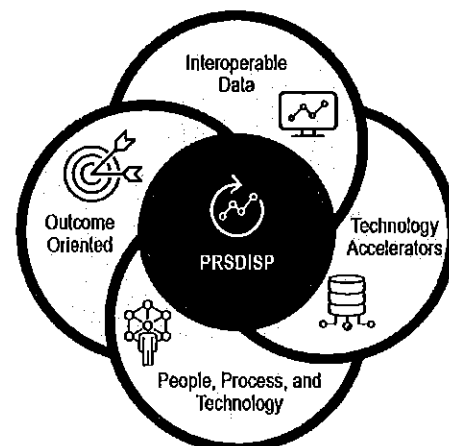
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Task 6 Program Leaders and Technical Staff

Task 6 will be led by our Geodatabase/ArcSDE Lead, Mr. Colón, with support from our GIS Architect, Mr. Snyder. Our Technical Advisory SMEs will provide additional support on architecting Azure cloud solutions. Mr. Colón brings over 10 years of experience as a GIS professional. He has implemented enterprise geodatabases and support architecture across diverse industries and has recent experience architecting and implementing an advanced ArcGIS Enterprise Portal for GRIM. We have allocated 26 staff from our Technical Team to support Task 6.

Task 7: Puerto Rico Spatial Data Infrastructure Strategic Plan

Task 7 Work Approach. The PRSDISP will be critical for organizing a collection of GEO/RAD technologies, processes, and human capital for long-term, sustainable contributions to the resilience of Puerto Rico's people and community lifelines. We know this will be a challenge—for example, the island's unique land ownership system and intricate





technologies, data, and metadata and will extend the Task 4 gap analysis to identify gaps in IT architecture that must be addressed through training and capacity building. By including legal specialists in our Engagement Teams, we will incorporate diverse perspectives as we recommend new or modified policies such as property addressing, permitting, registration, and insurance.

Interoperable Data. At the core of the GEO/RAD Program is data. To drive successful decision-making, data do not always need to be perfect, but they do need to be interoperable—that is, easily exchanged and consumed across systems and platforms—and those systems and platforms need to be easy to access. In developing the PRSDISP, we will emphasize core data and metadata standards that promote flexible exchange of data across the island and with external platforms. This will include emphasizing the creation of machine-actionable spatial data that can be readily consumed and applied in diverse ways, from traditional desktop data analysis tools to open-mobile and low-bandwidth emergency response applications, to specialized BIM and digital twin software.

Technology Accelerators. The landscapes of cloud computing, data lakes, real-time geospatial capabilities, streaming IoT sensors, big data, and AI (including computer vision, ML, and deep learning) are quickly evolving. So too are open-source GIS technologies, tools, and data platforms, like OSM. The PRSDISP needs to anticipate the contribution of these technologies and carefully consider the proper testing and integration approaches, legal frameworks to support their use, and training required to take full advantage of them. Team ICF's mix of domain experts, geospatial and cloud SMEs, and data scientists will help GEO/RAD appropriately adopt new technologies while balancing their complexities and cost.

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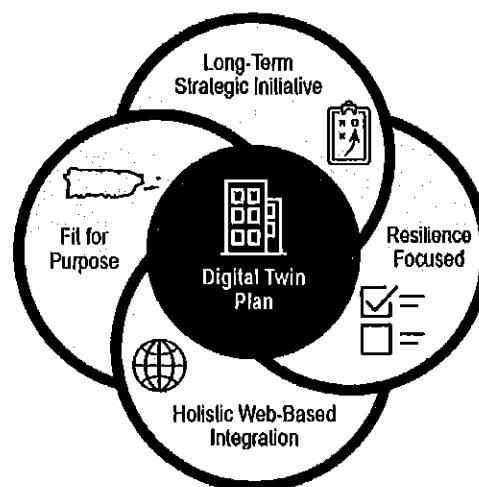
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Task 7 Program Leaders and Technical Staff

Task 7 will be led by our PRSDISP Lead, Mr. Roshandel, with substantial contributions coming from our Planning Lead, Mr. Carrasquillo-Medrano, and our Legal Consultant Lead, Ms. Valentin Rivera. Mr. Roshandel has 20+ years of experience using technology and data science to promote integrated insights. We have allocated six staff to support Task 7.

Task 8: Digital Twin Architecture, Design, and Implementation Plan

Task 8 Work Approach. A sound Digital Twin Architecture, Design, and Implementation Plan will advance the goal of creating an island-wide digital twin model. Team ICF will partner with PRDOH to develop a realistic plan with iterative milestones to equip Puerto Rico for future disasters and enable seamless integration of modeling and simulation techniques in a high-resolution digital twin. Our approach to developing the Digital Twin Architecture, Design, and Implementation Plan (Deliverable 8A) will incrementally work toward a fully integrated system as a long-term strategic initiative, embrace a fit-for-purpose solution that is right-sized, focus on resilience, and be fully integrated with existing GEO/RAD tools through web-based integration.



Task 8.1: Develop the Digital Twin Architecture, Design, and Implementation Plan Components

Long-Term Strategic Initiative. Our multidisciplinary team consists of digital twin experts, geospatial analysts, data scientists, software engineers, and domain specialists with deep knowledge of Puerto Rico's infrastructure and hazard risks. Through the stakeholder engagement process, we will create a tailored and comprehensive plan for review and approval by PRDOH. We will start by identifying the core capabilities of the digital twin model and then establish plan sections that build toward the full model.

Digital Twin Architecture, Design, and Implementation Plan – Core Proposed Sections

1	Capturing and developing physical and intelligent data (GIS/BIM)
2	Researching and manipulating historical (temporal) data for modeling algorithms
3	Incorporating required PRDOH entity data sources from stakeholder engagement
4	Recommending data additions, improvements, and modifications
5	Accepting IT infrastructure/sensor recommendations
6	Integrating existing and new data modeling and predictive analysis
7	Applying AI/deep learning and spatial analysis techniques

Fit for Purpose. Development of a digital twin model, even for a single built structure, can be a time-consuming and expensive endeavor. Team ICF will help PRDOH design a plan that "right-sizes" the end product, with realistic and achievable milestones that provide incremental value. This will include the collection of fit-for-purpose data as part of GEO/RAD. Our team will conduct an in-depth analysis of the datasets identified during stakeholder engagement and SDI development, ensuring their suitability for incorporation into the digital twin. Based on the analysis, we will then develop a prioritized data production strategy that ensures seamless integration of new data into the digital twin.

Resilience Focused. Our team will assess the need for improvements to existing models or the creation of new models for sea level rise, coastal erosion, hurricane, landslide, drought, earthquake and liquefaction, human-made hazards, and other identified hazards. Our team's deep bench of technical and domain SMEs brings an understanding of the best-in-class models for resilience, including capabilities to model climate stressors into the digital twin. We will apply this experience to identify the required IT infrastructure necessary for deploying and supporting sensors (IoT) and managing the big data generated by these sensors. Team ICF's plan will incorporate spatial computing capabilities and AI techniques to enhance the digital twin's

Where We've Done This

Team member Merrick has worked extensively with a confidential US Government DoD client to build robust facility-level digital twins for security, disaster response/recovery, and indoor routing. The digital twins include photorealistic 3D data capture, asset tagging, integration with document management, and implementation of a secure 3D visualization platform.



Innovation and Technology

Team ICF's proposed GEO/RAD architecture is the IT foundation needed for Puerto Rico's digital twin. Through our Spark Labs innovation toolkit, we will perform Agile research and technology prototyping that validates the digital twin architecture, design, and implementation approach captured in the final Digital Twin Architecture, Design, and Implementation Plan.

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ability to model, simulate, and predict emergency response scenarios and risk mitigation strategies.

Holistic Web-Based Integration. Our proposed GEO/RAD architecture already contains the elements necessary for a digital twin model, including the Azure-hosted PR Geodatabase, which can be readily extended to a full Azure Data Lake for digital twin support and IoT integration. As part of plan development, we will refine and validate the web-based integrations necessary for the digital twin model ecosystem. We envision end users will interact with the model through the GEO/RAD web-based Geoportal by adding additional Esri and Azure products when ready. As part of this architecture refinement process, we will provide a comprehensive cost analysis that encompasses all aspects of the Puerto Rico digital twin, ensuring PRDOH and its partners have a clear understanding of the long-term (20 years) financial implications associated with implementation and operation.

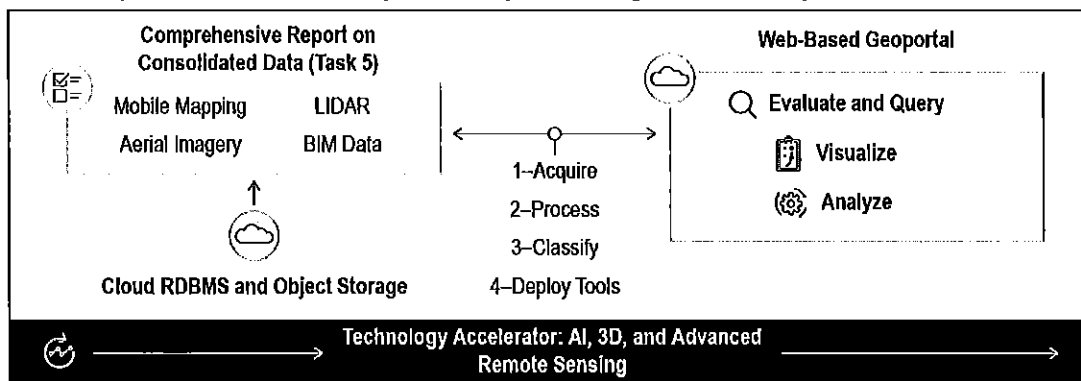
Task 8: Program Leaders and Technical Staff

Task 8 will be led by our Digital Twin/BIM Lead Mr. Smith in close collaboration with our Technical Lead Mr. Valenza, and our GIS Architect Mr. Snyder. We have allocated 11 staff to directly support delivery of Task 8. Over the past 6 years, Mr. Smith has led significant and similar data model development, integration, and design projects for digital twin models.

Task 9: Surface Data Acquisition

Task 9 Work Approach. Data acquisition will use innovative techniques to provide a comprehensive record of Puerto Rico's built and natural environment. High-resolution imagery and LIDAR data will support visual analysis and automated detection of structures and features. Team ICF is a leader in developing and implementing fit-for-purpose remote sensing and mapping, including extensive recent work in Puerto Rico to map features and perform damage assessment. For all surface data acquisition, we acknowledge that all data collected will be the property of the Government of Puerto Rico at program conclusion. We describe our high-level process for executing Task 9 below.

Team ICF's Task 9 process will deliver a suite of powerful analysis tools integrated into the Geoportal.



Task 9.1: Mobile Mapping

Team ICF will **acquire** mobile mapping data for approximately 21,400 miles of roads. We will **process** and **classify** collected data, including producing planimetrics for road centerlines and bridges (as polygons). Our deliverables will include calibrated and processed mobile LIDAR and 360-degree photography data, which can support feature extraction

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and damage assessments. The data will be securely uploaded to Azure object storage, providing comprehensive and accurate information for evaluation and use. For **Data and Visualization Tools for Mobile Mapping Data (Deliverable 9A)** we will **deploy** a set of configurable/custom Esri apps to the web-based geoportal, including ArcGIS 3D Scene Viewer, as a precursor to a full digital twin model capability.

Task 9.2: Aerial Imagery and LIDAR

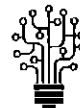
Following industry standards and data specifications established with PRDOH as part of Task 2. Technical Standards, we will recommend and **acquire** cost-effective aerial imagery that fully supports feature extraction requirements identified by stakeholders. For example, in urban areas, extremely high-resolution aerial imagery (7.62 cm) and LIDAR data (8 points per square meter) will have resolutions to support detailed feature extraction of buildings, distribution poles, transformers, photovoltaic units, hydrants, pump stations. Using our validated post-processing accuracy correction and object detection models, Team ICF will **process** and **classify** features based on specifications. Imagery will be processed into tiled imagery for fast processing, and LIDAR data will be processed and classified into TIN surfaces based on multiple returns, including surface (building and structures) and bare earth. For **Data and Visualization Tools for Aerial Imagery and LIDAR Data (Deliverable 9B)** we will **deploy** a set of configurable/custom Esri apps to the web-based geoportal, including tools to include orthomosaic imagery and LIDAR features in web mapping applications with layers from the PR Geodatabase.

Where We've Done This

Team member Merrick has produced aerial imagery and LIDAR extensively across the island, including ongoing data collection of transmission line orthorectified imagery and classified LIDAR for electric utility LUMA. In 2016, Merrick collected island-wide aerial imagery and produced orthomosaics and selected planimetric features for CRIM. Following recent hurricanes and as part of the FEMA COR3 project, team member ICF has conducted site damage inspections through over 10,000 drone flights of impacted assets and over 3,500 3D interior site inspections of facilities.

Task 9.3: Building Information Modeling (BIM)

Team ICF brings the deep experience needed to create integrated BIM data models for diverse critical infrastructure and facilities, including healthcare, potable and wastewater, and transportation. We will use innovative indoor mobile mapping systems, laser scanner technologies, LIDAR, and UAVs to **acquire** a mesh of data with complete coverage while adhering to our efficient, fit-for-purpose approach. Our experience in executing similar projects allows us to confidently undertake the logistical and data management complexities associated with development of BIM data models for 2,000 structures. Once data is acquired from various scanning systems, we will **process** them into a



Innovation and Technology

Team ICF is at the forefront of integrated infrastructure data collection, combining aerial, drone, mobile, and indoor mapping, and scanning techniques to produce high-value data quickly and cost effectively. In our ongoing work in Puerto Rico, we pair deep learning feature detection algorithms with fit-for-purpose imagery and LIDAR data to produce accurate models that can be explored through out-of-the-box Esri web applications.

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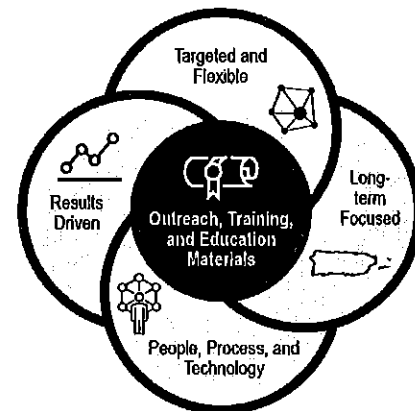
single, complete building model and **classify** attributes and build 3D features. For **Data and Visualization Tools for BIM Data (Deliverable 9C)** will continue to use our recommended suite of Esri products. We will deploy a custom Esri app to the web-based geoportal that includes features for users to evaluate and use the data in 3D to support resilience planning, disaster recovery, and long-term facility management.

Task 9 Program Leaders and Technical Staff

Task 9 will be led by our Remote Sensing Lead, **Mr. Roldán**, with support from our Digital Twin/BIM Lead, **Mr. Smith**. Our Technical Advisory SMEs will provide additional support on remote sensing and architecting Azure storage solutions. **Mr. Roldán** has more than 15 years of experience in the development and implementation of GIS and remote sensing systems for the Puerto Rico government and private sector. We have allocated seven staff from our Technical Team to support data integration and tool development, in addition to surface data acquisition teams.

Task 10: Training and Capacity Building

Task 10 Work Approach. The GEO/RAD Program presents a significant opportunity for Puerto Rico's agencies and municipalities to expand their data and analytics capacity in a way that significantly strengthens institutions and communities. This training and capacity building is also paramount for the long-term sustainment of the data, tools, and infrastructure implemented through the PRSDISP. Per our MIICA framework, Team ICF's approach to Task 10 will be to include training and capacity building as an extension of the stakeholder engagement process, using our dedicated Engagement Teams to immediately start identifying competency gaps or capacity issues that need to be addressed, then develop a **Portfolio of Outreach, Training, and Education Materials (Deliverable 10A)** to ensure success. Our approach will emphasize four core concepts: a holistic people/process/technology approach, a targeted and flexible set of resources, results-driven training that is measurable, and a focus on long-term sustainment/sustainability.



Task 10.1: Capacity Building Activities

People, Process, and Technology. As Team ICF's blended Engagement Teams perform stakeholder/partner analysis in Task 1, each Engagement Lead will oversee efforts with the support of technical and legal staff to immediately assess needs, including the competencies of individual staff and the capabilities of the organizations to perform tasks related to GEO/RAD. The comprehensive assessment process will be based on stakeholder questionnaires, interviews, and group workshops. Our assessment will align with the PRSDISP and be used as an input to the Task 7 SWOT analysis, with broad considerations including staff technical competencies, public outreach capabilities, capacity to navigate and support legal frameworks, and capacity for change management. Generating and promoting values and benefits of the program will serve as long-term sustainable predicates.



Targeted and Flexible. From the assessment, Team ICF will identify commonalities across stakeholders and opportunities for the highest return on investment through targeted capacity building. Each workshop or training session will include facilitated instruction, time for stakeholder questions and answers, and delivery of post-session summary and notes within 1 week of training. As we progress through workshops and activities, we will work with PRDOH to share findings and progress and to develop a long-term GEO/RAD Training Plan for stakeholder groups (i.e., state agencies, municipalities, utilities). The training plan will include recommendations on flexible and tailorable capacity building and training materials, including a mix of in-person, virtual, online, and on-demand resources. For example, for training on GEO/RAD tools and technologies, we will provide simple technical specifications and checklists for IT staff, manuals and instructional videos for end users, and informational videos and fact sheets for the public.

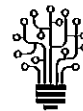
Where We've Done This

Since 2010, ICF has led global capacity building for EPA's National Greenhouse Gas Inventory System in more than 20 countries, including development of many of the National Inventory System's technical tools and templates used by partners and stakeholders. We have supported over 75 in-person working sessions led by domain SMEs; developed tools, resources, and guidance materials for partners; and developed robust work plans for long-term capacity sustainment.

Task 10.2: Portfolio of Outreach, Training, and Education

Results-Driven. GEO/RAD stakeholders and partners will need to be able to successfully execute all aspects of the PRSDISP. Team ICF will continuously evaluate capacity building and training results through participant feedback and impact assessments. We will build a training schedule and milestones for operating the SDI into the GEO/RAD Training Plan and adjust or add resources and capacity building activities where needed. Milestones will include progressively more complicated activities until all tasks required to maintain, operate, and update the SDI are finished. We will also collaborate with PRDOH to develop long-term capacity building metrics and a measurement framework. These metrics will target higher-level outcomes such as collaboration between peer stakeholders or demonstrated adoption of mature data management best practices. On a monthly basis, we will provide an updated Training and Capacity Building Report to PRDOH containing activity, progress against milestones, and a copy of materials produced.

Long-Term Focus. Sustaining mature and adaptive organizations in today's fast-moving technology environment is extremely challenging. We will approach Task 10 with a long-term focus, emphasizing a culture shift toward data and IT collaboration. Specifically, we will recommend low-cost, centralized external training platforms and standard certification programs for continuous learning by technical staff across state agencies and municipalities. We will work with PRDOH and PRITS to implement searchable knowledge repositories of training information that can continue to grow into the



Innovation and Technology

ICF will leverage existing relationships with Puerto Rico colleges and universities to explore establishing a GEO/RAD internship program. By building program awareness and necessary geospatial technology skillsets among a new generation of students, a GEO/RAD internship program can help build the long-term capacity needed for sustainability of GEO/RAD and a culture of data-based decisions.



future. Further, we will help individual organizations institutionalize capacity building through strategic plans, policies, and budgeting practices that emphasize continued maturation of people, processes, and technologies.

Task 10 Program Leaders and Technical Staff

Task 10 will be led by our dedicated Training and Capacity Building Lead, Ms. Bullard-Paynter, with support from Planning, Engagement, and Communication Specialists. Our GIS Specialists embedded in our Engagement Teams will implement technical training. We have allocated 14 staff to support Task 10.

Task 11: Development of Business Plan

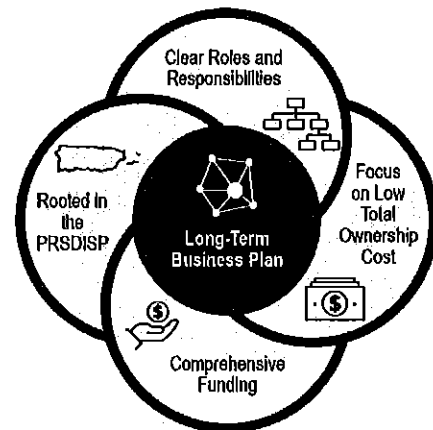
Task 11 Work Approach. A clear vision with definitively assigned activities for long-term funding and maintenance of infrastructure and support staff will be critical to ensure GEO/RAD continues to effectively serve the citizens of Puerto Rico for decades.

Subtask 11.1: Develop Business Plan Components

Our approach to Task 11 will focus on addressing all necessary elements of GEO/RAD sustainment through a PRDOH-approved **Draft Long-Term Business Plan (Deliverable 11A)**, including built-in mechanisms for reviewing and updating the plan on a periodic basis. Our approach will emphasize four core concepts: strong ties to the PRSDISP, clear roles and responsibilities, an operations and maintenance (O&M) plan focused on low total ownership cost, and comprehensive consideration of funding needs.

Rooted in the PRSDISP. To be effective, the Long-Term Business Plan must be in full alignment with the PRSDISP, serving as the administrative, budget, and staffing basis for its execution. Our dedicated PRSDISP Lead, Mr. Roshandel, will also lead development of the GEO/RAD Long-Term Business Plan, bringing his deep understanding of Puerto Rico's state agencies and historical context, local government considerations, and technical project administration lessons learned to ensure long-term program sustainability. The organization of the Long-Term Business Plan will follow the organization of the PRSDISP, providing a clear foundation for GEO/RAD sustainment.

Clear Roles and Responsibilities. Through collaborative discussions, we will gather valuable perspectives to develop informed recommendations on ownership and authority structures that align with



Where We've Done This

ICF successfully delivered the Federal Deposit Insurance Corporation's (FDIC's) 5-year \$1 billion IT Modernization Plan, which guides all modernization initiatives across the agency. We engaged diverse stakeholders and conducted an application portfolio analysis, workforce analysis, and financial analysis with acquisition strategy to lay out an actionable path forward. Today, the IT Modernization Plan guides business-centered improvements to drive out technology obsolescence and advance cloud-based, cost-effective IT solutions.

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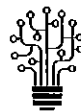
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GEO/RAD's long-term goals and objectives. Our recommendations will include long-term agency ownership physical and digital infrastructure, responsibilities for data stewardship and security, oversight and responsibility for legal frameworks and policies, and responsibility for implementation and management of the digital twin.

Focus on Low Total Cost of Ownership. As part of the Long-Term Business Plan, Team ICF will deliver a long-term GEO/RAD O&M Plan, outlining procedures and best practices for managing and adding data, managing users, provisioning infrastructure services, and monitoring and optimizing performance. The O&M plan will focus on reducing GEO/RAD system total ownership cost through, for example, automated data archival to lower cost storage tiers and periodic reviews of IT service usage. The plan will also ensure security by, for example, establishing a proactive approach to regularly reviewing security risks and mitigation measures.

Comprehensive Funding. Recognizing the critical importance of securing sustainable funding, we will conduct a comprehensive analysis of potential sources to support the physical and digital infrastructure developed as part of the GEO/RAD Program. Our team will leverage our expertise in financial planning, public-private partnerships, and grant funding to identify viable funding options. We will also explore innovative financing models, such as tax incentives, impact investing, and community development funds, to ensure the long-term financial viability of the GEO/RAD Program, including the staff to operate and maintain it.



Innovation and Technology

Once GEO/RAD's infrastructure is firmly established, we envision it can function in a shared capability service model for stakeholders and partners, providing low-cost data storage, hosting, and analysis services in a secure, centralized environment. Over time, this will increase opportunities for government, private, and academic institutions to collaborate on high-value data integration and advanced modeling for resilience.

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Task 11 Program Leaders and Technical Staff

Task 11 will be led by our PRSD/SP Lead, Mr. Roshandel, with support from our Deputy Project Director, Mr. Flores-Ortiz and our Legal Consultant Lead, Ms. Valentin Rivera. Mr. Roshandel has over 20 years of experience promoting integrated insights through the collaboration of technology, data science, and high-quality data and building long-term consensus and sustainment plans. We have allocated 12 technical staff to support Task 11.

Task 12: GIS and Software Licenses

Task 12 Work Approach. GEO/RAD will require an ecosystem of technologies to facilitate secure access to data and information by a diverse set of end users. As presented in our Task 6 notional architecture, Team ICF has provided a preliminary evaluation explaining our GIS software recommendations. Our recommendation is a hybrid set of cloud native and Esri technologies to maximize capability into the future while balancing the long-term total cost of system ownership. Efficiently managing the required licenses will be critical to keeping total ownership cost of GEO/RAD system low. With Esri as a team member

Where We've Done This

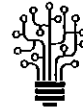
ICF has successfully managed infrastructure provisioning and license maintenance for dozens of massive, mission critical IT systems. For GSA's ASSIST program, ICF led a \$120 million effort to modernize and consolidate 36 applications into a single, cloud-based platform. We continue to support O&M for the program's 35,000 total users. We have met 14 service level agreements at 99.7%, including system uptime of 99.9%.

and with close connections to Esri's Puerto Rico distributor, GMT, we will deliver a comprehensive IT solution, including **Twenty GIS and Software Licenses (Deliverable 12A).**

Task 12.1: IT Infrastructure

Team ICF's MICA framework will drive a systematic assessment of IT infrastructure requirements based on the needs of the GEO/RAD Program and the technical capability and capability of stakeholders and partners. Our notional architecture, proposed in Task 6, will be refined to finalize the specific GIS and software product licenses required, the exact number of specific licenses required, and the timeframe for activating them. Our licensing recommendations will meet the needs of the estimated 20 agencies and/or entities that will be part of the GEO/RAD infrastructure, ensuring license activations are provided by PRDOH and PRITS and occur only when needed to minimize cost.

Team ICF will manage all aspects of software purchasing, configuration, and installation following best practices for resilient and secure environments. Through Task 10, we will work with relevant stakeholders and partners to provide documentation and training for software licenses.



Innovation and Technology

Team ICF's GEO/RAD architecture is focused on the use of cloud-native IT services that are usage based. We will license and deploy select GEO/RAD infrastructure components early in the program, then test and prototype solutions at minimal cost. As the program progresses, automated data archival and cloud management tools will allow us to optimize licensing to manage infrastructure costs.

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Task 12.2: GIS Maintenance

Team ICF will provide all software and license maintenance throughout the duration of the GEO/RAD Program contract with the capability to extend GEO/RAD licensing for at least 5 years beyond program end. This includes all software updates, patches, software issue resolution, and technical support if there are technical issues. With Esri as a team partner and our existing relationship with GMT, we will quickly troubleshoot issues and provide robust licensing surge support as needed during future disaster response.

Task 12 Program Leaders and Technical Staff

Task 12 will be led by our GIS Lead, **Ms. Archer Malpica**, with support from our GIS Architect, **Mr. Snyder**. Team ICF's GIS Specialists will also support maintenance of licenses, and our Technical Advisory SMEs will provide additional support on cloud licensing. **Ms. Archer Malpica** brings almost 20 years of experience managing Esri's full suite of GIS licensing. We have allocated two technical staff to support Task 12.

Task 13: Project Administration and Oversight

Task 13 Work Approach. GEO/RAD's complexity requires robust project management leadership that assumes responsibility for assessing staffing requirements, managing project timelines, clarifying task allocations, and overseeing subcontractors. ICF will lead responsibility for executing all contract administration tasks for all team members.

Task 13.1: Conduct Meetings

Regular meetings and conference calls to communicate and resolve issues will support effective team management through each step of the workflow. Scheduling meetings with the right staff at the right intervals ensures teams and individuals remain informed about progress, achievements, challenges, and solutions. Team ICF will follow our **agile management process** to coordinate frequent, regular meetings and prepare for and support ad hoc meetings as requested by PRDOH. Further, we will lead knowledge transfer for all relevant infrastructure, data, and technical documentation through meeting coordination and by using an agreed upon collaboration platform.

Where We've Done This

Team ICF has successfully managed hundreds of CDBG-DR and -MIT programs across the country, including almost a dozen CDBG and recovery programs on the island. We are well-versed in PRDOH systems and processes with the proven ability to meet PRDOH's information and data reporting needs and remain fully compliant with federal, state, and local applicable laws and regulations.

Task 13.2: Reporting

Robust reporting and communication on progress toward GEO/RAD tasks will allow Team ICF and PRDOH to proactively mitigate risks and identify opportunities to further accelerate execution. The table below shows the reporting requirements that will be integrated into relevant task workplans. Electronic reporting and updates will be provided through the secure, internal GEO/RAD Program site.

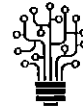
Item	Reporting Goal and Frequency	POC
Program Approach Report	Delivered within 2 weeks of contract execution	Project Director
Workplan	Delivered within 4 weeks of contract execution	Project Director
Progress Report	Delivered monthly	Project Director
Ad Hoc Reports	Delivered as needed	TBD, based on topic
Training and Capacity Building Report	Delivered monthly	Training and Capacity Building Lead
Stakeholder Engagement Report	Delivered quarterly	Engagement Lead

Task 13.3: Contract Management

Efficient contract management will ensure close and effective coordination between Team ICF and PRDOH. This will translate to higher GEO/RAD value at lower risk and lower cost. We will establish a secure, shared online repository to manage electronic files, including the **Stakeholder Engagement Reports, Progress Reports, Program Approach Report and Presentation, Workplan, Meetings Summaries, Training and Capacity Building Report, Electronic and Physical Documents Archive (Deliverable 13A)**. The repository will include version control capabilities and document backup, plus control access in accordance with HUD regulations and System of Record requirements. Team ICF program leaders also bring:



- **A proven approach to risk management to ensure on-time and on-budget delivery**, which includes forming right-sized agile teams, conducting lean project management reviews, and regularly reviewing project metrics.
- **A project team approach that fosters communications and team cohesiveness** by aligning project staff around GEO/RAD deliverables, including team leads, development teams, and user support/training teams.
- **An effective process and tools for cost management** to control costs, communicate and mitigate risks that arise, and ensure the team is focused on project delivery.



Innovation and Technology

ICF's Spark Labs innovation toolkit will extend to administration and oversight of GEO/RAD. Our agile management process provides best practices in structuring effective meetings and project work, using activity models and visual management to accelerate progress, create shared artifacts, and maintain collective action plans.

Task 13.4: Closeout

Team ICF views closeout and handoff of GEO/RAD tasks to include the tasks included in the table below. By undertaking these closeout tasks, GEO/RAD can effectively conclude its activities, ensure the quality and availability of spatial data, facilitate the smooth transition to PRDOH for the operational phase or future initiatives, and deliver a complete PRDOH closeout process using the System of Record (Deliverable 13B).

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Task	Description
Data Assurance Review	A comprehensive review of the data collected, aggregated, and generated throughout the project to ensure adherence to data standards and specifications
System and Infrastructure Maintenance Review	A final review and assessment of the PR Geodatabase components, such as servers, databases, software, and hardware, to ensure their performance, security, and reliability
Transition and Handover	Preparing for the transition of the PR Geodatabase and Web-Based Geoportal; this may involve knowledge transfer, final training sessions, and task transitions with oversight
Evaluation and Lessons Learned	Conduct a project evaluation to assess the overall success, achievements, and areas for improvement of GEO/RAD, documenting lessons learned to inform future SDI initiatives
Project Closure and Financial Accountability	Complete review of final administrative tasks related to project closure, including financial reporting and invoicing, contract, and resolving any outstanding legal or reporting obligations


Task 13 Program Leaders and Technical Staff

Our Project Director, Mr. Girot, will provide strategic guidance for the management of schedules, budget, and scope and will serve as the primary point of contact for PRDOH and other agencies. He will be supported by our Deputy Project Director, Mr. Flores-Ortiz. Mr. Girot will also lead coordination between ICF and our project subcontractors to ensure smooth execution of strategy, deliverables, and outcomes and will be supported by the full capacity of Team ICF's corporate functions, including contracts, recruiting, and finance/invoicing. We have allocated six technical staff to Support Task 12.



Implementation Schedule

Launch Date	Deliverable	2023		2024				2025				2026	
		Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
Task 1: Stakeholder Engagement													
Task 1.1: Perform Stakeholder/Partner Analysis and Conduct Ongoing Engagement	1A: Stakeholder Engagement Plan 1B: Stakeholder Analysis Report												
Task 2: Technical Standards													
Task 2.1: Define the PR GDB 1.0 Components and Standards for the Digital Twin, Models, and Associated GDBs	2A: Technical Standards Preliminary Report												
Task 2.2: Define Data Collection, Metadata, and Security Standards													
Task 3: Data Inventory and Collection													
Task 3.1: Consolidate Existing Cadastral and Geospatial Data	3A: Complete Electronic File and RDBMS 3B: Report on Consolidated Data												
Task 4: Gap Analysis													
Task 4.1: Identify Spatial and Quality Gaps in Existing Datasets	4A: Comprehensive Gap Analysis Report												
Task 4.2: Develop Prioritized Data Production Strategy													
Task 5: Data Aggregation and Production													
Task 5.1: Execute the Data Aggregation and Production	5A: File of Data Collected, Aggregated, and Produced 5B: Report on Data Collected, Aggregated, and Produced												
Task 5.2: Oversee and Support Other Data Aggregation and Production Efforts													
★ Task 6: PR GDB 1.0 and Geoportal with Data Access, Analysis, Visualization Tools													
Task 6.1: Develop Puerto Rico Geodatabase 1.0 and Web-based Geoportal	6A: Dynamic, Interactive Mapping Portal												
★ Task 7: Puerto Rico Spatial Data Infrastructure Strategic Plan													
Task 7.1: Develop the PRSDISP Components	7A: Puerto Rico Spatial Data Infrastructure Strategic Plan												
★ Task 8: Digital Twin Architecture, Design, and Implementation Plan													
Task 8.1: Develop the Digital Twin Architecture, Design, and Implementation Plan Components	8A: Digital Twin Architecture, Design, and Implementation Plan												
★ Task 9: Surface Data Acquisition													
Task 9.1: Mobile Mapping	9A: Data and Visualization Tools for Mobile Mapping Data												
Task 9.2: Aerial Imagery and LIDAR	9B: Data and Visualization Tools for Aerial Imagery and LIDAR Data												
Task 9.3: Building Information Modeling (BIM)	9C: Data and Visualization Tools for BIM Data												
Task 10: Training and Capacity Building													
Task 10.1: Capacity Building Activities	10A: Portfolio of Outreach, Training, and Education												
Task 10.2: Portfolio of Outreach, Training, and Education													
Task 11: Development of Business Plan													
Task 11.1: Develop Business Plan Components	11A: Long-Term Business Plan												
Task 12: GIS and Software Licenses													
Task 12.1: IT Infrastructure	12A: Twenty GIS and Software Licenses												
Task 12.2: GIS Maintenance													
Task 13: Project Administration and Oversight													
Task 13.1: Conduct Meetings	13A: Reporting and Electronic Files for Deliverables and Materials 13B: Complete PRDOH's Closeout Process												
Task 13.2: Reporting													
Task 13.3: Contract Management													
Task 13.4: Closeout													



February 21, 2024

RESPONSE TO CLARIFYING QUESTIONS V | CDBG-DRMIT-RFP-2023-02

→ Puerto Rico Department of Housing GEO/RAD System Planning Vendor Services

Submitted to:

**Government of Puerto Rico Department of
Housing** 606 Barbosa Avenue
Juan C. Cordero Bldg., 9th Floor San Juan,
PR 00918

Melissa Almodóvar Suárez, Esq.
Procurement Director, CDBG-DR

Submitted by:

ICF Incorporated, L.L.C.
City View Plaza, Torre II, 48 Carr 165, Ste. 4020 Guaynabo, PR 00968

Mailing address:

1902 Reston Metro Plaza, Reston, VA 20190 703.934.3000

Dotti Shields

Senior Director, Contracts Dotti.Shields@icf.com 703.272.6640



This proposal includes data that shall not be disclosed outside the Government and shall not be duplicated, used, or disclosed—in whole or in part—for any purpose other than to evaluate this proposal. If, however, a contract is awarded to this offeror as a result of—or in conjunction with—the submission of these data, the Government shall have the right to duplicate, use, or disclose the data to the extent provided in the resulting contract. This restriction does not limit the Government's right to use information contained in these data if it is obtained from another source without restriction. The data subject to this restriction are marked in the footer of the designated section.

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Cover Letter

February 21, 2024

Puerto Rico Department of Housing
Melissa Almodóvar Suárez, Esq.
Procurement Director, CDBG-DR
606 Barbosa Avenue
Juan C. Cordero Bldg., 9th Floor
San Juan, PR 00918

Subject: CDBG-DRMIT-RFP-2023-02, GEO/RAD System Planning Vendor Services Clarifications of discussions of Negotiations with Offerors

Dear Ms. Almodóvar Suárez:

ICF Incorporated, L.L.C. (ICF), is pleased to provide our Best and Final Offer (BAFO) for the above subject RFP in accordance with the PRDOH letter dated February 16, 2024.

We look forward to PRDOH's favorable review of our BAFO. Should the PRDOH have any questions regarding this revised price proposal, please contact Dotti Shields, Senior Director, Contracts, at 703.272.6640 or dotti.shields@icf.com.

Sincerely,

Dorothy A. Shields

Dorothy A. Shields
Senior Director, Contracts

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1 ICF Pricing Adjustments based on Clarifying Questions

General overview. In response to PRDOH's request for our Best and Final Offer dated February 16, 2024, we have reduced our total proposed price to **\$69,881,696.63**, focusing on reductions for tasks deemed too high by PRDOH.

Our price reduction was based on further clarifications of scope and a phased implementation as provided in recent PRDOH communications. We have adjusted our pricing assumptions in-line with the narrowed scope and PRDOH's suggested first phase focus on developing three Plans: the Puerto Rico Spatial Data Infrastructure Plan, the Digital Twin Architecture, Design and Implementation Plan, and a Business Plan; along with surface data acquisition and data collection for the PR Geodatabase 1.0 and web-based geoportal, in addition to stakeholder engagement and their training and capacity building. Our reduced price also reflects further discussions with one of our subcontractors that resulted in a more cost-effective unit costs for work performed under the Task 9 Surface Data Acquisition. The revised Pricing assumptions and Task based assumptions are given below. The revised Cost Form Exhibit G includes the modifications mentioned above.

2 Pricing Assumptions and Qualifications

ICF developed our proposal based upon the assumptions and qualifications included herein, including that our assumptions will be incorporated by reference into any resultant contract award to ICF. We look forward to continued discussions with PRDOH to seek agreement on these items should ICF be awarded a contract based upon this Proposal. These assumptions provided below replace in their entirety the assumptions provided in our previous submissions.

General Assumptions

- ICF's allocation of effort by task and labor category reflects our best estimate of what will be required. However, ICF reserves the right to reallocate the hours across tasks and staff labor categories as required within the total costs provided.
- ICF has the right to reallocate funding between tasks as necessary so long as we don't exceed the total contract not-to-exceed amount.
- The project will follow the 'Design and Execute to Timeline and Budget' approach so as to right-size the work for each deliverable in order to meet the deliverables schedule and stay within budget. Based on discussion with PRDOH as part of Negotiations to Offerors, ICF now understands that the total combined GEO/RAD program budget of \$180 million includes other phases or services outside of the GEO/RAD System Planning Vendor Services. We have revised our level of effort and associated labor cost down accordingly and will work with PRDOH upon contract award to tailor GEO/RAD execution based on actual budget.
- For all tasks, ICF will work with PRDOH to determine the proportional amount of time and effort relative to the available budget. Specifically, the duration of each task and allocated hours will be actively managed based on listed deliverables, available budget, and deliverable timelines as established in the Scope of Services and as amended by subsequent PRDOH Negotiations with Offerors clarifications. ICF support for activities above and beyond the originally agreed upon list of activities or level of effort must be agreed to by ICF based on discussion with PRDOH, and a corresponding amendment providing any required additional funding will be signed by both parties.
- Any additional funds to complete the services requested by PRDOH to ICF will be subject to evaluation before acceptance as well as funds availability and will require an amendment signed by both parties.

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- Only one (1) review cycle will be provided to accommodate PRDOH's schedule for final deliverables. The review cycle for each deliverable will proceed as follows: PRDOH will have ten (10) business days for review of Draft Deliverables and by COB of the tenth day will submit consolidated comments to ICF in writing. If no comments or changes are received from PRDOH within the initial specified ten (10) business days, the deliverables will be deemed accepted. ICF shall submit the Deliverables as Final within ten (10) business days after receipt of PRDOH's consolidated comments.
- For every task and associated deliverables, acceptance criteria and definition of Done will be established at task kickoff and agreed to by both ICF and PRDOH.
- New changes requested by PRDOH to previously accepted deliverables, content, or plans may affect overall costs and schedules.
- Changes to previously completed work (e.g. data collection) due to any unforeseen circumstances such as natural disasters which occur during program execution may affect costs and schedules, should PRDOH expect any re-work to account for any impacts of such events.
- Per PRDOH guidance on travel costs, ICF has adjusted our proposal to account for only a limited amount of on-island travel for in-person meetings for the Agile team (Engagement, Planning, GIS Specialists). Where possible, participation by ICF's Agile team will be conducted virtually for meetings, especially in remote municipalities. No other travel has been included in our pricing.
- ICF acknowledges the inclusion of a warranty clause in Section 10 of the Scope of Services; however, further clarification and discussions with PRDOH will be needed to clearly understand the differences between maintenance and defects as well as the start and end date of the warranty period which may have implications on ICF's proposed cost. We expect that PRDOH will discuss these details and negotiate any impact on pricing with ICF during future contract award negotiations.
- ICF looks forward to the opportunity to negotiate mutually agreeable terms and conditions, including reasonable penalties and liability clauses, with PRDOH before acceptance of any contract issued by PRDOH.
- ICF's full proposal, including this Response to Clarifying Questions, will be incorporated and made a part of any resultant contract.

Task Assumptions

- For all Tasks requiring collection of existing information or data from stakeholders, ICF assumes timely access will be provided to any stakeholder staff, data systems, IT information and architecture diagrams. Any delays may affect costs and schedules.
- Given the reduction in engagement staff hours as requested by PRDOH, ICF will focus engagement support on development of the Stakeholder Engagement Plan and Stakeholder Analysis Report. Upon completion of the report, support for implementation and execution of the plan, including in-person outreach events, community meetings, deployment of online presence, deployment of social and traditional media, etc. will be based on the available budget. For additional stakeholders identified during execution of the contract, ICF will work with PRDOH to collaborate on the level of engagement support permissible based on the available budget.
- Given the significant reduction in legal staff hours as requested by PRDOH, ICF will not support development of any MOUs with stakeholder agencies and will provide limited support, based on available budget, for related activities including standards, data, frameworks, or processes for real estate transactions, deed and title registry questions, building inspection and code enforcement, insurance questions, etc.
- Given the reduction in planning staff hours as requested by PRDOH, ICF will provide support based on available budget for planning-related activities including standards, data, frameworks, or processes

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associated with physical address, land administration, cadastral, land use, deed and title registry, permitting, public assets, transportation networks, etc.

- Given the reduction in mid- and senior-level GIS staff hours as requested by PRDOH, ICF will provide support based on available budget for data aggregation and production, including physical asset data, environmental asset data, social asset data, and hazard/risk data. ICF will work with PRDOH during development of the data production strategy and throughout its execution, to prioritize datasets and determine the number to be aggregated/produced as well as the level of effort allocated to each dataset.
- For the Task 6 Puerto Rico Geodatabase 1.0 and Web-based geoportal, ICF will only include priority datasets identified in the data production strategy. Inclusion of lower priority datasets will be considered in collaboration with PRDOH and based on available budget. Definition of data schemas and overall approach will align with the Digital Twin Model, but ICF will not perform implementation of functionality or infrastructure related solely to Digital Twin components, as instructed by PRDOH. Further, ICF will work with PRDOH to prioritize features and capabilities of the Web-based geoportal including the numbers and types of tools and applications, based on available budget.
- Per PRDOH's Negotiations with Offerors clarifications, ICF's support for Digital Twin work will be entirely limited to development of the Digital Twin Architecture, Design, and Implementation Plan. The proposed budget does not cover implementation, deployment, or support of any software or hardware in support of the Digital Twin. Should PRDOH require implementation, deployment or support of any software or hardware in support of a Digital Twin after contract award, an amendment providing additional funding will be required.
- For Task 9 Surface Data Acquisition, ICF had originally budgeted and planned for BIM Level of Detail 300 or LOD 400 (based on US General Services Administration definitions) for buildings where feasible. Achievable BIM LOD capability will be determined based, in part, on information provided by infrastructure owners and operators during engagement and discovery. Existing structure BIMs will be generated based on establishing ground control, 3D scanning of the physical structure, development of component and function breakdown based on existing documentation and/or SME input. BIM LOD will also vary depending on availability of and timely access to accurate as-built information. Given the significant number of unknowns and PRDOH's recommendations of reduced scope outlined in BAFO 2 dated January 18, 2024, we have budgeted for approximately 2,000 buildings with a total square footage of 22,000,000 at a minimum fidelity of LOD 200 and will work with PRDOH to target LOD 300 or LOD 400 where feasible based on available budget and access to building information.
- For Task 10 Training and Capacity Building, ICF will collaborate with PRDOH to determine the number and duration of capacity building, outreach, training, and education activities based on the available budget. For cost efficiency, ICF will emphasize a "train the trainer model" to empower state agency staff to continue to grow capacity and train new users, and ICF will use recorded training sessions as well as written documentation/tutorials to increase information access. Further, support for any other capacity building or training assistance as required by PRDOH will be prioritized in discussion with PRDOH and conducted based on the available budget.
- ICF has assumed 20 stakeholder agencies will have their own, individual enterprise GIS environment for the full 3-year baseline period. For cost optimization, installation and configuration of advanced GIS desktop analysis extensions and data extensions (such as ArcGIS StreetMap Premium extension) have been aligned with PRDOH's schedule for build-out of the GEO/RAD spatial data infrastructure to avoid incurring unnecessary licensing costs before they are ready to be used.
- ICF anticipates the volume of GIS and software licensing as requested by PRDOH, including the requirement to deploy and maintain individual GIS enterprise environments for 20 agencies increases risk in installing, configuring, and maintaining the 20 separate environments especially given that PRDOH has also requested a reduction in GIS staff hours supporting Task 12. ICF will work with PRDOH and stakeholder agencies to identify opportunities to stagger purchase/installation of software based on need and to simplify

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aspects of license deployment where it provides long-term efficiencies. Further, we will transition operation and maintenance to trained state agency IT staff, where possible, based on the available budget.

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Name of Proposer: ICF Incorporated, LLC.

[illegible]

OTHER EXPENSES	FOR TASK	UNIT OF MEASURE	NUMBER OF UNITS	UNIT COST	COST
Company Data - Mobile Mapping	7. Surface Data Acquisition	mils	21378	\$334.32	\$7,147,092.94
GMT - ArcGIS Drone2Map Advanced (w/ GMT - ArcGIS Online Annual Subscription)	12. GIS and Software Licenses	license	3	\$4,132.01	\$6,304.02
GMT - ArcGIS Enterprise Advanced (Maintenance)	12. GIS and Software Licenses	license	49	\$13,444.16	\$631,497.20
GMT - ArcGIS Enterprise Advanced (Perpetual)	12. GIS and Software Licenses	license	20	\$42,116.47	\$1,043,939.40
GMT - ArcGIS Enterprise Editor (Annual)	12. GIS and Software Licenses	license	40	\$240.97	\$10,439.40
GMT - ArcGIS Enterprise Editor Perpetual (Maintenance)	12. GIS and Software Licenses	license	200	\$240.97	\$62,198.00
GMT - ArcGIS Enterprise Editor Perpetual (Perpetual)	12. GIS and Software Licenses	license	100	\$1,038.33	\$103,833.00
GMT - ArcGIS Enterprise GIS Professional Advanced (Maintenance)	12. GIS and Software Licenses	license	120	\$4,507.90	\$540,948.00
GMT - ArcGIS Enterprise GIS Professional Advanced (Perpetual)	12. GIS and Software Licenses	license	49	\$12,471.21	\$772,270.40
GMT - ArcGIS Enterprise Mobile Worker (Annual)	12. GIS and Software Licenses	license	40	\$437.27	\$18,270.80
GMT - ArcGIS Enterprise Mobile Worker Perpetual (Maintenance)	12. GIS and Software Licenses	license	200	\$437.27	\$91,454.00
GMT - ArcGIS Enterprise Mobile Worker Perpetual (Perpetual)	12. GIS and Software Licenses	license	100	\$1,409.43	\$140,943.00
GMT - ArcGIS Enterprise Portal Fabric User Type Extension Annual Subscription (Maintenance)	12. GIS and Software Licenses	license	30	\$210.99	\$7,829.70
GMT - ArcGIS Enterprise Portal Fabric User Type Extension Annual Subscription (Perpetual)	12. GIS and Software Licenses	license	30	\$210.99	\$7,829.70
GMT - ArcGIS Enterprise Utility Network User Type Extension Annual Subscription (Maintenance)	12. GIS and Software Licenses	license	30	\$210.99	\$7,829.70
GMT - ArcGIS Enterprise Utility Network User Type Extension Annual Subscription (Perpetual)	12. GIS and Software Licenses	license	30	\$210.99	\$7,829.70
GMT - ArcGIS GeoAnalytics Server (Maintenance)	12. GIS and Software Licenses	license	3	\$6,474.59	\$19,673.77
GMT - ArcGIS GeoAnalytics Server (Perpetual)	12. GIS and Software Licenses	license	3	\$26,098.35	\$78,295.05
GMT - ArcGIS GeoEvent Server (Maintenance)	12. GIS and Software Licenses	license	3	\$6,474.59	\$19,673.77
GMT - ArcGIS GeoEvent Server (Perpetual)	12. GIS and Software Licenses	license	3	\$26,098.35	\$78,295.05
GMT - ArcGIS Hub Premium Unlimited GMT - ArcGIS Online Community Population	12. GIS and Software Licenses	license	2	\$9,703.00	\$19,406.14
GMT - ArcGIS Image Server (Maintenance)	12. GIS and Software Licenses	license	6	\$6,474.59	\$39,147.54
GMT - ArcGIS Image Server (Perpetual)	12. GIS and Software Licenses	license	6	\$26,098.35	\$156,590.10
GMT - ArcGIS Mission Server (Maintenance)	12. GIS and Software Licenses	license	5	\$4,224.59	\$21,122.95
GMT - ArcGIS Mission Server (Perpetual)	12. GIS and Software Licenses	license	5	\$16,078.20	\$80,391.00
GMT - ArcGIS Monitor - Enterprise (Maintenance)	12. GIS and Software Licenses	license	20	\$3,212.30	\$64,246.00
GMT - ArcGIS Monitor - Enterprise (Perpetual)	12. GIS and Software Licenses	license	20	\$13,049.16	\$260,983.60
GMT - ArcGIS Notebook Server (Maintenance)	12. GIS and Software Licenses	license	3	\$6,474.59	\$19,673.77
GMT - ArcGIS Notebook Server (Perpetual)	12. GIS and Software Licenses	license	3	\$26,098.35	\$78,295.05
GMT - ArcGIS Online Additional Service Credits Block (Maintenance)	12. GIS and Software Licenses	license	400	\$143.41	\$57,364.00
GMT - ArcGIS Online Additional Service Credits Block (Perpetual)	12. GIS and Software Licenses	license	300	\$143.41	\$43,023.00
GMT - ArcGIS Online Creator Annual Subscription (Maintenance)	12. GIS and Software Licenses	license	400	\$453.34	\$261,416.00
GMT - ArcGIS Online Creator Annual Subscription (Perpetual)	12. GIS and Software Licenses	license	200	\$452.46	\$150,492.00
GMT - ArcGIS Pro Extensions Bundle for Enterprise (Maintenance)	12. GIS and Software Licenses	license	80	\$1,431.49	\$114,519.20
GMT - ArcGIS Pro Extensions Bundle for Enterprise (Perpetual)	12. GIS and Software Licenses	license	40	\$9,768.86	\$391,475.40
GMT - ArcGIS Roads and Highways Enterprise Extension (Maintenance)	12. GIS and Software Licenses	license	3	\$3,212.30	\$9,786.90
GMT - ArcGIS Roads and Highways Enterprise Extension (Perpetual)	12. GIS and Software Licenses	license	3	\$13,049.16	\$39,147.54
GMT - ArcGIS StreetMap Premium Enterprise HERE Strategic Annual Subscription (Maintenance)	12. GIS and Software Licenses	license	1	\$19,657.21	\$19,657.21
GMT - ArcGIS StreetMap Premium Enterprise HERE Strategic Annual Subscription (Perpetual)	12. GIS and Software Licenses	license	1	\$19,657.21	\$19,657.21
ICF - BIM AutoDesk Revit	7. Surface Data Acquisition	license	3	\$3,025.04	\$9,075.12
ICF - ArcGIS Enterprise Advanced (Hosting)	12. GIS and Software Licenses	license	40	\$3,214.92	\$128,596.80
ICF - ArcGIS GeoAnalytics Server (Hosting)	12. GIS and Software Licenses	license	6	\$4,939.12	\$29,634.72
ICF - ArcGIS GeoEvent Server (Hosting)	12. GIS and Software Licenses	license	6	\$3,214.92	\$19,289.52
ICF - ArcGIS Image Server (Hosting)	12. GIS and Software Licenses	license	40	\$4,414.12	\$176,564.80
ICF - ArcGIS Mission Server (Hosting)	12. GIS and Software Licenses	license	6	\$2,344.92	\$14,069.52
ICF - ArcGIS Monitor - Enterprise (Hosting)	12. GIS and Software Licenses	license	40	\$2,344.92	\$93,796.80
ICF - ArcGIS Notebook Server (Hosting)	12. GIS and Software Licenses	license	6	\$2,344.92	\$14,069.52
ICF - ArcGIS Roads and Highways Enterprise Extension (Hosting)	12. GIS and Software Licenses	license	6	\$2,344.92	\$14,069.52
ICF - Azure Blob Storage 16TB	12. GIS and Software Licenses	year	4	\$12,492.33	\$49,969.32
ICF - Azure NetApp Files (NAS) Storage for GMT - ArcGIS	12. GIS and Software Licenses	year	2	\$6,202.40	\$12,404.80
ICF - Azure Managed Hosting Services (Security, Networking, etc.)	12. GIS and Software Licenses	license	2	\$1,745.53	\$3,491.06
ICF - Custom Applications	12. GIS and Software Licenses	application	9	\$1,077.71	\$9,700.11
ICF - PostgreSQL Geodatabase	12. GIS and Software Licenses	license	20	\$16,439.38	\$328,787.60
ICF - Sole FMT (Hosting)	12. GIS and Software Licenses	year	4	\$9,214.13	\$36,856.52
ICF - Sole FMT (License Maintenance)	12. GIS and Software Licenses	license	2	\$5,114.87	\$10,229.74
ICF - Sole FMT (License)	12. GIS and Software Licenses	license	2	\$15,018.22	\$30,036.44
Metric - BIM	7. Surface Data Acquisition	square foot	21000000	\$0.84	\$17,640,000.00
Company Data - UDAI	7. Surface Data Acquisition	square mile	3443	\$986.76	\$3,397,416.74
Metric - Otherworld	7. Surface Data Acquisition	square mile	3443	\$1,414.47	\$4,871,309.74
GMT - ArcGIS Enterprise Additional Cores (License - up to 4 Cores)	12. GIS and Software Licenses	license	20	\$13,049.16	\$260,983.60
ICF - ArcGIS Enterprise Advanced - Large (Hosting)	12. GIS and Software Licenses	license	8	\$7,344.00	\$58,752.00
ICF - ArcGIS Enterprise Advanced - Standard (Hosting)	12. GIS and Software Licenses	license	16	\$2,564.92	\$41,038.72
Azure Data Ingestion (Azure Data Factory, etc.)	12. GIS and Software Licenses	year	2	\$7,570.48	\$15,140.96
Total					\$42,047,354.61

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About ICF

ICF (NASDAQ:ICFI) is a global consulting services company with approximately 9,000 full-time and part-time employees, but we are not your typical consultants. At ICF, business analysts and policy specialists work together with digital strategists, data scientists and creatives. We combine unmatched industry expertise with cutting-edge engagement capabilities to help organizations solve their most complex challenges. Since 1969, public and private sector clients have worked with ICF to navigate change and shape the future.



GOVERNMENT OF PUERTO RICO
DEPARTMENT OF HOUSING

ATTACHMENT B

ATTACHMENT 1
SCOPE OF SERVICES
Request for Proposals
GEO/RAD System Planning Vendor Services
Community Development Block Grant – Disaster Recovery
Community Development Block Grant – Mitigation
Puerto Rico Department of Housing
CDBG-DRMIT-RFP-2023-02
(Revised May 9, 2023)

1. Introduction

The Puerto Rico Department of Housing (**PRDOH**) is issuing this Request for Proposals (**RFP**) to procure System Planning Vendor services for the Puerto Rico Geospatial Framework Program (**GeoFrame**) of the Community Development Block Grant - Disaster Recovery (**CDBG-DR**) Program and the Risk and Asset Data (**RAD**) Collection Program of the Community Development Block Grant – Mitigation (**CDBG-MIT**) Program. This document outlines the work that must be implemented by the Vendor, including the development of Puerto Rico Spatial Data Infrastructure Strategic Plan (**PRSDISP**), the establishment of a standard and centralized database system, the development of a Digital Twin City System for Puerto Rico's seventy-eight (78) municipalities, as well as other deliverables described below. The system will serve as a tool to model scenarios for Hazard Risk Mitigation, Emergency Response Preparedness, Government Asset Management, Land Use Planning decision-making support, Environmental Impact Assessment System, and as a Physical Address Database. Detailed descriptions of the CDBG-MIT and CDBG-DR Programs are included in their respective Action Plans approved by HUD. Complete copies of the CDBG-MIT and CDBG-DR Action Plans are available at <https://cdbg-dr.pr.gov/en/action-plan/>.

Proposers must understand the CDBG-MIT and CDBG-DR Programs, goals, and regulations, including Federal Register Notice Vol. 83, No.157 (August 14, 2018), 83 FR 40314, Federal Register Notices Vol. 84, No. 169 (August 30, 2019), 84 FR 45838, and Federal Register Vol. 85, No. 17 (January 27, 2020), 85 FR 4676 and grant agreements. Proposers must be familiar with HUD's latest acronyms, glossary, laws, policies, guidelines, and design standards applicable to this RFP's Scope of Services. The Proposer remains fully responsible for determining if the information mentioned above has been revised or updated.

2. Programs Overview

The PRDOH administers various grants as a result of allocations made by the United States Department of Housing and Urban Development (**HUD**) as part of the Community Development Block Grant (**CDBG**) Program. The allocated grants can be divided into two (2) major groups: CDBG-DR, which aims for disaster recovery and CDBG-MIT, for mitigation activities.

The CDBG-DR grants address Puerto Rico's long-term recovery efforts, restoration of housing, infrastructure, and economic revitalization in distressed areas following a disaster. In contrast, CDBG-MIT funds aim for activities that increase resiliency to disasters and reduce long-term risks of loss of life, injuries, damage to and loss of property, suffering, and hardship by reducing the impact

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of future disasters.

While administering HUD funds, the PRDOH may receive allocations for the recovery and mitigation following future disasters on the Island. These include damages caused by Hurricane Fiona, the 2022 major floods, and any other future disasters. Therefore, PRDOH reserves the right to amend any contract(s) resulting from this procurement process to include services under any fund allocation presently administered and/or that may be administered by PRDOH.

The Program(s) that will be subject to and referred to throughout this RFP are identified and briefly described as follows:

2.1. Puerto Rico Geospatial Framework (GeoFrame) Program

The **GeoFrame Program** consists of the aggregation, integration, and actualization of all cadastral and geospatial data in Puerto Rico using a centralized and regulated system, as Spatial Data Infrastructure (**SDI**). The IT components proposed in the SDI will be part of the Government IT system. The Program will integrate all maps and geospatial data from multiple state agencies including but not limited to addresses, roads, parcels, structures, ownership, occupancy, land use, natural hazards, etc. As well it will upgrade and standardize maps and layers already in existence.

The GeoFrame Program will also gather new data, especially data related to structures, property boundaries, property ownership, addresses, and occupancy. To make full use of the system, the GeoFrame Program includes a policy and regulatory analysis, followed by recommendations to fully integrate workflows from multiple agencies.

The GeoFrame Program will support the development of SDIs inside governmental entities that lack the geospatial data, standards, policies, technologies, human resources, or institutional arrangements necessary to provide and access data. The SDI development will provide for, and enhance data governance¹ within each individual entity participating in the Program. As part of the GeoFrame Program, each government entity will be able to effectively use the visualization, analysis, and modeling tools available and created within the GeoFrame and RAD system to support decision-making and ministerial duties related to hazard risk mitigation and emergency management.

The GeoFrame Program has three (3) principal objectives: 1) Fit-For-Purpose Land Administration, 2) Emergency Response, and 3) Insights. The basis of the Spatial Data Infrastructure is an effective Land Administration System. Therefore, Fit-For-Purpose Land Administration prioritizes primary purposes by identifying tenure without expensive surveying; meets the needs of people and their relationship to land; promotes the sustainable management of land use and natural resources supporting security of tenure for all through Sound Land Governance; and provides physical addressing with absolute location, coordinates, and corresponding address. Moreover, the Emergency Response will support the 911 emergency system by physically addressing, and providing public security integration and disaster response. Additionally, the Insights objective will prevent fraud, waste, and abuse; enhance the way to ease doing business; provide analysis and mapping; and promote efficient, effective, and structured civic decision-making.

2.2. Risk and Asset Data (RAD) Collection Program

¹ Data governance (DG) is the process of managing the availability, usability, integrity and security of the data in enterprise systems, based on internal data standards and policies that also control data usage. <https://www.techtarget.com/searchdatamanagement/definition/data-governance>

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The **RAD Program** will provide extensive risk and asset data aggregation, production, analysis, development, and maintenance of critical data tools, and meaningful stakeholder outreach and engagement. It is intended to enhance the ability of citizens, private sector business and industry, mayors, governors, and other leaders to make data-driven decisions that are rooted in an up-to-date comprehensive understanding of hazards, risks, and assets in Puerto Rico. In addition, this Program encourages a collective understanding of how mitigation investments reduce risks to people, homes, neighborhoods, cultural and historic resources, ecosystems, and lifelines.

The purpose of Mitigation planning is to support the identifying, assessing, and reduction of the long-term risk to life and property from hazardous events. The RAD program makes the role of planning central in evaluating and updating risk and asset data, which will support the need to ensure mitigation project activities do not result in adverse impacts.

The RAD Program data assets production will be aligned with the Federal Emergency Management Agency (**FEMA**) Community Lifelines used to develop the CDBG-MIT Risk Assessment and the Risk Based Needs Assessment for Puerto Rico, which are as follows:

- Safety and Security;
- Food, Water, and Shelter;
- Health and Medical;
- Energy;
- Communications;
- Transportation; and
- Hazardous Materials.

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Better access to quality data related to those Lifelines will be achieved, existing data sets will be improved, and new data sets will be derived to better inform the citizens of Puerto Rico. In addition to data associated with the FEMA Lifelines, the RAD Program seeks to improve on existing data available for human and natural hazards, a historic and probable consequences from those hazards, and detailed information on the populations and assets at risk.

The RAD Program will synergize with and expand on the standards and data collection, sharing, and mapping protocols development under the CDBG-DR Programs to include standards, protocols relevant to hazard, risk, asset layers, and create a virtual environment that provides the elements for modeling scenarios of the interaction between the assets and the risk. The Program will fund the aggregation and production of existing and new data related to past, present, and future hazards and risk and the location and status of social, ecological, and built-environment assets. This data will be compiled into a system that merges with, or complements, the systems developed under the CDBG-DR Program, such as GeoFrame's Spatial Data Infrastructure (**SDI**).

For this RFP, the activities related to the implementation of both programs will be referred to as "**GEO/RAD**".

3. Staff Requirements

Selected Proposer(s) shall have or will secure, at its own expense, all personnel required to perform the services under the GEO/RAD System Planning Vendor contract. The Program Leadership and Technical Staff must be ready to begin working within two (2) weeks after the contemplated contract execution date and may be working throughout the contract term. The Selected

Proposer must coordinate the availability of the Program resources with PRDOH before commencing work. Program Leadership refers to the executive staff that will be leading and directly overseeing the Program delivery and Technical Staff refers to the staff that will be leading the different services needed for the proper execution of the tasks described in this SOS. Selected Proposer(s) must ensure that all services are performed by professionals with the proper qualifications, skills, and experience necessary to perform such services, according to applicable federal and local rules and regulations.

During the contracting period, PRDOH will provide a list of the Program Leadership and Technical Staff that requires PRDOH revision and approval if a change in personnel is needed. Therefore, any service performed without PRDOH's written authorization cannot be invoiced and will not be reimbursed. The PRDOH reserves the right to request the removal of any staff not performing to PRDOH's expectations.

4. Organizational Chart and Staffing Plan

The Proposers shall submit to the PRDOH an organizational chart with the proposed structure detailing each staff (whether employed by the Proposer or a subcontractor) who shall perform any GEO/RAD System Planning Vendor service required for the implementation of the GEO/RAD Programs. The Proposer's organizational chart and staffing plan shall specifically include the required number of personnel, role, and responsibilities, name of the staff member(s) or subcontractor(s), their planned level of effort, their anticipated duration of involvement, if the position(s) is filled or if the personnel need to be hired, and their on-site availability. The Proposer should demonstrate the ability to adequately staff and scale each functional area to maintain agreed-upon service levels throughout the life of the Programs. Proposer must identify within the organizational chart which staff members will be working locally from Puerto Rico.

5. Staff Experience and Qualifications

The Proposer shall provide detailed information about the experience and qualifications of the Program Leadership and Technical Staff to be assigned through a resume or curriculum vitae (CV), including degrees, certifications, licenses, and years of relevant experience. In addition, Proposer shall specifically identify personnel currently employed who will serve as Program Leadership and Technical Staff, including the Proposer's own staff and subcontracted.

The Proposer should demonstrate that the staff or subcontractor's staff have the educational background and the necessary experience and knowledge to successfully implement and perform the tasks and services. PRDOH expects the Selected Proposer(s) to provide competent and fully qualified staff that are authorized or permitted under federal, state, and local law to perform the scope of services under the contract.

PRDOH is providing a list of the recommended qualifications and experiences considered for the execution and completion of the requested services. This should not be considered an exhaustive list of all necessary qualifications, but a description of PRDOH's expectations and assumptions of expertise needed for GEO/RAD System Planning Vendor. Proposers are expected to identify, present, and suggest the staff with the technical qualifications and experience that best meet the needs detailed in the Services and Tasks within this scope. Proposers should consider the following list as a reference and not as a list of requirements:

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- In depth knowledge and experience with the development and management of cadastral datasets, Land Administration System (**LAS**), Enterprise Geographic Information System (**GIS**) and applications of these products for local government and regional use and analyses, including GIS related policies that could apply to Puerto Rico.
- Experience organizing and leading public presentations and facilitating public meetings, including those with municipal boards and commissions, concerned and engaged stakeholder groups, state agencies, and organizations in Puerto Rico.
- Experience developing stakeholder engagement plans, working with the stakeholder engagement component, and managing engagements with multiple governmental and non-governmental entities, as well as citizens.
- Experience supporting daily operations and program management roles and responsibilities.
- Knowledge of the legal and regulatory framework of Government entities related to emergency management, planning, permit and inspection processes, real estate transactions, and real estate insurance and taxation (ad valorem).
- Experience overseeing planner(s) and/or designer(s) on a multitude of projects.
- Knowledge of information system infrastructure, servers, routing and switching configuration, and troubleshooting typical IT infrastructure (Cloud, Servers, Communication, and Firewall).
- Expertise providing guidance and execution of geodatabases and database structures and theory. Experience with commercial Relational Database Management System (**RDBMS**) such as MS SQL Server, ORACLE, or PostgreSQL.
- Knowledge in Database configuration, Data model implementation, Database security, Database performance tuning, Data backup and recovery, Data replication, RDBMS software upgrades, and service packs.
- Skills in QA/QC processing protocols to ensure compliance with data standards in terms of data collection, input, validation, reliability, relevancy, timeliness, completeness, accuracy, and precision.
- Experience assisting, advising, or leading others in the use of geographic data, the use quantitative and qualitative methods, and GIS tools components.
- Proficiency in the design, creation, and maintenance of geodatabases. Expertise maintaining established quality control standards. Ability in providing procedures for data capture, updates, and analysis. Knowledge in document geodatabases and keeping metadata updated.
- Knowledge in aerial photography interpretation and capturing GIS data from the raster datasets. Knowledge on how to design and develop maps for both hardcopy and website use.
- Knowledge in orthoimagery process.
- Experience identifying data sources and lineage across an organization and providing recommendations of data structures for analysis and modeling.
- Knowledge in enterprise data governance.

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- Experience integrating non-uniform/non-standardized data.
- Proficient in applying statistical concepts to validate and QA data and models.
- Experience collaborating with software developers in the creation of programs and applications. Knowledge in the use of code libraries to simplify the writing of code and perform debugging and troubleshooting. Proficient in programming with C++, JavaScript, HTML, Python, SQL, CSS and their associated APIs, .NET (C# and VB.NET), or another comparable modern object-oriented language.
- Background in performing IT system administrator duties and activities, such as Hardware-Procurement, installation, and configuration. Skills performing Network infrastructure-installation, configuration, and tuning. Knowledge in server system performance tuning or troubleshooting, server operating system installation and maintenance, and storage subsystem management/configuration performance.

6. GEO/RAD System Planning Vendor Services and Tasks

PRDOH has established a stepped approach to the implementation of GEO/RAD Program. The Proposers must review and familiarize themselves with the eligibility requirements in the documentation available in PRDOH's website (<https://www.cdbg-dr.pr.gov/en/>).

The Selected Proposer(s) must work closely with the PRDOH, Stakeholders, and Subrecipients or Supporting Entities assigned by the PRDOH to accomplish the identified tasks. The Selected Proposer(s) may be required to coordinate with other firm(s) contracted by the PRDOH that will be providing services regarding other CDBG-DR and CDBG-MIT Programs. The Selected Proposer(s) must study and get familiarized with both disaster recovery and mitigation programs to have a clear understanding of PRDOH's expectations.

The Selected Proposer(s) will perform the required services under sequential tasks and sub-tasks, and some of these tasks will require a formal deliverable to the PRDOH. For every deliverable, the Selected Proposer(s) must expect PRDOH's reasonable comments or revisions (request for changes) of delivered documents. The Selected Proposer(s) must account for revisions or clarifications requested by PRDOH related to required deliveries.

The Scope of Services presented is based upon circumstances existing at the time the RFP is released. PRDOH reserves the right to modify or delete tasks or sub-tasks listed and if appropriate, add additional tasks prior to and during the term of the contemplated contract.

Task 1. Stakeholder Engagement

Stakeholder and citizen engagement are a critical component to the successful execution of the GEO/RAD Programs. Multiple governmental and non-governmental entities, as well as citizens, will be impacted and asked to contribute to the development and execution of all defined outcomes.

The Selected Proposer(s) will collaborate closely with approximately thirty (30) governmental entities, including municipalities and agencies, as well as other stakeholders and private entities. All data, information, and tools will be property of the Government of Puerto Rico and will be managed and governed using the best practices within an existing or proposed legal framework. Data will be shared following PRDOH and US Department of Housing and Urban Development (HUD) regulation for PII management policies, through PRITS's approved data exchange workflow with other relevant entities and/or agencies for purposes related with the CDBG-DR and CDBG-

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MIT processes. Additional stakeholders may be identified by PRDOH, PRITS, Program Partners, or the vendor during the execution of this contract.

The following subtasks describe the requirements for the Stakeholder Engagement Task.

1.1. Perform Stakeholder/Partner analysis and conduct ongoing engagement

- 1.1.1. Coordinate with PRDOH and Program Partners to establish a plan for Stakeholder engagement and outreach including, outreach tactics (meeting schedule, information materials, events, online presence, social and traditional media) and tools for each stakeholder group (high, medium, and low engagement) to allow stakeholders to effectively participate in and contribute to Programs' objectives. The Selected Proposer(s) should plan activities around Programs' milestones to provide unique opportunities to reach Stakeholders with news, updates, progress reports, and other important information. All outreach and engagement will need to be tracked and recorded in PRDOH's system. PRDOH expects to engage with agencies related to the process of Planning and Land Use Regulation, Permitting, Building Code Inspections Regulation, Title Registry, Real Estate Transactions, Real Estate or Property Insurances Regulations, Emergency Management, Emergency Response, FEMA Lifelines related Government Agencies such as Housing, Transportation, Health Services, Public Health, Public Security and Safety, Telecommunications, Hazardous Materials, Materials Management, Economic Development, Government Agencies related with social aspects such as Education and Family; and Government Agencies related to the Natural Resources, Environmental Management, and natural hazard risks.

Deliverable(s): Stakeholder Engagement Plan – Provide PRDOH one (1) Stakeholder Engagement Plan addressing all items listed above. The Selected Proposer(s) should coordinate with PRDOH to confirm content and organization of the Stakeholder Engagement Plan prior to the development of any draft or preliminary report. The Selected Proposer(s) must upload this submission to the required, secure location.

- 1.1.2. Develop a complete stakeholder analysis and relationship map of current roles and responsibilities related to geospatial, data governance, physical asset, social asset, cadastral, land development and building permits process, environmental impact assessment, lifeline infrastructure, environmental asset, and data and models for land, sea level rise, coastal erosion, hurricane, landslide, liquefaction, earthquake, peak ground acceleration, and other climate-sensitive indicators. Stakeholder analysis should include their staff capacity to participate in GEO/RAD Program, the current Information Technology (IT) infrastructure, the current knowledge of SDI, and other land use, technology, policy, predictive or real-time modeling or methods, workflows, and processes and other factors as deemed necessary.
- 1.1.3. Coordinate initial program presentations to all potential Stakeholders to explain program requirements and procedures and set forth the next steps in program implementation.
- 1.1.4. Properly document the outreach and engagement activities, including, but not

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limited to, recordings, videos, photos, registration forms, and documentation of stakeholder feedback.

- 1.1.5. Collaborate and work directly with PRDOH on all necessary communication, media, contact persons, and locations of communication events as frequently as needed throughout the Programs' duration.
- 1.1.6. Evaluate outreach impact in coordination with PRDOH to understand which activities reach the Stakeholders and evaluate effectiveness.

Deliverable(s): Stakeholder Analysis Report – Provide PRDOH one (1) Stakeholder Analysis Report addressing all items listed above. The selected proposer should coordinate with PRDOH to confirm content and organization prior to the development of any draft or preliminary report. The Selected Proposer must upload this submission to the required, secure location.

Task 2. Technical Standards

This Task will result in a comprehensive list of data and attributes necessary for a comprehensive Geographic Information System (GIS) database and the quality targets for data production. These standards depend on extensive industry knowledge and stakeholder engagement to ensure that the requirements and needs of all end-users are taken into consideration in the design of the database and accompanying tools and systems. The Technical Standards should consider all the data and technologies needed to build a model system such as a Digital Twin (e.g. IT supporting technologies, Internet of Things (IoT) Artificial Intelligence (AI), Deep Learning, Spatial Computing, etc.). Many or all subtasks could require the Selected Proposer to collaborate closely with Program partners, multiple state agencies, municipalities, and other public entities to ensure that the data and database will meet their needs and the needs of the Program.

The following subtasks describe the requirements for the Technical Standards Task.

2.1. Define the PR Geodatabase 1.0 Components and Standards for the Digital Twin, Models, and Associated Geodatabases

- 2.1.1. Identify all data and attributes necessary for a complete PR Geodatabase 1.0. For a data and inventory collection process, the PR Geodatabase 1.0. must be available and may include existing datasets that serve the purposes of the GEO/RAD Program. It should contain the elements of the lifelines, the risks, and the social, physical, and environmental assets. The geodatabase will serve for provisional identification of occupancy and informal boundaries and tagging properties for legal resolution. The database should reflect in their schema definition of the components that serve Stakeholder needs. Complete database will encompass, at a minimum, all structures, parcels, parcel registration status, roads, communication infrastructure, power generation and transmission infrastructure, water and wastewater infrastructure, physical addresses, land use, special populations, and environmental hazards in Puerto Rico. These database attributes must be developed in concert with PRDOH, PRITS, Program Partners, and Stakeholders and should reflect best available emerging and established technology and standards. The interim database schema should incorporate elements of Digital Twin for a virtual representation of the physical, social, and environmental assets, the relationships with the hazard risk, and the standards and technical consideration for the integration of Building Information Modeling (BIM), IoT, Deep Learning, Big Data, and AI. It should also reflect data governance best practices.
- 2.1.2. Research and recommend overarching GIS geodatabase model design and

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standards, including but not limited to a uniform spatial reference system, geographic coordinate system at its updated datum for Puerto Rico, projections and transformations. This subtask will also include recommended standards for the creation or integration of GIS data layers, including but not limited to common identification fields and attribute domains for all base maps, and elevation, features, roads and linear reference system, imagery layers, and physical asset, social asset, environmental asset, and hazard risk data. The geodatabase design must be developed in concert with PRDOH, PRITS, Program Partners, and Stakeholders and should reflect best available emerging and established technology and standards, including GIS, BIM, Digital Twin, IoT, Light Detection and Ranging (LIDAR), and Deep Learning among other technologies.

- 2.1.3. Research and recommend GIS database governance standards, including but not limited to a set of techniques and timelines for database operations, systematic updating, processing and distribution of data, database storage and warehousing, and security data management and protocols. These governance standards must be developed in concert with PRDOH, PRITS, Program Partners, and Stakeholders and should reflect the best available emerging and established technology and standards, including GIS, BIM, Digital Twin Modeling System, IoT, LIDAR, and Deep Learning among other technologies.

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2.2. Define data collection, metadata, and security standards

- 2.2.1. Research and recommend comprehensive metadata standards appropriate for cadastral and geospatial datasets (physical, social, environmental assets and risk data), including but not limited to data developed from LIDAR, BIM, or a best available emerging technology. Data collection and metadata will elaborate on the Standards and Spatial Standards applicable for the GEO/RAD system and needed to provide interoperability across all of the components of the System proposed for the GEO/RAD Programs. It will consider the standards for data, sensors or technologies needed to feed live stream data into Digital Twin Modeling Systems. These standards must be developed in concert with PRDOH, PRITS, Program Partners and Stakeholders and should reflect best available emerging and established technology and standards, including GIS, BIM, Digital Twin, IoT, LIDAR, and Deep Learning among other technologies. Security standards must comply with PRITS document "Cybersecurity Standards V1.0". Among other things, the integration of security best practices to prevent unauthorized and/or malicious access through the internet.
- 2.2.2. Research and recommend quality, accuracy, and collection standards for each attribute within the comprehensive PR Geodatabase 1.0. These standards should reflect the necessity to perform sophisticated and detailed analysis with the data and should consider ease of updating and maintenance balanced against the benefits of utilizing best available emerging and established technology for the collection of multiuse cadastral GIS data, the collection of physical asset, social asset, environmental asset, and hazard risk data. This subtask should define how "good" the data needs to be in order to provide information necessary to support PRDOH and Partners in emergency management and rescue services, identify properties without titles, ensure that structures are correctly permitted, planned, inspected, locatable with its physical address, insured, and allow for effective planning, land use and zoning controls to be utilized, particularly in relation to critical infrastructure, special populations and environmentally high-risk areas. This data will also need to be

granular enough to develop a high-quality mapping portal that is viewable by Municipalities and other units of Government. These standards must be developed in concert with PRDOH, PRITS, Program Partners and Stakeholders and should reflect best available emerging and established technology and standards, including GIS, BIM, Digital Twin, IoT, LIDAR, and Deep Learning among other technologies. Security standards applicable to PR Geodatabase 1.0 must comply with PRITS document "Cybersecurity Standards V1.0". Among other things, the integration of security best practices to prevent unauthorized and/or malicious access through the internet.

Deliverable(s): Technical Standards Preliminary Report – Provide PRDOH and Program Partners one (1) Technical Standards Preliminary Report upon completion of the subtasks above. The Selected Proposer must upload this submission to the required, secure location.

Task 3. Data Inventory and Collection

The Task will result in a comprehensive aggregation of all relevant and existing geospatial data for Puerto Rico. Many or all components of this task will require the Selected Proposer(s) to collaborate closely with Program Partners, multiple State Agencies, Municipalities, and other public entities, to collect and consolidate existing data into a single location for analysis. All data, information and tools will be the property of the Government of Puerto Rico and at PRDOH's discretion, it will be shared with other relevant entities and/or agencies following PRITS data sharing policies.

The following subtasks describe the requirements for the Data Inventory and Collection Task.

3.1. Consolidate existing cadastral and geospatial data

- 3.1.1. Identify and work with relevant entities that currently collect, hold, or use cadastral and geospatial data to identify ownership and location of any/all currently existing data, attributes and data governance elements identified as necessary in Task 2.1
- 3.1.2. Collaborate with relevant entities to consolidate the data into a single location and build the data into the PR Geodatabase 1.0. This could require mining relevant data from digital or paper parcel maps, historic parcel data and information, zoning or future plan use maps, community or small area plans or other types of plans, real estate property transaction data, property assessment data, related permit process data, existing structure and property classifications, transportation features, economic development data, computer-aided design (CAD) and BIM data, census data, and/or any others as deemed relevant.

Deliverable(s): A complete electronic file, or database synchronization process using best practices of all collected data in original format, a Relational Database Management System (RDBMS) with all consolidated data, and a comprehensive report that encompasses the information described in Subtasks 3.1.1 and 3.1.2 above - The Selected Proposer must upload this submission to the required, secure location. Specific requirements of the submission must be presented, discussed, and coordinated before submission preparation.

Task 4. Gap Analysis

The Gap Analysis Task of the GEO/RAD Programs seeks to identify and understand the aggregated, existing need for the physical asset, social asset, environmental asset, hazard risk,

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cadastral and spatial data, and to single out those attributes or datasets that are missing or unusable due to age, quality, accuracy, or other concerns.

The following subtasks describe the requirements for the Gap Analysis Task.

4.1. Identify spatial and quality gaps in existing datasets

- 4.1.1. Perform comparative analysis of data collected and consolidated during Task 3 and the necessary datasets and attributes established in Task 2.
- 4.1.2. Develop comprehensive assemblage of all identified gaps in existing data, including, at a minimum, an identification of missing datasets, quality gaps (accuracy, precision, age, and relevance of data), geographic gaps and datasets or attributes that do not conform to quality standards established in Task 2.

4.2. Develop Prioritized data production strategy

- 4.2.1. Propose methodologies to collect all data identified as a "gap" in Task 4.1. Methodologies should reflect best available emerging and established techniques, technology, strategies and/or standards that will yield high quality data, in conformance with quality standards established in Task 2. Database Quality Assurance and Quality Controls (QA/QC) should be established as part of the production strategy that satisfies the established Data Standards, including but not limited to the completeness, validity, logical consistency, physical consistency, referential integrity and positional accuracy of the data. The data production strategy must be reviewed by PRITS and approved by PRDOH.
- 4.2.2. Propose priorities for data collection based on timeline concerns, necessity of data for interim or final geospatial data in support to a Digital Twin modeling system related to the lifelines, opportunities to leverage existing and near-term data collection initiatives, IT infrastructure necessary to support the visualization analysis and digital twin modeling and digital twin data live stream, time necessary to collect data and information, cost to collect data and information, availability of required personnel, access to technology or equipment, replicability and SDI maintenance workflow protocols, and other factors deemed relevant by PRDOH, PRITS, Partners and Stakeholders or Selected Proposer.

Deliverable(s): A comprehensive Gap Analysis report - that encompasses the information described in Subtasks 4.2.1-4.2.2 above. The Selected Proposer must upload this submission to the required, secure location. The selected proposer should coordinate with PRDOH to confirm content and organization prior to the development of any draft or preliminary report.

Task 5. Data Aggregation and Production

Data production includes all the Information and Communication Technology System deployment that supports the GEO/RAD Programs. It also includes integration of the different government entity systems that allows for geospatial data and non-spatial data integration. The data aggregation and production process will provide for the creation and continuous update of the social, ecological, and technological assets of Puerto Rico. It will consider the use of the IoT approach when applicable, to maintain a living stream of data that supports the modeling and decision-making tools of the GEO/RAD System. Data production process will include quality

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assessment and quality control procedures for the data aggregation and production subtasks 5.1.4 to 5.1.7.

5.1. Execute the data aggregation and production

- 5.1.1. Obtain written approval for data production strategy from the designated PRDOH representative to proceed with the data aggregation and production strategy as described in Subtasks 4.2.1-4.2.2.
- 5.1.2. Ensure and support the different government entities systems' integration to allow for geospatial data and non-spatial data integration.
- 5.1.3. Collaborate closely with Program Partners, multiple State Agencies, Municipalities, and other public entities, in order to collect and create new data sets by deploying technical personnel, as well as tools and applications, for data production as per approved strategy.
- 5.1.4. Aggregate and produce data related to Physical assets will be composed by the system integration of Geographic Information System related, but not limited to: buildings, wastewater infrastructure, transportation system (roads, bridges, traffic light, tolls, signalization, mass transportation, commercial ports, airports, etc.), pipelines, underground infrastructure, communication infrastructure, waste management infrastructure, energy grid system (generation and distribution), green Infrastructure and hazard materials, historic and cultural assets (including museum and libraries), real estate physical address, and insured real estate property. The physical assets data collection and production will perform using the best available technology, methods, and applicable standards.
- 5.1.5. Aggregate and produce data related to Environmental assets will consider the layers of information that model the natural environment and the interaction with the anthropogenic activities. Environmental assets database will contain detailed information on the topics of soils, subsoils, geology, species characterization ("flora y fauna"), endanger species, historic and cultural elements, watersheds, water bodies and water quality characterization, air basins and air quality characterization and related attributes, and topographic elements such a water bodies, and sinkholes. The environmental assets will have an environmental impact assessment layer of information that collect all the environmental related data developed as part of environmental studies.
- 5.1.6. Aggregate and produce data related to social assets that will provide for the data collection, development and modeling of the social aspects including elements of economic development, employment, scholarship, demographic profile and trends, poverty, individual income, family or household income, family composition, household and the relation with population with disabilities, health insurance population.
- 5.1.7. Aggregate and produce data related to hazard and risk data will be developed and/or integrated by the GEO/RAD System Planning Vendor related to flood, wind, landslide, earthquake (liquefaction, peak ground acceleration), tsunami, drought, wildfire, sinkholes, sea-level rise, human caused hazard, food security, and other hazard related datasets as identified in the CDBG-MIT hazard and risk analysis.

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5.2. Oversee and support other data aggregation and production efforts

5.2.1. When determined necessary by PRDOH, the Selected Proposer may be requested to provide oversight and support to Program Partners and other stakeholders executing data aggregation and production, including providing guidance and technical assistance to ensure standards and priorities determined in Tasks 3 and 4 are implemented in coordination with PRDOH, other vendors, and GEO/RAD participating entities. For the purpose of this task, on an as-needed basis, the System Planning Vendor should assume the need of three (3) resources to support and provide oversight of data production as identified in the Gap Analysis (Task 4), as well as tools and applications. Additional staff may be required.

Deliverable(s): A complete electronic file of all data collected, aggregated, and produced in the task 5.1 and 5.2, and comprehensive report that encompasses the data information described above in Subtasks 5.1.1 to 5.1.7 and 5.2.1. The Selected Proposer must upload partial submission that reflect progress work, to the required secure location. Selected Proposer will submit and incorporate the partial and final data and databases products from Task 5.1 and 5.2, to the IT system and RDBMS resulted from Task 12. Specific requirements of the submission, such as contents, file type, document type and format, paper size, font type and size, logos, etc. must be presented, discussed and coordinated before submission preparation.

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Task 6. Puerto Rico Geodatabase 1.0 and Web-based geoportal with data access and analysis and visualization tools

6.1. Develop Puerto Rico Geodatabase 1.0 and Web-based geoportal

- 6.1.1. Ensure the data collection process is defined and executed using the best practices and available technology such as Portal to Portal collaboration.
- 6.1.2. Create a relational database that will be evaluated in terms of the standards requirements for spatial analysis and Digital Twin Modeling tools. Coordinate with subject matter experts on the defined assets and risk hazards that are expected to collaborate in the definition of the databases schemas and data standards functional to the Digital Twin Model.
- 6.1.3. Recommend and apply database standards to the collected data in order to support the visualization, modeling, and analysis tools of the GEO/RAD system.
- 6.1.4. Develop the tools that allow for data access, query, analysis, and visualization. The tools will be developed for different type of users' roles supporting basic and advance spatial analysis and operation.

Deliverable(s): Dynamic, interactive mapping portal, powered by the Puerto Rico Geodatabase 1.0 - available to users in both interactive map and download form and informed by the results of tasks previously described. Web-based Geoportal should reflect the interagency workflow and dynamics updates of the data presented in the Portal. The approach must be reviewed and approved by PRDOH prior to development.

Task 7. Puerto Rico Spatial Data Infrastructure Strategic Plan

The Puerto Rico Spatial Data Infrastructure Strategic Plan (PRSDISP) will consider all the related government geographic areas of interaction such as physical assets and built environment, land

use, real estate and transactions, physical address, demography, environmental resources and environment quality, natural hazard risk, emergency management, revenue and fiscal components, social aspects, and public safety and security among others. The PRSDISP will evaluate, analyze, and propose the SDI's components of Technologies, Data and Metadata, Standards, Human and Technical Resources, Policies, Legal Framework, Institutional Arrangement, and Channels of Communications and Education. The PRSDISP should result in the blueprint for the construction of the GEO/RAD Programs stakeholders' individual SDI providing and establishing the geospatial data governance framework across the Government of Puerto Rico. The PRSDISP will include but will not be limited to the following required components:

7.1. Develop the PRSDISP components

- 7.1.1. SWOT Analysis: Provide a Strengths, Weaknesses, Opportunities, and Threats (**SWOT**) analysis on the Spatial Data Infrastructure in Puerto Rico. PRSDISP should result in the construction of the GEO/RAD Programs stakeholders' individuals SDIs, and the SWOT analysis should reflect the actual condition of the entities government that will interact with GEO/RAD Programs.
- 7.1.2. Stakeholder Analysis: that includes: (1) A stakeholder description and the relationship of the ministerial duties with the SDI and the objectives of GEO/RAD Programs. (2) Stakeholder Programs description based on organizational charts, their workflows, and a relation with authoritative data source, data lineage, data usage, and data interaction with the other stakeholders. (3) Description of the IT environment and the relation with the GEO/RAD IT needs. (4) Description of the entity's legal framework and the relation of the data needs to support the CDBG-DR and CDBG-MIT Programs.
- 7.1.3. SDI Mission and Vision: Develop a Mission and Vision of the SDI. The PRSDISP will establish the mission and vision of the proposed Spatial Data Infrastructure. The statement will consider not only the objectives to support the decisions in the matter of emergency response and hazard mitigation, but to provide the basis to achieve a spatially enabled society, and the support of sustainable development.
- 7.1.4. Technologies: The PRSDISP will describe the actual condition of the technologies present in the stakeholders that support their workflows. Technologies discussion will include, but not be limited to IT architecture, data models, web services, applications, end user relations and access controls, cybersecurity technologies, technology suppliers, and developers. Technologies needs and requirements will be discussed based on modeling capability using the Digital Twin concept as a benchmark. Discussion includes requirements and recommendations on the cloud server, cloud computing, space computing, deep learning, artificial intelligence, Building Information Modeling and GIS technologies.
- 7.1.5. Data and Metadata: The PRSDISP will describe the spatial data framework that secures the interoperability and covers the needs of all stakeholders. The description of the data should include the data production workflows, lineage, and pipelines. The development of the data attributes will be consistent and tie with the CDBG-DR and CDBG-MIT Programs and must be functional with the purpose of a Digital Twin Modeling for the physical assets and elements of the different lifelines and the hazard risks. All data analysis and proposed data

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should comply with the International Organization for Standardization (ISO) and Federal Geographic Data Committee (FGDC) endorsed standards.²

- 7.1.6. Standards: The PRSDISP will elaborate on the Standards and Spatial Standards applicable for the GEO/RAD system and needed to provide interoperability across all of the components of the System proposed for the GEO/RAD Programs. The Standards section will cover the aspects and best practice recommendation for Cloud Environment, Operating System, Network, Cybersecurity, Software, Relational Database Management System (RDBMS), Databases schema, Spatial Computing, Deep Learning, Artificial Intelligence, Internet of Things, Geospatial Data, Building Information Modeling (BIM), LIDAR, Imagery, and Unmanned Aerial Vehicles technology data products, among any other technology applicable for the development of the GEO/RAD System. A standard should be created for, but not limited to, on the topics or process of Physical Address, Land Administration System, Cadastral, Land Use, Deed and Title Registry, Real Estate Transaction, Use Permit, Building Inspection and code enforcement, Real Property Insurance, Public Assets, linkages and transportation networks, and each of the Lifelines stated in the CDBG-MIT Action Plan.
- 7.1.7. Human and Technical Resources: The PRSDISP will describe the actual situation and the stakeholder needs on human resources that will satisfy and secure the implementation and continuity of the GEO/RAD System. It will cover the administrative and technical aspects of the System.
- 7.1.8. Policies and Legal Framework: PRSDISP will analyze the legal framework of the stakeholder linkage to the data lineage. The organization chart will be evaluated identifying the opportunities for data integration. Internal policies in the use and needs of spatial data will also be discussed. The Selected Proposer should analyze, make the recommendation of modification of, or create new policies for the topics of Physical Address, Land Administration System, Cadastral, Land Use, Deed and Title Registry, Real Estate Transaction, Use Permit, Building Inspection and code enforcement, Real Property Insurance, Public Assets, and each of the Lifelines stated in the CDBG-MIT Action Plan. The creation of the Physical Address Protocols for the Adoption of the government is part of the requirements of the PRSDISP.
- 7.1.9. Engagement and Institutional Arrangement: The PRSDISP should include a Stakeholder Engagement Plan. Recommendation of institutional arrangement between the stakeholders will also be drafted, discussed, and adopted with and between the stakeholders to secure the participation, the adoption of technologies and standards, and the capacity building process recommended by the PRSDISP.
- 7.1.10. Channel of Communication and Education: The PRSDISP will create an Outreach Plan that facilitates the integration and use of the system and the visualization and analysis tools with the stakeholders involved in the major aspects of emergency management, hazard mitigation, physical address database and management, and the use and maintenance of the Digital Twin

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² <https://www.fgdc.gov/metadata/iso-suite-of-geospatial-metadata-standards>

models. A Capacity Building process of the stakeholders will be considered in the PRSDISP.

Deliverable(s): Puerto Rico Spatial Data Infrastructure Strategic Plan (PRSDISP). The Selected Proposer will coordinate with PRDOH to confirm content and organization prior to the development of the draft. The submission will include a draft PRSDISP that will be delivered to PRDOH for PRITS's review and final PRDOH approval, the Selected Proposer will finalize the PRSDISP and submit to PRDOH. The Selected Proposer must upload these submissions to the required, secure location.

Task 8. Digital Twin Architecture, Design, and Implementation Plan

The GEO/RAD Programs seek to implement innovative and cutting-edge technologies on the development of Digital Twin Model that considers the physical, environmental and social aspects of an emergency response scenarios and risk mitigation process. A Digital Twin for Puerto Rico that integrates available geospatial data inventoried during stakeholder engagement that mirrors, monitors, and can influence or make changes to the physical infrastructure in the following areas: transportation, communications, water/wastewater, power and energy consumption, public safety and other key facilities. The Digital Twin will also incorporate existing and newly developed real time and predictive models for the hazard risks in Puerto Rico. The Selected Proposer will provide PRDOH, PRITS and Program Partners with a Digital Twin Architecture, Design, and Implementation Plan incorporating recommendations, implementation schedules, and cost associated with all aspects of the Puerto Rico Digital Twin. This Plan will be developed and informed based on knowledge gained during the implementation of Tasks 1-6 and be consistent with all aspects of the PRSDISP (Task 7).

8.1. Develop the Digital Twin Architecture, Design, and Implementation Plan components

- 8.1.1. Analyze and inform the data sets available for incorporation into the Digital Twin as identified as part of Tasks 1-6.
- 8.1.2. Develop a prioritized data production strategy for any required improvements to existing data or data infrastructure necessary to incorporate relevant data into the Digital Twin.
- 8.1.3. Determine any required improvements to existing models or the creation of new models to perform real-time or predictive modeling for sea level rise, coastal erosion, hurricane, landslide, drought, earthquake and liquefaction, man-made hazards or other hazard state in the CDBG-MIT Action Plan as deemed necessary by PRDOH.
- 8.1.4. Recommend any required IT infrastructure necessary for the deployment and support of Sensors (IoT), Big Data, Lake Data, Deep Learning, Spatial Computing, Artificial Intelligence and other technology to support seamless integration with the physical environment of Puerto Rico.
- 8.1.5. Elaborate an implementation schedule to develop the Digital Twin and deploy IT infrastructure.
- 8.1.6. Develop a cost estimate to make any required improvement to existing data and infrastructure, the cost to develop the Digital Twin environment, cost to purchase and deploy the recommended IT infrastructure, and estimate Operations and Maintenance costs of all associated digital and physical infrastructure for twenty (20) years.

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- 8.1.7. Develop the estimated cost and acquisition strategy for BIM modeling of approximately two thousand (2,000) critical infrastructure facilities in Puerto Rico.

Deliverable(s): Digital Twin Architecture, Design, and Implementation Plan. The Selected Proposer should coordinate with PRDOH to confirm content and organization prior to the development of any draft or preliminary report. A draft Digital Twin Architecture, Design and Implementation Plan will be delivered to PRDOH. Upon approval, the Selected Proposer will finalize the Digital Twin Architecture, Design and Implementation Plan and submit to PRDOH. The Selected Proposer must upload this submission to the required, secure location.

Task 9. Surface Data Acquisition

Mapping activities include using innovative technologies such as LIDAR, photogrammetry, 3- and 4-D imaging, or data collection using drones and mobile sensor devices. Technologies should provide visual analysis and feature extraction of geographic and topographic elements such as landcover and buildings, and other man-made elements such as electric infrastructure or road alignment and conditions. This may include products and technologies that assist in the inspection of buildings, allow measurements of field or building elements, and support rapid damage assessment after natural disaster events. It is expected for the Selected Proposer to deliver 360-degree images, and that LIDAR and feature identification and extraction will include all road systems and other relevant elements with emphasis on areas with a high concentration of informal building areas and structures. All technology will be the property of the Government of Puerto Rico at the close of the Program and will be delivered according to PRITS's policies.

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9.1. Mobile Mapping

- 9.1.1. Creation of LIDAR dataset and 360-degree images of approximately 21,400 miles of roads acquired from mobile mapping technology recording horizontal LIDAR data of geographic elements. Feature extraction of geographic elements is required.

Deliverable(s): Data and visualization tools for evaluation and use of the acquired data. The Selected Proposer must upload this submission to the required, secure location.

9.2. Aerial Imagery and LIDAR

- 9.2.1. Acquire aerial LIDAR and spatial high-resolution imagery data from oblique and vertical perspective of the geographic elements, from unmanned aerial vehicles, satellite or aerial flights. Aerial imagery data acquisition will be performed using the best practices. Flight acquisition itinerary and spatial and spectral and resolution will be agreed with PRDOH and stakeholders.
- 9.2.2. Collect state of the art high resolution (sub meter) aerial images that provide for the identification, classification, and measurement of geographic objects such as buildings, power infrastructure (power distribution lines, poles, transformers, PV units, etc.), water infrastructure (hydrants, pump stations, etc.), among others as determined by the PRDOH.

Deliverable(s): Data and visualization tools for evaluation and uses of the acquired data. The Selected Proposer must upload this submission to the required, secure location.

9.3. Building Information Modeling (BIM)

9.3.1. Development of BIM data model for the critical infrastructure that include public assets buildings, health care building Infrastructure, educational infrastructure, public safety infrastructure, transportation system, potable and wastewater Infrastructure, water reservoirs Infrastructure, waste management infrastructure among others. Indoor mobile mapping systems, laser scanner technologies, LIDAR or UAV is expected to be used to provide innovative solutions on the BIM data creation and collection. For the purposes of this procurement, the System Planning Vendor should assume approximately 2000 structures.

Deliverable(s): Data and visualization tools for evaluation and uses of the acquired data. The Selected Proposer must upload this submission to the required, secure location.

Task 10. Training and Capacity Building

Provide training materials and perform capacity building activities for Agencies, Municipalities, and entities involved in the GEO/RAD Programs. In particular, training must be provided for those entities who will engage in managing, updating, or contributing to the interim and/or comprehensive systems and any data management tools. The GEO/RAD System Planning Vendor will be responsible of performing and ensuring Program stakeholders capacity building. All Training and Capacity Building activities will depend on system users' categories.

The following subtasks describe the requirements for the Training and Capacity Building Task.

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10.1. Capacity Building Activities

- 10.1.1. Develop a list and schedule of capacity building activities and workshops for stakeholders that will be engaged and conduct engagement with stakeholders.
- 10.1.2. Coordinate and execute the capacity building workshops and activities to build capacity in targeted areas and develop training materials to support capacity building initiatives, as requested by PRDOH.
- 10.1.3. Provide any other assistance required by the PRDOH in order to ensure all stakeholders engaged in the workshops and activities receive the necessary training and support to take part in the Program activity.
- 10.1.4. Coordinate closely with PRDOH to execute all Capacity Building activities, track all activities in the corresponding log, and provide PRDOH with status updates at any time.
- 10.1.5. Conduct any other Capacity Building activity as required by PRDOH.

10.2. Portfolio of Outreach, Training, and Education

- 10.2.1. Develop Portfolio of outreach, training and education that will include all materials used to engage with stakeholders during the Program implementation. It will also include additional materials developed to provide ongoing or long-term support or education related to creation and use of geospatial data in Puerto Rico.

Deliverable (s): Portfolio of outreach, training and education - The Selected Proposer must upload this submission to the required, secure location. Specific requirements of the submission, such as

contents, file type, document type and format, paper size, font type and size, logos, etc. must be presented, discussed and coordinated before submission preparation.

Task 11. Development of Business Plan

The GEO/RAD System Planning Vendor will be responsible for the development of a Business Plan identifying the long term financial and operational solutions for the program. The Business Plan should identify potential system owners or partnerships for the long-term operation and maintenance of the Digital Twin and the associated infrastructure. It is recommended to conduct a meeting with Budget and Finance Office and other relevant stakeholders for the development of a planned and proper Business Plan Draft.

11.1. Develop Business Plan components

11.1.1. Develop long-term Operations and Maintenance Plan for the physical and digital infrastructure developed as part of the GEO/RAD Programs.

11.1.2. Identify sources for long-term funding of the physical and digital infrastructure developed as part of the GEO/RAD Programs.

11.1.3. Identify sources for long-term funding of staffing required to operate and maintain the physical and digital infrastructure developed as part of the GEO/RAD Programs.

11.1.4. Recommend ownerships and authorities responsible for the operation and maintenance of the physical and digital infrastructure developed as part of the GEO/RAD Programs.

Deliverable (s): Draft of a Long-term Business Plan. The Selected Proposer(s) will coordinate with PRDOH to confirm content and organization prior to the development of the draft. The submission will include a draft Business Plan that will be delivered to PRDOH, and upon approval, the Selected Proposer will finalize the Business Plan and submit to PRDOH. The Selected Proposer must upload these submissions to the required, secure location.

Task 12. GIS and Software licenses

The GEO/RAD Programs requires an Enterprise GIS solution capable of maintaining the integrity of all collected data in a secure and interconnected network. This system must support the individual workflow of each participating entity as well as integrate each entity into a larger IT infrastructure system. The Selected Proposer is expected to provide all necessary GIS and Software licenses for all the participating entities' data sharing. It is estimated that twenty (20) agencies and/or entities that will be part of the GEO/RAD Programs will require GIS and software licenses. This task will be reviewed by PRITS and requires prior approval from PRDOH. Portal Licenses will be activated as needed with the charging fee started from the day of activation. All activations must require a written authorization from PRDOH. Individual services will be required by PRDOH and PRITS according to the needs to start the activation period.

The term software licenses refer to private owned and non-private owned software, or other sources solutions. The software licenses must address the timeframe established in GEO/RAD system and the reasonable cost for the development of an enterprise system capable of managing transactions related to formal and informal real estate, planning processes, insurance processes, Digital Twin, and risk hazard modeling system for the assets (social, physical, environmental and economic) as stated in the CDBG-DR and CDBG-MIT Action Plans and the scope of services.

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Vendors must provide an entire evaluation explaining their GIS Software recommendation. The analysis must include compatibility with existing GIS technology in Puerto Rico government, actual GIS capacity for agencies and municipalities, system cost (long range cost, updates, maintenance, human resources), software performance, interoperability capacity within the Puerto Rico government, Federal government, Academics, NGOs, the private sector (business penetration), local support, local communities, trainings/education availability, compliance with US government and Puerto Rico government security and cybersecurity protocols, among other best practices and relevant policies.

12.1. IT Infrastructure

12.1.1. As part of the GIS and Software licenses, the GEO/RAD System Planning Vendor needs to purchase, configure, install, and provide training for an IT infrastructure that can support the relational database network of all participating entities (twenty (20)).

12.1.2. The IT infrastructure also needs to support the requirements of Digital Twin modeling to be developed by the GEO/RAD Programs. The requirements will include the deployment and support of IoT sensors and related technologies, Big Data, Lake Data, Deep Learning, Spatial Computing, Artificial Intelligence, and other technology that support the modeling and live stream data needed for the Digital Twin related with the lifelines. It will also require PRDOH and PRITS coordination and prior approval.

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12.2. GIS Maintenance

12.2.1. Provide GIS Maintenance for all software and licenses acquired during the lifecycle of GEO/RAD system. Software and license maintenance includes all required updates, software issue resolution, and technical support from the GIS services provider in the event of system failures and major problems.

Deliverable (s): Twenty (20) GIS and Software licenses. The Selected Proposer should coordinate tasks with PRDOH and must receive prior approval before configuration and installation. The deliverable includes the IT Infrastructure needed to support the database and the corresponding GIS Infrastructure and IT Maintenance.

Task 13. Project Administration and Oversight

The Selected Proposer(s) will be responsible for executing all contract administration tasks as part of their duties. Contract administration will be performed in close coordination with PRDOH and any assigned vendors or stakeholders.

The following subtasks describe the requirements for the Project Administration and Oversight Task.

13.1. Conduct Meetings

13.1.1. Kickoff Meeting: Attend the initial PRDOH Kickoff Meeting to set up Program implementation, strategy, initial plan, and next steps.

13.1.2. Weekly Check-in Meetings: Attend status, updates, and action items follow-up PRDOH/GM meetings.

13.1.3. Meetings as requested by PRDOH: Attend meetings and prepare presentation materials for additional meetings as requested by PRDOH.

Provide any other assistance required by the PRDOH to ensure all subrecipients and stakeholders received necessary information required to successfully develop Program activities.

13.1.4. The selected Proposer will be responsible for the meeting coordination and knowledge transfer to other selected PRDOH parties. The knowledge transfer will include all Planning Documents, System Design, Technical Standards, Server Specification and Configuration, all Software's and Database specifications and configuration, IT configuration, any technology acquired and deployed for GEO/RAD System, and the technical outcomes describes in the Tasks 1 through Task 12. This meeting coordination will be performed as specified by PRDOH in collaboration with PRITS. PRDOH anticipates this transfer of knowledge to occur over the last year of the contract resulting from this procurement.

13.2. Reporting

13.2.1. **Stakeholder Engagement Report:** Provide PRDOH and Program Partners one (1) electronic file format Stakeholder Engagement Report **quarterly** that provides a summary of meetings, ongoing activities, action items, and the data infrastructure needs for each Stakeholder. The quarterly Stakeholder Engagement Report should be provided until all stakeholder engagement is complete. The Selected Proposer must upload this submission to the required, secure location.

13.2.2. **Progress Report:** Provide PRDOH and Program Partners one (1) electronic file format Progress Report **monthly** showing status and progress towards the completion of all Scope of Services Task items listed in this document.

13.2.3. Provide a high-level **program approach report** and presentation **within two (2) weeks** of contract execution date.

13.2.4. Provide **workplan** to PRDOH within **four (4) weeks** of contract execution date with implementation schedule, staffing resources allocated to individual tasks, estimated burn rate for the length of the contract, and additional items upon request by PRDOH.

13.2.5. Prepare any weekly, biweekly, monthly, or special reports required to inform progress, performance, and status of deliverables and milestones, monitoring and compliance results for each task performed throughout program implementation, as requested by PRDOH.

13.2.6. **Training and Capacity Building Report:** Provide PRDOH with a **monthly** update on all activities associated with training and capacity building. Correspondence should include a copy of any materials provided to stakeholders, subrecipients, or others.

13.3. Contract Management

13.3.1. Store, archive, and retrieve physical documents and electronic images of all paper documents, correspondence, training material, and policies and procedures in a secured data warehouse in accordance with HUD regulations and requirements in coordination with System of Record requirements.

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- 13.3.2. Provide sufficient, appropriate document control and management to meet the financial and documentation requirements for CDBG-MIT and CDBG-DR grants.

Deliverable(s): Stakeholder Engagement Reports, Progress Reports, Program approach report and presentation, Workplan, Meetings Summaries, Training and Capacity Building Report, Electronic and physical documents archive. The Selected Proposer must upload this submission to the required, secure location. Specific requirements of the submission, such as contents, file type, document type and format, paper size, font type and size, logos, etc. must be presented, discussed and coordinated before submission preparation.

13.4. Closeout

- 13.4.1. The Selected Proposer(s) must comply with the review of information in PRDOH's system of record to successfully complete Closeout and receive the project closeout letter. Closeout includes the completion of all required documentation (forms, templates, checklists, etc.) and backup, in compliance with PRDOH's guides, policies and regulations for the administrative Closeout of the contract. PRDOH will evaluate all documentation submitted by the Selected Proposers and will validate the Completeness of the submission before issuing the final Closeout approval.

Deliverable (s): Complete PRDOH's closeout process using the system of record - The Selected Proposer(s) must complete and get approval of PRDOH's system of record to complete the closeout process and receive the closeout letter.

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7. Task Deliverables and Key Milestones

The table below identifies the deliverables, the key milestones, and the maximum percentages allowed for invoicing per Task. The column "Maximum Percentage allowed for invoicing per Task" establishes the percentage of each Task's Total Cost, identified in the Exhibit X (Cost Form), that PRDOH has determined to be the maximum to be invoiced, until the identified Milestone has been completed.

Estimated hours for each Task included in the Exhibit X should not be interpreted as a cap of hours that may be invoiced for a specific position, as long as the proposer does not exceed the total cost per Task. Invoices with costs exceeding those shown in the column titled "Maximum Percentage allowed for invoicing per Task " will require prior written authorization by PRDOH in order to be invoiced.

Table 1: Allowable Invoicing Per Task

Allowable Invoicing Per Task			
Task	Subtask/Deliverable	Milestone	Maximum Percentage allowed for invoicing per Task (including staffing and other costs)
Task 1: Stakeholder Engagement	Stakeholder Engagement Plan	Approval of Stakeholder Engagement Plan	Up to 25%
	Stakeholder Analysis Report	Approval of Draft Stakeholder Analysis Report	Up to 75%
		Approval of Final Stakeholder Analysis Report	Up to 100%
Task 2: Technical Standards	Technical Standards Preliminary Report	Approval of Technical Standards Report	Up to 100%
Task 3: Data Inventory and Collection	RDBMS of Existing Data	Approval of RDBMS by PRDOH	Up to 100%
Task 4: Gap Analysis	Gap Analysis Report	Approval of Draft Gap Analysis Report	Up to 50%
		Approval of Comprehensive Gap Analysis Report	Up to 100%
Task 5: Data Aggregation and Production	Data Aggregation and Production with the respective partial submissions.	Invoiced monthly with timesheets and supporting documentation to justify cost	Time and materials not to exceed budget per Task
Task 6: Puerto Rico Geodatabase 1.0 and Web-based Geoportal and data access analysis and visualization tools	Puerto Rico Geodatabase 1.0	Geodatabase 1.0 Beta release for testing by PRDOH and selected partners	Up to 50%
		Geodatabase 1.0 approved for public release	Up to 75%
	Web-based Geoportal and data access analysis and visualization tools	Web-based Geoportal and data access analysis and visualization tools beta release for testing by PRDOH and selected partners	Up to 85%
		Web-based Geoportal and data access analysis and visualization tools	Up to 100%

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Allowable Invoicing Per Task			
Task	Subtask/Deliverable	Milestone	Maximum Percentage allowed for Invoicing per Task (Including staffing and other costs)
		approved for public release	
Task 7: Puerto Rico Spatial Data Infrastructure Strategic Plan	PRSDISP	Draft PRSDISP approved by PRDOH	Up to 75%
		Final PRSDISP approved by PRDOH	Up to 100%
Task 8: Digital Twin Architecture, Design, and Implementation Plan	Digital Twin Architecture, Design, and Implementation Plan	Draft Digital Twin Architecture, Design and Implementation Plan approved by PRDOH	Up to 75%
		Final Digital Twin Architecture, Design and Implementation Plan approved by PRDOH	Up to 100%
Task 9: Acquisition of Surface Data	Mobile Mapping Data	25% Acquisition and data submitted to PRDOH	Up to 25%
		50% Acquisition and data submitted to PRDOH	Up to 50%
		75% Acquisition and data submitted to PRDOH	Up to 75%
		100% Acquisition and data submitted to PRDOH	Up to 100%
	Aerial Imagery and LIDAR	25% Acquisition and data submitted to PRDOH	Up to 25%
		50% Acquisition and data submitted to PRDOH	Up to 50%
		75% Acquisition and data submitted to PRDOH	Up to 75%
		100% Acquisition and data submitted to PRDOH	Up to 100%
	BIM Data	25% Acquisition and data submitted to PRDOH	Up to 25%
		50% Acquisition and data submitted to PRDOH	Up to 50%
		75% Acquisition and data submitted to PRDOH	Up to 75%

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Allowable Invoicing Per Task			
Task	Subtask/Deliverable	Milestone	Maximum Percentage allowed for invoicing per Task (including staffing and other costs)
		100% Acquisition and data submitted to PRDOH	Up to 100%
Task 10: Training and Capacity Building	Training and Capacity Building	Invoiced monthly with timesheets and supporting documentation including Training and Capacity Building Report	Time and materials not to exceed budget per Task
Task 11: Business Plan	Business Plan	Draft Business Plan approved by PRDOH	Up to 75%
		Final Business Plan approved by PRDOH	Up to 100%
Task 12: GIS and Software licenses	GIS and Software licenses	Reimbursed for cost and labor invoiced monthly	Time and materials not to exceed budget per Task
	IT Infrastructure	Reimbursed for cost and labor invoiced monthly	Time and materials not to exceed budget per Task
	GIS Maintenance	Reimbursed for cost and labor invoiced monthly	Time and materials not to exceed budget per Task
Task 13: Project Management Administration and Oversight	Project Administration and Oversight	Invoiced monthly with timesheets and supporting documentation to justify cost	Time and materials not to exceed budget per Task

8. Delivery Schedule

The Selected Proposer(s) shall be responsible for completing the activities outlined in this Scope of Services. As part of their Proposal, Proposers must submit a proposed delivery schedule, as stated in the RFP. Estimated time for delivery of the following:

Deliverables	Estimated Completion Time Upon NTP (Months)
Puerto Rico Geodatabase 1.0 and Web-based geoportal with data access and analysis and visualization tools	18 - 24
Puerto Rico Spatial Data Infrastructure Strategic Plan	12 - 18

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Digital Twin Architecture, Design, and Implementation Plan	12 - 24
Surface Data Acquisition	24 - 36

9. Technical Specifications

The Selected Proposer(s) must comply with all Federal and Government IT standards and regulations including Cloud Services, OS Servers, RDBMS, Networking, Cybersecurity and Technology Services, and applicable HUD regulation.

Proposers must be registered with the Puerto Rico Innovation and Technology Services (PRITS) Technology Providers Register. The Request for Information (RFI) Communication, Innovation & Technology Products & Services Providers can be found here:

[https://docs.pr.gov/files/prits/RFI%20\(Request%20for%20Information\)/PRITS-RFI-Technology%20Service.pdf](https://docs.pr.gov/files/prits/RFI%20(Request%20for%20Information)/PRITS-RFI-Technology%20Service.pdf)

In addition to the PRITS Providers Register, the Selected Proposer(s) will have the responsibility of complying and staying up to date with the local and Federal Policies as of the published date of this document, including but not limited to:

- Act 229 Accessibility Guides (Guías de Accesibilidad de la Ley 229): <https://docs.pr.gov/files/prits/Guias/Gu%C3%ADas%20de%20Accesibilidad%20de%20la%20Ley%20229.pdf>
- Interface and Design Guidelines (GUIDI): (https://assets-global.website-files.com/606ce22566af383df2754cf8/60823478d257af0966f6045c_PRITS%20GUIDI%20-%20Guias%20de%20Interfaz%20y%20Diseno.pdf)
- Cybersecurity Standards: <https://prits.pr.gov/ciberseguridad>
- Public Policy for Cybersecurity: <https://prits.pr.gov/ciberseguridad>

10. Warranty

- Maintenance for three (3) years on-site next business day guarantee period for all hardware and software.
- All defective items must be replaced within three (3) days at no additional cost to PRDOH.

11. Documentation

The Selected Proposer(s) must include the manufacturers technical documentation for all hardware and software provided, and grant access to any software development source control repository to the Government of Puerto Rico. In addition, a printed and digital technical specifications list with hardware and software serial numbers by type and configuration must be provided prior to delivery of the goods.

12. Contract Term

PRDOH anticipates awarding the resulting contract(s) for an initial **three (3) year term with two (2) optional annual extensions** upon mutual agreement of the parties.

13. Response Requirements

In response to this Solicitation, Proposers should return the entire completed Proposal Submission package. Proposers should carefully follow the format and instructions outlined therein. All documents and information must be fully completed and signed as required. The proposal shall be written quite detailed to permit the PRDOH to conduct a meaningful evaluation of the proposed services. However, overly elaborate responses are not requested or desired.

NOTE: FALSE OR MISLEADING STATEMENTS REGARDING STAFF QUALIFICATIONS OR PRIOR PROJECTS WILL RESULT IN THE DISQUALIFICATION OF THE RESPONSE AND CANCELLATION OF ANY RESULTING CONTRACT IF DISCOVERED AFTER AWARD.

14. SAM Registry

Proposers must be registered in the System for Award Management (SAM) at the time of the Proposal submission or initiate the registration process right after the Proposal submission. For more information about the System for Award Management (SAM) go to <https://sam.gov/content/home>. Awards will only be issued to entities which are cleared and not ineligible for award of a contract due to suspension, debarment, or HUD imposed limited denial of participation.

15. PRDOH Reservation of Rights

The PRDOH reserves the right, without limitations, to:

- (i) Reject any or all proposals, waive any informality in the RFP process, or terminate the RFP process at any time if deemed to be in its best interests.
- (ii) Reject and not consider any proposal that does not meet the requirements of this RFP, including but not necessarily limited to incomplete proposal and/or proposals offering alternate or non-requested services.
- (iii) Cancel this solicitation and reissue the RFP or another version of it, if it considers that doing so is in the public's best interest.
- (iv) PRDOH shall have no obligation to compensate any proposer for any costs incurred in responding to this RFP.
- (v) To reduce or increase estimated or actual quantities in whatever amount necessary without prejudice or liability to, if:
 - a. Funding is not available,
 - b. Legal restrictions are placed upon the expenditure of monies for this category.
 - c. PRDOH's requirements in good faith change after award of the contract.
- (vi) Make an award to more than one Proposer based on ratings.
- (vii) To require additional information from all Proposers to determine responsibility levels.
- (viii) To contact any individuals, entities, or organizations that have had a business relationship with the Proposer. Even though they were included in the reference section of the RFP submittal.
- (ix) In the event any resulting contract is prematurely terminated due to nonperformance and/or withdrawal by the Contractor, PRDOH reserves the right to:

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- a. seek monetary restitution (to include but not limited to withholding of monies owed or the execution of the payment and performance bond) from the Contractor to cover costs for interim services and/or cover the difference of a higher cost (difference between terminated Contractor's rate and new company's rate) beginning the date of Contractor's termination through the contract expiration date.
- (x) Amend the contract(s) of the Selected Proposer(s) to, among others, extend its original duration, as further explained in the RFP, or to extend the scale of its scope to include work under subsequent CDBG-DR and CDBG-MIT action plans as related to the services requested herein, or to reduce the scale of its scope to decrease work as a consequence of underperformance or inexcusable delays related to the services requested herein.
- (xi) To contract with one or more qualified proposers as a result of the selection of qualified Proposers or the cancellation of this RFP.
- (xii) To negotiate any price from the awarded proposer(s) in response to a specific order under this solicitation.

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The Selected Proposer(s) shall be responsible for completing the activities outlined in the Scope of Services. The Selected Proposer(s) will assist PRDOH in providing the resources needed to accomplish the assigned tasks.

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The PRDOH reserves the right to, at any time during the ensuing contract period, and without penalty to the Selected Proposer(s) contracted as a result of this RFP, conduct additional competitive solicitations to obtain additional GEO/RAD System Planning Vendor Services when, in the opinion of the Contracting Officer, it is the best interests of the PRDOH to do so.

END OF SCOPE OF SERVICES



ATTACHMENT C

COMPENSATION SCHEDULE

GEO/RAD SYSTEM PLANNING VENDOR SERVICES UNDER THE COMMUNITY DEVELOPMENT BLOCK GRANT – DISASTER RECOVERY AND THE COMMUNITY DEVELOPMENT BLOCK GRANT – MITIGATION

ICF INCORPORATED, L.L.C.

The following section provides details on the Compensation Schedule for the Contract. The Compensation Schedule is in accordance with the Cost Form submitted by the Contractor as part of the Request for Proposals (RFP) No. CDBG-DRMIT-RFP-2023-02. The Compensation Schedule considers:

- **Per Hour Services Costs:** Hourly Rates to address the Tasks established in the Scope of Services.
- **Per Task Services Cost:** Unit prices for Task 9 and Task 12, as identified in the Scope of Services.

The PRDOH reserves the right to add, modify, or remove any cost cap established in this document. Any modifications to cost caps shall be established in writing by the PRDOH.

I. PER HOUR SERVICES COSTS **\$27,834,342.02**

Table 1 presents Hourly Rates for each Staffing Classification. The Contractor will be compensated based on hours worked combined with the hourly rates provided for each Staffing Classification.

Table 1: Per Hour Services Staffing Classification & Hourly Rates

Staffing Classification	Rate
Project Director	\$220.69
Deputy Project Director	\$214.56
Engagement Lead	\$152.68
Planning Lead	\$201.85
Technical Lead	\$221.54
Training and Capacity Building Lead	\$199.68
Training Specialists	\$97.35

GEO/RAD System Planning Vendor Services under CDBG-DR/MIT
Compensation Schedule – ICF Incorporated, L.L.C.
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Staffing Classification	Rate
Project Managers	\$125.99
Communications Specialists	\$111.53
PRSDISP Analyst	\$125.99
GIS Architect	\$181.47
Cloud/IoT Engineer	\$190.57
AI/ML Specialist	\$159.37
Engagement Specialists	\$101.49
Planning Specialists	\$115.31
GIS Specialist – Sr.	\$154.43
GIS Specialist – Mid	\$143.48
GIS Specialist Jr (QA/QC)	\$106.00
GIS CAD Specialist	\$125.21
GIS Developer – Senior	\$171.19
GIS DBA – Senior	\$158.43
Climate Resilience SME	\$185.87
Disaster Management SME	\$198.81
Energy SME	\$177.04
Communication Advisor	\$198.90
GIS Data Strategist SME	\$214.47
Cloud/Azure Architect SME	\$212.43
GIS AI/ML Modeling SME	\$187.09
PRSDISP Lead	\$213.57
GIS Lead	\$199.22
Geodatabase/ArcSDE Lead	\$174.65
Remote Sensing Lead	\$194.08
Remote Sensing/BIM Specialist	\$143.23
Digital Twin/BIM Lead	\$228.33
Legal Consulting Lead	\$196.28
Legal Consultant – program/policy	\$168.24
Legal Consultant – real estate	\$156.23
Remote Sensing SME	\$254.08
Program Consultant	\$236.46
GIS Developer – Mid	\$151.14
User Interface/User Experience SME	\$170.84

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The following terms and conditions apply to Per Hour Services under the Contract:

- Hourly Rates are fully loaded rates. These include overhead, profit, royalties, reimbursable costs, travel, fringe benefits, taxes, as well as any other additional fees and administrative cost associated to the provision of the System Planning Vendor Services.
- Total Hours and Total Cost by task or position are for budgetary purposes only. These quantities and costs should not be interpreted as caps for the quantity of hours and costs associated with any specific task or position. Invoicing shall be based on the actual needs of the resources for the services requested by PRDOH to effectively complete the Scope of Service.
- The Contractor must classify and invoice the Per Hour Services by Task of the Scope of Services and by Grant (CDBG-DR or CDBG-MIT), as shown in Table 3.
- The PRDOH reserves the right to request the removal of any staff not performing to standard. Any additional Leadership and Technical Staff will require a written authorization from the PRDOH before the new staff member(s) can commence work. No staff may be assigned to the contemplated contract without the written consent of the PRDOH, and any service performed without PRDOH's written authorization cannot be invoiced and will not be paid.

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II. PER TASK SERVICES COST \$42,047,354.61

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Table 2 presents per Task unit cost with their contracted quantities. The Contractor will be compensated based on the acquisition of data and submissions to PRDOH as established in the Scope of Service.

Table 2: Per Task Unit Prices & Quantities

Task	Unit of Measure	Unit Price [A]	Quantity [B]	Total Cost [C = A x B]
Surface Data Acquisition				
Compass Data – Mobile Mapping	Miles	\$334.32	21,378	\$7,141,092.96
ICF – (BIM) AutoDesk Revit	License	\$3,025.04	3	\$9,075.12
Merric – BIM	Square foot	\$0.86	22,000,000	\$18,920,000.00
Compass Data – LIDAR	Square Miles	\$986.78	3,442	\$3,396,496.76
Merrick – Orthomosaic	Square Miles	\$1,616.59	3,442	\$5,564,302.78
Subtotal:				\$35,036,967.62
GIS and Software Licenses				
GMT – ArcGIS Drone2Map Advanced for GMT – ArcGIS Online Annual Subscription	License	\$4,152.01	2	\$8,304.02
GMT – ArcGIS Enterprise Advanced (Maintenance)	License	\$13,049.18	40	\$521,967.20
GMT – ArcGIS Enterprise Advanced (Perpetual)	License	\$52,196.69	20	\$1,043,933.80
GMT – ArcGIS Enterprise Editor (Annual)	License	\$260.99	40	\$10,439.60

GEO/RAD System Planning Vendor Services under CDBG-DR/MIT
Compensation Schedule – ICF Incorporated, L.L.C.
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Task	Unit of Measure	Unit Price [A]	Quantity [B]	Total Cost [C = A x B]
GMT – ArcGIS Enterprise Editor Perpetual (Maintenance)	License	\$260.99	200	\$52,198.00
GMT – ArcGIS Enterprise Editor Perpetual (Perpetual)	License	\$1,038.55	100	\$103,855.00
GMT – ArcGIS Enterprise GIS Professional Advanced (Maintenance)	License	\$4,507.90	120	\$540,948.00
GMT – ArcGIS Enterprise GIS Professional Advanced (Perpetual)	License	\$12,871.23	60	\$772,273.80
GMT – ArcGIS Enterprise Mobile Worker (Annual)	License	\$457.27	40	\$18,290.80
GMT – ArcGIS Enterprise Mobile Worker Perpetual (Maintenance)	License	\$457.27	200	\$91,454.00
GMT – ArcGIS Enterprise Mobile Worker Perpetual (Perpetual)	License	\$1,809.63	100	\$180,963.00
GMT – ArcGIS Enterprise Parcel Fabric User Type Extension Annual Subscription (Maintenance)	License	\$260.99	30	\$7,829.70
GMT – ArcGIS Enterprise Parcel Fabric User Type Extension Annual Subscription (Perpetual)	License	\$260.99	30	\$7,829.70
GMT – ArcGIS Enterprise Utility Network User Type Extension Annual Subscription (Maintenance)	License	\$260.99	30	\$7,829.70
GMT – ArcGIS Enterprise Utility Network User Type Extension Annual Subscription (Perpetual)	License	\$260.99	30	\$7,829.70
GMT – ArcGIS GeoAnalytics Server (Maintenance)	License	\$6,524.59	3	\$19,573.77
GMT – ArcGIS GeoAnalytics Server (Perpetual)	License	\$26,098.35	3	\$78,295.05
GMT – ArcGIS GeoEvent Server (Maintenance)	License	\$6,524.59	3	\$19,573.77
GMT – ArcGIS GeoEvent Server (Perpetual)	License	\$26,098.35	3	\$78,295.05
GMT – ArcGIS Hub Premium Unlimited GMT – ArcGIS Online Community Population	License	\$94,903.08	2	\$189,806.16
GMT – ArcGIS Image Server (Maintenance)	License	\$6,524.59	6	\$39,147.54
GMT – ArcGIS Image Server (Perpetual)	License	\$26,098.35	6	\$156,590.10
GMT – ArcGIS Mission Server (Maintenance)	License	\$6,524.59	3	\$19,573.77
GMT – ArcGIS Mission Server (Perpetual)	License	\$26,098.35	3	\$78,295.05
GMT – ArcGIS Monitor – Enterprise (Maintenance)	License	\$3,262.30	20	\$65,246.00
GMT – ArcGIS Monitor – Enterprise (Perpetual)	License	\$13,049.18	20	\$260,983.60
GMT – ArcGIS Notebook Server (Maintenance)	License	\$6,524.59	3	\$19,573.77
GMT – ArcGIS Notebook Server (Perpetual)	License	\$26,098.35	3	\$78,295.05
GMT – ArcGIS Online Additional Service Credits Block (Maintenance)	License	\$143.44	600	\$86,064.00

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GEO/RAD System Planning Vendor Services under CDBG-DR/MIT
Compensation Schedule – ICF Incorporated, L.L.C.
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Task	Unit of Measure	Unit Price [A]	Quantity [B]	Total Cost [C = A x B]
GMT – ArcGIS Online Additional Service Credits Block (Perpetual)	License	\$142.36	300	\$42,708.00
GMT – ArcGIS Online Creator Annual Subscription (Maintenance)	License	\$653.54	400	\$261,416.00
GMT – ArcGIS Online Creator Annual Subscription (Perpetual)	License	\$652.46	200	\$130,492.00
GMT – ArcGIS Pro Extensions Bundle for Enterprise (Maintenance)	License	\$1,631.69	80	\$130,535.20
GMT – ArcGIS Pro Extensions Bundle for Enterprise (Perpetual)	License	\$9,786.88	40	\$391,475.20
GMT – ArcGIS Roads and Highways Enterprise Extension (Maintenance)	License	\$3,262.30	3	\$9,786.90
GMT – ArcGIS Roads and Highways Enterprise Extension (Perpetual)	License	\$13,049.18	3	\$39,147.54
GMT – ArcGIS StreetMap Premium Enterprise HERE Strategic Annual Subscription (Maintenance)	License	\$29,657.21	1	\$29,657.21
GMT – ArcGIS StreetMap Premium Enterprise HERE Strategic Annual Subscription (Perpetual)	License	\$29,657.21	1	\$29,657.21
ICF – ArcGIS Enterprise Advanced (Hosting)	Instance	\$2,566.92	40	\$102,676.80
ICF – ArcGIS GeoAnalytics Server (Hosting)	Instance	\$4,959.12	6	\$29,754.72
ICF – ArcGIS GeoEvent Server (Hosting)	Instance	\$2,566.92	6	\$15,401.52
ICF – ArcGIS Image Server (Hosting)	Instance	\$4,464.12	40	\$178,564.80
ICF – ArcGIS Mission Server (Hosting)	Instance	\$2,566.92	6	\$15,401.52
ICF – ArcGIS Monitor – Enterprise (Hosting)	Instance	\$2,566.92	40	\$102,676.80
ICF – ArcGIS Notebook Server (Hosting)	Instance	\$2,566.92	6	\$15,401.52
ICF – ArcGIS Roads and Highways Enterprise Extension (Hosting)	Instance	\$2,566.92	6	\$15,401.52
ICF – Azure Blob Storage 16TB	Year	\$12,402.33	2	\$24,804.66
ICF – Azure NetApp Files (NAS Storage for GMT – ArcGIS)	Year	\$5,202.42	2	\$10,404.84
ICF – Azure Standards Hosting Services (Security, Networking, etc.)	Instance	\$51,765.32	2	\$103,530.64
ICF – Custom Applications	Application	\$1,877.79	9	\$16,900.11
ICF – PostgreSQL Geodatabase	Instance	\$16,429.28	20	\$328,585.60
ICF – Safe FME (Hosting)	Year	\$2,566.92	4	\$10,267.68
ICF – Safe FME (License Maintenance)	License	\$2,156.89	2	\$4,313.78
ICF – Safe FME (License)	License	\$15,098.22	2	\$30,196.44
GMT – ArcGIS Enterprise additional Cores (License – up to 4 Cores)	License	\$13,049.18	20	\$260,983.60
ICF – ArcGIS Enterprise Advanced – Large (Hosting)	Instance	\$7,346.80	8	\$58,774.40
ICF – ArcGIS Enterprise Advanced – Standard (Hosting)	Instance	\$2,566.92	16	\$41,070.72
Azure Data Ingestion (Azure Data Factory, etc.)	Year	\$7,570.68	2	\$15,141.36
Subtotal:				\$7,010,386.99

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The following terms and conditions apply to Per Hour Services under the Contract:

- Unit Prices are fully loaded. These include overhead, profit, royalties, reimbursable costs, travel, taxes, as well as any other additional fees and administrative cost associated to the provision of the System Planning Vendor Services.
- Quantity and Total Cost are for budgetary purposes only. These quantities and costs should not be interpreted as caps for the quantity of goods/services associated with any specific task. Invoicing shall be based on the actual needs of the goods/services for the tasks requested by PRDOH to effectively complete the Scope of Service.
- The Contractor will be compensated for each task completed and good/service acquired for Task 9 and Task 12, in accordance with the Scope of Services.
- The Contractor must classify and invoice the Per Task Services by Task of the Scope of Services and by Grant (CDBG-DR or. CDBG-MIT), as shown in Table 3.

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III. TOTAL CONTRACT COST..... \$69,881,696.63

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The Total Contract Cost Awarded is the Total Sum of amounts shown in the previous sections; which is: \$27,834,342.02 of Per Hour Services Costs, plus \$42,047,354.61 for Per Task Services Cost; for a **Total Contract Cost of \$69,881,696.63.**

The Total Contract Cost is distributed by Task and Grant as shown in Table 3. The distribution is for budgeting and expenditure administration purposes only. The contractor must classify and invoice on a per hour or per unit price basis, and by task according to each Grant.

The distribution is an estimate and could vary during the contract's implementation. The distribution can be changed without the need for a contract amendment. Refer to Section IV – Budget Redistribution for further information.

Table 3: DR/MIT Distribution of Total Contract Cost

Task	DR	MIT	Cost
Task 1: Stakeholder Engagement	\$819,145.20	\$819,145.20	\$1,638,290.40
Task 2: Technical Standards	\$364,996.42	\$364,996.42	\$ 729,992.83
Task 3: Data Inventory and Collection	\$3,099,601.12	\$1,033,200.37	\$4,132,801.49
Task 4: Gap Analysis	\$2,538,387.49	\$846,129.16	\$3,384,516.65
Task 5: Data Aggregation and Production	\$2,156,433.04	\$2,156,433.04	\$4,312,866.07
Task 6: PR Geodatabase 1.0 and Web-based Geoportal	\$2,266,053.98	\$2,266,053.98	\$4,532,107.96
Task 7: PRSDISP	\$2,024,291.07	---	\$2,024,291.07
Task 8: Digital Twin Architecture, Design, and Implementation Plan	---	\$1,020,529.75	\$1,020,529.75
Task 9: Surface Data Acquisition	\$18,468,903.48	\$18,468,903.48	\$36,937,806.95

Task	DR	MIT	Cost
Task 10: Training and Capacity Building	\$841,177.33	\$841,177.33	\$1,682,354.66
Task 11: Development of Business Plan	\$142,221.35	\$426,664.04	\$568,885.38
Task 12: GIS and Software Licenses	\$8,446,477.75	---	\$8,446,477.75
Task 13: Project Administration and Oversight	\$235,387.84	\$235,387.84	\$470,775.67
Total Cost	\$41,403,076.04	\$28,478,620.59	\$69,881,696.63

The table below identifies the deliverables, key milestones, and the percentages of task budget allowed for invoicing. Invoices with costs exceeding those shown in the column titled "Percentage of task budget allowed for invoicing" will not be paid without prior written authorization by PRDOH. In the event of a change in the task budget, the contractor shall invoice all unbilled remaining work at the time of the final approval of the deliverable or milestone. This is subject to the presentation of evidence of completed work and prior written authorization from PRDOH.

Table 4: Allowable Invoicing per Task

Allowable Invoicing Per Task			
Task	Subtask/Deliverable	Milestone	Percentage of task budget allowed for invoicing
Task 1: Stakeholder Engagement	Stakeholder Engagement Plan	Approval of Stakeholder Engagement Plan	25%
	Stakeholder Analysis Report	Approval of Draft Stakeholder Analysis Report	50%
		Approval of Final Stakeholder Analysis Report	25%
Task 2: Technical Standards	Technical Standards Preliminary Report	Approval of Technical Standards Report	100%
Task 3: Data Inventory and Collection	RDBMS of Existing Data	Approval of RDBMS by PRDOH	100%
Task 4: Gap Analysis	Gap Analysis Report	Approval of Draft Gap Analysis Report	50%
		Approval of Comprehensive Gap Analysis Report	50%
Task 5: Data Aggregation and Production	Data Aggregation and Production with the respective partial submissions.	Invoiced monthly with timesheets and supporting documentation to justify cost	Time and materials not to exceed budget per task
Task 6: Puerto Rico Geodatabase 1.0 and Web-based Geoportals and data access analysis and visualization tools	Puerto Rico Geodatabase 1.0	Geodatabase 1.0 Beta release for testing by PRDOH and selected partners	75%
		Geodatabase 1.0 approved for public release	25%
	Web-based Geoportals and data access analysis and visualization tools	Web-based Geoportals and data access analysis and visualization tools beta release for testing by PRDOH and selected partners	75%
		Web-based Geoportals and data access analysis and visualization tools approved for public release	25%

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GEO/RAD System Planning Vendor Services under CDBG-DR/MIT
Compensation Schedule – ICF Incorporated, L.L.C.
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Allowable Invoicing Per Task			
Task	Subtask/Deliverable	Milestone	Percentage of task budget allowed for Invoicing
Task 7: Puerto Rico Spatial Data Infrastructure Strategic Plan	PRSDISP	Draft PRSDISP approved by PRDOH	75%
		Final PRSDISP approved by PRDOH	25%
Task 8: Digital Twin Architecture, Design, and Implementation Plan	Digital Twin Architecture, Design, and Implementation Plan	Draft Digital Twin Architecture, Design and Implementation Plan approved by PRDOH	75%
		Final Digital Twin Architecture, Design and Implementation Plan approved by PRDOH	25%
Task 9: Acquisition of Surface Data	Mobile Mapping Data	25% Acquisition and data submitted to PRDOH	25%
		50% Acquisition and data submitted to PRDOH	50%
		75% Acquisition and data submitted to PRDOH	75%
		100% Acquisition and data submitted to PRDOH	100%
	Aerial Imagery and LIDAR	25% Acquisition and data submitted to PRDOH	25%
		50% Acquisition and data submitted to PRDOH	50%
		75% Acquisition and data submitted to PRDOH	75%
		100% Acquisition and data submitted to PRDOH	100%
	BIM Data	25% Acquisition and data submitted to PRDOH	25%
		50% Acquisition and data submitted to PRDOH	50%
		75% Acquisition and data submitted to PRDOH	75%
		100% Acquisition and data submitted to PRDOH	100%
Task 10: Training and Capacity Building	Training and Capacity Building	Invoiced monthly with timesheets and supporting documentation including Training and Capacity Building Report	Time and materials not to exceed budget per task
Task 11: Business Plan	Business Plan	Draft Business Plan approved by PRDOH	75%
		Final Business Plan approved by PRDOH	25%
Task 12: GIS and Software licenses	GIS and Software licenses	Reimbursed for cost and labor invoiced monthly	Time and materials not to exceed budget per task
	IT Infrastructure	Reimbursed for cost and labor invoiced monthly	Time and materials not to exceed budget per task
	GIS Maintenance	Reimbursed for cost and labor invoiced monthly	Time and materials not to exceed budget per task
Task 13: Project Management Administration and Oversight	Project Administration and Oversight	Invoiced monthly with timesheets and supporting documentation to justify cost	Time and materials not to exceed budget per task

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IV. BUDGET RE-DISTRIBUTION

The PRDOH reserves the right to re-distribute budgets shown for the above items if in benefit to GEO/RAD Program's successful execution without modifying the Total Contract Cost Awarded. The PRDOH may evaluate the need for re-distribution, and if determined the re-distribution is beneficial for the Program and the available balance of funds are validated, the PRDOH will provide written confirmation. Until the written confirmation is submitted by the PRDOH, the redistribution cannot be considered authorized. A re-distribution of funds, as described here, shall be considered binding and will not require an amendment to this contract.

END OF COMPENSATION SCHEDULE.

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GOVERNMENT OF PUERTO RICO
DEPARTMENT OF HOUSING

ATTACHMENT D
PERFORMANCE REQUIREMENTS
GEO/RAD System Planning Vendor Services
Community Development Block Grant – Disaster Recovery
Community Development Block Grant – Mitigation
Puerto Rico Department of Housing
CDBG-DRMIT-RFP-2023-02

INTRODUCTION

This document represents performance metrics and requirements for GEO/RAD System Planning Vendor Services. The CONTRACTOR shall adhere to the requirements of this document. The CONTRACTOR shall develop workplans, schedules, reports, and/or any other document as may be requested by PRDOH or its representative in connection with the metrics and requirements set forth herein. The CONTRACTOR shall submit any of such documents for review and approval as requested by the PRDOH within the specified time frame provided for such request. PRDOH reserves the right to request any information as part of the Grantee's responsibilities. The CONTRACTOR is responsible for compliance with all aspects of the Scope of Services included in **Attachment B**.

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The requirements and metrics included in these Performance Requirements may be modified, including the addition of new requirements based on the Program's development and implementation, at the discretion of PRDOH for the Program's Benefit. Modifications shall become binding between the parties upon agreement and will not require an amendment to the contract.

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LIQUIDATED DAMAGES & PENALTIES

The CONTRACTOR shall pay to PRDOH liquidated damages for each calendar day that a required deliverable is late until deemed in compliance, subject to a maximum to be established in the Contract between PRDOH and the CONTRACTOR. Said sums, in view of the difficulty of accurately ascertaining the loss which PRDOH will suffer by reason of delay in the completion of works requested, are hereby fixed and agreed as the liquidated damages that PRDOH will suffer by reason of such delay. Liquidated damages received are not intended to be nor shall they be treated as either a partial or full waiver or discharge of the PRDOH's right to indemnification, or the Contractor's obligation to indemnify the PRDOH, or to any other remedy provided for as a provision of the contract or law. Liquidated damages may be assessed at the sole discretion of PRDOH. For the purpose of applying and calculating such liquidated damages, a grace period of **ten (10) days** shall be observed, and the schedule may be extended by any additional time or delays outside the control of the Contractor caused by an act of omission of the PRDOH, HUD, or any of their representatives. The PRDOH may deduct and retain out of the monies which may become due to the Contractor, the amount of any such liquidated damages; and in case the amount which may become due is less than the amount of liquidated damages due to the PRDOH, the Contractor shall be liable to pay the difference.

PERFORMANCE METRICS

TASK	SUBTASK	DELIVERABLES	TIMEFRAME
Task 1: Stakeholder Engagement ^{P1}	Subtask 1.1	Stakeholder Engagement Plan	Within 1 month to 3 months from contract execution
Task 2: Technical Standards*	Subtask 2.1, 2.2	Technical Standards Report	Within 8 months to 12 months from contract execution
Task 6. Puerto Rico Geodatabase 1.0 and Web-based Geoportal and data access analysts and visualization tool ^{P2}	Subtask 6.1	Puerto Rico Geodatabase 1.0	Within 18 months to 24 months from contract execution
		Web-based Geoportal and data access analysis and visualization tools	
Task 7. Puerto Rico Data Infrastructure Strategic Plan ^{P3}	Subtask 7.1	Puerto Rico Spatial Data Infrastructure Strategic Plan (PRSDISP)	Within 12 months to 18 months from contract execution
Task 8. Digital Twin Architecture, Design, and Implementation Plan**	Subtask 8.1	Digital Twin Architecture, Design, and Implementation Plan	Within 15 months to 24 months from contract execution
Task 9. Acquisition of Surface Data***	Subtask 9.1	Mobile Mapping Data	Within 24 months to 36 months from contract execution
	Subtask 9.2	Aerial Imagery and LIDAR	
	Subtask 9.3	Building Information Modeling (BIM) Data	
Task 11. Business Plan**	Subtask 11.1	Business Plan	Within 12 months to 30 months from contract execution

¹ Liquidated Damages Task Priority 1

² Liquidated Damages Task Priority 2

³ Liquidated Damages Task Priority 3

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The following table details the minimum/maximum liquidated damages threshold based on the type of services to be acquired:

Task Priority	Liquidated Damages for each calendar day	Maximum Amount of Liquidated Damages per occurrence, deliverable and task
Priority 1	\$500.00	\$15,000.00
Priority 2	\$750.00	\$22,500.00
Priority 3	\$1,000.00	\$30,000.00

END OF ATTACHMENT

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INSURANCE REQUIREMENTS
Request for Proposals
GEO/RAD System Planning Vendor Services
Community Development Block Grant – Disaster Recovery Energy
SPECIAL INSURANCE AND BONDING SPECIFICATIONS
FOR DESIGN AND CONSTRUCTION SERVICES

Request for Proposals -CDBG-DRMIT-RFP-2023-02

- A. The successful proposer, before the **Contract execution**, must submit to the **Puerto Rico Department of Housing (*PRDOH)** the hereafter mentioned certificates of insurance policies and/or bonds including all endorsements and agreements required under the special contractual conditions, in form satisfactory to ***PRDOH**, as provided in detail in this Insurance Requirements as per the following:

1. (X) State Insurance Fund Workers' Compensation Insurance Policy

In accordance with the Worker's Compensation Act No. 45, the successful bidder shall provide Worker's Compensation Insurance. The successful bidder shall furnish the ***PRDOH** the certificate from the State Insurance Fund Corporation (Spanish Acronym, CFSE).

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2. (X) Commercial General Liability (Special Form) and Contractors General Liability Coverage with LOC Classification that must include Underground Property damage for Excavations risk included; and including the following insurance limits and Coverages

COVERAGE	LIMIT
I. Commercial General Liability:	
• Each Occurrence	\$5,000,000
• General Aggregate	\$5,000,000
• Products & Complete Operations	\$5,000,000
• Personal Injury & Advertising	\$5,000,000
• Fire Damage	\$500,000 (Any one Fire)
• Medical Expense	\$20,000 (Any one person)
II. Employer's Liability Stop Gap:	
• Bodily Injury by Accident Each Employee Each Accident	\$2,000,000 \$2,000,000
• Bodily Injury by Disease Each Employee Each Accident	\$2,000,000 \$2,000,000



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3. (X) Comprehensive Automobile Liability Form including the following Insurance coverages

LIMIT	
• Auto Liability -	\$2,000,000
• Physical Damages -	\$2,000,000
• Medical Payments -	\$ 10,000
The Commercial Auto cover must be applied to the following symbols:	
• Liability Coverage -1	
• Physical Damages – 2 and 8	
• Hired – Borrowed Auto – 8	
• Non-Owned Auto Liability – 9	

4. (X) Professional Liability &/or Errors & Omissions Policy

(X) Professional Liability for Project Director, Deputy Project Director, Project Consultor, Project control Schedule Specialist, Outreach & Stakeholder Engagement Coordinator, IT Specialist, Data Base Administrator, Environmental Consultant Liability, GIS Analyst, Data Scientist Operator, Planner, Systems Network Administrator, Geographer, Programmer, and any other professional services related to the project must provide evidence of Professional Liability.

(X) A. Risk, interest, location and limits

(X) A.1 Description of work to be done

(X) A.2 Limit:

(X) each occurrence	\$5,000,000
(X) Aggregate	\$5,000,000
(X) Deductible	\$ 10,000

(X) A.3 Certification that the insurance contract has been given as surplus lines coverage under the Commonwealth of Puerto Rico Insurance Code, when applicable.

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5. (X) Ciber Liability

Limit - \$10,000,000

6. (X) Umbrella

Limit - \$10,000,000

- 7. (X)** The policies to be obtained must contain the following endorsements including as additional insured the ***Puerto Rico Department of Housing (*PRDOH), U.S. Department of Housing and Urban Development (HUD), and the Government of Puerto Rico.***

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- (X) a. Breach of warranty
- (X) b. Waiver and / or Release of Subrogation
- (X) c. Additional Insured Clause
- (X) d. Hold Harmless Agreement
- (X) e. 30 Days Cancellation Clause

B. IMPORTANT NOTICE TO INSURANCE AND SURETY COMPANIES AND THEIR REPRESENTATIVES

All insurance companies and all guarantors who issue policies or bonds under our special contractual conditions are subject to:

1. Be authorized to do business within the ***Commonwealth of Puerto Rico*** and have the corresponding ***license issued by the Commissioner of Insurance.***
2. To be enjoying a good economic situation and classified under the Category of ***B+ by the AM Best Rating Guide.***
3. Submit to the ****PRDOH*** a written certification as evidence of full payment of premiums by the Contractor. Mention each risk coverage premium separately.



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4. Avoid sub-contractual obligations of premium financing or any other kind, which may be detrimental to the public interest.
5. Avoid any request for cancellation by the contractor prior to the expiration date of the policy, without the consent of the Contract Division of the ***PRDOH**: Discuss any refund of unearned premium.
6. Follow all Federal Bail and Acceptance Insurance Regulations, when applicable.
7. Indicate in the appropriate place of all insurance policies and/or bonds, **the full description of the project, work or service to be rendered.**
8. Not to make any **Endorsement** to insurance policies and bonds issued under the special conditions mentioned above, unless approved by the Insurance Section of the ***PRDOH**. To ensure that all insurance policies or bonds are issued to comply with all of our special insurance conditions with respect to the period of coverage, type of risk coverage, as well as all limits, as specified,
9. Clarify any questions regarding insurance requirements by any means of communication with the Insurance Section of the ***PRDOH** under the Secretary for Legal Affairs.
10. The Contractor shall, throughout the performance of Work under the Contract and until the Final Acceptance of the Program, maintain current, and in effect all the required insurance, except the Builder's Risk, which shall terminate on the date of substantial completion.
11. Insurance coverage in the minimum limit amounts set forth herein shall not be construed to release the Contractor from liability in excess of such coverage limit. Contractor must give thirty (30) calendar days written notice to PRDOH before any policy coverage is change, canceled or not renewed and shall cause the insurance carrier to do the same.

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C. EVIDENCE OF INSURANCE COVERAGE OF EACH SUBCONTRACTOR TO BE SUBMITTED BY THE SUCCESSFUL BIDDER AS THE PRIME CONTRACTOR:

The successful **Proposer**, as the prime contractor, has the duty to require each of the subcontractors to maintain in force all insurance policies and/or bonds necessary to cover their individual participation in the risk or risks related to the subcontracted work or service to be rendered.

Therefore, prior to commencing work or receiving written notice to proceed with such work, the successful prime contractor has the responsibility to provide the ***PRDOH** with all the **certificates of insurance and/or bonds required** under the special conditions approved by the Insurance Section of the ***PRDOH**. All insurance policies shall remain in effect for the entire contractual period.

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In case of any **change order** and/or amendment resulting in alteration of the original project completion date or total original cost, the prime contractor shall take the necessary steps to request the insurer to include such changes in all related insurance policies and/or bond and to submit evidence by appropriate endorsements with effective dates. Cancellations without consent are not accepted.

The ***PRDOH** reserves the right to stop any work or service under contract until the breach of these requirements has been remedied, so that any delay in the performance of the contract based on any breach of the insurance coverage requirements shall be deemed the sole responsibility of the Main Contractor.

D. CONFLICT OR DIFFERENCE BETWEEN THE SPECIFICATIONS OF THE TENDERING, PROCEDURE AND SPECIAL INSURANCE CONDITIONS AND BONDS

In the event of any conflict or difference in the description of coverage or amount or limits, etc., with respect to insurance requirements, the **"Special Conditions of Insurance and Bonds"** as set forth in this **Insurance Requirements** shall prevail over any other insurance specifications.

***PRDOH reserves the right to modify any Insurance Requirements at any time, in accordance with the Program's needs.**



GOVERNMENT OF PUERTO RICO
DEPARTMENT OF HOUSING

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E. CERTIFICATE OF CONTRACT DIVISION

We hereby certify, to our best knowledge and understanding, that we have prepared the aforementioned "*Insurance and Bonds Special Conditions*" after a proper evaluation of the related risks, based on the information of the nature of the project and description submitted to us, as requested by the Contracting Program through a written application.

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Request for Proposals -CDBG-DRMIT-RFP-2023-02

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**GEO/RAD System Planning Vendor Services
Community Development Block Grant – Disaster Recovery Energy**

March 6, 2023

Date

Sonia Damaris Rodríguez

**Sonia Damaris Rodríguez
Insurance Specialist
CDBG-DR Program**



ATTACHMENT F

HUD GENERAL PROVISIONS

Given that the Contract involves funds for which the U.S. Department of Housing and Urban Development (**HUD**) is the oversight agency, the following terms and conditions may apply to this Contract. In addition, Contractor shall comply with the Federal Labor Standards Provisions set forth in Form HUD-4010, available at <https://www.hud.gov/sites/dfiles/OCHCO/documents/4010.pdf> and must include Form HUD-4010 clauses as an appendix, or by reference, to all covered contracts. Also, contractors and subcontractors are required to insert them in any lower-tier subcontracts.

The terms and conditions outlined in this document (HUD General Provisions) must be included in their entirety by the CONTRACTOR in all purchase orders or subcontracts that are directly related to the Agreement, even though some of the terms and conditions might not apply to a particular kind of purchase order or subcontract.

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These general provisions may be updated from time to time. It is the sole responsibility of the CONTRACTOR to be aware of any changes hereto, to amend and implement such changes and to ensure subcontracts terms and conditions are modified as necessary, if any.

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General Provisions:

1. PROVISIONS REQUIRED BY LAW DEEMED INSERTED

Each and every provision of law and clause required by law to be inserted in this Contract shall be deemed to be inserted herein and the Contract shall be read and enforced as though it were included herein, and if through mistake or otherwise any such provision is not inserted, or is not correctly inserted, then upon the application of either party, the Contract shall forthwith be physically amended to make such insertion or correction.

2. STATUTORY AND REGULATORY COMPLIANCE

CONTRACTOR shall comply with all laws and regulations applicable to the Community Development Block Grant-Disaster Recovery funds appropriated by: the Continuing Appropriations Act, 2018, and Supplemental Appropriations for Disaster Relief Requirements, 2017 (**Pub. L. 115-56**) approved on September 8, 2017, as amended; the Bipartisan Budget Act of 2018 (**Pub. L. 115-123**) approved on February 9, 2018, as amended; the Additional Supplemental Appropriations for Disaster Relief Act, 2019, (**Pub. L. 116-20**) approved on June 6, 2019, as amended; as well as including, but not limited to the applicable Office of Management and Budget Circulars, which may impact the

administration of funds and/or set forth certain cost principles, including if certain expenses are allowed.

3. BREACH OF CONTRACT TERMS

The Puerto Rico Department of Housing (**PRDOH**) reserves its right to all administrative, contractual, or legal remedies, including but not limited to suspension or termination of this Contract, in instances where the CONTRACTOR or any of its subcontractors violate or breach any Contract term. If the CONTRACTOR or any of its subcontractors violate or breach any Contract term, they shall be subject to such sanctions and penalties as may be appropriate. The duties and obligations imposed by the Contract documents, and the rights and remedies available thereunder shall be in addition to and not a limitation of any duties, obligations, rights and remedies otherwise imposed or available by law.

4. REPORTING REQUIREMENTS

The CONTRACTOR shall complete and submit all reports, in such form and according to such schedule, as may be required by PRDOH and/or the Government of Puerto Rico. The CONTRACTOR shall cooperate with all the PRDOH and/or the Government of Puerto Rico efforts to comply with HUD requirements and regulations pertaining to reporting, including but not limited to 24 C.F.R. §§ 85.40-41 (or 84.50-52, if applicable) and § 570.507, when applicable.

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5. ACCESS TO RECORDS

The Government of Puerto Rico, the PRDOH, HUD, the Comptroller General of the United States, or any of their duly authorized representatives, shall have, at any time and from time to time during normal business hours, access to any work product, books, documents, papers, and records of the CONTRACTOR which are related to this Contract, for the purpose of inspection, audits, examinations, and making excerpts, copies and transcriptions.

6. MAINTENANCE/RETENTION OF RECORDS

All records (files, data, work product) connected with this Contract will be turned over to PRDOH following the Agreement termination to be maintained for the remainder of the grant and post grant closeout.

7. SMALL AND MINORITY FIRMS, WOMEN'S BUSINESS ENTERPRISES, AND LABOR SURPLUS AREA FIRMS

The CONTRACTOR will take necessary affirmative steps to assure that minority firms, women's business enterprises, and labor surplus area firms are used in subcontracting and purchases from material suppliers when possible. Steps include, but are not limited to:

- (i) Placing qualified small and minority businesses and women's business enterprises on solicitation lists;
- (ii) Assuring that small and minority businesses, and women's business enterprises are solicited whenever they are potential sources;
- (iii) Dividing total requirements, when economically feasible, into smaller tasks or quantities to permit maximum participation by small and minority business, and women's business enterprises;
- (iv) Establishing delivery schedules, where the requirement permits, which encourage participation by small and minority business, and women's business enterprises; and
- (v) Using the services and assistance of the Small Business Administration, and the Minority Business Development Agency of the Department of Commerce.

Additionally, for contracts of **\$10,000 or more**, the CONTRACTOR shall comply with PRDOH established quarterly reporting regarding contract and subcontract activity. This will enable PRDOH to complete federal reporting on all efforts to HUD as per the previously used HUD Form 2516 (Contract and Subcontract Activity) and data requested on this form.

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8. RIGHTS TO INVENTIONS MADE UNDER A CONTRACT OR AGREEMENT

Contracts or agreements for the performance of experimental, developmental, or research work shall provide for the rights of the Federal Government and the recipient in any resulting invention in accordance with 37 C.F.R. Part 401, "Rights to Inventions Made by Nonprofit Organizations and Small Business Firms Under Government Grants, Contracts and Cooperative Agreements", and any implementing regulations issued by HUD.

9. TITLE VI OF THE CIVIL RIGHTS ACT OF 1964

The Proposer will comply with the provisions of Title VI of the Civil Rights Act of 1964, which prohibits discrimination on the basis of race, color, or national origin in any program or activity that receives Federal funds or other Federal financial assistance. Programs that receive Federal funds cannot distinguish among individuals on the basis of race, color or national origin, either directly or indirectly, in the types, quantity, quality or timelines of program services, aids or benefits that they provide or the manner in which they provide them. This prohibition applies to intentional discrimination as well as to procedures, criteria or methods of administration that appear neutral but have a discriminatory effect on individuals because of their race, color, or national origin. Policies and practices that have such an effect must be eliminated unless a recipient can show that they were necessary to achieve a legitimate nondiscriminatory objective.

10. SECTION 109 OF THE HOUSING AND COMMUNITY DEVELOPMENT ACT OF 1974

The CONTRACTOR shall comply with the provisions of Section 109 of the Housing and Community Development Act of 1974. No person in the United States shall on the grounds of race, color, national origin, religion or sex be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity funded in whole or in part with funds made available under this title. Section 109 further provides that discrimination on the basis of age under the Age Discrimination Act of 1975 or with respect to an otherwise qualified handicapped individual as provided in Section 504 of the Rehabilitation Act of 1973, as amended, is prohibited.

11. SECTION 504 OF THE REHABILITATION ACT OF 1973

The CONTRACTOR shall comply with Section 504 of the Rehabilitation Act of 1973 (29 U.S.C. § 794), as amended, and any applicable regulations.

The CONTRACTOR agrees that no qualified individual with handicaps shall, solely on the basis of handicap, be excluded from participation in, be denied the benefits of, or otherwise be subjected to discrimination under any program or activity that receives Federal financial assistance from HUD.

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12. AGE DISCRIMINATION ACT OF 1975

The CONTRACTOR shall comply with the Age Discrimination Act of 1975 (42 U.S.C. § 6101 *et seq.*), as amended, and any applicable regulations. No person in the United States shall, on the basis of age, be excluded from participation in, be denied the benefits of, or be subjected to, discrimination under, any program or activity receiving Federal financial assistance.

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13. DEBARMENT, SUSPENSION, AND INELIGIBILITY

The CONTRACTOR represents and warrants that it and its subcontractors are not debarred or suspended or otherwise excluded from or ineligible for participation in Federal assistance programs subject to 2 C.F.R. Part 2424.

14. CONFLICTS OF INTEREST

The CONTRACTOR shall notify the PRDOH as soon as possible if this Contract or any aspect related to the anticipated work under this Contract raises an actual or potential conflict of interest (as defined at 24 C.F.R. §578.95; 24 C.F.R. §570.489(g) and (h); and 24 C.F.R. §570.611, if applicable). The CONTRACTOR shall explain the actual or potential conflict in writing in sufficient detail so that the PRDOH is able to assess such actual or potential conflict. The CONTRACTOR shall provide the PRDOH any additional information necessary to fully assess and address such actual or potential conflict of interest. The CONTRACTOR shall accept any reasonable conflict mitigation strategy employed by the

PRDOH, including but not limited to the use of an independent subcontractor(s) to perform the portion of work that gives rise to the actual or potential conflict.

15. SUBCONTRACTING

When subcontracting, the CONTRACTOR shall solicit for and contract with such subcontractors in a manner providing for fair competition. Some of the situations considered to be restrictive of competition include, but are not limited to:

- (i) Placing unreasonable requirements on firms in order for them to qualify to do business;
- (ii) Requiring unnecessary experience and excessive bonding;
- (iii) Noncompetitive pricing practices between firms or between affiliated Companies;
- (iv) Noncompetitive awards to consultants that are on retainer contracts,
- (v) Organizational conflicts of interest;
- (vi) Specifying only a brand name product instead of allowing an equal product to be offered and describing the performance of other relevant requirements of the procurement; and
- (vii) Any arbitrary action in the procurement process.

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The CONTRACTOR represents to the PRDOH that all work shall be performed by personnel experienced in the appropriate and applicable profession and areas of expertise, taking into account the nature of the work to be performed under this Contract.

The CONTRACTOR will include these HUD General Provisions in every subcontract issued by it, so that such provisions will be binding upon each of its subcontractors as well as the requirement to flow down such terms to all lower-tiered subcontractors.

16. ASSIGNABILITY

The CONTRACTOR shall not assign any interest in this Agreement, and shall not transfer any interest in the same (whether by assignment or novation) without prior written approval of the PRDOH.

17. INDEMNIFICATION

The CONTRACTOR shall indemnify, defend, and hold harmless the Government of Puerto Rico and PRDOH, its agents and employees, from and against any and all claims, actions, suits, charges, and judgments arising from or related to the negligence or willful misconduct of the CONTRACTOR in the performance of the services called for in this Contract.

18. COPELAND "ANTI-KICKBACK" ACT

The CONTRACTOR will comply with "anti-kickback" regulations found in section 2 of the Act of June 13, 1934, as amended (40 U.S.C. 3145) known as the Copeland Act which applies to this contract subject to Federal wage standards and which is for the construction, prosecution, completion, or repair of public buildings, public works or buildings or works financed in whole or in part by loans or grants from the United States. The Copeland Act enforces minimum wage provisions of the Davis-Bacon Act and the various statutes for federally assisted construction, including those provisions which are not subject to Reorganization Plan No. 14 of 1950. This act also enforces overtime provisions of the Contract Work Hours and Safety Standards Act whenever they are applicable to construction work.

Each contractor or subcontractor engaged in the construction, prosecution, completion, or repair of any public building or public work, or building or work financed in whole or in part by loans or grants from the United States, each week must provide a copy of its weekly payroll for all laborers and mechanics engaged on work covered by this part and part 5 of this chapter during the preceding weekly payroll period, accompanied by a statement of compliance certifying the accuracy of the weekly payroll information. This statement must be executed by the contractor or subcontractor or by an authorized officer or employee of the contractor or subcontractor who supervises the payment of wages, and must be on the back of Form WH-347, "Payroll (For Contractors Optional Use)" or on any form with identical wording.

Each certified payroll required under § 3.3 must be delivered by the contractor or subcontractor, within 7 days after the regular payment date of the payroll period, to a representative at the site of the building or work of the agency contracting for or financing the work, or, if there is no representative of the agency at the site of the building or work, the statement must be delivered by mail or by any other means normally assuring delivery by the contractor or subcontractor, within that 7 day time period, to the agency contracting for or financing the building or work. After the certified payrolls have been reviewed in accordance with the contracting or sponsoring agency's procedures, such certified payrolls must be preserved by the agency for a period of 3 years after all the work on the prime contract is completed and must be produced for inspection, copying, and transcription by the Department of Labor upon request.

The CONTRACTOR will abide by federal regulation in § 3.5 regarding permissible payroll deductions and follow guidance on obtaining approval from the Secretary of Labor for additional deductions.

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19. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT

The CONTRACTOR will comply with the provisions of the Contract Work Hours and Safety Standards Act applicable to this contract in excess of \$100,000 and subject to its overtime provisions.

(1) **Overtime requirements.** No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

(2) **Violation; liability for unpaid wages; liquidated damages.** In the event of any violation of the clause set forth in paragraph (b)(1) of this section the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages and interest from the date of the underpayment. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchpersons and guards, employed in violation of the clause set forth in paragraph (b)(1) of this section, in the sum of \$32 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (b)(1).

(3) **Withholding for unpaid wages and liquidated damages —**

(i) **Withholding process.** The [write in the name of the Federal agency or the recipient of Federal assistance] may, upon its own action, or must, upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor so much of the accrued payments or advances as may be considered necessary to satisfy the liabilities of the prime contractor or any subcontractor for any unpaid wages; monetary relief, including interest; and liquidated damages required by the clauses set forth in this paragraph (b) on this contract, any other Federal contract with the same prime contractor, or any other federally assisted contract subject to the Contract Work Hours and Safety Standards Act that is held by the same prime contractor (as defined in § 5.2). The necessary funds may be withheld from the contractor under this contract, any other Federal contract with the same prime contractor, or any other federally assisted contract that is subject to the Contract Work Hours and Safety Standards

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Act and is held by the same prime contractor, regardless of whether the other contract was awarded or assisted by the same agency, and such funds may be used to satisfy the contractor liability for which the funds were withheld.

- (ii) **Priority to withheld funds.** The Department has priority to funds withheld or to be withheld in accordance with paragraph (a)(2)(i) or (b)(3)(i) of this section, or both, over claims to those funds by:

- (A) A contractor's surety(ies), including without limitation performance bond sureties and payment bond sureties;
- (B) A contracting agency for its procurement costs;
- (C) A trustee(s) (either a court-appointed trustee or a U.S. trustee, or both) in bankruptcy of a contractor, or a contractor's bankruptcy estate;
- (D) A contractor's assignee(s);
- (E) A contractor's successor(s); or
- (F) A claim asserted under the Prompt Payment Act, 31 U.S.C. 3901-3907.

- (4) **Subcontracts.** The contractor or subcontractor must insert in any subcontracts the clauses set forth in paragraphs (b)(1) through (5) of this section and a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor is responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (b)(1) through (5). In the event of any violations of these clauses, the prime contractor and any subcontractor(s) responsible will be liable for any unpaid wages and monetary relief, including interest from the date of the underpayment or loss, due to any workers of lower-tier subcontractors, and associated liquidated damages and may be subject to debarment, as appropriate.

- (5) **Anti-retaliation.** It is unlawful for any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, or to cause any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, any worker or job applicant for:

- (i) Notifying any contractor of any conduct which the worker reasonably believes constitutes a violation of the Contract Work Hours and Safety Standards Act (CWHSSA) or its implementing regulations in this part;
- (ii) Filing any complaint, initiating or causing to be initiated any proceeding, or otherwise asserting or seeking to assert on behalf of themselves or others any right or protection under CWHSSA or this part;
- (iii) Cooperating in any investigation or other compliance action, or testifying in any proceeding under CWHSSA or this part; or
- (iv) Informing any other person about their rights under CWHSSA or this part.

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20. DAVIS-BACON ACT

The CONTRACTOR will comply with labor standards provisions contained in the Davis-Bacon Act (46 Stat. 1494, as amended; 40 U.S.C. 3141 et seq.) and its related statutes ("Related Acts") for this contract, in excess of \$2,000, which is entered into for the actual construction, alteration and/or repair, including painting and decorating, of a public building or public work, or building or work financed in whole or in part from Federal funds or in accordance with guarantees of a Federal agency or financed from funds obtained by pledge of any contract of a Federal agency to make a loan, grant or annual contribution (except where a different meaning is expressly indicated), and which is subject to the labor standards provisions of any of the laws referenced by § 5.1, the following clauses:

(1) *Minimum wages* —

- (i) **Wage rates and fringe benefits.** All laborers and mechanics employed or working upon the site of the work (or otherwise working in construction or development of the project under a development statute), will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of basic hourly wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics. As provided in paragraphs (d) and (e) of this section, the appropriate wage determinations are effective by operation of law even if they have not been attached to the contract. Contributions made or costs reasonably anticipated for bona fide fringe benefits under the Davis-Bacon Act (40 U.S.C. 3141(2)(B)) on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph (a)(1)(v) of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics must be paid the appropriate wage rate and fringe benefits on the wage determination for the classification(s) of work actually performed, without regard to skill, except as provided in paragraph (a)(4) of this section. Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: *Provided, That the employer's payroll records accurately set forth the time spent in*

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each classification in which work is performed. The wage determination (including any additional classifications and wage rates conformed under paragraph (a)(1)(iii) of this section) and the Davis-Bacon poster (WH-1321) must be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

(ii) **Frequently recurring classifications.**

(A) In addition to wage and fringe benefit rates that have been determined to be prevailing under the procedures set forth in 29 CFR part 1, a wage determination may contain, pursuant to § 1.3(f), wage and fringe benefit rates for classifications of laborers and mechanics for which conformance requests are regularly submitted pursuant to paragraph (a)(1)(iii) of this section, provided that:

- (1) The work performed by the classification is not performed by a classification in the wage determination for which a prevailing wage rate has been determined;
- (2) The classification is used in the area by the construction industry; and
- (3) The wage rate for the classification bears a reasonable relationship to the prevailing wage rates contained in the wage determination.

(B) The Administrator will establish wage rates for such classifications in accordance with paragraph (a)(1)(iii)(A)(3) of this section. Work performed in such a classification must be paid at no less than the wage and fringe benefit rate listed on the wage determination for such classification.

(iii) **Conformance.**

(A) The contracting officer must require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract be classified in conformance with the wage determination. Conformance of additional classification and wage rate and fringe benefits is appropriate only when the following criteria have been met:

- (1) The work to be performed by the classification requested is not performed by a classification in the wage determination; and
- (2) The classification is used in the area by the construction industry; and
- (3) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(B) The conformance process may not be used to split, subdivide, or otherwise avoid the application of classifications listed in the wage determination.

(C) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree

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on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken will be sent by the contracting officer by email to DBAconformance@dol.gov. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(D) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer will, by email to DBAconformance@dol.gov, refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(E) The contracting officer must promptly notify the contractor of the action taken by the Wage and Hour Division under paragraphs (a)(1)(iii)(C) and (D) of this section. The contractor must furnish a written copy of such determination to each affected worker or it must be posted as a part of the wage determination. The wage rate (including fringe benefits where appropriate) determined pursuant to paragraph (a)(1)(iii)(C) or (D) of this section must be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

- (iv) **Fringe benefits not expressed as an hourly rate.** Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor may either pay the benefit as stated in the wage determination or may pay another bona fide fringe benefit or an hourly cash equivalent thereof.
- (v) **Unfunded plans.** If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, *Provided*, That the Secretary of Labor has found, upon the written request of the contractor, in accordance with the criteria set forth in § 5.28, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

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- (vi) **Interest.** In the event of a failure to pay all or part of the wages required by the contract, the contractor will be required to pay interest on any underpayment of wages.

(2) **Withholding** —

- (i) **Withholding requirements.** The [write in name of Federal agency or the recipient of Federal assistance] may, upon its own action, or must, upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor so much of the accrued payments or advances as may be considered necessary to satisfy the liabilities of the prime contractor or any subcontractor for the full amount of wages and monetary relief, including interest, required by the clauses set forth in paragraph (a) of this section for violations of this contract, or to satisfy any such liabilities required by any other Federal contract, or federally assisted contract subject to Davis-Bacon labor standards, that is held by the same prime contractor (as defined in § 5.2). The necessary funds may be withheld from the contractor under this contract, any other Federal contract with the same prime contractor, or any other federally assisted contract that is subject to Davis-Bacon labor standards requirements and is held by the same prime contractor, regardless of whether the other contract was awarded or assisted by the same agency, and such funds may be used to satisfy the contractor liability for which the funds were withheld. In the event of a contractor's failure to pay any laborer or mechanic, including any apprentice or helper working on the site of the work (or otherwise working in construction or development of the project under a development statute) all or part of the wages required by the contract, or upon the contractor's failure to submit the required records as discussed in paragraph (a)(3)(iv) of this section, the [Agency] may on its own initiative and after written notice to the contractor, sponsor, applicant, owner, or other entity, as the case may be, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.
- (ii) **Priority to withheld funds.** The Department has priority to funds withheld or to be withheld in accordance with paragraph (a)(2)(i) or (b)(3)(i) of this section, or both, over claims to those funds by:
- (A) A contractor's surety(ies), including without limitation performance bond sureties and payment bond sureties;
 - (B) A contracting agency for its procurement costs;
 - (C) A trustee(s) (either a court-appointed trustee or a U.S. trustee, or both) in bankruptcy of a contractor, or a contractor's bankruptcy estate;
 - (D) A contractor's assignee(s);
 - (E) A contractor's successor(s); or
 - (F) A claim asserted under the Prompt Payment Act, 31 U.S.C. 3901-3907.

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(3) **Records and certified payrolls —**

(i) **Basic record requirements —**

(A) **Length of record retention.** All regular payrolls and other basic records must be maintained by the contractor and any subcontractor during the course of the work and preserved for all laborers and mechanics working at the site of the work (or otherwise working in construction or development of the project under a development statute) for a period of at least 3 years after all the work on the prime contract is completed.

(B) **Information required.** Such records must contain the name; Social Security number; last known address, telephone number, and email address of each such worker; each worker's correct classification(s) of work actually performed; hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in 40 U.S.C. 3141(2)(B) of the Davis-Bacon Act); daily and weekly number of hours actually worked in total and on each covered contract; deductions made; and actual wages paid.

(C) **Additional records relating to fringe benefits.** Whenever the Secretary of Labor has found under paragraph (a)(1)(v) of this section that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in 40 U.S.C. 3141(2)(B) of the Davis-Bacon Act, the contractor must maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits.

(D) **Additional records relating to apprenticeship.** Contractors with apprentices working under approved programs must maintain written evidence of the registration of apprenticeship programs, the registration of the apprentices, and the ratios and wage rates prescribed in the applicable programs.

(ii) **Certified payroll requirements —**

(A) **Frequency and method of submission.** The contractor or subcontractor must submit weekly, for each week in which any DBA- or Related Acts-covered work is performed, certified payrolls to the [write in name of appropriate Federal agency] if the agency is a party to the contract, but if the agency is not such a party, the contractor will submit the certified payrolls to the applicant, sponsor, owner, or other entity, as the case may be, that maintains such records, for transmission to the [write in name of agency]. The prime contractor is responsible for the submission of all certified payrolls by all subcontractors. A contracting agency or prime contractor may permit or require contractors to submit certified payrolls through an electronic

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system, as long as the electronic system requires a legally valid electronic signature; the system allows the contractor, the contracting agency, and the Department of Labor to access the certified payrolls upon request for at least 3 years after the work on the prime contract has been completed; and the contracting agency or prime contractor permits other methods of submission in situations where the contractor is unable or limited in its ability to use or access the electronic system.

(B) **Information required.** The certified payrolls submitted must set out accurately and completely all of the information required to be maintained under paragraph (a)(3)(i)(B) of this section, except that full Social Security numbers and last known addresses, telephone numbers, and email addresses must not be included on weekly transmittals. Instead, the certified payrolls need only include an individually identifying number for each worker (e.g., the last four digits of the worker's Social Security number). The required weekly certified payroll information may be submitted using Optional Form WH-347 or in any other format desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division website at <https://www.dol.gov/sites/dolgov/files/WHD/legacy/files/wh347/.pdf> or its successor website. It is not a violation of this section for a prime contractor to require a subcontractor to provide full Social Security numbers and last known addresses, telephone numbers, and email addresses to the prime contractor for its own records, without weekly submission by the subcontractor to the sponsoring government agency (or the applicant, sponsor, owner, or other entity, as the case may be, that maintains such records).

(C) **Statement of Compliance.** Each certified payroll submitted must be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor, or the contractor's or subcontractor's agent who pays or supervises the payment of the persons working on the contract, and must certify the following:

- (1) That the certified payroll for the payroll period contains the information required to be provided under paragraph (a)(3)(ii) of this section, the appropriate information and basic records are being maintained under paragraph (a)(3)(i) of this section, and such information and records are correct and complete;
- (2) That each laborer or mechanic (including each helper and apprentice) working on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in 29 CFR part 3; and
- (3) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification(s) of work actually performed, as specified in the applicable wage determination incorporated into the contract.

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(D) **Use of Optional Form WH-347.** The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 will satisfy the requirement for submission of the "Statement of Compliance" required by paragraph (a)(3)(ii)(C) of this section.

(E) **Signature.** The signature by the contractor, subcontractor, or the contractor's or subcontractor's agent must be an original handwritten signature or a legally valid electronic signature.

(F) **Falsification.** The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under 18 U.S.C. 1001 and 31 U.S.C. 3729.

(G) **Length of certified payroll retention.** The contractor or subcontractor must preserve all certified payrolls during the course of the work and for a period of 3 years after all the work on the prime contract is completed.

(iii) **Contracts, subcontracts, and related documents.** The contractor or subcontractor must maintain this contract or subcontract and related documents including, without limitation, bids, proposals, amendments, modifications, and extensions. The contractor or subcontractor must preserve these contracts, subcontracts, and related documents during the course of the work and for a period of 3 years after all the work on the prime contract is completed.

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(iv) **Required disclosures and access —**

(A) **Required record disclosures and access to workers.** The contractor or subcontractor must make the records required under paragraphs (a)(3)(i) through (iii) of this section, and any other documents that the [write the name of the agency] or the Department of Labor deems necessary to determine compliance with the labor standards provisions of any of the applicable statutes referenced by § 5.1, available for inspection, copying, or transcription by authorized representatives of the [write the name of the agency] or the Department of Labor, and must permit such representatives to interview workers during working hours on the job.

(B) **Sanctions for non-compliance with records and worker access requirements.** If the contractor or subcontractor fails to submit the required records or to make them available, or refuses to permit worker interviews during working hours on the job, the Federal agency may, after written notice to the contractor, sponsor, applicant, owner, or other entity, as the case may be, that maintains such records or that employs such workers, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available, or to permit worker interviews during working hours on the job, may be grounds for debarment action pursuant to § 5.12. In addition, any contractor or other

person that fails to submit the required records or make those records available to WHD within the time WHD requests that the records be produced will be precluded from introducing as evidence in an administrative proceeding under 29 CFR part 6 any of the required records that were not provided or made available to WHD. WHD will take into consideration a reasonable request from the contractor or person for an extension of the time for submission of records. WHD will determine the reasonableness of the request and may consider, among other things, the location of the records and the volume of production.

(C) **Required information disclosures.** Contractors and subcontractors must maintain the full Social Security number and last known address, telephone number, and email address of each covered worker, and must provide them upon request to the [write in name of appropriate Federal agency] if the agency is a party to the contract, or to the Wage and Hour Division of the Department of Labor. If the Federal agency is not such a party to the contract, the contractor, subcontractor, or both, must, upon request, provide the full Social Security number and last known address, telephone number, and email address of each covered worker to the applicant, sponsor, owner, or other entity, as the case may be, that maintains such records, for transmission to the [write in name of agency], the contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or other compliance action.

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(4) Apprentices and equal employment opportunity —

(i) Apprentices —

(A) **Rate of pay.** Apprentices will be permitted to work at less than the predetermined rate for the work they perform when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship (OA), or with a State Apprenticeship Agency recognized by the OA. A person who is not individually registered in the program, but who has been certified by the OA or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice, will be permitted to work at less than the predetermined rate for the work they perform in the first 90 days of probationary employment as an apprentice in such a program. In the event the OA or a State Apprenticeship Agency recognized by the OA withdraws approval of an apprenticeship program, the contractor will no longer be permitted to use apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(B) **Fringe benefits.** Apprentices must be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits

listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringe benefits must be paid in accordance with that determination.

(C) **Apprenticeship ratio.** The allowable ratio of apprentices to journeyworkers on the job site in any craft classification must not be greater than the ratio permitted to the contractor as to the entire work force under the registered program or the ratio applicable to the locality of the project pursuant to paragraph (a)(4)(i)(D) of this section. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated in paragraph (a)(4)(i)(A) of this section, must be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under this section must be paid not less than the applicable wage rate on the wage determination for the work actually performed.

(D) **Reciprocity of ratios and wage rates.** Where a contractor is performing construction on a project in a locality other than the locality in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyworker's hourly rate) applicable within the locality in which the construction is being performed must be observed. If there is no applicable ratio or wage rate for the locality of the project, the ratio and wage rate specified in the contractor's registered program must be observed.

(ii) **Equal employment opportunity.** The use of apprentices and journeyworkers under this part must be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

(5) **Compliance with Copeland Act requirements.** The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.

(6) **Subcontracts.** The contractor or subcontractor must insert in any subcontracts the clauses contained in paragraphs (a)(1) through (11) of this section, along with the applicable wage determination(s) and such other clauses or contract modifications as the [write in the name of the Federal agency] may by appropriate instructions require, and a clause requiring the subcontractors to include these clauses and wage determination(s) in any lower tier subcontracts. The prime contractor is responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in this section. In the event of any violations of these clauses, the prime contractor and any subcontractor(s) responsible will be liable for any unpaid wages and monetary relief, including interest from the date of the underpayment or loss, due to any workers of lower-tier subcontractors, and may be subject to debarment, as appropriate.

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(7) **Contract termination: debarment.** A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

(8) **Compliance with Davis-Bacon and Related Act requirements.** All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.

(9) **Disputes concerning labor standards.** Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

(10) **Certification of eligibility.**

- (i) By entering into this contract, the contractor certifies that neither it nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of 40 U.S.C. 3144(b) or § 5.12(a).
- (ii) No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of 40 U.S.C. 3144(b) or § 5.12(a).
- (iii) The penalty for making false statements is prescribed in the U.S. Code, Title 18 Crimes and Criminal Procedure, 18 U.S.C. 1001.

(11) **Anti-retaliation.** It is unlawful for any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, or cause any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, any worker or job applicant for:

- (i) Notifying any contractor of any conduct which the worker reasonably believes constitutes a violation of the DBA, Related Acts, this part, or 29 CFR part 1 or 3;
- (ii) Filing any complaint, initiating or causing to be initiated any proceeding, or otherwise asserting or seeking to assert on behalf of themselves or others any right or protection under the DBA, Related Acts, this part, or 29 CFR part 1 or 3;
- (iii) Cooperating in any investigation or other compliance action, or testifying in any proceeding under the DBA, Related Acts, this part, or 29 CFR part 1 or 3; or
- (iv) Informing any other person about their rights under the DBA, Related Acts, this part, or 29 CFR part 1 or 3.

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21. TERMINATION FOR CAUSE

(Applicable to contracts exceeding \$10,000)

If, through any cause, the CONTRACTOR shall fail to fulfill in a timely and proper manner his or her obligations under this Contract, or if the CONTRACTOR shall violate any of the covenants, agreements, or stipulations of this Contract, the PRDOH shall thereupon have the right to terminate this Contract by giving written notice to the CONTRACTOR of such termination and specifying the effective date thereof, at least five (5) days before the effective date of such termination. In such event, all finished or unfinished documents, data, studies, surveys, drawings, maps, models, photographs, and reports prepared by the CONTRACTOR under this Agreement shall, at the option of the PRDOH, become the PRDOH's property and the CONTRACTOR shall be entitled to receive just and equitable compensation for any work satisfactorily completed hereunder. Notwithstanding the above, the CONTRACTOR shall not be relieved of liability to the Government of Puerto Rico and PRDOH for damages sustained by the Government of Puerto Rico and/or PRDOH by virtue of any breach of the Agreement by the CONTRACTOR, and the Government of Puerto Rico and/or PRDOH may withhold any payments to the CONTRACTOR for the purpose of set-off until such time as the exact amount of damages due to the Government of Puerto Rico and/or PRDOH from the CONTRACTOR is determined.

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22. TERMINATION FOR CONVENIENCE

(Applicable to contracts exceeding \$10,000)

The PRDOH may terminate this Contract at any time by giving at least ten (10) days' notice in writing to the CONTRACTOR. If the Contract is terminated by the PRDOH as provided herein, the CONTRACTOR will be paid for the time provided and expenses incurred up to the termination date.

23. SECTION 503 OF THE REHABILITATION ACT OF 1973

(Applicable to contracts exceeding \$10,000)

The CONTRACTOR shall comply with Section 503 of the Rehabilitation Act of 1973 (29 U.S.C. § 793), as amended, and any applicable regulations.

Equal Opportunity for Workers with Disabilities:

- 1) The CONTRACTOR will not discriminate against any employee or applicant for employment because of physical or mental disability in regard to any position for which the employee or applicant for employment is qualified. The CONTRACTOR agrees to take affirmative action to employ, advance in employment and otherwise treat qualified individuals with disabilities without discrimination based on their physical or mental disability in all employment practices, including the following:

- (i) Recruitment, advertising, and job application procedures;
- (ii) Hiring, upgrading, promotion, award of tenure, demotion, transfer, layoff, termination, right of return from layoff and rehiring;
- (iii) Rates of pay or any other form of compensation and changes in compensation;
- (iv) Job assignments, job classifications, organizational structures, position descriptions, lines of progression, and seniority lists;
- (v) Leaves of absence, sick leave, or any other leave;
- (vi) Fringe benefits available by virtue of employment, whether or not administered by the CONTRACTOR;
- (vii) Selection and financial support for training, including apprenticeship, professional meetings, conferences, and other related activities, and selection for leaves of absence to pursue training;
- (viii) Activities sponsored by the CONTRACTOR including social or recreational programs; and
- (ix) Any other term, condition, or privilege of employment.

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- 2) The CONTRACTOR agrees to comply with the rules, regulations, and relevant orders of the Secretary of Labor issued pursuant to the act.
- 3) In the event of the CONTRACTOR's noncompliance with the requirements of this clause, actions for noncompliance may be taken in accordance with the rules, regulations, and relevant orders of the Secretary of Labor issued pursuant to the act.
- 4) The CONTRACTOR agrees to post in conspicuous places, available to employees and applicants for employment, notices in a form to be prescribed by the Deputy Assistant Secretary for Federal Contract Compliance Programs, provided by or through the contracting officer. Such notices shall state the rights of applicants and employees as well as the CONTRACTOR'S obligation under the law to take affirmative action to employ and advance in employment qualified employees and applicants with disabilities. The CONTRACTOR must ensure that applicants and employees with disabilities are informed of the contents of the notice (e.g., the CONTRACTOR may have the notice read to a visually disabled individual, or may lower the posted notice so that it might be read by a person in a wheelchair).
- 5) The CONTRACTOR will notify each labor organization or representative of workers with which it has a collective bargaining agreement or other contract understanding, that the CONTRACTOR is bound by the terms of Section 503 of the Rehabilitation Act

of 1973, as amended, and is committed to take affirmative action to employ and advance in employment individuals with physical or mental disabilities.

- 6) The CONTRACTOR will include the provisions of this clause in every subcontract or purchase order in excess of \$10,000, unless exempted by the rules, regulations, or orders of the Secretary issued pursuant to Section 503 of the act, as amended, so that such provisions will be binding upon each subcontractor or vendor. The CONTRACTOR will take such action with respect to any subcontract or purchase order as the Deputy Assistant Secretary for Federal Contract Compliance Programs may direct to enforce such provisions, including action for noncompliance.

24. EQUAL EMPLOYMENT OPPORTUNITY

(Applicable to construction contracts and subcontracts exceeding \$10,000)

The CONTRACTOR shall comply with Executive Order 11246 of September 24, 1965, entitled "Equal Employment Opportunity," as amended by Executive Order 11375 of October 13, 1967, and as supplemented in Department of Labor regulations (41 C.F.R. chapter 60).

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During the performance of this Agreement, the CONTRACTOR agrees as follows:

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- 1) The CONTRACTOR shall not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The CONTRACTOR shall take affirmative action to ensure that applicants for employment are employed, and that employees are treated during employment, without regard to their race, color, religion, sex, or national origin. Such action shall include, but not be limited to, the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship.
- 2) The CONTRACTOR shall post in conspicuous places, available to employees and applicants for employment, notices to be provided by Contracting Officer setting forth the provisions of this non-discrimination clause. The CONTRACTOR shall state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, or national origin.
- 3) The CONTRACTOR will, in all solicitations or advertisements for employees placed by or on behalf of the CONTRACTOR, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex or national origin.

- 4) The CONTRACTOR will send to each labor union or representative of workers with which he or she has a collective bargaining agreement or other contract or understanding, a notice, to be provided by the agency contracting officer, advising the labor union or workers representative of the CONTRACTOR's commitments under Section 202 of Executive Order 11246 of September 24, 1965, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.
- 5) The CONTRACTOR will comply with all provisions of Exec. Order No. 11246 of September 24, 1965, and of the rules, regulations and relevant orders of the Secretary of Labor.
- 6) The CONTRACTOR will furnish all information and reports required by Exec. Order No. 11246 of September 24, 1965, and by the rules, regulations and orders of the Secretary of Labor, or pursuant thereto, and will permit access to books, records and accounts by the contracting agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations and orders.
- 7) In the event of the CONTRACTOR's non-compliance with the non-discrimination clause of this Agreement or with any of such rules, regulations or orders, this Agreement may be cancelled, terminated or suspended in whole or in part and the CONTRACTOR may be declared ineligible for further government contracts in accordance with procedures authorized in Executive Order 11246 and such other sanctions as may be imposed and remedies invoked as provided in Exec. Order No. 11246 of September 24, 1965, or by rule, regulation or order of the Secretary of Labor, or as otherwise provided by law.
- 8) CONTRACTOR shall incorporate the provisions of 1 through 7 above in every subcontract or purchase order unless exempted by rules, regulations or orders of the Secretary of Labor so that such provisions shall be binding on such subcontractor. The CONTRACTOR will take such action with respect to any subcontract or purchase order as the contracting agency may direct as a means of enforcing such provisions including sanctions for non-compliance, provided, however, that in the event the CONTRACTOR becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the contracting agency, the CONTRACTOR may request the United States to enter into such litigation to protect the interests of the United States.

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25. CERTIFICATION OF NONSEGREGATED FACILITIES
(Applicable to construction contracts exceeding \$10,000)

The CONTRACTOR certifies that it does not maintain or provide for its establishments, and that it does not permit employees to perform their services at any location, under its control, where segregated facilities are maintained. It certifies further that it will not maintain or provide for employees any segregated facilities at any of its establishments, and it will not permit employees to perform their services at any location under its control where segregated facilities are maintained. The CONTRACTOR agrees that a breach of this certification is a violation of the equal opportunity clause of this Agreement.

As used in this certification, the term "segregated facilities" means any waiting rooms, work areas, rest rooms and wash rooms, restaurants and other eating areas, time clocks, locker rooms, and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation and housing facilities provided for employees which are segregated by explicit directive or are, in fact, segregated on the basis of race, color, religion, or national origin because of habit, local custom, or any other reason.

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The CONTRACTOR further agrees that (except where it has obtained for specific time periods) it will obtain identical certification from proposed subcontractors prior to the award of subcontracts exceeding \$10,000 which are not exempt from the provisions of the equal opportunity clause; that it will retain such certifications in its files; and that it will forward the preceding notice to such proposed subcontractors (except where proposed subcontractors have submitted identical certifications for specific time periods).

26. CERTIFICATION OF COMPLIANCE WITH CLEAN AIR AND WATER ACTS
(Applicable to contracts exceeding \$100,000)

CLEAN AIR ACT

- 1)--The CONTRACTOR agrees to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act, as amended, 42 U.S.C. § 7401 et seq.
- 2)--The CONTRACTOR agrees to report each violation to the PRDOH and understands and agrees that the PRDOH will, in turn, report each violation as required to assure notification to the Government of Puerto Rico, HUD, and the appropriate Environmental Protection Agency Regional Office.

- 3)--The CONTRACTOR agrees to include these requirements in each subcontract exceeding \$150,000 financed in whole or in part with Federal assistance provided by HUD.

WATER POLLUTION CONTROL ACT

- 1)--The CONTRACTOR agrees to comply with all applicable standards, orders or regulations issued pursuant to the Federal Water Pollution Control Act, as amended, 33 U.S.C. §1251, *et seq.*
- 2)--The CONTRACTOR agrees to report each violation to the PRDOH and understands and agrees that the PRDOH will, in turn, report each violation as required to assure notification to the Government of Puerto Rico, HUD, and the appropriate Environmental Protection Agency Regional Office.
- 3)--The CONTRACTOR agrees to include these requirements in each subcontract exceeding \$150,000 financed in whole or in part with Federal assistance provided by HUD.

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The CONTRACTOR and all subcontractors shall comply with the requirements of the Clean Air Act, as amended, 42 U.S.C. § 7401 *et seq.*, the Federal Water Pollution Control Act, as amended, 33 U.S.C. § 1251 *et seq.*, and the regulations of the Environmental Protection Agency with respect thereto, at 5 C.F.R. Part 919 Subpart E and 24 C.F.R. Part 58 as amended, Section 508 of the Clean Water Act (33 U.S.C. § 1368) and Executive Order 11738.

In addition to the foregoing requirements, all nonexempt contractors and subcontractors shall furnish to the owner, the following:

- 1) A stipulation by the CONTRACTOR or subcontractors, that any facility to be utilized in the performance of any nonexempt contract or subcontract, is not listed on the Excluded Party Listing System pursuant to 40 C.F.R. Part 32 or on the List of Violating Facilities issued by the Environmental Protection Agency (**EPA**) pursuant to 24 C.F.R. Part 58, as amended.
- 2) Agreement by the CONTRACTOR to comply with all the requirements of Section 114 of the Clean Air Act, as amended, (42 U.S.C. § 7414) and Section 308 of the Federal Water Pollution Control Act, as amended, (33 U.S.C. § 1318) relating to inspection, monitoring, entry, reports and information, as well as all other requirements specified

in said Section 114 and Section 308, and all regulations and guidelines issued thereunder.

- 3) A stipulation that as a condition for the award of the Agreement, prompt notice will be given of any notification received from the Director, Office of Federal Activities, EPA, indicating that a facility utilized, or to be utilized for the Agreement, is under consideration to be listed on the Excluded Party Listing System or the EPA List of Violating Facilities.
- 4) Agreement by the CONTRACTOR that he or she will include, or cause to be included, the criteria and requirements in paragraph (1) through (4) of this section in every nonexempt subcontract and requiring that the CONTRACTOR will take such action as the government may direct as a means of enforcing such provisions.

27. ANTI-LOBBYING (Applicable to contracts exceeding \$100,000)

By the execution of this Contract, the CONTRACTOR certifies, to the best of his or her knowledge and belief, that:

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- 1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the CONTRACTOR, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.
- 2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the CONTRACTOR shall complete and submit Standard Form-LLL, "Disclosure of Lobbying Activities", in accordance with its instructions.
- 3) The CONTRACTOR shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by Section 1352, Title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

28. BONDING REQUIREMENTS

(Applicable to construction and facility improvement contracts exceeding \$100,000)

The CONTRACTOR shall comply with Puerto Rico bonding requirements, unless they have not been approved by HUD, in which case the CONTRACTOR shall comply with the following minimum bonding requirements:

- 1) A bid guarantee from each bidder equivalent to five percent (5%) of the bid price. The "bid guarantee" shall consist of a firm commitment such as a bid bond, certified check, or other negotiable instrument accompanying a bid as assurance that the bidder will, upon acceptance of his or her bid, execute such contractual documents as may be required within the time specified.
- 2) A performance bond on the part of the CONTRACTOR for one hundred percent (100%) of the Agreement price. A "performance bond" is one executed in connection with a contract to secure the fulfillment of all the CONTRACTOR's obligations under such contract.
- 3) A payment bond on the part of the CONTRACTOR for one hundred percent (100%) of the Agreement price. A "payment bond" is one executed in connection with a contract to assure payment as required by the law of all persons supplying labor and material in the execution of the work provided for in the contract.

29. SECTION 3 OF THE HOUSING AND URBAN DEVELOPMENT ACT OF 1968 (As required by applicable thresholds)

- 1) The work to be performed under this Agreement is subject to the requirements of Section 3 of the Housing and Urban Development Act of 1968, as amended, 12 U.S.C. § 1701u (**Section 3**). The purpose of Section 3 is to ensure that employment and other economic opportunities generated by HUD assistance or HUD-assisted projects covered by Section 3, shall, to the greatest extent feasible, be directed to low- and very low-income persons, particularly persons who are recipients of HUD assistance for housing.

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- 2) The parties to this Agreement agree to comply with HUD's regulations in 24 C.F.R. Part 75 which implement Section 3. As evidenced by their execution of this Agreement, the parties to this Agreement certify that they are under no contractual or other impediment that would prevent them from complying with the Part 75 regulations.
- 3) The CONTRACTOR agrees to send to each labor organization or representative of workers with which the CONTRACTOR has a collective bargaining agreement or other understanding, if any, a notice advising the labor organization or workers' representative of the CONTRACTOR's commitments under this Section 3 clause, and will post copies of the notice in conspicuous places at the work site where both employees and applicants for training and employment positions can see the notice. The notice shall describe the Section 3 preference, shall set forth minimum number and job titles subject to hire, availability of apprenticeship and training positions, the qualifications for each; and the name and location of the person(s) taking applications for each of the positions; and the anticipated date the work shall begin.
- 4) The CONTRACTOR agrees to include this Section 3 clause in every subcontract subject to compliance with regulations in 24 C.F.R. Part 75, and agrees to take appropriate action, as provided in an applicable provision of the subcontract or in this Section 3 clause, upon a finding that the subcontractor is in violation of the regulations in 24 C.F.R. Part 75. The CONTRACTOR will not subcontract with any subcontractor where the CONTRACTOR has notice or knowledge that the subcontractor has been found in violation of the regulations in 24 C.F.R. Part 75.
- 5) The CONTRACTOR will certify that any vacant employment positions, including training positions, that are filled: (1) after the CONTRACTOR is selected but before the contract is executed, and (2) with persons other than those to whom the regulations of 24 C.F.R. Part 75 require employment opportunities to be directed, were not filled to circumvent the CONTRACTOR's obligations under 24 C.F.R. Part 75.
- 6) Noncompliance with HUD's regulations in 24 C.F.R. Part 75 may result in sanctions, termination of this Agreement for default, and debarment or suspension from future HUD assisted contracts.
- 7) With respect to work performed in connection with Section 3 covered Indian housing assistance, Section 7(b) of the Indian Self-Determination and Education Assistance Act (46 U.S.C. § 5307) also applies to the work to be performed under this Agreement. Section 7(b) requires that to the greatest extent feasible: (i) preference and opportunities for training and employment shall be given to Indians, and (ii) preference in the award of contracts and subcontracts shall be given to Indian

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organizations and Indian-owned Economic Enterprises. Parties to this Agreement that are subject to the provisions of Section 3 and Section 7(b) agree to comply with Section 3 to the maximum extent feasible, but not in derogation of compliance with Section 7(b).

- 8) The Contractor agrees to submit, and shall require its subcontractors to submit to them, quarterly reports to the PRDOH detailing the total number of labor hours worked on the Section 3 Project, the total number of labor hours worked by Section 3 Workers, and the total number of hours worked by Targeted Section 3 Workers, and any affirmative efforts made during the quarter to direct hiring efforts to low- and very low-income persons, particularly persons who are Section 3 Workers and Targeted Section 3 Workers.

30. FAIR HOUSING ACT

CONTRACTOR shall comply with the provisions of the Fair Housing Act of 1968, as amended. The act prohibits discrimination in the sale or rental of housing, the financing of housing or the provision of brokerage services against any person on the basis of race, color, religion, sex, national origin, handicap or familial status. The Equal Opportunity in Housing Act prohibits discrimination against individuals on the basis of race, color, religion, sex or national origin in the sale, rental, leasing or other disposition of residential property, or in the use or occupancy of housing assisted with Federal funds.

31. ENERGY POLICY AND CONSERVATION ACT

CONTRACTOR shall comply with mandatory standards and policies relating to energy efficiency as contained in the Government of Puerto Rico's energy conservation plan, issued in compliance with the Energy Policy and Conservation Act (42 U.S.C. 6201 et seq).

32. HATCH ACT

CONTRACTOR agrees to comply with mandatory standards and policies relating to Hatch Act, Public Law 76-252, as amended.

The Hatch Act applies to political activities of certain state and local employees. As a Puerto Rico Department of Housing CONTRACTOR, you may do any of the following activities: be a candidate in nonpartisan elections; attend political meetings and conventions; contribute money; campaign in partisan elections; and hold office in political parties.

The CONTRACTOR may not do the following activities: be a candidate in partisan elections; use official influence to interfere in elections; coerce political contributions from

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subordinates in support of political parties or candidates. The office of special counsel operates a website that provides guidance concerning hatch act issues.

33. HEALTH AND SAFETY STANDARDS

All parties participating in this project agree to comply with Sections 107 and 103 of the Contract Work Hours and Safety Standards Act. Section 107 of the Act is applicable to construction work and provides that no laborer or mechanic shall be required to work in surroundings or under working conditions, which are unsanitary, hazardous, or dangerous to his or her health and safety as determined under construction, safety, and health standards promulgated by the Secretary of Labor. These requirements do not apply to the purchase of supplies or materials or articles ordinarily available on the open market, or contracts for transportation.

34. PERSONNEL

The CONTRACTOR represents that it has, or will secure at its own expense, all personnel required in performing the services under this Agreement. Such personnel shall not be employees of, or have any contractual relationship with, the contracting party. All the services required hereunder will be performed by the CONTRACTOR or under its supervision, and all personnel engaged in the work shall be fully qualified and shall be authorized or permitted under State and local law to perform such services. No person who is serving sentence in a penal or correctional institution shall be employed on work under this Contract.

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35. WITHHOLDING OF WAGES

If in the performance of this Agreement, there is any underpayment of wages by the CONTRACTOR or by any subcontractor thereunder, the PRDOH may withhold from the CONTRACTOR out of payment due to him or her an amount sufficient to pay to employees underpaid the difference between the wages required thereby to be paid and the wages actually paid such employees for the total number of hours worked. The amounts withheld may be disbursed by the PRDOH for and on account of the CONTRACTOR or subcontractor to the respective employees to whom they are due.

36. CLAIMS AND DISPUTES PERTAINING TO WAGE RATES

Claims and disputes pertaining to wage rates or to classifications of professional staff or technicians performing work under this Contract shall be promptly reported in writing by the CONTRACTOR to the PRDOH for the latter's decision, which shall be final with respect thereto.

37. DISCRIMINATION BECAUSE OF CERTAIN LABOR MATTERS

No person employed on the services covered by this Agreement shall be discharged or in any way discriminated against because he or she has filed any complaint or instituted or caused to be instituted any proceeding or has testified or is about to testify in any proceeding under or relating to the labor standards applicable hereunder to his or her employer.

38. INTEREST OF MEMBERS OF LOCAL PUBLIC AGENCY AND OTHERS

The CONTRACTOR agrees to establish safeguards to prohibit employees from using positions for a purpose that is or gives the appearance of being motivated by a desire for private gain for themselves or others, particularly those with whom they have a family, business, or other tie. The CONTRACTOR will be aware of and avoid any violation of the laws of this State which prohibit municipal officers and employees from having or owning any interest or share, individually or as agent or employee of any person or corporation, either directly or indirectly, in any contract made or let by the governing authorities of such municipality for the construction or doing of any public work, or for the sale or purchase of any materials, supplies or property of any description, or for any other purpose whatsoever, or in any subcontract arising therefrom or connected therewith, or to receive, either directly or indirectly, any portion or share of any money or other thing paid for the construction or doing of any public work, or for the sale or purchase of any property, or upon any other contract made by the governing authorities of the municipality, or subcontract arising therefore or connected therewith.

The CONTRACTOR will also be aware of and avoid any violation of the laws of this State which prescribe a criminal penalty for any public officer who has an interest in any contract passed by the board of which he or she is a member during the time he or she was a member and for one year thereafter.

39. INTEREST OF CERTAIN FEDERAL OFFICERS

No member of, or delegate to, the Congress of the United States and no Resident Commissioner shall be admitted any share or part of this Agreement or to any benefit to arise therefrom.

40. INTEREST OF CONTRACTOR

The CONTRACTOR agrees that it presently has no interest and shall not acquire any interest, direct or indirect, in the above described project or any parcels therein or any other interest which would conflict in any manner or degree with the performance of the Work hereunder. The CONTRACTOR further agrees that no person having any such interest shall be employed in the performance of this Agreement.

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41. POLITICAL ACTIVITY

The CONTRACTOR will comply with the provisions of the Hatch Act (5 U.S.C. § 1501 et seq.), which limits the political activity of employees.

42. RELIGIOUS ACTIVITY

The CONTRACTOR agrees to abstain from using any funds related to this Agreement for inherently religious activities prohibited by 24 C.F.R. § 570.200(j), such as worship, religious instruction, or proselytization.

43. FLOOD DISASTER PROTECTION ACT OF 1973

The CONTRACTOR will ensure that procedures and mechanisms are put into place to monitor compliance with all flood insurance requirements as found in the Flood Disaster Protection Act of 1973, 24 C.F.R. § 570.605.

44. LEAD BASED PAINT

The CONTRACTOR must comply with the regulations regarding lead-based paint found at 24 C.F.R. Part 35 on LEAD-BASED PAINT POISONING PREVENTION IN CERTAIN RESIDENTIAL STRUCTURES with regards to all housing units assisted using CDBG-DR funds.

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45. VALUE ENGINEERING

(Applicable to construction contracts exceeding \$2,000 when required by Federal program legislation)

The CONTRACTOR must comply with the regulations regarding systematic and organized approach to analyze functions of systems, equipment, facilities, services, and materials to ensure they achieve their essential functions at the lowest cost consistent to life cycle in execution, reliability, quality, and safety, in accordance with 24 C.F.R. § 200.318(g).

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46. UNIFORM RELOCATION ASSISTANCE AND REAL PROPERTY ACQUISITION POLICIES ACT (URA)

Every project funded in part or in full by Community Development Block Grant – Disaster Recovery (CDBG-DR) funds, and all activities related to that project, are subject to the provisions of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (URA), as amended, 42 U.S.C. § 4601 et seq., and section 104(d) of the Housing and Community Development Act of 1992, as amended (HCDA), 42 U.S.C. § 5304(d), except where waivers or alternative requirements have been provided by the U.S. Department of Housing and Urban Development (HUD). The implementing regulations for URA are at 49 C.F.R. Part 24, and the regulations for section 104(d) are at 24 C.F.R. Part 42, subpart C. Additionally, HUD has established regulations specific to CDBG-funded housing activities at 24 C.F.R. § 570.606. PRDOH has also established the Uniform Relocation Assistance Guide & Residential Anti-Displacement and Relocation Assistance

Plan (URA & ADP Guide) which provides guidance and requirements regarding URA compliance and minimizing displacement that are applicable to all CDBG-DR programs. The primary purpose of these laws and regulations is to provide uniform, fair, and equitable treatment of persons whose real property is acquired or who are displaced in connection with federally funded projects.

When CDBG-DR funds are planned, intended, or used for any activity or phase of a project and the phases are interdependent, URA applies to that activity or project. This includes any property acquisition, even if CDBG-DR funds are not used to fund the purchase, if the contract to acquire property is executed with the intention of seeking CDBG-DR funds to complete the project or an interdependent phase of the project. Contractors are responsible for ensuring URA compliance throughout the design, proposal, and implementation of any project that includes real property acquisition or displacement of residential or business occupants.

47. OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970 (OSH ACT)

The CONTRACTOR shall comply with the Occupational Safety and Health Act of 1970 (OSH Act) as supplemented by the Department of Labor regulations. This Act created the Occupational Safety and Health Administration (OSHA). OSHA sets and enforces protective standards of safety and health in the workplace. Under the OSH Act, employers have a responsibility to provide a safe workplace.

Employers must comply with the 29 CFR 1910 General Obligations Clause of the OSH Act. This clause requires employers to maintain their workplaces free from serious recognized hazards. This includes the adoption of safety and health guidelines and the subsequent training of the employer's workforce in these.

CONTRACTORS whose Scope of Work includes construction activities must comply with the General Clauses, and also with provisions of 29 CFR 1926 "Construction Health and Safety Regulations". It shall be a condition of any contract for construction, alteration and/or repair, including painting and decorating, that no contractor or subcontractor for any part of the contract work shall require any worker or mechanic employed in the performance of the contract to work in an environment or in unhealthy, hazardous or dangerous working conditions to their health or safety.

48. FEDERAL FUNDING ACCOUNTABILITY AND TRANSPARENCY ACT (FFATA)

The Federal Funding Accountability and Transparency Act of 2006 (**FFATA**), as amended, was signed with the intent of reducing wasteful government spending and providing citizens with the ability to hold the government accountable for spending decisions. 2

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C.F.R. § Part 170 outlines the requirements of recipients' in reporting information on subawards and executive total compensation under FFATA legislation. Any non-Federal entity that receives or administers Federal financial assistance in the form of grants, loans, loan guarantees, subsidies, insurance, food commodities, direct appropriations, assessed and voluntary contributions; and/or other financial assistance transactions that authorize the non-Federal entities' expenditure of Federal fund, is subject to these requirements. Prime contract awardees and prime grant awardees are required to report against subcontracts and subgrants awarded in the FFATA Subaward Reporting System (FSRS), the reporting tool for Federal prime awardees. This information reported will then be displayed on a public and searchable website: www.USASpending.gov.

49. PROCUREMENT}

The Uniform Guidance procurement requirements (2 C.F.R. § Part 200, Subpart D) went into effect on July 1, 2018. These requirements are applicable to CDBG-DR funded projects, or as provided by 83 Federal Register 5844 VI A(1)(b)(2) permits a state grantee to elect to follow its own procurement policy. These policies and procedures ensure that Federal dollars are spent fairly and encourage open competition at the best level of service and price.

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50. CHANGE ORDERS TO CONTRACTS

Change orders are issued when the initial agreed-upon pricing or work to be completed requires modification. First, the CONTRACTOR must complete a Change Order Request Form. This form and supporting documentation must be delivered to the PRDOH for review. Each change order must have a cost analysis. Once the Project Manager approves the change order, it is returned to the contractor for execution. Change orders are only invoiced on the final draw and categorized as "change orders." The amount listed on the invoice must match the previously approved amount and must be cost-reasonable. The PRDOH is responsible for verifying cost reasonableness. Verification documentation for cost reasonableness becomes an attachment to the change order.

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51. LANGUAGE ACCESS PLAN

Executive Order No. 13166, signed on August 11, 2000, requires programs, subrecipients, contractors, subcontractors, and/or developers funded in whole or in part with CDBG-DR financial assistance to ensure fair and meaningful access to programs and services for families and individuals with Limited English Proficiency (LEP) and/or deaf/hard of hearing. Fair access is ensured through the implementation of a Language Assistance Plan (LAP), which includes non-English-based outreach, translation services of vital documents, free language assistance services, and staff training. Vital documents are defined as depending on the importance of the program, information, encounter, or service

involved, and the consequence to the LEP person if the information in question is not provided accurately or in a timely manner.

The Fair Housing and Equal Opportunity Language Access Plan for all CDBG-DR/MIT Programs states that Subrecipient Agreements will include requirements for the provisions of LEP and Limited Spanish Proficient (**LSP**) resources by subrecipients for all public participatory activities, including marketing, outreach, applications, vital document translations as well as monitoring requirements. Subrecipients and contractors have to comply with the following LEP/LSP requirements:

- a. Provide Spanish translations for all outreach, marketing, application materials, and vital documents, and advertise the availability of language assistance services.
- b. Requirements will also be added for subrecipients, contractors, and other administering entities that interact with LEP/LSP individuals as part of the implementation of the CDBG-DR/MIT Programs to:
 - i. Develop and maintain operating procedures that address LEP/LSP assistance;
 - ii. Maintain inquiry and application logs that specify language of choice;
 - iii. Submit documentation to PRDOH supporting subrecipient efforts to further LEP access;
 - iv. Submit translated documentation to PRDOH for maintenance in PRDOH's project files; and
Require periodic monitoring by PRDOH for compliance with LEP/LSP requirements.

CDBG-DR/MIT subrecipients and contractors, as well as any other administering entities that interact with LEP/LSP individuals as part of the implementation of the programs, will be required to maintain inquiry and application logs that document the language preference of persons seeking to apply or participate in CDBG-DR/MIT funded activities.

52. PERSONALLY IDENTIFIABLE INFORMATION

In accordance with 2 C.F.R. § 200.303, regarding internal controls of a non-Federal entity, a grantee must guarantee the protection of all Personally Identifiable Information (PII) obtained. The program will enact necessary measures to ensure PII of all applicants is safeguarded as to avoid release of private information. If a contractor or employee should experience any loss or potential loss of PII, the program shall be notified immediately of the breach or potential breach.

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53. PROCUREMENT OF RECOVERED MATERIALS

A non-Federal entity that is a state agency or agency of a political subdivision of a state and its contractors must comply with section 6002 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act. The requirements of Section 6002 include procuring only items designated in guidelines of the Environmental Protection Agency (**EPA**) at 40 C.F.R. part 247 that contain the highest percentage of recovered materials practicable, consistent with maintaining a satisfactory level of competition, where the purchase price of the item exceeds \$10,000 or the value of the quantity acquired during the preceding fiscal year exceeded \$10,000; procuring solid waste management services in a manner that maximizes energy and resource recovery; and establishing an affirmative procurement program for procurement of recovered materials identified in the EPA guidelines.

END OF DOCUMENT

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APPENDIX C
CONTRACTOR CERTIFICATION
FINANCIAL OVERSIGHT AND MANAGEMENT BOARD FOR PUERTO RICO
CONTRACTS REVIEW POLICY
ICF INCORPORATED, LLC

The following is hereby certified to the Oversight Board regarding the request for authorization to execute a contract for **GEO/RAD System Planning Vendor Services** by and between the **Puerto Rico Department of Housing (PRDOH)** and **ICF Incorporated, LLC.**:

1. The expected subcontractor(s) in connection with the proposed contract¹ is (are) the following:

Roshandel LLC

Principal: Ali Roshandel

Principal terms and conditions of the contractual relation and role of the subcontractor: Please see the attached sample subcontract agreement.

Amount of contract payment to subcontractor: TBD

Environmental Mapping Consultants LLC

Principal: William J Hernandez, Executive Director

Principal terms and conditions of the contractual relation and role of the subcontractor: Please see the attached sample subcontract agreement.

Amount of contract payment to subcontractor: TBD

Merrick & Company

Merrick & Company is employee-owned, with no one person owning more than 10% of the company. No principals at Merrick & Company own more than 10% of any of our subcontractors.

Principal terms and conditions of the contractual relation and role of the subcontractor: Please see the attached sample subcontract agreement.

Amount of contract payment to subcontractor: TBD

RAC Titles Search Inc

Principals, Principal Stakeholders, and owners:

Ramon Chavez Gonzalez, Owner & CEO

Armando Pena, Director

¹ As used herein, the term "contract" is inclusive of any amendments, modifications or extensions.

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Principal terms and conditions of the contractual relation and role of the subcontractor: Please see the attached sample subcontract agreement.

Amount of contract payment to subcontractor: TBD

CMVR Consulting LLC

Principal: Cristina M Valentin Rivera

Principal terms and conditions of the contractual relation and role of the subcontractor: Please see the attached sample subcontract agreement.

Amount of contract payment to subcontractor: TBD

ECR Engineering, LLC

Principal: Exel F. Colon – 100% ownership

Principal terms and conditions of the contractual relation and role of the subcontractor: Please see the attached sample subcontract agreement.

Amount of contract payment to subcontractor: TBD

CompassData, Inc.

Principals, Principal Stakeholders, and owners:

Kate Schlatter

Hayden Howard

Maggie Howard

Brant Howard

Principal terms and conditions of the contractual relation and role of the subcontractor: Please see the attached sample subcontract agreement.

Amount of contract payment to subcontractor: TBD

2. Neither the contractor nor any of its owners², partners, directors, officials, or employees, has agreed to share or give a percentage of the contractor's compensation under the contract to, or otherwise compensate, any third party, whether directly or indirectly, in connection with the procurement, negotiation, execution or performance of the contract, except as follows:

N/A

² For purposes of this certification, a contractor's "owner" shall mean any person or entity with more than a ten percent (10%) ownership interest in the contractor.

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3. To the best knowledge of the signatory (after due investigation), no person has unduly intervened in the procurement, negotiation or execution of the contract, for its own benefit or that of a third person, in contravention of applicable law.

4. To the best knowledge of the signatory (after due investigation), no person has: (i) offered, paid, or promised to pay money to; (ii) offered, given, or promised to give anything of value to; or (iii) otherwise influenced any public official or employee with the purpose of securing any advantages, privileges or favors for the benefit of such person in connection with the contract (such as the execution of a subcontract with contractor, beneficial treatment under the contract, or the written or unwritten promise of a gift, favor, or other monetary or non-monetary benefit).

5. Neither the contractor, nor any of its owners, partners, directors, officials or employees or, to the best of its knowledge (after due investigation), its representatives or sub-contractors, has required, directly or indirectly, from third persons to take any action with the purpose of influencing any public official or employee in connection with the procurement, negotiation or execution of the contract, in contravention of applicable law.

6. Any incorrect, incomplete or false statement made by the contractor's representative as part of this certification shall cause the nullity of the proposed contract, and the contractor must reimburse immediately to the Commonwealth any amounts, payments, or benefits received from the Commonwealth under the proposed contract.

I hereby certify under penalty of perjury that the foregoing is complete, true, and correct on this 6 day of May of 2024.

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Dorothy A. Shields
Signature

May 6, 2024
Date

Dorothy A. Shields
Printed Name

Senior Director, Contracts
Position



GOVERNMENT OF PUERTO RICO
DEPARTMENT OF HOUSING

ATTACHMENT H

NON-CONFLICT OF INTEREST CERTIFICATION

ICF INCORPORATED, LLC

The CONTRACTOR certifies that:

1. No public servant of this executive agency has a pecuniary interest in this contract, subrecipient agreement, purchase, or commercial transaction.
2. No public servant of this executive agency has requested me or accepted from me, directly or indirectly, for him (her), for any member of his family unit or for any person, gifts, bonuses, favors, services, donations, loans or anything else of monetary value.
3. No public servant (s) requested or accepted any good of economic value, linked to this transaction, from any person of my entity as payment for performing the duties and responsibilities of their employment.
4. No public servant has requested from me, directly or indirectly, for him (her), for any member of his or her family unit, or for any other person, business, or entity, something of economic value, including gifts, loans, promises, favors or services in exchange for the performance of said public servant is influenced in my favor or of my entity.
5. I have no kinship relationship, within the fourth degree of consanguinity and second by affinity, with any public servant who has the power to influence and participate in the institutional decisions of this executive agency.

"I hereby certify under penalty of perjury that the foregoing is complete, true, and correct."

Dorothy A. Shields
Signature

May 6, 2024
Date

Dorothy A. Shields
Printed Name

Senior Director, Contracts
Position